CHAPTER III

OUTDOOR RECREATION RESOURCES

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INTRODUCTION

Outdoor recreation is as broad and diverse as America itself. It covers a wide spectrum of resources, from the most pristine wilderness setting to urban streets and playgrounds. At its broadest definition, outdoor recreation is any leisure activity that takes place out-of-doors, regardless of setting. Under this definition, most outdoor recreation in the United States probably occurs very close to where people live—in backyards, on streets and playgrounds, and in local neighborhoods. Much of this recreation can be characterized as unstructured "play" or relaxation. This chapter examines the outdoor recreation resources and settings that are provided and managed by both government and the private sector. Outdoor recreation on rural private land is covered more thoroughly in Chapter IV.

The traditional view of outdoor recreation focuses mostly on natural resources in rural settings such as parks, forests, lakes, and rivers. However, recreation resources also exist in urban environments where they are extremely important in meeting urban demand for recreation experiences. This chapter attempts to provide a broad-based overview of the current status of outdoor recreation resources in the United States. The focus is on the availability, distribution, and general description of the outdoor resources rather than on their quality or condition.

We examine recreation resources and opportunities by the four types of providers: federal, state, local governments, and the private sector.[2] We also discuss the trend of partnerships in the provision of outdoor recreation opportunities, especially two types that emerged in the 1990s: Scenic Byways and Watchable Wildlife opportunities. Where possible, we discuss changes and trends in recreation resources since the mid-1980s. Those trends, in turn, point to anticipated future trends.

Also included are brief articles from government agencies, environmental organizations, and recreation industry groups. The authors of these articles address issues and trends that have emerged over the past decade or so and offer their outlooks for the future. Near the end of this chapter, we offer summary indexes that describe categories of recreation resources and how they have changed over the past 10 years. These indexes provide a more general indication of how resources are distributed with respect to population, and how their availability has changed in recent years. The final section of this chapter presents observations about the outdoor recreation resource base in the United States by summarizing the current status, trends, and future outlook.

FEDERAL LAND AND WATER RESOURCES FOR OUTDOOR RECREATION

The Federal Estate

The most widely held images of outdoor recreation are probably those of adventurous backcountry visitors trying to "get away from it all" and of families camping and sightseeing. Much of the land and water where these activities occur are managed by the federal government. Despite the continually increasing demand for recreation opportunities close to home, the federal government manages thousands of special places throughout the country, many remote and distant, that are highly popular. Often, however, federal resources (especially water) are close to population centers. The popular perception of the "Great Outdoors" is that of national parks, national forests and other federal land. All estimates put the amount of federal land in the United States at around 650 million acres (Table III.1).[3] This acreage represents about 28 percent of the total land area in the United States of just under 2.3 billion acres. All Western states, except Hawaii, have more than 25 percent of their total area in federal ownership. Nevada, Alaska, Utah, and Idaho each is more than 60 percent of their area in federal ownership. Federal acres in the United States are roughly equal to an area the size of the seven largest contiguous states—Texas, California, Montana, New Mexico, Arizona, Nevada, and Colorado.

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[2]The authors assembled a national, county-level database (called the "National Outdoor Recreation Supply Information System") covering the four types of recreation providers from a variety of source datasets.

[3]Because of the enormous size of the Federal estate and the dynamic nature of land sales and swaps, inholdings, etc., it is difficult to get an exact total of Federal land at any given time. In this chapter, "Federal land" refers to only the resources held by the seven principal land-managing agencies of the Federal government and does not include Department of Defense land, land managed by the General Services Administration and other miscellaneous agency resources. Defense Department land is covered elsewhere in this chapter but is not included in general references to "Federal land."

Table III.1: Land and Water Area[1] Administered by Federal Land-Managing Agencies by Agency and Region, 1995

Agency	Region (1000 acres)				
	North	South	Rocky Mountains	Pacific Coast[2]	U.S. Total
USDA Forest Service	11,957	12,900	100,093	66,665	191,615
National Park Service	1,882	5,412	10,830	65,072	83,196
Fish & Wildlife Service[3]	1,209	3,809	7,193	78,239	90,450
Bureau of Land Management	388	796	144,237	122,219	267,640
U.S. Army Corps of Engineers	2,907	5,634	2,475	540	11,556
Tennessee Valley Authority	0	1,032	0	0	1,032
Bureau of Reclamation	0	197	5,470	854	6,521
All Agencies	18,343	29,780	270,298	333,589	652,010

[1]Numbers may not sum exactly to totals because of rounding. Table does not include Department of Defense land or other miscellaneous Federal agencies with minor land holdings.

[2]Alaska accounts for 242.4 million of the Pacific Coast's 333.6 million acres. Agency breakdown is: FS, 22.0 million; NPS, 54.7 million; FWS, 76.8 million; BLM, 88.9 million. There is one COE project in Alaska with 19,709 acres.

[3]U.S. Fish and Wildlife Service acreage includes National Wildlife Refuges and Waterfowl Production Areas. About 23.6 million acres of the 90.5 million acres of FWS managed land are not open for recreational use.

Sources: Land Areas of the National Forest System, As of September 1995.
National Park Service, Master Deed Listing. State and County Report by State. As of October 31, 1995.
U.S. Army Corps of Engineers Natural Resource Management System (NRMS). 1994.
Bureau of Land Management. Public Land Statistics. 1993.
Annual Report of Lands Under Control of the U.S. Fish and Wildlife Service. As of September 30, 1995.
Bureau of Reclamation. Recreation Areas on Bureau Projects. 1992.
Development of TVA Recreation Facilities Cumulative Through September 30, 1992.
TVA Areas Above Full Pool Level, By County, September 30, 1987.

The West (Rocky Mountain and Pacific Coast regions), including Alaska, accounts for just under 93 percent of federal land or about 604 of the 652 million acres. Excluding Alaska, the West still accounts for over 88 percent of the federal land. By contrast, the East (North and South regions) has only about 7 percent, even though it contains over 75 percent of the U.S. population—199.6 of 262.8 million people based on a 1995 Census estimate. Despite the fact that the West has the fastest current and projected population growth rates, the great disparity between the location of federal land (a product of historical settlement patterns) and the population distribution of the United States is not likely to change significantly in the near future.

Generally, the least populous states—e.g., Alaska, Montana, Idaho, and Wyoming—have the greatest amounts of federal land. Many of the most heavily populated states—e.g., New York and New Jersey—have very little federal land. California is a notable exception. It is the largest state in population, yet has a considerable amount of federal land. Because of topography, geologic features, and historic land uses, many outdoor recreation experiences that depend on alpine elevations and vast stretches of unroaded land are available only in the West.

Alaska, of course, is a special case. While Alaska is second only to Nevada in percentage of land area owned by the federal government, it has over four times as much federal acreage. By itself, Alaska has over one-third of the country's 652 million federal acres. Excluding Alaska reduces the ratio of federal to nonfederal land from more than one in every four U.S. acres to about one in every five acres.

The large majority of federal land is available for recreation. However, accessibility varies widely depending on the presence of roads and location with respect to population. Furthermore, not all federal land is available for all recreation activities. Federal land in Alaska is not very accessible to most Americans. Unlike

most federal land, many national wildlife refuges managed by the U.S. Fish and Wildlife Service are closed to public use. These properties cover 23.6 million acres, most of which are in Alaska.

There are also other instances of federal properties that are unavailable for recreation use. The federal water resource agencies—U.S. Army Corps of Engineers, Bureau of Reclamation, and Tennessee Valley Authority—have some dams and reservoir operations that are not open for recreation. However, such areas represent a very small percentage of their total property. Likewise, research natural areas, fish hatcheries, experimental areas, and similar properties generally are not open to public use. Some land, especially in national forests, is inaccessible because it is surrounded by private property or because private access roads have been closed. The amount of such land is becoming significant enough to be of concern to federal land managers, especially the Forest Service.

ACCESS TO NATIONAL FOREST LAND[4]

(By George L. Peterson, Project Leader, USDA Forest Service, Fort Collins, CO; and James M. Williams, Lands Specialist, USDA Forest Service, Washington, D.C.)

Background

As reported by the United States General Accounting Office (US GAO) (1992), limited access to the national forests and other public lands is a significant problem that prevents the American public from fully utilizing and enjoying these lands. During the early history of the USDA Forest Service, little thought was given to public right of access. With some exceptions, adjacent landowners did not object to people crossing their lands to use the national forests. Unfortunately, the willingness of private landowners to accommodate the public has diminished. Over the past few decades, the situation has changed dramatically with landowners increasingly closing historic routes of access. Existing roads and trails that have long provided public access across private lands are being closed by landowners at an increasing rate. Some of the reasons for this change in behavior include a fear of vandalism, growing concern over liability, concern for spread of exotic vegetation, and general incompatibility between the owner's use and public access.

Of the 465 million acres of public land managed by the Forest Service and the Bureau of Land Management, about 50.4 million acres (roughly 14 percent) lack adequate public access (US GAO, 1992). Overbay (1993) reports that as of November 1993, 17.3 million acres, or approximately 9 percent of the 191 million acres of National Forest System lands, did not have adequate access. Inadequate access, as defined by the General Accounting Office in its report, means "that the federal government does not have the permanent, legal right for the public to enter federal land at the point(s) needed to use the land as intended by the managing agency." According to Overbay (1993), approximately 28,000 easements involving an estimated 7,500 miles of rights-of-way were needed in 1993 to provide adequate access to the Forest Service lands. The majority of needed easements are located in the Western regions where most of the inaccessible land is located. Over 90 percent of inaccessible land is in the West, most of that (about 13.2 million acres) being in the Rocky Mountains region.

The most immediately identifiable effect of inadequate access is seen in the reduction of the general public's ability to recreate on public land, including national forests. For example, over 10 percent of managers surveyed for the GAO report (US GAO, 1992) stated that hunting and off-road vehicle use were greatly or extremely reduced due to the lack of adequate access. Other activities, such as hiking and viewing wildlife, have also been significantly affected. To a lesser extent, important management activities, such as habitat improvement in support of biological diversity (4.2 percent of managers cited great or extreme interference), have been hampered by inadequate access. Activities and the percent of Forest Service supervisors and land managers who said inadequate access greatly or extremely reduced recreation opportunities were as follows:

Activity	Percent
Hunting	12.7
Off-road vehicle use	10.2
Hiking	7.6
Viewing scenery and wildlife	5.9
Driving for pleasure	5.1

[4]This article is based in large part on Overbay (1993).

Camping	4.2
Horseback riding	4.2
Mountain biking	4.2
Fishing	3.4
Wilderness area uses	3.4
Rafting, canoeing, etc.	1.7
Cross country skiing and snowmobiling	1.7
Recreational mining	1.7
Developed recreation site use	0.8
Commercial uses (e.g., outfitters/guides)	0.8

The Existing Situation

With increased emphasis on recreation and wildlife resources and opportunities to promote rural economic development, many individuals and interest groups are demanding that the Forest Service improve accessibility to National Forest System lands (For example, see Times Mirror magazines, Inc.). Access needs are identified through the forest planning process mandated by the National Forest Management Act. This process allows for substantial public involvement and is an important tool in identifying those areas where the public feels a need for better access to the national forests. The Forest Service maintains an ongoing program to resolve access issues using a variety of authorities to accomplish program objectives. These include: (a) fee simple acquisition, the acquisition of all rights and interests associated with the land needed for access, and (b) perpetual access easements, which are irrevocable rights granted by private landowners for access across their property. Either type of access can be acquired through purchase, donation, exchange, or condemnation.

The GAO report shows that the Forest Service acquired public access to about 2.6 million acres during fiscal years 1989 through 1991. Of these acquisition actions, approximately half were through perpetual easements, a quarter through fee simple land acquisition, and another 17 percent through other methods such as cooperative agreements with other agencies or private entities. Only three percent were a result of condemnations, many of which were used to perfect title or to establish an equitable value for the property involved. The overwhelming majority of acquisitions were the result of an amicable transaction, beneficial to both parties.

The principal funding source for the access program has been construction dollars, both road and trail. Historically, the road rights-of-way acquisition activities have been largely associated with the timber sale program. The program, with funding of $4.5 to $6.0 million in annual appropriations, has been declining, however. At current funding levels, the Forest Service is able to acquire about 375 road and trail right-of-way easements and eliminate the need for about 275 more on an annual basis through land exchanges, acquisitions, and other means.

Acquisition of needed rights-of-way has also been hampered by changing public preferences. The increased number of closures of historic access facilities, a declining willingness of owners to sell their land or interest in land, escalating land values, and ownership fragmentation all serve to complicate acquisition efforts. At the current rate of acquisition, adequate access to all national forest systems lands will not be guaranteed in the next 40 years. According to Overbay (1993), however, the Forest Service does not need new authorities to carry out its program of access acquisition, but this does not mean that improved performance in this area is not needed.

One of the major obstacles in providing access to public lands is a growing reluctance on the part of county and state road agencies to defend the status of historic roads that are being gated and closed. Limited resources are the prime reason for this trend. On a case-by-case basis, the Forest Service enters into cooperative agreements with local governments that allow use of these important means of access to be maintained. However, this is not a comprehensive approach. In the future, there will be a need to work with national associations of state and local governments in developing incentives that will encourage them to maintain legal rights, services, and travel-way facilities to and on National Forest System lands. In addition to these actions, there is a need to review the adequacy of existing authority to defend, perfect, and maintain historic public rights-of-way that provide access to federal lands that might otherwise be abandoned.

As mentioned, liability considerations detract from the willingness of many private landowners to allow the public access across their property. The Forest Service is addressing this problem by working to develop cooperative agreements with private landowners, user groups, and state and local governments to meet the

need for reduced tort liability and enhanced law enforcement. There is also a need for the Department of Justice and the USDA Office of General Counsel to continue to defend United States interests aggressively in protection of existing rights.

The Forest Service public access program also receives attention through internal activities such as Renewable Resources Planning Act updates, the annual budgeting process, and the annual report of the Forest Service. Resolution of identified access problems has also been included as a specific item in the Forest Service's annual management attainment report. For example, a 1988 memo from agency leaders to the regional foresters identified the problem of access to national forest lands as an emerging issue in much of the West. Although the driving force behind acquisition of access had been resource harvesting and management, continuing to operate on that basis would not be effective because of increased concern about lack of access for recreation and other purposes. Regional foresters were directed to "get out in front on this issue" and "develop a program to acquire rights needed to provide access to the large acreage of land that does not have adequate access."

This question of access to public land is part of the larger problem of travel management, including development, maintenance, and closure of access to and travel within national forest land. The more comprehensive problem was addressed in the National Access and Travel Management Conference held in Denver in August of 1991. The Forest Service National Access and Travel Management strategy team participated in that conference and followed up by preparing a report summarizing the issues and recommending a national strategy for travel management (National Access and Travel Management Strategy Team, 1992). Then Chief Dale Robertson accepted the goal and strategy recommendations and appointed the associate deputy chief for the National Forest System as national travel management coordinator. He also appointed a national travel management coordinating council comprised of national staff directors (Robertson, 1992).

Assessment of Recent Progress and Future Prospects

At the end of fiscal year (FY) 1996, the deputy chief for the National Forest System prepared a summary of recent accomplishments (Reynolds, 1996). In FY 1996, the Forest Service acquired a total of 569 road, trail, and other rights-of-way through their Rights-of-Way Acquisition Program. Furthermore, it secured 256 perpetual access easements nationwide. Approximately 75 percent of both the rights-of-way and easements were acquired in the western United States. Since FY 1992, the trend has been a decreasing number of both right-of-way and easement acquisitions. Rights-of-way peaked at 729 nationally in FY 1993, and easements were also greatest that year (387 easements in FY 1993) and the previous year (388 easements in FY 1992). From FY 1994 through FY 1996, easement acquisitions declined more than 25 percent from those peak years. Approximately 10 percent, or 17 million acres, of National Forest System lands lacked adequate access (Reynolds, 1996). Furthermore, there was a significant increase in the number of temporary rights-of-way. These temporary solutions appeared to be the dominant access effort in some forest service regions. Lands and engineering staffs in each region were directed to "jointly monitor this activity to insure that these temporary actions are consistent with Forest Service Policy" (Reynolds, 1996).

The 17 million acres, or 10 percent, of National Forest System lands lacking adequate access at the close of FY 1996 shows little change from the situation described in the 1992 GAO report. As stated in that report, Forest Service land managers told GAO that 17.3 million acres of Forest Service land lacked adequate access in 1991. We may assume, therefore, that the statistical summaries in the GAO report continue to be a reasonable assessment of the current situation.

Multiple-Use Agencies

The USDA Forest Service (FS) and Bureau of Land Management (BLM) manage the most land among federal agencies (Table III.1). Together, the FS and BLM manage almost three-quarters of all U.S. federal land that is open for outdoor recreation. These agencies have a multiple-use mandate in which outdoor recreation is one of several concurrent uses. As a result, a great deal of their acreage is undeveloped and suitable for dispersed activities such as hiking, backpacking, hunting, and off-road driving. Other uses, such as timber harvesting, grazing, mining, and watershed protection, may temporarily restrict outdoor recreation.

USDA Forest Service

The FS manages more than 191 million acres of national forests and national grasslands in 42 states. About 87 percent of FS acreage is in the two Western regions, including 52 percent in the Rocky Mountains. The large majority of FS acreage is in undeveloped areas that the agency refers to as "general forest areas."

The 1995 *Report of the Forest Service* lists a total of more than 125,000 trail miles in the National Forest System. About 53 percent of the miles are classified as "maintained." Almost two-thirds of the total trail mileage is located in six Western states—California, Colorado, Idaho, Montana, Oregon, and Washington.

The FS maintains developed recreation areas in the following categories: boating sites, swimming sites, camping sites, picnic grounds, ski areas, interpretive sites, and all other developed sites. In 1996, there were 12,730 of these developed sites throughout the National Forest System, seven percent more than in 1992 (Table III.2). This net increase was due to the addition of boating sites, picnic grounds, and other developed sites. Despite the overall net gain in recreation sites, numbers of swimming, camping, interpretive, and skiing sites all decreased between 1992 and 1996.

The two Western regions account for just under 75 percent of FS developed recreation sites, a somewhat smaller proportion than their shares of land. Eastern national forests have slightly more developed recreation sites per acre than those in the West. Recreation sites in the East grew at the rate of 13 percent between 1992 and 1996, while those in the West grew only 5.0 percent. The Pacific Coast was the only region with a decrease in the number of sites, due mostly to a significant drop in the number of camping sites (15 percent). Boating and swimming sites are the only types of recreation areas which are more plentiful in the eastern than in the western United States. The East had over half of the boating sites and two-thirds of the swimming sites in 1996.

Fees are charged at some FS recreation sites but not at others. Most sites are managed by the FS itself, but a substantial number are operated by concessionaires. About three-fourths of concessionaire-operated sites charge a fee. Concessionaires operated just under half of the nearly 4,000 fee sites in 1996, compared to only seven percent of nonfee sites. Despite the increased use of concessionaires to operate developed recreation sites, the number of these sites operated by the FS was almost four times greater than the number operated by concessionaires in 1996.

Table III.2: Number of U.S. Forest Service-Developed Recreation Sites by Type of Site and Region, 1992 and 1996[1]

Type of Developed Site	Year	Region				
		North	South	Rocky Mountains	Pacific Coast	U.S. Total
Boating sites	1992	448	227	323	218	1,216
	1996	474	262	385	226	1,347
Swimming sites	1992	121	106	61	35	323
	1996	107	99	66	36	308
Camping sites	1992	411	388	1,958	1,773	4,530
	1996	413	396	1,923	1,509	4,241
Picnic grounds	1992	265	260	596	343	1,464
	1996	273	312	710	369	1,664
Ski areas	1992	34	2	87	65	188
	1996	11	0	81	63	155
Interpretive sites	1992	23	10	195	117	345
	1996	34	17	211	67	329
All other developed sites	1992	428	351	1,516	1,521	3,816
	1996	604	481	2,003	1,598	4,686
All developed sites	1992	1,730	1,344	4,736	4,072	11,882
	1996	1,916	1,567	5,379	3,868	12,730

[1]Includes fee and nonfee sites. Each site is included in only one category.
Source: USDA Forest Service. Washington Office: Recreation, Heritage and Wilderness Resources Management.

Overall, more than 31 percent of the FS recreation sites charged a fee for public use in 1996. This percentage was up significantly from 1992, when about 26 percent of sites charged a fee. With the exception of ski areas, camping sites were the clear leader with almost two-thirds of the sites charging a fee. The North led all other regions in proportion of fee camping sites with 69 percent. No other type of FS recreation site had as many as 50 percent of sites charging a fee, the closest being swimming areas with 41 percent.

USDA Forest Service: Trends, Issues, and Futures in Outdoor Recreation

(By Donald W. Fisher, assistant director, Recreation, Heritage and Wilderness Resources, USDA Forest Service, Alaska Region, Juneau, AK; and Lyle Laverty, Regional Forester, Rocky Mountain Region, USDA Forest Service, Washington Office, Washington, D.C.)

Current Situation

The national forests play a significant role in the provision of outdoor recreation opportunities in the United States with over 191 million acres of public lands. As the largest public provider of outdoor recreation in the country, the national forests received over 850 million visits in 1996. International visitation currently exceeds 78 million annually, reflecting growth of over 66 percent since 1987. With over 4,200 campgrounds and 60 percent of the nation's alpine skier days, the national forests are increasingly the nation's outdoor playground.

Spending by recreationists visiting the national forests in 1996 contributed almost $100 billion to the nation's gross domestic product, and more than 2.5 million jobs were associated with these expenditures. Revenue to the U.S. Treasury from national forest recreation and special use fees exceeds $46 million annually.

The national forests serve an important niche in American society by providing programs and services that are open and accessible to a diversity of people, communities, families, and organizations. The USDA Forest Service is an agency of choice for a large, knowledgeable, and supportive group of customers and partners. The national forests provide value to people's lives by providing recreation opportunities for physical, emotional, and spiritual renewal, as well as healthy productive forests for a diversity of other benefits.

The national forests provide a wide spectrum of outdoor opportunities, from the more developed to the most primitive, primarily in a forest setting. Developed areas, such as resorts, ski areas, visitor centers, developed campgrounds, and boating facilities are highly valued by users. Natural settings offer opportunities for primitive activities such as backpacking, fishing, hiking, and wildlife viewing that attract many visitors. The Forest Service has developed and implemented a scenery management system to protect the inherent qualities of the forest landscape.

The National Forest System includes many unique and special areas for outdoor recreation. These include 18 national recreation areas, seven national scenic areas, four national monuments, 133 Scenic Byways, 96 wild and scenic rivers, and four national scenic or historic trails. To enhance visitor information and interpretive services, the Forest Service manages 55 major visitor centers, which host 10 million visitors a year. For those seeking very primitive recreation opportunities, the national forests contain approximately 35 million acres of wilderness. The national forests provide more than half the country's network of trails with over 125,000 miles for hiking, riding, snowmobiling, and cross-country skiing. The national forests will host all, or at least important components, of several upcoming events, such as the Lewis and Clark Bicentennial, the 1999 World Downhill Ski Championships, and the 2002 Winter Olympics.

Currently there are over 100,000 heritage sites inventoried on national forests, representing over 10,000 years of human history. These range from the renowned Anasazi cliff dwellings in the Southwest to more subtle indicators of our past, such as scatterings of obsidian chips from a maker of spear points. The Forest Service's "Windows on the Past" program enhances visitor use and enjoyment of heritage resources.

The Forest Service's state and private forestry program works in partnership with states to assist communities in promoting tourism, recreation, and preventing human-caused wildfires. Much of the tourism and recreation use in national forests is carried out by private recreation service providers through partnerships and special-use permits. There are approximately 23,000 recreation special-use permit holders providing a diversity of recreation experiences for visitors.

Recent Trends

A number of recent trends are having a significant effect on national forest recreation opportunities. Federal budgets are being reduced and are projected to continue declining. The same trend is projected for the size of the federal work force. Therefore, the number of Forest Service recreation professionals available to deliver good quality recreation products and services has fallen. The result is a loss of technical expertise when demand is dramatically increasing. Consequently, the Forest Service is finding it difficult to maintain the level of visitor services offered in the past, and the backlog in maintenance of recreation facilities has increased. These trends have created an emphasis on the use of the private sector as partners in providing recreational opportunities on public lands. This shift in delivery methods has resulted in new tasks and responsibilities for the federal work force.

Community economic vitality is also receiving strong emphasis nationally, with a priority being placed on enhancement and revitalization of jobs at the community level. These factors result in a renewed emphasis on collaborative stewardship to involve communities and the private sector more intimately in providing outdoor recreation opportunities on National Forest System lands. These activities highlight the tradeoffs communities face between economic growth and unencumbered rural lifestyles involving a more primitive environmental setting.

These trends are encouraging the Forest Service to initiate and emphasize different ways of providing outdoor recreation services for visitors and non-traditional customers. These include cost recovery through visitor fees, public/private ventures, expanded concession operations, and embracing partnerships and volunteerism as an integral way of doing business.

Additional trends impacting recreation opportunities on national forests involve ecotourism. The recent growth in ecotourism has increased the demand for educational and interpretive services and has created a tremendous growth opportunity for commercial outfitting and guiding services. It has also resulted in greater demand for a diversity of recreation experiences, such as hiking and backpacking, wildlife viewing, water-based activities, and camping. One of the fastest growing areas affecting use of the national forests is heritage tourism, which involves viewing and interpretation of historic and prehistoric sites. Much of national forest heritage tourism involves an additional component of existing opportunities, such as those provided by outfitters' and guides. The Forest Service's emphasis on ecosystem management is also affecting outdoor recreation management. Recreation activities and services are being managed to assure ecosystem sustainability while providing direct benefits to individuals, families, and communities.

Key Current Programs and Initiatives

There are a number of key programs and initiatives being implemented by the Forest Service to accommodate current trends affecting the way the agency has historically provided outdoor recreation services. Examples include a recreation fee demonstration, a tourism strategy, enhanced collaborative stewardship, an emphasis on public/private ventures, expanded opportunities for concession operations, expanded use of partnerships, volunteers, and cooperation with the National Forest Foundation.

A significant recent trend in recreation management affecting the national forests is a movement toward expanded visitor fees. This trend was emphasized by the recreation fee demonstration authorized project in Public Law 104-134, the Omnibus Consolidated Rescission and Appropriations Act of 1996. This act initially approved up to 50 fee demonstration projects on national forests. Authorization for 50 more projects and a one-year extension of the program through September 1999 were given under the Interior and Related Agencies Appropriation Act for fiscal year 1997. The purpose of the program is to test ways of providing improved customer service through many different methods of establishing, collecting, and reinvesting recreation use fees where they were collected. A critical component of the test is monitoring the public's acceptance of the increase in costs and the benefits they receive. The program is particularly important to the Forest Service at a time of existing and projected declining federal budgets and work force. The projected revenue to be generated through the recreation fee demonstration during the start-up of fiscal year 1997 was $7.6 million. Initial evaluations show that while fees may be a useful tool, new fees are not universally accepted by customers, and the program does have impacts on the work force for fee collection and security.

With travel and tourism being the world's largest industry, the Forest Service is planning an integrated strategy that will demonstrate commitment to community vitality and the tourism industry. The tourism strategy will be a benefits-based management approach emphasizing collaboration and enhancements to people and the environment. This approach will produce measurable benefits to visitors, local residents, private industry, communities, and the recreation resources. Positive outcomes anticipated through this strategy

include enhanced physical, psychological, and spiritual health of people, rural economic development and diversification, historic preservation, increases to the national gross domestic product, natural resource enhancements, and an increase in partnership opportunities and volunteerism.

To provide enhanced public service, the Forest Service has embraced collaborative stewardship. Through collaborative stewardship, the agency is focusing on building sustained relationships with constituents, with an anticipated outcome of reduced adversity, appeals, and litigation. A cornerstone of collaborative stewardship is the creation and maintenance of partnerships. This rapidly expanding activity is creating tremendous opportunities for the agency to provide high quality recreation products and services, and to develop a knowledgeable and supportive constituency.

In order to stimulate private sector participation in outdoor recreation services, the Forest Service is emphasizing public/private ventures. Through joint private and public-sector investment in recreation facilities and/or services on national forests, viable business opportunities may be made available to private industry, resulting in high–quality recreation experiences for visitors.

Concessioning recreation facilities and services is another area which is receiving strong emphasis by the Forest Service. Through concession agreements the Forest Service, while working with the private sector, can continue to provide and enhance a diversity of recreation services and camping opportunities for the public.

The Forest Service has implemented an aggressive "Windows on the Past" program to provide visitors access to heritage sites and experiences. This includes Passport in Time, the Historic Structure Rental program, and Heritage Expeditions. The Passport in Time is a highly popular program that pairs volunteers with national forest archaeologists and historians to work on projects ranging from archaeological excavations to restorations of historic structures. The Historic Structure Rental program provides historic cabins and fire lookout towers for public rental, offering a unique way to learn history. The Heritage Expeditions program is a component of the recreation fee demonstration. Under this program, the Forest Service and the private sector co-host heritage resources expeditions, such as retracing historic explorers and visiting rock art sites with professional conservators and interpreters.

To help improve the quality of service to national forest visitors, the Forest Service has adopted "Meaningful Measures." Under this internal process, quality standards for work accomplishment are set, work is prioritized by visitor preferences, and work plans are developed consistent with program funding.

Future Trends, Issues, and Directions

In the foreseeable future, outdoor recreation participation will continue to increase, assuming continued economic stability and availability of fossil fuels. Increased use places greater demands on the natural settings available in national forests. Access to private lands for outdoor recreation will become increasingly constrained, as more lands are closed for public use. An increasingly urban population will seek out natural settings for recreation. This will result in greater demands and impacts on national forests, particularly those in close proximity to urban areas.

Other public providers of outdoor recreation will be reaching visitor carrying capacity and will implement limitations on visitation to avoid natural setting degradation. This is already happening in some national parks. As a result, some areas such as national forests, which have not reached carrying capacities, will see increased visitation. This increase will require development of management strategies and collaborative actions to meet the demand effectively while continuing to maintain ecosystem sustainability.

Users of national forests are changing. Demographic shifts that are taking place will present unique challenges in providing outdoor recreation opportunities on national forests. Programs and services will need to be structured to serve an increasingly diverse, older, and more international visitor, while continuing to accommodate the traditional forest recreationist.

New technology and equipment are constantly evolving or creating new recreation uses, such as improved 4-wheel-drive vehicles, snowboards, personal GPS units, cellular phones, and mountain bikes. Managers of the future will be challenged to maintain compatibility of new technology and equipment uses with national forest stewardship.

Research indicates that forest users are demanding increased access to accurate information they need to plan their recreation trips. Therefore, on-site, off-site, and computer technology accessible information will be more important than ever in providing for visitor needs and ensuring a positive visitor experience.

With anticipated increased visitation to national forests in the future, greater pressures will be made on special areas, such as components of the National Wilderness Preservation System and the National Wild and Scenic Rivers System. Preserving the inherent qualities of these special areas for future generations is and will remain a significant management challenge.

Heritage values are a growing interest to many Americans who enjoy tracing their cultural heritage and examining various types of heritage information. As interest in heritage tourism continues to grow, management strategies will need to be in place to protect heritage resources on national forests, as well as provide expanded opportunities for visiting historic and prehistoric sites.

The Forest Service is embarking on the creation of a national image marketing strategy. Although the program will ultimately embrace all program areas of the agency, it will initially focus on areas discussed in this section and fish and wildlife management. The goals of the effort are to:

1. Develop a large, supportive, and knowledgeable constituency now and into the 21st century.
2. Become a partner of choice for corporate America.
3. Develop a positive image as the premier land-managing agency in America.
4. Provide clarity in the public's eye regarding the agency's niche by both enhancing agency recognition and creating distinction from other agencies.
5. Rally the internal force and focus this tremendous energy to expand capability to provide high–quality products, services, and opportunities.
6. Develop champions and support in Congress.
7. Provide focus for agency activities with a consistent message to the public.
8. Do a better job of managing the nation's forests.

As a strategy for accommodating increasing outdoor recreation demands in the future, the Forest Service will be developing a wide range of management tools and techniques, such as improved permit systems, increased public/private sector investments, enhanced developed sites, improved and efficient fee systems, and increased emphasis on partnerships and volunteerism. In many instances, a balance will be needed between more intensive management, preservation of unique areas, and providing public access to an ever increasing range of outdoor recreation opportunities.

Bureau of Land Management

The BLM manages about 268 million acres, more than any other federal agency (Table III.1). BLM land is almost exclusively Western. Only about one million acres are located in the two Eastern regions. BLM land is nearly evenly split between the Rocky Mountain (54 percent) and Pacific Coast (46 percent) regions, but 89 out of 122 million acres of the Pacific Coast BLM land is in Alaska. BLM acreage is often called "the land nobody wanted" because most of it is the residual that was neither homesteaded nor transferred to other agencies. Most of the land is in dry and barren environments. For example, 69 percent of the total area of Nevada (the "Sagebrush State") is BLM land. A major and controversial development occurred on BLM land in September, 1996 when President Clinton created the 1.7-million-acre Grand Staircase-Escalante National Monument in southern Utah by executive fiat (Satchell, 1997a). This is the first national monument under jurisdiction of the BLM. Management of the area will be closely watched by many interests since it encompasses some of the nation's richest coal, oil, and natural gas reserves.

The BLM manages a variety of resources and facilities devoted to outdoor recreation. The publication of *Recreation 2000: A Strategic Plan* in 1989 articulated the agency's planning and policy direction for recreation management. BLM land is zoned into Recreation Management Areas (RMA), which are further classified as either Extensive or Special. Extensive RMAs are similar to the Forest Service general forest areas where development is minimal and the emphasis is on dispersed recreation. They may contain recreation sites, but typically, backcountry areas are not a part of Special RMAs. In Special RMAs, a specific commitment (i.e., investment) has been made to provide recreation services or facilities.

Special RMAs outnumber Extensive RMAs almost two to one, but the acreage in each is reversed. According to BLM's 1994 Recreation Management Information System (RMIS), there were 338 Special RMAs compared to 180 Extensive RMAs. The Special RMAs account for about 28.6 million acres, while Extensive RMAs account for about 193.5 million acres.[5] The BLM lists 2,213 designated recreation sites in the 1994 RMIS. These may occur in either type of RMA, but more than two-thirds (1,484) are in Special RMAs. The BLM manages 7.6 million acres developed specifically for recreation. In addition to dispersed use areas, the types of recreation sites listed in the RMIS indicate the variety of facilities provided by BLM: boat launches, cabins, campgrounds, caves, environmental education centers, picnic areas, resorts, swimming areas, trail heads, comfort stations, and visitor centers.

[5]About 45 million acres were not classified as either Special or Extensive RMAs.

Outdoor Recreation and the Bureau of Land Management

(By Rodger Schmitt, Recreation Group Manager, Bureau of Land Management, Washington, D.C.; Michelle M. Dawson, Partnership/Marketing Specialist, Bureau of Land Management, Washington, D.C.; Hal Hallett, Outdoor Recreation Planner, Bureau of Land Management, Washington, D.C.; and Cal McCluskey, Wildlife Biologist, Bureau of Land Management, Boise, ID)

Background

The BLM in the Department of the Interior administers one-eighth of the nation's original vast land holdings—the 1.8 billion acre public domain. In the nation's earliest years, the federal government and Congress became the legal guardians of the public lands, where policy generally provided for the disposal of the public lands. Millions of acres of public land were set aside to establish Indian reservations, national parks, forests, wildlife refuges, and military reservations. The land disposal policy built the country's economic foundation, opened the West to settlement, and united the vast expanses of land into one nation. In 1812, Congress established the General Land Office (GLO) to administer the public domain. The passage of the Taylor Grazing Act in 1934 established the U.S. Grazing Service to provide active range management on public domain land. In 1946, the GLO and the U.S. Grazing Service merged to create the BLM.

Originally viewed as the "Great American Desert," BLM land for years was regarded primarily as a source of livestock forage, timber, and energy and mineral resources. Since the 1980s, the BLM public land has become more valued for its environmental resources, significant cultural resources, recreation opportunities, and in an increasingly urban nation, its vast open spaces. The BLM's mandate under the Federal Land Policy and Management Act of 1976 requires the agency to manage the public land to accommodate many uses, while protecting the long-term health of the land.

Recreation Resources and Opportunities

The BLM public lands offer abundant opportunities for outdoor recreation notable for their undeveloped, wild nature. Dispersed recreation activities that occur on BLM lands include, but are not limited to, camping, hiking, fishing, hunting, whitewater rafting, hang gliding, horseback riding, wildlife viewing, and driving for pleasure. Examples of the diversity that recreationists enjoy include the solitude of Arizona's Aravaipa Canyon wilderness area, riding all-terrain vehicles in New Mexico's North Dunes, whitewater rafting on Utah's Green River, canoeing and island hopping in Minnesota, snowmobiling in Alaska, hunting for world-renowned big game in Colorado, fishing for steelhead trout in Idaho, retracing the Oregon Trail by horseback in Oregon, and caving in Wyoming.

Modern explorers can hike, horseback ride, mountain bike, motorcycle, four-wheel drive, and cross country ski across trails on BLM public lands. The diverse terrain ranges from 14,000 foot summits in Colorado to the depths of Paria Canyon in Utah, from the Alaska wilderness to the geysers and cypresses of California. The BLM public lands contain nine national historic trails, two national scenic trails, and 26 national recreation trails encompassing nearly 5,000 miles. Off-highway vehicle (OHV) hobbyists, motor bikers, and horseback riders enjoy over 141 million acres for OHV, over 6,200 miles for motorbikes, and 17 equestrian trails spanning almost 5,300 miles. An additional 4,500 miles of trail are open to all-terrain vehicle use.

Those seeking less crowded and pristine areas can escape to the 134 designated wilderness areas managed by the BLM covering 5.2 million acres. Additionally, the BLM is currently managing 622 wilderness study areas that encompass over 17 million acres awaiting Congressional action. Further, the BLM manages the 1.7 million acre Grand Staircase Escalante National Monument in Utah.[6] The BLM is also responsible for eight

[6]Presidential, Congressional, and Secretarial designations provide instant visibility to otherwise unknown areas. With visibility, visitation is not far behind. The Grand Staircase Escalante National Monument did not exist until the September 1996 monument proclamation by President Clinton. The new status has resulted in extensive media coverage heightening the public's curiosity for visiting this monument, which is a unique combination of archeological, historical, paleontological, geological, and biological resources.

national conservation areas in Alaska, Arizona, California, Nevada, and New Mexico. Other congressional designations managed by the BLM include the Santa Rosa Mountains National Scenic Area in California, the Yaquina Head National Outstanding Natural Area in Oregon, and the one-million-acre White Mountain National Recreation Area in Alaska.

Although not known as a water resource management agency, the BLM manages 174,000 miles of fishable streams, 2.6 million acres of lakes and reservoirs, more than 5,400 miles of floatable rivers and 127 boat ramps. Under special designation, the BLM manages parts of 34 rivers in five Western states as National Wild and Scenic Rivers. For wildlife enthusiasts, the BLM public lands provide habitat for more than 3,000 species of mammals, birds, reptiles, and fish. Hunters have access to big game animals, such as pronghorn, mountain sheep, caribou, deer, and moose, as well as numerous waterfowl and small game animals species.

National Trends in Recreation and Tourism on BLM Lands

The BLM, the American Recreation Coalition's Recreation Roundtable, Tennessee Valley Authority, USDA Forest Service, and the Federal Highway Administration sponsored the 1997 Roper Starch Worldwide National Survey on "Outdoor Recreation in America." Key findings from this research reaffirm trends BLM managers have been experiencing on the ground about the widespread popularity of outdoor recreation. Cultural tourism has surfaced as a key trend. Families are seeking unique experiences and educational information. Historic and prehistoric sites are increasingly popular. The BLM public lands hold a tremendously large and varied body of cultural resources. More than 180,000 prehistoric and historic sites have been found on BLM public lands. This legacy includes ancient stone tools and dwellings, dusty trails, crumbling and half-forgotten cabins, forts, and mines. Enthusiasts can pan for gold near old placer mines, trace an abandoned railroad line, or photograph petroglyphs that recall stories of ancient triumphs. Two outstanding attractions are the Garnet Ghost Town in Montana, which preserves 30 buildings much as they were in 1895; and the Anasazi Heritage Center and Museum in Dolores, Colorado, which features the ruins of two late Anasazi communities and interprets the culture of the people known as the "Ancient Ones."

Paleontological discoveries are another significant resource found on BLM public lands. For example, in Utah, the BLM's Cleveland-Lloyd Dinosaur Quarry has yielded nearly 10,000 bones representing at least 14 species of Jurassic animals. Material from the Cleveland-Lloyd Quarry has been the basis for more public exhibits than any other dinosaur quarry in the world, contributing specimens to 40 museums in 19 states and eight foreign countries. The challenge for the BLM is to channel the public's enthusiasm for archaeological, historical, and paleontological resources on the public lands to protect and preserve this fragile and irreplaceable legacy.

Scenic driving and sightseeing are among the most popular forms of outdoor recreation in the U.S. The BLM developed its Back Country Byway program to complement the National Scenic Byway program. The BLM manages 64 back country byways covering over 3,000 miles. An example is Colorado's Alpine Loop which links Lake City, Silverton, and Ouray following roads built by miners over 60 years ago. The byway passes through old mines, mining camp mill ruins, tram lines, and ghost towns. Another BLM program designed to help meet the demand for recreational touring, particularly among seniors, is the establishment of eight long-term visitor areas in Arizona and California. Designed primarily for winter travelers in recreational vehicles, visitors may stay for months at a time by purchasing a long-term visitor pass for a nominal fee. The permit covers the season from September 15 to April 15. BLM public lands are more accessible to automobile travelers than many people realize. Approximately 40 percent of BLM lands are located within a day's drive of 16 major urban areas in the West.

The BLM has 300 Watchable Wildlife areas offering adventure for recreationists to observe and learn about wildlife in their natural habitat. Enthusiasts may see a steelhead struggling upstream to spawn, a peregrine falcon wheeling high over a canyon, a killer whale breaching in the Pacific, pronghorn bounding across the plains, or the elusive Roosevelt elk hiding in the wooded forest of the Northwest. This program provides the public with meaningful opportunities to enjoy wildlife resources. Watchable Wildlife is a program signaling the BLM's efforts to balance recreation resources and wildlife habitat considerations.

Another interesting trend, dramatically impacting the BLM, is the emergence of Las Vegas, Nevada as one of America's most visited destinations. The BLM's Red Rock Canyon National Conservation Area (NCA), just 15 minutes by automobile from Las Vegas, offers much—especially scenic beauty and wildlife—to families seeking a natural experience away from the Las Vegas strip. Red Rock Canyon is also a world-class rock climbing area. In addition, the BLM public lands are experiencing increasing international visitation. International visitation to the United States is a growing market. International travelers are looking for a real "American" experience and have a keen interest in adventure travel in the American West. Another management

challenge for the BLM is appropriate signage in several languages to ensure international visitors have a good quality recreation experience.

BLM Strategic Planning and Recreation 2000

Many popular forest areas and parks in the U.S. are overcrowded with decreasing visitor services and crumbling infrastructure. Visitation to the BLM public lands has increased from 51 million visits in 1994 to nearly 60 million visits in 1997, as more and more people pursue outdoor activities. The growth in recreational use has had various impacts and consequences. Some areas are deteriorating from overuse. The very resources that attract visitors may be in jeopardy. If these resources are impaired or damaged, they will lose their value and appeal. When visitor use exceeds capacity, it is often a difficult management task to protect resources from degradation, while at the same time ensuring visitor safety. The BLM is expanding its efforts to educate the public about protecting and conserving its public land heritage through interpretation, environmental education, permit stipulations, and environmental stewardship efforts. Visitors are asked to use and enjoy the public lands with minimal environmental impact by incorporating the Leave No Trace and Tread Lightly principles.

Leave No Trace principles are techniques that visitors can use to help reduce evidence of their presence on the public lands. By following the Leave No Trace land ethic, visitors can enjoy public lands, the back country, and wilderness areas, while preserving the beauty and solitude of this public land legacy. Tread Lightly is an educational program dedicated to increasing awareness about how to enjoy public and private lands while minimizing impacts. The emphasis is responsible use of off-highway vehicles and other forms of back country travel, and low-impact principles that are applicable to outdoor recreation activities. The Tread Lightly pledge involves traveling only where permitted; respecting the rights of others; educating oneself; avoiding streams, meadows, and wildlife; and driving and traveling responsibly. Well-informed, environmentally sensitive recreation users can play a key role in protecting cultural, natural, and scenic resources, as well as sustaining the health of the nation's public lands.

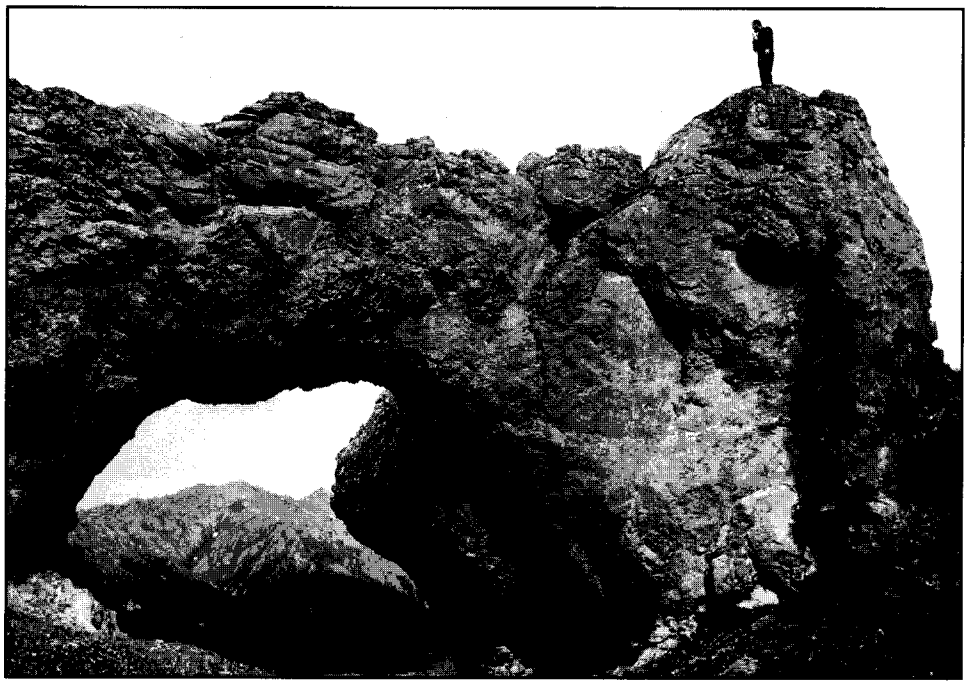
While the recreation public continues to increase, funding has not kept pace with the rising costs of managing recreation sites and providing services that the public expects and demands. Consequently, routine and corrective maintenance needs are not being met, BLM recreation employees are not sufficiently present on site, and critical visitor services are lacking. In 1989, the BLM developed the comprehensive document, *Recreation 2000: A Strategic Plan*, which outlines specific policy guidance for the BLM's recreation program. Through the strategic plan, the BLM's recreation program was recognized as a major component of the BLM's multiple use mandate. In 1994, the BLM updated its strategic plan and crafted the *Recreation 2000 Update*. These two documents establish a clear image of the BLM in providing quality recreation and tourism opportunities for the public while sustaining healthy land and water resources.

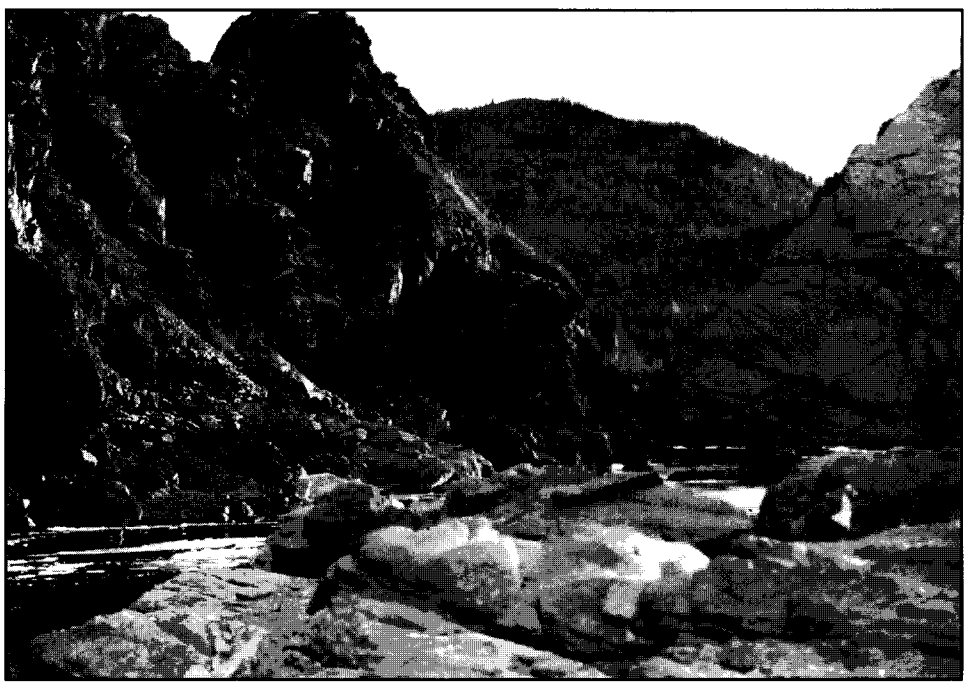
Well-designed, universally accessible facilities, combined with sound management techniques, can stabilize and restore natural values, increase safety, and improve the recreation experience. This sometimes poses a dilemma for management. Facilities require long-term maintenance and are an added expense. Facilities and costly visitor centers represent a break from the BLM's traditional recreation niche—providing a primitive and dispersed experience consistent with the wide-open landscapes the BLM manages. Furthermore, the BLM should complement, not compete, with other federal, state, tribal, regional, and local governments and private entities that also supply recreation opportunities.

The BLM attempts to customize the management of each local area according to its own unique attributes. The BLM focuses on resource-dependent opportunities, as well as responding to the demands for facility development where necessary. Most recreation-related development involves protecting resource values and serving as staging areas for resource-based use—not as visitor attractions in and of themselves. Through collaborative efforts, recreation providers must strive to provide a diversity of opportunities and make them available to the public. The BLM is developing a marketing strategy for the next five years on recreation, travel, and tourism to accompany and complement the *Recreation 2000 Update* strategic plan. Each BLM district office must identify its niche and concentrate on furnishing high-quality recreation opportunities in cooperation with other providers. For example, BLM's New Mexico's Roswell District contains many caves adjacent to Carlsbad Caverns National Park. In defining one of its primary recreation niches, the district decided to concentrate on providing "wild" cave opportunities. Visitors wishing a more structured cave visit are directed to Carlsbad Caverns National Park. Within this region, a broad spectrum of customers is served by both the BLM and the National Park Service, providing complementary—not competing—opportunities.

The tremendous growth in recreation visitation is having a significant impact on the economy of many Western communities. One of the challenges facing the BLM is to help local communities understand, antici-

pate, and plan for the economic and social impacts of travel and tourism from the outdoor recreation that occurs on BLM public lands. The BLM is now evaluating methods to improve its understanding of customer expectations, needs, and motivations. This deeper understanding will lead to the improved management of outdoor recreation, travel, and tourism opportunities.





The Bureau of Land Management's "Windy Arch" (top) and "Kink Area" (bottom) in Alaska offer opportunities for remote recreation experiences. Photos courtesy of the USDI Bureau of Land Management.

The BLM is currently working with the USDA Forest Service, Southern Research Station, and Old Dominion University to identify the economic impact of recreation accurately from public lands to neighboring communities. Preliminary studies indicate significant positive impacts. An example of this economic impact

is the study results of recreationists visiting Yaquina Head, Oregon. In 1995, almost $21 million was spent locally by tourists visiting and recreating at Yaquina Head. The rugged beauty of this promontory is one of the most outstanding features of the Oregon coast. It includes a century-old lighthouse, marine gardens, viewing platform, paved parking areas, and stairway access to the beach and tide pools. The BLM public lands are not only valued for their revenue-raising potential and economic benefits to rural and local economies, but also for the exceptional and challenging recreation opportunities.

The BLM is working to develop innovative approaches for securing additional funding to satisfy the growing desire of the recreating public to use public lands. Using existing legal authorities, the BLM is methodically implementing a recreation fee program and building partnerships at local, county, regional, state, and national levels to leverage its fiscal resources. Partnerships increase the staffing, equipment, facilities, printing services, maintenance capabilities, and funding available to improve the quality of services and level of maintenance provided at many outdoor recreation sites.

The BLM is aggressively pursuing challenge cost-share partnerships, grants, and alternative funding sources to strengthen its relationship with local communities and to provide high-quality customer service to public land users. Selection of cost-share partners is focused on recreation site management that reduces risk to public health and safety, decreases environmental degradation, provides recreation facilities that meet use requirements, improves the quality and diversity of the resources, and provides customer service that is the "best in the business." Also important is the delivery of messages to the public on environmental stewardship ethics about conserving and protecting its treasured public lands legacy.

Public lands are administered by the BLM for the benefit and enjoyment of all Americans. The public lands were once considered the "lands nobody wanted." Today, they are recognized for their rich legacy—both a link with the past and a trail to the future.

Resource Protection and Public Use

The National Park Service (NPS) and the U.S. Fish and Wildlife Service (FWS) are agencies of the Department of the Interior that, by law, emphasize resource protection. Both have major land holdings throughout the United States, especially in Alaska. The NPS is much better known by the American public and has far more annual visitation. The NPS' higher profile may be because recreation or "public enjoyment" is an explicit part of the NPS mission. The NPS, however, seems to fight a continuing battle over the proper balance of preservation versus public use (Satchell, 1997b). The enormous popularity of the national parks results in ongoing problems of crowding and its associated impacts. Crowding is not a widespread problem on FWS resources, but the issue of "appropriate use" on national wildlife refuges has received a great deal of attention. The FWS recognizes recreation as a "legitimate use," allowable so long as it does not conflict with conservation objectives.

National Park Service

The NPS is arguably the best-known federal land-managing agency due to its famous "crown jewel" national parks such as Yellowstone, Yosemite, and the Grand Canyon. Almost two-thirds of NPS land is in Alaska. Including Alaska, the two Western regions account for 91 percent of NPS resources (Table III.1). Without Alaska, the Eastern portion of NPS land rises from nine to 26 percent. The other 49 states have about 28.5 million acres of NPS land, with approximately 7.3 million acres in the North and South regions combined. As important as the size of NPS resources is their variety. In 1996, there were 374 separate NPS units, including national parks, monuments, historic sites, battlefields, parkways, recreation areas, seashores, and others. Although the larger areas are mostly in the West, the diverse NPS units are well distributed throughout the contiguous states.

The NPS is also responsible for several "affiliated areas," which are not technically NPS units but are managed with NPS assistance. Chimney Rock National Historic Site in Nebraska and the Historic Camden District in South Carolina are two examples of NPS affiliated areas. The NPS has a presence in several of the nation's urban areas with National Historic Sites and National Recreation Areas (NRAs). Nearly all of the NRAs are primarily water-based resources; the Gateway NRA in New York, the Chattahoochee River NRA in Atlanta, and the Golden Gate NRA in San Francisco are three well-known and highly popular urban sites managed by the NPS.

In addition to the natural and cultural interpretation that visitors enjoy at NPS units, many of them, especially national parks, host a variety of traditional outdoor recreational uses. The NPS *Map and Guide* lists the following facilities, services, and activities at each of the units: visitor centers, guides for hire, campgrounds, boat ramps, cabin rentals, access for disabled persons, back country permits, and areas for mountain

climbing, horseback riding, swimming, boating, fishing, hunting, bicycling, snowmobiling, and cross-country skiing.

Two recent laws passed by Congress had major implications for NPS resources. First and foremost, the California Desert Protection Act of 1994 (P. L. 103-433) protected more land in the lower 48 states than any other legislation with the exception of the 1964 Wilderness Act, most of it under NPS' jurisdiction (Zinser, 1995). Death Valley National Monument was upgraded to national park status after 1.3 million acres of BLM land were transferred to the NPS. More BLM land was transferred to the NPS near the Joshua Tree National Monument, which was also upgraded to a national park. Further, a new NPS unit, the Mohave National Preserve, was created from 1.4 million acres of the former BLM East Mohave Scenic Area. In addition to numerous minor provisions, the act also established a number of new wilderness areas and wilderness study areas in the NPS, BLM, FS, and FWS.

Another significant law passed by Congress was the Omnibus Parks and Public Lands Management Act of 1996 (H.R. 4236). It created five new NPS units: the Tallgrass Prairie National Preserve and Nicodemus National Historic Site (NHS) in Kansas, the Washita Battlefield NHS in Oklahoma, and the New Bedford Whaling National Historic Park and the Boston Harbor Islands NRA in Massachusetts. The Tallgrass Prairie National Preserve is the first of its kind in the United States. The act also defined a management structure for the Presidio, the former military installation on a spectacular setting in San Francisco, which was recently transferred to the NPS. Further, the Omnibus Act provided funding toward the protection of the highly regarded Sterling Forest natural area, located just 40 miles from New York City along the New Jersey border. And the act also created nine "heritage areas," a new NPS designation that is not technically an NPS unit, but that provides technical assistance to historic and cultural districts created through local initiatives.

The National Park Service and Outdoor Recreation in the United States

(By Merle Van Horne, National Park Service, Washington, D.C.)

The mission of the National Park Service, as stated in its 1997 strategic plan, is:

> The National Park Service preserves 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 Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world.

The two elements of this mission statement—the park system and the cooperative outreach effort—while entirely complementary, are sufficiently different to warrant separate treatment here.

The National Park System

The National Park Service Organic Act of 1916 created a new federal bureau within the Department of the Interior to protect and manage the 40 national parks and monuments then in existence and those yet to be established (USDI-NPS, 1995, p.6). Since then, the system has grown to more than 370 such "units" designated Congress and in some cases (by the president) designates new areas. The service is responsible for the protection of resources as varied as the White House (18 acres) and the Wrangell-St. Elias National Park and Preserve (13 million acres), as well as more than 35 million museum objects and 22,000 linear feet of archives. Table III.3 summarizes the status of the National Park System as of December 31, 1996.

A number of trends are affecting the National Park System and will continue to do so. They all pose challenges to the adaptability of the service.

Congress continues to create new units for the National Park Service to manage, often with little or no increase in dollars or personnel to do the job. The growing gap between means and ends is leading to major adaptations, some tentative and experimental, in how the National Park Service does its work. Here are a few examples:

> Entrance and service fees are always controversial, but surveys have consistently shown that visitors would accept higher fees if they were sure the revenue would go for improved facilities and services at the site where the money was collected. Both Congress and past administrations have been most reluc-

tant to relinquish any of their control over where the money goes, but these kinds of fee "plowback" experiments are now being conducted with congressional approval.

- Partnering with both commercial and nonprofit organizations is seen as a path to more cost-effective management of the National Park System. This has always been so. More than 650 concessionaires provide lodging, transportation, food, shops, and recreational services to park visitors (USDI-NPS, 1997, p. xi). Numerous "cooperating associations" serve the visitor with literature and information. Consideration is being given to using partners in more—and more responsible—roles. A current study is exploring the possible role of bond issuance in funding major capital projects. Also, the National Park Service has traditionally benefitted from the services of many fine volunteers. They are even more avidly sought in the present climate of fiscal constraint.
- A worrisome trend in recent years is a rise in the number and severity of "external threats" to park resources from adverse changes in the use of nearby (and not so nearby) lands in other ownerships. This trend has led to much strife between parks and their neighbors, both public and private. Efforts are now underway to mitigate these conflicts and establish more cooperative relationships with park neighbors. Often, "ecosystem management" is seen as an appropriate framework for improved relationships of this type.

Table III.3: The National Park System[a] as of December 31, 1996

Type of Area	Number in System	Acreage
International Historic Site	1	35
National Battlefield	11	13,144
National Battlefield Park	3	8,776
National Battlefield Site	1	1
National Historic Site	74	23,913
National Historical Park	38	162,239
National Lakeshore	4	228,936
National Memorial	26	8,058
National Military Park	9	38,028
National Monument	73	2,066,178
National Park	54	51,700,937
National Parkway	4	170,765
National Preserve	16	23,616,704
National Recreation Area	19	3,703,211
National Reserve	2	33,407
National River[b]	6	424,786
National Scenic Trail	3	183,105
National Seashore	10	592,608
National Wild and Scenic River[c]	9	219,540
Other Areas[d]	11	38,947
System Totals	374	83,233,318

[a]Does not include National Park Service-affiliated areas nor national heritage areas and corridors, since those resources have not been designated as units of the National Park System.
[b]These six rivers are designated and managed as units of the National Park System, but they have *not* been designated as components of the National Wild and Scenic Rivers System.
[c]These nine rivers are designated and managed as units of the National Park System, *and in addition*, have been designated as components of the National Wild and Scenic Rivers System. Certain other rivers, which are components of the National Wild and Scenic Rivers System, are managed by the National Park Service but are not units of the National Park System. Those rivers are not included in this table, which is limited to National Park System units.
[d]Includes the White House, the National Mall, and various other sites.

