CHAPTER 10

Outdoor Recreation and Wilderness

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According to the 1986 President's Commission on Americans Outdoors, outdoor recreation and wilderness are becoming increasingly important to American society. In recent years, however, the public sector has faced strong pressures to reduce recreation spending. Most severe at federal and state levels, cuts have been made in personnel, maintenance, and management. A positive result has been the stimulation of innovation, partnerships, and cooperation.

This chapter reviews recent past trends, the current situation and possible futures for outdoor recreation and wilderness. Based on this review, several observations are offered about the social significance of recent past trends. Opportunities for improving resource allocations and management are suggested.

President's Commission on Americans Outdoors and the Domestic Policy Council's Task Force

Recognition of the changing nature of recreation grew throughout the 1970s. Acknowledgment of the significance of this change led national recreation interests to gain the support of such figures as Laurance Rockefeller and Morris Udall for the concept of a new national recreation policy review. Rockefeller led the resulting Outdoor Recreation Policy Review Group in 1982, an effort that helped spark introduction of legislation to create a national commission in 1983. Successful efforts in the Senate, led by Malcolm Wallop of Wyoming, resulted in unanimous support for such legislation. House action, however, was stalled, causing President Reagan to create by executive order the President's Commission on Americans Outdoors in January 1985.

This commission began work in the fall of 1985 and completed its efforts in early 1987. It conducted a review of literature and research, solicited ideas and experiences from active interests, heard from more than 1,000 witnesses and

received several thousand written submissions. The commission reports were released in early 1987 and provided a wide range of observations and recommendations.

In the summer of 1987, a Domestic Policy Council Task Force on Outdoor Recreation Resources and Opportunities was created to review outdoor recreation in light of the commission's report. Its report, *Outdoor Recreation in a Nation of Communities*, was completed and published in April 1988. This chapter reviews data in both the President's Commission on Americans Outdoors and Domestic Policy Council reports.

The Relationship of Outdoor Recreation and Wilderness to Conservation Interests

The outdoor recreation movement has important ties to conservation interests and their activities. For example, the impetus for the Outdoor Recreation Resources Review Commission, which was formed by President Eisenhower in the 1950s to study outdoor recreation needs, came from a small number of conservation leaders, principally Joseph Penfold of the Izaak Walton League, Dave Brower of the Sierra Club, and associated civic organizations. High on their agenda were concerns for parks; open space; opportunities for hunting, fishing and other outdoor recreation activities; and a concern for habitat, clean water, and wetlands.

The Outdoor Recreation Resources Review Commission's report in 1962 provided a unifying agenda for the conservation community. Congressional enactment of the commission's recommendations for protecting and expanding the public estate followed easily. The 1960s also produced broad concern for quality air and water. Lady Bird Johnson struck a responsive chord as she championed beautification plantings in cities and along highways, a fight against billboards, and an appreciation of aesthetics. Thus, public health, historic preservation interests, and women's and garden clubs allied with old line conservation groups. The result was clean air and water bills.

This activity contributed significantly to the environmental movement. A number of organizations came into being, carrying environment or ecology in their names. Some of the older organizations began to change focus, from natural resources and outdoor recreation to environmental quality for public health and safety, including nuclear and toxic wastes. While these evolving organizations retained their original interests, such as wildlife or wilderness, the overall shift was to more technical environmental problems. The broadest remaining point of consensus has been continued support for wilderness.

From the synthesis provided by the broad environmental interests of the 1960s, there has since developed divergence of interest between "modern" environmental organizations and those concerned about natural resources and recreation.

Using this brief review of history and issues as a springboard, the following

section provides an overview of the resource base and its availability for outdoor recreation.

THE RESOURCE AND FACILITY BASE

The land base of the United States is about one-third each natural forest and range. With the associated water area, there are 1.6 billion acres of forest and range that include most of our public lands. Thirty-nine percent of forest lands and 42 percent of range lands are federal. Of these federal properties, over 690 million acres are available for public recreational use. Also, 53 million acres of state lands and over 2 million acres of local government lands are available for recreation (Figure 10.1), making a total of 746 million public acres. Private lands available for recreation include over 280 million acres. It is essential to note that the areas reported here are only those available for recreation and that *areas not available are not reported.*

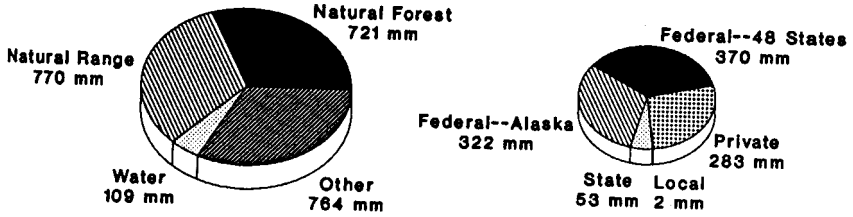
Recreation Resources on the Federal Estate

Wilderness and Remote Backcountry Land. These lands are more than three miles from roads and are typified by little or no development beyond abandoned roads, foot trails, and occasional shelters. Many of the most remote and pristine of these lands are in the National Wilderness Preservation System. As of 1987, about 89 million acres of federal land had been included in the National Wilderness Preservation System; most, 56 million acres, were in Alaska. Of the 32 million acres in the lower 48 states, roughly 28 million are in the western regions, mostly in national forests. In the East there are only 3.9 million acres of the National Wilderness Preservation System, again, much of it in national forests. Estimates of remote backcountry not in the National Wilderness Preservation System include 102 million acres, mostly in the West, 70 million in Alaska. Outside of Alaska, there are only about 1.5 million nonwilderness remote acres.

Extensive Undeveloped Land. Bordering the most remote of federal lands are lands lying between a half and three miles from a road. More than 86 percent of these 87.3 million acres are in national forests. The East has comparatively little— about 2.2 million acres in the North, another 3.3 million in the South.

Roaded, Partially Developed Land. Within a half mile of a road there are an estimated 388.4 million acres— almost 80 percent managed by the Bureau of