The Visitors

There are many. Over the 10-year period of 1987-1996, recreation visits to the National Park System ranged between 246 million and 275 million, with a long-term increasing tendency. Over the same period, overnight stays held fairly steady between 16.6 million and 18.3 million, with tent and back country camping gaining and recreation vehicle camping declining (USDI-NPS, 1987-1996).

The National Park Service encourages "appreciative" recreation activities, such as hiking and wildlife observation, which have relatively little adverse impact on resources and generally do not impair the quality of other people's experiences. Some sensitive natural and cultural areas are restricted to such activities exclusively. The National Park System includes some urban parks and national recreation areas which permit a broader range of recreation pursuits. Even in such areas, however, the service has been relatively successful (with the support of the majority of visitors) in avoiding clearly inappropriate recreation activities.

In recent years, much of the media coverage of the national parks has consisted of horror stories of gross overcrowding. In actuality, such episodes are mostly limited to peak weekends at the most popular parks. The service takes the crowding problem seriously, however, since these crush-load instances may be harbingers of things to come. Various remedies are being tested and applied.

Reservations are required more often and at more places. Alternative transportation systems are replacing the space-consuming private automobile in the most crowded front country areas. New information technologies are being used to divert people from the most crowded sites and times to equally rewarding alternative destinations.

Off-season visitation is increasing, but the inflexibility of the school year continues to force most family recreation travel into major seasonal peaks.

Visitors to the National Park System as a whole are quite diverse. However, those who travel outside metropolitan regions to visit the more remote sites continue to be disproportionately white and of above average education and income. Tourists from other countries constitute a substantial and increasing share of national park visitors. This trend is a major plus. International travel is one of the few segments of our country's balance of payments that consistently shows a surplus. Market studies show that the national parks are one of America's best inducements for foreign travelers to visit our shores.

Partnerships—The Outreach Effort

Since the 1930s, the National Park Service has had broad authority to extend its expertise and support to communities throughout the nation, regardless of their proximity to units of the National Park System. The service experienced a major expansion of its outreach mandate in 1981, when it assumed most of the recreation and cultural resources assistance and monitoring responsibilities formerly exercised by the Heritage Conservation and Recreation Service and its predecessor, the Bureau of Outdoor Recreation pursuant to the Outdoor Recreation Act of 1963.

The service collaborates with other federal agencies, tribes, states, local, and county governments, nonprofit organizations and commercial enterprises in carrying out this work. Descriptions of some of the major outreach programs follow.

Through the national historic and natural landmarks programs, Historic Preservation Fund grants, the tribal historic preservation program, the archeology and ethnography program, and the historic American buildings survey/historic American engineering record, the National Park Service bolsters community preservation efforts nationwide. In partnership with the State Historic Preservation Officers, more than 67,000 resources have been listed on the national register of historic places. The preservation tax credit program alone has leveraged more than $17 billion in private investment, restoring over 26,000 historic buildings. Over the next five years, an increase of 15 to 20 percent in the number of resources protected by these partnership programs is envisaged.

Since 1964, the Land and Water Conservation Fund has provided more than $3.2 billion in 50 percent matching grants to states and territories for the acquisition and development of recreation and conservation sites. The 37,000 parks and recreation facilities assisted through this program and the 1,800 properties rehabilitated with grants from the Urban Park and Recreation Recovery program are largely administered by counties and municipalities. Most of them serve community recreation and open-space needs.

Similarly, the Federal Lands-to-Parks program has recycled over 1,200 "surplus" federal properties into locally managed parks, open space and recreational facilities. Over the past 10 years, the Rivers, Trails and Conservation Assistance program has responded to over 500 requests for help with locally developed conservation and recreation projects by providing technical assistance. Over the next five years, these two partnership programs plan to assist in the conservation of 1,100 additional miles of trail, 1,200 miles of protected river corridor, and 35,000 acres of new parks and open space—largely at the community level (USDI-NPS, 1997, p. 43).

Other recreation resources and opportunities are conserved through partnerships with states and other federal agencies. In cooperation with other land managing agencies, the National Park Service exercises the Secretary of the Interior's oversight responsibility for the National System of Trails and the National System of Wild and Scenic Rivers. More than 150 wild and scenic river segments conserve key free-flowing waterways. Twenty national scenic and historic trails and over 800 national recreation trails mark and commemorate many famous pathways and travel routes.

In the Urban Resources Partnership, the National Park Service cooperates with six other federal agencies to focus various assistance programs on the environmental problems of 13 American cities. The program responds to community-defined needs with projects ranging from erosion control, to community gardens, to anti-litter campaigns.

Recently, Congress has begun to designate national heritage areas—locally-driven partnerships that protect resources and provide educational and recreational opportunities. Fifteen such areas have been designated so far. Each national heritage area recognizes an exemplary local or regional effort to conserve and interpret a distinctive "cultural landscape" that has evolved over time through the interaction between the land and the human communities thereon. Management of these areas is entirely local, but the management entities are eligible for targeted technical assistance from applicable National Park Service programs.

America is changing rapidly. Each succeeding generation of National Park Service managers and employees faces new problems and opportunities arising from a changed environment and a different clientele. Constant and thoughtful adaptation is the key to success in accomplishing the service's dual mission of resource preservation and effective service to the American people.

U.S. Fish and Wildlife Service

The purpose of the FWS is to protect and enhance wildlife and fish habitats in the National Wildlife Refuge System. Most refuges were established for migratory bird conservation and endangered species protection. The National Wildlife Refuge Administration Act of 1966 established the refuge system with the standard that any public uses must be "compatible" with the management of the individual refuges. The 1966 law, however, did not define a unifying mission for the agency. The National Wildlife Refuge System Improvement Act, passed by the House of Representatives in 1997 but still awaiting Senate action, defined a mission for the Fish and Wildlife Service and established priority public uses. A key provision is the recognition of wildlife-dependent recreation as a "legitimate and appropriate" public use, so long as it is compatible with wildlife conservation.

As of September 1997, there were 512 refuges with approximately 90 million acres in the United States, not counting U.S. territories. In addition, the FWS manages about 2.5 million acres of waterfowl production areas. These areas consist of wetlands management districts (WMD) managed as part of the National Wildlife Refuge System. WMDs are located in the upper Great Plains and Great Lakes states (plus Iowa and Montana). Many provide recreation opportunities similar to those found on National Wildlife Refuges.

FWS's "Visitor's Guide" map and brochure describes recreation facilities and services available at all refuges and WMDs that allow public use. These facilities and services include: visitor centers, walk-in-only and day-use-only areas, hiking trails, wildlife viewing sites and best seasons for viewing wildlife, archaeological sites, wilderness areas, allowable use of nonmotorized and motorized boating, and the availability of hunting and fishing. More than one-third of the refuges (176), about 23.6 million acres, are not open for outdoor recreation. Most FWS land is in Alaska. Of the refuge acres closed to public use, almost 95 percent are in three refuges in Alaska. Excluding Alaska, the majority of FWS land in the contiguous states is in the Rocky Mountain region (53 percent), followed by the South with 28 percent (Table III.1).

Outdoor Recreation and the U.S. Fish and Wildlife Service

(By Terry Villanueva, Recreation Specialist, U.S. Fish and Wildlife Service, Arlington, VA)

The U.S. Fish and Wildlife Service (FWS) is the principal federal agency with responsibility for conserving, protecting, and enhancing fish and wildlife and their habitats for the continuing benefit of the American people. The FWS manages 512 National Wildlife Refuges covering about 90 million acres in all 50 states and U.S. territories, as well as 64 National Fish Hatcheries. The agency also enforces federal wildlife laws, manages migratory bird populations, stocks recreational fisheries, and conserves and restores wildlife habitat such as wetlands. In addition, it oversees the Federal Aid program that directs federal excise taxes on angling and hunting equipment to state wildlife agencies. This program is a cornerstone of the nation's wildlife management efforts, funding fish and wildlife restoration, boating access, hunter education, shooting ranges, and related projects across the U.S.

In great American tradition, the hunting and angling community likewise has become a cornerstone of conservation. Whether in the form of a local Izaak Walton League or Bass Angler Sportsman Society Chapter, fighting to preserve water quality in local lakes and rivers or an effort to conserve wetlands sponsored by a Ducks Unlimited Chapter, these small partnerships have become hugely important parts of national conservation efforts. Keeping hunting and fishing as healthy, vibrant recreational activities is, therefore, important to the future of wildlife conservation. And newer forms of wildlife recreation, like photography, observation and conservation education are presenting new ways for Americans to get involved in conservation.

Recreation in the National Wildlife Refuge System

The debate over how National Wildlife Refuge lands, managed by the U.S. Fish and Wildlife Service, ought to be managed and used by the public has intensified and become more visible over the last two decades as the system expanded and visitation grew to nearly 30 million people per year. The first national wildlife refuge was established in 1903, when President Teddy Roosevelt set aside a tiny Florida island as a protected area for birds being indiscriminately harvested for their plumage to meet the fashion demands of the day. Today, the National Wildlife Refuge System forms a network of diverse landscapes wildlife call home, providing habitats where migratory birds thrive and endangered species mark their recovery.

To help balance the refuge system's central wildlife conservation mission with legitimate public recreation interests, on March 25, 1996, President Clinton issued Executive Order 12996, Management and General Public Use of the National Wildlife Refuge System, the first major presidential action to clearly define the mission, purpose and priority public uses of the system. The Executive Order defined the mission of the system as preserving "a national network of lands and waters for the conservation and management of the fish, wildlife, and plants of the United States for the benefit of present and future generations." The Administration opposed subsequent attempts by Congress to elevate recreational use to a "purpose" of the refuge system. In a display of bipartisan cooperation, Secretary of the Interior Bruce Babbitt joined Congressmen Don Young (R-AK), John Dingell (D-MI), Jim Saxton (R-NJ), and George Miller (D-CA), and representatives of the National Audubon Society, Wildlife Management Institute, International Association of Fish and Wildlife Agencies, and Wildlife Legislative Fund of America to develop alternative legislation. The negotiations resulted in the National Wildlife Refuge System Improvement Act, P.L. 105-57, which was signed into law by President Clinton on October 9, 1997.

Many provisions of P.L. 105-57 coincide with those found in Executive Order 12996. Key legislative provisions mirroring the Executive Order include the Refuge System mission statement, definition of priority public uses, and a requirement that the biological integrity, diversity, and environmental health of the Refuge System be maintained. Citing the Executive Order's provision on priority public uses as the foundation for the direction set in the bill, the legislation defines compatible wildlife-dependent recreation as "a legitimate and appropriate general public use of the [Refuge] System." It establishes certain wildlife-dependent public uses as priority public uses, to receive enhanced consideration over others. These uses are defined as hunting, fishing, wildlife observation and photography, and environmental education and interpretation. The legislation states that these uses should be facilitated when compatible but does not mandate these activities. These uses also were defined as priority public uses in Executive Order 12996.

The Improvement Act retains refuge managers' authority to use their best professional judgment to determine compatible public uses and whether or not they will be permitted. "Compatible use" is defined as one that "will not materially interfere with or detract from the fulfillment of the mission of the [Refuge] System or the purposes of a refuge." This language retains the current regulatory definition of "compatible use" used by the U.S. Fish and Wildlife Service. The new legislation includes provisions requiring that all new

public uses and any renewal of existing uses comply with a public involvement process spelled out in the bill. It also requires public involvement in the development of refuge management plans. The plans must identify the purposes of each refuge, data on wildlife populations, archaeological and cultural values, suitable visitor facilities, any problems that affect wildlife and actions to remedy them, and opportunities for compatible wildlife-dependent recreation.

The only legislation defining the Refuge System prior to P.L. 105-57 came in 1966, with passage of the National Wildlife Refuge System Administration Act, which the law amends. This law provided that all of the individual refuges become the National Wildlife Refuge System and established a "compatibility standard" for permitting public uses of individual refuges. However, the 1966 law lacked a unifying purpose or mission for the Refuge System and a specific process by which compatibility determinations should be made. The National Wildlife Refuge System Improvement Act of 1997 is designed to address these issues and, for the first time in its history, provides the Refuge System with an organic act to govern its management and use into the next century.

Expanding the Potential for Partnerships

Providing increased opportunities for wildlife-related recreation on FWS lands in an era of limited budgets requires the agency to work more effectively and efficiently with its non-government partners. A major thrust for the FWS over the coming decade will be to increase the number of partnerships with outside organizations working to reach common conservation goals. As part of its initial efforts to implement President Clinton's executive order on wildlife refuges, the FWS set out to increase the participation of refuge "Friends" groups in providing visitor's services— ranging from environmental education and interpretation to guided tours—on refuge lands. CARE, a coalition of conservation and recreation groups, is also working together with Congress to ensure that the refuge system receives the funding it needs to meet operational needs.

Prior to his Executive Order on refuge management, President Clinton signed Executive Order 12962 on Recreational Fisheries. The executive order required federal agencies to work together to improve recreational fisheries under their existing responsibilities and programs. To guide agencies in improving fishing opportunities, the executive order required agencies to develop a joint comprehensive fisheries conservation plan. To ensure that the plans are implemented and monitored, President Clinton assigned the Sport Fishing and Boating Partnership Council to annually review the progress of each agency represented in the plan.

The Sport Fishing and Boating Partnership Council, made up of representatives of state natural resource agencies and the fishing and boating industries and their trade associations, was formed three years ago to provide guidance and recommendations to the Secretary of the Interior on government policies affecting recreational boating and fishing. In addition to input from the council, the U.S. Fish and Wildlife Service has organized a series of fisheries stakeholder's meetings throughout the nation. These meetings brought together representatives of state, federal and Tribal natural resources agencies; conservation groups; recreational industry representatives and anglers to explore how non-federal and federal organizations can work together more effectively for the benefit of fisheries resources. These initiatives, and related efforts, will play an increasing role in meeting and responding to evolving demands for wildlife-related recreation on FWS lands as the National Wildlife Refuge System moves toward the celebration of its first century in 2003.

Other Federal Land Resources

Two other important federal sources of recreation land are not primarily land managing agencies. These are the U.S. Department of Defense (DoD) and Indian tribal land, administered in part by the Bureau of Indian Affairs (BIA). Both limit public access, and neither is guided by a systematic recreation policy. Each Indian reservation and Defense Department installation is a separate and unique case, thus recreation access and availability varies. Indian land is not federally owned, but is administered with assistance from the federal government.

Indian Land

(By Gary L. Rankel, U. S. Department of the Interior, Bureau of Indian Affairs, Washington, D.C.)

The United States contains approximately 56 million acres of Indian land, an area about the size of Georgia and South Carolina combined. The great majority of this land is on reservations in the Southwest,

Great Plains, and Mountain states. It includes more than 500 federally recognized tribes, most located in the states of Alaska, California, and Oklahoma. Land ownership within reservations ranges from 100 percent tribal to a complex "checkerboarded" pattern involving numerous tribal, individual Indian, and non-Indian owners. Unlike state and federal land management agencies, tribal governments have no mission or charge to provide outdoor recreation or other public use opportunities on Indian land. This land is for exclusive Indian use pursuant to treaties, statutes, and executive orders. As sovereign governments, tribes have the power to make laws, administer justice, manage use, and regulate member and non-member activity on Indian land.

Tribal fish, wildlife, and outdoor recreation operations are funded through the BIA's Fish, Wildlife, and Recreation program. The goal of this program is to fulfill and execute the federal government's trust and rights protection responsibilities relating to fish, wildlife, and recreation resources for the sustenance, cultural enrichment, and economic support of Indians. This goal is carried out through the Indian Self-Determination Act of 1975, which permits tribes to contract with the bureau to carry out programs that would otherwise be performed by federal personnel. More than 95 percent of program resources are contracted to tribes.

Recognizing the potential of their resource bases, many tribal governments have pursued outdoor recreation and tourism as an economic development strategy, establishing programs that account for millions of public-use days annually. Indian pow-wows, fiestas, fairs, and religious ceremonies draw additional millions of visitors, including many from foreign countries. Indian museums, cultural centers, heritage displays, and arts and crafts shops are also popular attractions. In recent years, Indian casinos, bingo halls and other gaming establishments have begun to receive heavy use, boosting many Indian and local economies.

Recreational fishery potentials exist on more than 100 reservations in 23 states containing approximately 750,000 acres of lakes and impoundments, and 10,000 miles of rivers and streams.[7] Of more than 80 recreational fisheries programs conducted on Indian reservations, several are nationally renowned, such as the Cherokee, NC; Leech Lake, MN; and Wind River, WY tribes. Tribal hatcheries in the Pacific Northwest, the Great Lakes states, and other regions create diverse fishing opportunities for a variety of species. Indian reservations offer a host of hunting opportunities and support several tribal programs that are popular for their guided and package hunts featuring elk, bighorn sheep, and other big game. Numerous other tribes offer diverse hunting experiences for bear, javelina, mountain lion, waterfowl, upland birds, and other species. A number of tribes have set aside portions of their reservations as hunting preserves, wildlife refuges, wildlife viewing areas, and wilderness areas. Recently, more than 30 tribes throughout the Plains states created the Intertribal Bison Cooperative to reestablish bison herds for subsistence, cultural, religious, and tourism-related purposes.

Other recreation facilities and opportunities on Indian land include day-use areas, full-convenience RV parks and campgrounds, boating facilities, and water sports activities including whitewater rafting and houseboat rentals. Hiking, horseback riding, biking, off-road motoring, winter sports, spectator sports, and other leisure pursuits are also available.

An especially popular Indian tourism area is the Four Corners region of the Southwest. This area offers numerous major tourist attractions and includes spectacular desert scenery, cliff dwellings, and unique Indian cultural events and religious ceremonies. Alaska Indian tribes—including Eskimos, Aleuts, Athabascans, and others—offer a variety of tourism attractions and services. Other prosperous Indian tourism centers are located throughout Oklahoma and on the eastern band of Cherokee Indians Reservation, which borders the Great Smoky Mountains National Park. Others heavily involved in tourism include the Miccosukee tribe of Florida, the Alabama-Coushatta tribes of Texas, the Flathead and Blackfeet reservations of Montana, and the Penobscot and Passamaquoddy tribes of Maine.

Several tribes maintain tourism offices and visitor centers, and many have produced colorful brochures, maps, and information packages describing attractions, opportunities, and programs on their reservations. Many reservations are posted to facilitate visitor use, and some tribes offer guided tours of reservation landmarks and attractions. Not all tribes promote tourism and public use of reservation resources, however. Of those that do, many prohibit public use of certain land. Some tribes prohibit photography and many Indian people prefer not being photographed. Attendance at religious ceremonies may be off-limits or by invitation only.

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[7]The BIA does not have an up-to-date brochure or directory which lists recreational opportunities available to the general public on Indian land. The most current centralized information is in a 1991 BIA report titled "Outdoor Recreation on Indian Lands: Opportunities and Contacts." It lists each tribe/reservation and office to contact for more information. The brief information provided lists whether public use is allowed for the eight recreational activities—fishing, hunting, camping, bicycling, boating, hiking, snowmobiling, and auto touring—that were part of the Bush Administration's *Enjoy Outdoors America* initiative in the early 1990s. Zinser (1995) recommends the guidebook, *Discover Indian Reservations USA* by Veronica E. Tiller (Council Publications, 1992, Denver CO), as a source of information on recreational attractions and services on individual reservations.

The proximity of Indian reservations to many national parks and other landmarks and attractions, and the compatibility of low-impact cultural, historic, and ecosystem-based tourism with traditional tribal values and goals make these lands potentially important recreation resources. Implementation of tourism programs for Indian lands will require training of willing tribes in the areas of tourism and concessions management, promotion and marketing, visitor services, facilities management, infrastructure development, and similar related fields. Cooperative efforts involving tribes, other governments, and the private sector could facilitate the development of regional tourism packages.

Department of Defense Land

(By George H. Siehl, Congressional Research Service (retired), Gaithersburg, MD)

The Department of Defense (DoD) is seldom associated with outdoor recreation or natural resources. With about 25 million acres under management throughout the United States, however, DoD ranks as the fifth largest federal property owner. While recreation is not a part of the DoD military mission, that much land cannot be ignored in an assessment of outdoor recreation resources.

Military reservations have long provided for the recreation needs of military personnel and their families and, to a more limited extent, to nonmilitary visitors. Large bases contain playgrounds, playing fields or courts, marinas, golf courses, and extensive open space suitable for biking, hiking, hunting, fishing, or wildlife observation. In short, military bases provide the same kinds of outdoor recreation opportunities that many other communities provide for local residents. For many years, military bases were treated as self-contained communities for a variety of reasons. With the advent of the all-volunteer force, the military increasingly has become family-centered. With these changes, some barriers to interaction with neighboring communities have lessened. More base commanders now welcome area residents to visit and enjoy military land, subject to any constraints caused by their mission.

The Army, in particular, has a long history of protecting natural resources. It administered the battlefield parks of the American Civil War from their founding in the final third of the last century through the 1930s, when management was shifted to the National Park Service. The Army cavalrymen and engineers were the first national park rangers. They were sent to protect early parks prior to establishment of the National Park Service in 1916. In this capacity, they designed and built roads and structures in Yellowstone National Park that remain in service to this day. The Army also administered the 1930s Civilian Conservation Corps camps, whose occupants built many recreation improvements in national parks and forests.

The U.S. Coast Guard, in the Department of Transportation, becomes a military organization in wartime. On a daily basis, however, the Coast Guard is a recreation facilitator. It oversees recreational boating, enforces safety laws, and helps educate boaters. Thus, the military, which at first glance seems to bear little relationship to outdoor recreation, is an important player.

The DoD is in the midst of a massive downsizing that began late in the Reagan administration, accelerated after the Gulf War, and continues in the Clinton years. This decade-long process has shed manpower, ships, planes, vehicles, and hundreds of bases. Within this overall restructuring, recreation is affected most directly by DoD land requirements. In 1988, 1991 to 1993, and 1995, legislation required the DoD to review its needs for bases as the number of troops decreased and to dispose of excess real property. Base closures have benefitted outdoor recreation because some land was transferred to federal, state, and local governments specifically for recreation, conservation, or open-space uses.

The Federal Lands to Parks program, administered by the National Park Service, helped 91 local and state agencies acquire approximately 5,700 acres of transferred properties for park land in the decade 1986 to 1996.[8] Since military base decommissioning began in 1988, the NPS has identified 65 bases with land and facilities appropriate for potential transfer to recreation agencies. As of mid-1996, six of these bases had transferred over 1,000 acres, and an additional 12,000 acres from the remaining bases were pending transfer approval to more than 70 local and state recreation agencies (USDI-NPS, 1996a). In other cases, where decommissioned military land was not transferred directly to recreation and park agencies, recreation was included in a mix of land uses in the base re-use plans which were developed in conjunction with local governments and the private sector.

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[8]Authorized by the Federal Property and Administrative Services Act of 1949, the Federal Lands to Parks Program has transferred over 1,200 surplus Federal properties totaling more than 142,000 acres to State and local recreation and park agencies since 1949. The properties range from parcels of less than an acre to the 7,000 acre Croft State Park in South Carolina (Kelly, Cornelssen, and Bailey 1996).

Many of the developed recreation facilities on bases are funded through the DoD Morale, Welfare, and Recreation (MWR) program, which is financed not from tax dollars, but from profits from the military commissaries and military user fees for recreation equipment or facilities. Possible limitations on what commissaries can sell could eventually curtail funds available for development and maintenance of recreation opportunities on military land.

A DoD funding source with natural resource significance has been reduced. The Legacy Resources Management program was established by Congress in the 1991 DoD Appropriation Act. That program first received $10 million per year and later $25 million. Funding for fiscal years 1996 and 1997 was $3 million and $10 million, respectively. The money was made available to bases on a competitive basis to inventory, protect, and manage biological, cultural, and geophysical resources on DoD land. Although recreation was not included as a program goal, the improvement of resource management provided indirect benefits to wildlife activities such as observation or hunting. Other conservation funds have been integrated with the service operational programs. In the Army, for instance, resource conservation is now incorporated in the Integrated Training Area Management (ITAM) program. Specific projects under this arrangement tie closely to supporting training and readiness requirements for the Army. Activities include restoration of vegetative cover on tank training ranges.

Looking ahead, recreation interests and initiatives on DoD land will be at the margin, for the most part. Marketing of recreation on military land is likely to come through individual efforts by base commanders to be better neighbors with surrounding communities. Dedication of land on closed bases to recreation and open-space uses is the most likely means of benefiting broad recreation interests in the years ahead. Nonetheless, land remaining under DoD management will be an important reservoir of open space and habitat for wildlife. Already, this land shelters over 400 endangered or candidate species. Continued emphasis on stewardship by DoD is essential to enhancing resource values, but pressures to spend available funds to benefit military readiness will persist.

Since World War II, military technology has contributed much to outdoor recreation. Perhaps the best example of this technology transfer is the rubber life raft. Other outdoor recreation adaptations from military technology and equipment include four-wheel drive vehicles, camouflaged clothing, and more recently, night vision and global positioning devices. Additional ideas will be borrowed and adapted from the military in the years ahead. Similarly, DoD will pick up on improvements in recreation gear. In addition, many bases contain museums or outdoor displays of historic equipment that draw visitors. Also, ceremonies, parades, and demonstrations such as many bases provided on Armed Forces Day bring crowds interested in history, heritage, and patriotism.

The Federal Water Resource Agencies

The remaining three federal land-managing agencies that provide outdoor recreation opportunities in the United States are the U.S. Army Corps of Engineers (CE), the Bureau of Reclamation (BoR) in the Department of the Interior, and the independent Tennessee Valley Authority (TVA). A fourth agency, the National Oceanic and Atmospheric Administration (NOAA) in the Department of Commerce, plays an important indirect role with respect to coastal and marine recreation. The CE, BoR, and TVA each manage federal water resource projects primarily for navigation, flood control, and water supply, but also for outdoor recreation as a secondary responsibility.

Another characteristic common to the CE, BoR, and TVA is that their ratio of developed land—with its infrastructure and facilities—to dispersed land is much larger than the ratios for the FS, NPS, BLM, and FWS. The three water resource agencies do not manage vast tracts of land as the other agencies do. Consequently, their recreation management programs are heavily oriented toward developed facilities, especially those associated with reservoirs.

A third distinguishing trait of these three agencies is the proximity of their areas to population centers. Many reservoirs are on watercourses near cities. Even BoR, a strictly Western agency, has many recreation areas near urban centers such as Denver, Phoenix, Salt Lake City, Sacramento, and cities of California's Central Valley. Over 80 percent of the CE water resource projects are within 50 miles of a metropolitan area, and 40 percent are within 50 miles of two metropolitan statistical areas. The TVA is a regional agency, serving parts of seven Southeastern states. The Tennessee River system extends from western North Carolina and eastern Tennessee west into Mississippi and then northward to Kentucky. The metropolitan areas of Asheville, Knoxville, Nashville, Chattanooga, Huntsville, Birmingham, Atlanta, and Memphis are all close to TVA's water resources.

Bureau of Reclamation

BoR administers 310 recreation areas spread throughout 17 Western states. Overall, BoR land and water cover about 6.5 million acres (Table III.1). Just 11 recreation areas covering about 200,000 acres are outside of the two Western regions. Almost 85 percent of BoR resources are located in the Rocky Mountain region. BoR differs from the other federal agencies in that it does not manage much of its property. Rather, recreation management is often contracted to other federal agencies, state natural resource agencies, and local governments. Only about 14 percent of BoR recreation areas are managed by BoR.

Since BoR was established under the Reclamation Act of 1902, it has been known primarily for developing and managing large-scale agricultural water resource projects. The emphasis on reservoir construction has declined in recent years. Instead, BoR is now concentrating on balanced management of its existing properties for a variety of values. An indication of the importance of recreation in management comes from the 1994 decision to emphasize amenity resource values such as wildlife and recreation at Arizona's Glen Canyon Dam (Zinser, 1995). More details on the trends and issues involved in the BoR's role as an outdoor recreation provider are in the accompanying article, "Outdoor Recreation Trends in the Bureau of Reclamation."

Outdoor Recreation Trends in the Bureau of Reclamation

(By Richard A. Crysdale, Senior Outdoor Recreation Planner [retired], U.S. Bureau of Reclamation, Denver, CO)

One role of the Bureau of Reclamation (BoR) in the U. S. Department of the Interior is providing recreation opportunities in outdoor water settings. The development of its water-based areas are facilitated by legislation which encourages non-federal recreation management of the recreation sites and allows BoR to cost-share the development of facilities. In many cases, recreation development legislation is specific to a given project. The management of these resources is primarily by other federal and non-federal public entities.

Since 1902, BoR has developed water primarily for irrigation, municipal and industrial use, hydroelectric power, and flood control in the 17 western states. In 1965, the Federal Water Project Recreation Act (PL 89-72) recognized fish and wildlife and recreation as purposes for developing water. This meant fish and wildlife and recreation could be included in the analysis for a benefit-cost ratio to determine the feasibility of developing water projects.

Today, BoR has 310 designated recreation areas managed by various federal, state and local public agencies. BoR manages just 48 of these recreation areas which were never transferred to other agencies or were transferred but returned. Water storage developments like reservoirs provide 4.9 million acres of land, 1.7 million surface acres of water, and 13,000 miles of shoreline for recreation. There are over 16,000 miles of water conveyance canals and other facilities, some of which provide fishing, hunting and trail use opportunities.

Visitation at the designated recreation areas reached an estimated 87 million in 1996. BoR and the U.S. Army Corps of Engineers, which develops water primarily for flood control and navigation, administer just two percent of the total federal estate. Nearly one-third of the total visitation to the federal estate occurs on BoR and Corps water developments. The National Park Service and U.S. Forest Service manage nine National Recreation Areas (NRA) on BoR water developments. Tourists from other countries are attracted to these NRAs. Lake Mead NRA in Nevada, for example, has 11 million visitors annually of which an estimated ten percent are from other countries. Over one million visitors tour Hoover Dam every year. Since 1981, visitation to BoR water developments has increased an average of 1.2 million visitors per year.

Since 1987, more people live west of the Mississippi River than east of it. The western states are dominated by arid and semiarid areas, and a rapidly growing urban population concentrated along the west coast, Las Vegas, Phoenix and along the Rocky Mountain Front Range of New Mexico and Colorado. The mountains are a natural reservoir for storing precipitation during the winter. The spring thaw of snow brings about a rapid runoff of water. The urban and rural populations are heavily dependent upon water developments to capture the runoff and supplement it with ground water development to meet their agricultural, municipal-industrial, and hydroelectric power needs throughout the rest of the year.

Water Conservation and Outdoor Recreation

Conservation of water is a major trend driven primarily by various laws passed by Congress. Three major forms of water conservation are: (1) reduce seepage losses in the existing system, (2) change operations of existing systems to meet contemporary needs, and (3) develop multiple-use rather than single purpose facilities. Each has significant implications for the recreation uses and resource management of the water developments. Examples of each follow.

1) Reduce Seepage Losses: Most of the 16,000 miles of BoR water conveyances are not lined by concrete. Canals lose water simply through the saturation of the clay lining which results in establishing riparian habitat and wetlands adjacent to the canals. Such seepage also recharges the groundwater. Lining is essential to deliver the maximum water to its destination.

In the case of lining most of the Coachella Canal in southern California, BoR used modern designs and techniques. Concrete lining was placed without dewatering the canal, interrupting water service, and protecting the canal fishery. A stair step configuration of the lining was placed in the canal to allow deer and other large entrapped mammals to escape the water. Some fishermen trespass on BoR canal right-of-ways and occasionally fall into the canals. On the newly lined Coachella canal, fishermen would be able to use the stair case configuration to escape.

BoR, the Central Valley Irrigation District and Imperial County developed a joint program to establish public fishing in the lined portion of the canal (USDI Bureau of Reclamation, 1993). The program will be managed by the Imperial County Parks Department, which will provide liability insurance. The terminal reservoir for the canal is the 120 surface-acre Lake Cahuilla in which canal entrained fish will end their journey. The lake is also stocked by the State of California. In 1988, 14,958 anglers fished in Lake Cahuilla.

Other BoR canals will be lined to conserve water and provide new and safer fishing opportunities for western anglers. The key to opening up canal rights-of-way for fishing and other recreation uses, such as trails, will be other governmental entities' willingness to assume the recreation management responsibilities. The recreation management entities must also have cooperation from the irrigation districts.

2) Change Operation of Existing Facilities: There are several examples of changing operations primarily brought about by mandates of law and changing uses of water through the market system. Three of these examples are: a) changing hydroelectric operations of the Glen Canyon Dam on the Colorado River in Arizona, b) changing operations of a whole water development system to meet contemporary needs of a region, and c) change in design for dam outlets.

Glen Canyon Dam Operations

The Grand Canyon Protection Act of 1992 requires the Secretary of the Interior "...to protect, mitigate adverse impacts to, and improve the values for which the Grand Canyon National Park and Glen Canyon National Recreation Area were established, including but not limited to natural and cultural resources and visitor use." Glen Canyon Dam, completed in 1964, has historically been used primarily for power generation during periods of peak demand. The reservoir, Lake Powell, is part of the Glen Canyon NRA which annually serves over 3.5 million visitors. Below the dam, the Colorado River flows through Grand Canyon National Park for nearly 300 miles before entering Lake Mead NRA. The stretch through the Grand Canyon is very popular for river running. Concessions serve thousands of visitors with lengthy river running trips, backpacking, and horseback excursions down to and along the Colorado River. The National Park Service has a 10–year waiting list of applicants who want to run the river in their own craft through the Grand Canyon.

Glen Canyon Dam altered the natural flows of the Colorado River, significantly changing the riverine ecosystem vegetation, the stabilization of sandy beaches used for overnight camping, and the well-being of river users. The water level fluctuations would vary from 3 feet to 12 feet overnight. The historical releases ranged from 3,000 cubic feet per second to 44,500 cubic feet within a 24-hour period. After years of comprehensive environmental studies, plus an interim operating schedule which reduced the wide variation of flow releases usually between 6,000 and 8,000 cubic feet, a final operation procedure was established (USDI Bureau of Reclamation, 1995). The new operations are more recreation user and environmentally friendly, and they resemble more closely the historical natural flows of the Colorado River. Recreation users of the Colorado River in the Grand Canyon had a significant influence on passage of the Grand Canyon Protection Act. Recreators will no doubt have a significant influence on the future operations of other water developments.

Changing Operation of Existing Systems

Public Law 101-618, The Fallon Paiute Shoshone Indian Tribes Water Rights Settlement Act of 1990, and Public Law 102-575, the Reclamation Projects Authorization Adjustment Act, with numerous titles for specific directions for each project, are examples of changing water uses and priorities. These laws will significantly affect the long-term trend of water use, priorities, and alter changes of water operations to meet contemporary needs. Recreation, although recognized as a purpose for water development, but not a "beneficial use" of water, has a potential of benefitting from the new operation changes. One of the congressional directives includes the restoration of historic river flows to bring back anadromous fisheries to California. Any time fisheries are improved, recreation users will also benefit from the water system changes that bring back the fish habitat.

Some of the irrigation districts, which sponsored most of the water developments in the western states, are selling their water and water rights to developing urban areas. Water formerly used for irrigation is being converted to municipal and industrial use and low head hydroelectric power. That means projects which have systems of dams and water storage, diversion structures, canals, powerplants and pump-back storage powerplants are altering the schedules of water releases in the system. The urban consumer demands for water are somewhat different than the water demands for irrigating crops. Studies are underway to examine the operation changes and determine the recreation and tourism implications of longer water retention in reservoirs and streams during the prime season. If higher reservoir water levels can be retained during the prime recreation season, the reservoirs may experience greater visitation for longer periods of time.

Changes in Dam Outlet Design

Many times when water is developed prime riparian-habitat is lost. The U. S. Fish and Wildlife Service will recommend mitigation measures to BoR to enhance fish and wildlife. At times when Congress provides funding, BoR will follow the recommendations which result in significant resource enhancement. One of the enhancements is the development of multiple level release capability of dams to tap the stratified water temperatures in the reservoirs. This multi-level release capability and a change in operation of the dam provides favorable fishery habitat for food and reproduction of fish in the river below the dam.

Flaming Gorge Dam in Utah was the first dam with multiple level releases which created a blue ribbon fishery on the Green River below the dam. A water temperature "curtain" to tap the stratified water temperatures was installed at Shasta Dam, California, to enhance the downstream fishery habitat of the Sacramento River. The blended water temperatures will enhance fish growth and reproduction. Any time the fishery is enhanced and fishing improves, recreation users benefit. Fishing opportunities are scarce in the west because of the low number of available streams, lakes and reservoirs. The quality of fishing is significantly improved by the multi-level releases of the dams. More dams will be retrofitted with multi-level capability in the future as funds become available.

3) Develop Multiple Uses: The water conveyances were designed specifically for only transporting water from one place to another. Fish from reservoirs and streams frequently become entrained in the water conveyance flows. Canals have a sterile habitat with little food, cover and opportunities for reproduction, and some of the flows are too swift. Some of the fish in water conveyances die because of the poor habitat conditions.

Fisheries found in conveyance facilities have either been unmanaged or closed to fishing. BoR scientists are exploring the development of favorable fishery habitat in canals to accommodate entrained fish, and provide new fishing opportunities for anglers (Mueller, 1996; Mueller & Liston, 1994). The Arizona Game and Fish Department is promoting a highly successful urban fishery program that accommodated over 225,000 angler trips in 1988 (Agyagos, et al. 1990). Another example of the recreation potential of urban canals is the Salt River Project canals in Phoenix. The canal has the potential to provide an additional 750,000 angler-days and generate $1.5 million annually from the sale of new fishing licenses. Existing water facilities may be pressed into service to meet future fishing needs, especially in the urban areas where such opportunities are scarce.

Summary for Trends in the Bureau of Reclamation

Population growth in the western United States continues to challenge the management of western waters for recreation. Trends in population growth, changes in water needs, and scarcity of water resource recreation opportunities have triggered legislation to explore water conservation methods. Legislation is the driving force to reduce seepage, change operations of water development systems, and invent new technologies for improving downstream fishery habitats. Conversion of single purpose water conveyances to multiple use, and public-friendly access is a trend beginning to meet the urban population's recreation needs. These trends will carry over into the next century.

U.S. Army Corps of Engineers

The CE (or "Corps") has 456 reservoirs and other water projects in 42 states. The CE provides important outdoor recreation opportunities throughout the United States, despite managing only about 11.5 million acres of land and water (Table III.1). This acreage ranks fifth among federal agencies—only about one-seventh the amount of NPS land and well below 10 percent of both FS and BLM land. Two major factors account for the CE's status as a leading outdoor recreation supplier: accessibility and attractiveness. Accessibility is evident in the proximity of many Corps projects to metropolitan areas and the fact that they can accommodate large user populations. Corps recreation areas are attractive because they contain bodies of water, a traditional "magnet" which attracts visitors.

Nearly half of CE land and water in the United States is located in the South. Southern acreage is almost twice that of the next ranking region, the North. The Pacific Coast has many Corps projects, but total land and water area in that region is less than five percent of the U.S. total. Like BoR, the CE leases management of many of its recreation areas, but not to the same extent. According to CE's 1994 Natural Resources Management System (NRMS) database, the agency administers 4,331 developed recreation areas at its projects, about 58 percent of which are managed directly by the CE. The remainder are managed by other federal agencies, concessionaires, state and local governments, and special government districts and associations.

Developed recreation areas administered by the CE cover about 1.7 million acres or about 15 percent of total agency area. Although 9.8 million acres remain "undeveloped," just over 80 percent of Corps recreation use occurs at developed sites. The CE also has a number of developed recreation areas devoted to intensive recreation use. In 1994 these areas covered about 220,000 acres, or 13 percent, of the developed acreage. Facilities offered at developed recreation areas include swimming pools, boat rentals, fishing piers, campsites, picnic sites, boat ramps, swimming areas, and trails.

The Corps of Engineers Recreation Program: Current and Future Trends

(By R. Scott Jackson, Research Biologist, Environmental Laboratory, US Army Corps of Engineers Waterways Experiment Station, Vicksburg, MS; David J. Wahus, Chief, Recreation Programs Section, Natural Resource Management Branch, U.S. Army Corps of Engineers, Washington, D.C.; and H. Roger Hamilton, Chief, Resource Analysis Branch, Environmental Laboratory, US Army Corps of Engineers Waterways Experiment Station, Vicksburg, MS)

Program Overview

The Corps of Engineers is a major command within the Department of the Army providing civil engineering support to the Army and other organizations within the United States and countries worldwide. An important component of the Corps of Engineers (CE) mission is to develop and manage water resources in the United States for a variety of purposes including flood control, navigation, hydropower, water supply, fish and wildlife and recreation. Currently the CE has 456 multiple purpose water resource development projects under its jurisdiction. These projects include reservoirs and navigation systems in 42 states throughout the U.S.

CE projects constitute a nationally significant recreation resource with over 11 million acres of land and water and over 40 thousand miles of shoreline (U.S. Army Corps of Engineers, 1997). Projects range from large remote reservoirs on the Missouri River in the Upper Great Plains to small urban reservoirs in New England. Over 80 percent of CE projects are within fifty miles of a major metropolitan area. These projects received over 375 million visits in 1996 (U.S. Army Corps of Engineers, 1997) and serve one in ten Americans annually. Recreational use of CE projects represents some of the most intense recreational activity within the federal estate. CE projects receive nearly 30 percent of federal recreation use on less than two percent of the

federally managed lands and waters. This results in the need for vigilant management of CE resources to maintain high levels of visitor satisfaction and minimize conflicts among user groups. The close proximity of CE projects to metropolitan areas and the water-oriented nature of CE projects influences recreation use patterns. Over 80 percent of the visits to CE projects are day trips with boating, swimming, and sightseeing among the most popular activities.

A major factor in the success of the CE recreation program is the high level of cooperation between the CE and non-federal partners to provide recreation facilities on CE projects. Over 40 percent of the over 4300 recreation areas on CE projects are operated by non-federal partners including other federal agencies, state, county and local units of government and a variety of non-governmental organizations. In addition, 685 commercial concessions provide those services which can be most effectively offered by the private sector. This cooperative approach has provided a wide variety of recreational opportunities on CE projects for the American public.

One of the important motivations for cooperators to participate in the CE recreation program is the significant economic impact of spending by visitors to CE projects. It was estimated that over $12 billion was spent by visitors to CE projects in 1994. This resulted in $5 billion in income and 187,000 jobs in industries directly supplying goods and services to CE visitors. Secondary effects of visitor spending accounted for an additional 410,000 jobs (Jackson, et al., 1996).

Factors Affecting the Future Direction of the CE Recreation Program

Important factors affecting the demand for the Corps recreation program are the multiple purpose nature of CE projects, the close proximity of CE projects to U.S. population centers and the fact that most CE managed recreation resources are associated with lakes and rivers. Taken together, these factors provide a strong indication that demand will continue to be high for recreation opportunities on CE projects. The effects of this high demand can be seen at many lakes where boaters compete with personal watercraft for access to the water on busy summer weekends. These demands have created significant challenges for CE managers. The following are examples of program initiatives which respond to these challenges.

Performance Goals and Measures: The CE recreation program along with most federal programs currently operate under severe financial and manpower constraints at a time when demand for recreation opportunities at CE projects are at their greatest. Many recreation program initiatives have focused on increasing program efficiency and effectiveness. The Government Performance and Results Act of 1992 requires that all federal agencies develop and implement performance goals and measures for agency programs. The recreation program was identified as one of nine major business areas within the CE Civil Works Program. Performance goals and measures are being implemented to guide the evaluation of program efficiency and effectiveness.

Recreational Fisheries: Individual recreation user groups have been successful in influencing the emphasis on federal recreation programs. For instance, Executive Order 12692, signed by the President on 7 June 1995, directed federal agencies to restore and enhance aquatic systems to the extent permitted by law and, where practical, provide for increased recreational fishing opportunities nationwide. This Order has resulted in an evaluation of CE operations to identify opportunities to increase public access and the quality of fisheries resources and the development of a recreational fisheries conservation plan.

CE managed fisheries resources are nationally significant, providing for approximately 25 percent, or 100 million visits, of all U.S. freshwater fishing visits (U.S. Army Corps of Engineers, 1997). Activities initiated in 1996 under this Executive Order include improving over 900,000 surface acres of water for fisheries resources; establishing or restoring 46 populations of fish; conducting over 12,000 public outreach programs for fishing, aquatic resources and boater safety; and establishing 137 partnerships that produced over $3 million in recreational fishing and habitat improvements.

Enhancing Recreation Opportunities: Two pieces of legislation have placed high priority on the identification of opportunities for enhancing recreation programs on CE projects. The Omnibus Parks and Public Land Management Act of 1996 (PL 104-333) calls for the creation of a nine member commission to be appointed by the President to conduct a National Recreation Lakes Review. The purpose is to evaluate the current and anticipated demand for recreation opportunities at federally-managed man-made lakes and reservoirs and develop alternatives for enhanced recreation use of such facilities. In addition Section 208 of the

Water Resources Development Act of 1996 directs the Secretary of the Army to provide increased emphasis and opportunities for recreation at water resources projects operated, maintained or constructed by the Corps of Engineers. Taken together, this legislation provides an opportunity to position the CE recreation program to more effectively respond to rapidly growing and changing recreation demand.

Multiple Use Water Management: Increased demand for CE project resources is not confined to recreation. Changing land use patterns and economic conditions have required that the CE reevaluate water management strategies for many river systems under the agency's jurisdiction. Droughts in the upper Midwest in the late 1980s led to an evaluation of Missouri River water management practices to give greater consideration to the effects of current operations on recreational use of CE reservoirs in Montana, North Dakota and South Dakota (USAE Missouri River Division, 1994). Similar comprehensive evaluation of water management practices associated with the Columbia River System (U.S. Department of Energy et al., 1994), and major river systems in Florida, Alabama and Georgia have focused attention on the implications of water management actions on recreational use of these systems and increased the awareness of the importance of maintaining effective techniques for monitoring recreational use of these systems.

Recreation User Fees: User fees are essential to finance the operation of CE managed recreation areas. Under current policies, fee revenues are used to offset federal operation and maintenance funding. The Omnibus Budget Reconciliation Act of 1993 (PL 103-66) authorized the CE to charge user fees for certain day use facilities. Prior to that time, user fees were confined to camping and group facilities. Fee revenues have increased in the past several years. In Fiscal Year 1996, the CE collected over $34 million, a 26 percent increase over 1995. These funds are returned to the CE for operation and maintenance activities.

Volunteer Program: The public has increasingly demonstrated personal support for the CE–recreation and natural resources program. In 1996 over 70,000 volunteers provided services valued at over $9 million in support of CE management activities. Volunteers participated in wide variety of activities including lake cleanup programs, tree planting, fish habitat, and environmental education projects.

Challenge Cost Share Program: Recent legislation provided an opportunity for the public to participate in support of CE programs. Section 225 of the Water Resource Development Act of 1992 authorized the Secretary of the Army to enter into cooperative agreements with non-federal public and private entities to provide support to CE recreation and natural resource management programs where facilities are being managed at complete federal expense. The policy, known as the A Challenge Cost Share Program, allows the CE to accept contributions of funds, materials, and services in conjunction with its program. By September 1996, 16 agreements had been signed under the program. Cost share partners have provided over $300,000 in funds, materials and services in addition to the $205 thousand contributed by the CE.

Summary for Army Corps of Engineers

Tourism has become a major industry both globally and nationally. Outdoor recreation resource management at Corps of Engineer lakes play a significant role in that industry. Corps lakes form the nucleus of the state park systems in some states. Recreation, a function of multipurpose water resource development which received little consideration a few years ago, is now an important purpose of these lakes. Recreation benefits to the public are now on par with or exceed benefits from the traditional functions of flood control or navigation. Recreation use continues to increase at a dramatic rate on many projects, while the natural resource base which supports it remains constant or slightly diminished as new demands for a variety of uses are placed on it. The CE recreation program faces significant challenges to respond to this intense recreation demand. Most recreation opportunities provided by the CE support water-based recreation activities which are projected to increase in the future. Technological innovations such as the introduction of personal watercraft will increase the complexity of managing recreation use to minimize conflict and maintain visitor safety and satisfaction.

In the future, visitors will continue to demand a high-quality recreation experience and value for the fees they pay. Managers will seek partnerships with public and private organizations to enhance recreation opportunities and increase public participation in the recreation program. Competition for water supplied by multiple-purpose water resource development projects in many parts of the country will increase in the future. This will require that the benefits, both monetary and non-monetary, of the CE recreation program be reassessed periodically in order to provide the information necessary to make tradeoffs between competing uses of water.

Tennessee Valley Authority[9]

The TVA was created in 1933 as one of President Roosevelt's New Deal programs. Its purpose was to improve environmental, social, and economic conditions in the Tennessee River watershed, an area which covers some 41,000 square miles and incorporates portions of seven Southeastern states. The primary mission assigned to TVA was to manage the Tennessee River and its tributaries to provide flood control, improve navigation, and generate hydroelectric power. To meet these three key objectives, TVA has developed a series of 28 multipurpose dams along 650 miles of the Tennessee River and its tributaries. These reservoirs, with a total of over 600,000 acres of surface water and 11,000 miles of shoreline, have become a major source for outdoor recreation in the region.

TVA established its Recreation Resources program in the late 1960s and began providing recreation improvements such as picnic facilities, boat ramps, access roads, and sanitary facilities. TVA's policy for outdoor recreation has been to encourage development by other public agencies and private investors, to reserve some land for wildlife management and hunting, to transfer appropriate forest land to the National Park Service and USDA Forest Service, and to manage its own recreation facilities along reservoir shorelines. TVA's undeveloped land above reservoir shorelines is open for picnicking, walking, and camping unless otherwise posted. The agency is also involved in trail development, mostly near its developed recreation areas and population centers, and operates a number of river access points for whitewater recreation.

All TVA resources are in the South. Overall, the TVA owns slightly more than a million acres of land and water (Table III.1). Approximately 440,000 land acres are open to the public for outdoor recreation, the large majority of this area is undeveloped. Only about 25,000 acres are actually in developed recreation areas, some managed by TVA and some by state and local government agencies. A 1992 TVA inventory showed their 25,000 acres being distributed across 164 recreation areas on 30 reservoirs. These areas provide facilities for boat launching, picnicking, bank fishing, swimming, hiking or walking, and camping. Another 228,000 acres (not shown in Table III.1) are leased to other federal agencies and to state, county, and municipal governments. Group camps, clubs, and an estimated 300 commercial recreation enterprises also lease a substantial portion of TVA land, although acreages are unknown. Further, the 1988 *TVA Handbook* listed 91 public access sites on 24 rivers and streams managed by TVA.

Unique among TVA resources is the 170,000-acre Land Between the Lakes (LBL) national recreation area in Kentucky and Tennessee.[10] LBL differs from other TVA resources in the amount of its natural resources devoted to outdoor recreation and environmental education, as well as in the level of services and facilities provided. LBL is operated under a multiple-use management philosophy. Facilities include a visitor center with planetarium, wildlife interpretive areas, a living history farm, a designated off-highway vehicle area, several campgrounds, lake access areas, and hiking and equestrian trails.

Due to decreases in federal appropriations, TVA has taken steps to reduce the scope of its recreation facilities management program. For example, TVA conveyed 14 of its developed recreation areas to other operators in 1996 to reduce costs. These arrangements are structured to ensure the facilities remain open and available to the general public, while at the same time giving alternative operators flexibility to manage areas to meet their needs and objectives. This situation has occurred at a time when recreation use pressures on the Tennessee River system appear to be increasing. Increases in general boating activity, fishing, informal recreation use of undeveloped TVA shoreline land, and the construction of private water use facilities associated with waterfront residential development are especially prominent trends. TVA strategies and initiatives which address the future of its Recreation Resources program include:

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[9]Portions of this section were written by Robert A. Marker, Recreation Specialist, Tennessee Valley Authority.

[10]Although called a "National Recreation Area" by the TVA, LBL is not included among the specially designated National Recreation Areas managed by the FS, NPS, and BLM which are described later in this Chapter.

- Decreasing its role as a direct provider of recreation facilities and services. The current trend toward establishing partnerships with others to manage TVA recreation facilities is likely to continue. Establishment of additional user fees may also be considered to increase cost recovery at areas TVA continues to operate.
- Solicitation of new commercial recreation development at selected reservoir sites where recreation needs can be identified and private investment is determined to be feasible.
- A greater focus on the management of recreation use along undeveloped shorelines land to improve their quality and protect the resources. This will involve cooperative partnerships with other public agencies and volunteer groups.
- Increased cooperation with state boating agencies and other organizations to promote safe boating practices.
- Development and implementation of plans for guiding future construction of private residential water use facilities on the reservoir system.
- Seeking a greater degree of public input to ensure that public needs and values are considered in recreation and resource management planning.

National Oceanic and Atmospheric Administration

(By V. Robert Leeworthy, Senior Economist, National Oceanic and Atmospheric Administration, Silver Spring, MD)

NOAA is different from most other agencies that provide outdoor recreation opportunities. NOAA does not own recreation areas; however, the agency does directly manage 12 sites called National Marine Sanctuaries (Table III.3). Generally, NOAA does not provide facilities. Exceptions are the museum at the Monitor National Marine Sanctuary in North Carolina and the aquarium at the Monterey Bay National Marine Sanctuary in California, which NOAA partially funds. NOAA's primary mission is to provide scientific information to support management of the nation's coastal and ocean resources. NOAA's focus is primarily on natural resources that provide outdoor recreation opportunities. The agency directly and indirectly influences management of coastal and ocean resources through several programs described in the following sections. Because NOAA does not own any of the resources it manages, it is pioneering efforts in multi-jurisdictional, integrated management efforts. The National Marine Sanctuaries (NMS) are the only areas NOAA directly manages for outdoor recreation opportunities. The trends, issues, and directions the agency are facing are described with respect to these sanctuaries.

NOAA is organized into three major services: (1) the National Weather Service (NWS), (2) the National Marine Fisheries Service (NMFS), and (3) the National Ocean Service (NOS). Most are familiar with NWS local, regional, and national weather forecasts as well as hurricane tracking. The NWS provides invaluable information for planning outdoor recreation activities. The NMFS manages the nation's marine fisheries in cooperation with the states. NMFS establishes regulations in federal waters and works with the states through regional fishery management councils to develop fishery management plans and consistent regulations across jurisdictions (not always successful). NMFS manages the fishery resources for both commercial and recreational fisheries. The NOS provides both nautical and aeronautical charts that are important for recreational boating and flying. The NOS also houses the Office of Ocean and Coastal Resource Management (OCRM) and the Office of Ocean Resources Conservation and Assessment (ORCA). OCRM administers the Coastal Zone Management program, the National Estuarine Research Reserve System, and the National Marine Sanctuaries program. These programs form the core of NOAA management of coastal and ocean resources that support outdoor recreation. ORCA supports OCRM and other agencies by providing assessment services. For example, ORCA has had an interagency agreement since 1987 with the USDA Forest Service Outdoor Recreation and Wilderness Assessment Group to gather information and conduct economic analyses of outdoor recreational uses in coastal areas.

Table III.3: National Marine Sanctuaries Managed by the National Oceanic and Atmospheric Administration, 1997

Name	State	Area (Sq. Mi.)	Year Designated
Channel Islands	California	1,658	1980
Cordell Bank	California	526	1989
Fagatele Bay	American Samoa	0.25	1986
Florida Keys	Florida	3,674	1990
Flower Garden Banks	Texas/Louisiana	56	1992
Gray's Reef	Georgia	23	1981
Gulf of Farallones	California	1,255	1981
Hawaiian Islands Humpback Whale	Hawaii	1,300	1992
Monitor	North Carolina	1	1975
Monterey Bay	California	5,328	1992
Olympic Coast	Washington	3,310	1994
Jerry E. Studds Stellwagon Bank	Massachusetts	842	1992
Thunder Bay (proposed)	Michigan	—	—
Northwest Straits (proposed)	Washington	—	—
All Sanctuaries		17,973.25	

Source: National Oceanic and Atmospheric Administration. Office of Ocean Resources Conservation and Assessment.

The nation's coastal and ocean areas represent some of the most ecologically and economically important regions of the country. Congress recognized this in 1972 when it passed the Coastal Zone Management Act (CZMA) and the National Marine Sanctuaries Act. The CZMA created a partnership between OCRM and state and territorial governments. Day-to-day management decisions are made at the state level in 30 states and 21 individual national estuarine research reserves. OCRM field staff make day-to-day decisions in the 12 national marine sanctuaries.

These programs are greater than the sum of their parts. They represent national systems for the protection and management of critical coastal and ocean resources. OCRM provides the leadership necessary to support and enhance these national networks.

OCRM supports and encourages research and monitoring to answer management questions through the marine and estuarine protected area systems. OCRM also makes and influences national coastal and ocean policy: advocating for wetlands and coral reef protection, coastal hazard mitigation, nonpoint source pollution control, waterfront revitalization, and public access to the shore. OCRM ensures that federal agency decisions are consistent with state coastal management programs and coordinates with national estuarine research reserves and national marine sanctuaries. OCRM also uses national outreach and education campaigns to enhance public awareness and understanding of coastal and marine issues. Finally, OCRM shares its expertise through direct technical assistance to other countries to foster responsible ocean and coastal management globally.

NOAA's role and status in providing outdoor recreation opportunities is growing through its management of the nation's coastal and ocean resources. The National Marine Sanctuaries program continues to expand. In 1990, the Florida Keys National Marine Sanctuary (FKNMS) was designated. Prior to 1990, the Florida Keys contained two national marine sanctuaries: the Key Largo National Marine Sanctuary and the Looe Key National Marine Sanctuary. The two early sanctuaries existed entirely in federal waters and represented a relatively small portion of the entire Florida Keys. The newly created FKNMS includes all waters surrounding the Florida Keys, an area over 3,600 square miles. Thus, this new sanctuary encompasses multiple governmental jurisdictions requiring an integrated approach to management. Multiple jurisdictional sanctuaries are a new trend. The Monterey Bay National Marine Sanctuary (designated in 1992) and the Olympic Coast National Marine Sanctuary (designated in 1994) are multiple jurisdictional sanctuaries, as are the proposed Thunder Bay, located entirely in the Michigan state waters of Lake Huron, and the Northwest Straits Sanctuaries, located entirely in the Washington state waters of Puget Sound. The proposed Thunder Bay National Marine Sanctuary would be the first freshwater sanctuary. Also, the scope of the proposed Thunder Bay Sanctuary is currently limited to underwater cultural resources. Although this is similar to the Moni-

tor National Marine Sanctuary, it expands the scope and direction of the sanctuary program. The Thunder Bay sanctuary will primarily serve the interests of recreational divers.

Three emerging concepts in natural resource management explain recent changes in the sanctuary program. The concepts of ecosystem management, sustainability or sustainable development, and integrated management have forced the agency into rethinking its management of natural resources. The National Marine Sanctuary program has become a testing ground for integrating these concepts into coherent management strategies. The recently approved management plan for the FKNMS reflects this integration.

Federal Water Resources and Facilities

The BoR, CE, and TVA are the primary federal water resource management agencies. Other federal agencies also have responsibility for a variety of water resources, including streams, rivers, lakes, bays, and estuaries. The FS, in particular, manages numerous streams, rivers, and lakes within its 191-million-acre National Forest System. Most National Wildlife Refuges are around bays, estuaries, rivers, or wetlands. The National Park Service has three types of management units—national rivers, national seashores, and national lakeshores—that focus on water resources, in addition to the multitude of water resources in the National Parks System. Two other types of water areas, National Recreation Areas and National Wild and Scenic Rivers, are also managed by federal agencies. These are covered in more detail in the next section on federal specially designated resources. The BLM has a surprising number of both river miles and water recreation facilities under its management.

Water resource settings attract visitors. Often, land-based recreation facilities, like campgrounds, picnic sites, and trails, are built near water features. A comprehensive inventory of all federal water resources is not available. Thus, it was not possible to assemble a table describing the total water acreage, river mileage, or number of water recreation facilities managed by the U.S. government. Instead, several statistics that serve as proxies are presented in Table III.4.

Table III.4: Acreage and Number of Selected Water-Based Federal Resources by Agency and Region, 1996

AGENCY AND TYPE OF RESOURCE	REGION (ACRES IN 1000S)				
	North	South	Rocky Mountains	Pacific Coast	U.S. Total
ARMY CORPS OF ENGINEERS					
Water acres	1,310.1	2,613.4	1,360.9	299.0	5,583.4
Number of boat ramps	303	1,408	185	87	1,983
Number of swimming areas	107	423	43	36	609
NATIONAL PARK SERVICE					
National River acres[1]	370.7	233.9	0	30.8	635.4
National Seashore/Lakeshore acres	315.3	435.1	0	71.1	821.5
Number units with swimming	35	59	24	38	156
Number units with boating	58	124	32	56	270
BUREAU OF RECLAMATION					
Water acres	0	93.5	1,195.9	395.5	1,684.9
Number sites with swimming[2]	0	11	107	70	188
Number sites with boating[2]	0	11	145	84	240
BUREAU OF LAND MANAGEMENT[3]					
Miles of floatable rivers managed	0	0	*	*	5,400
Boat ramps and access points	0	0	*	*	127
USDA FOREST SERVICE					
Number of boating sites[4]	474	262	385	226	1,347
Number of swimming sites[4]	107	99	66	36	308
FISH AND WILDLIFE SERVICE					
Number of Refuges with boating	35	84	44	31	194
Number of Refuges with fishing	48	83	48	35	214
Number of Refuges with hunting	43	83	67	49	242

Table III.4 Cont.

TENNESSEE VALLEY AUTHORITY					
Number of swimming beaches	0	59	0	0	59
Number of boat ramps	0	160	0	0	160

[1]Includes all NPS river-based units: National River and Recreation Area, Wild River, National Scenic River, National River, Scenic and Recreational River, National Scenic Riverway, National Recreational River, Wild and Scenic River. Only selected Wild and Scenic Rivers managed by the National Park Service are classified as NPS Units. This acreage reflects only those classified units.

[2]Includes all sites administered by BuRec. Only 44 of 308 sites nationally are actually managed by BuRec.

[3]Regional distribution of BLM water resources is not available by region (* denotes a number greater than zero). Except for a very small number of boating sites in the eastern states (shown as 0 in table), all resources are in the Rocky Mountains and Pacific Coast regions.

[4]Includes fee and non-fee sites managed by the Forest Service and its concessionaires.

Sources: Army Corps of Engineers, Natural Resources Management System, 1994.
National Park Service Statistical Abstract. 1995.
Bureau of Reclamation, Recreation Areas on Bureau Projects, 1992.
Bureau of Land Management, Recreation Management Information System, 1996.
USDA Forest Service: Site and Facilities Report, 1996.
U.S. Fish & Wildlife Service, National Wildlife Refuges: A Visitor's Guide, 1995.
Tennessee Valley Authority, "Development of TVA Recreation Facilities Cumulative through September 30, 1992."

U.S. Army Corps of Engineers

Water resources account for about 5.5 million of CE properties, or just under half of the total acreage managed by that agency (Table III.4). Almost half of CE water acreage is in the South. Comparatively few CE water resources are in the Pacific Coast region. Nationally, the Corps manages almost 2,000 boat ramps, most of which are in the South. The South also has almost 70 percent of the Corps' swimming areas. Few CE swimming areas are in the Rocky Mountain or Pacific Coast regions.

National Park Service

Nationwide, about 42 percent of the 369 NPS units provide swimming opportunities (Table III.4). Units with swimming areas are fairly evenly distributed across the four regions, with the most located in the South and the least in the Rocky Mountain region. Considerably more NPS units offer boating. The South region has more than twice as many units as any other region that offer boating opportunities and nearly half of the national total. Significant water resources that support a variety of recreational uses exist in nearly all of the national parks and many other NPS units. Some of the units have special water resource designations.

National rivers, seashores, and lakeshores are water-based outdoor recreation settings. Table III.4 shows the land and water acreage in these units. Almost 1.5 million acres nationwide are classified as national rivers, seashores, or lakeshores.[11] Over 95 percent of the 635,400 acres in 15 national rivers are located in the two Eastern regions. The only Western national river is the Alagnak Wild River in Alaska. Tennessee has the most national river acreage of any state with almost 100,000. Minnesota and Missouri rank next with over 80,000 national river acres each. Two national rivers—the Mississippi and the Big South Fork—are part of joint national river and recreation area units.[12] Only one national river, the Bluestone National River in West Virginia, has been established since 1987.

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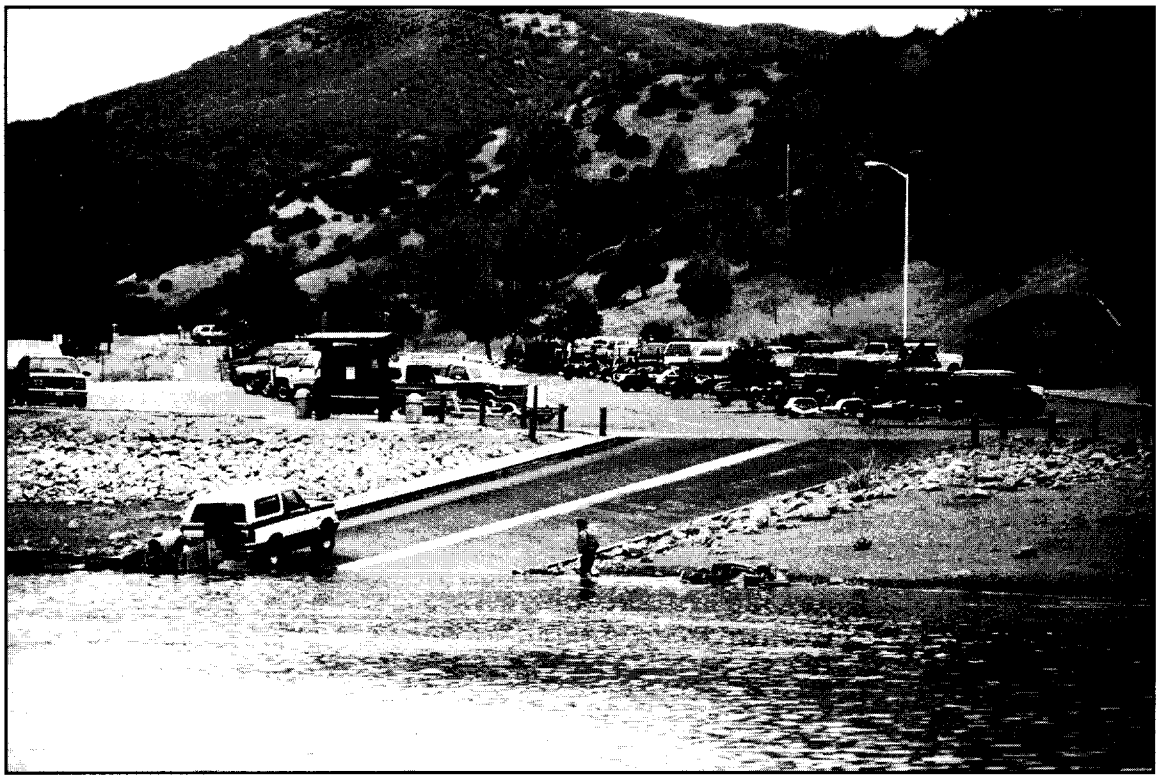
[11]"National River" is used here as a generic term which summarizes a variety of linear water resources in the NPS. These include the following classified units: National River and Recreation Area, Wild River, National Scenic River, National River, Scenic and Recreational River, National Scenic Riverway, National Recreational River, and Wild and Scenic River. Only selected Wild and Scenic Rivers managed by the National Park Service are classified as NPS Units. This acreage reflects only those classified units.

[12]These two areas are included in the National River analysis and not in the National Recreation Area data covered later in this chapter.

National seashore and lakeshore acreage is distributed similarly to national rivers. Thirteen of the 14 national seashore and national lakeshore units, comprising more than 90 percent of the acreage, are in the two Eastern regions. Only Point Reyes National Seashore in California is in the West. All four national lakeshores are in the North region along the Great Lakes. All but two of the Eastern national seashores are in the South, the two largest being the Gulf Islands in Florida and Mississippi, and Padre Island in Texas. The most recent national seashore or lakeshore designation was in 1975.

Bureau of Reclamation

The BoR manages about 1.7 million acres of water, roughly 25 percent of its total area (Table III.4). The large majority (86 percent) of the 308 recreation areas that BoR administers are leased. Even though it does not manage most of the areas, BoR's recreation areas brochure lists information about all sites. About 60 percent of the agency's recreation sites have facilities for swimming, while 78 percent offer boating. For both sets of sites, well over half are in the Rocky Mountain region, where most of the BoR property is located.



The Bureau of Reclamation is a major provider of water-based recreation facilities, including this boat ramp at Lake Berryessa, California.

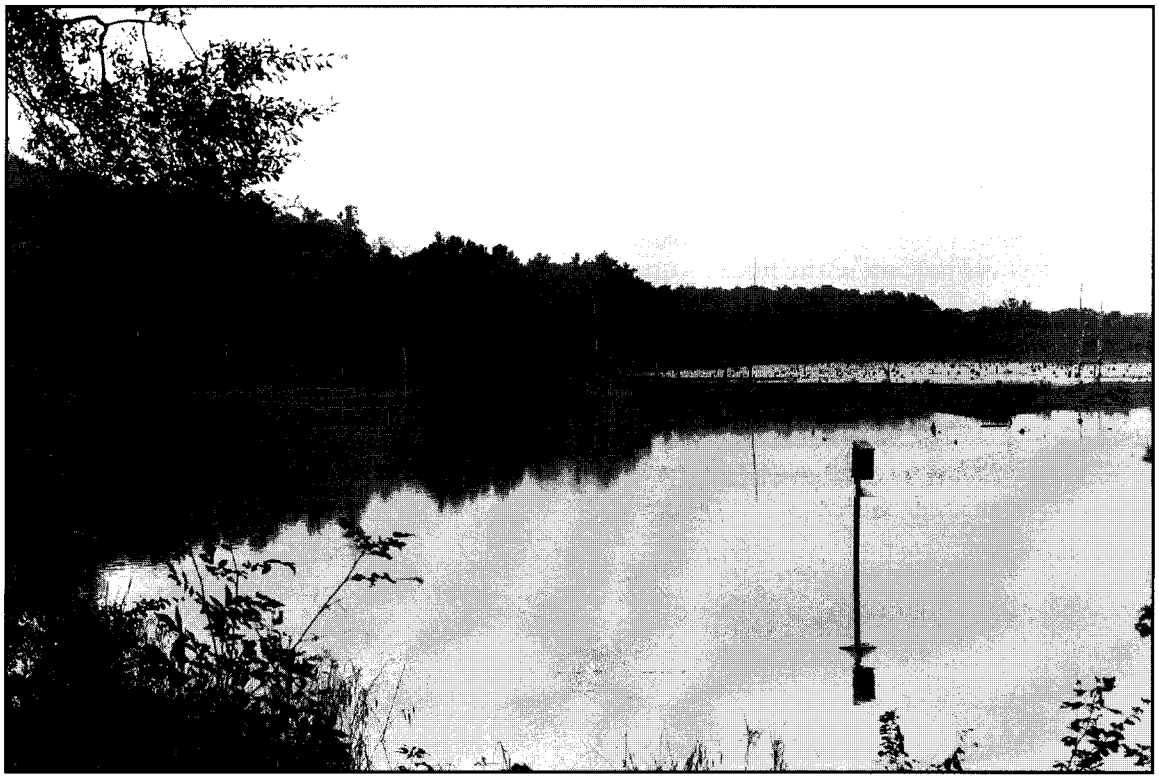
Bureau of Land Management

The BLM manages a substantial number of river miles, many of which are highly valued for whitewater recreation. The Arkansas Headwaters State Recreation Area in Colorado, jointly managed with the Colorado Division of Parks and Outdoor Recreation, is one example. In total, the BLM manages more than 5,400 miles of floatable rivers and 125 boat access sites (Table III.4). The regional distribution of these resources was not available. The BLM estimates that it manages approximately 174,000 miles of fishable streams and 2.6 million acres of lakes and reservoirs.

USDA Forest Service

Thousands of lakes and numerous river headwaters are in the national forests. The FS keeps data on the number of recreation sites that offer boating and swimming facilities, both those that charge fees and those that do not (Table III.4). More than four times as many areas offer boating than swimming opportunities. These are relatively evenly distributed across the four regions. Of the boating sites, about 35 percent are in the North, followed by 29 percent in the Rocky Mountains. About two-thirds of swimming sites are in the

Eastern regions. The Rocky Mountain region has a relatively smaller share of swimming sites and the Pacific Coast region has just 12 percent of all agency swimming sites. FS data show an 11 percent gain in boating sites since 1992. Swimming areas declined by five percent during the same period.



Dyar Pasture Waterfowl Area in Greene County, Georgia is a migratory bird habitat area sponsored collaboratively by the USDA Forest Service, the Georgia Department of Natural Resources, Ducks Unlimited, and Georgia Power Company. Photo courtesy of Cassandra Y. Johnson.

U.S. Fish and Wildlife Service

The FWS does not keep a database of the water-based sites available for public recreation on national wildlife refuges. However, refuge acreage is an indicator of water-based recreation opportunities, since most refuges are along coastal waters, wetlands, and flyways. Acreage in the National Wildlife Refuge System is presented in Table III.1 (p. 41). Information in the National Wildlife Refuge *Visitor's Guide* indicates whether a refuge is open for boating, fishing, or hunting. Of the 319 refuges open for public use, 61 percent allow boating, two-thirds allow fishing, and three-fourths allow hunting. The two Western regions have more refuges open for hunting than for either boating or fishing. In the North, more refuges are open for fishing. The large majority of Southern refuges allow all three uses.

Tennessee Valley Authority

Most TVA acreage is associated with water-based recreation. A 1992 TVA report indicates the agency has 59 swimming beaches and 160 boat ramps, all in the South (Table III.4). This total includes only a few of the water-based sites leased by the TVA to other government bodies, group camps, clubs, and commercial providers.[13]

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[13]Some, but only a few, of the recreation areas listed in the TVA report "Development of TVA Recreation Facilities Cumulative Through September 30, 1992" are areas leased to State, county and municipal governments. This list is incomplete compared to information in the 1988 TVA Handbook. The handbook describes 118 public parks, 455 public access areas and roadside parks, 55 group camps and clubs, and 298 commercial recreation areas on land leased from the TVA. Since these data are somewhat dated as of 1997, this situation has undoubtedly changed.

Nationwide Rivers Inventory

The Nationwide Rivers Inventory (NRI) is a listing of free-flowing, undeveloped river segments with outstanding wild, scenic, or recreation potential. Begun in 1982, the NRI database is compiled and maintained by the NPS. As of 1995, there were 3,377 river segments in the NRI totaling almost 85,000 miles (Table III.5).[14] The NRI was developed as a result of the National Wild and Scenic Rivers Act of 1968 and executive directives that require each federal agency to avoid or mitigate adverse effects on rivers identified by the NRI. River segments identified by the NRI do not include designated wild and scenic rivers but represent potential additions.[15] NRI river segments are important resources for whitewater and dispersed recreation. Some 191 river segments were added to the NRI in 1995 from a few state government river assessments. All other segments in the database were identified by the FS, NPS, or BLM.

NRI river segments are identified by their outstanding values. Types of values include scenic, recreational, geologic, fish, wildlife, historic, cultural, and other. Figure III.1 shows U.S. counties with one or more NRI river segments with outstanding resource values. Mileage for all NRI river segments and for each value individually (except 'other') are presented in Table III.5. By comparison, the U.S. total mileage of outstanding river segments identified by the NRI miles is almost eight times the 10,816 river miles formally protected as designated national Wild and Scenic Rivers.

Table III.5: Miles of Outstanding River Segments by Recreational or Amenity Value and Region, 1995

Recreational or Amenity Value	Region				
	North	South	Rocky Mountains	Pacific Coast	U.S. Total
Scenic	15,035	21,491	13,894	8,661	59,081
Recreational	17,227	21,834	10,012	7,458	56,531
Fish	9,405	18,591	10,849	9,857	48,702
Wildlife	5,496	19,225	9,403	5,690	39,814
Geologic	6,672	14,685	8,618	4,585	34,560
Historic	5,606	12,064	4,121	2,795	24,586
Cultural	1,746	9,916	5,389	2,391	19,442
All Values[1]	27,843	24,378	16,631	15,803	84,655

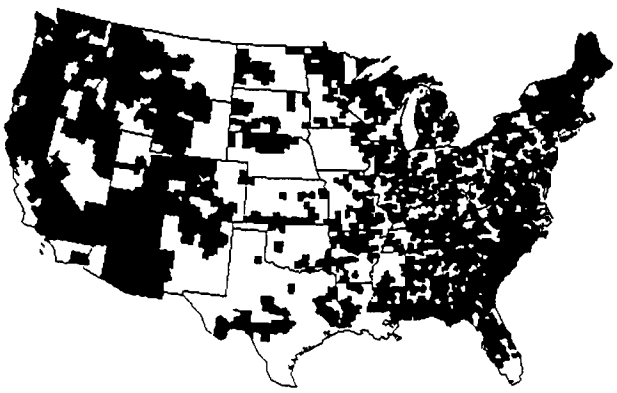
[1]Mileage for the various values is not additive because river segments may have more than one value.

Source: Nationwide Rivers Inventory. National Park Service. 1993. Additional river segments (191) were added to the database in 1995.

[14]Seventy-three river segments are located in two states, with each state having a record for its segment. Therefore, the database actually has 3,450 separate records.

[15]The National Wild and Scenic River System is described in the next section on specially designated federal resource systems.

Figure III.1: Counties with Rivers Having Outstanding Resource Values Identified by the Nationwide Rivers Inventory, 1995[16]



Source: Nationwide Rivers Inventory. National Park Service. 1993. Additional river segments (191) were added to the database in 1995.

There are considerably more NRI miles listed in the two Eastern regions. The North has the most river miles overall (almost one-third of the U.S. total), followed by the South, the Rocky Mountains and the Pacific Coast. Alaska is the leader among the states, with 4,507 miles. Michigan, Washington, Oregon, New York, California, and North Carolina each have more than 3,000 miles of outstanding rivers.

Most rivers listed have more than one outstanding value. Nationally, just under 70 percent of river miles have scenic value, and two-thirds have recreation value. Fish values are attributed to more than half the river miles and wildlife values to just under half. Geologic, historic, and cultural values are relatively less common, both nationally and in each of the four regions. Scenic values are most common for segments in the South and Rocky Mountain regions. Nearly 90 percent of river miles in the South were also classified as having recreation value. In the North, about three-fifths of river miles were judged to be important for recreation. It appears that in the South most river segments were assigned both scenic and recreation values. The South also has the highest percentage of river miles with wildlife values. The Pacific Coast is the only region where the most common value was something other than scenic or recreation. Fish values were present in 62 percent of rivers in this region, reflecting the importance of salmon and other anadromous fish.

Almost 35 percent of the NRI river segments were added to the inventory in either 1993 or 1995, representing just under 20 percent of total miles nationally. This increase probably represents movement toward completing the inventory. While some rivers may have increased in quality enough now to qualify as outstanding, other rivers likely have declined since first inventoried in 1982. Only about 23 percent of the river segments originally cataloged in 1982 were updated for the 1993 database.

Specially Designated Federal Systems

Some federal land is specially designated as part of federal systems with special recreation values. These systems include the National Wilderness Preservation System, National Recreation Areas, National Trails, and National Wild and Scenic Rivers. Wilderness and Wild and Scenic Rivers contain some of America's most wild and undeveloped areas. National Scenic and Historic trails within the National Trails System preserve significant scenic and recreational corridors as well as important parts of the nation's heritage. National Recreation Trails (NRT) are shorter, but significant trail resources, especially near urban areas. National Recreation Areas are a diverse group of resources ranging from pristine areas in Alaska to more developed, urban sites. All NRAs are managed primarily for their recreation and amenity values.

[16]Due to space constraints, none of the U.S. maps depicted in this chapter shows Alaska and Hawaii.

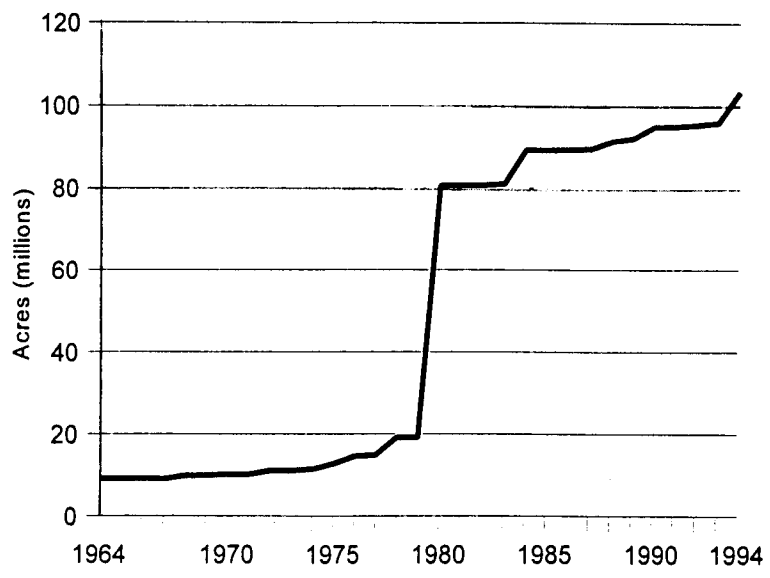
Historians describe a third wave of the conservation movement that commenced in the Kennedy Administration after the Outdoor Recreation Resources Review Commission (ORRRC). The 1962 ORRRC report to Congress spawned a variety of specially designated federal systems. The Wilderness Act (1964), the Wild and Scenic Rivers Act (1968), and the National Trails System Act (1968) were all heavily influenced by the ORRRC findings. National recreation areas (NRA) are technically not a system, but a policy circular written by the Recreation Advisory Council in 1963 spelled out the concept of an NRA and communicated this to Congress and the federal land-managing agencies. As a result, various pieces of legislation were passed in the 1960s and 1970s designating several NRAs.

Wilderness and wild and scenic river designations are governed by special criteria, so their establishment depends on unique natural features. On the other hand, many, if not most,of the NRTs and NRAs have been established under the philosophy of making federal recreation resources available to the general population. Zinser (1995) provided an excellent comprehensive summary of these systems. Here, these four systems and changes since the late 1980s are briefly described. In addition to designated wild and scenic rivers, also described is the Nationwide Whitewater Inventory conducted by the American Whitewater Affiliation.

National Wilderness Preservation System

Upon passage of the Wilderness Act in 1964, 54 Forest Service primitive areas became units of the National Wilderness Preservation System (NWPS). All but four of these areas were in the West. The system quadrupled in size when the Alaska National Interest Lands Conservation Act of 1980 added 56 million acres (Figure III.2). Designated Wilderness is not "new" federal land, rather Wilderness represents redesignation. Since 1980, growth has been modest, except in 1984 and 1994. In 1984, 21 Wilderness bills added 7.3 million acres to the NWPS, many in Eastern states. The California Desert Protection Act of 1994 added nearly 7.5 million acres, split among the NPS, FS, and BLM. Roughly 3.16 million acres were designated as Wilderness in the Death Valley National Park, some transferred from the BLM and the remainder from the former Death Valley National Monument.

Figure III.2: Acreage Added to the National Wilderness Preservation System by Year, 1964-1994



[1] Yearly totals after 1964 are not exact because data do not account for boundary changes and other acreage adjustments not described in wilderness legislation. However, 1967 does show the substantial adjustment in Boundary Waters Canoe Area acreage.

Source: NWPS Unit Database, BLM Washington Office, Wilderness Staff. July 1995. Browning et al. (1988). Various Annual Reports of the National Wilderness Preservation System, published as U.S. House Documents.

In mid-1995, the NWPS consisted of about 103.6 million acres in 630 units, most in the West. Almost one out of six federal acres (16 percent), or about 4.5 percent of the total U.S. land area, is in the NWPS. The two Western regions contain 96 percent of the system with just under 100 million acres (Table III.6). Alaska alone accounts for 57.4 of the 99.5 million Western Wilderness acres. All but about six million acres of Alaska Wilderness is managed by either the NPS or the FWS. Removing Alaska from the analysis, the West still contains over 91 percent of NWPS acreage, or 42.1 of the 46.2 million acres of non-Alaska Wilderness (Figure III.3). This distribution essentially mirrors the distribution of federal land in the United States.

Despite the uneven distribution of Wilderness acreage, only six states—Connecticut, Delaware, Iowa, Kansas, Maryland, and Rhode Island—have no designated Wilderness acreage. California has the most NWPS units of any state (130), followed by Arizona (89), Alaska (49), and Colorado (40). Units range in size from the 9.1-million-acre Wrangell-St. Elias Wilderness in Alaska to the 6-acre Pelican Island Wilderness in Florida and the 6-acre Birch Islands Unit Wilderness in Maine. Upon its 1994 designation, the Death Valley Wilderness in California, with about 3.2 million acres, supplanted the 2.4 million acre Frank Church-River of No Return Wilderness in Idaho as the largest unit in the contiguous States.

The NPS manages the greatest number of Wilderness acres, 43 million, almost 42 percent of the system total (Table III.6). All but 2.3 million of these acres, however, are in Alaska. The FS manages nearly two-thirds of the NWPS acreage outside of Alaska. Currently, there are about 5.2 million acres of BLM wilderness, 90 percent of which has been added since 1987 (Table III.6). The BLM has also recommended that 336 wilderness study areas comprising 9.5 million acres be added to the NWPS (U.S. GAO 1993).

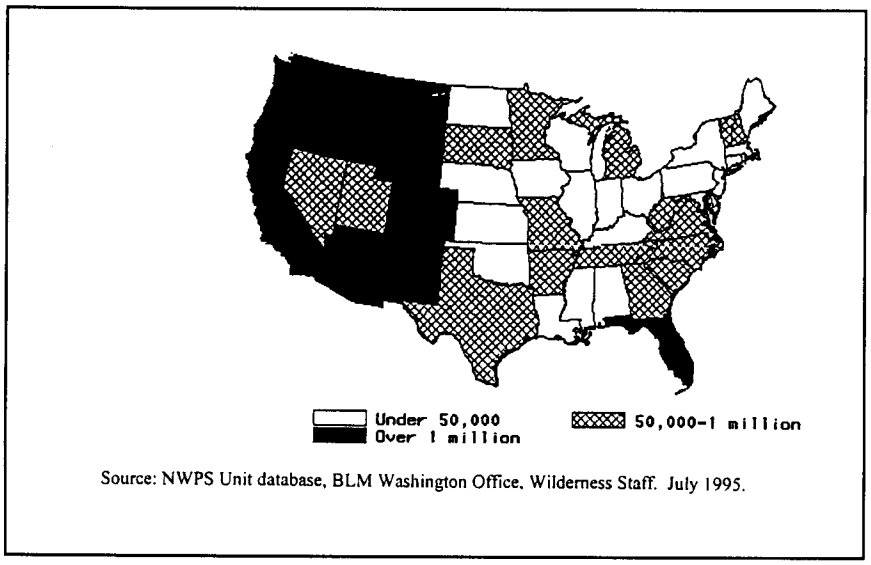
Table III.6: Increase in Designated Area, 1987-1995 and Current Area, 1995, of National Wilderness Preservation System by Federal Agency and Region

Agency	Region (1000 acres)									
	North		South		Rocky Mountains		Pacific Coast[1]		U.S. Total	
	Increase	Current	Increase	Current	Increase	Current	Increase	Current	Increase	Current
USDA Forest Service	40.5	1,307.2	78.4	692.2	1,273.3	17,890.1	830.9	14,780.3	2,223.1	34,669.8
National Park Service	0	133.4	15.0	1,462.8	0	693.2	5,606.2	40,718.0	5,621.2	43,007.4
Fish & Wildlife Service	0	63.5	0	470.2	1,343.4	1,464.8	9.0	18,686.8	1,352.4	20,685.3
Bureau of Land Management	0	0	0	0	1,178.6	1,626.0	3,573.5	3,601.0	4,752.1	5,227.0
All Agencies	40.5	1,504.1	93.4	2,625.2	3,795.3	21,674.1	10,019.6	77,786.1	13,948.8	103,589.5

[1]Alaska accounts for 57.4 million of the Pacific Coast's 77.8 million acres. Agency breakdown is: FS, 5.7 million; NPS, 33.0 million; FWS, 18.7 million.

Source: NWPS Unit Database, BLM Washington Office, Wilderness Staff. July 1995.

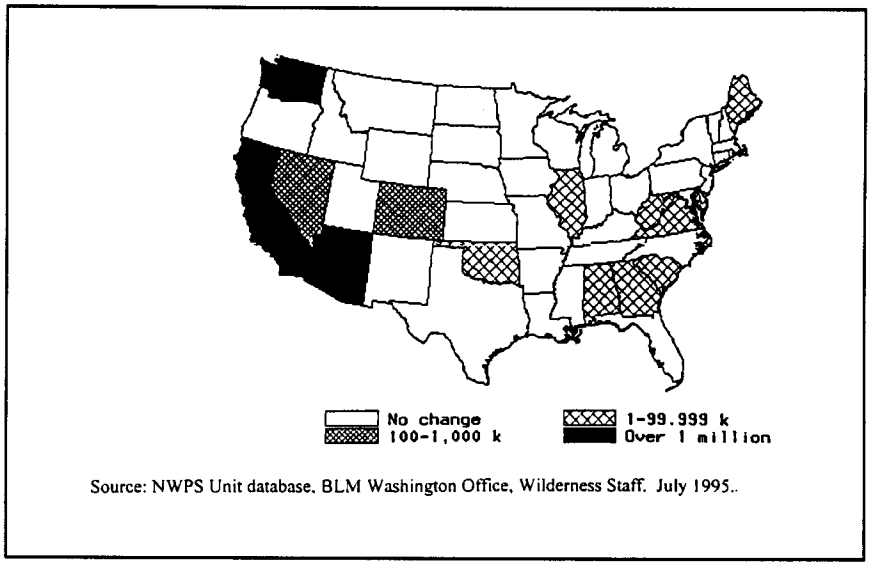
Figure III.3: National Wilderness Preservation System Acreage by State, 1995



Source: NWPS Unit database, BLM Washington Office, Wilderness Staff. July 1995.

Other changes to the NWPS since 1987 are noted in Table III.6. Nearly 14 million acres have been added, an increase of about 16 percent.[17] The NPS and the BLM accounted for 10.4 of the 14 million added acres. About 7.5 million acres of these additions came in the 1994 California Desert Protection Act. Two other years, 1988 and 1990, also saw substantial additions to the system. In 1988, 1.8 million acres of NPS and FS land were designated, most of it in large parcels in the Mount Ranier, Olympic, and North Cascades National Parks. About 2.8 million acres of FS, BLM, and FWS land were added to the NWPS in 1990. Since 1987, each of the four land-managing agencies has increased its Wilderness acreage by more than 1 million acres. Only about 134,000 acres, one percent of the additions since 1987, occurred in the two Eastern regions (Figure III.4).

Figure III.4: Growth in National Wilderness Preservation System Acreage by State, 1987-1995



Source: NWPS Unit database, BLM Washington Office, Wilderness Staff. July 1995..

[17]According to David Brown, Executive Director, America Outdoors, there is concern among some outdoor recreation outfitters that recent changes in federal policy have given individual agency managers of Wilderness areas too much autonomy to the extent some are unfairly restricting access to organized outfitters and their expeditions.

National Recreation Areas

National Recreation Areas (NRA) are not a legislatively defined system. Nevertheless, they are very important special federal areas for outdoor recreation. The NRAs are diverse, but their unifying characteristic is that they "warrant management which is clearly *different* from the general thrust of the National Park or National Forest Systems" (Shands, 1990). The NPS focus on preservation and the FS and BLM policies of multiple-use are de-emphasized in NRAs to allow more intensive management for recreation. NRAs are the only category of NPS units, or of specially designated FS and BLM areas, with the word "recreation" in their title.

Most NRAs are primarily water-based. Lake Mead was designated as the first NRA in 1936, followed by Coulee Dam in 1946, and Glen Canyon in 1958. In 1963 the Recreation Advisory Council of the Bureau of Outdoor Recreation wrote executive branch guidelines describing the selection, establishment, and administration of NRAs. Two of the guidelines were that NRAs be located within easy driving distance of large populations and be able to accommodate large numbers of people. Eleven NRAs were established during the 1960s. Starting in 1972, Congress authorized the first urban NRA gateway in New York City. Four more urban NRAs were designated during the 1970s in the Cleveland, Atlanta, San Francisco, and Los Angeles metropolitan areas.

Most of the urban NRAs provide public access to water or, in the case of Los Angeles, water and mountains. Urban NRAs tend to be a mixture of public and private land managed under a federal umbrella by means of easements, land-use controls, and access agreements. For example, the Chattahoochee River NRA in Atlanta is actually 14 separate parks along a 48-mile stretch of river. A 1988 symposium on NRAs sponsored by the NPS and FS suggested this arrangement as a model for future NRAs (USDA Forest Service, 1990). This suggestion appears to have been borne out in the Boston Harbor Islands NRA, designated in 1996. This NRA consists of 31 islands totaling about 1,200 acres, none federally owned. The islands are owned by eight separate entities, and the entire system is to be coordinated under NPS' management. The 13-member Boston Harbor Islands Partnership will include representatives of the NPS, the U.S. Coast Guard, and various state, local, and private agencies. In addition, an even broader-based advisory council will help set management direction and policy (Poole, 1997).

There are 38 NRAs nationwide, 17 managed by the FS, 19 managed by the NPS, one managed by the BLM, and one (Whiskeytown-Shasta-Trinity NRA in California) managed jointly by the NPS and FS. Together, these areas make up over 7.0 million acres of federal land (Table III.7). An additional half-million acres within the NRAs are not federally owned, but much of it is open for public use through agreements with landowners. Most NRAs are located in the western United States. The NPS manages just under half of all NRA acres, most located within the Lake Mead and Glen Canyon NRAs in Nevada, Arizona, and Utah. The only area managed by the BLM is the largely undeveloped one-million-acre White Mountains NRA in Alaska.

Table III.7: Increase in Acreage, 1987-1995 and current acreage, 1995, of Federal Land in National Recreation Areas by Agency and Region

Agency	Region (1000 acres)									
	North		South		Rocky Mountains		Pacific Coast		U.S. Total	
	Increase	Current	Increase	Current	Increase	Current	Increase	Current	Increase	Current
USDA Forest Service	13.0	129.7	49.0	167.6	312.7	1,464.3	305.2	918.3	679.9	2,679.8
National Park Service	2.1	96.3	0	116.4	0	2,773.2	0	366.7	2.1	3,352.7
Bureau of Land Management	0	0	0	0	0	0	0	1,000.0	0	1,000.0
All Agencies	15.1	226.0	49.0	284.0	312.7	4,237.5	305.2	2,285.0	682.0	7,032.5

Source: Land Areas of the National Forest System. As of September 1995.
National Park Service Statistical Abstract. 1995.

Since 1987, about 682,000 acres have been newly designated as NRAs, about an 11 percent increase (Table III.7). All but 2,100 of these acres are managed by the FS. The only new NRA managed by the NPS is the Gauley River NRA in West Virginia. New FS NRAs include Winding Stair Mountain (Oklahoma), Grand Island (Michigan), Smith River (California), Ed Jenkins (Georgia), and Spring Mountain (Nevada). Smith River and Spring Mountain are each larger than 300,000 acres and together make up most of the new NRA acreage since 1987.

Wisconsin's 1,000-mile Ice Age National Scenic Trail winds through terminal moraine left by the great Wisconsin Glacier over 10,000 years ago. Pine trees shroud this section of the trail located in the Chequamegon National Forest. Photo courtesy of Ice Age Park & Trail Foundation.

National Trails System (NTS)

The National Trails System Act was passed by Congress in 1968 to assist the Appalachian Trail and to establish a national system of trails. Most trails on federal land are not officially a part of the NTS.[18] However, trails in the NTS represent significant and special outdoor recreation resources. Three different types of National Trails make up the NTS.[19] *National Historic Trails* help to preserve the nation's heritage by telling the story of exploration, migration, and military action in the United States. Designation of these trails is as much for symbolism as for the limited protection provided for in the Trails Act. National historic trails generally consist of remnant sites and trail segments. They are not continuous paths in the traditional sense. The purpose is to preserve the integrity of significant travel corridors and routes in U.S. history. Of course, historical and cultural interpretation are central to these trail routes. Many related facilities typically surround the historic trails, including visitor centers, walking trails, and water resources.

In 1997 there were 12 designated national historic trails, all but two managed by the NPS. The brochure *National Trails System Map and Guide*, published by the NPS, provides a summary of each trail, its history, and the attractions found along the trail route. Of the 12 trails, four have been authorized since 1990: Juan Bautista de Anza (1990), California (1992), Pony Express (1992), and Selma-to-Montgomery (1996).

National Scenic Trails (NST) provided the impetus for creating the NTS. These trails preserve outstanding recreation opportunities along nationally significant scenic, historic, natural, and cultural corridors. As the name implies, the emphasis is on scenery. Three of the trails follow the ridges of the major U.S.

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[18]Unfortunately, an accurate inventory of all federal trails is nearly impossible. In fact, most federal agencies struggle to keep their own information centralized and current. Certainly, individual management units such as FS districts or NPS units know what exists within their management areas, but coordinating and updating all of the information into a single Federal trails database has proven to be exceedingly difficult.

[19]This does not include *connecting* or *side trails* which are included in the legislation as eligible to be included in the system. Their purpose is to provide access to the three main designated trail types. *National Historic Trails* were not added to the system until separate legislation was passed in 1978.

mountain ranges. The great length of the NSTs is another important quality, making the trails accessible to millions of people throughout the country. There are currently eight NSTs, three administered by the FS and five by the NPS. Forest Service NSTs include the Continental Divide, Florida, and Pacific Crest. National Park Service NSTs are the Appalachian, Ice Age, Natchez Trace, North Country, and Potomac Heritage.

Only the Appalachian Trail and Pacific Crest Trail are continuous footpaths. The Appalachian Trail totals 2,157 miles, only 44 of which remain unprotected and not publicly owned. Just 30 miles of the Pacific Crest's 2,638 mile length are unprotected. No new NSTs have been designated since 1987, but activity continues on all trails to complete sections and acquire land or easements. For example, a partnership was formed in 1996 between the NPS and the American Hiking Society to strengthen planning and trail development efforts along the Potomac Heritage Trail corridor. Although not continuous, the other six trails have long stretches open to public use, including 795 miles on the Continental Divide trail and the 184-mile Chesapeake and Ohio Canal towpath on the Potomac Heritage Trail. The NTS Map and Guide provides a description of each trail with total miles designated and an approximation of the mileage open for public use.

A significant development in the NTS occurred in 1992 when Congress authorized the secretary of the interior to study the feasibility of adding the *American Discovery Trail* (ADT). Originally conceived in the early 1980s by the American Hiking Society and *Backpacker* magazine, the trail would serve as an East-West connecting link across the United States. The proposed trail would help connect urban and rural areas, increase accessibility to the National Trails System in urban areas, and provide for bicycle and equestrian transportation, in addition to foot travel.

One recommendation to Congress is that the National Trails System Act be amended to create a new trail designation called "National Discovery Trails" (USDI National Park Service, 1996b). This new designation would have the primary purpose of connecting with other trails and would allow the discovery trails to be located alongside roads to preserve their continuity. The proposed general corridor for the ADT would be more than 6,350 miles long, extending from the San Francisco Bay area to coastal Delaware (USDI National Park Service, 1996c). The trail would split into Northern and Southern legs at Denver and rejoin in Cincinnati. American Discovery Trail legislation pased the Senate in July, 1998, but was still awaiting action by the House of Representatives as of that date.

National Recreation Trails (NRT) are by far the most numerous. Their distinction lies in their variety and proximity to urban areas. The Trails Act also allowed designation of NRTs in relatively remote scenic areas. The secretaries of the interior and agriculture were given authority to designate NRTs without congressional approval. Favorable publicity, community benefits, and added protection were three reasons cited by supporters of the act why resource managers might apply for NRT designation. A recent study of NRTs said that it is difficult to assess whether NRT designation has resulted in those intended benefits (Tynon, Chavez, & Harding, 1997).

A total of 821 trails in the United States are currently designated as NRTs, about 65 percent of which are federally managed. The remaining 35 percent are managed by a variety of nonfederal public and private entities. NRTs include river routes, historic tours, and a cave trail, in addition to traditional footpaths. Some urban multi-use trails and heavily-used nature trails are paved. NRTs can accommodate hiking, bicycling, horseback riding, interpretive use, disabled access, snowmobiling, cross-country skiing, and motorized water-based uses.

There are just under 10,000 NRT miles in the United States, fairly evenly distributed nationally (Table III.8). Federal agencies manage over half of the trail mileage with much higher proportions in the West. In the North, more than 80 percent of trail miles are managed by nonfederal entities, and in the South the percentage of nonfederal trails is about 40 percent. Over 1,400 miles have been designated as NRTs since 1987, but 179 trail miles dropped their NRT designation for a net increase of 1,229 miles (Table III.8). More than 70 percent of the net gain occurred in the North. Nearly 800 miles were added between 1993 and late 1995, including a 100-mile trail in Maryland, a 150-mile trail in Washington state, and the 410-mile U.S. Route 6 Grand Army of the Republic highway trail in Pennsylvania.

Table III.8: Net Increase in Miles, 1987-1995, of National Recreation Trails by Type of Managing Agency and Region

Type of Agency	Region									
	North		South		Rocky Mountains		Pacific Coast		U.S. Total	
	Increase	Current	Increase	Current	Increase	Current	Increase	Current	Increase	Current
Federal	20	539	-74	1,479	33	2,021	128	1,546	107	5,585
State	740	1,016	37	400	5	84	205	286	987	1,786
Local	98	783	0	279	0	192	7	202	105	1,456
Other[1]	25	706	0	304	0	146	5	6	30	1,162
All Agencies	883	3,044	-37	2,462	38	2,443	345	2,040	1,229	9,989

[1]Other includes various private corporations and foundations as well as non-profit and other semi-public organizations and associations.

Source: Register of National Recreation Trails. Washington D.C.: U.S. Department of the Interior. January 1993. Also, Update of National Recreation Trails Designated by the Secretary of the Interior. January 1, 1993 through October 1, 1995.

Walking and hiking are the dominant allowable uses on NRTs (Table III.9). More than 90 percent of trail miles nationwide are suitable for foot travel. The next largest category is horseback riding, which are permitted by 37.5 percent of NRTs. The two Western regions, which are dominated by rural and federal trails, allow considerably more horse use than the more urban Eastern trails. Five times as many miles in the North are designated for bicycle use as in any other region. Only the South has disabled access on more than 10 percent of trail miles. Surprisingly, the South has no NRT miles suitable for motorized use. Interpretive trail uses are very modest in all regions, but they are most common in the North. Winter use trail mileage is most prevalent in the North and Rocky Mountain Regions.

Table III.9: Total Miles and Percentage of National Recreation Trails by Type of Trail Use Allowed and Region, 1993[1]

Type of use allowed[2]	Region				
	North	South	Rocky Mountains	Pacific Coast	U.S. Total
Foot	2,419 (96.3)	2,218 (88.1)	2,213 (90.7)	1,753 (91.8)	8,603 (91.7)
Bicycling	1,356 (54.0)	199 (7.9)	219 (9.0)	207 (10.9)	1,981 (21.1)
Access for disabled	171 (6.8)	273 (10.8)	105 (4.3)	82 (4.3)	631 (6.7)
Horseback riding	508 (20.2)	259 (10.3)	1,548 (63.5)	1,200 (62.9)	3,515 (37.5)
Interpretive	126 (5.0)	10 (0.4)	24 (1.05)	37 (1.9)	197 (2.1)
Motorized	576 (22.9)	0 (0.0)	641 (26.3)	526 (27.6)	1,743 (18.6)
Water-based	205 (8.1)	291 (11.6)	27 (1.1)	156 (8.2)	679 (7.2)
Snowmobiling	798 (31.7)	34 (1.3)	550 (22.5)	141 (7.4)	1,523 (16.2)
Cross-country skiing	888 (35.3)	38 (1.5)	608 (24.9)	281 (14.7)	1,815 (19.4)

[1]Trail miles are not additive across uses due to multiple uses allowed on most trails. Table does not include 14 new trails designated since 1993 because use information was not available. Percentages are based on regional and national trail miles with known allowable uses: North, 2,512; South, 2,518; Rocky Mountains, 2,439; Pacific Coast, 1910; U.S. Total, 9,378.

[2]One trail, the 1.2 mile Horsethief Cave Trail in Wyoming, is designated for underground use.

Source: Register of National Recreation Trails. Washington, D.C. Department of the Interior. January 1993.

National Wild and Scenic Rivers

The Wild and Scenic Rivers Act passed in Congress on the same day in 1968 as the National Trails System Act. The former act states that certain selected rivers of the United States,

> which with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations.

The act has helped preserve the availability of whitewater recreation resources in many parts of the country. Wild and Scenic River (WSR) segments are classified into one of three types:

(1) *wild*—free of impoundments and generally inaccessible except by trail; shorelines essentially primitive; represent "vestiges of primitive America."

(2) *scenic*—free of impoundments; shorelines largely primitive and undeveloped, but accessible in places by roads.

(3) *recreational*—readily accessible by road or railroad; may have some development along shorelines; may have undergone some impoundment or diversion in the past.

Several rivers in the system have more than one classification type. One WSR may also be managed by more than one agency or managing body. As of November 1996, the WSR system consisted of 154 river segments totaling 10,816 miles (Table III.10). Thirty-seven states throughout the United States have WSR mileage (Figure III.5). Five rivers form the borders between states—St. Croix (MN and WI), Snake (ID and OR), Missouri (NE and SD), Upper Delaware (NY and PA), Middle Delaware (NJ and PA), and Chattooga (SC and GA). The Western regions of the country contain more than 75 percent of the WSR system mileage. Alaska accounts for about 30 percent of the system, followed by California with 17 percent, and Oregon with 16 percent. Together, mileage within these three states comprises almost two-thirds of the WSR system.

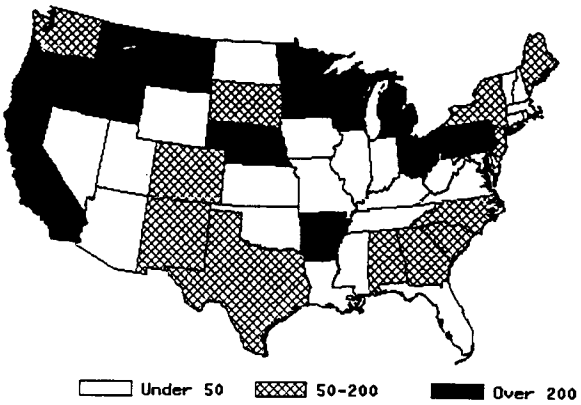
Table III.10: Increase in Miles of Rivers in the National Wild and Scenic River System by Agency and Region, 1987-1996

Agency	Region									
	North		South		Rocky Mountains		Pacific Coast		U.S. Total	
	Increase	Current	Increase	Current	Increase	Current	Increase	Current	Increase	Current
USDA Forest Service	687	820	276	377	55	961	939	2,189	1,957	4,347
National Park Service	200	561	0	237	143	214	0	1,434	343	2,446
Fish & Wildlife Service	0	0	0	0	0	0	0	1,043	0	1,043
Bureau of Land Management	0	0	0	0	34	227	621	1,806	655	2,033
State Agencies	146	391	11	45	0	0	0	442	157	878
Other[1]	0	0	5	5	0	0	0	65	5	70
All Agencies	1,033	1,772	292	664	232	1,402	1,560	6,979	3,117	10,817

[1]*Other* includes the U.S. Army Corps of Engineers (1 river segment) and the Hoopa Valley and Round Valley Indian Reservations in California (3 river segments).

Source: River Mileage Classifications For Components of the National Wild and Scenic Rivers System. National Park Service, Division of Park Planning and Special Studies. November 1996.

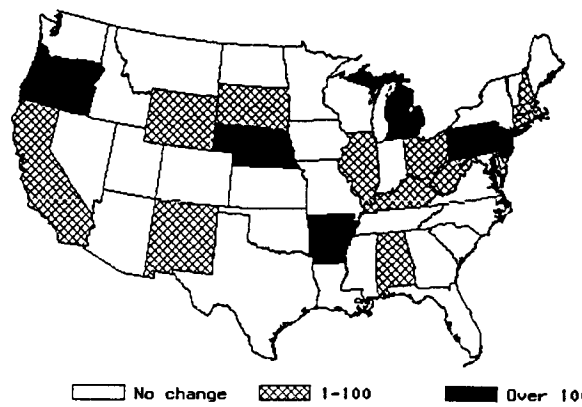
Figure III.5: Miles of National Wild and Scenic Rivers by State, 1996



Source: National Park Service. Division of Park Planning and Special Studies. River mileage classifications for components of the National Wild and Scenic Rivers System. November 1996.

More WSR miles are managed by the FS (40 percent of the system total) than any other agency. Next is the NPS with 23 percent and BLM with 19 percent. The FWS, state agencies, the CE, and two Indian tribes also manage WSRs. The system has grown an impressive 40 percent since 1987 (Table III.10). Just under half of this growth was in Oregon. Other states with significant growth since 1987 include Michigan, Arkansas, Nebraska, Pennsylvania, and New Jersey (Figure III.6).

Figure III.6: Miles of National Wild and Scenic Rivers Added Between 1987 and 1996, by State



Source: National Park Service. Division of Park Planning and Special Studies. River mileage classifications for components of the National Wild and Scenic Rivers System. November 1996.

Just under half (48 percent) of the WSRs are classified as *wild*, followed by *recreational* (30 percent) and *scenic* rivers (22 percent). Because of Alaska, the large majority of wild rivers (80 percent) are in the Pacific Coast region. Scenic rivers, on the other hand, are nearly as common in the North as in the Pacific Coast. The North has 872 miles of scenic rivers compared to the Pacific Coast's 882 miles. All regions but the South have substantial mileage of recreational rivers. The Rocky Mountain region has two and one-half times as much recreational river mileage as scenic. The North has about 150 more scenic river miles than recreational. Just over half of the South's WSR miles are classified as scenic. The FS manages the majority of scenic and recreational WSR miles, but wild river miles are split fairly evenly among the four federal agencies, with the NPS managing 130 more miles (1,532) than the FS (1,402).

In addition to WSRs, fast-moving rivers in general are highly valued for recreation experiences. Activities usually focus on rafting, kayaking, and canoeing on whitewater rivers. Whitewater recreation has a de-

voted following and supports a large outfitter and guide industry. The American Whitewater Affiliation (AWA), a conservation group based in suburban Washington, D.C., maintains a *Nationwide Whitewater Inventory* and serves as an advocate for whitewater resources. A principal reason for their database is to provide information about whitewater resources to the Federal Energy Regulatory Commission which relicenses hydroelectric power plants.

In January 1997, the inventory listed 2,297 whitewater river segments totaling almost 31,000 miles (Table III.11). The database covers all eligible whitewater rivers, regardless of managing agency or organization. A single river may be comprised of many segments, and the inventory does not include rivers of class I difficulty (the 'easiest' of six levels in the International Scale of Difficulty). Class I river segments are excluded because they are often indistinguishable from flatwater. AWA has compiled a database of all rivers class II and above, but cautions that included river mileage does not specify the quality of the whitewater recreation experience. A continuous stretch of river with the desired level of difficulty is necessary for a good whitewater experience. But overall quality reflects many variables, including the reliability of flows, water quality, scenic features, boating seasons, and proximity to population.

Table III.11: Miles of Rivers Identified by Nationwide Whitewater Inventory Miles by Level of Difficulty and Region, 1996

Level of Difficulty	Region				
	North	**South**	**Rocky Mountains**	**Pacific Coast**	**U.S. Total**
Class I-III	6,077	4,961	4,387	1,978	17,403
Class IV-VI	318	132	980	1,412	2,842
Variety[1]	3,215	1,625	3,798	1,744	10,382
All Segments[2]	9,610	6,718	9,165	5,134	30,627

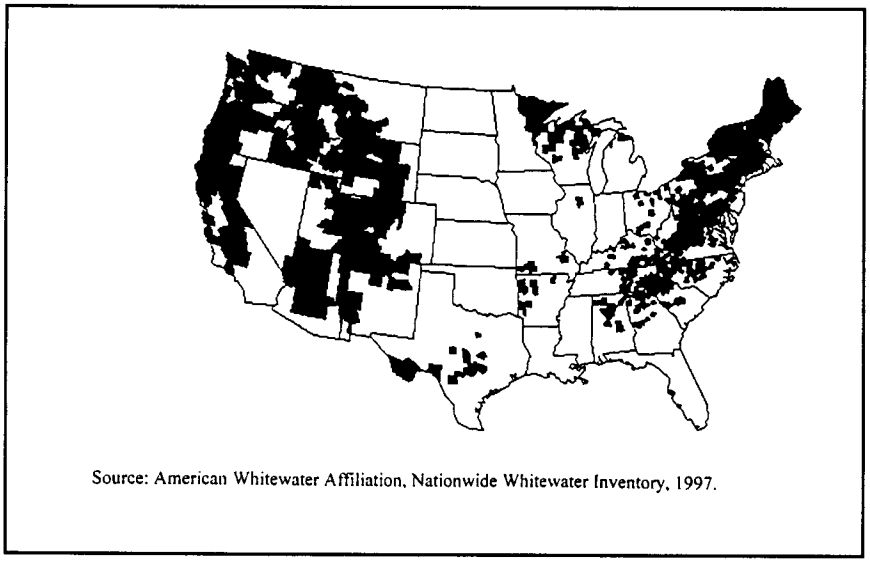
[1]This category represents segments with a variety of difficulty levels such that they could not be classified as either easy (Class I-III) or difficult (Class IV-VI) rivers alone. Difficulty levels based on the Whitewater International Scale of Difficulty.

[2]32 river segments totaling 372 miles did not have location information.

Source: American Whitewater Affiliation. Silver Spring, Maryland.

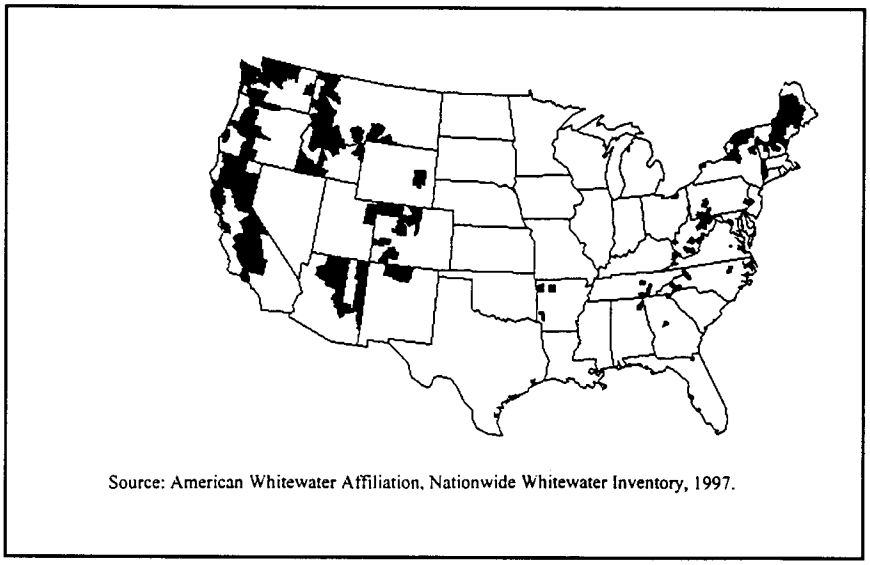
Other than the Plains states, parts of the Midwest, the Mississippi Delta region, and Florida, whitewater rivers are well distributed throughout the United States (Figure III.7). The North and Rocky Mountain regions both have more than 9,000 miles. The majority of the river mileage in the inventory (about 57 percent) might be classified as "easier" (class I-III) in level of difficulty. The "most difficult" river segments (class IV-VI) are concentrated in the West where there are greater elevations (Figure III.8). There are relatively few of the higher difficulty classes in the South, less than half the mileage in the North. Nationwide, the most difficult classes of river mileage accounts for less than 10 percent of all whitewater miles. The third category in Table III.15 shows the mileage of river segments that have a variety of difficulty classes. The Rocky Mountain region has the most miles of these rivers followed by the North. It is difficult to categorize these as either easier or more difficult because a single river segment may range from class I to class VI. That much range is rare, but a lot of these segments can range across two or three classes from I to V, so one might argue that these represent "intermediate" whitewater.

Figure III.7: Counties with Whitewater Rivers, All Difficulty Classes, 1997



Source: American Whitewater Affiliation, Nationwide Whitewater Inventory, 1997.

Figure III.8: Counties with Whitewater Rivers, Difficulty Classes IV-VI Only, 1997



Source: American Whitewater Affiliation, Nationwide Whitewater Inventory, 1997.

Camping Facilities on Public Land

(By Douglas McEwen, Professor, Southern Illinois University, Carbondale, IL)

In the American consciousness, camping is strongly associated with the great outdoors and the tradition of providing public places for camping is firmly established. Because of its status as a favorite tradition, the provision of public camping facilities is examined in detail here. Although it was not possible to separate out the supply of public campgrounds by government provider, it is appropriate that camping is covered in the federal section because of the historical importance of the federal agencies in providing camping opportunities to the public. Private camping facilities are covered later in the chapter.

Camping can probably be traced back to the early 1800s, when Americans began to discover wilderness as a source of scenic beauty and spiritual inspiration. Camping was certainly an early recreation activity in national parks and national forests. The first campgrounds were probably unplanned and visitor-established. However, as visitor numbers grew and impacts increased, public agencies responded by constructing permanent campgrounds (Ibrahim & Cordes, 1993). While records of these early campgrounds are difficult to find, it is safe to state that since the early 1900s there has been a steady expansion of public campgrounds, both at the state and federal levels.

The Woodall Publishing Company has collected information from all public agencies on their campgrounds, and it was selected as the most accurate source available.[20] While public agencies certainly must have records of the numbers of campgrounds operated, these records are not unified in any single source and are very difficult to assemble.

In 1996, Woodall's inventory listed a total of more than 4,000 public (government) campgrounds in the United States (Table III.12). Despite much more federal land in the Western United States, the two Eastern regions have 61 percent of the nation's public campgrounds (Figure III.9), up from 55 percent in 1977. Local and especially state governments are responsible for the majority of eastern public campgrounds. The total number of public campgrounds in the United States has fallen by about 12 percent in the past 20 years. This drop, however, occurred primarily between 1977 and 1987. There was a modest net gain in public campgrounds between 1987 and 1996.

Table III.12: Number of Public Campgrounds and Campsites by Year and Region[1]

Type of Site and Year	Region				
	North	South	Rocky Mountains	Pacific Coast	U.S. Total
Campgrounds					
1977	1,561	1,014	1,264	829	4,668
1987	1,450	993	801	751	3,995
1996	1,409	1,064	826	792	4,091
Campsites					
1977 -	137,268	63,377	54,081	56,488	311,214
1987	157,190	83,229	58,220	65,011	363,650
1996	149,722	89,636	65,870	65,708	370,936

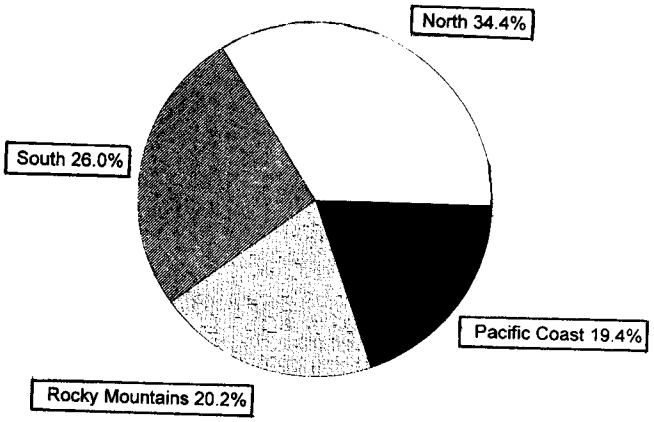
[1]Public campgrounds and campsites are those provided by Federal, State, and local levels of government.

Source: Woodall Publishing Company campground inventory database. Lake Forest, Illinois.

All regions except the North experienced a decline in public campgrounds between 1977 and 1987 then regained some by 1996. In the North, the net loss of public campgrounds continued into the 1990s. Overall, only the South has shown a net increase in campgrounds since 1977. The Rocky Mountains lost public campgrounds at the dramatic rate of 35 percent between 1977 and 1996. This probably reflects the closure of many scattered, remote federal campgrounds that were costly to maintain and operate. Though such closures have been occurring nationwide, they appear to be greatest in the Rocky Mountain region. Whether this action will impact the overall trend in the public sector to a large degree remains to be seen.

[20]Woodall's does not distinguish among public campgrounds provided by federal, state, and local governments, so this section covers public campgrounds in general, not just federal campgrounds.

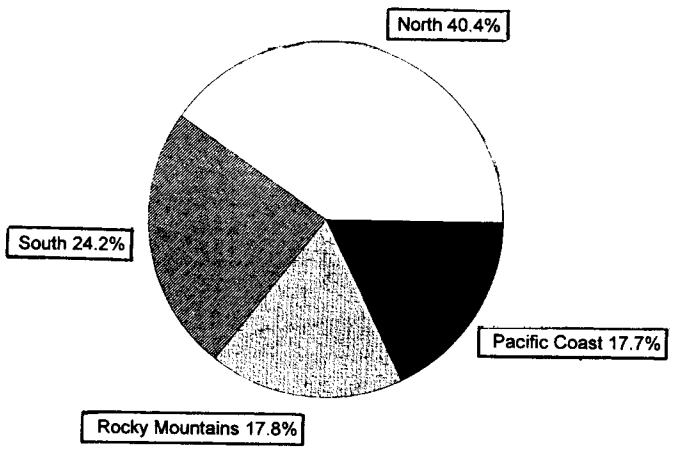
Figure III.9: Percentage of Public Campgrounds by Region, 1996



Source: Woodall Publishing Company. Lake Forest, IL.

The public sector has experienced a gain of almost 60,000 campsites (individual units within a campground) since 1977, a 19 percent increase (Table III.12). The number or campsites increased fastest in the first decade and only slightly between 1987 and 1996. It would be reasonable to expect that the new campgrounds added in the past decade are large with a great number of campsites. Just over 64 percent of the campsites are in the North and South, compared to 60 percent of the campgrounds (Figure III.10). All four regions experienced net gains in campsites over the 20 year period since 1977. The fastest growing was the South at 41 percent. The Rocky Mountains also added campsites at a rate above 22 percent. The Pacific Coast grew moderately (16 percent) and the North added only 9 percent more campsites during the 20-year period. Between 1987 and 1966 the North dropped over 7,000 campsites, the only region to register a loss during that period. Comparing the overall trend of decreasing numbers of campground with increasing numbers of campsites from 1977 to 1966 indicates current public campgrounds are larger on the average than in the past.

Figure III.10: Percentage of Public Campsites by Region, 1996



Source: Woodall Publishing Company. Lake Forest, IL.

The public sector, with fewer overall numbers of campsites than the private sector, continues to expand steadily the variety of campsites it provides. Woodall Publishing Company classifies campsites as (1) full hookup with water, sewer, and electricity; (2) water and electricity; (3) electricity only; and (4) no hookups. Between 1977 and 1996, more than 9,300 full hookup sites were added, an 87-percent increase (Table III.13). During the same period, electricity-only campsites experienced a similar growth pattern, an 86-percent increase. From 1977 to 1996, the public sector almost tripled its capacity of improved sites, adding more than 40,000 water and electric sites. On the other hand, the number of no hookup campsites in the public sector continued to steadily decline. The decline was less dramatic than experienced in the private sector and probably reflects the closing of some small, marginal campgrounds as well as conversion to improved sites. The public agencies appear to be moving away from rustic campgrounds to more full-service facilities, but this trend is not as dramatic as in the private sector, and the overall number of campsites is much smaller.

Table III.13: Number of Campsites at Public Campgrounds by Type and Year, 1977-1996[1]

Campsite type	Year		
	1977	1987[2]	1996
Full hookups	10,651	16,356	19,975
Water & electric	22,755	51,060	65,357
Electric only	40,528	71,165	75,279
No hookups	237,280	223,647	210,480
All campsite types	311,214	362,228	371,091

[1]Public campgrounds and campsites are those provided by federal, state, and local levels of government.

[1]Woodall Publishing Company's 1987 data on campsite types do not match exactly the total number of U.S. campsites in 1987 as shown in Table III.16.

Source: Woodall Publishing Company. Lake Forest, IL.

PUBLIC/PRIVATE PARTNERSHIP RESOURCES

A significant trend to emerge, especially in the 1990s, is the abundance of partnerships among the federal, state, and local levels of government, non-profit and non-governmental organizations, and the private sector. Recreation and natural resource managers speak frequently about the advantages of "leveraged" resources, shared advocacy, common interests, and larger constituencies. Partnerships may even be a necessity to bring together a diverse group of individuals and institutions which all share an interest in a given resource. Partnerships no doubt have disadvantages too, but their success and prevalence throughout the outdoor recreation community indicate that the benefits mostly outweigh the costs.

A detailed review of recreation partnerships is beyond the scope of this chapter. However, in two areas—Scenic Byways and Watchable Wildlife programs—partnerships have emerged as major trends in outdoor recreation. Both "Scenic Byways" and "Watchable Wildlife" are umbrella terms developed over the past decade in response to demand for scenic driving and nonconsumptive wildlife recreation. Each is characterized by partnerships involving all levels of government, non-profit organizations, and the commercial sector. Leadership for both is provided by the federal government. Both Scenic Byways and Watchable Wildlife programs depend on the involvement of numerous partners, as described in the following sections.

Scenic Byways

(By Joan W. Tannen, program manager, National Scenic Byways Clearinghouse, Washington, D.C.)

Scenic Byways address the demand for two of the nation's most popular recreational activities, sightseeing and driving for pleasure. Although parkways and other scenic drives have been around in the U.S. for decades,

it is only since the late 1980s that formally established Scenic Byway programs proliferated at federal and state government levels. Local and regional governments and the private and non-profit sectors are involved in many scenic byway partnerships as well. The establishment of Scenic Byway programs represents a very important trend in the supply of outdoor recreation opportunities in this country, serving the dual purpose of providing access to desirable areas and providing viewing opportunities.

Sightseeing and driving for pleasure have proven to be two of the most popular leisure activities in national surveys and polls, including the President's Commission on Americans Outdoors. Repeatedly, Americans say they enjoy experiencing the nation's beauty and heritage by driving along its scenic roads. Even though some might argue that roads and highways have been in place for years and that nothing has really changed with respect to outdoor recreation, the simple fact that transportation routes are being recognized for their scenic and recreational values is significant enough. State and federal recognition and promotion of scenic transportation corridors increases the supply of scenic driving opportunities, even with actions as simple as signage, interpretation, and information dissemination.

A scenic byway is a roadway corridor recognized for its outstanding intrinsic qualities. As the name implies, these byways usually have exceptional scenic attributes. However, scenery is not the only recognized quality. These corridors may also be recognized for outstanding historic, cultural, natural, archaeological, or recreational qualities. Scenic byways may wander through quiet rural countrysides or traverse urban areas. They may be spectacular destinations which attract domestic and international visitors, or little-known local routes valued by local communities for weekend driving. They may be called by different names, e.g., scenic or historic byways, rustic roads, back country byways, heritage corridors or all-American roads. Each has in common special or unique features which are, to different degrees, protected and promoted so that they can be appreciated and shared.

A scenic byway roadway corridor is more than the road and its right-of-way. It includes the byway corridor along with corresponding resources that make the byway unique. Scenic byways may take in lakes, mountains, pastoral scenery, cultural or historical features, unique geological formations, or striking vistas that both attract and provide enjoyment for the traveler. Accommodations for picnicking, hiking, camping, and other recreation activities may be available along the route itself or the route may provide a pleasant access to areas offering these activities. Complementary facilities such as rest stops, scenic overlooks, visitor centers, and bicycle and pedestrian trails may further enhance the experience.

Background and History

Driving for pleasure has been a popular form of recreation for as long as Americans have driven automobiles. The first fragmented scenic byway efforts began in the early 1900s, when Americans began relying on motorized transportation. The Bronx River Parkway, built in Westchester County, New York in 1913, is considered to be the first scenic road designed to enhance the drive for travelers (Federal Highway Administration, 1988). This model for future parkways demonstrated new engineering concepts and was beautifully landscaped. The design elements used in constructing the Bronx River Parkway served as a precedent for other scenic parkways and byways that followed, including Virginia's Mount Vernon Memorial Highway, completed in 1932. These parkways were special because they were designed to be driven at moderate speeds to allow travelers to enjoy the scenery and the driving experience.

Some states were also beginning related scenic byway efforts during the 1930s. Scenic preservation in Vermont began in 1937 when the legislature mandated that a scenic route (SR 100) be developed from the Massachusetts border through Vermont to the Canadian border. Oregon's Columbia River Highway in the Columbia River Gorge, built between 1913 and 1922, was constructed to complement the surrounding environment and provide spectacular views of the gorge. Oregon also initiated efforts to protect scenic features of the state with legislation to protect standing timber and to plant trees along state highways. These efforts in Oregon resulted in a new policy for the Bureau of Public Roads (the precursor to the Federal Highway Administration). Beginning in 1934, each state was required to spend at least one percent of its total federal-aid funding for appropriate roadside landscaping (FHWA, 1988).

Construction on many of the National Park Service parkways, including the Blue Ridge Parkway in Virginia and North Carolina, and the Natchez Trace in Mississippi, Alabama and Tennessee, began during the 1930s. During these Depression years, the National Industrial Recovery Act authorized funding for the construction of public highways and parkways to stimulate the economy. The Blue Ridge Parkway was approved as one of these relief projects in 1929. Private contractors and local labor, as well as Civilian Conservation Corps and Emergency Relief Administration crews, participated in the first segments of this multi-million dollar construction project (Jolley, 1969). Similarly, many other scenic roads were built during this era.

In 1958, Congress created the Outdoor Recreation Resources Review Commission (ORRRC) in response to the nation's growing demand for outdoor recreation. ORRRC was charged with determining what facilities, including Scenic Byways and parkways, could best meet demand. In 1962, the results concluded that driving for pleasure and walking were by far the most popular forms of outdoor recreation (FHWA, 1988). With mobility and leisure time increasing, the commission forecasted that more people would travel further and more frequently to enjoy the country's scenic routes.

During the 1960s, a coordinated national scenic byway effort began to evolve. In April, 1964 the Recreation Advisory Council of the Bureau of Outdoor Recreation issued a policy statement recommending that a national program of scenic roads and parkways be developed. During the same period, Congress enacted the Highway Beautification Act of 1965 to provide for scenic development and beautification of the federal highway systems. In 1973, Congress directed the Federal Highway Administration to study the feasibility of developing a national scenic highway system, but most scenic byway initiatives were placed on hold during the Vietnam and War on Poverty era.

Outdoor recreation and Scenic Byways have always gone hand in hand. The President's Commission on American Outdoors (1986) stated in its report: "Americans are at home on the road. Pleasure driving to view the historic, natural, pastoral qualities offered by many of our nation's secondary roads is an important part of recreation for a majority of our population, comprising some 15 percent of all vehicle miles driven." Driving for pleasure continues to rank very highly among America's most popular outdoor recreation activities. In 1990, congressional appropriation legislation for the department of transportation included the following provisions for conducting a national scenic byway study (FHWA, 1991):

- Update a nationwide inventory of existing Scenic Byways.
- Develop guidelines for the establishment of a national scenic byway program, including recommended techniques for maintaining and enhancing scenic byway qualities.
- Conduct case studies on the economic impacts of Scenic Byways on travel and tourism.
- Analyze potential safety problems and associated environmental impacts.

Further broad-based support for Scenic Byways was generated as a result of this study. In 1991, Congress passed the Intermodal Surface Transportation Efficiency Act (ISTEA). The foundations of the National Scenic Byways Program to be administered by the Federal Highway Administration were outlined in Section 1047 of that legislation. Today there are many different scenic byway programs and initiatives across the country at all levels—national, state, local and private. These programs were developed to promote and protect roads under the management of a host of government bodies and public-private partnerships. Different programs have also been designed to meet a variety of objectives.

Federal Programs

The U.S. Departments of Transportation, Agriculture, and Interior are primarily responsible for Scenic Byway initiatives at the federal level. The Federal Highway Administration (FHWA) in the department of transportation administers the Federal-Aid Highway Program. Roads receiving funds from this program are owned and operated by state and local public agencies. While these systems contain only about 22 percent of the nation's total public road mileage, approximately 79 percent of travel in the United States is on these roads (FHWA, 1988).

The FHWA manages the National Scenic Byways Program that was mandated in ISTEA. This legislation charged the secretary of transportation with developing criteria for designating highways having outstanding scenic, historic, recreational, cultural, natural, and/or archaeological qualities as either "national Scenic Byways" or "all-American roads." To be designated as a national scenic byway, a road must meet the criteria for at least one of the six intrinsic qualities. The "best of the best" byways are designated as all-American roads. These all-American roads must meet the criteria for multiple intrinsic qualities so exceptional that these routes are "destinations unto themselves," attracting national and international visitors. As of mid-1997, 20 highway corridors totaling 2,481 miles had been designated under the National Scenic Byways Program. These six all-American roads, (1,078 miles) and 14 National Scenic Byways (1,403 miles) represent roads that are also designated within the National Forest Scenic Byways Program, the Bureau of Land Management Back Country Byways Program, state scenic byway programs, or roads that are under the jurisdiction of the National Park Service and the Bureau of Indian Affairs (FHWA, 1996).

The purpose of the National Scenic Byway Program is to increase tourism, create new jobs and foster economic development, while at the same time preserving and protecting the intrinsic qualities of these roadway corridors. This umbrella program was designed as a voluntary, grass roots initiative to assure com-

munity commitment to designation and management of a byway. The nomination process allows state-designated byways or federal agency byways to be nominated for designation as a national scenic byway or all-American road. The program is purely voluntary. A diverse group of interests have come together to support national scenic byway initiatives, including environmental preservationists, tourism advocates, proponents of recreation, land use planners, historians, transportation specialists, educators, and the motoring public (National Scenic Byways Program, 1995).

ISTEA authorized grant funds for the National Scenic Byways Program totaling $50 million for technical and financial assistance to the states for the planning, design, and development of state scenic byway programs. The legislation also established an interim Scenic Byways grant program funded at $30 million for fiscal years 1992 through 1994, to allow states a wide range of scenic byway projects while the national program was being established. A total of 18 states started programs as a result of these federal funds and 11 more states took advantage of scenic byway grants to improve and upgrade their existing programs.[21] National Scenic Byways Program discretionary grants totaling $74.3 million were awarded to 37 states, including the District of Columbia and Puerto Rico, for 552 projects (FHWA, 1997a).

The USDA Forest Service began its National Forest Scenic Byway Program in 1988 as part of its national recreation strategy. This program was established in direct response to the President's Commission on Americans Outdoors findings that listed pleasure driving as the second most popular form of outdoor recreation for most Americans. At that time, scenic stretches of existing national forest roads in 30 states were identified for potential designation.

There are currently 133 National Forest Scenic Byways in 35 states totaling 7,680 miles (USDA Forest Service, 1996). Scenic vistas, and the facilities for enjoying them, are the primary focus. The Forest Service also places emphasis on interpretation of heritage and cultural resources, land management practices, increased accessibility to Forest Service lands and services, and linking the national forests with neighboring communities to provide additional services to travelers. While Forest Service scenic highways are located primarily within the national forests, many also traverse portions of private land. The goals of the Forest Service Scenic Byways Program are to (Robertson, 1988):

- Showcase outstanding national forest scenery.
- Demonstrate the national forests as the major federal provider of outdoor recreation in the U.S.
- Increase public awareness and understanding of Forest Service activities.
- Meet the growing demand of driving for pleasure as a significant recreation use.
- Increase the use of the national forests by non-traditional users.
- Contribute to the nation's overall Scenic Byways effort.

Although the National Park Service (NPS) does not have a formal Scenic Byway program, the roads within national parks are treated as Scenic Byways in design, construction and management. There are nine congressionally designated national parkways including the Blue Ridge parkway in Virginia and North Carolina and the George Washington Memorial parkway in Virginia.[22] These elongated parks were designed for drivers to experience scenic, recreational, or historic features of national significance. Wide rights-of-way and other design techniques are used to protect and enhance scenic views.

Similarly, most roads in national parks are recognized and treated as Scenic Byways. All National Park Service sites encompass unique natural, historic, cultural, and recreational qualities, and the park road system is the principal mode of access to these qualities. Scenic overlooks, recreation centers, and interpretive exhibits are abundant on park roads. Many park roads have even been placed on the National Register of Historic Places in recognition of their historic value. The Mount Vernon Memorial Highway in Virginia, and the Going-to-the-Sun Road in Glacier National Park, Montana, are two such examples. The motorized vehicle is the principal mode of transportation in National Parks, therefore the NPS has recognized how critical it is to design park roads with respect for both the natural resources and the visitor experience.

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[21]Scenic Byway projects can also be funded through the 10 percent set-aside of ISTEA Surface Transportation Program (STP) funds for enhancement projects.

[22]The George Washington Memorial Parkway includes a portion in Maryland which is called the Clara Barton Parkway.

The Bureau of Indian Affairs (BIA), also in the department of the interior, in cooperation with the Indian Tribal Councils, is responsible for the design, construction and maintenance of an extensive system of roads held in trust for tribal units. Many reservation roads have scenic characteristics and offer unique cultural features. With land use planning and increased attention to design, these roads have potential as Scenic Byways. The BIA recognizes that Scenic Byways have the potential to increase travel and tourism on designated reservation roads and to generate economic development (FHWA, 1991).

Another interior department agency, the Bureau of Land Management (BLM), started its Back Country Byways program in 1989. The objective was to provide visitors with the opportunity to explore some of the BLM's less accessible unique and scenic lands in the West. As of July 1996, 64 back country byways, covering approximately 3,180 miles, were designated by the BLM. Back country byways are classified according to the terrain and the type of vehicle required to accommodate the route. Type I is negotiable by a normal passenger car. Type II requires a two-wheel drive vehicle with high ground clearances. Type III requires a four-wheel drive vehicle. Type IV are single track trails that can accommodate mountain bikes, dirt bikes, snowmobiles, and all-terrain vehicles. Thirty-two of the Back Country Byways are type I, negotiable by a normal passenger car. Ten more have type 1 segments (USDI Bureau of Land Management, 1996). The goals of the BLM Back Country Byway program are to (USDI Bureau of Land Management, 1993):

- Increase the opportunities for the American public to see and enjoy unique scenic and historic resources on public lands.
- Foster partnerships at the local, state, and national levels.
- Contribute to local and regional economies.
- Enhance the visitor recreation experience and multiple use management message through interpretation.
- Manage visitor use of the byway to minimize environmental impacts and to protect the visitor.
- Contribute to the National Scenic Byway Program in a manner that is appropriate for public lands managed by the BLM.

State Programs

Many states have their own Scenic Byway programs. California, Maine, Minnesota, New York, Oregon, Vermont, Virginia, Washington, and Wisconsin in particular have a long history of commitment to development of scenic roads in their states. In some states, such as California and New York, the Scenic Byway program is authorized by legislation and roads are designated in accordance with state-determined standards and procedures. In other states, such as Colorado and Maryland, the Scenic Byway program has administrative authorization under a general or executive authority. Some states, such as Missouri and Illinois, have no formal scenic byway program, but have designated some routes as scenic as part of a special initiative. For example, the Great River Road along the Mississippi River travels through some states that do not have Scenic Byway programs. It is managed by a commission of representatives from the states through which it passes (Mastran, 1992).

Thirty-five states plus the District of Columbia have formal Scenic Byway programs (Table III.14). Another seven States—Illinois, Missouri, Nebraska, Oklahoma, South Carolina, Tennessee, and Texas—are still in the planning stages. Twenty-six of the 35 programs have been created since 1987 and over half of the programs (19) since 1992. Nine of the most recent programs were funded or otherwise supported by ISTEA. About half of the programs were created by state legislatures and the rest by executive authority. These statistics highlight the emerging trend of Scenic Byways in the United States, especially in the 1990s.

Table III.14: Summary of State Scenic Byway Programs, 1996

State	Year Created	Legislative Authority?	Creation Aided by ISTEA?
Alaska	1993	No	No
Arizona	1982	Yes	No
California	1963	Yes	No
Colorado	1989	No	No
Connecticut	1989	Yes	No
Dist. of Columbia	1995	n/a[1]	Yes
Florida	1996	Yes	Yes
Georgia	1992	No	No
Idaho	1977	No	No
Indiana	1994	No	No
Iowa	1993	Yes	Yes
Kansas	1993	No	Yes
Kentucky	1994	No	No
Louisiana	1991	Yes	No
Maine	1979	Yes	No
Maryland	1988	No	No
Massachusetts	n/a	Yes	No
Michigan	1993	Yes	No
Minnesota	1992	No	No
Nevada	1980s	Yes	No
New Hampshire	1992	Yes	No
New Jersey	1993	No	No
New Mexico	1993	Yes	No
New York	1992	Yes	Yes
North Carolina	1990	Yes	No
North Dakota	1996	No	n/a
Ohio	1994	No	Yes
Oregon	1995	No	No
Rhode Island	1985	Yes	n/a
South Dakota	1990	No	n/a
Utah	1989	No	n/a
Vermont	1977 & 1996	Yes	Yes
Virginia	1973	Yes	n/a
Washington	1967 & 1993	Yes	n/a
West Virginia	1995	No	Yes
Wyoming	1994	No	Yes

[1]Information was not available.

Source: American Recreation Coalition, National Trust for Historic Preservation and Scenic America. 1996. Key Findings: 1996 Survey of State Scenic Byways Programs. Washington, D.C.: American Recreation Coalition.

While there are many similarities between the state programs, there can be differences in the philosophies and objectives behind these programs. For example, the California, Oregon, and Vermont programs designate routes primarily on the basis of aesthetics and preservation of resources, while tourism considerations play a more important role in Texas, Tennessee and Maryland (FHWA, 1996). Comparisons between state programs based on this limited amount of information is cautioned, however. Differences in state program criteria, objectives, and philosophies greatly affect the number of byways designated as well as the length of each byway.

Private Sector Programs

The American Automobile Association (AAA) has the only private sector scenic byway program that evaluates routes at a national level. Over the years, AAA received appeals from its members to indicate scenic roads on the AAA maps. AAA's professional road reporters, who drive the country's roadways gathering information for AAA programs, started to evaluate scenic roadways on an ad hoc basis. In the late 1960s and early 1970s, information on scenic roads was included for the first time on each map. AAA started to develop a formal scenic byway program in 1979 when they established five categories of scenic routes: natural beauty, cultural interest, quintessential scenery, unique features, and roads designated in a public lands Scenic Byway program. In 1996, AAA had designated 543 byways totaling 27,375 miles (AAA, 1995). Their program is dynamic, with roads continuously being evaluated for designation or redesignation.

Future Trends

Interest in Scenic Byways and all of the scenic byway programs continues to gain momentum. While scenic byway initiatives have long proven to be popular in the U. S., the initial success of the National Scenic Byways Program has had a significant extended effect. Eighteen states started a program through funding from the national program. Several existing state programs have been improved with national program grants. This seems to be a continuing trend, with additional states currently working on the development of scenic byway programs. Scenic byway grant funds from the National Scenic Byways program have served as seed monies for 552 scenic byway projects at the state and local levels. When combined with other funding and initiatives, these projects have worked to preserve and protect the unique qualities of these special routes while simultaneously promoting them for the enjoyment of the byway traveler.

The Intermodal Surface Transportation Efficiency Act (ISTEA), the enabling legislation for the National Scenic Byways program, comes up for renewal at the end of fiscal year 1997. The administration's proposed new ISTEA legislation, NEXTEA (National Economic Crossroads Transportation Efficiency Act), if it passes, would continue with a fairly consistent treatment of the National Scenic Byways program (FHWA, 1997b). The Scenic Byways program is generally considered to be an ISTEA success story (Schoener, 1997).

The USDA Forest Service's National Forest Scenic Byway program and the BLM's Back Country Byways program have increasing interest that is expected to continue. The Forest Service is currently screening to determine which routes represent the best in their program. Selected byways will be reviewed for potential nomination to the National Scenic Byway program. The Forest Service also plans to work closely with the states to have national forest Scenic Byways considered for designation in state programs. Similarly, the Bureau of Land Management is currently reviewing BLM back country byways to determine which meet the criteria for the National Scenic Byways program.

Partnerships between interested groups have been a key to the success of many scenic byway initiatives. The protection of Scenic Byways as unique national assets have been supported by various government authorities, public and private organizations, and grass roots organizations. These partnerships have created unified attention to the values and benefits of scenic byway initiatives. While it has taken time for partnerships to develop, the long-term viability of scenic byway programs will be better protected in the long run. The increasing emphasis throughout the U.S. on community values, national pride, environmental protection, historic preservation and overall quality of life should continue to complement scenic byway efforts and initiatives.

Watchable Wildlife

(By Kimberly H. Anderson, USDA Forest Service, Rocky Mountain Region, Lakewood, CO)

Numerous national studies, including the President's Commission on Americans Outdoors (PCAO), have identified wildlife-associated recreation as extremely popular for millions of Americans. The PCAO encouraged educators to integrate environmental education into basic school curriculums and federal resource agencies to play a greater role in providing viewing opportunities for people to experience the nation's wildlife resources.

In response to the PCAO, a report entitled "Watchable Wildlife: A New Initiative," was published by Defenders of Wildlife in cooperation with the Bureau of Land Management, U.S. Fish and Wildlife Service, and the USDA Forest Service. This report launched the national Watchable Wildlife effort (Vickerman 1989).[23]

[23]"Watchable Wildlife: A New Initiative" is available from Defenders of Wildlife, Portland, OR. (503) 293-1433. $5.00.

The initiative provided a framework for federal and state agencies and private conservation groups to unite a number of scattered efforts to provide new recreational, conservation, and educational opportunities.

A national memorandum of understanding (MOU) for Watchable Wildlife was prepared and signed by the major participants in December, 1990. The purpose was to encourage cooperation among diverse agencies and groups in developing partnerships to establish Watchable Wildlife programs across the country. The MOU outlined five goals for the Watchable Wildlife program: recreation opportunities, economic development, educational programming, conservation, and partnerships. Partnerships are a critical component to strengthen, diversify, and coordinate the variety of efforts already underway to provide quality viewing opportunities. Original participants included 10 federal agencies, a coalition of state agencies represented by the International Association of Fish and Wildlife Agencies and four conservation groups. The MOU has been amended twice, first to extend its life until December 1998, and second to diversify the participation by adding five additional groups.[24] Current participants now include:

American Birding Association
Defender of Wildlife
Ducks Unlimited
Humane Society of the United States
International Association of Fish and Wildlife Agencies
National Fish and Wildlife Foundation
The Izaak Walton League of America, Inc.
Wildlife Forever
Bureau of Land Management
Bureau of Reclamation
Department of the Air Force
Department of the Navy
National Park Service
USDA Forest Service
U.S. Fish and Wildlife Service

The Watchable Wildlife Program

The National Watchable Wildlife program is a cooperative coalition of public and private groups working to meet Americans' interest in wildlife-associated recreation. Some of the activities which fall under the Watchable Wildlife umbrella include observing fish, viewing flowers, general nature study, butterfly gardens, visitor center interpretive displays, aquariums, and fish hatcheries. Watchable wildlife operates on the premise that with ample and accessible opportunities to learn about nature, viewers will become more effective advocates for wildlife, native plants, and aquatic species conservation. The program is implemented through federal and state agencies and non-governmental entities, working in partnership to develop:

- A network of nature (wildlife, fisheries, and wildflower) viewing sites. Sites are selected based on a number of criteria such as ability to withstand public use, accessibility, safety, ecological significance, scenic quality, and viewing probability.

- A wildlife viewing site signing system. The binocular logo was adopted by the Federal Highway Administration to designate viewing areas. Signs featuring the logo identify the sites and are strategically placed along highways and secondary roads to direct viewers to the sites.[25]

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[24]The MOU for the National Watchable Wildlife Program underwent revision during 1997.

[25]California provides a good example of an extensive system of clearly identified and signed Watchable Wildlife sites, now found in all of the state's counties. The California Division of Tourism is very involved and supportive of the program and has identified viewing sites with the binocular logo in their maps.

- A series of Watchable Wildlife viewing guide books, which include wildlife, wildflower, and fish viewing sites state to state. To date, 34 state wildlife-viewing guides have been published in partnership with the lead organization, Defenders of Wildlife, publisher Falcon Press, dozens of state fish and wildlife agencies, and other national and local partners.[26]

- An increase in the general public awareness and support for the conservation of natural resources. This is accomplished through environmental education programs that promote sound and safe viewing practices, skills to minimize human impacts, a connection to the land, and a fostering of land and water stewardship. These experiential outdoor learning opportunities teach visitors about wildlife, fish, wildflowers, and other natural resources through interpretive signing, guide books, festivals, walks, ranger talks, etc.

Case Study—USDA Forest Service NatureWatch Program

The Forest Service has been a driving force behind development of the National Watchable Wildlife program. In 1988, the agency started "Eyes on Wildlife," its first Watchable Wildlife program which predated the MOU by about a year. Later, as nature viewing activities, opportunities, and interest increased across the wide spectrum of watchable species, a broader scope for the program was desired. In 1994, the Forest Service adopted the term "NatureWatch" for its national viewing, education, and conservation program. The NatureWatch program highlights three areas of outdoor viewing: Eyes on Wildlife (the original emphasis on wildlife), FishWatch (fish and aquatic ecosystems), and Celebrating Wildflowers (native plants and wildflowers). In 1996, there were over 840 nature viewing sites on national forests and grasslands and an additional 285 sites were identified for development (USDA Forest Service, 1997). Further, the Forest Service had established 82 sites for fish viewing.

All three components of the NatureWatch program are cooperative between the Forest Service and its partners. Partners add their perspectives to the diversity of ways to learn about natural resources through educational activities, viewing blinds, boardwalks, festivals, naturalist trails, interactive displays, computer programs, brochures, and classes.[27] Some examples of specific NatureWatch programs follow, including partner commitments and involvement.

Fish Watching, Utah

The Utah Division of Wildlife Resources and the Uinta and Wasatch-Cache National Forest provided opportunities for viewing spawning Bonneville cutthroat trout in the spring and Kokanee salmon in the fall in Utah's Strawberry River, a few footsteps away from the viewing trail. About 500 visitors took part in the spring viewing sessions. The fall viewing sessions had over 5,500 take part, including 460 children in guided school groups.

Conasauga River Snorkeling Trail, Tennessee

Fish watchers snorkel among the 60 colorful and unusual fish species inhabiting the Conasauga State Scenic River through the Cherokee National Forest in Tennessee. Redeye bass and sunfish linger in the deep pools. Alabama hogsuckers, stonerollers and darters flash through shallow riffles. Forest staff lead snorkel tours and give slide shows that help people appreciate the Conasauga River as critical habitat for the Conasauga logperch and other rare and endangered species.

Puget Sound Eyes on Wildlife Partnership Coordinator, Washington

Twenty-six committed partners contributed to the "Puget Sound Eyes on Wildlife" program. Two national forests worked closely with the Pilchuck and Black Hills Audubon Societies, Washington Department of

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[26] There are now 25 guides in the Falcon Press series, and over 600,000 total units have been sold. Four new guides in the Falcon Press series were published in 1996: Alaska, Maine, Nebraska, and Ohio. Four more were published in 1997: New Hampshire, New Jersey, New York, and West Virginia. Kansas, Wyoming, and Michigan all recently produced independently published guides, bringing that total to nine.

[27] An example of the involvement of NatureWatch's partners is that of the non-governmental organization, Wildlife Forever. Wildlife Forever is active in a number of nature viewing activities and is a lead partner with the Forest Service in matching funds for interpretive NatureWatch signs. They continue to explore different approaches to Watchable Wildlife through radio programs, wildscaping for wildlife, and the production of a 15-lesson wildlife curriculum on CD-ROM. "Getting into Golf" with Jack Nicklaus is a program to help develop an appreciation in golfers for the wildlife with which they share the golfing links.

Fish and Wildlife, the Rocky Mountain Elk Foundation and Trout Unlimited to support a coordinator who delivers NatureWatch to Seattle area residents. Projects ranged from an actual 300-pound bald eagle nest exhibit that attracted 4,000 visitors, to printing 10,000 copies of a bird checklist and developing exhibit materials for the Boyd Creek Riparian Interpretive Trail.

Taylor Creek Viewing Bridge and Stream Profile Chamber, California

Visitors are able to view aquatic life without disturbing them or getting wet when they visit an underground stream profile chamber with a 30-foot window into "Life in the Fast Lane." The salmon viewing bridge, "spawnsored" by the California Tahoe Conservancy and the Lake Tahoe Basin Management Unity, allows visitors to watch spawning salmon without eroding the stream banks, or disturbing the "nesting" fish. Other sights can be seen from the Taylor Creek Meadow Wildlife Viewing Deck including mountain scenery, deer, and osprey, nesting geese, and other mammals. The Kokanee Salmon Education program draws 120,000 people yearly, including thousands of school children to learn about stream ecology.

Celebrating Wildflower Events, Kentucky

The Kentucky Department of Fish and Wildlife and Kentucky Native Plant Society each joined Kentucky state parks and the Daniel Boone National Forest in putting on natural resource weekends at Natural Bridge State Park to promote the enjoyment and education of native plant and herptofauna resources. The annual Wildflowers Weekend attracted 300 people to kickoff Celebrating Wildflower activities on the forest. The annual herpetology weekend attracted 200 visitors. It was also filmed by the outdoor television show *Kentucky Afield* and aired to more than 80,000 Kentucky viewers. Both programs used slide shows, field trips, examples of plants and animals and a photography workshop.

Raptor Festival, Montana

The highest number of golden eagles in North America soar over Montana's Bridger Bowls Ski Area each October. The Bridger Bowl Ski Corporation, HawkWatch International, Montana Department of Fish, Wildlife & Parks, and Wild Birds Unlimited joined with the Bridger National Forest to offer a Raptor Festival, attended by 2,000 people. Participants hiked to the ridge top to identify eagles and hawks and attended raptor education workshops. A new raptor display installed at the ski area provides year-round interpretation of the number one golden eagle flyway in the United States.

"People and the Land: Our Siskiyou Heritage," Oregon

The Siskiyou National Forest and 47 partners sponsored and put on a four-day event titled "People and the Land: Our Siskiyou Heritage" on the 25th anniversary of Earth Day. Their purpose was to interpret the relationship between the inhabitants of the Siskiyou region and their environment, both historically and currently. The booths utilized hands-on exhibits and one on one interaction. Over 5,000 people attended the event, including 2,500 school children. Partners included the Bureau of Land Management, two colleges, two historical societies, National Park Service, Girl Scouts of America, nature organizations, Indian tribes, and others.

Schoolyard Wild Landscaping, Colorado

The National Watchable Wildlife Conference, held in Estes Park, Colorado in 1995, inspired the community, Arapaho-Roosevelt National Forest staff, and many local partners to work with students and teachers to transform the town's schoolyard into a wildland garden. High school students constructed bat houses; first graders hung their handmade birdhouses, and a biology class planted a native garden resistant to drought. The Boy Scouts planted fifty new native tree species. Now teachers are able to step with students into an environmental education classroom through their back door. The school hopes to designate their school site as a NatureWatch site with their own binocular logo.

International Migratory Bird Day, Arizona

In southern Arizona on the Coronado National Forest a fortunate "birder" can find elegant trogons. Newcomers and expert birders are drawn to Sabino Canyon National Recreation Area for birding tours of the sky island ecosystems, backyard landscaping for birds, trogon research and neotropical migratory bird conservation. The 1996 International Migratory Bird Day attracted 750 visitors, of which nearly a quarter were Hispanic. Tucson Audubon Society, Arizona Game and Fish Department, a local raptor group, the Sabino Canyon Volunteer Naturalists, and Forest Service staff all participated in the event.

Wildlife Viewing Guide, Illinois

Efforts by a Shawnee National Forest Watchable Wildlife team led to the inclusion of nine forest sites in the Illinois Wildlife Viewing Guide, published in 1996 in cooperation with the Illinois Department of Natural resources. These nine sites provide some of the best wildlife viewing opportunities in the state.

Other National Non-Consumptive Wildlife Efforts

In addition to the Forest Service's NatureWatch and its partners, and the National Watchable Wildlife Memorandum of Understanding, there are other significant national collaborative efforts toward promoting conservation through viewing. They include:

1. Celebrating Wildflowers

The Native Plant Conservation Initiative is a national consortium of nine federal and nearly 60 non-federal cooperators focusing on the conservation of the Nation's native flora. The group promotes public awareness preserving these natural resources through education, photography, and viewing. They participate in Celebrating Wildflowers Week, the third full week in May, which is the kick off for wildflower events that happen nearly year round. Events include walks, talks, wildflower festivals, displays, brochures, posters, a Celebrating Wildflower events calendar, and a national Celebrating Wildflowers Hotline number to call for bloom reports between April and August. During Autumn, this telephone number then becomes a hotline for Fall Foliage viewing.

2. Fish Watch

In 1996, a session was held at the American Fisheries Society Conference entitled "How to Make Fish As Popular As Dinosaurs." Representatives from most federal and state agency groups attended, as did a variety of conservation and business groups. The purpose of the session was to explore ways to engage the public in conservation of fisheries and aquatic resources. The approach was education and hands-on events for children to learn about fish biology, aquatic species, ecosystem health, clean water, and watersheds. Pathway to Fishing, Adopt a Watershed, and Future Fisherman's Foundation are just a few of the national efforts underway. These groups are committed to the conservation of fisheries and aquatic resources through educational programs, stream profile viewing chambers, over-water platforms, river snorkeling, fish festivals, Fran and Francis fish mascots, fish story telling tents, casting clinics, and fish derbies.

3. Partners in Flight

Public and private organizations and businesses are also taking action to help reverse the decline in many migratory bird populations. Groups involved include Harcourt Brace, Wild Bird Feeding Institute and National Bird Feeding Society, Phillips 66, Swift, Department of Defense, National Fish and Wildlife Foundation, U.S. Fish and Wildlife Service, USDA Forest Service, and others. International Migratory Bird Day is celebrated each May to help conserve migratory birds and their habitats between Canada, the United States, Mexico, the Caribbean, and South America.

STATE LAND AND WATER RESOURCES FOR OUTDOOR RECREATION

State land and water resources are generally somewhere between the mostly resource-oriented opportunities provided by the federal agencies and the facility-oriented opportunities provided by local government and the private sector. State-owned recreation resources cover less area than federal resources. They tend to be somewhat more developed, however, offering more services at locations usually closer to population centers, especially in the eastern United States. On the other hand, State resources are not consistently developed to the degree of most urban and local government parks, and many have significant acreages of wildland. In many ways, though, State land and water resources provide their own spectrum of opportunities similar to what is offered across all levels of government and the private sector. See the accompanying article, "The State Government Role in Outdoor Recreation" for the perspective of a State outdoor recreation professional.

State-owned outdoor recreation resources are dominated by state parks. A detailed report on the 50 state park systems is presented in the next section. A number of other significant state-owned and managed resources, however, also play important roles in outdoor recreation. They include: State trails programs, state forest systems, State Fish and Wildlife land, State-designated wilderness, and State-designated scenic rivers. State resource systems are difficult to summarize because of variation in resources, policies, and definitions. Management styles for fish and wildlife resources vary considerably. State Forest systems range widely in

scope and funding. The National Association of State Park Directors (NASPD) produces a summary report of all state park systems. Even this effort suffers from difficulty in controlling data collection over multiple periods of time. The NASPD presents trend data between 1991 and 1995. But trend data were nearly impossible to obtain for forest and fish and game programs.

The State Government Role in Outdoor Recreation

(By James DeLoney, Program Head of Consumer Research, Texas Parks and Wildlife Department, Austin, TX)

In the compendium of outdoor recreation providers there are federal, state, and local governments; the private commercial sector; the quasi-or non-profit sector; and the individual. Twenty-seven of the most recent Statewide Comprehensive Outdoor Recreation Plans (SCORPs) available, dated in the late 1980s and 1990s, served as the primary sources to develop this article on the State role in providing outdoor recreation. SCORPs document issues, actions, programs, and trends occurring in states, and give insights about the diverse roles state governments play in outdoor recreation and tourism. States have been producing SCORPs since the mid 1960s as a requirement to participate in the federal Land and Water Conservation Fund Program. Several examples are given about the experiences of the Texas Parks and Wildlife Department as a state government provider of outdoor recreation.

Over time the desires of the populace shape the role of each level of government, including the roles state governments play in the provision of outdoor recreation and resource-based tourism. Roles of state government are two-fold: (1) to manage, protect, and conserve the state's natural and cultural resources; and (2) to provide outdoor recreation, environmental education, and cultural/historical interpretation. To this end, state agencies:

- Operate and maintain a system of public lands, including state parks and wildlife management areas;
- Monitor, conserve, and enhance the quality of rivers, streams, lakes, public and private lands, coastal marshes, wetlands, bays, beaches, and Gulf waters;
- Manage and regulate fishing, hunting, and boating opportunities and activities;
- Assist public and private entities in providing quality outdoor recreation opportunities;
- Cooperate with other governmental entities in these areas (Texas Parks and Wildlife Department, 1994).

The most visible role that state governments play in the provision of outdoor recreation and resource-based tourism is the operation and maintenance of state park systems. Sites comprising state parks systems range from large natural areas to small historical sites. State park systems range in size from less than 10,000 acres to over 3.2 million acres (National Association of State Park Directors, 1996). Generally, state parks fill a niche between the larger, more significant federal national parks and the smaller, more intensely developed local parks. Results from surveys of Texas citizens reveals that the public prefers state parks that (a) are located outside of cities in a rural natural setting near a freshwater stream or lake; (b) serve as many people as possible, including tourists; (c) are a place where people can feel secure; (d) are properly maintained before the state purchases new park sites; (e) have reasonable entrance fees, but not so high to prohibit access to lower income families. Popular with state park visitors are good, clean restrooms; trails; wilderness or natural areas; abundant wildlife; and camping and fishing facilities, all presented to them by a friendly, informative park staff (Goldbloom 1991; DeLoney, Eley, & Dziekan 1996).

A significant role of state governments is the preservation of natural resources sought by recreationists and tourists, accomplished largely through state parks. State governments also play a significant role in the conservation and management of the state's wildlife populations. Nature tourism, which is dependent on the conservation of natural and wildlife resources, appears to be an international phenomenondestined for greater popularity and economic importance.

State governments regulate many activities which directly or indirectly impact outdoor recreation and tourism. Regulatory functions range from reservoir development, freshwater instream flows, water quality, hunting and fishing for sport and commercial activities, to sand and gravel permits in freshwater streams. These are just a few of the hundreds of licenses and permits controlled by the states.

Current Trends, Issues And Other Forces of Change

Changing Preferences

Public values drive trends in outdoor recreation participation. An example of a current trend in outdoor recreation participation is the shift from consumptive (e.g., hunting) to non-consumptive (e.g., bird watching) uses of wildlife. It is often difficult for state governments to provide outdoor recreation opportunities as quickly as changes in outdoor recreation participation occur. The management of state parks and wildlife management areas in Texas illustrate this point. Visitation to Texas state parks exceeds 20 million annually, while visitation to wildlife management areas remains low, even though non-consumptive uses of wildlife in Texas are popular. The reason is that state parks were designed, developed, and staffed to support visitors, while wildlife management areas were managed from a biological perspective to support wildlife rather than visitors.

Accordingly, state park managers encouraged visitation while wildlife management area managers concentrated on wildlife management. Plans are now underway in the Texas Parks and Wildlife Department to make the wildlife areas more accessible to the public. The planning, development, and staffing of an infrastructure at wildlife management areas to support the rapid increase in the non-consumptive uses of wildlife is a lengthy, expensive process. It will take years before the recreational opportunities on the wildlife management areas can meet the public demands for non-consumptive wildlife opportunities.

Societal Trends

Shifts in values result in state governments having to deal with situations quite different from the past. One of the most dramatic trends has been in the composition of the American family. State park visitation tends to be a predominantly family–oriented activity. In Texas, the individual least likely to visit a state park would be single or a single parent (Goldbloom, 1991). Changing characteristics of the American family present state government outdoor recreation and tourism providers with challenges. How can the increasing numbers of "nontraditional" families be attracted to visit state outdoor recreation and tourism areas? How will state government outdoor recreation providers meet the special needs of such families? For example, the needs of a mother visiting a state park with children may differ from the needs of a family accompanied by a father.

The urbanization of America is another trend which has affected state-provided outdoor recreation opportunities, most notably hunting. In years past, fathers who lived in rural areas taught their sons to hunt. Today, 70 percent of the U.S. population lives in urbanized areas, and fewer fathers live in the same household with their children. Some states, including Texas, are attempting to get women more interested in the outdoors. Since 1993, over 1,500 women in Texas have participated in a workshop titled "Becoming An Outdoors Woman" (Dziekan, DeLoney, & Eley, 1997). Whether or not past levels in hunting participation can be sustained in view of these societal changes remains to be seen.

Research studies have shown correlations between participation in outdoor recreation activities and the age and race of the participant. Continuing shifts in the age, race, and family composition of the population will impact future outdoor recreation participation, particularly at state parks where family visits dominate and certain racial groups have been under represented. While the overall participation can be expected to increase due to the increase in population, increases in non-Caucasian races and the elderly age groups may result in declines in statistics such as the proportions of the population participating in outdoor recreation activities.

Resource Trends

Of the statewide issues identified in the 27 SCORPs reviewed, resource conservation occurred most frequently. A common thread among the states was to ensure the conservation of the natural, cultural, and historical resources upon which outdoor recreation and tourism depend. This finding may indicate to state government planners and managers the most important role for state park systems, a role supported by public values.

Budgets are another strong driving force influencing changes in the role of state governments in outdoor recreation and tourism. In the SCORPs, funding for parks and recreation was cited second most often as a statewide issue. National, state, and local funding for parks and recreation fails to keep pace with public demand for quality outdoor recreation opportunities. Funding has been a perennial statewide issue for years in many states (DeLoney, et al., 1996). The elimination of Federal Land and Water Conservation Fund (LWCF) moneys to states escalated funding problems for state governments. Texas received over $254 million (in 1994 dollars) in LWCF moneys from 1965-1995 (DeLoney, et al., 1996) to fund 923 park projects, 66 of which

were state parks (Urbina, 1997). State and local funds have to make up this shortfall at a time when it seems unlikely that governments will raise taxes for the purpose. Further, the Texas Parks and Wildlife Department no longer receives funds from general revenues to operate state parks, and the department is attempting to become self-sufficient at a time when the Texas State Park System faces an estimated $185 million backlog in maintenance and repairs. These trends require the agency to recover a greater portion of operation and maintenance costs from user fees at Texas state parks. Other states report similar trends. The perennial funding issue will continue far into the foreseeable future.

Current Interests, Marketing Initiatives, and Directions

State governments, like other levels of government, are tasked with meeting growing outdoor recreation needs without corresponding increases in budgets. State governments are having to rely more and more on marketing initiatives to meet increasing demands. Since 1991, the Texas Parks and Wildlife Department (TPWD) has worked closely with a Texas A&M University marketing professor to revamp its pricing structure for state parks. Further, the department created its own marketing branch in the agency.

There are two key reasons for state governments' interest in marketing. First is the need to understand their customers from a marketing perspective. Second is the overriding need to improve budget situations to make visitors incur more of the cost of providing the outdoor recreation opportunities. A public opinion survey of visitors to Texas state parks found that 61 percent agreed that "user fees and entrance charges to state parks should be set high enough to cover a park's operating cost" (Wall & Crompton, 1995).

Although state governments have started applying marketing concepts used by the private or commercial sector, there is room for improvement. For example, state parks are designed and developed as a product using master planning concepts which do not conform to current marketing principles. Attempts are then made to attract visitors, or customers, to the product. Current marketing concepts require customers to be involved in determining the product they will be offered (Crompton & Lamb, 1986).

Another marketing initiative taken by state governments is the establishment of 501 (c)(3) foundations. In Texas, donations and sponsorships are channeled through the Texas State Park Foundation. Foundations give the state agencies more flexibility, enabling them to accomplish goals which would be either impossible or difficult for the state agency without the assistance of the foundation. Other initiatives in Texas include the aggressive promotion of state parks, greater emphasis on the TPWD's public image and relationship with the public, and revamping consumer research to address all of the agency's outdoor recreation and tourism customers. Other states have implemented similar changes to place greater emphasis on marketing and customer research. Other marketing initiatives taken by state governments to improve outdoor recreation opportunities and services include centralized reservation systems for visitors; acceptance of credit cards; packaged tours at state managed sites; outreach to under-represented socio-demographic groups such as minorities and women; use of volunteers to supplement full-time staff; and integration of the parks and recreation areas with the local community rather than administering them as islands in local areas.

State governments are very active in tourism. Some states, such as Arkansas, place state parks and tourism in the same agency. Gunn (1994) divides tourism into three sectors: business, nonprofit, and governmental and states that, "Contrary to tourism being an industry or dominated by the business sector, it is developed and managed by another very important sector—government. ...The governmental sector owns and manages much of the infrastructure upon which tourism depends". State governments are rapidly becoming more aware of the importance of the economic impacts of outdoor recreation and tourism. In Texas, tourism was a $23 billion business in 1993 (State Task Force on Texas Nature Tourism, 1994). Visitors to Texas state parks generate an estimated annual economic impact on local communities of over $770 million (DeLoney, et al., 1996). State government outdoor recreation providers are working more closely with the tourism industry and other private or commercial businesses who provide products and the infrastructure needed for people to engage in outdoor recreation and tourism. This cooperative interest is likely to continue.

Future Trends, Issues, and Directions of State Governments

State governments will face future trends similar to current trends. The trend to run state governments more like businesses will continue well into the foreseeable future. State governments have one major complicating factor, however, in trying to run governmental entities like businesses—political considerations. It is doubtful whether a governmental entity can operate entirely like a business given political realities. Elected political officials may not support dedicated funds because they lose the flexibility to react to other priorities in the budgetary process.

Coupled with the issue of dedicated funds is the problem of employee motivation. For any business to prosper, employees must be motivated. To increase state park revenues, park employees responsible for implementing revenue increases must receive benefits from their efforts. They must, for example, see the revenues they generate come back to their park or at least to the state park system. State park visitors are more receptive to higher fees if they see improvements made in the park with the higher fees. If revenues go back to the general treasury for the elected officials to disburse rather than to the park to improve the quality of visitor service, then the quality of service does not improve and the visitors are left dissatisfied.

State governments can expect the quality of the visitor's experience to become more of an issue in the future. As park visitors are charged higher fees, they expect corresponding increases in the quality of service and amenities they receive for the higher prices (More, Dustin, & Knopf, 1996). There appears to be a link between high service quality and long-term customer loyalty (Backman & Veldkamp, 1995). LaPage (1995), a former state parks director, makes the following observation about the quality issue:

> The rewards for failing to improve the quality of public use can only be more restrictions, more deferred maintenance, more loss of heritage, less diversity, and reduced feelings of pride of ownership. Conversely, a commitment to improving the quality of public use and expanding the public's responsibility for its own resources can provide real assurance of park perpetuity.

In the future, the decisions of state government leaders will continue to determine the quality of visitor services and experiences. Decisions such as staff freezes and reductions, budget reductions, park closures, and the operation of parks for political reasons rather than to meet criteria established by the agency may have adverse long-range impacts on the mission and goals of the state agency, particularly the generation of revenues from user fees.

Another issue that state governments must address is unfair competition with the private sector. "Most public park systems have a policy of non-competition with the private sector. Public park pricing practices, however, usually undercut those of close substitutes in the private sector. Public park expansion practices often continue to disregard the private sector's unused capacity..." (LaPage, 1995). Recent price increases in state park fees in Texas have brought prices more in line with prices for similar services in the private sector.

State government entities will face another dimension of this issue in the future. While the private sector challenges state governments to operate more like private business, there is a prevailing sentiment among some in the private sector that any profitable aspects of the operations should be placed in private hands. If the profit-generating aspects of an operation are removed, it is unclear how that entity can continue to operate in a businesslike fashion.

States must deal with one trend both currently and in the future. It is unlikely the federal government will support funding state and local parks from the Federal Land and Water Conservation Fund or urban park spending (Tice, 1997). From 1965-94, LWCF appropriations pumped $6.1 billion (in 1994 dollars) into state and local parks (DeLoney, et al., 1996). This issue is at least two-fold: Where will the money come from to maintain these parks in the future? And how will state and local governments generate sufficient funding over the next 30 years that will not be forthcoming from federal sources? Compounding this issue is the decaying infrastructure which increases maintenance costs (DeLoney, et al., 1996).

The interest of outdoor recreationists and tourists in a diversity of activities will continue into the future. A continuing increase in foreign tourists will add to the diversity of interests. The challenge to the states is how to meet such a wide range of interests in recreational activities and continue to provide opportunities in established but stable activities, such as fishing. The greatest challenge facing state governments in the future may be simply the way they do the business of providing outdoor recreation and tourism opportunities, particularly the integration of revenue generation and business practices with political realities while providing quality visitor experiences. Whoever conducts the business will need to understand outdoor recreation, tourism, economics, politics, business and marketing concepts, and possess the ability to apply these understandings to meet outdoor recreation and tourism demands at the state government level. In the future world economy, outdoor recreation and tourism will become an even bigger business.

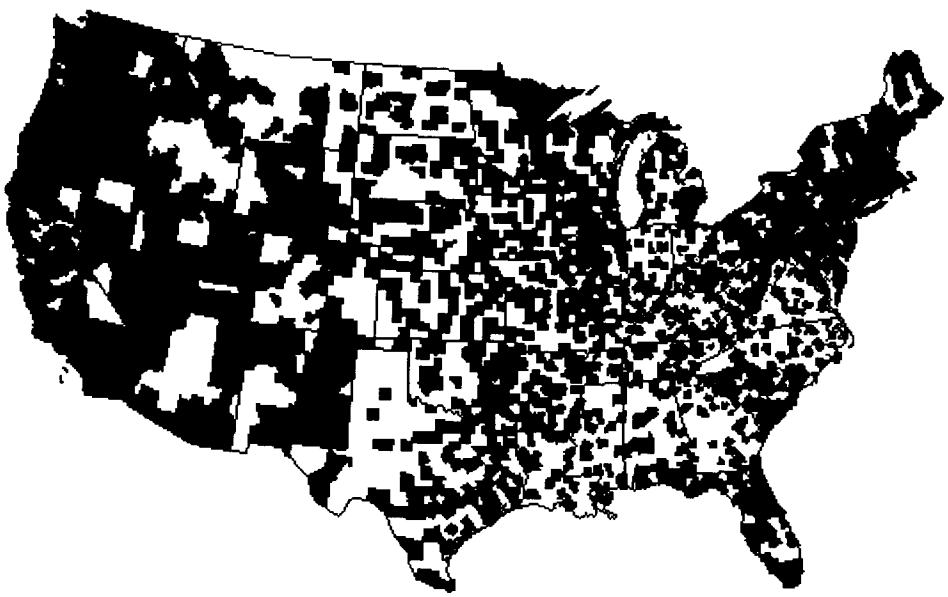
State Park Systems in the United States

(By Daniel D. McLean, Associate Professor, Indiana University, Bloomington, IN)

America's state parks and associated areas provide close-to-home outdoor recreation opportunities. The majority of U.S. counties have one or more state park system areas—a sharp contrast to federal land which is primarily in the West (Figure III.11). Many counties that are designated as 'Metropolitan' or are adjacent to Metropolitan counties contain state park areas (Figure III.12).[28] State park systems provide nearby recreation opportunities for metropolitan residents, especially in the Eastern United States where the majority of the population is. The 50 state park systems share many similarities, but each also has uniqueness.

This section focuses on the common attributes of state parks in the United States, examining their current status. It also describes trends and their potential impacts. Also covered are the types of areas and facilities administered within state park systems. In 1924, the first National Conference on State Parks was convened by Stephen Mather. Since then, state park directors have met regularly. The NASPD has provided a forum for discussion, as well as a wealth of statistical information about America's state parks. For the last 20 years, the NASPD has sponsored the "Annual Information Exchange" (AIX), which gathers data related to development and progress of state parks. Since 1991, data collection has become more consistent. The most current data are for the year ending June 30, 1995.

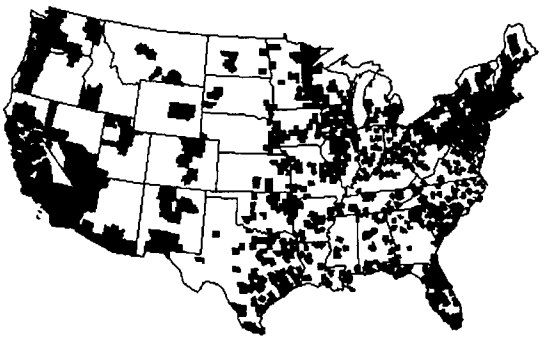
Figure III.11: Counties with State Parks or Recreation Areas, 1995



Source: USDA Forest Service. State park database compiled from state DNR literature and brochures. 1995.

[28]Metropolitan designation of U.S. counties was done by the USDA Economic Research Service, Rural Economy Division, Calvin Beale, Demographer, 1993.

Figure III.12: Counties with State Parks or Recreation Areas that Are Either Classified as Metropolitan or Are Adjacent to Metropolitan Counties, 1995



Source: USDA Forest Service. State park database compiled from state DNR literature and brochures. 1995. County Typology Codes. USDA Economic Research Service, Rural Economy Division. 1993.

Inventory of State Park Areas

State park agencies administer a wide variety of areas, eight distinctive and two collective. The categories of areas include state parks, recreation areas, natural areas, historic areas, environmental education areas, scientific areas, state forests, State Fish and Wildlife areas, other areas, and miscellaneous areas. Definitions established by the NASPD insure better consistency in reporting. The inventory makes it clear that state park agencies manage far more than parks.

Trails are a very important recreation resource managed by state park agencies. They are not included among the eight system areas, but are treated separately. The 1996 AIX reports 1,353 state trails totaling 15,390 miles in the United States. These totals do not include trails in state parks or other agency areas. Almost every state park agency or other state government agency manages a program specifically for trails (in some states, more than one). Program functions go beyond managing state trails to statewide trail planning, technical assistance to local governments and other trail groups, grants administration, and a variety of other purposes. State trail programs are covered later in the chapter.

Depending on the legislative mandate of a particular state, most agencies manage a variety of different types of areas. Eight state park agencies administer state forests, but most states have a separate state forestry agency. In contrast, one state reported having no state parks in both the 1992 and the 1996 AIX reports. However, this same state has almost 42,000 acres administered by its "state park agency." State legislative bodies which designate the types of areas in a system impact the agency's ability to report within NASPD predetermined definitions.

The state park estate is quite large, though it is just a fraction of the size of the federal estate. In 1995, state park agencies reported administering more than 5,500 areas (Table III.15). About 92 percent of the areas were open and in operation. The North region has more than twice the number of areas as any other region, and almost half of the national total. From 1991 to 1995, the total number of areas in the system increased by 32 percent, a net gain of 1,267 areas. The number of operating areas increased by 37 percent. As expected, state parks represent the largest single type of area administered with one-third of the total units (Table III.13). Recreation areas, natural areas, historic areas, and "other" areas round out the top five.

Table III.15: Number and Area of State Park System Areas by Type of Area and Region, 1995

Type of Area	Region									
	North		South		Rocky Mountains		Pacific Coast		U.S. Total	
	Number	Area[1]	Number	Area[1]	Number	Area	Number	Area[1]	Number	Area[1]
State Parks	1,023	2,144.8	388	858.6	202	804.2	238	4,018.0	1,851	7,825.6
Recreation Areas	115	179.6	124	106.5	135	193.3	395	764.6	769	1,244.0
Natural Areas	218	115.5	86	622.9	242	191.5	76	98.2	622	1,028.1
Historic Areas	184	15.8	168	29.1	101	26.6	94	17.1	547	88.7
Environmental Education Areas	42	88.6	3	4.7	6	5.9	0	0	51	99.2
Scientific Areas	89	10.6	0	0	0	0	0	0	89	10.6
Forests	274	770.1	0	0	0	0	0	0	274	770.1
Fish and Wildlife Areas	45	102.7	1	0.2	423	307.1	0	0	469	410.1
Other Areas	205	47.5	32	44.8	49	3.4	203	49.1	489	144.8
Miscellaneous Areas	300	178.2	32	8.5	6	2.1	44	1.6	382	190.4
All Areas	2,495	3,653.3	834	1,675.3	1,164	1,534.1	1,050	4,948.6	5,543	11,811.3

[1]Numbers may not sum exactly to totals because of rounding.

Source: National Association of State Park Directors, *Annual Information Exchange*, 1996.

State park system areas totaled approximately 11.8 million acres (Table III.15). The size of the state park estate varies considerably by region and by type of area. The Pacific Coast (including Alaska) has over 40 percent of the total state park system acreage in the United States. Alaska by itself has more than one-fourth of the U.S. acreage, despite having just 2 percent of the areas. Excluding Alaska, the North region dominates acreage as it does areas with about 43 percent of the total land area in the other 49 states. State park system acreage increased by slightly more than 850,000 acres (about 8 percent) between 1991 and 1995. Among the types of areas, state parks dominate in acreage, accounting for just under two-thirds of all acres managed (Table III.15). Recreation areas are a distant second at about 11 percent and natural areas third at about 9 percent of the total estate acres. Even though state park agencies administer a variety of areas, their primary business is state parks. Alaska contains an exceptionally large portion of this land. With respect to state parks proper, Alaska's 2.89 million acres represent 37 percent of the national state park total of 7.83 million acres. Alaska also has almost one-quarter of the nation's 1.24 million acres of State Recreation Areas.

The Rocky Mountain region has the most natural areas, but the South has the most acreage set aside for this type of area. Texas and Florida account for more than 430,000 acres of the South's natural areas. Between 1991 and 1995, there was a 60 percent increase in the number of defined natural areas, but only a 7 percent gain in area. Natural areas in the Rocky Mountain region grew at the rate of 166 percent over that period and the Pacific region reported a 62 percent growth rate. Alaska reported no new natural areas. Colorado reported an increase in the number of natural areas from 70 to 200, and acreage of natural areas increased 31,000 acres. Every region showed some growth in natural areas, but the South reported the slowest growth.

Historic areas are more equally divided among the four regions. The North has the largest number and the South has the most acreage. Among states, California manages the most historic area acreage, over 13,500 acres. Growth in historic areas from 1991 to 1995 has been moderate, a 7 percent increase in areas and a 15 percent gain in acreage. Environmental education and scientific areas are almost exclusively in the North with 82 percent of the classified education areas and 89 percent of the area. The Rocky Mountains and South regions also have environmental education areas, but their numbers are very small. All of the scientific areas are in the North. The growth of environmental education and scientific areas was dramatic between 1991 and 1995. There were 22 environmental education areas reported in 1991 and 51 areas in 1995. Illinois grew fastest, from none in 1991 to 23 in 1995. Growth of scientific areas was even more dramatic, from five areas in 1991 to 89 in 1995. All of the increase occurred in Iowa, which had no scientific areas in 1991.

State forests present somewhat of an anomaly to the reporting process. Most states have their own forest resource management administrative units. Eight state park agencies in the North report having some forest management responsibility. The data do not clarify whether separate forest management units are present in each state. No other region reports having any units designated as forests in their state park systems. Fish and wildlife areas constitute 3.5 percent of the state park estate area. This category also represents a function administered by a separate agency in most states. The Rocky Mountain region has 90 percent of the areas and 75 percent of the acreage. Kansas accounts for 23 percent of fish and wildlife areas and 68 percent of the acreage. West Virginia and Illinois also have a substantial number and size of fish and wildlife areas. Nationwide, fish and wildlife areas managed by state park agencies increased from just 49 in 1991 to 469 in 1996. It is likely that transfers of authority, changes in classification, and varied interpretation of how to report areas accounts for a major portion of the reported change.

State park system areas identified as "Other" are those not previously identified. They are considered special or significant enough in a particular State to warrant separate identification and treatment. "Other" areas account for approximately 9 percent of national state park system areas, but only about 1 percent of acreage. The Rocky Mountain Region has considerably fewer acres in the "other" area category than the other three regions, each of which manages more than 40,000 of these acres.

"Miscellaneous"areas, those that are not easily categorized or distinguished enough to be classified, total 1.6 percent of the state park estate area and just under 7 percent of the areas. The number of miscellaneous areas increased substantially between 1991 and 1995, but the reported acreage decreased. The data do not provide a clear picture as to why this has occurred. It is probable that miscellaneous areas (which are sort of a catch-all "everything else" category) were added mostly as small tracts of land without easy classification while larger tracts received a formal classification. In some cases, the miscellaneous areas may be used as a holding category while the state park agency determines how to classify them.

Inventory of State Park Facilities

State park agencies manage a large variety of facilities. The most popular and common types of facilities are listed in Table III.16. Campsites are the most common facilities found in the state parks systems. Every State manages campsites, which number almost 200,000 improved and primitive campsites in 2,910 areas throughout the United States. Since 1991, the number of improved campsites increased in every region, highest in the Rocky Mountains at 15 percent. The North has more than twice as many improved campsites as any other region and nearly one-half the national total. One interesting trend between 1991 and 1995 is a 3.5 percent decline in the number of year-round improved campsites. The greatest loss of year-round improved campsites was in the North Region, where 7,500 fewer were reported. However, during the same period seasonal improved campsites increased substantially, especially in the North. It seems likely that some year-round improved campsites have been reclassified as seasonal. During the same period, almost all of the improved campsites added in the South were year-round.

Both primitive campsites and state park system areas with primitive campsites suffered a net loss between 1991 and 1995. Nationally, there were approximately 2,100 fewer primitive campsites and 290 fewer primitive camping areas. All of these losses occurred in the South. Excluding the South, the number of primitive campsites actually increased by almost 2,000. Texas accounted for 83 percent of the reported loss of primitive campsites. Beginning with the 1995 AIX, Texas reported no primitive campsites. During the same period, the number of improved campsites increased by almost 2,200, so it is very likely that Texas reclassified most of its primitive campsites and perhaps closed others.

Cabins and cottages represent a significant part of the state park estate. The North and South account for about 87 percent of the more than 6,000 cabins and cottages in the United States. Only seven States do not have cabins or cottages. These facilities are a distinctive feature of state parks. Between 1991 and 1995, the number of cabins and cottages increased a modest 7 percent. The increase in year-round cabins and cottages was 14 percent compared to a decline in seasonal cabins and cottages of about 5 percent. The increase in year-round cabins and cottages signals a trend towards extending use of state parks.

Table III.16: Number of State Park System Facilities and Percent Seasonal by Type of Facility and Region, 1995[1]

Type of Facility	Region				
	North	South	Rocky Mountains	Pacific Coast	U.S. Total
Improved campsites	71,336 (77)	30,706 (14)	18,216 (39)	21,707 (25)	141,965 (49)
Primitive campsites	16,938 (63)	5,153 (2)	18,605 (10)	9,063 (37)	49,759 (32)
Cabin/cottages	2,728 (47)	2,562 (9)	376 (63)	408 (5)	6,074 (29)
Lodges	43 (23)	53 (0)	7 (86)	7 (0)	110 (15)
Lodge rooms	2,648 (16)	2,681 (0)	200 (80)	609 (0)	6,138 (9)
Golf courses	48 (79)	54 (0)	4 (75)	6 (66)	112 (40)
Golf Holes	748 (75)	837 (0)	54 (83)	72 (63)	1,711 (38)
Marinas	98 (93)	82 (5)	55 (25)	11 (45)	246 (46)
Swimming pools	158 (91)	128 (97)	8 (88)	2 (100)	296 (93)
Stables	35 (83)	23 (61)	13 (62)	4 (50)	75 (71)
Ski slopes	25 (100)	0 (0)	0 (0)	4 (100)	29 (100)

[1] Percentage of facilities which are operated on a seasonal basis is given in parentheses.

Source: National Association of State Park Directors, *Annual Information Exchange*, 1996.

Development of lodges as revenue–producing facilities for state parks has increased by 31 percent since 1991. The North Region had the largest growth with 12 new lodge sites, followed by the South (8) and the Pacific (6). There are 110 total lodges in 109 areas throughout the United States. Only 26 of the 50 reporting States have lodges. Kentucky leads the nation with 15, followed by Ohio, Illinois and West Virginia with 8 each. Eight of the reporting States have only one lodge. Most lodges operate year round, but 16 of them are seasonal. Both Missouri and South Dakota report 5 seasonal lodges. In all, a capacity of over 6,000 lodge rooms was reported, an average of more than 55 rooms per lodge. Year-round lodges tend to be larger than seasonal lodges. The number of lodge rooms grew almost 13 percent between 1991 and 1995.

Golfing opportunities in state parks appear to be growing, but the data are somewhat conflicting. Although there was a net decline of three golf courses between 1991 and 1995, the number of year–round golf courses increased by 11 (8 in the North). We suspect that five courses that had been seasonal now operate all year. Golf participation has grown dramatically in the last decade. Not only is the influence of the sport being felt, but also the potential for golf courses to generate revenue. The bulk of the state golf courses are in the South, as are the number of year-round holes. The North has the most seasonal holes. Between 1991 and 1995, the number of year-round holes in the state park estate grew by 42 percent and seasonal holes available for play increased 95 percent. All of the seasonal golfing holes were added in the North.

The presence of marinas in the state park estate has grown only moderately. Between 1991 and 1995, the number of areas with marinas grew by 5 percent, but the number of operating marinas declined. The loss was all in seasonal marinas; the number of year-round marinas increased. Only 10 states report not having a marina in their system. The Pacific Coast Region has the fewest marinas, probably because so many private marinas exist along the Pacific Coast.

Swimming pools are a regional emphasis in the North and South. Of all pools available, 97 percent are in these regions. The data suggest that the bulk of the pools are outdoors and only in operation during the summer. It is also suspected the 20 indoor pools are associated with year-round lodges. For example, seven of the 20 year-round pools are in Ohio, a State with 8 year-round lodges. Swimming pools continue to be built. From 1991 to 1995, the number of seasonal pools increased 56 percent, while the number of year-round pools declined 46 percent.

Stables are present in all of the regions, although less so in the Western regions. Their number has been relatively constant. Between 1991 and 1995 there was no increase in the total number of stables. Seven year-round stables were eliminated, but seven seasonal stables were added. Stables are the only reported state park facility that did not change between the two reporting periods. Ten states report ski slopes. Minnesota has 14, and Massachusetts, New Hampshire, Pennsylvania, and Washington all report two ski slopes each. Clearly, ski slopes are not prominent in the state park estate, and exist only in States with sufficient snow and cold.

A key trend in the facilities provided by state park systems is the move from seasonal to year-round use. With some exceptions, numbers of seasonal facilities are declining and the numbers of year-round facilities are increasing. Many seasonal facilities are either being converted to year-round facilities or are being closed. The reasons for conversion are probably the increased demand by Americans for year-round recreation and increased financial pressure on state parks to produce revenue. Closure of seasonal facilities is attributable to generation of insufficient revenue to cover costs. State parks are more than just areas to view wildlife and enjoy nature. Increasingly, they are destination resorts or camping destinations. The natural beauty and diversity of recreational and educational opportunities that are accessible to large numbers of people assures a strong role for state park systems in the spectrum of outdoor recreation providers.

America's State Parks—An End-of-Century Assessment

(By Ney C. Landrum, Executive Director, National Association of State Park Directors, Tallahassee, FL)

The state parks of the United States have been a major provider of public outdoor recreation for almost a century. Starting with the designation of a few scattered sites in the mid– to late–1800s, the state park movement gained significant momentum in the 1920s and 1930s with establishment of the first real state park *systems.* Today, the 50 state park systems contain almost 12 million acres in some 5,500 individual units, and host about three-quarters of a billion visitors a year (National Association of State Park Directors: *1996 Annual Information Exchange).* Because of their large number and great diversity, it is difficult to generalize about the state parks. For the most part, however, they concentrate on the provision of *resource-based* outdoor recreation—that is, those types of recreational activities that are supported essentially by the resources (which may be either natural or cultural) of the park rather than by man-made facilities. In this respect, the state parks are similar to the national parks, although typically much smaller in size. With their wide distribution, the state parks are easily accessible to prospective users, and have historically catered to the population base within the general vicinity. In some cases, though, the state parks were conceived primarily as an attraction for principally out-of-state tourists, acknowledging their value for economic purposes in addition to the satisfaction of public outdoor recreation needs.

Although the state parks continue to be an important, if not essential, component of state government services, for the past two decades or so they have found themselves less able to compete effectively with other programs for public funding. In this era of increasingly tight budgets and shifting government priorities, state park programs in some extreme cases have not been funded sufficiently to maintain their status quo, much less to expand to meet increasing outdoor recreation demand. This deteriorating financial situation probably has brought about the most momentous change in state park operating philosophy since inception of the movement.

As noted, the state parks have long acknowledged an economic purpose of varying degree, and by virtue of providing popular services for a fee have assumed an entrepreneurial role as well. Thus, it is a simple matter procedurally to generate revenues through many aspects of state park operations: entrance fees, parking fees, camping and other activity fees, sales of goods and services either directly or through concessions, and so forth. Historically, the state parks have offset a significant portion of their operating costs with such revenues. When the effect of serious budget cut-backs first hit the state parks in the early 1970s, the common response was to raise more revenue through new and increased fees to compensate for reductions in general revenue. The relative ease with which this was done resulted in even greater demands for financial self-sufficiency being placed on the state park agencies. From 1975 to 1995, state park revenues increased by 364%, and the degree of operating cost recovery from 35.8% to 43.0% (National Recreation and Park Association: *State Park Statistics—1975,* and National Association of State Park Directors: *1996 Annual Information Exchange).*

Selected State Park Statistics for the 50 State Park Systems of the United States, 1975-1995

	1975#	1980	1985	1990	1995
State park units	3,804	4,512	4,726*	4,599	5,541
Acreage (1000's)	9,838	9,275	10,175	10,346	11,807
Day visitors (1000's)	465,302	467,051	597,669	664,047	686,483
Overnight visitors (1000's)	51,488	68,204	62,572	60,291	59,121
Full-time staff	18,083	11,192	12,950	15,739	18,980
Part-time staff	26,846	21,168	21,032	25,981	29,861
Operating expenditures ($1000's)	322,276	495,378	740,637	1,060,401	1,244,903
Fixed capital outlay ($1000's)	319,704	490,286	275,788	435,051	275,771
Operating revenue ($1000's)	115,406	180,595	284,657	401,800	535,685

1975 data are from *State Park Statistics—1975,* published by the National Recreation and Park Association, 1977. Remaining data are from the appropriate volumes of *Annual Information Exchange,* published by the National Association of State Park Directors. Because of possible differences in methodology, data from the two different sources may not be fully comparable in every respect.

* The actual published figure was adjusted in this one instance to make it more directly comparable with the corresponding figures for the other years.

Although greater emphasis has, perforce, been placed on revenue generation over the last two decades, the state parks have not deviated materially from their central mission of providing resource-based outdoor recreation opportunities to the public at modest cost. In fact, the parks' ability to offset budget shortfalls through self-generation of revenues has in part enabled steady, if not spectacular, growth to continue in park acreage, facilities and visitation—although not always without conflict and controversy over the side-effects of certain of these revenue measures. Questions have been raised, for instance, about fee increases and the possibility of pricing the state parks out of reach of lower-income families, usually considered a major target user group for such public recreation areas. Another frequently expressed concern is the possibility of over-commercialization—changing the character of the parks with too many revenue–producing facilities, such as lodges, restaurants, golf courses and marinas. Fortunately, most state park systems seek to achieve a balance in their programs, using classification, zoning and similar techniques, so that some areas may be identified for intensive development while others are kept in near pristine condition. To juggle all of the demands successfully, state park professionals today must still be qualified resource managers even as they strive to operate their parks in a more business-like manner to "make ends meet."

A generation ago, a state parks staffer would likely refer to park users as "visitors" or "patrons;" today, the term "customer" is more commonly heard. Semantics aside, that seemingly innocuous variation in terminology signifies a different orientation in the operation of state park programs in this day and time. While the state parks have retained their immense popularity with the public, they seem to have lost some of the status as an important public service that provided the momentum for their establishment in years past. State legislatures, confronted by other pressing demands for government funding, have tended to take the route of least resistance where parks are concerned. Although the level of appropriations for state parks nationwide

has increased steadily over the years (up 286% since 1975 [op. cit.]), it nevertheless reflects a growing dependence on the ability of the parks to generate a substantial part of their own operating funds. This attitude of more or less letting the parks "fend for themselves" has had the practical effect of changing the way many of the nation's state park programs operate.

In their efforts to become more entrepreneurial, the state parks have experimented with a number of approaches for either raising revenue or cutting costs. Merchandizing activities have been greatly expanded, providing for new lines of goods as well as for innovative sales techniques. Retail outlets for park-related merchandise in off-park locations, such as shopping malls, have been tried, as have mail-order catalog sales of similar items. Subsidies from private businesses, in the form of either cash or goods and services, are being pursued successfully in exchange for licenses to operate in state parks or recognition in state park related contexts. New partnerships have been formed with private enterprise to construct and operate major park facilities and, in some cases, to assume responsibility from the state for operating existing park areas. "Privatization," with its infinite variations, is probably the cost-cutting concept generating the most interest in state park circles today.

State park agencies are also looking increasingly to the nonprofit segment of the private sector for help in dealing with current problems. "Friends" groups, support organizations, and foundations of one kind or another have been established in almost every state. These groups of highly-motivated citizens are called on to provide volunteer help in the parks, to raise funds for various projects, and to lobby state legislatures in support of state park programs. In addition to the direct, more immediate results achieved through these efforts, this type of citizen involvement also helps to create a larger, lasting constituent base for the state parks.

Although state parks have been popular outdoor recreation destinations for many years, the overall rate of visitation increase has been relatively modest—up only 44% from 1975 to 1995 *[op. cit.]*. The unused capacity available in the fifty state park systems is undoubtedly substantial. To take advantage of this situation and, not incidentally, generate additional revenues through increased visitation, state park agencies have become more aggressive in recent years in marketing the recreational opportunities of the parks. Such marketing activities take many forms, and frequently involve cooperative arrangements with state tourism agencies. In fact, state parks programs in several states have actually been housed in the agencies responsible for statewide tourism promotion. While this organizational placement has certain advantages, it also has raised some concern that the resource management responsibility of state parks might be compromised by too much promotion and the resulting need to accommodate artificially-induced levels of use. It is still too early to assess the impact of this factor.

While, from a management standpoint, financial considerations seem to have exerted a major influence over the direction state park programs have taken in recent years, the parks themselves have taken on a new aura of importance in this era of heightened environmental awareness and appreciation for nature. State parks, being much more accessible than the national parks and typically more "green" than the local parks, are ideally situated to serve the "back to nature" needs of the American people. The state parks have responded to this demand by continuing to do what they have always done best: provide traditional forms of resource-based outdoor recreation in an essentially natural setting. As the need has grown, the parks have expanded (total acreage has increased by 20% since 1975 *[op. cit.])*, installed basic facilities for access, safety, and appropriate use, and provided an adequate level of staffing to manage the resources and service the visitors (although the ratio of park acreage to full-time staff personnel increased from 544 to 622 between 1975 and 1995 *[op. cit.]*, suggesting a slight decline in overall staff capability). The parks have also continued to emphasize interpretation as their paramount program offering, recognizing the parity of nature appreciation and environmental education with the more traditional forms of active outdoor recreation: picnicking, swimming, camping, boating, hiking, and the like. The fundamental precept of good state park planning is to provide a *balance* of appropriate resource-based outdoor recreational experiences—not necessarily within each park, but within the system as a whole.

The Future of State Parks

America's state parks—while continuing to grow, adjust, and adapt—have essentially achieved maturity as a comprehensive nationwide movement. They have a clearly definable mission, and have situated themselves well to serve their important purpose. While some further expansion of their resource base can be expected, it probably will be opportunistic, adding a new park here and there as circumstances permit. More likely will be continued development of new facilities—especially of the more up-scale variety—designed to draw additional visitors from farther distances. Private capital will be wooed for joint venture projects of likely increasing magnitude. Further experimentation with various degrees of "privatization" of state park operations will undoubtedly occur over the next decade or so.

The greatest uncertainty facing the state parks in the foreseeable future is the matter of unstable funding. This uncertainty, and the probability that the parks will be required to generate an even larger share of their operating budgets, places an unnatural constraint on the ability of park administrators to plan and carry out their program in a manner purely to fulfill the mission of their state park system. Be that as it may, it is expected that the state parks will, through a variety of innovative measures, obtain the funding necessary to maintain their operations at least a minimally adequate level.

One encouraging aspect of state park operations over the years has been the consistently high level of user satisfaction reflected by in-park surveys and opinion polls. Even today, it is apparent from overall user reaction that the quality of experience in the parks has not suffered appreciably from the vicissitudes of park funding and consequent operational adjustments. Managing assets so as to maintain the quality of outdoor recreational experience while still protecting resources remains a real challenge for state park administrators. Because it is much easier to assess visitor satisfaction than resource condition, there is a danger that—especially in times of budget short-falls and limited management options—the former will be selected over the latter as the sole measure of operational success. Maintaining the right balance between use *and* preservation considerations will therefore continue to be the most fundamental issue with which state park professionals have to deal in the years ahead.

State Trail Programs in the United States

(By Roger L. Moore, Associate Professor, North Carolina State University, Raleigh, NC, and Mark I. Ivy, Graduate Research Assistant, North Carolina State University, Raleigh, NC)

Trails are an integral part of the infrastructure of North America. They have been used for transportation for centuries and recreation for many generations. Trails are still essential for recreation and transportation today, but they are also increasingly valuable for a host of other benefits. They generate significant tourism expenditures, improve health and fitness, attract corporate relocations, increase community pride, facilitate environmental education, provide access to other recreation areas, create a sense of place, motivate conservation, and provide open-space protection and much more. The activities that take place on trails are expanding rapidly as are the types of trails being provided including traditional backcountry trails, rail-trails, surfaced multiple-use trails in suburban and urban areas, and greenways. Trails have been and continue to be built and managed by public, private, and nonprofit organizations as well as less-formal trail user groups. Among the most important providers of trail opportunities in the U.S., however, are states. They manage large areas of public land with large numbers of existing trail miles spread widely across their states and are well positioned to facilitate local trail efforts. This section focuses on the trail programs operated by state governments. The objectives are to describe the current status of these programs and to identify the current trends and future issues they will soon be facing.

Description of State Trail Programs

Not surprisingly, the trail programs of the various states are quite diverse. All of the states responding to a survey conducted by Moore (1994) were involved in some aspect of trail development or management, although the programs are located in various state agencies and some do not consider their trail efforts to constitute a formal trails program. In fact, most states have more than one program relating to trails. Staff size of the state trail programs vary from 0 to 40 full time equivalents (FTE) with an average program staff of 2.7. Only about 35 percent of the 52 trail administrators responding were assigned full time to trails in 1994 (including bicycle and/or pedestrian responsibilities). Those who reported not being assigned to trails full time, spent an average of about half their time on trail issues.

Seventy percent of the trail administrators reported that their states had state trail legislation. Washington passed the earliest trail legislation (1967) and Vermont passed the most recent legislation (1994). Just over half of the legislation was passed during the 1970s. The earliest trail staff was hired by California in 1945 and the most recent in 1992 by several states. Nearly half of the programs hired their first staff during the 1970s as well.

The types of activities carried out by state trail programs are varied, as are the priorities attached to each activity. Of 22 different activities included in the survey, the following five were considered to be the programs' highest priorities on average: "providing trail opportunities close to where people live," "staff support for state trails advisory committee," "awarding grants," "developing trail plans," and "providing an interconnected system of trails in our state."

State Trail Plans and Support Information

Thirty-two programs (66 percent) reported that their state had developed a state trails plan since 1974 and over half of those have been revised since 1990. Thirty-two programs also reported that they had a state trails inventory and 24 said their Statewide Comprehensive Outdoor Recreation Plan (SCORP) included estimates of total trail usage or number of users by activity type for their state. Five others reported that they had such information in planning documents other than their SCORP. In terms of support information, 70 percent of the programs reported having trail construction guidelines for bicycle and pedestrian facilities, while about 60 percent had trail construction guidelines for other types of trails. One-third of the state trails programs reported having estimates of the economic impact of trails or trail use in their states.

Sources and Uses of Funds

Most trail administrators estimated that federal land managing agency budgets and state appropriations were the largest source of planning and maintenance funds being expended on trails in their states in Fiscal Year 1993.[29] Most considered the Intermodal Surface Transportation Efficiency Act (ISTEA) funds to be the largest sources of acquisition and development funding, however. Overall, state trail programs spent the largest portion of their budgets on acquisition and development expenditures and the least for administration and planning. All but two of the programs were active in awarding trail grants within their states. These grant programs included various sources of monies including the state appropriations, the National Recreational Trails Fund (NRTF), Land and Water Conservation Fund (LWCF), registration fees, etc. The supply of grant money was not sufficient to meet the demand. Some states, such as Delaware, have initiated a state version of the Land and Water Conservation Fund to try and fill the void created when funding virtually ceased for the state side of the federal program. Other innovative sources of funding used by trail programs include various forms of taxes, license fees, bond issues, and lottery funds.

Trail Trends and Factors Motivating Trail Development

Trail administrators felt that support for and use of trails had increased in all areas over the past five years. Two-thirds reported that overall use was seeing "significant increases" in their states. Trail use was seen as increasing more than support for trails, however. Of all the types of support examined, administrators felt that public support had increased more than any other kind of support during the past five years. Forty percent reported "significant increases" in public support. Volunteer involvement was reported to have increased at a similar rate. The weakest area of support was state trail program budgets. Although 24 respondents (47 percent) reported increases in their budgets over the past five years, 19 (37 percent) reported no change.

Trail administrators reported that the largest increases in use over the past five years had occurred in suburban areas. Increases there were said to have been "minor" by 42 percent of respondents and "significant" by 52 percent. The smallest increases were reported in backcountry areas. Thirty-one percent felt there had been no change in backcountry trail use in their states and six percent reported that use had actually decreased on their backcounty trails. Trail administrators, on average, reported increases in all 10 activities listed in the survey. Mountain bike use, however, was felt to have increased more than that of any other trail activity. Just under 80 percent said mountain bike use had increased, and 25 percent said the increases had been significant. Motorized types of use were felt to have increased less than nonmotorized uses overall (Table III.17).

Table III.17: State Trends in Trail Use Over the Past Five Years by Location and Type

Use	Mean	Standard Deviation	Number Responding
Location			
Use in Suburban Areas	4.46[1]	.61	50
Use in Urban Areas	4.43	.64	51
Use in Rural Areas	4.02	.68	50
Use in Backcountry Areas	3.84	.90	49

[29]These estimates include all trails in the state, not just those managed by the states.

Table III.17: State Trends in Trail Use Over the Past Five Years by Location and Type

Use	Mean	Standard Deviation	Number Responding
Type			
Use by Mountain Bicyclists	4.86	.46	49
Use by Walkers/Hikers	4.33	.69	49
Use by Other Bicyclists	4.04	.68	48
Use by Equestrians	3.90	.83	41
Use by Runners	3.78	.87	49
Use by Snowmobiles	3.68	.85	41
Use by Cross-Country Skiers	3.67	.75	43
Use by ATVs	3.62	1.01	47
Use by 4-Wheel Drives	3.45	.95	47
Use by Motorcyclists	3.40	.80	47

[1] Means based on a five-point scale with 1 indicating "Significant Decreases" and 5 "Significant Increases."

Source: Moore, R. L. (1994). State trail programs: A survey of state trail administrators. Denver, CO: The National Association of State Trail Administrators. Available c/o Colorado State Trails Program, 1313 Sherman St., Room 618, Denver, CO 80203.

Trail administrators had interesting insights on what was motivating trail development in their states. They were given a list of nine broad public benefits that trails might have and asked to rate each in terms of how much of a factor they felt it was in motivating the development of new trails in their state. The responses indicated that all of the factors were considered to be of at least some importance. "Public recreation opportunities," however, was by far the most important. The second most important motivation, on average, was "tourism and economic development." "Traffic reduction and transportation alternatives" was felt to be the least important motivating factor of the nine examined (Table III.18). Two states considered "natural resources protection" and "preserving railroad rights-of-way" as other motives for trail development.

Table III.18: Factors Motivating Trail Development in State According to State Trail Administrators

Benefit	Mean	Standard Deviation	Number Responding
Public recreation opportunities	6.24[1]	1.03	49
Tourism and economic development	5.45	1.47	51
Health and fitness	5.12	1.31	51
Aesthetic beauty	5.08	1.38	51
Preserving undeveloped open space	4.96	1.70	49
Community pride	4.94	1.45	50
Access for disabled persons	4.78	1.25	51
Public education about nature and the environment	4.61	1.42	51
Traffic reduction and transportation alternatives	4.16	1.68	49

[1]Means based on a seven-point scale with 1 indicating "Not At All Important" and 7 "Extremely Important."

Source: Moore, R. L. 1994. State Trail Programs: A Survey of State Trail Administrators. Denver, CO: The National Association of State Trail Administrators. Available c/o Colorado State Trails Program, 1313 Sherman St., Room 618, Denver, CO 80203.

A final trend identified in the survey was partnerships with volunteers. State trail programs are clearly tapping into this source of labor to provide trail opportunities. Thirty-five states had figures regarding the number of volunteers involved on state land. The two states with the greatest volunteer involvement were Florida, which estimated that 14,000 volunteers had contributed labor worth over $1.1 million in 1993, and New Hampshire where an estimated 80 percent of the trails on state land were adopted by volunteers. Administrators also identified numerous techniques they were using to encourage volunteer involvement on trails such as providing recognition and/or award programs, sponsoring "Adopt-A-Trail" programs, providing stipends, workers' compensation, National Trails Day events, technical assistance, tools, etc.

Current and Future Trail Issues

State programs are currently facing obstacles to their trail efforts and expect to encounter many of these same obstacles as well as new challenges in the future. When asked, "What are the biggest roadblocks to getting and keeping trails on the ground in your state?" over one quarter of the responses identified funding as the biggest roadblock. Various threats to trails and trail lands was the next largest group. A large number of the trail administrators also reported that there was a major problem with lack of awareness of the value of trails and too little support for trails. This roadblock was seen as a problem with government agencies and officials as well as with the general public (Table III.19).

Table III.19: Biggest Roadblocks to Getting and Keeping State Trails on the Ground in State

Item	Number Responding	Percent
Funding	30	27.5
Threats to Trails and Trail Lands	24	22.0
Lack of Awareness and Support	20	18.3
Funding Maintenance	10	9.2
Interagency Coordination	6	5.5
Trail Program	3	2.8
Leadership	3	2.8
Federal Legislation	3	2.8
State Legislation	2	1.8
Conflict/Multiple Use	2	1.8
Motorized Use	2	1.8
Maintenance	1	0.9
Technical Assistance	1	0.9
Volunteers	1	0.9
Use Trends	1	0.9
Total	109	100.0

Source: Moore, R. L. 1994. State Trail Programs: A Survey of State Trail Administrators. Denver, CO: The National Association of State Trail Administrators. Available c/o Colorado State Trails Program, 1313 Sherman St., Room 618, Denver, CO 80203.

When asked to identify the most pressing issues currently facing trails in their states, the most frequent responses related to specific threats to trails and trail lands. Many of these concerns involved landowner opposition and development obliterating existing trails and potential trail locations. Lack of funding and concerns about trail conflict and other issues related to multiple use were the next most pressing issues identified. Other issues currently of concern to the states are listed in Table III.20.

Table III.20 also presents a summary of the responses to a question which asked respondents to identify the most pressing issues they felt were currently facing trails nationally. The concerns identified were similar to the ones expressed for the state level with an even greater concern about funding. Administrators saw

funding to be the most pressing issue nationwide, apparently even more pressing than funding in their home states. Specific threats to trails and trail lands was their second greatest type of concern followed by conflict and multiple use. Funding for the National Recreational Trails Fund was specifically mentioned by eight of the programs making it the fourth most frequently expressed issue.

Table III.20: Most Pressing Issues Facing Trails Now and Five-10 Years from Now

	Currently In Your State		Currently In the Nation		In the Future Nationally	
	Number Responding	Percent	Number Responding	Percent	Number Responding	Percent
Threats to Trails and Trail Lands	29	15.5	18	15.3	18	15.3
Funding	25	13.4	30	25.4	13	11.1
Conflict/Multiple Use	22	11.8	11	9.3	21	17.8
Funding Maintenance	14	7.5	7	5.9	6	5.1
Trail Plans	13	7.0	0	0.0	2	1.7
Motorized Use	10	5.3	3	2.5	5	4.2
Interagency Coordination	9	4.8	6	5.1	2	1.7
Funding Development	8	4.3	0	0.0	0	0.0
Providing Trails Close to Where People Live	8	4.3	2	1.7	6	5.1
Trail Program	7	3.7	2	1.7	1	0.8
Maintenance	6	3.2	4	3.4	2	1.7
Technical Assistance	5	2.7	7	5.9	2	1.7
Promoting Trails and Trail Issues	5	2.7	5	4.2	3	2.5
Federal Legislation	5	2.7	0	0.0	4	3.4
Staffing	4	2.1	0	0.0	0	0.0
Leadership	4	2.1	5	4.2	2	1.7
Trail Development	4	2.1	0	0.0	0	0.0
Trail Safety	3	1.6	2	1.7	5	4.2
Non-Motorized Use	3	1.6	0	0.0	0	0.0
Rail-Trails	2	1.1	1	0.8	3	2.5
Volunteers	1	0.5	2	1.7	0	0.0
Funding NRTF	0	0.0	8	6.8	0	0.0
Long Distance Trails	0	0.0	3	2.5	3	2.5
Use Trends	0	0.0	2	1.7	2	1.7
Liability	0	0.0	0	0.0	4	3.4
Other Legislation	0	0.0	0	0.0	4	3.4
Trails for Transportation	0	0.0	0	0.0	4	3.4
Resource Management	0	0.0	0	0.0	3	2.5
User Fees	0	0.0	0	0.0	2	1.7
Mountain Bike Use	0	0.0	0	0.0	1	0.8
Total	187	100.0	118	99.8	118	99.8

Source: Moore, R. L. 1994. State Trail Programs: A Survey of State Trail Administrators. Denver, CO: The National Association of State Trail Administrators. Available c/o Colorado State Trails Program, 1313 Sherman St., Room 618, Denver, CO 80203.

Trail administrators were then asked to speculate about what they expected to be the most important new issues trails would be facing in the next 5-10 years. Conflict and multiple use were the biggest concerns trail administrators saw on the horizon followed by threats to trails and trail lands. They still expected funding and funding for maintenance to be major concerns, however. Providing trails close to where people live was the fifth most frequently mentioned issue trail administrators felt they would be facing in the next decade.

Respondents also identified the new or emerging user groups they felt would be important in 10 years. Mountain biking was the response of nearly 26 percent of the trail administrators. It was mentioned more than twice as often as the next most frequent response of walking and hiking (12.1 percent). Other emerging user groups identified were motorized use (10.6 percent), bicycling (10.6 percent), roller blading/in-line skating (9.1 percent), and commuting (7.8 percent). Various trail interest groups were also noted as new or emerging. These included "groups with political power," "wise land use groups," "trails planning groups," "trail advisory groups," "trail advocacy groups," and groups promoting "interagency cooperation." Various segments of the population were also considered to be new or emerging user groups. Foremost among these were the physically challenged and seniors.

Conclusion of State Trail Programs

What is the current status of state trail programs in the United States? Almost every state is involved in the trail development and management business, and no state has the resources to meet the public demands for trails. ISTEA, the National Recreational Trails Fund Act and state level programs that were developed to augment the Land and Water Conservation Fund have become the primary sources of funding for trail planning and development. Trail maintenance and management tasks have increasingly been assumed by volunteers. Public demand for trails continues to increase and technology is providing recreationists with new ways to enjoy trails. Mountain bikes and in-line skates are two recent inventions that have drastically changed the mix of users on trails. The increasing number of users and types of use on finite trail systems make the potential for conflict high and call for proactive planning and management at all levels.

The states are in a strong position to guide the development of trails into the next century. Not only do they manage extensive trail networks, states also manage federal grant funds and often provide state funds for trail purposes as well. States are frequently more in touch with local issues and organizations than are federal agencies. States can encourage the development of trails as part of the infrastructure of communities and can encourage the development of trail networks as opposed to isolated trail segments. Overall, state trail programs play a vital role in coordinating and providing trail opportunities both in communities and throughout the states.

Other State Resource Systems

State Forests

State forests offer outdoor recreation opportunities in nearly every state. They offer an alternative to the more developed state parks in the form of more primitive and dispersed recreation. They often resemble federal backcountry land more so than state parks, which usually are designed to serve large numbers of visitors. Typical activities at state forests include camping, hiking, nature study, picnicking, horseback riding, fishing, and hunting. In some Northeastern states, there are few distinctions among state forests, state parks, and State Fish and Wildlife Areas, but that is not the case in most other states (Knudson, 1984). Many state forests are little known because their recreational opportunities are not publicized. The focus in state forests often is on timber production and forest management demonstrations. Some state forests, however, have set aside areas for intensive recreation use.

Among the 50 States, only Nevada did not list state-owned forest land in the 1996 "State Forestry Statistics Report." This report is an unpublished document summarizing the annual survey of state foresters done by the National Association of State Foresters (NASF). Even the Great Plains states of Kansas, Nebraska, and the Dakotas reported some state-owned forest land. The report notes that there are over 50 million acres of state–owned forest land in the United States (Table III.21), but it is unclear whether all tracts referenced are designated as "state forests." By contrast, Jensen (1995) and Cordell et al. (1990) both estimated that there are approximately 26 million acres of designated state forests in the country.

A more meaningful statistic is acreage of state forests in states with a forest recreation program. This figure amounts to almost 23 million acres nationally. The North has 76 percent of this acreage. By comparison, the 1989 Forest Service Resources Planning Act Assessment reported 26.2 million acres of state forests open to recreation, regardless of whether the state operated a formal recreation program. Since these numbers do not measure the same thing, the comparison is somewhat tenuous. States that do not have a formal state forest recreation program undoubtedly offer some recreation opportunities indicating that the 1996 estimate of 22.8 million acres likely underestimates actual recreation acreage.

Table III.21: Total Area, Area in Recreation Programs, and Recreation Budgets of State Forest Programs by Region, 1996[1]

	Region				
	North	South	Rocky Mountains	Pacific Coast	U.S. Total
State Forest acreage[2]	18.58	3.59	3.61	24.50	50.28
State Forest acreage in states with forest recreation program	17.40	2.37	0.03	3.00	22.80
Total budget of state forest recreation programs[3]	9,546	842	12	3,442	13,842

[1]All acreages are in millions.

[2]Does not include Arizona, Hawaii, and California, states which did not respond to NASF State Forestry statistics study. Acreage estimates for these states from the 1992 National Resources Inventory: Arizona—462,700; California—435,000; Hawaii—718,900.

[3]Dollars are in thousands.

Source: 1996 State Forestry Statistics Report. National Association of State Foresters. Washington, D.C. USDA Forest Service. 1989 Resources Planning Act Assessment of Outdoor Recreation and Wilderness.

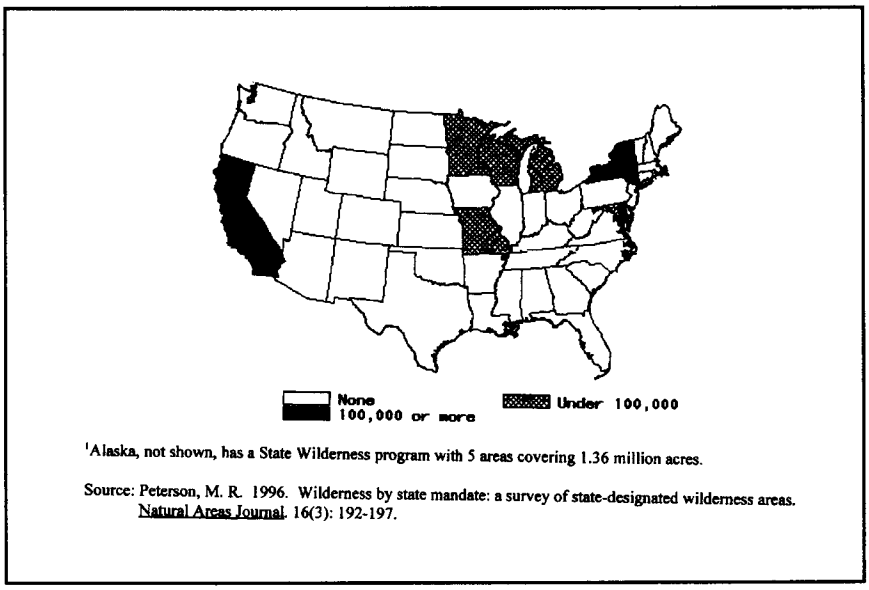
The share of state forest recreation land in the two eastern regions is larger than in the West. Half of the 50 states have a forest recreation program, according to the NASF, and 22 of these 25 states are in the East. Fifteen of the 20 Northern states and seven of the 13 Southern states reported having a forest recreation program within their state forest agency. Just one of 12 Rocky Mountain states and two of the five Pacific Coast states have a recreation program.

Alaska has about 43 percent of all state forest acreage in the United States (21.5 of the 50.3 million), but it does not have a forest recreation program. Washington has nearly all of the forest recreation program funding spent in the Pacific Coast. Washington trailed only Michigan in the amount of annual expenditures. Oregon also has a state forest recreation program, but it did not report expenditures. After Michigan and Washington, the states with the largest program budgets were Maryland, New York, and Pennsylvania. Also, New York, Michigan, Minnesota, and Pennsylvania are the leaders in state forest acreage among the lower 48 states.

State Wilderness

Several states manage designated wilderness through formal wilderness programs similar to the National Wilderness Preservation System (NWPS). Eight states—six in the East and two in the West—had such programs in 1995, all established during the 1970s (Figure III.13). These areas complement the NWPS by protecting some ecosystems not found on federal land. Further, they provide opportunities for primitive and dispersed recreation, especially in the East where such opportunities are relatively scarce. Stankey (1984) conducted the first overview of state wilderness programs in the early 1980s. He found that nine states managed a total of 48 areas comprising approximately 1.67 million acres. The following criteria defined an established State Wilderness program: (1) statutory or administrative recognition; (2) goals for preserving natural qualities and allowing primitive recreational opportunities; (3) prohibition of development activities; (4) minimum areas size criteria; (5) recognition of other values compatible with wilderness management (e.g., historic, scientific, educational, and scenic).

Figure III.13: Acreage in State Wilderness Porgrams, 1996[1]



[1]Alaska, not shown, has a State Wilderness program with 5 areas covering 1.36 million acres.

Source: Peterson, M. R. 1996. Wilderness by state mandate: a survey of state-designated wilderness areas. Natural Areas Journal. 16(3): 192-197.

Peterson (1996) did a follow-up survey of State Wilderness programs in the mid-1990s. His research showed that one state program was eliminated (Florida in 1989), but that the protected acreage in the remaining eight state programs almost doubled to 3.11 million acres.[30] The number of state Wilderness areas also increased from 48 to 58 by the mid-1990s, with one new area pending approval in Missouri. Ten of the original 48 areas were in Florida, so the increase in the number of areas in the remaining eight states amounts to a 53 percent gain in those states. Ten of the areas in three states (Alaska, New York, and California) are also quite large, averaging 100,000 acres. These same three states make up 94 percent of state wilderness systems with 2.92 million acres. The other five states, all in the East, have 185,000 acres of state Wilderness in 26 units. When combined with New York, these states account for 42 percent of the acreage and 79 percent of the 58 units. Remove Alaska, however, and the Eastern states make up three-fourths of the state Wilderness acres. Other states have designated individual areas as "wilderness," e.g., Baxter State Park in Maine and McCurtain County Wilderness Area in Oklahoma, but have not established formal wilderness systems.

State Fish and Wildlife Land

State governments also manage wildlife and fish resources. Every state has an agency or commission of some form responsible for wildlife and fish management and regulation. Operations of these agencies usually include three functions (Knudson, 1984): (1) regulation of hunting and fishing; (2) assistance to landowners, including public agencies, on habitat management and wildlife population manipulation; and (3) management of public land habitat.

The authorization and administrative functions of wildlife and fish agencies vary by state. Some operate as divisions in state departments of natural resources and others operate as independent government commissions with political appointments. Whatever the case, state fish and wildlife agencies own some tracts and manage others through lease agreements with various public and private property owners. In most states, state fish and wildlife tracts are called "Wildlife Management Areas" or "State Fish and Game Lands." Similar to state forests, they tend to offer primitive opportunities and more dispersed settings than are found in state parks. Besides hunting and fishing, other popular activities include camping, picnicking, hiking, and nature study. Knudson (1984) notes that these recreational activities are more popular than fishing and hunting on state fish and wildlife land because they are not constrained by seasons.

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[30]The 1996 NASF State Forestry Statistics Report also lists eight states having a "Wilderness Management" program within their state forestry divisions. However, these are evidently not the same as the authorized State wilderness programs since only three states are present on both lists. No further details are provided about the duties and responsibilities of these management programs located within state divisions of forestry.

Unfortunately, there is no current inventory of state fish and wildlife land in the United States. Jensen (1995) described 9.3 million state fish and wildlife acres in the United States based on a BLM report, but the source could not be confirmed. The 1980 RPA Assessment also estimated about 9 million acres of state wildlife areas, but the 1989 RPA Assessment estimated approximately 14 million acres. These inventories probably did not measure the same resources. One current estimate of state fish and wildlife land comes from the 1992 National Resources Inventory (NRI) conducted by the USDA Natural Resources Conservation Service. The measure, however, is not well defined. The NRI refers to "state-owned land with primary use reserved-dedicated to wildlife." The national total from this measure, excluding Alaska, is 5.7 million acres. That total, even without Alaska, is probably too small to cover all state fish and wildlife land. For example, a recent article noted that fish and wildlife land in California had tripled since 1970, and the current amount in that state alone is 825,000 acres (Jacobs, 1997).

State Scenic Rivers

The National Wild and Scenic River System and designated units in the National Park System such as "National River" or "National Scenic Riverway" are two primary ways that rivers are protected by the federal government. A total of 32 state governments also have river protection programs covering approximately 300 rivers and 13,500 river miles (Table III.22). The five largest state systems are in Michigan, Maine, California, Louisiana, and New York and represent over half of the river miles protected by states. Thirteen of the 32 states have completed inventories of their rivers, and three have not protected any river miles despite having an established program. Most of the programs were started in the 1960s and 1970s in the wake of the Wild and Scenic Rivers Act of 1968. Seven programs were established in the 1980s, with Idaho's and New Hampshire's being as late as 1988.

State-sanctioned river protection is largely an eastern–U.S. phenomenon. Eighty-four percent of rivers and 78 percent of river miles are in the East. Further, 26 of the 32 states with programs are located in the North and South regions. Similar to state wilderness, this pattern is because most western rivers of outstanding quality are under federal protection. State programs vary in types of designations and the level of protection. In any event, state scenic rivers represent a significant resource for undeveloped water-based recreation, especially in the East.

Table III.22: Number and Miles of State-Designed Scenic Rivers by Region, 1993

Number and Mileage	Region				
	North	South	Rocky Mountains	Pacific Coast	U.S. Total
Number of rivers	156	99	13	35	303
River mileage	8,114	2,488	581	2,369	13,552

Source: Palmer, Tim. 1993. *The Wild and Scenic Rivers of America*. Washington, D.C.: Island Press.

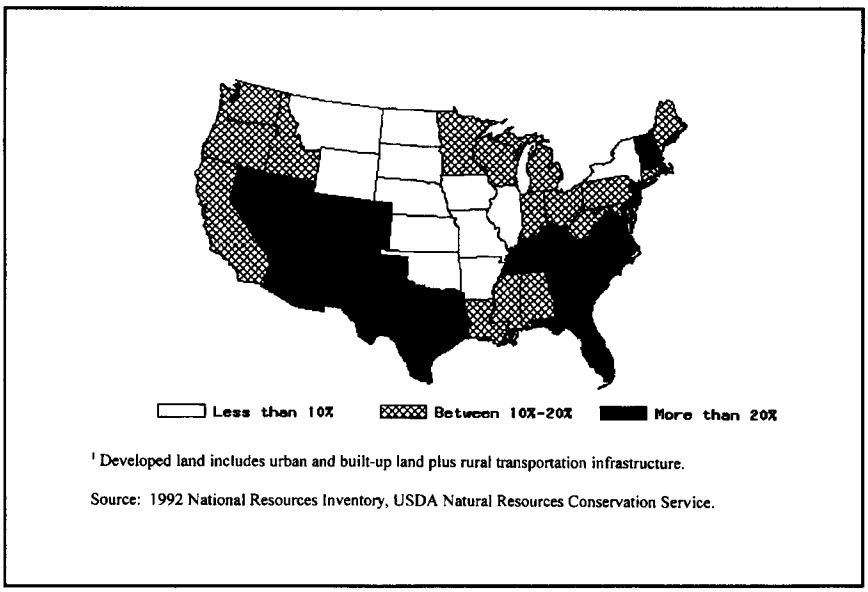
LOCAL GOVERNMENT RESOURCES FOR OUTDOOR RECREATION

A recurring theme in nearly every assessment of outdoor recreation in the United States has been the need for recreation opportunities close to where most people live. This need will accelerate as America becomes an increasingly urban nation. The large majority of states added developed land (defined as urban and built-up land plus rural transportation infrastructure) at a rate of 10 percent or more during the 1982 to 1992 decade (Figure III.14). Increases were especially large in the Southeast, Southwest, and New England states. Local government agencies, more than any other provider, supply many of the opportunities demanded by urban and suburban dwellers. The President's Commission on Americans Outdoors estimated in 1987 that 60 percent of recreation areas nationwide are provided by local government, most of which are highly developed and managed for intensive use. This has been the traditional emphasis of local government since the origins of the "recreation movement" in crowded urban areas in the late 19th century.

Much of what local governments provide is geared toward indoor, rather than outdoor, recreation.[31] However, the green spaces and athletic fields that local governments provide are highly valued for outdoor recreation. In addition, many local governments—especially in larger cities, county governments, and special recreation and park districts—also manage natural areas, trails, and less developed open space. Local governments, therefore, provide a wide variety of opportunities for outdoor recreation and serve more people than any other provider by virtue of their location.

Because summary data on the types and amounts of outdoor recreation resources managed by local governments are limited, this section presents a combination of survey results, case studies, anecdotal information, and other observations about the local recreation and park situation. First, we look at local government recreation and park agencies, drawing inferences about local resources for outdoor recreation from information about the agencies that provide them. Second, we discuss outdoor recreation in urban areas, including the settings, infrastructure, management, and issues that affect individuals' experiences with nature in the city. Third, we examine the phenomena of greenways, rail-trails, and other linear recreation paths. The development of these natural corridors for recreation and transportation may be one of the most significant trends in outdoor recreation supply in the past decade.

Figure III.14: Percent Increase in Developed Land by State, 1982-1992[1]



[1] Developed land includes urban and built-up land plus rural transportation infrastructure.

Source: 1992 National Resources Inventory, USDA Natural Resources Conservation Service.

Recreation and Park Agencies

(By Cheryl S. Beeler, Associate Professor, Florida State University, Tallahassee, Florida)

Local governments in the United States have long provided recreation and park services. Management ranges from informal and unpaid park committees in unincorporated communities (of perhaps just one person) to bureaucracies of several hundred employees in large cities. The common bond between all local providers is that most offer both (1) recreation programming and services and (2) facilities and parks. The National Recreation and Park Association (NRPA) sponsored a study in 1993 to learn more about the local government agencies that manage recreation and parks (Beeler, 1993). The criterion that defined an "agency" was a minimum of one full-time professional staff person. This eliminated very small communities without a formal structure for recreation and parks management. Working with state recreation associations, university researchers, and other knowledgeable sources from each state, a total of 4,528 local government departments were identified. From this list, a stratified sample (by geographic region, population served, and type of local

[31] Some of the larger local recreation and parks departments have expanded to cover zoos, stadiums, civic centers, libraries, tourism promotion, cultural arts, historic sites, and cemeteries.

government jurisdiction) of 1,500 departments was selected for the survey on organization, structure, finance, and budgets. A total of 967 departments (65 percent) responded.

Municipal Recreation and Parks

Just under three-fourths of the local park and recreation agencies are municipal departments (Table III.23). Municipalities, including cities, villages, boroughs, and towns, receive legal authority to establish park and recreation services through state laws, either through recreation enabling acts, special laws, or local charter provisions. The type of park and recreation services offered by a municipality varies depending on the number and type of people served. For example, in communities of less than 2,500 people, the park and recreation department may operate with only one full-time professional. The number of areas and facilities owned and operated is typically limited, and may only include one site, such as a multipurpose park or a small community center. In most cases, small cities and towns depend heavily on joint-use agreements with local schools for ballfields, courts, gymnasiums, and meeting rooms.

Table III.23: Number of Local Government Park and Recreation Departments by Type and Region, 1993

Type of local government	Region				
	North	South	Rocky Mountains	Pacific Coast	U.S. Total
Municipal	1,621	896	307	465	3,289
County	333	416	38	93	880
Special District	214	9	0	93	316
Other	3	40	0	0	43
All Types	2,171	1,361	345	651	4,528

Source: Beeler, Cheryl S. (1993). *National Comprehensive Salary and Benefits Study*. Arlington, VA: National Recreation and Park Association.

Most small park and recreation departments rely on community volunteers to coach and officiate sports leagues, as well as to organize and run youth recreation programs. It is also common to find many recreation programs and community-wide special events cosponsored by schools, local church groups, civic and fraternal organizations, and local businesses.

In contrast, municipalities of more than 250,000 may have 50 or more full-time employees. The type of areas and facilities acquired, developed, and operated may be diverse, including not only multipurpose parks, playgrounds, community centers, sports fields and courts, and swimming pools, but also facilities for performing arts, golf, ice skating, camping, and the enjoyment of nature. Marinas, zoos, aquariums, gardens, museums and galleries, libraries, and cemeteries may also be provided. Street and area beautification is often a responsibility.

Programs may include team sports (softball, baseball, basketball, volleyball, soccer, football, and hockey); individual sports (tennis, golf, aerobics, swimming, and gymnastics); outdoor recreation (picnicking, boating, fishing, hunting, skiing, swimming, biking, walking/hiking, and nature study); summer recreation programs and camps; before-school and after-school programs; instructional classes (arts and crafts, music, dancing, drama, and martial arts); concert, cultural exhibits; special events; and special programs for people with disabilities. As in small departments, most large municipal park and recreation departments work closely with voluntary agencies, schools and colleges, church groups, business, and industry in offering programs, services, and community-wide special events.

City parks and recreation areas like Atlanta's Bessie Branham Park offer inner-city residents an opportuniy to experience "green space" close to home.

County Recreation and Parks

Not quite one-fifth of the departments offering park and recreation services at the local level are connected to county governments (Table III.23). In contrast to municipalities, county governments are legally established as subdivisions of the state. Of the 880 county governments offering park and recreation services in the United States, approximately 85 percent are in the East.

Early in the 20th century, county departments were primarily responsible for large parks for passive recreation. At that time, very few county departments provided active programs and services. However, times changed and more county park and recreation departments assumed responsibility for active recreation and direct service programs and activities. Today, county park and recreation systems are highly diverse. Some are similar to systems in small cities or rural towns, employing only one full-time professional, operating one or two areas and facilities, and focusing on youth programs. Others operate like large municipal departments with large staffs offering an array of programs and services and operating a network of parks and facilities for active recreation.

Special Park Districts

About 7 percent of local park and recreation organizations are special districts (Table III.24). In several states, especially Illinois and California, state legislation authorized establishment of recreation and park districts. Special park districts are independent of other units of local government, but can be likened to political subdivisions of states, such as cities and counties. Since special districts have taxing authority, their programs are better funded than those of municipalities and counties. As with municipalities and counties, the programs and services of special districts vary with number and type of people served.

Organization, Financing, and Budgeting

In the 1993 NRPA nationwide study, department organization, structure, funding, and compensation of employees were addressed. The data from the 967 responding departments help describe the current status of local government parks and recreation service. Local government parks and recreation departments are typically organized in one of three ways: (1) to provide a combination of parks and recreation services; (2) to provide recreation services only; or (3) to provide park services only. Early in this century, most local governments organized separate departments for recreation services and for parks. More recently, this organizational pattern has changed. The large majority of local government departments (81 percent) are organized to provide a combination of park and recreation services. Fifteen percent of the responding departments provided recreation services only, and only 4 percent provided park services only.

Financing of parks and recreation varies by size and type of local government. Obviously, financing of parks and recreation in a city of 1,000,000 is more complex than in a city of less than 2,500. The bulk of local

revenue for operating parks and recreation departments comes from general property taxes, fees, and charges. For major capital outlays, most local parks and recreation departments rely on a combination of revenue sources, including general obligation and revenue bonds, federal and state grants, and special tax assessments.

In her NRPA study of local parks and recreation departments, Beeler (1993) collected data on current operating budgets, which covered employee salaries and benefits, routine supplies, materials, and contractual services but not capital outlays. Based on population size of the communities, annual operating budgets for parks and recreation departments ranged from under $35,000 to over $70 million. The median budget for the 945 responding departments was $700,000. The number of full-time, permanent staff in these departments ranged from 1 to 1,127; the median number of employees was eight. Local departments in the western United States tended to operate with larger budgets and more employees than the other regions.

Issues and Trends

Local recreation and park administrators face many challenging issues and trends. Many have persisted over a number of years and will likely continue into the future. We discuss five major issues.

1) Accountability and Justification of Services

A major issue for all providers of local government services is the mounting pressure to become more business-like and account for costs of services. Today's local administrators must explicitly justify their programs and services in terms of benefits to the public. Godbey, Graefe, and James (1992) found that 75 percent of respondents to a national telephone survey of 1,305 Americans used local parks and playgrounds, 51 percent occasionally, and 24 percent frequently. The most frequently mentioned benefits that people received from use of local recreation resources were personal benefits (such as exercise, fitness, conditioning, relaxation, and peace) and social benefits (such as competition, cooperation, and sense of community).

2) Financing Capital Improvements

A second issue impacting local recreation and park administration is financing capital improvements, including land acquisition, facility development, and facility renovation. Over the past 10 years, major cutbacks have been made in federal, state, and local funding. At the same time, the American public has asked for more local park areas and facilities, more recreation programs, and increased services. Today's administrators face inadequate levels of funding to satisfy growing public demands.

3) Operating Budgets

Closely related is the issue of adequate financing for staffing, operating, and maintaining new developed areas and facilities. Rarely are operating budgets appropriately increased for staffing and maintenance of new areas. Once capital projects receive funding, administrators must immediately begin searching for creative revenue sources to operate and maintain them.[32] If administrators are not successful in identifying alternative resources, they must staff and operate new areas and facilities with current budgets.

4) Spending Priorities

A fourth issue facing local parks and recreation is spending priorities. Like most government services at the local level, parks and recreation departments have limited funding to meet growing needs of culturally diverse communities. Local departments are finding it more difficult to provide equal opportunity for leisure experiences to all people. Often they sacrifice majority needs to meet minority needs, such as offering programs for people with disabilities, "at-risk" teens, or the homeless. Today's local departments must make difficult choices for the use of their limited public financial resources.

5) Crime and Violence

The last issue is crime and violence. Almost every local community in America has been impacted by crimes, including vandalism, gang-related activity, and substance abuse. Unfortunately, many crimes occur in public parks and recreation areas. Local parks and recreation officials must continuously look for sensible ways to keep parks safe.

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[32]A current example of a creative funding source is the sale of licensing rights by cities to corporate sponsors, currently underway in Los Angeles and Buffalo, and proposed in New York City (Hurt 1997). In Los Angeles, county lifeguards all wear the same official swimwear. In New York one official said, "There's no reason why all the trash cans in New York City parks can't bear the same logo, but we're not going to put a [corporate sponsor] name on Central Park."

Local Recreation Facilities and Sites

Following the Beeler study, the NRPA sponsored another project to study the amounts and types of recreation facilities and sites provided by local governments (PKF Consulting, 1995). The purpose was to gather baseline data against which local departments could compare themselves for planning purposes. The study design was to sample the same 1,500 recreation and park agencies as in the Beeler study. The stratified sample assured representation from agencies serving both large and small populations, from four regions of the United States, and from a variety of municipal, county, and special district governments. The 12-page questionnaire was returned by 520 agencies, a 35 percent response rate. One section of the questionnaire was devoted to inventory of facilities, fields and courts, passive recreation space, and park areas. The specific items identified under these four headings give a good indication of the diversity of resources provided by local governments:[33]

1. Facilities—Amphitheater, archery range (outdoor), badminton court, skeet and trap range, golf driving range, miniature golf course, Par-3 9-hole golf course, Par-3 18-hole golf course, 9-hole standard golf course, 18-hole standard golf course, equestrian center, ice rink (outdoor/convertible), swimming pool (outdoor), waterparks, 1/4 miles/meter running track, marina, boat ramp, camping areas (overnight, RV, and tent), historical/cultural sites.

2. Fields/Courts—Little League baseball fields, adult baseball/softball fields, basketball courts (outdoor), field hockey fields, soccer fields, football fields, handball courts (outdoor), tennis courts, sand volleyball courts, outdoor multiple recreation courts (basketball, volleyball, tennis, soccer).

3. Passive recreation space—beach areas, lakes, jogging/bicycling trails, hiking/equestrian trails, snowmobile and cross-country ski trails.

4. Park areas—Mini-park (servicing a limited number of streets in a neighborhood), neighborhood park (servicing several small clusters of residential areas), community park (servicing an identifiable group of neighborhoods equating to a community area), metro/regional park (servicing a region or metropolitan area).

Table III.24 shows the percentages of agencies by region, serving fewer than 50,000 people, that provided different types of outdoor recreation resources. Table III.25 does the same for agencies serving 50,000 or more people.[34] The proportion of agencies providing passive recreation space and four kinds of park areas is evidence of the role of local government in outdoor recreation resources. Larger agencies (Table III.25) were more likely than the smaller agencies to provide all five kinds of passive recreation spaces. For example, nationwide, large agencies are more than twice as likely as smaller ones to provide hiking and equestrian trails and almost three times as likely to provide snowmobile and cross-country ski trails. The difference does not necessarily reflect a lower demand for these resources in smaller cities and counties, but indicates better ability by larger agencies to provide more recreation resources.

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[33]The questionnaire listed a variety of indoor and outdoor resources, but only outdoor facilities and courts are included in here.

[34]The NRPA study actually broke population into 10 separate categories, but low numbers in many categories left many proportions statistically unreliable. Fifty-thousand is a good dividing point between 'large' and 'small' populations and is the number traditionally used by the Census Bureau to define metropolitan areas.

Table III.24: Estimated Percentage of Local Government Agencies Serving Populations Under 50,000 that Provided Selected Outdoor Recreation Resources by National Recreation and Park Association Region, 1994

	NRPA Region[1]				
Type of Recreation Resource	Northeast (n=80)[2]	North Central (n=114)	South (n=111)	West (n=66)	U.S. Total (n=371)
Passive Recreation Space					
Beach areas	41.3	22.8	18.0	19.7	24.8
Lakes	37.5	45.6	31.5	36.4	38.0
Jogging/Bicycling trails	41.3	59.6	54.0	60.6	54.2
Hiking/Equestrian trails	18.8	24.6	16.2	34.8	22.6
Snowmobile and Cross-country trails	8.8	17.5	0.0	3.0	7.8
Park Areas					
Mini	58.8	70.2	55.0	71.2	63.3
Neighborhood	68.8	78.1	63.1	83.3	72.5
Community	78.8	89.5	79.3	81.1	82.7
Metro/Regional	16.3	31.6	27.9	31.8	27.2

[1]The NRPA regions used in this study are different from the regions reported elsewhere in this book. See Appendix III.4 for a list of states comprising the NRPA regions.

[2]Sample size of local recreation and park agencies.

Source: PKF Consulting. (1995). *Local Park and Recreation Facilities and Sites.* Arlington, VA: National Recreation and Park Association.

Table III.25: Estimated Percentage of Local Government Agencies Serving Populations 50,000 and Over that Provided Selected Outdoor Recreation Resources by National Recreation and Park Association Region, 1994

	NRPA Region[1]				
Type of Recreation Resource	Northeast (n=22)[2]	North Central (n=40)	South (n=47)	West (n=40)	U.S. Total (n=149)
Passive Recreation Space					
Beach areas	50.0	32.5	29.8	37.5	35.5
Lakes	59.1	47.5	66.0	57.7	57.7
Jogging/Bicycling trails	63.6	65.0	74.5	72.5	69.8
Hiking/Equestrian trails	36.4	60.0	34.0	70.0	51.0
Snowmobile and Cross-country trails	27.3	42.5	4.3	15.0	20.8
Park Areas					
Mini	50.0	55.0	63.8	77.5	63.1
Neighborhood	68.2	60.0	74.5	75.0	69.8
Community	72.7	75.0	93.6	82.5	82.6
Metro/Regional	40.9	65.0	78.7	75.0	68.5

[1]The NRPA regions used in this study are different from the regions reported elsewhere in this book. See Appendix III.4 for a list of states comprising the NRPA regions.

[2]Sample size of local recreation and park agencies.

Source: PKF Consulting. (1995). *Local Park and Recreation Facilities and Sites.* Arlington, VA: National Recreation and Park Association.

Jogging and bicycling trails are the most common resource for both small and large agencies in all regions. Lakes are also common among large agencies, but less so among small agencies. Hiking and equestrian trails are less common in the South for both small and large agencies, but more common in the West. Beaches managed by both small and large local agencies are more common by a considerable margin in the Northeast. As expected, snowmobiling and cross-country ski trails are much more common in the Northeast and North Central Regions and almost nonexistent in the South. Most snowmobile and ski trails in the West tend to be on federal and state, rather than local government lands.

Except for Metro/Regional Parks, the park areas are very similar for small and large agencies. About 63 percent of agencies have mini-parks, 70 percent have neighborhood parks, and 82 percent have community parks. A much higher percentage of large agencies manage metro/regional parks, both nationally and in each region. More agencies, both small and large, manage community parks than neighborhood parks, although this may be a matter of nomenclature change.

The NRPA study also examined general trends in additions of facilities and sites in the previous five years. The report mentions that fields and courts, passive recreation space, and park areas have been added to local agencies at a greater rate than both recreation facilities and water-related facilities. Added passive recreation space and park areas included, but were not limited to: trails, conservation areas, open space, playgrounds, tot land, mini-parks, neighborhood parks, multi-parks, and waterfront passive green-span (PKF Consulting, 1995).

The NRPA study conducted by Godbey, Graefe, and James (1992) reported that 72 percent of the 1,305 respondents to a nationwide telephone survey said they lived within walking distance of a public park. Further, 79 percent said they had used either recreation or park services in the past 12 months. Most of these individuals said they used only parks (49 percent), while a very small percentage said they used only recreation services (4 percent). The remainder said they used both parks and recreation services within the last year. When the question was altered to include participation by a member of the household, the proportion using local recreation and park resources rose to 88 percent.

Outdoor Recreation in Urban Areas

Recreation in urban areas is typically characterized by highly developed parks, athletic fields, playgrounds, golf courses, tennis courts, and the like. But most local government recreation and park agencies also manage open space or undeveloped areas for passive outdoor recreation. Much of this land is preserved in greenway corridors or trails corridors. Often, urban recreation and park agencies provide a balance between highly developed areas and quieter, more natural areas. No one has inventoried the amount of natural or undeveloped land managed by local government. Local recreation and park agencies that are managed as Special Districts, rather than as municipal or county departments, frequently emphasize natural resources and conservation over more intensive recreation. Special districts are authorized in several states, but most notably in Illinois, Ohio, California, and Michigan.

The following two articles overview outdoor recreation in urban and metropolitan America. The first, "Urban Outdoor Recreation," discusses issues and trends based on the work of the USDA Forest Service research unit, Managing Forest Environments for Urbanites, based in Chicago. The second article, "Outdoor Recreation in a Special Recreation District: Cleveland Metroparks," is a case study of one of the premier special districts in the United States.

Urban Outdoor Recreation

(By John F. Dwyer, Research Forester, USDA Forest Service, Evanston IL)

Introduction

"Urban outdoor recreation" often conjures up singular images of sports in an urban park. More careful study reveals a wide spectrum of settings and experiences, and strong interrelationships between recreation resources and other important components of the urban system.

Significance

Opportunities for outdoor recreation in urban areas are critical to the health and well-being of urban residents. The high value that urban residents place on urban outdoor recreation is partly due to the sharp contrast that it offers to other aspects of urban life. A wide cross-section of the urban population takes advantage of these opportunities, including many individuals who do not visit more remote park and forest settings. While it is difficult to estimate the amount of outdoor recreation that takes place in urban areas; with 80 percent of the U.S. population living, working, and spending most of its leisure time in urban areas; it is clear that the vast majority of outdoor recreation in the U.S. occurs in urban areas.

Settings

Outdoor recreation settings in urban areas range from backyards, streets, and sidewalks in the central-city to greenways on the urban fringe (Dwyer, 1990; Gobster & Dickhut, 1995; Gobster, 1995). All are key components of the intricate network of urban greenspace. Urban parks are often a setting for historical, architectural, and cultural attractions. From symphony concerts and museum exhibits to sculpture and murals to drama and dance, urban parks are showcases for the cultural treasures of the city. Urban parks also serve as "free" space—one of the few places in a city where access and use are not tightly controlled.

Experiences

Urban outdoor recreation experiences are diverse, from extensive hiking and nature study to brief outings for fitness. Close proximity allows outings to be woven into the daily routine, such as early morning, lunchtime, or after-work walks in a nearby park. Frequent use of the urban outdoor environment is often an important component of everyday life. Urban outdoor settings may also host large group outings, including extended family, neighborhood, business, and other groups who are able to assemble because of short travel distances and the availability of large areas with which they are familiar. Opportunities for solitude may also be found in many urban areas in the form of quiet places to walk, bicycle, fish, or observe nature. Urban recreation areas introduce people to natural settings, allowing them to observe and learn about nature.

Management

Management and use of urban outdoor recreation resources are linked to a complex and interrelated matrix of diverse urban land uses, ownerships, and infrastructure. Recreation resources are often integral components of a wide range of efforts to improve the quality of urban life, particularly health (Hull & Ulrich, 1992), environmental quality (Dwyer, et al., 1992), and education (Simmons, 1996).

Forces For Change

Change is the hallmark of all systems, but it is especially pervasive in the urban environment where there is so much interrelated activity. Of particular significance for urban recreation are changes in land use and management, infrastructure, populations, recreation resource use, scientific knowledge, underserved populations, concern for personal safety, fiscal constraints, and partnerships and collaboration.

Land Use and Management

Changes in the use and management of land throughout urban systems have important implications for urban outdoor recreation opportunities. Land and water resources no longer needed for other uses are becoming available for recreation. Examples include river corridors, railroad rights of way, and former manufacturing sites. Improvements in air and water quality, as well as cleanup of open spaces (including "brownfields") are also creating new or enhanced recreation opportunities. These physical changes in the urban landscape are changing public perceptions about recreation opportunities in the city. For example, rivers and steams that were formerly regarded as open sewers (e.g., sections of the Chicago River) are becoming popular locations for boating and fishing, and riverbanks are becoming favored locations for bird watching and hiking (Westphal & Gobster 1995). At the same time, expanding needs for a wide range of land uses in the urban environment often threaten to displace recreation resources.

Infrastructure

Urban outdoor recreation resources and associated greenspaces are increasingly seen by urban planners as critical components of the urban infrastructure with important implications for transportation (bicycle trails), health, air quality, stormwater management, microclimate, noise abatement, and visual quality (Dwyer, et al., 1992). Aging infrastructure in parks, transportation, utilities, and other resources is creating significant challenges for managers and planners. The rebuilding of infrastructure is creating new opportunities for partnerships and shared responsibilities that can enhance recreation. Bicycle trails, for example, are being built along new roads. Bridge construction is providing opportunities for accommodating trails above, alongside, or under new or renovated structures. In many of America's large cities in the Northeast and Midwest, much infrastructure was constructed 50 to 100 years ago. Life spans of this infrastructure are being exceeded. For example, in Chicago's lakefront park system, which includes nearly one-half of the city's park land, is built on filled areas of Lake Michigan. Over eight miles of the shoreline revetment that holds this land in place is predicted to fail in the next 10 years. The estimated cost for reconstruction is nearly $300 million.

Populations

Changes in the character and location of the urban population are bringing important changes in urban outdoor recreation. Increased aging and racial and ethnic diversity are influencing the outdoor recreation activities, settings, and programs that urban residents want (Dwyer 1994, 1995b). Immigrants continue to settle first in urban centers, bringing in a constant flow of new ideas and practices to urban recreation areas. Population shifts with having important implications for management of recreation resources include movement of people out of some areas, gentrification, changing composition of neighborhoods, and expansion of the population on the urban fringe. With these changes, managers of recreation sites are finding that the number, character, preferences, and needs of the people they serve continue to change.

Recreation Resource Use

Public interest is increasing in the environment, physical fitness, volunteerism (Westphal, 1993), and preservation and restoration of historic, cultural, and natural resources (Dwyer & Stewart, 1995). Results include new and sometimes conflicting demands for recreation resources. Increasing demands and conflicts are also being generated by the growing popularity of new recreation equipment, such as in-line skates, mountain bicycles, climbing walls, and facilities for indoor golf, indoor skiing, and indoor surfing.

Scientific Knowledge

As more is learned about the contribution of recreation to health and well-being (Driver, Brown, & Peterson, 1991; Hull & Ulrich, 1992), public, private, and not-for-profit groups are giving increased attention to providing urban recreation opportunities. As people appreciate the benefits of recreation and other resources, more cooperative efforts are undertaken. Recreation is included with education, environmental quality, and public health as a significant urban activity. New knowledge about the role of greenspace in improving the quality of the urban environment is also bringing increased attention to the contribution of urban outdoor recreation areas to air and water quality (Dwyer, et al., 1992). At the same time, urban ecosystems are beginning to contribute to scientific knowledge as laboratories for understanding how a diverse cross section of people interact with forest resources (Dwyer & Schroeder, 1994).

Underserved Populations

Public programs are focusing on providing recreation and other important services to people who are currently "underserved." Such people include urban residents, and particularly those living in inner-cities. Increased public concern over "environmental justice" is helping to place a high priority on efforts to overcome physical, economic, and social barriers to participation in outdoor recreation.

Safety

Concerns about personal safety in urban parks are being addressed. Solutions are reflected in site location, design (Schroeder & Anderson, 1984), management, programming, and neighborhood involvement. "Park Watch" programs are becoming popular.

Fiscal Restraints

Limited funds make it increasingly difficult to establish and maintain urban outdoor recreation resources (Dwyer, 1995c; Stewart, 1995). Results include limited land acquisitions and developments, heavy backlogs of maintenance, and searches for more cost effective ways to provide urban outdoor recreation opportunities. One strategy is to provide greenway linkages to existing park and recreation resources. Another is to recycle land in existing government inventories. Parking lots, schoolyard, public grounds, and vacant lots are being "greened" with the combined assistance of volunteer groups and government resources. Shortfalls of public funds for operating outdoor recreation areas are generating significant interest in more and higher fees, concession operations, and privatization of facilities and programs.

Partnerships and Collaborative Efforts

Greenways, rivers, and trails are being given increased attention as ecologists highlight their role in connecting otherwise fragmented landscapes (Gobster, 1995). Management of the urban landscape calls for collaborative planning across metropolitan areas and focuses attention on the coordinated management of interrelated resources among urban, suburban, exurban, and rural areas. Scarcities of fiscal resources and staff are often stimulating collaboration.

The Years Ahead

Urban outdoor recreation managers are witnessing and leading exciting changes and urban recreation is getting increasing attention. Significant changes in the urban environment have created difficult challenges, and new partnerships and other collaborative approaches are being created to enhance recreation opportunities across the urban landscape.

Increased Emphasis

Public, private, and not-for-profit groups will increase their efforts to provide urban recreation because they know that outdoor recreation can enhance the quality of urban life. Many people are strongly committed to serve the "underserved" urban populations, and increased attention is focused on the wide range of physical, biological, and social benefits provided by urban greenspace.

The Changing Urban Environment

Changes in the urban infrastructure, land use, distribution of the people over the landscape, and "new" recreation activities and technologies will continue to be important forces for change in recreation resources. New recreation opportunities will become available in conjunction with improvements in the quality of the urban environment (air, water, and land). Opportunities also will arise as land and water resources previously used for commercial and industrial purposes become available for public use.

The Challenges

The most difficult issues will often center on: (1) allocation of resources among various outdoor recreation opportunities across the urban system, (2) serving increasingly diverse populations, and (3) the relative emphasis to place on natural resources, facilities, physical fitness, historic preservation, education, and other components of recreation resource management in a particular area.

Collaborative Planning

Recreation resources will be managed in context with other important resources in the urban system. Bicycle and walking paths will be included in plans for streets and highways. Offices and factories will incorporate fitness trails and active and passive recreation areas in their site plans. Schools and colleges will make more extensive use of outdoor campuses for their activities. Neighborhood groups will play an increasingly significant role in planning for and management of local resources. Urban greenspace will be an integral part of comprehensive strategies to manage stormwater, air quality, microclimate, and esthetic quality. We will see increased public involvement in resource planning, management, and day-to-day activities. Collaborative partnerships will multiply. Many of the partnerships will involve public, private, and not-for-profit groups at the federal, state, and local levels working to develop cost-effective strategies to enhance opportunities for outdoor recreation across the urban landscape.

Outdoor Recreation in a Special Recreation District: Cleveland Metroparks

(By Robert D. Bixler, Research and Program Evaluation Manager, Cleveland Metroparks, Cleveland, OH)

Cleveland Metroparks is composed of 14 reservations situated in the densely populated metropolitan area of northeastern Ohio with 2.5 million residents. Its largely undeveloped woodland reservations total 19,650 acres and receive over 40 million visits a year. Cleveland Metroparks provides opportunities for traditional outdoor recreation activities such as hiking, picnicking, nature study, fishing, swimming, nonmotorized boating and canoeing, horseback riding, sledding, cross country skiing and scenic driving. Other popular recreation activities provided by the park district include golfing, bicycling on paved trails, and physical fitness trails. The park district has a strong educational emphasis providing nature center exhibits, environmental education and outdoor skills programs to over 400,000 children and adults annually. Since 1975, Cleveland Metroparks has also operated Cleveland Metroparks Zoo.

Established in 1917, the park district is an independent government agency operating as a separate political subdivision of the state of Ohio. The mission of the park district, which is defined by the state law that provides for its existence, is the conservation of the natural resources. The annual budget of 45 million dollars comes primarily from property taxes, although 32 percent is generated by user fees and federal, state and local grants. Approximately every 10 years, residents of the tax district have the opportunity to support property tax levies that exclusively support the park district.

Typically, in large metropolitan areas, there are an immense number of choices of leisure activities. Cleveland Metroparks competes for attention with several distinguished museums, recreation and fitness centers, and an array of private amusement parks, golf courses and other educational and recreation facilities. Aggressive marketing of facilities and programs serves to constantly remind area residents that the park district is one of their recreation options. Public service announcements, paid advertising, and special event promotions have become a routine part of marketing Cleveland Metroparks, along with nontraditional promotional methods that target users who do not pay attention to mass media. Special events, particularly weekend festivals, have provided incentive for many infrequent users of the park district to choose to visit again.

Urban Green Space

Parks are becoming increasingly landlocked and urban open space for new reservations is difficult to acquire. In Cleveland, regional parks are needed to better serve tax payers living in areas that are not near existing open space. Similarly, with development encroaching on the reservations, protecting water quality and natural resources is becoming difficult. Since 1985, the park district has acquired two large parks from the city of Cleveland in under served communities. Another strategy for establishing parks is negotiation of recreation easements with industry and private landowners either near existing reservations or to create new parks. Cleveland Metroparks has recently developed a new 350-acre Ohio and Erie Canal Reservation, with the cooperation of American Steel and Wire, BP Oil, ALCOA, Centerior Energy, and the Ohio Department of Natural Resources. Additionally, partnerships between private landowners and Cleveland Metroparks have provided opportunities to acquire important conservation easements in existing parks at minimal cost, providing additional protection of water quality and wildlife.

Outdoor Recreation

New high-tech recreation activities like mountain biking, rock climbing and in-line skating provide opportunities for serving new outdoor enthusiasts, but also require new management strategies. Historically, introduction to wildland recreation activities and traditions has been passed from parent to child. These new high-tech activities are promoted by product manufacturers of the recreation technology, rather than through traditional family socialization. Because Cleveland Metroparks is within a large urban area, the park district is often where novices try these new activities for the first time. Due to inexperience, these new outdoor recreationists tend to be accident–prone and are a source of conflict with traditional park users. In some instances, the activity may increase natural resource impacts. With mountain bikes, Cleveland Metroparks has taken a wait–and–see approach, asking clubs and organizations promoting mountain biking to first establish codes of conduct and a land ethic among their members, before these activities are allowed in the park district. Through its Institute of the Great Outdoors, the park district does provide opportunities for recreationists to learn the techniques and ethics of both new and traditional wildland recreation activities.

Like many park facilities established in the early part of the 20th century, much of the infrastructure was built by the Civilian Conservation Corp in a short period of time during the Great Depression. Many of these structures are now showing signs of wear and must be replaced or rehabilitated. Over half the bridges as well as a system of river fords in the Park District need immediate renovation. The costs of infrastructure repair and replacement will impact capital budgets for many years.

The park district is often called the Emerald Necklace because of its striking scenery, fauna and flora, and historical and cultural attractions. Though often described as "state park" quality, Cleveland Metroparks has initiated a weekend festival program to entice people to visit reservations further from their homes. These substantial educational and outdoor recreation festivals attract large crowds, up to 20,000 people. Festival participants range from 30 to 50 percent first-time visitors. These events have increased the number of reservations area residents regularly visit.

Twenty years ago, sightings of wildlife such as wild turkey and deer were infrequent. Viewing wildlife, particularly deer, has become a major motive for scenic driving through the reservations. But with no hunting, a lack of large predators and optimal wildlife habitat, populations of racoon, deer, and other wildlife are at an all-time high. Picnickers report being surrounded at their tables by racoons begging for food. Car collisions with deer have increased, and some reservations in the park district are almost devoid of ground plants and understory trees from overgrazing by deer. Cleveland Metroparks has changed its management of refuse, established "no feeding of wildlife policies," and implemented a multi-strategy education program to alter visitor/wildlife interactions. The park district may need to begin culling deer to adequately protect park flora.

Cleveland Metroparks has increased the level of services provided, at little additional cost, through hosting not-for-profit agencies operations on Park District property. For example, Girl Scout cabins, camps for children with disabilities, historic preservation societies, a performing arts theater, a nature center and planetarium, and a fine arts and crafts exhibition and education center are all facilities and programs provided on Cleveland Metroparks properties. These organizations provide high quality services to approximately 275,000 people each year. Cleveland Metroparks has established a planning position to develop a Geographic Information System (GIS) for northeastern Ohio. This sophisticated computer mapping function provides opportunities to simultaneously evaluate all aspects of land planning, including transportation systems, natural resources, and recreational use. This capability, combined with a research staff focusing on evaluation of services and regional recreation demand, provides a systematic base of information that contributes to responsible decision making.

Trends

Over the next 10 to 15 years, national and regional trends will have an impact on Cleveland Metroparks service to area residents. Effectively responding to changing demands requires careful planning and foresight. A trend that could negatively impact Cleveland Metroparks ability to provide high quality service is the decreasing population in the tax district. Urban sprawl is resulting in current residents of the service area moving to adjoining counties. Many of these people will continue to use Cleveland Metroparks, since many of the reservations are near the outer boundaries of the tax district. However, these enthusiastic users will no longer be able to vote in support of tax levies or directly contribute to the cost of maintaining the parks through property taxes. Alternative revenue sources will need to be evaluated. The population in the tax district is expected to increasingly reflect larger percentages of minorities. Current usage levels of Cleveland Metroparks facilities by minority populations is low relative to their proportion in the general population. This is a function of most of the reservations not being close to urban centers where many minorities reside. Also, minority participation rates in outdoor recreation activities have been extremely low.

Two strategies for involving more minorities in outdoor recreation activities are being implemented; the impact of these initiatives will become apparent within the next generation. First, new reservations are being established closer to urban areas to make parklands more accessible on a daily basis. Frequent visitation will help to establish patterns of regular park usage among greater numbers of urbanites. Second, programs for urban youth are being started that introduce them to outdoor recreation activities in meaningful ways. No longer is the park district satisfied with short, one-contact programs that superficially teach a single skill. Programs that introduce children and youth to outdoor recreation focus on more than the obvious psychomotor skills necessary to participate in an activity. Park district staff strive for multiple contacts with the same youth, and are aware that there are many peripheral attitudes and skills needed to successfully carry out an activity after the initial introduction. Staff are increasingly aware of the need of these youths for a supportive social group that shares interest in the outdoor recreation activity. The park district even has a social scientist working on identifying key socialization forces among families active in wildland recreation. These socialization forces will be mimicked in programs for youth from families uninvolved in outdoor recreation.

Changes in work schedules and year-round school may require changes in schedules of programming and staff deployment. The park district is already seeing significantly heavier visitation on Fridays than other weekdays. This is probably due to four-day work weeks and eight-days on, four-days off work patterns. Nontraditional work schedules and changes in school calendars may create a different yearly visitation profile, with decreasing activity in the summer and increased activity in the other seasons. Changes in school year calendars, in which students go to school longer or have long breaks scattered throughout the year, will result in the need to redistribute programming that was traditionally offered only during the summer and often by seasonal staff. Major changes in staffing may be required to meet increased demands in traditionally low visitation periods of the year. The possibilities for serving school-age students, who will have large numbers of shorter breaks from school rather than one long break, will provide a welcome challenge. Changes in the region will require a responsive management style to continue to provide quality outdoor recreation experiences for area residents while protecting natural resources. Cleveland Metroparks must respond to trends, but as a major recreation and educational provider in northeastern Ohio serving nearly 80 percent of area residents, it will also shape recreation demand.

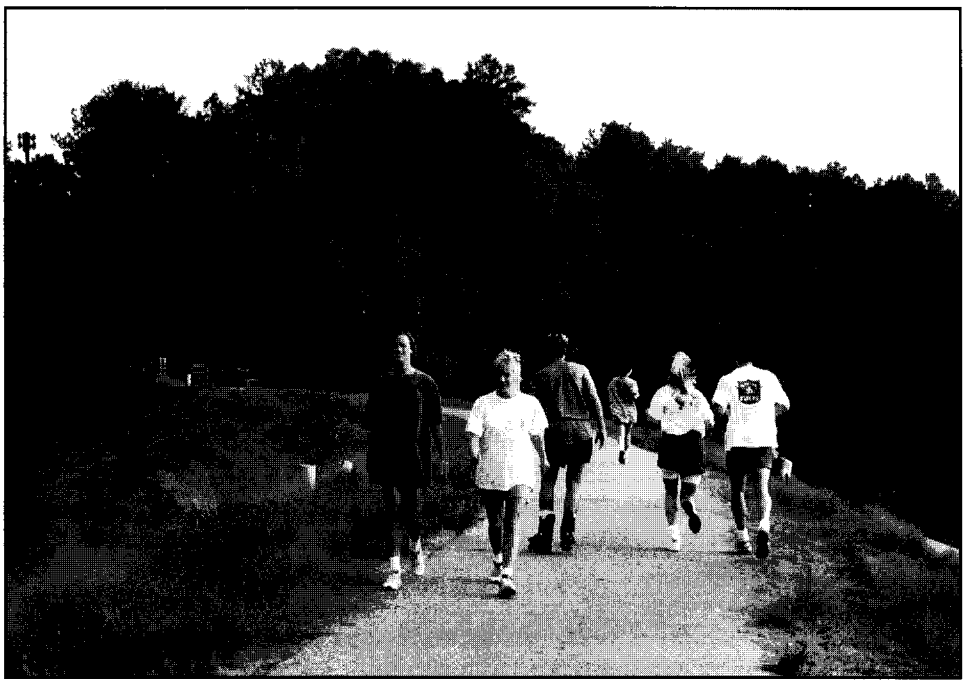
Greenways

Greenways, broadly defined as open-space corridors serving recreation and conservation purposes, may be the most significant trend affecting local outdoor recreation in the United States over the past decade. The term "greenway" was recently coined, but the concepts and ideas go back to Olmsted and the mid-19th century (Little, 1990). It was not until the recommendations of the President's Commission on Americans Outdoors in 1987, however, that the concept developed into a widely-recognized "movement."

The greenway movement springs from local, ground-up, grass-roots efforts of citizens and community activists to protect linear green spaces close to where they live. The President's Commission spoke about "lighting a prairie fire of local action" for greenways. One conservative estimate referred to over 500 active greenway projects in the United States in the mid-1990s (Searns, 1995). Another trait of the movement is its emergence because of, not in spite of, the lack of government funds devoted to open space protection (Little, 1990). The decline of the Land and Water Conservation Fund starting in the early 1980s, and other cutbacks at federal and state levels, necessitated local approaches to land conservation and recreation planning. Federal, state, and regional government agencies typically provide expertise, coordination, and incentives to local groups (Hardt & Hastings, 1995).

An important appeal of greenways is their multipurpose nature (Fabos, 1995). In addition to providing recreation opportunities (walking, jogging, bicycling, nature study, and other activities), greenways protect nature, provide environmental benefits, and protect historic and cultural heritage. Fabos (1995) notes that greenways are one solution to the recreational needs of our increasingly dispersed and decentralized metropolitan populations.

Because of urban sprawl, large parks are not as effective in serving the local population as they used to be. Greenways are more effective at serving large, spatially distributed populations because of their linear nature. This advantage is summarized by two characteristics: linkages and "edge" (Little, 1990). Linkages represent the connections greenways provide between places and edge is the increased perimeter, and thus access, that a linear space provides over a more compact space with the same area. The linear nature of greenways highlights the importance of coordination and partnerships between various landowners and constituencies. Outspoken local leadership often is necessary to bring diverse groups together and build advocacy and political support (Hardt & Hastings, 1995).



The growth and popularity of greenways are among the most significant trends in outdoor recreation in the 1990s. Photo courtesy of Carter J. Betz.

A number of national, regional, and grass-roots organizations have assumed leadership roles working together and with local citizen and government groups to develop and protect greenways. One prominent national group is The Conservation Fund, which operates the American Greenways Program, an umbrella organization promoting greenways at the national, state, regional, and local levels. This program provides professional and technical assistance to citizens, private landowners, nonprofit, and for-profit organizations, and government agencies. It also administers a grants program with single awards up to $2,500 to local greenway projects.

Greenways: America's Natural Connections

(By Edward T. McMahon, American Greenways Program Director, The Conservation Fund, Arlington, VA)

"A connected system of parks is manifestly far more complete and useful than a series of isolated parks."

—Frederick Law Olmsted, 1903

Introduction

Over the past century, America has invested large sums of money in our federal and state parks, forests, and preserves. While we have the finest national park system in the world, most of these parks tend to be far from where people live and are limited in their ability to meet the growing diversity of America's recreation and conservation needs. Increasingly, outdoor recreation occurs close to home, in or near the cities and suburbs where 80 percent of Americans live and work. As a result, in 1987, the President's Commission on Americans Outdoors recommended the establishment of a national "network of greenways to provide people with access to open space close to where they live, and to link together the rural and urban open space in the American landscape." The Commission also called for a "prairie fire of local action" to implement the greenway concept. Today, this prairie fire has ignited, and greenways are being developed in thousands of communities across the country.

Defining Greenways

greenway (gren'-wa) n. 1. A linear open space established along either a natural corridor, such as a riverfront, stream valley, or ridgeline, or overland along a railroad right-of-way converted to recreational use, a canal, a scenic road, or other route. 2. Any natural or landscaped course for

> pedestrian or bicycle passage. 3. An open-space connector linking parks, nature reserves, cultural features, or historic sites with each other and with populated areas. 4. Locally, certain strip or linear parks designated as a parkway or greenbelt. [American neologism: green + way; origin obscure]
>
> —Charles Little, *Greenways for America,* 1990

Greenways are *corridors* of protected open space managed for conservation and recreation purposes. Greenways typically follow linear landscape features such as rivers, streams, and ridgelines. They are also being created along canals, abandoned railroad lines, utility corridors, country roads, and other man–made features. Greenways are, of course, not new. The concept grew out of the work of landscape architect Frederick Law Olmstead, who was the designer of some of the nation's first linear parks. In 1869, Olmstead designed a plan for Riverside, Illinois that incorporated an extensive greenbelt along the Des Plaines River. Olmstead felt that the river structure provided a better entry into this Chicago suburb than the highway. He later created the "emerald necklace" in Boston which was a series of parks connected by wetlands, streams, and parks. The concept evolved with the development of the Appalachian Trail in 1921, the urban parkways of the 1930s, and the post-World War II greenbelt concept. The term itself was not used until at least 1959 and did not come into widespread use until the 1970s. In his book, *Greenways for America*, author Charles Little identifies five major types of greenways:

1. Urban riverside greenways, usually created as part of (or instead of) a redevelopment program along neglected, often run-down, city waterfronts.

2. Recreational greenways, featuring paths and trails of various kinds, often of relatively long distance, based on natural corridors, as well as man-made features such as abandoned rail lines, canals, or other public rights-of-way.

3. Ecologically significant natural corridors, usually along rivers and streams and sometimes ridgelines, to provide for wildlife migration and habitat protection as well as nature study.

4. Scenic and historic routes, usually along a road or highway (or sometimes a waterway), the most representative of which make an effort to provide pedestrian access along the route or at least places to alight from a car.

5. Comprehensive greenway systems or networks, usually based on natural landforms such as valleys and ridges, but sometimes simply an opportunistic assemblage of greenways and open spaces of various kinds to create a regional green infrastructure.

Benefits of Greenways

Greenways provide a multitude of benefits for people, wildlife, and the economy. More expansive and flexible than traditional, more confirmed parks, greenways can provide a community trail system for linear forms of outdoor recreation such as hiking, jogging, bicycling, rollerblading, horseback riding, cross country skiing, or just plain strolling. Further, greenways provide lifelines for wildlife moving from one isolated natural area to another. They can help to preserve biodiversity and wildlife habitat by protecting environmentally–sensitive land along rivers, streams, and wetlands. They can protect water quality by providing a buffer against urban run-off and non-point source pollution. Greenways can soften and direct urban growth, and they can act as outdoor classrooms—a close–to–home way to get children out of school and into nature.

Greenways can also stimulate the economy by providing an array of economic and quality of life benefits. Numerous studies demonstrate that linear parks can increase nearby property values, which can in turn increase local tax revenues. Spending by residents on greenway-related activities helps support recreation-oriented businesses and employment, as well as other businesses that are patronized by greenway users. Greenways often provide new business opportunities and locations for commercial activities like bed and breakfast establishments, and bicycle and canoe rental shops. Greenways are often major tourist attractions that generate expenditures on lodging, food, and recreation-oriented services. Finally, greenways can reduce public expenditures by lowering the costs associated with flooding, storm water management, and other natural hazards.

In summary, greenways are a cost-effective, multi-purpose concept that allows public agencies to link existing parks, historic sites, and natural areas into a network of green space with numerous environmental, recreational, and economic benefits.

Current Situation

Greenways can be found in all states and regions of the country. Today there are an estimated 5,000 greenways already in existence across the United States. These vary from large multi-state greenways like the Appalachian Trail or Blue Ridge Parkway, to extensive riverfront promenades like the Riverfront Park in Battle Creek, Michigan or the American River Parkway in Sacramento, California, to small streamside parks like the Happy Creek Greenway in Front Royal, Virginia.

Greenways vary in size, scope, and nature. Some are ecological corridors with little or no public access, like the Pinhook Swamp Wildlife Movement Corridor in Florida; others, like the Minute Man Trail in Boston, Massachusetts, attract millions of visitors each year. The scope and widespread nature of greenways is illustrated by the following statistics.

Rail-Trails—The Rails-to-Trails Conservancy reports that, nationwide, more than 900 abandoned railroad lines totaling almost 9,500 linear miles have been converted into multi-purpose linear parks. These trails now receive more than 100 million users each year, including cyclists and pedestrians. Michigan has the most miles of rail trail. Florida has the greatest number of urban rail trails. Washington has the most suburban mileage. The longest rail trail is Missouri's Katy Trail at almost 200 miles. When completed, Nebraska's Cowboy Line Trail will be the longest at 321 miles.

Waterfronts—The Waterfront Center maintains files on over 1,000 waterfront promenades and linear parks located along rivers, streams, and harbors in the United States. Many of these waterfront parks are known for their role in attracting tourists and fostering related economic development. For example, the San Antonio Riverwalk is the leading tourist attraction in the state of Texas. The Augusta, Georgia Canal Project has leveraged more than $100 million in new waterfront development from a public investment of $8 million in a riverfront walkway and park.

Save Our Streams—The Izaak Walton League reports that there are over 2,000 Save Our Streams projects around the country involving streamside restoration, water quality monitoring, and riverside clean-up.

ISTEA—The Intermodal Surface Transportation Efficiency Act (ISTEA) is the first federal transportation law that explicitly acknowledges bicycling and walking as viable modes of transportation. This landmark legislation has led to a dramatic increase in funding for greenway related projects including rail trails and other bicycle and pedestrian facilities. The Surface Transportation Policy Project reports that over $1 billion has been spent in the last six years on more than 3,000 projects involving greenways, railtrails, and other bicycle and pedestrian facilities around the country.

National ISTEA Enhancement Funding for Non-motorized Transportation Facilities

Type of Facility	Federal Share (Millions $)	Number of Projects
Rails-Trails	385	814
Greenway Trails*	562	1,073
Other Bicycle and Pedestrian facilities**	253	1,443
Total	1,200	3,330

*Greenway trails includes sidepaths and off-road trail and bikeway facilities that are not rail-trails.
**Other bicycle & pedestrian facilities includes on-road bicycle facilities, overpasses, underpasses, pedestrian sidewalks, plazas, etc.

National Park Service—In 1996, the Rivers, Trails, and Conservation Assistance Program of the National Park Service provided technical assistance to 130 greenway projects in 46 states. These projects ranged from the development of a regional bikeway system for Cape Cod, Massachusetts, to creating 280 miles of trails and seven new riverfront parks in the state of New York.

State and Regional Greenway Systems

Since 1990, more than a dozen states have embarked on efforts to plan, design, and implement state-

wide systems of greenways. For example, in Maryland the program is directed by a Maryland Greenways Commission made up of civic, business, and government leaders appointed by the governor. The commission has identified more than 900 miles of existing and 1,000 miles of proposed greenways. The program has an active land acquisition component and the state has developed a Greenways Atlas that identifies existing and potential greenway corridors in every county. Similar efforts have been initiated in Florida, Connecticut, Rhode Island, Massachusetts, Pennsylvania, Illinois, Ohio, South Carolina, and Tennessee. At the regional level, a majority of the nation's major metropolitan areas have also embarked on the development of regional, multi-jurisdictional greenway systems. Some of the most advanced are in Portland, Chicago, Indianapolis, Kansas City, Chattanooga, Denver, and Boston.

New Directions and Future Trends

A number of factors are combining to give great impetus to the greenway movement. These factors include watershed planning and whole ecosystem management, increased federal funding for bicycle and pedestrian facilities, the shift from an industrially–based economy to a service and higher tech economy that places more emphasis on quality of life factors in corporate facility siting decisions, a growing concern about the negative impacts of sprawl, the increased demand for close-to-home outdoor recreation facilities, the search for cost effective approaches for dealing with flood control, stormwater management and non-point source pollution, and finally a shift in consumer preferences regarding desired amenities in new home communities.

The greenway concept is a relatively new idea that integrates many established conservation, land use planning, urban design and landscape architectural ideas, concepts and strategies. If all of the greenway projects that are currently planned or envisioned were completed, almost a third of the nation's landscape would be incorporated into an enormous system of greenways and natural infrastructure. Clearly greenways are an idea that has caught the imagination of citizens and officials all over the nation. This is primarily because greenway planning is a multi-purpose, multi-objective process that addresses concerns of ecologists, wildlife biologists, recreation planners and enthusiasts, tourism officials, as well as historic preservation and community revitalization advocates.

Rails-to-Trails

(By Hugh Morris, Rails-to-Trails Conservancy, Washington, D.C.)

The Rails-to-Trails Conservancy (RTC) is another major organization deeply involved in the development and protection of greenways in the United States. Founded in 1986, RTC's mission is to protect America's railroad corridors which were, and still are, being abandoned at the rate of about 2,000 miles per year. This rate has remained fairly constant for several years. The recent mergers of several of the nation's largest rail companies may accelerate the abandonment of rail lines in the near future as the companies strive to establish the most efficient networks for their business.

Rail infrastructure in the United States peaked in 1930 at about 300,000 miles. Today only half of that remains in active use. Many of the corridors that have been abandoned are lost forever because the land has reverted back to adjacent landowners. Railroads remain one of the most efficient ways to transport people and goods. However, reassembling these corridors for future rail use would be prohibitively expensive and time consuming. Demand for rail transport on currently inactive corridors may reemerge in the future. Thus, preservation of the corridor may have long-term national benefits. Using corridors as trails keeps them intact and provides interim benefits to users.

The creation of rail-trails is primarily due to the efforts of local trail enthusiasts, citizens, local politicians, and business leaders who see an opportunity for a trail in their community and work to make it a reality. RTC does not own any of the rail-trails, but supports the local trail development process by providing technical, legal, and policy assistance. RTC also safeguards and expands federal policies in support of rail-trails, such as the Railbanking Act of 1986 (Section 8(d) of the National Trails System Act), which allows rail corridors to be "banked" for future rail use. Another federal program that aids trail development is the Transportation Enhancements funding from ISTEA, which funneled $1 billion to bicycle and pedestrian projects, including trails, between 1992 and 1997.

The number of rail-trails in the United States has grown tremendously since RTC's founding. Many rail-trails predate the organization, but RTC now documents more than 900 rail-trails covering over 9,300 miles (Table III.26). This mileage is equivalent to nearly one-fourth the length of the U.S. Interstate Highway System. The pace of trail development shows no signs of slowing. RTC is currently tracking more than 1,100 rail-trail projects nationwide, representing nearly 18,000 more miles of trail (Table III.26). Further, RTC has

assisted with the development of 41 trails alongside historic canals covering 685 miles (not included in the rail-trail statistics).

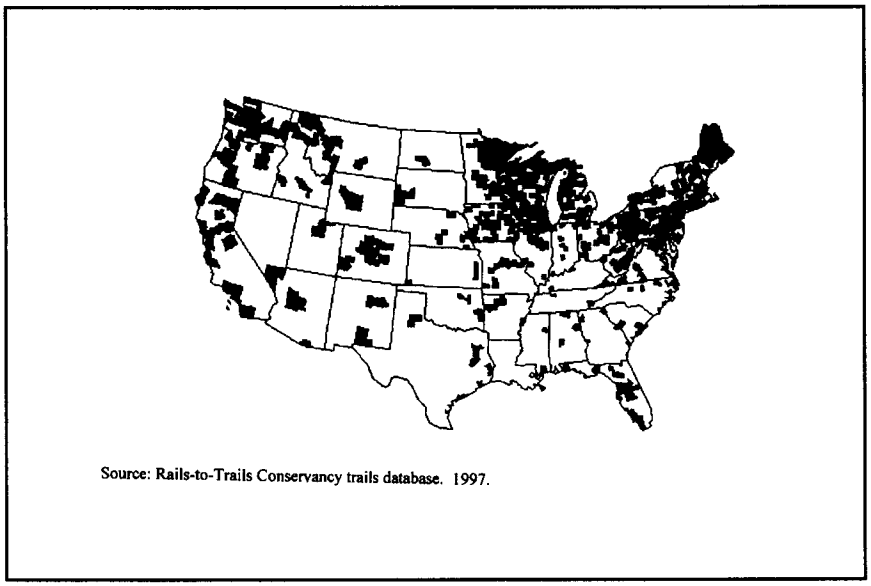
Table III.26: Number and Miles of Rail-Trails by Status, Allowable Uses, and Region, 1997

Rail-Trail Status and Allowable Uses	Number and Miles	Region				
		North	South	Rocky Mountains	Pacific Coast	U.S. Total
Status						
Open for Public Use	Number	622	101	70	110	903
	Miles	7,361	669	455	824	9,308
Trail Projects	Number	634	241	124	139	1,138
Underway	Miles	8,250	3,560	3,318	2,660	17,789
Allowable Uses						
Walking	Number	544	90	64	102	800
	Miles	6,178	636	438	769	8,021
Horseback Riding	Number	228	20	27	53	328
	Miles	3,699	354.8	290	620	4,963
Bicycling	Number	259	48	39	61	407
	Miles	3,106	328	274	280	3,988
In-line Skating	Number	131	38	28	50	247
	Miles	1,200	266	167	251	1,884
Mountain Biking	Number	236	16	25	29	306
	Miles	3,218	248	171	457	4,094
Fishing	Number	183	15	15	28	241
	Miles	2,268	196	70	408	2,942
Cross-Country Skiing	Number	414	10	41	21	486
	Miles	4,808	163	347	420	5,737
Snowmobiling	Number	193	0	12	2	207
	Miles	4,081	0	176	38	4,294
Wheelchair Accessible	Number	245	49	38	61	393
	Miles	3,031	362	279	309	3,982

Source: Rails-to-Trails Conservancy Trails Database. May, 1997.

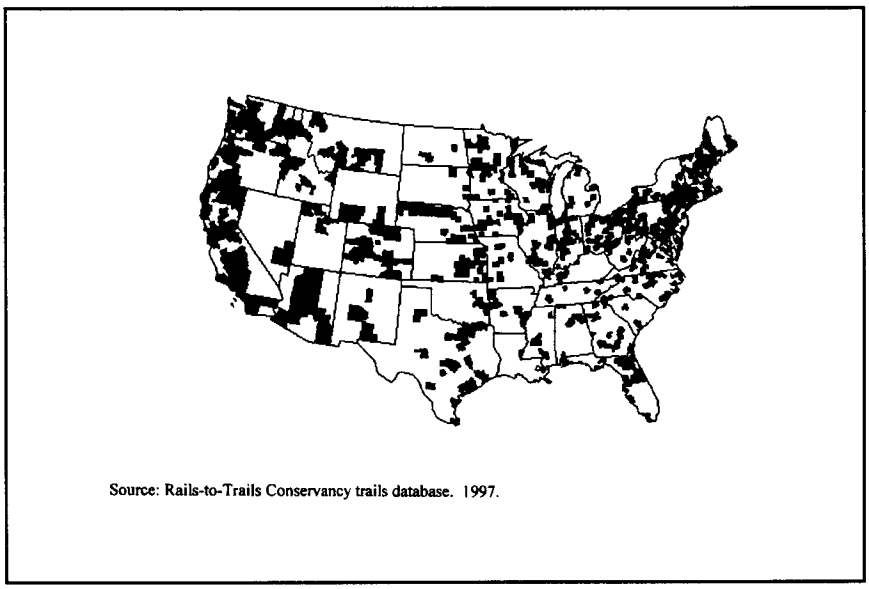
The North region dominates the supply of existing rail-trails in the United States (Figure III.15). The North accounts for 80 percent of the total rail-trail mileage and 70 percent of the trails. The states of Michigan, Minnesota, Wisconsin, and Pennsylvania alone make up almost half of the national trail mileage (48 percent) and nearly one-third of the trails. The North also has the nation's longest rail-trail (Missouri's Katy Trail, 185 miles and still developing) and its busiest (Boston's Minuteman Trail, used by more than two million people annually). The Rocky Mountain region has the fewest trails and least trail mileage. Rail-trail projects that are not currently open to public use are also dominated by the North, but are much more evenly distributed than existing rail-trails (Figure III.16). The same is true for their mileage.

Figure III.15: Counties with Existing Rail-Trails, 1997



Source: Rails-to-Trails Conservancy trails database. 1997.

Figure III.16: Counties with Rail-Trail Projects Not Yet Open for Public Use, 1997



Source: Rails-to-Trails Conservancy trails database. 1997.

As expected, walking is the most prevalent use, occurring on almost 90 percent of the trails (Table III.26). The next most common use is cross-country skiing, allowed on more than half of the trails nationwide, although most are in the North. Among types of trail use, snowmobiling is allowed (or suitable) on the least number of trails, but the mileage of snowmobile trails is substantial, particularly in the North. There are no suitable snowmobile trails in the South and only two in the Pacific Coast region.

Bicycling is also a popular and common use, but mountain biking is not allowed on as many trails. Mountain biking trails do comprise more mileage, however, which probably reflects the longer lengths of these mostly unpaved, overland trails. The relatively small amount of trail mileage on which in-line skating is allowed probably reflects the limited number of paved trails, as much as it does use restrictions. Only about one-third of trails are either asphalt or concrete and they make up less than one-fourth of the mileage. Fishing and horseback riding are other recognized uses for which many trails are not appropriate or suitable due to their location or surface. Wheelchairs are accommodated on about 44 percent of trails. Many unpaved trails, therefore, are classified as wheelchair accessible.

RTC recently shifted its strategic focus from corridor preservation and individual trail development to connecting rail-trails into a nationwide system of trails and greenways. Of particular interest and concern is the need to develop and expand trails in urban areas. Trails can play an important role in developing sustainable communities by preserving green infrastructure, providing alternative transportation routes for non-motorized roads, and promoting economic development. Many urban areas now have the beginnings of trail systems. The St. Louis region, for example, has a burgeoning trail network on both sides of the Missouri River that is made up of 20 different trails, both short and long, urban and rural. Likewise, the Washington, D.C. area has several trails that originate in various suburbs and, like spokes on a wheel, connect those suburbs to the city center. These trails are used by commuters as well as for recreation.

Nationally, the most significant development affecting rail-trails is the renewal of the federal transportation legislation that has provided funds for more than 750 trails and trail projects. ISTEA was adopted in 1991 and has provided significant funding for trails through the Transportation Enhancements and other programs. The Enhancements program set aside more than $1 billion for projects that enhanced the nation's transportation facilities for non-motorized vehicle modes, such as pedestrians and bicycles. The reauthorization of this legislation occurred in October 1997.

On the legal front, *Preseault vs. the State of Vermont* is challenging the viability of the federal railbanking statute. While railbanking is a useful method for facilitating the preservation of a rail corridor, only about five percent of rail-trails are railbanked. The U.S. Supreme Court upheld the constitutionality of the railbanking statute, but it remanded the decision of the land takings issue back to a lower court. This court recently ruled that the railbanking law caused a land taking from the Preseaults and that they are entitled to compensation for that taking. The next step is for the court to assess the damages due to the Preseaults.

While the outcome of ISTEA reauthorization and the Preseault case will have some bearing on the development of rail-trails, the number of rail-trails already in the project stage ensures that a steady stream of new trails will be opening all over the United States well into the future. Together, open and projected trail miles sum to over 27,000 miles of (expected) trails in the United States. RTC's database also contains an additional 2,850 miles of trail that are connected to rail-trails but are not part of the abandoned rail lines (not included in Table III.26). Although a comprehensive database of all greenway miles—including other types in addition to rail-trails—does not exist, the number is easily in the tens of thousands of miles currently. With proposed greenways of all types included, the total length of U.S. greenways probably approaches 100,000 miles. These numbers tell only the statistical part of the story of greenways, much of which has occurred since the late 1980s. Clearly, greenways are one of the most significant developments in outdoor recreation in the United States over the past decade.

PRIVATE SECTOR RESOURCES FOR OUTDOOR RECREATION

The private sector is the fourth major provider of outdoor recreation resources in addition to the federal, state, and local levels of government. Private land (including water) and businesses play a critical role in supplying outdoor recreation opportunities, especially in regions of the country with relatively little public land. Private land provides a variety of settings for outdoor recreation, from the highly developed to the primitive. Some recreation activities like gardening and family gatherings, not to mention informal relaxation and sunbathing, occur predominantly on private land.

Recreation businesses provide many of the necessary inputs that consumers need for satisfying recreation experiences. Businesses manage natural resources, provide facilities and equipment, and offer leadership and other services to individuals or groups that recreate outdoors. In addition, semiprivate, not-for-profit groups, including land trusts, conservancies and the like, manage resources and make some available to the public for recreation. In this section, we look broadly at private recreation resources in two general categories: land and recreation businesses.

Private Recreation Land

National Private Landowners Study

The National Private Landowners Study (NPLOS) was conducted by the FS, USDA Natural Resources Conservation Service, and the University of Georgia in 1975, 1985, and again in 1995.[35] A major purpose was to investigate private landowner practices with respect to recreation and accessibility. Private land was classified into one of five categories: (1) closed to public access, (2) leased to individuals or groups for recreation, (3) reserved for family and friends' recreational use only, (4) open to the general public for recreation, and (5) undesignated. An estimate of the amount of land in each of these categories was calculated for every county in the coterminous United States. Two of the categories, open and leased land, indicate accessibility of private land to the public for recreation, both with and without a price.

The 1992 National Resources Inventory estimated a total of about 1.3 billion acres of nonfederal forest and agricultural land in the United States, excluding Alaska. Roughly 181.1 million of these acres (14 percent) are nonindustrial private land available for outdoor recreation (Table III.27). Most of these 181 million acres are open to the general public (72 percent); the remainder are leased to either individuals or groups (28 percent). The South, with about 64.2 million acres either open or leased, has over one-third of the U.S. private land that is available for recreation. Next is the Rocky Mountains (56.3 million acres), followed by the North (47.1 million) and Pacific Coast (13.5 million).

Table III.27: Area of Private Land Open and Leased for Outdoor Recreation by Region, 1995

Availability of Private Land	Region (1000 acres) North	South	Rocky Mountains	Pacific Coast	U.S. Total
Open to general public	42,105.8	30,262.1	45,882.5	12,233.8	130,484.2
Leased to individuals and groups	5,028.8	33,906.8	10,404.7	1,231.8	50,572.1
Either open or leased	47,134.6	64,168.9	56,287.2	13,465.6	181,056.3

Private land available in the South is about evenly split between open and leased, but in all other regions the amount of leased land is relatively minor. In the North and Pacific Coast, the ratio of open to leased land is about nine to one. Land open to the general public for outdoor recreation in the North makes up 89 percent of available private nonindustrial land versus 11 percent that is leased. In the Pacific Coast, open land accounts for 91 percent of the available land and leased land the remaining 9 percent. The Rocky Mountains are somewhat less dominated by open land, with leased land comprising 19 percent of the regional total available for recreation. The South has more than three times as much leased land as any other region and accounts for two-thirds of all leased land in the United States. The Rocky Mountains have the most open land acreage (45.8 million), followed closely by the North (42.1 million acres).

The 1985 NPLOS also estimated acreages of private nonindustrial land in each of the five access categories, but methodological differences between the two studies make comparisons difficult. Considering this caveat, the trend between the two surveys indicates an estimated 35 percent decline in amount of land available for public outdoor recreation, down from 278 million total acres in 1985. The most pronounced change was in the amount of open land in the Rocky Mountains, which fell by an estimated 43 million acres. In addition, open land in North declined by 39.6 million acres. Leased acreage actually increased slightly overall nationwide by less than a million acres. Both the South and Rocky Mountains showed significant gains in leased land, the North only a modest loss, but the Pacific Coast showed a substantial loss of about 10 million acres.

[35]See Chapter IV for thorough coverage of the results and findings of the 1995 NPLOS.

Outdoor Recreation on Private Land in the Northeast: Case Briefs

(By Wilfred E. Richard, Outdoor Ventures North, Inc., Georgetown, ME, and Lloyd C. Irland, The Irland Group Forestry Consultants, Winthrop, ME)

Introduction

This article describes four examples of how the private sector and public/private partnerships have responded to provide outdoor recreation opportunities on private land in the northeastern United States. Just under 94 percent of the land area of Maine, New Hampshire, and Vermont is in private ownership. In Pennsylvania, hunting is a major activity requiring extensive blocks of land. Thus, the importance of privately owned resources for outdoor recreation is obvious (Northern Forest Lands Council, 1994). Also important is the economic issue of supplementary income for the landowner.

Private land available for public recreation is declining due to a number of factors, including the purchase of second homes by nonresidents and the associated fragmentation of the landscape, urban development, and the increased posting of land. Also affecting recreational access to private land are concerns about landowner liability, perceptions of government interference and 'takings,' and state regulations that inhibit recreational development. It is generally agreed that "... in the best interest of forest conservation, large industrial holdings [should] remain under the stability of forest industry ownership" (Brown, 1993a, p. 14). However, if public use of private land is to be achieved in an emerging multiuse and multi–owner landscape, outdoor recreationists must be perceived as legitimate users and responsible users.

As population and the demand for outdoor recreation continue to increase, there is a growing need to develop more access to privately forested land and to enhance the amenities of that land. Because of technological advances in outdoor recreation gear and equipment, demand has not only grown but is also becoming increasingly diverse with activities for every season. An increasingly differentiated market has developed in both mechanized (e.g., snowmobiles, ATVs, dirt bikes, jet skis) and nonmechanized (e.g., sea kayaking, whitewater rafting, nordic skiing, winter hiking, nature photography) recreation. Case briefs presented below describe a variety of recreation activities and resources provided on private land: a winter recreation program in Maine, an innovative backcountry lease agreement in New Hampshire, a general state strategy for assuring private land access in Vermont, and a statewide hunting lease program in Pennsylvania.

Maine Snowmobile Program

Maine has about 11,000 miles of snowmobile trails that are managed through the state's snowmobile program. Involved in this cooperative program are two partners: the Snowmobile Program of the Maine Bureau of Parks and Lands, and organized snowmobile clubs. This program is funded by the state of Maine through a dedicated account that is supported by a percentage of snowmobile registration fees and snowmobile gasoline taxes. The clubs initiate the approach to landowners for trail use and/or development rights. If the clubs do not work with the respective landowners, the state will not fund development or maintenance of a trail.

If issues do arise between owners and users, the state steps in to serve as mediator. Though snowmobile clubs make the initial time and financial commitment to develop a new trail, they are then reimbursed through the dedicated funds. According to the state administrator of the program, reimbursement is through a grant application process which is based on "a great deal of trust" between clubs and the state. This trust involves two key elements: that permission has been extended by a landowner to a club and that claimed expenses for development and maintenance are genuine. Capital equipment purchases (e.g., trail grooming machines) with these dedicated funds are not allowed. However, this prohibition is currently being reviewed.

In terms of liability, the state avails itself of "common law liability," referred to as the "landowner liability" law and the "recreational use" statute that guards against liability for recreational and harvesting activities (Title 14, M.R.S.A. Section 159-A). Under this protection, whether a landowner gives permission or not, the landowner is protected:

> If someone uses your land or passes through your land for outdoor recreation or harvesting, you assume no responsibility and incur no liability for injuries to that person or that person's property. You are protected whether or not you give permission to use your land (Androscoggin Land Trust, 1996).

In addition, the state's Bureau of Parks and Recreation maintains a $300,000 liability policy. To date, even in the light of many fatal accidents over the 20-plus year history of the state snowmobile program, there has not been one instance of legal action being brought against the state.

In terms of land easements, the program does not grant easements, per se. What the Bureau of Parks and Recreation of the Department of Conservation does, though, is to purchase or lease abandoned railroad beds and convert them into multiuse trails. Finally, there are cross-border trail linkages known as the "Interstate Trail System."

Phillips Brook Backcountry Recreation Area

Mountain Recreation, a company based in Conway, New Hampshire, has designed an innovative strategy for developing and managing recreational land while not actually owning the land itself. Conducting operations as a subsidiary, Timberland Trails, Inc. (TT), Mountain Recreation has a three-year "recreation rights" contract with International Paper Timberlands Operating Company. TT is developing and managing the Phillips Brook Backcountry Recreation Area on International Paper–owned land in northern New Hampshire. Opened in the summer of 1997, it offers backcountry lodging and trail facilities on 24,000 acres of wildlands. Through this arrangement, a "flexible trail system" has been developed, one that uses existing skid roads as trails; conversely, trails may be used as skid roads as circumstances require. The private timber company's interest in the project is summed up by Duane Nadeau, timberlands manager for International Paper (Jimenez, 1997):

> To the best of our knowledge, this will be the first time in the United States that a private professional recreation company will be co-managed with industrial forestry on private lands. The way things are right now, the forest owner has nothing but the income from timber to support the property. The costs of road building, insurance, managing land, and all other costs continue to rise, but the trees can only give you so much. It's reached the point where there has to be some other revenue source for land to remain commercial forest, and recreation is an obvious place to look.

In terms of liability, TT maintains a management program for risk reduction. All risk factors are examined and subsequently reduced through a management plan. For example, TT field representatives review waiver agreements with clients who choose to visit Phillips Brook. In this fashion, clients are made fully aware, in writing, of the risk associated with a back country adventure. TT has essentially a two-track strategy. First, as New Hampshire state limited liability protection applies to non-fee recreation, the public is invited to bike, hike, and ski on Phillips Brook trails at no charge. By not charging the public for use of land or trails, the issue of liability is resolved. Instead, fees are charged for lodging and meals. Second, an agreement is maintained that names the landowner, International Paper Timberlands Operating Company, as co-insurers and includes a hold-harmless agreement for TT. This agreement is substantively similar to Maine's landowner liability law.

Under the direction of Mountain Recreation President Bill Altenburg, TT serves as an interface between the public and the landowners. There is no threat that the public will become a landowner through imposition of eminent domain under the National Trail Systems Act of 1968—which provides for taking up to a 1,000 foot corridor along a trail—or through any other federal or state regulatory entity. Through this land management method, landowners are protected from "creeping corridors" that may interfere with an owner's use of the land. But, at the same time, the land is made available to the public. The local press has written many positive stories about Phillips Brook with headlines such as "use of trails is free" (Tetreault, 1997), "have fun on paper company land" (Marvel, 1997), and "new rec area is paradise" (Tracy, 1997).

Additionally, one of Altenburg's missions is to educate the public about the concept of an industrial forest. Strategically, the goal is a multiuse forest as recreational and industrial land in which both industry and the public have a stake. Apparently, consideration is being given by other paper companies in both New Hampshire and Maine to utilize the Mountain Recreation approach as a model. Mountain Recreation is also negotiating for similar projects in Montana, Idaho, Washington, and New York. The usual approach to recreation by paper and land management companies, who own much of the industrial forest, is to basically monitor use.

Vermont Private Lands Task Group

In Vermont, as in Maine and New Hampshire, the amount of private land available for public recreation is declining due to a number of factors including rural migration and increased levels of litigation. The incidence of posting is increasing, particularly as parcels of land become fragmented into vacation or second-home sized lots, usually of a few acres (Brown 1993b). This fragmentation has resulted in the Vermont Private Lands Task Group designing a strategy to slow the downward spiral of land available to the public. With approximately 90 percent of its total land in private ownership (not just forested land) and with an important recreation–based tourism sector, the state of Vermont has taken policy and program action to encourage maintenance of the traditional use of private land by the public. As a result of this effort, two publications have been produced. The first was written by the "Public Outdoor Recreation on Privately-Owned Lands Task Force" released as a report by that title (Vermont Agency of Natural Resources, 1994). While the report lists 10 issues, goals, and actions that it identifies as requiring action, two in particular stand out:

- Landowners may face the threat or loss of their traditional uses when recreational groups have access and rights to their land. Suggested goal and associated actions involves working together to communicate that traditional uses of land, such as forestry, constitutes a legitimate use of the land. This corresponds with one of the missions of the Phillips Brook Backcountry Recreation Area, which is to educate the public on the legitimacy and economic value of an industrial forest.
- Some landowners fear the threat of takings (including regulatory, eminent domain, and adverse possession) of private property due to recreational use. While recreationists should be allowed use of land, it should not come at the price of reducing the landowner's ability to make a profit or to otherwise use the land. Landowners would be involved in any planning process for recreational use and in education of the public about the negative affects of "taking" land.

Following publication of the task force report, a booklet entitled "Public Recreation on Private Land: A Landowner's Guide" was released (Vermont Agency of Natural Resources, 1997). That document lists guidelines that are clearly codified here. For example, in the discussion of the responsibilities of recreational organizations, it states that:

- The organization must have the means to educate visitors about allowed uses and proper care of the land.
- The organization must contact the landowner at least annually (or at some other agree-upon interval) to check on his/her satisfaction, problems, and intentions for continued use.

Elsewhere, the guide addresses a specific provision that has been made in Vermont statutes (10 V.S.A. Section 448) for protecting the rights of landowners whose land is crossed by the Vermont Trail System. No public or private owner is liable for injury or damage (p.8). Neither Maine nor New Hampshire specifically limits liability associated with hiking. As with Maine and New Hampshire statutes, Vermont statute (10 V.S.A. Section 5212) releases a landowner from liability for recreational use when a fee is not charged (p.7). The intent is to encourage open access to recreational use by the public, while reassuring the owner that he or she is not incurring great personal risk.

Public Hunting on Private Land in Pennsylvania

Pennsylvania is a major hunting state, with some 2.3 million hunting licenses sold each year. Since the 1930s, its Game Commission has managed a program of arrangements for hunter access to privately–owned land. While often described as a "leasing" program, it involves some minor incentives for the landowners but no cash rental payment. Agreements signed under the program have five–year terms.

Under these programs, hunting access to 4.5 million acres of private land is assured. This is an area equal to 16 percent of the commonwealth's entire land area. This is in addition to the significant amount of state forest and game land that is also available. The program involves about 30,000 individual landowners as cooperators, so it is a major administrative task to operate the program. The total area under the program has been roughly stable in recent years, but this masks considerable dynamism as some owners drop out and are replaced by others.

There are three related programs, one for farms, one for commercially managed timberlands, and one for small tracts. Cooperating land is marked, and rules for using it are taught in hunter safety courses and in

information materials for hunters. No survey has been conducted to determine the amount of hunting activity supported by this land, but it is clearly a huge number. Much of this land is relatively close to cities so it offers a significant improvement in access for many hunters. Hunters must gain the landowner's permission to use the land under the program.

National Private Forest Land Study

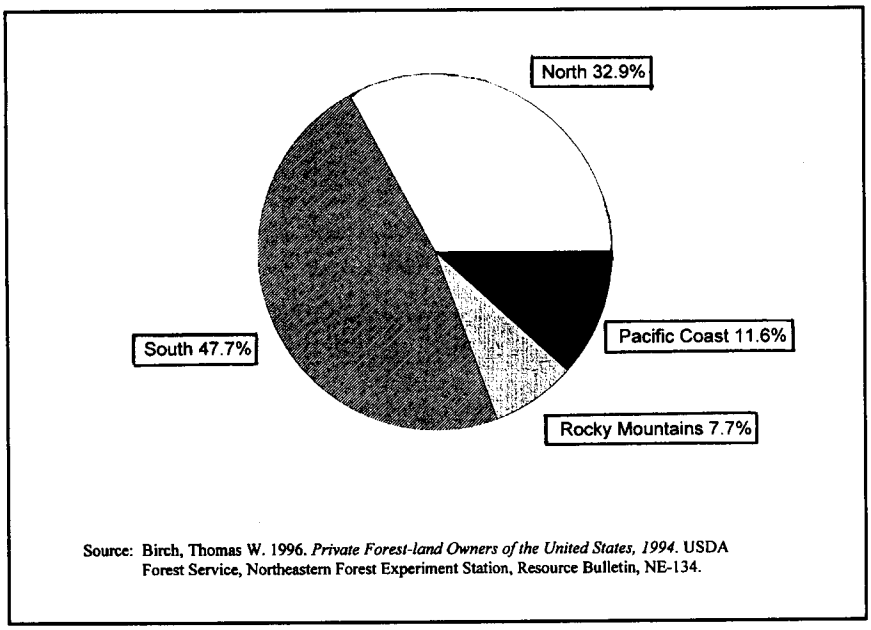
The National Private Forest Land Study, conducted by the FS Northeastern Forest Experiment Station in 1994, sought to learn more about the management practices and ownership objectives of private forest owners. Scientists estimated a total of 9.91 million owners and 393.5 million acres of privately–owned forest (Table III.28).[36] The private forest estate is important because so many recreation activities occur there. More than four out of every five private forest acres are in the eastern United States (Figure III.17). An even higher proportion of private forest land owners are in the East.

Table III.28: Estimated Number of Owners and Acreage of Private Forest Land by Year and Region, 1978 and 1994

Owners and Acres	Year	Region				
		North	South	Rocky Mountains	Pacific Coast	U.S. Total
Owners (1000s)	1978	3,289.5	3,850.4	131.7	486.3	7,757.9
	1994	3,940.1	4,940.2	385.7	644.6	9,910.6
Acres (1000s)	1978	114,054.0	173,133.0	16,135.0	29,771.0	333,093.0
	1994	129,491.9	187,781.8	30,354.7	45,832.6	393,461.0

Source: Birch, Thomas W. 1996. *Private Forest-land Owners of the United States, 1994.* USDA Forest Service, Northeastern Forest Experiment Station, Resource Bulletin, NE-134.

Figure III.17: Percentage of Private Forest Land Acreage by Region, 1994



Source: Birch, Thomas W. 1996. *Private Forest-land Owners of the United States, 1994.* USDA Forest Service, Northeastern Forest Experiment Station, Resource Bulletin, NE-134.

Estimated private forest acreage and ownership units increased considerably between 1978 and 1994, about 18 percent. Ownership units increased even more, at the rate of 28 percent. Size of the average ownership unit stayed about the same in the West (74.2 acres in 1978 versus 73.9 acres in 1994), but declined

[36]This compares to the national total of 394.5 million acres of private forest estimated by the 1992 National Resources inventory.

somewhat in the East (40.2 acres in 1978 versus 35.7 acres in 1994). Individually–owned forest land accounted for about three-fifths of the total in 1994 (Table III.29). Most of the rest is owned by corporations, with the remainder belonging to partnerships and other owners. The share of individual and other owner acreage increased between 1978 and 1994 while those of partnerships and corporations dropped from 41 percent of forest land to 35 percent. Corporate acreage still increased, however, and comprises more than one of every four private forest acres in the United States. This is especially true in the Pacific Coast and South, where 52 and 28 percent of private forest acres, respectively, are owned by corporations. The North and Rocky Mountains are both around 20 percent.

Table III.29: Estimated Number of Acres of Forest Land in Private Ownership by Type of Ownership, United States, 1978 and 1994

Type of ownership	1978		1994	
	Millions	Percent	Millions	Percent[1]
Individual	183.5	55.1	232.3	59.0
Partnership	35.8	10.7	29.7	7.5
Corporation	101.1	30.4	107.1	27.2
Other	12.7	3.8	24.3	6.2
All Ownerships	333.1	100.0	393.4	100.0

[1]Numbers may not sum exactly to totals because of rounding.

Source: Birch, Thomas W. 1996. Private Forest-Land Owners of the United States. USDA Forest Service, Northeastern Forest Experiment State, Resource Bulletin NE-134.

The "other" category of forest land ownership includes recreation and sport clubs, undivided estates, trusts, and Indian tribal land. Of the U.S. total of 24.3 million acres in this category, almost one-third are owned by recreation or sport clubs (Table III.30). In the North, 3.77 of 3.93 million 'other' acres (96 percent) are owned by recreation or sport clubs. Recreation clubs are also prevalent in the South, with 2.86 of 5.27 million acres (54 percent) of 'other' private land. In the Rocky Mountains, just five percent of 'other' private land is owned by recreation/sport clubs and in the Pacific Coast, the figure is 14 percent.

Table III.30: Acres of Recreational Uses and Benefits of Private Forest Land by Region, 1994

Use/Benefit	Region (1000 acres)				
	North	South	Rocky Mountains	Pacific Coast	U.S. Total
Recreation/sport club or association	3,776.5	2,857.2	638.5	491.2	7,763.4
Recreation as one of top two reasons for owning woodland	34,347.0	32,832.2	6,009.6	5,649.7	78,838.5
Recreation as one of top two expected future benefits of owning woodland	41,931.6	44,251.5	8,991.9	7,772.3	102,947.3

Source: Birch, Thomas W. 1996. Private Forest-Land Owners of the United States. USDA Forest Service, Northeastern Forest Experiment State, Resource Bulletin NE-134.

Two other indicators of outdoor recreation use and benefit are shown in Table III.26. Private forest land owners were asked to list the reasons they own woodland and the benefits they expect to derive during the next 10 years. Respondents who rated recreation as one of the top two reasons for owning their land own 78.8 million of the 393.5 million acres (20.0 percent) of private forest. The proportion who listed recreation as a primary objective was highest in the North (27 percent) and lowest in the Pacific Coast (12 percent). A little more than one-fourth (26 percent) of respondents nationally said that they expect recreation to be one of the top two benefits they derive from their land during the next 10 years. They own about 103 million acres of forest. Again, a larger proportion of forest owners in the North Region expect these benefits. They own about 32 percent of private forest land in the North. The Rocky Mountains follows closely with 30 percent of the acres expected to provide future recreational benefits. Percentages in the South and Pacific Coast are also higher for expected benefits than for stated ownership reasons. In the South, 24 percent expect future benefits from recreation and in the Pacific Coast, 17 percent.

Nature Conservancy Land

Another type of land with significant outdoor recreation value is the semiprivate land managed by land trusts and conservancies. The largest and best known of these is The Nature Conservancy (TNC). Their land is classified as 'semiprivate,' but while most of it is owned by the conservancies or other private owners, a large percentage is open for recreation. TNC maintains a comprehensive database of tracts it has identified as having significant natural values, as well as properties it owns or manages. For the latter, TNC describes public access allowed and resource protection status.

Visitors examine wetlands at the Nature Conservancy's Cape May Migratory Bird Refuge in New Jersey. Photo courtesy of the Nature Conservancy. Photograph by Connie Gelb.

TNC's database consists of 7,159 tracts totaling 3.33 million acres. A little over half of this land (1.71 million acres in 5,165 tracts) is designated as part of a "Managed Area." Managed Areas are defined by management, not ownership, and are created to characterize natural areas under protective management. The remaining 1,994 tracts totaling 1.62 million acres are not part of a designated Managed Area. They have been identified as having significant ecological values worthy of preservation. Little additional information is available on these undesignated tracts. Once the tract owner agrees to protect certain site values or characteristics, the tract is reclassified as a Managed Area.

The 1.71 million acres of Managed Areas are fairly evenly distributed between the eastern and western United States, with the most in the Rocky Mountains (35 percent) and North (29 percent), and the least in the Pacific Coast (20 percent) and South (16 percent) (Table III.31). About 1.2 million acres of the Managed Areas are managed as Nature Conservancy Preserves. More preserves are located in the Rocky Mountains (43 percent of preserve acreage) than in any other region. In 1987, Nature Conservancy Preserves totaled about 823,000 acres. The increase of 387,000 plus acres represents a 47.0 percent gain in preserve resources.

Table III.31: Acres of Land Managed by the Nature Conservacy by Classification, Access, and Region, 1997

Classification and Access	Region (1000 acres)				
	North	South	Rocky Mountains	Pacific Coast	U.S. Total
Managed Areas	493.4	272.8	595.5	346.1	1,707.8
Open to public access[1]	237.5	101.5	391.2	74.5	804.7
Restricted public access	105.3	51.8	27.7	146.4	331.2
Closed to public access	34.8	11.5	14.3	9.1	69.7
Preserves[2]	225.1	175.1	517.1	292.9	1,210.2

[1]Open, restricted and closed public access do not sum to Managed Area acres because 502,200 acres did not have public access information.

[2]Preserves are part of the Managed Areas. The approximately 500,000 acres of Managed Areas that are not Preserves are either resources managed by other organizations or resources managed by The Nature Conservancy, but not established as Preserves.

Source: The Nature Conservancy. Managed Area Basic Record file.

Just under half of the Managed Areas (804,700 acres) are open to the public and another 19 percent of Managed Area acres have restricted public access. Further information about the recreation on these areas is not available, but it is fairly safe to assume that the permitted types of recreation must have low impact. Nature study and wildlife observation are undoubtedly the most common form of recreation that occurs on the Managed Areas. Nearly half of the open acres are in the Rocky Mountains, while under 10 percent are in the Pacific Coast. No information was available about public access to just under 30 percent of the Managed Areas.

Private Recreation Businesses

Campgrounds

(By Douglas McEwen, Professor, Southern Illinois University, Carbondale, Illinois)

Privately–owned campgrounds have been in existence since the early 1930s, when they were first chronicled in the Woodall Publishing Company's 1937 edition of "Trailering Parks and Campgrounds." During World War II many of these campgrounds were converted to emergency housing, and then became mobile home parks. Private campgrounds became an important sector of the outdoor recreation supply system in the mid-1950s, when many private landowners started operating small campgrounds. Later, many additional campgrounds were developed along interstate highways to serve the traveling camper (McEwen & Profaizer, 1989).

Although most Americans associate the term campground with a rustic, tree-shaded area, the word has also been used to describe sites with a half-dozen recreational vehicle (RV) gravel parking spaces attached to a truck stop or mobile home park. On the other hand, luxurious RV parks with manicured sites, full-service bathrooms, and numerous recreation amenities have too been called campgrounds. Since differences between the types of campgrounds are great, the National Association of RV Parks and Campgrounds generally recognizes luxury RV parks where visitors live for two to 12 months per year as being distinct from campgrounds where visitors stay for shorter periods and receive fewer amenities. Still, the range in campground conditions is great and presents difficulties in deciding which units to include in a national inventory.

Woodall Publishing Company, which has been conducting in-depth analyses of its campground national inventories just since 1987, annually reviews its listing of campgrounds and RV parks, deleting between three and five percent each year because of poor quality. This inventory, conducted in conjunction with the publication of their campground directory, is the best and most consistent source of data on private campgrounds in the United States. The word "campgrounds," as defined by Woodall's inventory, includes both RV parks and campgrounds.

In 1996, the Woodall Publishing Company inventory listed a total of 6,900 private campgrounds (Table III.32). The two eastern regions account for 53 percent of private campgrounds nationwide, the North leading all regions with 36 percent. In 1977, there were 8,164 campgrounds with 68 percent in the East. The national net loss of 1,264 private campgrounds occurred primarily in the East, and especially the North, which lost more than 1,000 campgrounds, a 29 percent drop in the past 20 years.

Nationally, the total number of private campgrounds has shrunk by 15 percent since 1977. Many of the closed campgrounds were probably small, inefficient, and unprofitable. The trend seems to be accelerating in the private campground sector. Between 1977 and 1987, only about one percent of the private campgrounds were closed, but between 1987 and 1996 the decline was 14 percent. Patterns differ somewhat among regions. The rate of decline between 1977 and 1996 was much less in the South and Rocky Mountains. Meanwhile, the Pacific Coast essentially stayed the same with a net loss of only seven campgrounds.

Table III.32: Number of Private Campgrounds and Campsites by Year and Region

Type of Site and Year	Region				
	North	South	Rocky Mountains	Pacific Coast	U.S. Total
Campgrounds					
1977	3,515	2,058	1,393	1,198	8,164
1987	3,174	2,114	1,431	1,343	8,062
1996	2,504	1,850	1,355	1,191	6,900
Campsites					
1977	352,933	202,496	88,740	72,553	716,722
1987	409,196	280,046	144,499	113,969	947,710
1996	334,847	233,724	139,783	103,319	811,673

Source: Woodall Publishing Company campground inventory database. Lake Forest, Illinois.

The trend of decreasing private campgrounds in the North seems to be accelerating. The 10 percent drop from 1977 to 1987 increased to 21 percent between 1987 and 1996. The other three regions gained campgrounds during the first decade and lost in the second. The South increased slightly between 1977 and 1987, but then dropped 12 percent between 1987 and 1996. Private campgrounds in the Rocky Mountain region increased slightly between 1977 and 1987, but then declined during the 1987 to 1996 period resulting in a net loss of 38 units. In the Pacific Coast, a 12 percent increase in the first decade was followed by an 11 percent loss in the second decade.

In 1996, there were a reported 811,673 private campsites in the United States (Table III.28). Distribution of campsites is similar to that of campgrounds; 86 percent of all sites are in the East. The North contained almost one-half (49 percent) of all campsites. During the 1977 to 1996 period, there was a 13 percent increase in the number of campsites nationally, but this figure masks a mixed pattern. Between 1977 and 1987 there was a 32 percent increase in the numbers of campsites, followed by a 14 percent decrease between 1987 and 1996. In all regions, campsite numbers grew substantially between 1977 and 1987, but then declined between 1987 and 1996. The net result, except in the North, was an increase in the number of campsites over the 20-year period. In the North, however, overall campsite numbers decreased five percent from 1977 to 1996. In the South, the total number of campsites grew 15 percent from 1977 to 1996. The growth was fueled by a vigorous 38 percent increase of private campsites between 1977 and 1986, but was tempered by a 17 percent decline between 1987 and 1996.

In the western regions, percentage growth rates were strong, but the base number of campsites is much smaller than in the East. The Rocky Mountain region experienced a 58 percent gain in private campsites between 1977 and 1996. The Pacific Coast Region grew at the rate of 42 percent during the same period. Both western regions also experienced gains in the first decade followed by losses in the second. The Rocky Mountains added campsites at the rate of 63 percent between 1977 and 1987, then lost at the much smaller rate of three percent between 1987 and 1996. The situation was similar in the Pacific Coast: a 57 percent increase between 1977 and 1987 followed by a nine percent decline between 1987 and 1996.

Large increases in the number of campsites between 1977 and 1987 (especially in the South, Rocky Mountains, and Pacific Coast), combined with a decrease in the total number of campgrounds during the

same period, indicate a trend toward larger campgrounds. This change could indicate that large numbers of small, unprofitable campgrounds closed during that period.

Woodall Publishing Company classifies campsites as: (1) full hookup with water, sewer, and electricity, as well as television and cable service in some cases; (2) water and electricity; (3) electricity only; and (4) no hookups. In 1996, 59 percent of private campsites in the United States had full hookups; 27 percent had water and electricity; just two percent had electricity only; and 12 percent had no hookups (Table III.33). As in previous years, the private sector accounted for the vast majority of all full hookup sites, about 480,000 compared to just under 20,000 in the public sector. A similar pattern holds for water and electricity campsites, though not to the same extent as full hookup sites. The public sector has traditionally provided rustic, no-hookup campsites and accounts for 69 percent of these sites nationwide. The same pattern was also true for the electricity–only sites, with 81 percent provided by the public sector.

Table III.33: Number of Campsites at Private Campgrounds by Type of Amenity and Year, 1977-1996

Type of Amenity	Year		
	1977	1987[1]	1996[1]
Full hookup	285,532	483,672	480,783
Water & electricity	269,551	310,066	220,521
Electricity only	47,752	30,900	17,689
No hookups	113,887	122,585	94,667
All sites	716,722	947,223	813,660

[1]Woodall Publishing Company's 1987 and 1996 data on campsite types do not match exactly the total number of U.S. campsites as shown in Table III.33.

Source: Woodall Publishing Company campground inventory database. Lake Forest, Illinois.

Between 1977 and 1987, over 198,000 full hookup campsites were constructed in the private sector, a 69 percent increase. During that same period, there were modest increases in water and electric sites, up 15 percent, and no-hookup sites, up eight percent. However, during the 1987 to 1996 period, the number of water and electric, electric only, and no-hookup sites declined substantially. The net results over the 20-year span was an 18 percent drop in the number of water and electric sites, a 17 percent drop in no-hookup sites, and a dramatic 63 percent drop in electric only sites. While many private campgrounds still maintain a number of no-hookup campsites in tenting or overflow areas, the great momentum is toward full-hookup sites. Since most customers demand water as well as electricity, providing only the latter is a fading venture. Indeed, only about two percent of all commercial campsites are electricity only.

Woodall's inventory lists a wide variety of private campground facilities and services ranging from laundry to recreation programs. About 58 percent of the campgrounds are open year round and 61 percent lease sites to campers on an annual basis. The number of sites leased on a seasonal basis grew substantially between 1977 and 1987 (62 percent), but then slowed between 1987 and 1996. It appears that more of the private campgrounds remaining in business are offering seasonal leases, a trend that is likely to continue into the future. Approximately one-third of the campgrounds offer cable TV and phone hookups. Between 1987 and 1996, the number of campgrounds offering these communication services almost doubled, another trend likely to continue.

Private campgrounds offer a variety of recreation facilities, with horseshoes being the most popular. Over 64 percent of the campgrounds have horseshoe pits, probably because this is a very inexpensive facility to build and maintain. About 44 percent of private campgrounds provide playgrounds. This proportion is slightly lower than in previous years. Federal consumer product safety standards have been published for playgrounds, and owners can be held liable if playgrounds do not meet these strict standards. Retrofitting or replacing playgrounds is expensive, and it is possible that owners are removing these structures rather than face increased liability risks.

Also declining are the numbers of swimming pools, down 35 percent between 1977 and 1987 and 11 percent between 1987 and 1996. Overall, there has been a 42 percent decrease in the number of camp-

grounds with swimming pools over the last 19 years. Reasons for this drop are unclear, but the number of smaller campgrounds dropping out of the market might explain the decline. In general, the larger, luxurious campgrounds have swimming pools.

Finally, the number of campgrounds offering boating declined by 27 percent between 1977 and 1996. The decline could be explained by the closing of smaller, rural campgrounds that usually had a small lake or pond for boating. Unfortunately, comprehensive data on campground facilities and programs are not available from the public sector for a comparison. With regard to restrictions, the number of private campgrounds excluding tents seems to be slowly rising. Now, 20 percent exclude tents. It is unlikely that any public campgrounds exclude tents.

A major recreation resource somewhat related to private campgrounds yet unique in its own right is the "Organized Camp." They are similar in that both provide access to camping opportunities, but organized camps are very much program–oriented and mostly geared toward youth. About one-quarter of U.S. organized camps are for-profit businesses, so they do not necessarily belong in the same category as private campgrounds or other recreation businesses. However, they are not exactly public resources either, since the majority are operated by youth agencies and religious organizations. They are often referred to as "semi-private" resources because most do not exclude people as private firms do, but they are not supported by public tax dollars. In any event, organized camps are a significant outdoor recreation resource that introduces thousands of young Americans to the outdoors. Data are not available on the amount of land and water resources that make up organized camps in this country, but the large number of camps assures that it is not inconsequential.

Organized Camps in the United States

(By Connie Coutellier, Professional Development Director, American Camping Association, Martinsville, IN)

Philosophy and Management of Organized Camps

More than 8,500 day and resident camps of varying types, lengths, and sponsorships flourish throughout the United States. Camps provide a sustained, group living experience in an outdoor setting and utilize the resources of the natural surroundings to contribute to each camper's mental, physical, social, and spiritual growth. Each summer, more than six million children and adults take advantage of these organized recreational and educational opportunities. In a 1996 American Camping Association (ACA) survey of organized camps, over 50 percent of the respondents reported an increase in enrollment of 15 percent over the 1995 figures.

Today, the management of camps requires skill, vision, and innovative strategies for success. ACA is a nonprofit educational organization representing all segments of the camp profession including agencies serving youth, independent camps, religious and fraternal organizations, and municipal government operated camps. Approximately 6,200 camps are operated by nonprofit groups including youth agencies and religious organizations, and 2,300 by privately owned independent for-profit operators. The most popular session length is one week to two weeks, although the majority of independent camp operators offer four, six, and eight week sessions. Summer camps for children, adults, families, and seniors operate under trained professionals and have volunteer or paid staff to work with their special client groups. Camps may be found in rural, suburban or urban communities, operate on several thousand back country acres, or in city parks.

Camps are designed in a variety of styles and formats and provide activities that vary to meet many interests. Most camps offer a general program of outdoor activities such as hiking, swimming, sports and games, arts and crafts, and nature awareness. Some camps have special emphasis on programs such as horseback riding, water sports, music, or adventure challenge activities. While camps provide facilities and services for a broad range of children, youth, and adults, some camps provide services to special groups. There are programs for seniors, families, campers with cancer, gifted and talented children, youth at risk, diabetics, asthmatics, or persons with disabilities.

Summer camps employ more than 500,000 adults to work as counselors, program or activity leaders, unit and program directors or supervisors, and in support–services roles such as maintenance, administration, food service, and health care. Most camps average from 40 to 50 percent returning staff. In the past 10 years there has been an increase in the use of international staff to expose campers to different cultures.

Types of Camps

Of the estimated 8,500 American camps, approximately 5,500 are resident camps and 3,000 are day camps. Resident camps are designed for campers staying at camp from several days to eight weeks. They sleep overnight in cabins, tents, tepees, or other forms of shelter, and participate in a variety of supervised activities. Having grown by nearly 90 percent in the past 20 years, day camps offer sessions and age-appropriate programs similar to resident camps. Campers are often transported to camp by bus or van, and return home each day in the late afternoon. Trip camps provide programs where participants transport themselves to different sites by backpacking, riding, or canoeing. Travel camps often transport campers by car or bus to geographic and topographic places of interest. Family camps offer cross-generational activities on weekends throughout the year, as well as family sessions during the summer. Family camps have increased more than 500 percent in the past 12 years.

A number of resident camps offer licensed child care and day camps on their sites for the benefit of their neighboring communities. In addition to the increase of children with disabilities being mainstreamed into camps, many new camps have opened to provide specialized services to children with special medical needs. Camps are also recruiting and serving more international campers.

Year-round use of camp facilities is a growing trend. Programs are evolving from spring and fall ancillary weekends to winterized full–service operations seven days a week. Many camps work with schools to provide environmental education during the school year, provide year–round program and food services and have some year–round staff. Camps can often be rented to other groups wishing to provide camping services to their constituents. With meeting rooms, sleeping and eating accommodations readily available, many facilities are both camps and year–round conference or retreat centers.

Accredited Camps

As the accrediting body for the camp profession, the American Camping Association is an advocate for the accredited-camp experience. ACA Standards are continually revised and updated to reflect the needs of camps, the public and the changing body of laws and regulations. Although many state and federal laws and regulations address basic sanitation and food service concerns, ACA standards go a step further in addressing the specific areas of programming, personnel, health care, and management practices. Separate standards are applied to activities such as aquatics, horseback riding, adventure challenge activities, and travel and trip programs. ACA publishes a *Guide to ACA-Accredited Camps* available from their bookstore and in libraries. It provides camp listings and program information for parents and for those seeking summer employment in a day or resident camp.

While fees to attend camp vary, they generally range from $15 to $100 per day for resident camps and from $10 to $50 per day for day camps. Nearly 85 percent of ACA-accredited camps offer some level of financial assistance to more than one million children from economically–deprived families, or to those who may have special medical needs or are in special situations that might preclude them from attending camp. The need, however, far outweighs the ability of camps to provide assistance. Camps securing assistance for children with medical needs have more success in fund–raising efforts than those serving at-risk youth. The challenge for the camping industry is to make the camp experience financially available for all children.

Program Trends

A particular emphasis of organized camp programming is building the self-confidence, independence, and self-reliance of each individual camper. In an ACA survey, about 60 percent of the directors reported adding new activities and programs over the last few years. The most common program trends in camps are challenging and adventurous activities, including high and low ropes courses, climbing walls, zip lines, backpacking and mountain biking, and cave exploring. There is also an increased emphasis on performing arts and fine arts such as dance, theater, ceramics, leather crafts, woodworking, photography, etc.

The ACA is committed to minimum impact camping and has an *Outdoor Living Skills* training program that teaches children how to visit nature "softly." This is a response to the industry's interest in conservation and appropriate land use issues and is consistent with the USDA Forest Service *Leave No Trace* program. ACA has signed a "Memorandum of Understanding" with the Forest Service and many summer camps have long-term contracts to build and operate facilities on Forest Service lands. National Parks and Forest Service lands are often used for hiking, backpacking, and tripping programs.

Expected Future Trends

Camp Operations

- Acquiring funding to deal with *aging property and non-winterized facilities* is one of the most pressing property management concerns. New government regulations are requiring heavy investment in new *infrastructure*, especially water, sewer, and cleanup of any buried toxic hazards on camp property.
- Year-round school is still under debate in many communities. Nearly four percent of all students attend year-round schools. Camps are *extending the season and diversifying their services*. The ACA accreditation program is changing from accrediting only summer programs to accrediting year-round operations.
- *Technology* has drastically changed the business aspects of marketing and operating a camp. Use of the Internet as a marketing tool continues to increase. Computers are used not only for registration and financial records but also for program scheduling and client data. Communication expectations of parents have changed with available technology. Cellular phones are common on outdoors trips. Campers often receive letters via fax and E-mail. Over the next five years, the use of technology, combined with other measures, will dramatically change the nature of the teaching/learning process. ACA and camps will need to diversify methods for training directors and staff.
- Acquiring, training, and maintaining adequate *employed and volunteer staff* is a significant challenge. In fact, 40 percent of ACA's membership has joined in the past five years without a significant change in the total membership. More professionals are choosing to use the camp director experience as a stepping stone to other agency management positions. While the number of potential summer staff from ages 18 to 24 will continue to grow through 2010 based on Census projections, they will likely have less experience in working with children, especially in an outdoor setting.
- Increasing *regulatory requirements* at the county, state, and federal levels are another issue that will affect camp operations. Camp directors must comply with and maintain records for a wide variety of laws and regulations including: Child Labor, OSHA (programs for hazardous materials, blood-born pathogens, lockout/tag out), EEOC, Americans with Disabilities Act, Civil Rights, Fair Labor, Criminal Records Act, food and drug laws, copyright laws, Child Protection Act, etc.

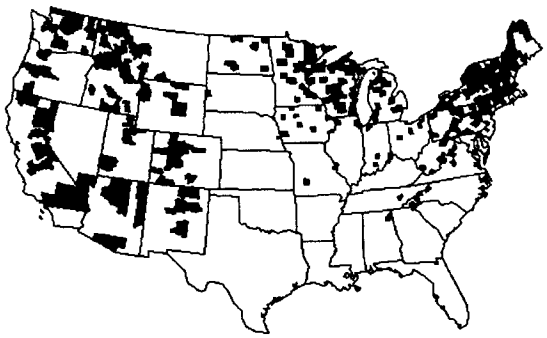
Meeting the Needs of Campers and the Public

- More leisure time options in American society have resulted in increased competition for children's time in the summer months. Increasingly, school years are longer and greater numbers of working parents mean that vacation time is often tightly scheduled. The number of school–aged children ages five to 14 will continue to grow and peak in 2003. After that, the Census Bureau projects a decline through 2010. Camps are currently operating at an average capacity of 91 percent. Camps offering six– and eight–week sessions may need to offer *shorter sessions* and recruit more campers or have more *flexible schedules* to meet parent needs.
- Parents expect more of camps. Research on youth development outcomes and training for directors must reflect systematic ways to *measure the outcomes* promised. Parents also have greater expectations of camps for providing a safe environment and qualified staff and security for their children.
- The cost of operating camp has continually increased. Making a camp experience *affordable for everyone* is a major challenge especially as many families have less discretionary income and are losing ground in overall family income.
- Camp directors will also need to recognize the impact of changing demographics in their communities and be proactive in attracting and keeping a *diverse constituency*.
- Another issue involves the rising rates of *youth violence* in the United States. Camps will need additional resources and training to help prepare staff to deal with problem behaviors in camp.
- Still another issue is the *influence of technology* and the entertainment industry on American youth. Children today are the video generation. Television viewing continues to consume a lot of children's discretionary time and the amount of time children spend on the Internet is increasing at a very rapid rate. Camps will need to design programs that attract this generation.
- More children are coming to camp with *medications and allergies*. The rates of asthma and chronic bronchitis in children are increasing in this country. Attention Deficit Hyperactivity Disorder (ADAD) affects three to five percent of the U.S. children. Camp infirmaries are evolving into health and wellness centers to educate campers and staff on safety and prevention, monitor risks and manage treatment and medications.

Downhill Skiing

Downhill ski areas are located, not surprisingly, in the cold-weather states of the North and throughout the mountainous West (Figure III.18). The number of areas in the United States increased 14 percent between 1987 and 1996, for a total of 449 (Table III.34). Most of the growth occurred in the North, where nearly two-thirds of downhill ski areas are located. The number of ski areas in the North increased faster (25 percent) than the national rate. The South, with only four percent of U.S. ski areas, had a net loss of one ski area between 1987 and 1996, while the Rocky Mountains, with 21 percent of the ski areas, gained one. The Pacific Coast added eight ski areas to the 46 that existed in 1987, a 17 percent increase.

Figure III.18: Counties with Downhill Ski Areas, 1996



Source: Interski Services, Inc. *The White Book: Industry Edition.* Washington, DC. 1996.

Table III.34: Number of Downhill Ski Areas, Lift Capacity per Hour and Vertical Transfer Feet, and Number of Cross Country Ski Areas by Region, 1996 and 1987[1]

Ski Area Statistic	Year	Region				
		North	South	Rocky Mountains	Pacific Coast	U.S. Total
Downhill Skiing						
Number of Areas	1996	287	16	92	54	449
	1987	230	17	91	46	384
Lift capacity						
per hour (1000s)	1996	1,698.1	64.4	787.5	528.1	3,078.1
	1987	1,251.2	60.7	532.2	376.5	2,220.6
Vertical transfer						
feet[2] (millions)	1996	826.49	26.73	836.09	395.76	2,085.07
Cross-Country Skiing						
Number of Areas	1996	424	3	141	68	636
	1987	285	1	90	45	421

[1]Figures may not sum exactly to totals because of rounding.

[2]Vertical transfer feet is the sum of the product of vertical rise times lift capacity per hour for each lift at a ski area. Comparable data were not available for 1987.

Source: *The White Book of Ski Areas, Industry Edition*. 1996. Cross Country Ski Areas Association. Ski area database. 1996. National Outdoor Recreation Supply Information System. 1987. USDA Forest Service, Southern Research Station.

Total skier lift capacity per hour is probably a better indicator of the increase in the supply of downhill skiing resources. Nationally, downhill ski areas have the capability of accommodating over three million skiers per hour, an increase of 39 percent since 1987. Regional totals are the sum of lift capacity per hour for each ski area. The North had a lower proportion (55 percent) of lift capacity than it did ski areas in 1996, but still led the Rocky Mountain region, which had 26 percent of the national lift capacity, by a wide margin. The South had only about two percent of U.S. lift capacity. Another useful statistic to describe downhill skiing supply is vertical transfer feet per hour (VTFH). The VTFH is the sum of lift capacity times vertical rise for all lifts at a ski area. Because it has much greater elevation gains, the Rocky Mountain Region just surpasses the North in total VTFH. The Rocky Mountains had 836 million VTFH compared to the North's 826 million, despite having less than one-third the number of areas as the North. Together, the Rocky Mountain and the North regions account for 80 percent of the national total of VTFH. The South has only one percent of total VTFH.

Downhill Ski Area Trends in the United States

(By Stacy Gardner, Communications Director, National Ski Areas Association, Lakewood, CO)

Ski Area and Skier Trends

The 1995-96 season marked 54 million downhill skiing visits, up 2.5 percent from the prior season, but down slightly from the record number of 54.6 million skier/snowboarder visits during the 1993-94 season. Although the number of resorts nationwide has shrunk from more than 700 in 1986 to 519 in 1996, the number of skier/snowboarder visits has remained relatively stable. What this means is that the surviving resorts are getting bigger; they have been able to meet consumers' needs and expectations. According to data gathered for the National Ski Areas Association's Economic Analysis of United States Ski Areas (1996), which provides an in-depth review of resort financial data, U.S. resorts' operating profits increased an average of 10 percent during the past three seasons, based on a sampling of 95 resorts. Although weather will always remain a factor, resorts today are financially more stable and better equipped to deal with the future.

According to the National Sporting Goods Association, 9.3 million skiers and 2.2 million snowboarders were on the slopes in 1995. Although that represents only five percent of the U.S. population, these individuals are financially secure Americans who have a disposable income to enjoy this type of recreation. According to *American Demographics*, future U.S. population trends favor growth in the ski industry. There are 78 million baby boomers (born 1946-1964), 44 million Generation Xers (born 1965-1977), and 72 million echo boomers, the children of baby boomers, (born 1978-1994). The fact that visits to resorts in the recent past have remained stable is significant considering the 24– to 34–year–old segment represents about 25 percent of the customer base, the greatest percentage of all ages. Most of these individuals are part of the Generation X population, which is about 30 percent less than the number of baby boomers. Children are a critical market for the ski industry because these echo boomers will replace the Generation Xers on the slopes, and their numbers are nearly the same as the baby boomers.

The trend of mountain resort consolidation continues to increase in the 1990s. The ski industry is no different from others like banking, publishing, or cable broadcasting. A number of key industry leaders—e.g., the former owner of Vail Associates and the chairman of the American Ski Company—have purchased numerous resorts all over the country, which is a sign that they are confident the echo boomer population will take to the slopes soon.

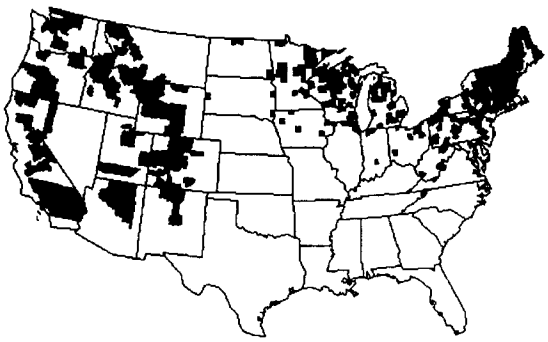
Future of the Ski Industry

The National Ski Areas Association's 1997 Future of the Industry Summit provided a forum for mountain resort owners and operators to gain insight into future sociological, economic, and demographic trends. For example, white males, who historically have made up the majority of customers, are shrinking as a demographic group. Resorts are exploring strategies to reach nontraditional markets. Strategies such as relationship marketing, strategic alliances, and business re-engineering are becoming integral components of a resort's marketing plans. For example, one major ski company has built strategic alliances with international beverage, energy, automobile, and credit card companies to support their efforts in increasing the skier/snowboarder market and retaining customers. The most powerful undercurrents driving the mountain recreation industry into the future are a combination of economic forces, changing customer values and demographics, and technological opportunities.

Cross-Country Skiing

Despite a decline in the number of Nordic skiers since the 1980s boom years, the number of commercial cross country ski areas in the United States increased 51 percent between 1987 and 1996 (Table III.34). The distribution of U.S. cross country ski areas is very similar to that of downhill ski areas (Figure III.19). Sites are scattered throughout the West, but there appears to be an especially heavy concentration in New England and the Northeast. The 636 commercial ski areas nationwide are defined by the following characteristics: (1) professional ski school and staff, (2) ski shops with rental equipment, (3) groomed and marked trails, and (4) base lodging with amenities. Most of these areas are operated as private businesses that must offer these services to attract consumers. Only a handful of the areas are managed by local governments.

Figure III.19: Counties with Commercial Cross Country Ski Areas, 1996



Source: Cross-Country Ski Areas Association ski area database. 1996.

Approximately two-thirds of cross country ski areas are in the North. Ski areas in the North grew at about the same rate as nationally, a 49 percent increase since 1987. The Rocky Mountain region is a distant second with 22 percent of the U.S. ski areas. This region's areas grew 57 percent between 1987 and 1996. The Pacific Coast added ski areas at a 51 percent rate. The South added two cross country ski areas to its 1987 total of just one.

Of course, cross country skiing is not limited to established commercial areas. Often, it is done on trails in public parks and forests, golf courses, private land, and even city streets and sidewalks. Conclusive data do not exist, but it is believed that a relatively small percentage of all cross country skiing in the United States occurs at the established commercial areas. The cross country ski industry is a major advocate of skiing at commercial centers, however, because of the instruction, service, and improved conditions that make for satisfying skiing experiences.

In recent years, some nontraditional winter activities have gained popularity and begun to use the same resources that support downhill and cross-country skiing (Newman, 1997). Three popular activities use what might be called "sliding" devices. Snowboards are shorter and wider than regular skis and thus easier to control. Other innovative products are snow skates, which emulate in–line skates on snow, and snow bikes, which are not new but are gaining in popularity. Also prominent at ski areas and other winter sports centers are more traditional activities such as snowshoeing, tubing, and sledding.

Cross Country Skiing Trends in the United States

(By Chris Frado, President, Cross Country Ski Areas Association[38])

Cross country skiing, Nordic skiing, ski touring, ski skating, track skiing, backcountry skiing, and telemark skiing are the names that distinguish "free-heel" skiing from "fixed-heel" skiing, better known as alpine or downhill skiing. Certainly, skiing downhill is part of cross country skiing but unlike the downhill or alpine skiers, cross country skiers also ski up hills and across flat and rolling terrain. Cross country ski boots are only attached to the ski at the toe of the boot and the heels are free to move up off the ski. This allows the skier to walk uphill on cross country skis, classically glide along in a diagonal (walking or running) stride, and execute the graceful telemark turn when descending a slope. The information in this article relates primarily to recreational cross country skiing on marked, groomed trails at both commercial ski centers and noncommercial trail systems as well as backyard, park, and golf course skiing.[39]

Cross Country Skiing in the United States

The cross country ski industry represents some 3.5 million recreational enthusiasts, 500 commercial cross country ski centers, and 19 ski equipment suppliers.[40] The industry is served by several organizations: a) Cross Country Ski Areas Association represents the ski centers that operate commercial trail systems; b) SnowSports Industries America represents equipment suppliers and hosts the largest national ski buyers show; c) National Ski Patrol provides training and certification for safety patrollers; d) Professional Ski Instructors of America provides training and certification for individuals teaching skiing; and e) U.S. Skiing governs and sanctions Nordic ski racing, ski jumping, and biathlon events.

The cross country skiing industry in the U.S. dates back to the 1960s, became organized in the early 1970s, and enjoyed a boom in the 1980s when the number of users approached 6.5 million. This number leveled off in the 1990s to about half as many users. Not surprisingly, weather plays a major role in the participation level of skiing. Changes in snowfall and associated weather patterns have contributed to a decline in the popularity of cross country skiing. Additionally, what was once sold as an advantage has evolved into disadvantage. The industry was launched with the rallying phrase, "If you can walk, you can cross country ski." This lured millions of Americans to try it in the 1970s and 1980s.

For thousands of Americans, however, walking on skis slogging through the snow without the benefit of a ski lesson or a groomed trail often left them tired and frustrated. Skis were tough to turn or control and often delaminated, boots were cold and nonsupportive, bindings were functional but not comfortable, and bamboo poles broke easily. If a person kept at it, usually it was due to his or her love of the outdoors. Self teaching is not a recommended way to learn skiing. Proper instruction on groomed trails shortens the beginner's learning curve and increases his or her enjoyment. To further challenge industry growth, the accessibility of free places to ski without developed facilities perpetuates an attitude that lessons or groomed trails are not necessarily desirable. Further, by not using developed skiing facilities, the skier's exposure to advances in ski equipment, clothing, technique, and professional instruction are limited.

Today technological advancements in ski equipment are at an all-time high. Commercial trail operators use sophisticated machine grooming methods to prepare the snow surface for ideal ski conditions. Initial ski instruction on a machine groomed trail surface helps considerably in making cross country skiing a rewarding experience in the long run. With skiing skills, confidence, and preparedness, the cross country skier is much more likely to enjoy the experience.

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[38]John Frado, consultant with Nordic Group International, a land planning firm specializing in trail-based recreation facilities, assisted in preparing this article.

[39]Similar to the downhill skiing article, this article also does not agree with Table III.35 about the number of commercial cross country ski areas nationwide, even though the data came from the same source. It is likely that the article does not include public sector cross country ski areas in its count, for example, those operated by local parks and recreation departments. The Table III.35 data may also include some ski area lodges or resorts that were subsequently deleted from the ski area list upon closer inspection.

[40]Extreme backcountry skiing and lift-serviced telemark skiing are not covered in this article.

Cross Country Skiing Trends

Forces that are driving changes that significantly affect cross country skiing are global warming, inconsistent weather patterns, people's desire for health and fitness, value, the popularity of ski skating and the need for family recreation opportunities. As winter snowfall becomes less predictable in regions that were once guaranteed reliable snow coverage, it becomes harder to sustain skiers' interests. Many people have taken up other winter activities to replace cross country skiing when snow is doubtful or non-existent. Cross country skiing remains an excellent means for individuals seeking to improve their health and fitness. Most experts agree that there is no better fitness activity than cross country skiing because it is both an aerobic activity and uses all the major muscle groups while not stressing the body's joints.

With respect to value, cross country skiing is an affordable activity requiring an initial investment in the range of $300 to $600 for skis, poles, boots, and a compatible binding system. On average, a trail ticket at a cross country ski area for a weekend day of skiing on a machine groomed trail system with marked trails and a map costs $7 to $15. A group ski lesson adds approximately $10 to $15 to the cost of a day of recreation at a professional Nordic ski center. Ski centers add value to the trail ticket by providing restrooms, a heated lounge area, and/or warming huts on the trails, food service, and a trained staff to answer questions and offer advice on the trails best suited for the individual skier.

The majority of cross country skiers tend to be middle-aged males and females in the mid-to-upper level income categories. As this demographic group brings young children with them skiing, the Nordic centers have responded by becoming increasingly family-friendly. Special sleds with a waist harness for the skier to easily pull children on the trails have replaced backpack child carriers on ski trails. Children's terrain gardens offer kids a visually exciting area to ski around colorful fairyland creatures that invite play on humps, bumps, tunnels, and small hills. Most ski centers offer children's ski rentals as well as adult sizes.

The popularity of ski skating has affected cross country skiing by requiring wider trails and smooth or crowned trail surfaces.[41] Additionally, because tracks are undesirable to the ski skater, trails must be groomed differently. The usual solution seen at ski centers is to widen the groomed trail surface to 16-18 feet and place the tracks on the sides leaving a center skating lane, or place double tracks on one side with the other side for skating. Also seen, though not as common, is a restriction on skating to designated trails.

Current Issues

To promote growth, the cross country ski industry is promoting lessons on groomed trails as the most productive way to learn and enjoy skiing. It is assumed, as has been demonstrated in other activities, that a lesson and optimum learning conditions will contribute to a higher level of capture and retention of lifelong skiers. Skiers can choose from developed cross country ski areas, many at downhill ski resorts, county and state parks, golf courses that permit skiers and snowmobilers, open fields, pastures, and forested trails. The ease of access to these resources poses some problems in addition to current policies that favor multiple-use trails.

While many snowmobile trails present an attractive machine-packed ski trail, a cross country skier on a snowmobile trail becomes a hazard to the snow machine operator. Further, with the speeds that ski skaters are capable of and the quiet movement of a skier, collisions at intersections and around corners are of growing concern. Perhaps the greatest conflict between skiers and snowmobilers on the same trail is an inequity in responsibility. Generally, the snowmobile user has received permission for use of the trail and contributed in some fashion (i.e., volunteer labor and/or licensing fees) to the trail maintenance. The skier, on the other hand, may be regarded as a trespasser using the trail without permission or investment. Snowmobile trails should be marked to exclude skiers or clearly marked and designated for joint use. Compatible off–season uses of ski trails are mountain biking, hiking, walking, and horseback riding.

Shared trail use with snowshoers is appropriate when there is respect for the machine prepared ski track (grooves in the snow) in the trail. The industry is working to develop trail courtesies and educate users so that snowshoers and cross country skiers can enjoy the same trails. More than half of the nation's ski centers welcome snowshoers and are inviting their skiing customers to also rent and try snowshoeing. The recent popularity of snowshoeing is an opportunity for cross country ski trail providers to reach out to other trail users.

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[41] Ski skating is a relatively new ski technique mimicking ice skating; the skis and arms are thrust out to either side in a V shape. Most skiers find skating more thrilling than the traditional forward movement of diagonal striding that resembles walking or jogging. Skating is a considerably fast and physically demanding ski technique favored by racers and fitness skiers.

In some places commercial cross country ski areas are threatened by government agencies and municipalities that provide groomed ski trails without an associated user fee. This policy makes it more difficult for private business to compete in the marketplace, perpetuates an attitude that cross country ski trails should be free, and discourages beginning skiers from taking a lesson at a ski area. It creates an interesting dilemma. Access to many places to ski is one of the attractions of cross country skiing, but experiences on free trails without instruction or groomed trails can contribute to unrewarding experiences and high drop-out rates. To promote the benefits of ski lessons and groomed trails, the cross country ski industry conducts a nationwide celebration of cross country skiing, Ski Fest, the second Sunday in January. Ski areas across the country and in selected cities offer free cross country ski lessons on groomed trails to beginners. The annual event has introduced more than 12,000 people to cross country skiing the past three years.

Statistics on cross country skiing use and related revenues are lacking. Demographic information on the users is readily available and unlike many sports shows strong participation (49 percent) by women. Equipment sales are well documented by SnowSports Industries America, but unfortunately many types of skiing are included in the cross country category: track, touring, and backcountry.[42] It is unclear whether telemark skiing is included in the cross country ski statistics. The industry has been negligent in collecting skier visit data and measuring itself. Beginning in the 1997-1998 season, the Cross Country Ski Areas Association will collect skier visit data from its more than 200 member ski centers in the United States. Then an analysis will be done to determine local revenues generated by skiers on lodging, meals, and associated services.

Consumers are demonstrating a desire for variety and choices while recreating. Field studies indicate Nordic skiers are more inclined to ski at a variety of areas than are downhill skiers. Ski areas find that their customers want recommendations of other places where they can cross country ski. In response, some Nordic ski areas have adopted sister areas to cross promote, put out brochures from other ski areas, and have staff members share their personal favorites with customers. Not all ski areas are participating in these measures. To add value and choice, most Nordic centers are expanding their menu of winter recreational opportunities. Snowshoeing is a widely favored alternative activity. Other options include kicksleds, tubing hills, dogsledding, ice skating, sleigh rides and nature interpretive programs. The most requested, but least offered, activity are package programs for skiers which include an orientation, an educational component, food and beverage, and a recreational activity with a leader offering guidance. There is currently much interest in women's programming and some interest in longer programs along the lines of a ski camp for several days.

Future Trends

Based on current issues and trends, as well as observations of the industry, we expect the following future trends for cross country skiing in the United States:

- There will be *fewer small cross country ski centers*. Smaller businesses will face escalating operating costs and will be unable to compete with the more sophisticated Nordic centers, which have expanded their recreational menu and upgraded facilities.
- *Snowmaking* at cross country ski areas will become more commonplace. With guarantees of reliable snow coverage and consistent ski conditions, participation levels will increase.
- Manufacturers will simplify ski choices by *consolidating ski types* and offering simpler, one– or two–choice sizing of skis.
- Economics will force government agencies and municipalities to implement *competitive user fees* for sophisticated machine-groomed cross country ski trails or privatize those areas.
- As the current population of downhill skiers age, there will likely be an *increase in cross-overs to Nordic skiing*. The sport is more forgiving on the joints yet offers much of the same outdoor winter experience that downhill skiers enjoy. In addition, since so many downhill ski resorts have a Nordic center, the cross-over skier will be able to patronize a familiar ski area while cross country skiing. It will be to the advantage of downhill ski areas to promote cross country skiing.
- The importance of *weather* on the future of cross country skiing cannot be minimized. However, changes in global weather patterns, perhaps due to global warming, might be contributing to reduced snow precipitation at some ski areas.

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[42]Track skiing includes recreational groomed trail skiing and performance skiing—racing and fitness skiing—on groomed trails. Touring includes recreational backyard and ungroomed trail skiing on easy to moderate terrain. Backcountry skiing is done off trail, usually while carrying gear and often involving challenging and extreme terrain.

- Continuing medical research on the *health benefits* of reducing stress and increasing fitness could lead to more interest in winter fitness activities. Cross country skiing could benefit from renewed concern for personal fitness and stress reduction.

Other Recreation Businesses

American Business Information, Inc. (ABI) keeps a database of firms in the United States that advertise in yellow page telephone directories. Firms are identified by their four-digit Standard Industrial Classification (SIC) codes and ABI adds two more digits for further detail. Among the businesses that advertise are numerous land and water-based recreation businesses, most of which are in the 7,000 Services series of the SIC. The most valuable information from ABI is a list of the number of firms and their locations for each six-digit specialized type of business.

An increase or decrease in the number of firms providing a particular service or product is an indicator of a change in the private sector. A change in the number of firms can reflect an increase or decrease in willingness to advertise, but changes in advertising behavior alone certainly cannot explain most changes in the number of listed firms. The numbers of listed firms nationally and by region in 1995 and 1996 were tallied for: marinas, boat rentals, bicycle tours and rentals, organized camps, golf courses (public), golf courses (private), archery ranges, guide and outfitter services, and rifle and pistol ranges.

Table III.35: Number of Selected Recreation Buisnesses by Region, 1985-1996

Type of Business	Year	Region				
		North	South	Rocky Mountains	Pacific Coast	U.S. Total
Marinas	1985	2,348	1,964	157	539	5,008
	1996	2,822	2,236	161	552	5,771
Boat rental	1985	1,782	1,732	173	1,148	4,835
	1996	1,602	2,054	239	907	4,802
Bicycle rental and tours	1985	245	179	76	54	554
	1996	218	266	264	190	938
Organized camp	1985	5,165	1,838	577	1,050	8,630
	1996	3,737	1,722	476	790	6,725
Public golf courses[1]	1985	3,406	1,369	638	748	6,161
	1996	4,576	2,353	1,020	949	8,898
Private golf courses[2]	1985	932	921	246	288	2,387
	1996	1,117	1,267	282	335	3,001
Archery range	1985	152	26	31	17	226
	1996	291	69	53	27	440
Guide and outfitter service	1985	83	93	397	325	898
	1996	190	361	527	252	1,330
Rifle and pistol range	1985	126	130	38	57	351
	1996	182	206	51	118	557

[1]Golf courses open to the public, but not necessarily owned by a public agency.

[2]Golf courses open to members only, e.g., country clubs.

Source: American Business Information, Inc. (ABI). Omaha, Nebraska. 1985 and 1996.

Numbers of firms of most types increased between 1985 and 1996. One exception was organized camps, which declined 22 percent nationally (Table III.35).[43] The number of camps decreased at the highest rates in the North and Pacific Coast. Boat rental firms essentially stayed the same, registering a drop of less than one percent. Gains in the South and Rocky Mountains were offset by losses in the North and Pacific Coast.

Except for guides and outfitters and bicycle tours and rentals, there were more businesses in both years in the more populated eastern regions. Gains for all other businesses were 25 percent or more. The number of archery ranges nearly doubled. Bicycle tours and rentals grew 69 percent, undoubtedly reflecting the growing popularity of mountain bikes over the past decade. Rifle and pistol ranges grew 59 percent, but each started with a relatively low number of firms in 1985 (as did archery ranges). Guide and outfitter services (48 percent) also increased nearly 50 percent, despite a decline in the number of firms in the Pacific Coast. The number of these businesses more than doubled in the North and nearly tripled in the South to offset that loss. Golf courses, both of those open to the public and those open only to members, also grew. Courses open to the public grew especially fast in the South (72 percent) and Rocky Mountains (60 percent). Private golf courses also grew fastest in the South, with an increase of 38 percent.

A few other recreation businesses for which data were not available in 1985 (not shown in Table III.35) are tennis clubs open to the public and to members only, tourist attractions, and canoe rental/outfitter services. In 1996, there were 1,252 private tennis clubs listed and 816 public tennis clubs in the United States. Over two-thirds (68 percent) of the private clubs are in the eastern regions, led by the North with 36 percent. Over half (56 percent) of public tennis clubs are in the North. The North and South together have 80 percent of tennis clubs open to the public. Probably due to the influence of Florida, over half (55 percent) of the listed tourist attractions are in the South. These attractions include a variety of businesses, ranging from amusement and entertainment places to museums and natural resource-based attractions. Also included are historical sites and other public attractions. The two eastern regions have just under three-fourths (74 percent) of the listed tourist attractions in 1996. The ABI database also listed 430 canoe rental and outfitter firms in 1996, the large majority (76 percent) located in the North. A very small percentage of these firms (three percent) are in the two Western regions. It is probably safe to say that canoeing is largely an eastern activity, whereas whitewater rafting is popular throughout the United States wherever adequate streams are located.

A major recreation industry which scarcely existed 10 years ago in the United States is in-line skating. Rentals and especially sales of in-line skates have emerged as perhaps one of the biggest recreation businesses, and certainly the fastest growing. Further, in-line skating has gone well beyond fad status to become a significant influence on American culture, especially among youth. Influence is also being felt on the way recreation spaces are being planned and managed, in particular popular urban parks and linear paths.

The In-line Skating Industry: Trends, Issues, and Futures

(By Gilbert M. Clark, Executive Director, International In-line Skating Association, Kensington, MD)

In-line skating is the fastest growing recreational activity in the United States. It also is growing at a very rapid pace internationally. This outcome could not have been predicted in 1980 when a young hockey player named Scott Olson, looking for a way to practice his skills during the Minnesota summers, came across an old pair of skates in a sporting goods store in Minneapolis. The skates had four wheels aligned in a row, rather than in the traditional four corner arrangement associated with roller skates. In fact, in-line skates are not new; they were used by 19th century thespians to duplicate onstage the effect of ice skating. Their usage by everyday folks would have to wait until outdoor pavement was common. Olson saw these possibilities and was soon duplicating the old skates in his basement for his friends. From that inauspicious beginning has arisen a $1 billion industry in the United States alone.

Olson sold his business, which he named Rollerblade, to a local businessman who was able to bring resources to the venture that led to the company's further growth. During the early 1980s, Rollerblade continued to refine the product and added recreational and fitness skates. Today, about 85 percent of in-line skaters use fitness or recreational skates. As in-line skating began to gain public acceptance, other companies entered the market. Typically, these companies had extensive related experience, such as making ice skates, roller skates, and ski products or were involved in the in-line industry as suppliers to in-line skate manufac-

[43]According to the American Camping Association (ACA), the number of organized camps in the United States has *not* declined as the ABI data on advertising firms indicates. The ACA says there are approximately 8,500 organized camps in the country in 1997, which is closer to ABI's 1985 figure (see the accompanying article written by the ACA). Thus, the ABI data may not be a reliable indicator of the number or organized camps, especially since most camps are non-profit organizations and may have chosen not to advertise.

turers. By the end of the decade, there were about 10 skate companies. There also were a number of wheel and bearing manufacturers making both original equipment manufacturer (OEM) and replacement parts. The industry was showing signs of maturing.

A key development during this period was the recognition that in–line skating was an activity that no one had learned—like they had bicycling—as a child. Adults brought concerns about safety that had to be addressed if the sport were to grow beyond a child-based market. This meant developing safety and education programs. Several manufacturers developed innovative programs, including one to train and certify in–line skate instructors. The industry was quick to develop and advocate the use of protective gear and safe skating behavior. These programs were assumed by the International In–line Skating Association (IISA), which was formed in 1991 by the existing members of the industry. The most recent phase of this industry's growth has seen the entry into the market of a second wave of shoe and ski companies seeking to use their particular expertise to gain a foothold in the very competitive marketplace. Their success is uncertain because the existing companies have a decade or more of experience and knowledge in the market.

Today, the industry is comprised of over 200 companies in the U.S. alone, and many others in Canada, Europe, and Asia, which manufacture boots, wheels, bearings, hockey equipment, playing surfaces, and protective gear used by an estimated 50 million people or more worldwide. Participation in in–line competitive sports is also growing, led by in–line hockey's popularity, and includes stunt skating and in–line racing.

Recent Trends

While the industry grew around 30 percent a year during the early 1990s, 1996 saw a slowing of this rapid growth. Subsequent analysis indicates that this flattening of the growth curve was precipitated by a poor Christmas selling season in 1995 and a buildup of inventory that subsequently was affected by poor spring weather in 1996. In addition, there was a disruption at the retail level when a number of large sporting goods chain outlets went out of business and disposed of existing inventory at rock bottom prices. In fact, while shipments from skate companies were down in 1 996, according to one research firm, participation in the sport grew during the same period by 19 percent. It is expected that these problems have resolved themselves and that 1997 will see an improved climate for skate sales.

The acceptance of in–line skating as a legitimate recreational and sporting activity by nearly 31 million Americans in 1996 has generated concerns about health and safety. The rapid increase in the number of skaters saw a concomitant increase in injuries associated with the activity. In 1995, about 100,000 in–line skaters were admitted to emergency rooms, according to the Consumer Product Safety Commission. This number, while unacceptably large because protective gear could have prevented most of these injuries, nevertheless produced an injury rate less than that of traditional sports such as basketball and baseball, and much less than that of bicycling. The in–line industry has clearly been able to demonstrate that in–line skating is a safe activity, particularly when protective gear is worn and the skater has taken a lesson.

As a fitness activity, there are few things better than in–line skating. Numerous scientific studies demonstrate that in–line skating produces an aerobic and exercise benefit equivalent to running. This benefit is generated without the joint and impact damage associated with running, and comes at a modest cost compared to exercise equipment and health club memberships. Again, the industry sees the fitness benefits as attractive to older Americans who are looking for a way to stay in shape while enjoying the outdoors.

In–line skates are used in a wide variety of competitive sports, which underscores the amazing versatility of this product. In–line hockey is the fastest growing sport in America, with about three million participants in 1995. It is played at every level, by men and women, children and adults, and has spawned a professional league. Stunt or aggressive skating is also growing rapidly, but is basically a sport for youth and young adults. It has proven to be a very popular spectator sport as part of the "extreme games" phenomenon. In–line racing has been slower to develop although it is practiced by a dedicated group of athletes, and efforts are underway to open this exciting sport to recreational skaters. Altogether, it is estimated that competitive sport activities make up 15 percent of the in–line market.

Current Issues and Outlook

There are several issues that confront the in–line industry at this time. Maintaining access to outdoor venues and facilities is a principle concern. Another is expanding the market for in–line skates by educating the general adult population that skating is safe and easily learned. A third is adjusting and responding to changes inevitably wrought by the continued growth of the category.

In–line skaters are unique in that they have attributes of both a vehicle and pedestrian. To be enjoyed fully, in–line skating requires smooth pavement. Generally this is found on roads or bike paths. Experienced skaters view themselves as vehicles, capable of skating on roads with the same rights and responsibilities as bicyclists. Many skaters however, feel more comfortable skating on sidewalks or recreational paths. Fortunately, such paths have proliferated under the federal transportation law enacted in 1991, The Intermodal Surface Transportation Efficiency Act (ISTEA).

ISTEA, up for renewal in 1997, has generated thousands of miles of paved surfaces, thus helping to stimulate the growth of in–line skating. A key issue will be the continuation of the Transportation Enhancements section of the law, which has generated funds for non-highway construction projects. This provision will be opposed by highway lobbies. The bicycle and in–line industries will vigorously advocate its renewal, and thus far have found support from the Clinton Administration.

Access to the roads is also extremely important. Unfortunately, many localities have determined that in–line skating should be banned from their streets. This has been done with little thought to the effect on adults and others who need access to streets for transportation and fitness skating. Generally, these bans have been prompted by reactions to skating in congested areas or other inappropriate locations rather than by actual accidents to skaters. To protect skaters' access, the industry has taken the initiative in promoting the construction of skate parks. Such parks contain a variety of facilities, including ramps and rails for aggressive skaters, and hockey rinks.

The perception that in–line skating is just for kids prevents millions of adults from taking up an activity that is both fun and healthful. The in–line industry has addressed this by emphasizing the benefits of instruction. The IISA Instructor Certification Program has trained thousands of people to teach skating. A single lesson can help overcome fear and reduce the potential of falling. IISA also promotes the use of protective gear. Studies have shown that 90 percent of in–line injuries can be prevented by the use of wrist guards, knee and elbow pads, and helmets. In many large cities, the IISA sponsors National Skate Patrol units, which consist of volunteers who keep others from skating dangerously and help new skaters with basic skills such as stopping. Skate patrols help keep conflicts from arising with bicyclists and pedestrians in crowded venues such as New York's Central Park.

The in–line skating industry has seen several predictable stages of growth and is likely to see several more. The flattening of the sales growth curve in 1996 resulted in economic loss for some players, particularly those in the low-end segment of the market. Sales in large discount chains were particularly affected in 1996. There has been some fallout as a result. At the same time, new companies are entering the market. Some are well financed and are likely to help create additional exposure for the industry through their marketing efforts. The upshot may be that they will help grow the industry; that is, they will increase the size of the pie, rather than take shares from the existing pie.

In the past few years the industry has also seen the entrance of many small companies that produce peripheral equipment such as clothing, special wheels, and other gadgets. This is typical of a growing industry. These companies provide innovation and enthusiasm and some may eventually grow into very big companies.

It is expected that there will be continued growth in the number of in–line skating participants in the United States in the next five years. The number of skaters could approach 50 million if current trends continue. In addition, there will be at least that number of in–line skaters in Europe, Asia, and South America. U.S. companies and foreign company subsidiaries located in the United States will play a significant role in this expansion. In–line skate retailers will be better prepared to sell skate fit and performance that meet customer needs and expectations. At present, in–line skate specialty stores account for about 23 percent of all sales. This segment likely will grow as customers seek better advice and service.

There will be a continued need to stress safety issues and to have available professional instruction for novices. This will inevitably be integrated into any marketing campaigns aimed at adults. As the years pass there will be millions of adults who learned how to skate as children. At this point, skating will be viewed as a normal lifetime activity, like bicycling.

Product innovation, always a strong point of this industry, will continue. Advanced materials such as titanium, magnesium, metal composites, and graphite will continue to be used in a variety of applications. In addition to making skates lighter and stronger, manufacturers will look for ways to make them as user-friendly as possible. Replacing laces with buckles is one example that has been met with consumer approval. Click-off frames and wheels, frames that are easily aligned to compensate for the user's unique physical attributes, braking systems, and removable frames that attach to walkable boots are all examples of ideas under constant refinement by skate manufacturers.

The future of the in–line skating industry is bright, but not without challenges. Questions concerning access to streets and paths are the ones of greatest concern to the industry. These questions should be an-

swered in the next five years. The goal of the IISA is that they be answered in an affirmative manner, thus removing any roadblocks to in–line skating's growth and popularity for many years to come.

SUPPLY INDEX FOR OUTDOOR RECREATION

Agencies that manage public land often need to summarize the availability of recreation opportunities, and compare availability over time or locations. Evaluation of the adequacy of recreation opportunities has been an important part of many state and national assessments of outdoor recreation (Outdoor Recreation Resources Review Commission, 1962; Bureau of Outdoor Recreation, 1973; California Department of Parks and Recreation, 1989; Cordell, et al., 1990). Summaries can help planners and policymakers to visualize and understand trends in resource availability. So far, this Chapter has presented information on a wide array of separate recreation resources. In this section, we summarize the spatial distributions of the most significant resources and the people who use them.

We selected 50 resource variables from which to develop summary measures. First, resources with similar variation in abundance across counties were identified. These resource measures were then linearly combined into one value. That value represents an index of the availability of that set of recreation resources.

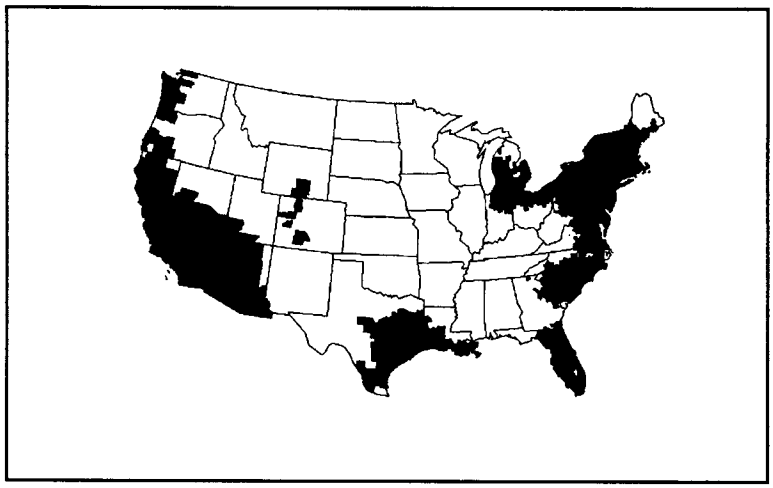
Fourteen types of recreation resources with distinct patterns of distribution were identified. Two of these types describe urban, developed resources that are often associated with population centers. Six describe resources associated with dispersed or 'great outdoors' activities. Four types describe the distribution of water-related resources, and two types describe the distribution of winter-related resources. Table III.36 provides a summary of the specific recreation resources that relate to each resource type.

Table III.36: Interpretation of Retained Factors for Outdoor Recreation Supply Index

Factor	Interpretation
Local Facilities	Developed, local use facilities, closely tied to population growth. Associated with local park and recreation departments.
Open Space	Fairgrounds, greenways, rail-trails.
Great Outdoors	Great outdoors resources. Mountains, wilderness, Forest Service and National Park Service land, and outfitter and guide services.
Wildlife Land	Land set aside for habitat and wildlife: primarily owned by Fish and Wildlife Service and The Nature Conservancy.
State and Private Forests	State parks and privately–owned forest land.
Western Land	Western agricultural land, mostly Bureau of Land Management and private agricultural acres.
Camping Areas	Camping areas (public and private), and hunting/fishing opportunities.
Other Federal Land	Other federal recreation land (mostly TVA, COE, BuRec), and public camping opportunities.
Large Water Bodies	Coastal and large water body resources: marinas, fishing, other boating opportunities.
Whitewater	Wild, scenic, and whitewater river opportunities.
Flatwater	Flatwater and wetlands areas.
Lowland Rivers	Lowland river resources, especially rivers near wetlands or coasts.
Developed Winter	Developed winter (i.e., ski) opportunities, and forest land.
Undeveloped Winter	Undeveloped agricultural and public recreation land in mountains.

These summary measures permit regional and county-level assessments of major types of recreation resources. To evaluate how well off one county is with respect to any type of recreation resource, one must look not only at the resources and user population in that county, but also at the resources and population in surrounding counties. In the following series of maps, counties that have above-average availability of resources per capita relative to other counties within a 200-mile radius are shown.

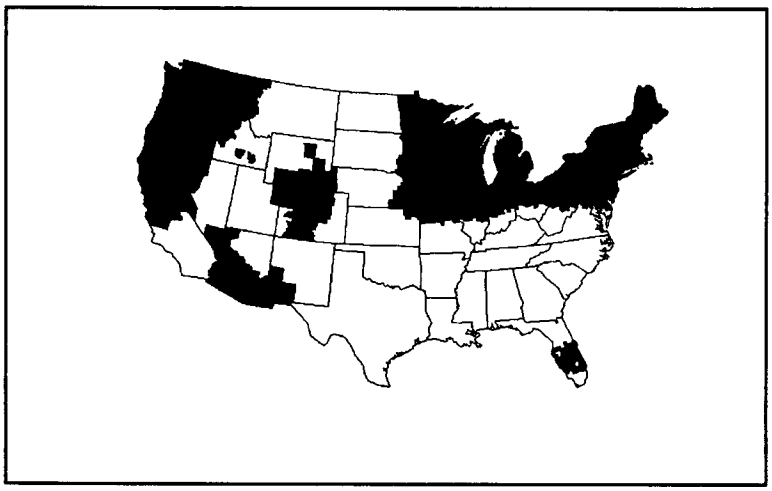
Figure III.20: Counties with Above-Average Per Capita Availability of Local Facilities



Mapping Counties with Resource Abundance

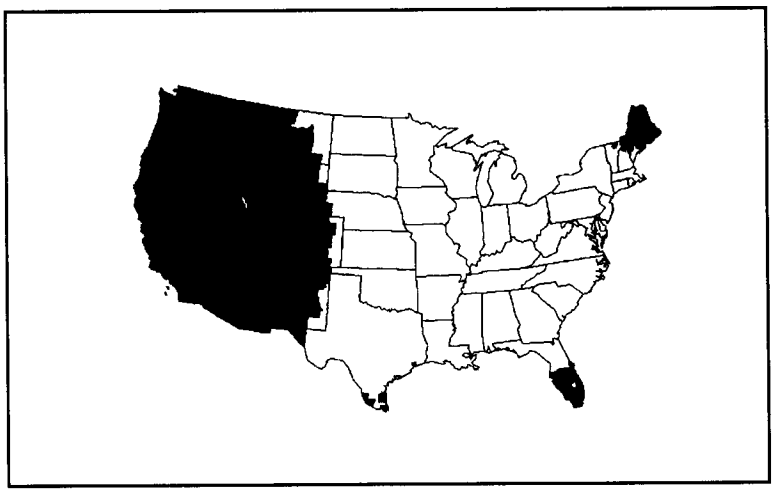
Counties with greater-than-average per capita availability of local facilities (henceforth, resource summaries or factors are denoted in uppercase as in Table III.32), the first urban abundance factor, are mostly along the Eastern Seaboard and Piedmont, the western Gulf Coast, the shores of Lakes Huron, Erie, and Ontario,-and in portions of Florida, California, Arizona, and Washington (Figure III.20). In essence, these resources are close to the highly urbanized areas in the East, on the Gulf of Mexico, and on the West Coast. In addition, retirement areas in Florida, Arizona, and South Carolina have above-average availability for these resources.

Figure III.21: Counties with Above-Average Per Capita Availability of Open Space



Open space, the second urban factor, is found mostly in the Pacific Northwest, the Northeast, the upper Midwest, and in the central Rockies (Figure III.21). Smaller pockets of availability are found in central Florida and southern Arizona. Rather than being tied to population centers, these resources are tied to transportation corridors, including areas that have or have had extensive rail networks. The tie between these networks and fairgrounds may come from the agricultural heritage of these areas. Fairgrounds in the Midwest were often centered in county seats, which had rail lines to transport crops and livestock to market centers.

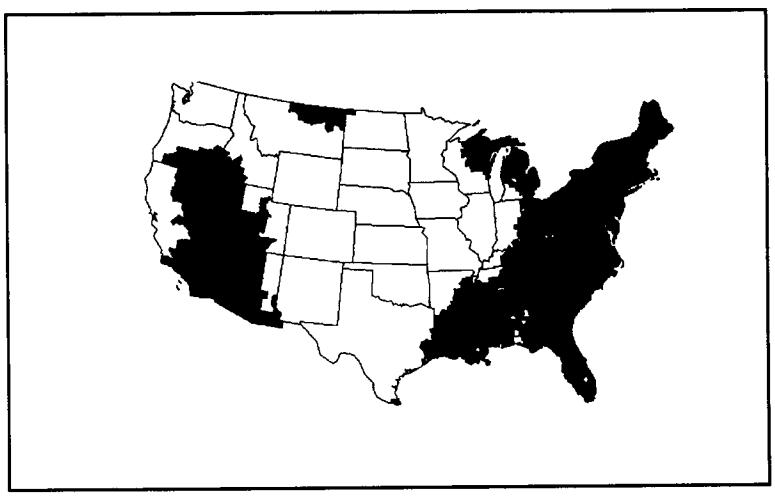
Figure III.22: Counties with Above-Average Per Capita Availability of Great Outdoors Resources



Not surprisingly, the greatest concentrations of the first land-based factor, Great Outdoors, are in the 11 westernmost states (Figure III.22). Almost no counties east of the 105th meridian have above-average availability of these resources, except for southern Florida, extreme southern Texas, and the northern reaches of New England. These pockets of resource abundance are due to areas such as Everglades NP, Acadia NP, and the Green and White Mountain National Forests. The Appalachian Mountains contain some of these types of resources. However, their size and concentration is generally insufficient to compare with the relative availability in the Western states.

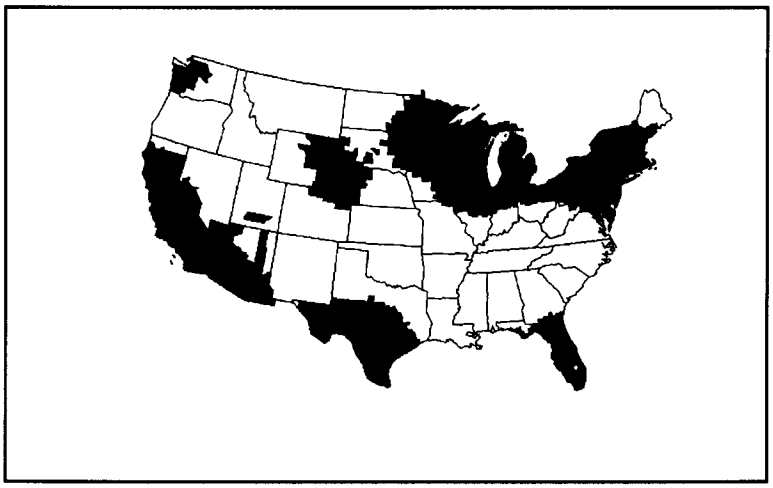
Preserved habitat areas or Wildlife Land, the second land factor, is available to residents in most counties in the East, from Louisiana to Maine. In addition, relative abundance of resources exists for populations near arid areas in the West and in the northern portions of Michigan, Montana, and Wisconsin. These areas are especially important in offering opportunities for viewing wildlife, nature study, and outdoor photography.

Figure III.23: Counties with Above-Average Per Capita Availability of Wildlife Land



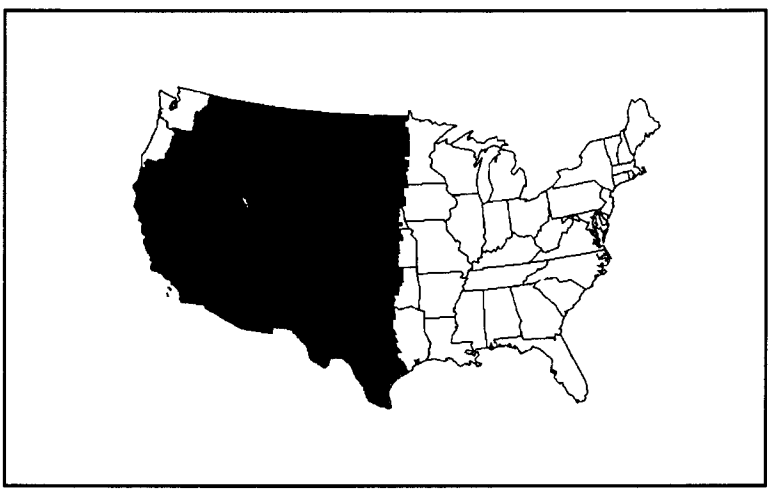
State park and private forest acres make up the third land factor, labeled *state* and *private forests*. These resources are relatively plentiful in the Middle Atlantic and New England states, in much of the Deep South, the Upper Lake states, the Four Corners region, and the Pacific Northwest (Figure III.24). In the West, state parks are a greater contributor than private forests. In the Deep South, the opposite is true. In the Northeast and Upper Lake states, both contribute approximately equally.

Figure III.24: Counties with Above-Average Per Capita Availability of State and Private Forests



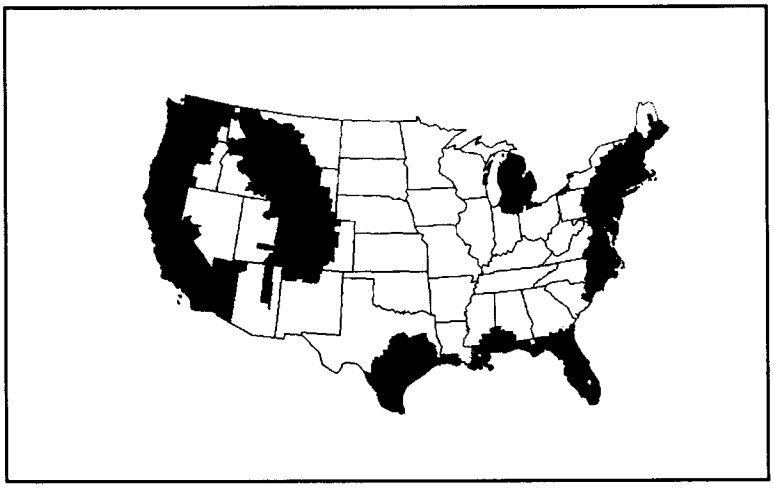
The fourth land factor, Western land, describes privately owned crop, pasture, and range land and public range land like that managed by the BLM. The availability of these resources per capita is greatest in counties west of the 96th meridian, except for western Washington and northwestern Oregon (Figure III.25). The pattern of above-average availability is strongly influenced by the location of large BLM holdings. The area of relative abundance looks much like that in Figure III.22, the first land factor describing great outdoors resources, but extends further eastward into the Great Plains states, including Texas, Oklahoma, Kansas, Nebraska, and the Dakotas.

Figure III.25: Counties with Above-Average Per Capita Availability of Western Land



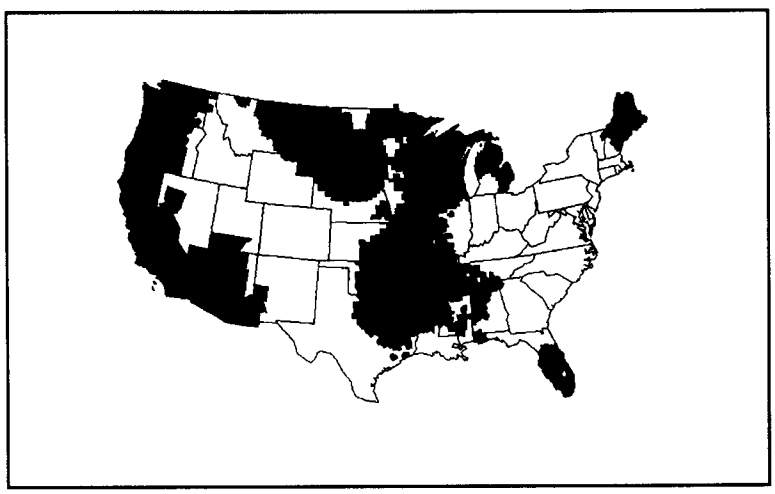
The fifth land-based factor, *camping areas*, describes mostly developed camping opportunities. The greatest concentration of these opportunities per capita are in parts of the Middle Atlantic and New England states, the Upper Midwest, including Minnesota, Michigan, and Wisconsin, southern Texas and Florida, California and Arizona, and the area in and around the Nebraska Panhandle (Figure III.26).

Figure III.26: Counties with Above-Average Per Capita Availability of Camping Areas



Resources related to the last of the land-based factors, Other federal land, primarily include federal land managed by the Tennessee Valley Authority (TVA), the Army Corps of Engineers (CE), and the Bureau of Reclamation (BoR). Counties that have above-average access to this factor are located in several regions (Figure III.27). Near the Mississippi and Missouri Rivers from Louisiana northward, high availability is due to CE land. For counties in the western portion of the Tennessee River basin, both TVA and CE resources are available. In Pacific Coast states and Arizona, BR areas are available.

Figure III.27: Counties with Above-Average Per Capita Availability of Other Federal Land



Large water bodies, the first factor for water-based recreation resources, includes marinas and other private sector enterprises found along coasts and large water bodies. Counties with higher-than-average access to these resources are mostly along the coasts (Table III.37). In addition, most counties in Michigan fall into the above-average category, due to proximity to several Great Lakes. Large national recreation areas, including Flaming Gorge, Lake Mead, Glen Canyon, and large reservoirs in the West account for the inland portion of the map shading.

Whitewater river opportunities make up the second water-based resource factor. These opportunities are available to most counties in the West, due to relatively large numbers of wild and scenic rivers in the

Rockies, Cascades, and Sierras (Figure III.27). In the East, availability is greatest for counties that are close to the Appalachian Mountains. The portions of Minnesota, Michigan, and Wisconsin that are close to Lake Superior and several Texas counties along the Rio Grande also have above-average access to these types of opportunities.

The third water-related factor, flatwater, describes co-existent flatwater (lakes, ponds, and reservoirs) and wetland resources. To a noticeable extent, private firms that rent or livery canoes are also tied to this resource type. There appear to be five geographic clusters of counties with above-average access to these types of water resources (Figure III.28). In the Southeast, these resources occur in counties in the Coastal Plain and in the western portion of the Mississippi River drainage through Louisiana and Arkansas. Another cluster appears in northern New York and New England. The abundance of lakes in the upper Midwest is evident in a cluster of counties that spreads across the northern tier of the country from Michigan to eastern Montana. The same large reservoirs that contribute to the large water bodies and coastal resources factor also contribute to an area of availability in the West that stretches from southwestern Wyoming though most of Utah, and into southern Arizona and California. Finally, several large lakes, including Chelan, Priest, and Ross, contribute strongly to higher availability scores for the northernmost counties in Washington and Idaho.

The last water-resource factor, lowland rivers, describes rivers that are near wetlands or coastal areas (Figure III.29). Essentially all of the eastern Coastal Plain, despite its large population, has above-average availability of this type of resource. In addition, portions of several states in the Mississippi River Basin near its southern end (Arkansas, Mississippi, Louisiana), and several hundred miles north (Iowa, Illinois, Wisconsin) have relatively greater access to these resources. Other clusters of counties occur along the Canadian border from Minnesota to Washington, portions of Washington around the Puget Sound, and northern California and western Oregon.

Developed winter resources, the first snow factor, are most available to people living in the Middle-Atlantic and New England states, the upper lake states (Michigan, Wisconsin, Minnesota), and the mountainous areas of the West (Figure III.30). Availability of public land and agricultural land that can be used for winter sports (the second winter resource factor, undeveloped winter resources) is above average in the West, starting as far east as the Dakotas, western Nebraska, Colorado, and New Mexico, but not including the southwestern portion of California (Figure III.31). The only other county with above-average abundance of these resources is Aroostook County at the very northern end of Maine.

About one-third of counties have an above-average availability measure for not more than two resource factors. These counties are clustered in an arc that extends from northern Texas, through most of Oklahoma and Kansas, eastern Nebraska, most of Missouri, the southern portions of Illinois, Indiana, and Ohio, most of Kentucky and Tennessee, and into northeastern Alabama and the northern half of Georgia.

In contrast, only about 210 counties have above-average availability for 10 or more resource factors. These counties are in three separate groupings. One group is a crescent starting in northwestern New Mexico, and continuing west and north through Arizona to include most of California and most of the western halves of Oregon and Washington. Another cluster contains the Catskills and Adirondacks in New York, and most of the New England region that lies to the east and north of there. The smallest cluster of these counties occurs in a band of central Florida counties, that run across the peninsula roughly from Tampa to Orlando and Cape Canaveral.

Regional Comparisons

In this section, we compare percentages of counties in various geographic regions that are above the national average in resource availability for each resource type. More importantly, we look at the proportion of the population in each region that lives in counties that have above-average resource availability.

The resource types that are most geographically concentrated across the United States are the first land-based factor, great outdoors, and the second winter resource factor, undeveloped winter resources (Table III.37). Fewer than 20 percent of counties have above-average access to these types of resources. Conversely, over 40 percent of counties in the United States have above average availability to three resource types: state and private forests and other federal land.

Table III.37: Percentage of Counties with Above Average Recreation Availability Index Values by Recreation Resource Type and Region

Recreation Resource Type	Region				
	North	South	Rocky Mountain	Pacific Coast	U.S. Total
Local Facilities	34.4	29.3	6.0	64.7	28.1
Open Space	79.6	1.6	24.1	91.0	35.8
Great Outdoors	1.3	2.2	42.5	100.0	13.8
Wildlife Land	47.2	69.2	10.2	16.5	48.2
State & Private Forests	49.5	43.3	15.1	97.7	42.3
Western Land	3.8	17.6	93.5	69.2	29.6
Camping Areas	68.2	15.4	17.8	54.9	35.1
Other Federal Land	44.7	29.7	44.0	95.5	40.2
Large Water Bodies	26.9	25.2	22.7	93.2	28.2
Whitewater	26.4	8.5	40.0	99.3	24.4
Flatwater	31.3	32.3	30.8	19.6	31.1
Lowland Rivers	30.5	42.2	18.4	69.9	34.9
Developed Winter	50.8	0.3	30.9	100.0	27.3
Undeveloped Winter	1.8	0.1	68.9	96.2	18.0

However, just looking at the number of counties that are located near these resource types can be misleading. Of greater interest is the proportion of the regional population that lives in these counties. Table III.38 shows that for the United States as a whole, only about five percent of the population lives in areas that have above–average access to public wildlands (great outdoors) or undeveloped winter areas. Only about 10 percent live in those primarily western counties with relatively abundant opportunities for open agricultural and nonforest public land (western land). Conversely, nearly two-thirds of the U.S. population lives in areas with above-average access to land set aside for habitat preservation (Wildlife Land), and just over half live in counties with better-than-average availability of state park and privately–owned forests (state and private forests).

Table III.38: Percentage of Regional Population Living in Counties with Above Average Recreation Availability Index Values by Recreation Resource Type and Region

Recreation Resource Type	Region				
	North	South	Rocky Mountain	Pacific Coast	U.S. Total
Local Facilities	54.7	35.0	11.0	81.5	45.5
Open Space	83.5	1.9	33.8	78.9	47.7
Great Outdoors	0.4	1.8	37.7	100.0	5.6
Wildlife Land	62.7	79.2	11.6	24.9	66.1
State & Private Forests	58.0	44.9	15.9	94.7	51.9
Western Land	0.8	9.0	83.2	78.1	10.1
Camping Areas	76.5	12.3	20.6	75.9	47.7
Other Federal Land	24.9	24.6	50.2	99.0	28.1
Large Water Bodies	42.9	25.6	22.4	98.4	36.6
Whitewater	34.1	11.9	35.2	98.3	27.0
Flatwater	23.9	26.1	23.5	25.9	24.8
Lowland Rivers	41.2	41.4	8.8	67.2	40.6
Developed Winter	57.0	0.7	29.4	100.0	34.0
Undeveloped Winter	0.3	0.0	52.5	91.3	5.2

In the North, open space, the resource type that relates to greenways, rail-trails, and fairgrounds, is available to over four-fifths of the region's population. In addition, three-fourths of the regional population has high levels of access to camping, hunting, and fishing opportunities (camping areas), and between 55 and 60 percent have access to developed urban facilities (local facilities), skiing opportunities (developed winter), and state parks and private forest opportunities (state and private forests). However, less than one percent of the population in this region has above-average access to three of the resource types: FS/NPS/wilderness (great outdoors), large agricultural or public range tracts (western land), or winter access to undeveloped range and agricultural acres (undeveloped winter).

Not surprisingly, only a very small proportion of residents of the South live in areas where winter recreation resources are relatively abundant. In addition, only about two percent of the residents of this region live in counties where either NPS/FS/wilderness (great outdoors) or greenways and rail-trails (open space) are abundant. However, nearly 80 percent of the population in this region lives in areas where there are relatively high amounts of land set aside for habitat preservation (wildlife land).

In the Rocky Mountain region, over 80 percent of the population lives in areas with above-average availability of private agricultural, range, and BLM land (western land). Perhaps this is not surprising, given the regional concentration of BLM land. About half of the region's population has above-average availability of undeveloped winter resources. Only for flatwater and wetland resources is less than 10 percent of the population better situated than the national average.

The Pacific Coast region has by far the greatest access to recreation resources. For seven of the 14 resource types, over 90 percent of the population in this region lives in areas with availability above the national average. In fact, for skiing opportunities (developed winter) and for public wildland opportunities (great outdoors), all of the population in the Pacific Coast does better than the national average. In addition, over two-thirds of the population has above-average access to five other resource types. Less than half of the region's population lives in areas with comparatively high access for only for two resource types, land set aside for habitat preservation (wildlife land) and flatwater/wetland resources (flatwater). Even for these two, about one-fourth of the regional population is better off than the national average.

Table III.39: Percent of Regional Population Living in Counties with Stable or Increasing Recreation Availability Index Values by Recreation Resource Type and Region, 1987-1997

Recreation Resource Type	Region				
	North	South	Rocky Mountain	Pacific Coast	U.S. Total
Local Facilities	41.3	94.6	1.7	6.8	57.6
Open Space	100.0	99.8	100.0	100.0	99.9
Great Outdoors	2.3	72.8	28.0	22.3	28.8
Wildlife Land	69.7	52.3	61.4	82.6	66.1
State & Private Forests	100.0	69.0	48.9	45.9	74.2
Western Land	26.3	42.3	3.8	2.0	26.3
Camping Areas	9.6	36.3	43.3	2.4	19.5
Other Federal Land	0.7	46.6	9.6	0.0	15.4
Large Water Bodies	1.4	31.9	67.1	4.0	16.2
Whitewater	35.8	88.1	50.9	40.6	54.0
Flatwater	0.7	10.1	5.4	55.4	8.5
Lowland Rivers	100.0	98.3	98.4	99.8	99.3
Developed Winter	100.0	91.8	72.0	29.9	85.7
Undeveloped Winter	12.9	91.4	15.5	20.8	38.7

Changes since 1987

To examine the changes over the last 10 years in the availability of the 14 resource types, index values were calculated using resource counts and population that existed about 10 years ago. We examine the portion of the population that had stable or increasing per-capita resource availability over the 10 years (Table III.39). Where the population percentage shown in Table III.39 is low, most of the population lives in areas where the per-capita resource availability declined. Thus, we also highlight resource types for which per-

capita availability is worsening. These declines may or may not signify reductions in the resource base. Per-capita availability can decline if growth in resources does not keep pace with growth in population. On the other hand, increases in per-capita availability can only occur when resource growth is greater than population growth. Population has been growing in almost all counties in the United States.

Virtually all of the population in all of the regions have seen increases in greenways and rail-trails (open space). Organizations promoting trail and greenway development have become much more prominent in the last 10 years. Government funding to develop these types of resources also has increased, notably via ISTEA legislation. All regions also had increases in lowland river resources. However, given the definition of this resource type, we think this increase reflects more of a change in resource definition, such as reclassification of acres from lowland rivers to wetlands, than an actual increase in resources.

All of the population of the North region saw stable to increased availability of state parks and private forests (state and private forests), and of developed winter resources. These trends are consistent with findings in the earlier portion of this chapter that indicated increases in state park land, and increases in capacity of ski areas. Over two-thirds of the people in the North region live in counties that had stable or increased availability of land protected for wildlife habitat (wildlife land). In contrast, more than 90 percent of the population in the North lived in areas that had declining per-capita availability for five of the resource types: (1) great outdoors resources that include FS, NPS, and designated wilderness areas, (2) camping opportunities (camping areas), (3) recreation opportunities on federal water-managing agency land (other federal land), (4) coastal resources and associated private businesses (large water bodies), and (5) flatwater and wetland resources.

Despite relatively large population increases in the last 10 years, resource availability growth was more consistent in the South than in any other region. Over 90 percent of the population lived in areas with stable or increasing recreation supply for five of the resource types, including both types of urban resources (local facilities and open space), both types of winter resources, and lowland river opportunities. The stability of winter resources is misleading. Many people in the South live where there were no opportunities 10 years ago, and there still are no opportunities for winter recreation. For all of the land resource types, at least 36 percent of the South's population lived in areas that had stable or increasing per capita resource availability. The South was the only region where more than half of the population lived in areas with increases in the Great Outdoors resources—FS, NPS, and Wilderness (73 percent). The only resource factor for which over 90 percent of the South's population had declining per-capita availability was flatwater and wetland resources.

The majority of the population in the Rocky Mountain region lived in areas with increasing or stable per capita resource availability for six of the 14 resource types. The six types are: open space (greenways/trails, 100 percent), wildlife land (land set aside for habitat preservation, 61 percent), large water bodies and boating opportunities (67 percent), whitewater and wild river resources (51 percent), lowland river resources (98 percent), and developed winter skiing resources (72 percent). Because of stability in the federal resource base and increasing population, there was a decline for almost all residents of this region for three resource types: great outdoors (FS, NPS, and Wilderness land); Western land (BLM and private agricultural land); and other federal land (land managed by federal water agencies). In addition, more than 90 percent of residents experienced reduced per-capita availability for flatwater and wetland resources.

The Pacific Coast Region was the only one where a majority of people lived in areas that had increases in per capita availability of Flatwater and wetland recreation opportunities (55 percent). Other resource types for which a majority of the regional population had availability increases included: open space (greenway and trail opportunities, 100 percent), wildlife land (habitat preservation land, 83 percent), and lowland river resources (effectively 100 percent). On the other hand, this region was the only one in which less than half of the population had per capita increases in the availability of developed winter opportunities. Five resource types had declining availability for over 90 percent of the population: local facilities (developed urban resources); western land (BLM and agricultural land); camping areas (camping opportunities); other federal land (BR and CE); and whitewater and wild river opportunities.

In general, opportunities for factors that relate to developed resources are increasing or at least keeping pace with population growth in most regions of the country. Developed camping opportunities appear to be an exception. Here, population growth has exceeded resource growth, especially in the Northeast and along the Pacific Coast. In addition, resource types centered on land, water, and river resources that receive preservation protection from conservation groups, state park systems, or the federal government also have had stable or growing levels of availability for many Americans.

Per-capita availability of several types of resources is declining. For some of them, the reduction stems from a fixed resource base coupled with an increasing population. Examples include beaches and coastal areas, and opportunities provided at small federal land-managing agencies, such as TVA or CE. For other

resource types, the cause of decline is shrinkage in the resource base. Examples here include private agricultural land, fee areas for hunting and fishing, and wetlands in some areas.

CONCLUSION

Across all levels of government, there appears to be a noticeable trend toward increasing the number, quality, and scope of developed land-based facilities. This trend includes increased service levels at both public and private campgrounds, more resort-like character at both federal and state recreation facilities, and closures of small, lower quality areas. Federal agencies have increasingly adopted a customer orientation in the way they provide services. Meanwhile, sustainability and ecosystem health continue to receive heavy emphasis. Similarly, state park agencies work to strike the proper balance between providing services and protecting their resources. There have been increases in the number of private businesses that provide access to and services on public land. At the same time, there has been continued pressure to preserve the wild areas that remain. Federal and state Wilderness holdings and land owned by conservation groups have grown in the last 10 years.

Growth in trail resources has been substantial, especially in the North. Most states have established formal trails programs. Rail-trail conversions, and growth in the National Recreation Trail System have been concentrated in the North Region. Greenway development is prevalent in the North and throughout the country. The fact that many greenways are developed in and around cities increases their significance. Local initiatives in combination with ISTEA Transportation Enhancement funds were responsible for much of this activity. Compared to the situation a decade ago, the development of greenways and other linear recreation paths must rank as one of the most significant outdoor recreation trends in the United States.

Another significant trend has been the rise of two umbrella programs that have emphasized partnerships, namely the Watchable Wildlife and Scenic Byway programs that have sprouted across the country in the past 10 years. Their emphasis has been to involve all levels of government, the private sector, and citizens' groups to increase the accessibility of wildlife viewing and scenic driving opportunities. Just as important is the goal of protecting and appreciating the resources and relaying that message through education and interpretation.

In general, the U.S. water resource base has been stable. Acreage in lakes and reservoirs has increased slightly, but this growth has closely paralleled population growth. We presume most of these increases are tied to reservoirs supplying water for residential use. The trend to increase the amount of and level of protection of river resources has continued, as indicated by increases in both state and federal designations of important river segments, and by increases in National Recreation Areas, which often include water features.

Developed facilities for winter recreation have increased across the country. Downhill ski areas have increased their capacity in all regions. Opportunities for cross country skiing and snowmobiling on trails and parkland have grown especially in the North, and the number of cross-country areas has grown. However, private forest and agricultural land, which supported much of this activity in the past has continued to be converted to other uses or it has been closed to the public.

REFERENCES

Agyagos, F., Watt, B., & Persons, W. R. (1990). *Urban lake compliance survey—Phoenix Metropolitan Area*. Phoenix, AZ: Arizona Game and Fish Department.

American Automobile Association. (1995). *Scenic byways of the United States and Canada*. Heathrow, FL: Author.

Androscoggin Land Trust. (1996, September). Maine Landowner Liability Explained.

Backman, S. J., & Veldkamp, C. (1995). Examination of the relationship between service quality and user loyalty. *Journal of Park and Recreation Administration, 13*(2), 29-41.

Beeler, C. S. (1993). *National comprehensive salary and benefits study*. Arlington, VA: National Recreation and Park Association.

Brown, T. L. (1993a). *Forest conservation, forest recreation and tourism and the forest industry: Interrelationships and compatibility.* A Briefing Paper to the Northern Forest Lands Council. October 7, 1993.

Brown, T. L. (1993b). *Outdoor recreation and tourism studies applied to the northern forest lands: Literature review and analysis.* Northern Forest Lands Council, Recreation and Tourism Subcommittee.

Browning, J. A., Hendee, J. C., & Roggenbuck, J. W. (1988). *103 wilderness laws: Milestones and management direction in wilderness legislation, 1964-1987.* Station Bulletin 51. Moscow, ID: University of Idaho.

Bureau of Outdoor Recreation. (1973). *Outdoor recreation - a legacy for America*. Appendix A: An economic analysis. Washington, D.C.: U.S. Government Printing Office.

California Department of Parks and Recreation. (1989). SCORP planning in review: A compendium and analysis of current statewide comprehensive outdoor recreation planning documents. Sacramento, CA: Author.

Cordell, H. K., Bergstrom, J. C., Hartmann, L. A., & English, D. B. K. (1990). *An analysis outdoor recreation and wilderness situation in the United States: 1989-2040* (General Technical Report RM-189). Fort Collins, CO: USDA Forest Service, Rocky Mountain Forest and Range Experiment Station.

Crompton, J., & Lamb, C., Jr. (1986). *Marketing government and social services*. New York: John Wiley and Sons.

DeLoney, J., Eley, R., & Dziekan, K. (1996). *1995 Texas outdoor recreation plan—assessment and policy plan*. Austin, TX: Texas Parks and Wildlife Department.

Driver, B. L., Brown, P. J., & Peterson, G. L. (Eds.), (1991). *Benefits of leisure*. State College, PA: Venture.

Dwyer, J. F. (1990). Wildland management near large urban centers: The need for diversity. In D. Lime (Ed.), *Proceedings of managing America's enduring wilderness resource* (pp. 318-324). Minneapolis, MN: University of Minnesota Press.

Dwyer, J. F. (1994). *Customer diversity and the future demand for outdoor recreation* (General Technical Report RM-252). Fort Collins, CO: USDA Forest Service Rocky Mountain Forest and Range Experiment Station.

Dwyer, J. F. (1995a). Multicultural values: Responding to cultural diversity. In J. L. Thompson, D. W. Lime, B. Gartner, & W. M. Sames (Comps.), *Proceedings of the Fourth International Outdoor Recreation and Tourism Trends Symposium and the 1995 National Recreation Resource Planning Conference* (pp. 227-230). St. Paul, MN: University of Minnesota.

Dwyer, J. F. (1995b). Changing population demographics: Implications for recreation resources management. In J. L. Thompson, D. W. Lime, B. Gartner, & W. M. Sames (Comps.), *Proceedings of the Fourth International Outdoor Recreation and Tourism Trends Symposium and the 1995 National Recreation Resource Planning Conference* (pp. 245-248). St. Paul, MN: University of Minnesota.

Dwyer, J. F. (1995c). Challenges in meeting urban and near-urban recreation needs with limited resources: An overview. In J. L. Thompson, D. W. Lime, B. Gartner, & W. M. Sames (Comps.), *Proceedings of the Fourth International Outdoor Recreation and Tourism Trends Symposium and the 1995 National Recreation Resource Planning Conference* (pp. 599-602). St. Paul, MN: University of Minnesota.

Dwyer, J. F., McPherson, E. G., Schroeder, H. W., & Rowntree, R. A. (1992). Assessing the benefits and costs of the urban forest. *Journal of Arboriculture, 18*(5), 227-234.

Dwyer, J. F. & Schroeder, H. W. (1994). The human dimensions of urban forestry. *Journal of Forestry, 92*(10), 12-15.

Dwyer, J. F. & Stewart, S. I. (1995). Restoring urban recreation opportunities: An overview with illustrations. In J. L. Thompson, D. W. Lime, B. Gartner, & W. M. Sames (Comps.), *Proceedings of the Fourth International Outdoor Recreation and Tourism Trends Symposium and the 1995 National Recreation Resource Planning Conference* (pp. 606-609). St. Paul MN: University of Minnesota.

Dziekan, K., DeLoney, J., & Eley, R. (1997). *Becoming an outdoors-woman: Socio-demographic profile of workshop participants*. Workshops held October 1993-February 1997. Austin, TX: Consumer Research Program Area, Communications Division, Texas Parks and Wildlife Department.

Fabos, J. G. (1995). Introduction and overview: The greenway movement, uses and potentials of greenways. *Landscape and Urban Planning, 33*(1), 1-13.

Federal Highway Administration (FHWA). (1988). *Scenic byways*. Washington, D.C.: US Department of Transportation.

Federal Highway Administration. (1991). *National scenic byways study*. Washington, D.C.: US Department of Transportation.

Federal Highway Administration. (1996). *Scenic byways*. Washington, D.C.: US Department of Transportation.

Federal Highway Administration. (1997a). *The National Scenic Byways Program: FY92-97 in Review*. Washington, D.C.: US Department of Transportation.

Federal Highway Administration. (1997b). *National Economic Crossroads Transportation Efficiency Act: Key information*. Washington, D.C.: US Department of Transportation.

Gobster, P. H. (1995). Perceptions and use of a metropolitan greenway system for recreation. *Landscape and Urban Planning, 33*, 401-413.

Gobster, P. H. & Dickhut, K. R. (1995). Exploring interspace: Open space opportunities in dense urban areas. In C. Kollin and M. Barratt (Eds.), *Inside urban ecosystems: Proceedings of the Seventh National Urban Forestry Conference* (pp. 70-73). Washington D.C.: American Forests.

Godbey, G., Graefe, A., & James, S. W. (1992). *The benefits of local recreation and park services: A nationwide study of the perceptions of the American public*. Arlington, VA: National Recreation and Park Association.

Goldbloom, A. (1991). *1991 Citizen survey on Texas state parks*. Austin, TX: Statewide Planning and Research, Public Lands Division, Texas Parks and Wildlife Department.

Gunn, C. (1994). *Tourism planning—basics, concepts, cases*. Washington, D.C.: Taylor & Francis.

Hardt, M. M., & Hastings, W. (1995). Local, metropolitan, and regional greenways. In J. L. Thompson, et al. (comp.), (1995, May 14-17), *Proceedings of the Fourth International Outdoor Recreation and Tourism Trends Symposium and the 1995 National Recreation Resource Planning Conference*, St. Paul, MN.

Henson, L. D. (1988). Memo to regional foresters regarding fiscal year 1988 accomplishment. Washington, D.C.: USDA Forest Service.

Hull, R. B. IV, & Ulrich, R. (1992). Health benefits and costs of urban forests. In P. Rodbell (Ed.), *Alliances for community trees: Proceedings of the Fifth National Urban Forestry Conference* (pp. 69-72). Washington D.C.: American Forestry Association.

Hurt, H. III. (1997, August 11). Parks brought to you by... *U.S. News & World Report, 123*(6), 42-45.

Ibrahim, H., & Cordes, K. A. (1993). *Outdoor recreation*. Dubuque, IA: Brown and Benchmark.

Jackson, R. S., Stynes, D. J., Propst, D. B., & Carlson, B. D. (1996). *A summary of the national and state economic effects of the 1994 U.S. Army Corps of Engineer Recreation Program* (Technical Report, R-96-1). Vicksburg, MS: U.S. Army Engineer Waterways Experiment Station.

Jacobs, P. (1997, April 28). Boom in holdings puts wildlife agency to test. *Los Angeles Times*, pp. 1-4.

Jensen, C. R. (1995). *Outdoor recreation in America* (5th ed.). Champaign, IL: Human Kinetics Press.

Jimenez, R. (1997, April 20). An experiment in backcountry. *Boston Globe*, pp. NHI, NH7.

Jolley, H. (1969). *The Blue Ridge Parkway*. Knoxville, TN: The University of Tennessee Press.

Kelly, J. T., Cornelssen, C., & Bailey, M. (1996). Military base closures can change lands to parks. *Parks and Recreation, 31*(1), 70-76.

Knudson, D. M. (1984). *Outdoor recreation* (Rev. ed.). New York: MacMillan.

LaPage, W. F. (1995). Parklands as paradox: The search for logic in the public's parklands. *Journal of Park and Recreation Administration, 13*(4), 1-12.

Little, C. E. (1990). *Greenways for America*. Baltimore: Johns Hopkins University Press.

Maine Snowmobile Program. (1997, March 3). Communication.

Marvel, W. (1997, June 7). Have fun on paper company land. *The Conway Daily Sun*, pp. 1, 16.

Mastran, S. (1992). *The protection of America's scenic byways*. Information Series No. 68, 1992. Washington, D.C.: National Trust for Historic Preservation.

McEwen, D., & Profaizer, L. (1989). Trends in private and public campgrounds, 1978-1987. *Trends, 26*(2), 24-29.

Moore, R. L. (1994). *State trail programs: A survey of state trail administrators*. Denver, CO: The National Association of State Trail Administrators.

More, T. A., Dustin, D. L., & Knopf, R.C. (1996). Behavioral consequences of campground user fees. *Journal of Park and Recreation Administration, 14*(1), 81-93.

Mueller, G. (1996). Establishment of a fish community in the Hayden-Rhodes and Salt-Gila Aqueducts, Arizona. *North American Journal of Fisheries Management,16*(4), American Fisheries Society.

Mueller, G., & Liston, C. R. (1994). Evaluation of tire reefs for enhancing aquatic communities in concrete-lined canals. *North American Journal of Fisheries Management, 14*(3), American Fisheries Society.

National Access and Travel Management Strategy Team. (1992). *Travel management: Bringing people and places together*. Report of the National Access and Travel Management Strategy Team. Washington D.C.: USDA Forest Service.

National Association of State Park Directors. (1996). *1996 annual information exchange: State park statistical data for the year ending June 30, 1995.* Tallahassee, FL: Author.

National Forest Scenic Byways Inventory (database). (1996). Washington, D.C.: USDA Forest Service.

National Scenic Byways Program. (1995, May 18). *Federal Register: 60*(96), 26759-26762. Washington, D.C.: Office of the Federal Register, National Archives and Records Administration.

Newman, R. J. (1997, February 24). Who needs skis? *U.S. News & World Report, 122*(7), 58-60.

Northern Forest Lands Council. (1994, September). *Finding common ground: Conserving the northern forest.* Portsmouth, NH: Northern Forest Lands Council.

Outdoor Recreation Resources Review Commission (1962). *Economic studies of outdoor recreation* (ORRRC Report 24). Washington, D.C.: U.S. Government Printing Office.

Overbay, J. (1993). Statement of James Overbay, Deputy Chief, Forest Service, United States Department of Agriculture before the Subcommittee on National Parks, Forest and Public Lands Committee on Natural resources, United States House of Representatives, Concerning Problems with Access to Public Lands. (November 9).

Peterson, M. R. (1996). Wilderness by state mandate: A survey of state-designated wilderness areas. *Natural Areas Journal, 16(3)*, 192-197.

PKF Consulting. (1995). *Local park and recreation facilities and sites*. Arlington, VA: National Recreation and Park Association.

Poole, W. (1997). Window on the wilderness. *Land and People, 9*(1), 2-6.

President's Commission on Americans Outdoors. (1986). *Report and recommendations to the President of the United States*. Washington, D.C.: U.S. Government Printing Office.

Reynolds, G. R. (1996). Memo to Regional Foresters regarding FY 96 Rights-of way Acquisition Accomplishment. Washington, D.C.: USDA Forest Service.

Robertson, D. (1988, August 29). *Memo to regional foresters* (Memorandum). Washington, D.C.: USDA Forest Service.

Robertson, F. D. (1992). Memo in the National Access and Travel Management Conference, August, 1991. Denver, CO: USDA Forest Service.

Satchell, M. (1997a, January 20). Clinton's 'mother of all land-grabs.' *U.S. News & World Report, 122*(2), 42-44.

Satchell, M. (1997b, July 21). Parks in peril. *U.S. News & World Report, 123*(6), 22-28.

Schoener, G. (1997, May 13). *ISTEA: Where it stands: Where it's headed*. Paper presented at the Scenic America National Training Conference, Baltimore, MD.

Schroeder, H. W. & Anderson, L. M. (1984). Perception of personal safety in urban recreation sites. *Journal of Leisure Research, 16*(2), 178-194.

Searns, R. M. (1995). The evolution of greenways as an adaptive urban landscape form. *Landscape and Urban Planning, 33*(1), 65-80.

Shands, W. (1990). Showcases of excellence. In *National Recreation Areas: A Showcase For Excellence*, FS-442. Washington, D.C.: USDA Forest Service.

Simmons, D. (1996). Teaching in natural areas: What urban teachers feel is most appropriate. *Environmental Education Research, 2*(2), 149-157.

Stankey, G. H. (1984). Wilderness preservation activity at the state level: A national review. *Natural Areas Journal, 4*(4), 20-28.

State Task Force on Texas Nature Tourism. (1994). *Nature tourism in the Lone Star State: Economic opportunities in nature*. Report submitted by the Texas Parks and Wildlife Department and the Texas Department of Commerce. Austin, Texas.

Stewart, S. I. (1995). Challenges in meeting urban and near-urban needs with limited resources: A summary of the workshop discussion. In J. L. Thompson, D. W. Lime, B. Gartner, & W. M. Sames (Comps.), *Proceedings of the Fourth International Outdoor Recreation and Tourism Trends Symposium and the 1995 National Recreation Resource Planning Conference* (pp. 603-605). St. Paul MN: University of Minnesota.

Tennessee Valley Authority. (1988). *The TVA Handbook*. Knoxville, TN: Tennessee Valley Authority.

Tetreault, B. (1997, June 9). Opening ceremonies held for Phillips Brook Recreation Area. *The Berlin Daily Sun*, pp. 1, 7.

Texas Parks and Wildlife Department. (1994). *Natural agenda—a strategic plan for Texas Parks and Wildlife 1995-1999*. Austin, TX: Author.

Tice, R. D. (1997, April 1997). Letter to Secretary of the Interior Bruce Babbitt from R. Dean Tice, Executive Director, National Recreation and Park Association, dated March 12, 1997, in *Parks and Recreation*, p. 8.

Tracy, P. (1997, June 6). New rec area is paradise. *The Union Leader*, p. B3.

Times Mirror Magazines, Inc. (no date). Locked Out: How private owners are turning public lands—your lands, your constituents' lands—into their own private property by seizing control of access roads and locking the gates. Washington, D.C.: Times Mirror Magazines, Inc., 1705 DeSales St, NW, Suite 801, 20036.

Tynon, J. F., Harding, J. A., & Chavez, D. J. (1998). *National recreation trails: An overview*. Paper presented at 1997 Northeastern Recreation Research Conference, April 6-8, Bolton Landing, NY, pp. 225-227.

United States Army Corps of Engineers. (1997). *Natural resource management system*. Washington, D.C.: U.S. Army Corps of Engineers Headquarters.

United States Army Engineer Missouri River Division. (1994). *Master water control manual, Missouri River review: Review and update, Volume 6c: Economic studies, recreation economics*. Omaha, NE: Author.

United States Department of Agriculture Forest Service. (1990). *National recreation areas: A showcase for excellence*. FS-442. Washington, D.C.: Author.

United States Department of Agriculture Forest Service. (1997). *Wildlife opportunities report*. Unpublished document. Washington, D.C.: Wildlife, Fish, and Rare Plants Program.

United States Department of Energy, Bonneville Power Administration, US. Army Engineer, North Pacific Division, & U.S. Bureau of Reclamation. (1994). *Columbia River system operation review draft environmental impact statement, Appendix J: Recreation*. Portland, OR: Authors.

United States Department of the Interior, Bureau of Land Management. (1993, December 17). *BLM handbook 8357-1—byways*. Washington, D.C.

United States Department of the Interior, Bureau of Land Management. (1996, July 29). *BLM back country byways master list*. Washington, D.C.

United States Department of the Interior, Bureau of Reclamation (1993). Draft Environmental Impact Statement/ Environmental Impact Report. Denver, CO: Bureau of Reclamation.

United States Department of the Interior, Bureau of Reclamation (1995). *Operation of Glen Canyon Dam final environmental impact statement*. Denver, CO: Bureau of Reclamation.

United States Department of the Interior, National Park Service. (1987-1996, Annual). *National Park Service statistical abstract*. Denver, CO: Author, Public Use Statistics Program Center.

United States Department of the Interior, National Park Service. (1995). *The national parks: Index 1995*. Washington, D.C.: Author.

United States Department of the Interior, National Park Service. (1996a). *Federal lands-to-parks program: Base closure status list by state*. Unpublished report.

United States Department of the Interior, National Park Service. (1996b). *American discovery trail. National trail feasibility study, Vol. 1: Environmental assessment*. Denver, CO: Denver Service Center.

United States Department of the Interior, National Park Service. (1996c). *American discovery trail. National trail feasibility study. Vol. 2: Description of the trail corridor*. Denver, CO: Denver Service Center.

United States Department of the Interior, National Park Service. (1997). *1997 National Park Service strategic plan*. Washington, D.C.: Author.

United States General Accounting Office. (1992, April). *Federal lands: Reasons for and effects of inadequate public access*. Briefing report to the chairman, Subcommittee on National Parks and Public Lands, Committee on Interior and Insular Affairs, House of Representatives. GAO/RCED-92-116BR. Washington, D.C.

United States General Accounting Office. (1993). *Federal land management: Status and uses of wilderness study areas*. Report to the Chairman, Subcommittee on National Parks, Forests, and Public Lands, Committee on Natural Resources, House of Representatives. GAO/RCED-93-151.

Urbina, R. (1997). *TPWD recreation grants tracking system.* Austin, TX: Texas Parks and Wildlife Department, Statewide Comprehensive Outdoor Recreation Plans.

Vermont Agency of Natural Resources, Department of Forests, Parks, and Recreation. (1994, March.) Chapter 3: "Public outdoor recreation on privately-owned Lands Task Group Report." In *Vermont recreation plan: Task group report.* Montpelier, VT: Author.

Vermont Agency of Natural Resources, Department of Forests, Parks, and Recreation. (1997). *Public recreation on private land: A landowner's guide.* Draft. Montpelier, VT: Author.

Vickerman, S. (1989). *Watchable wildlife: A new Initiative.* Portland, OR: Defenders of Wildlife.

Wall, K., & Crompton, J. (1995). *The revenue implications of changing daily entrance fees to per-person pricing at Texas state parks.* College Station, TX: Texas A&M University.

Westphal, L. M. (1993). Why trees? Urban forestry volunteers values and motivations. In. P. H. Gobster (Ed.), *Managing urban and high use recreation settings.* Selected papers from the Urban Forestry and Ethnic Minorities and the Environment Paper Sessions at the 4th North American Symposium on Society and Resource Management (General Technical Report NC-163), (pp. 19-23). St. Paul MN: USDA Forest Service North Central Forest Experiment Station.

Westphal, L. M. & Gobster, P. H. (1995). Legacy of the Clean Water Act: Impacts of water quality on urban river recreation. In J. L. Thompson, D. W. Lime, B. Gartner, & W. M. Sames (Comps.), *Proceedings of the Fourth International Outdoor Recreation and Tourism Trends Symposium and the 1995 National Recreation Resource Planning Conference* (pp. 620-624). St. Paul MN: University of Minnesota.

Zinser, C. I. (1995). *Outdoor recreation: United States national parks, forests, and public lands.* New York: John Wiley and Sons.

Statewide Comprehensive Outdoor Recreation Plans

Arizona State Parks Board. (1994). *1994 Arizona statewide comprehensive outdoor recreation plan.* Phoenix, AZ.

Center for Policy Research and Planning, Mississippi Institutions of Higher Learning. (1990). *1990 Mississippi statewide comprehensive outdoor recreation plan.* Jackson, MS.

California Resources Agency, Department of Parks and Recreation. (1994). *California outdoor recreation plan 1993.* Sacramento, CA.

Delaware Department of Natural Resources and Environmental Control. (1990). *Delaware outdoors 1990.* Dover, DE.

Florida Department of Environmental Protection, Division of Recreation and Parks. (1994). *Outdoor recreation in Florida 1994.* Tallahassee, FL.

Georgia Department of Natural Resources, Parks Recreation, and Historic Sites Division. (1995). *1995 Georgia statewide comprehensive outdoor recreation plan.* Atlanta, GA.

Idaho Parks and Recreation Board. (1989) *1990 Centennial Edition: Idaho Outdoor Recreation Plan.* Boise, ID.

Illinois Department of Conservation. (1989). *The Illinois outdoor recreation plan 1988-1993.* Springfield, IL.

Indiana Department of Natural Resources. (1994). *1994-1999 Indiana statewide comprehensive outdoor recreation plan.* Indianapolis, IN.

Kentucky Department of Local Government. (1989). *1989 Assessment and policy plan for outdoor recreation.* Commonwealth of Kentucky. Frankfort, KY.

Louisiana Department of Culture, Recreation, and Tourism, Office of State Parks. (1995). *Louisiana statewide comprehensive outdoor recreation plan.* Baton Rouge, LA.

Minnesota Departments of Natural Resources and Trade and Economic Development. (1989). *Minnesota's outdoor legacy: Strategies for the 90s statewide comprehensive outdoor recreation plan for 1990-1994.* St. Paul, MN.

Missouri Department of Natural Resources, Division of State Parks. (1996). *Missouri statewide comprehensive outdoor recreation plan 1996 to 2001.* Jefferson City, MO.

Nebraska Game and Parks Commission, Planning and Programming Division. (1991). *Nebraska statewide comprehensive outdoor recreation plan: Assessment and policy plan 1991-1995.* Lincoln, NE.

New Hampshire Office of State Planning. (1994). *New Hampshire outdoors 1994-1999: Statewide comprehensive outdoor recreation plan.* Concord, NH.

New Jersey Department of Environmental Protection. (1989). *The Commonwealth of New Jersey: Outdoor recreation resources plan summary.* Trenton, NJ.

New Mexico Energy, Minerals and Natural Resources Department, Parks and Recreation Division. (1991). *Statewide comprehensive outdoor recreation plan for New Mexico*. Santa Fe, NM.

New York Office of Parks, Recreation and Historic Preservation. (1994). *1994 New York statewide comprehensive outdoor recreation plan: People, resources, recreation*. Albany, NY.

North Dakota Parks and Recreation Department. (1996). *North Dakota 1996-2000 statewide comprehensive outdoor recreation plan*. Bismarck, ND.

Oklahoma Tourism and Recreation Department, Division of Planning and Development. (1992). *Oklahoma outdoor recreation assessment and planning 1992*. Oklahoma City, OK.

Oregon Parks and Recreation Department, Policy and Planning Division. (1995). *Oregon outdoor recreation plan 1994-1999*. Salem, OR.

Rhode Island Department of Administration and Department of Environmental Management, Division of Planning. (1992). *Ocean State outdoors: Rhode Island's comprehensive outdoor recreation plan*. Providence, RI.

South Carolina Department of Parks, Recreation and Tourism. (1996). *1995 South Carolina statewide comprehensive outdoor recreation plan*. Columbia, SC.

Texas Parks and Wildlife Department. (1996). *1995 Texas outdoor recreation plan—assessment and policy plan*. Austin, TX.

Utah Department of Natural Resources, Division of Parks and Recreation. (1992). *1992 Utah statewide comprehensive outdoor recreation plan*. Salt Lake City, UT.

Vermont Agency of Natural Resources, Department of Forests, Parks and Recreation. (1993). *Vermont recreation plan: Assessment and policy plan 1993*. Montpelier, VT: Author.

West Virginia Development Office. (1993). *West Virginia statewide comprehensive outdoor recreation plan 1993-1997*. Charleston, WV.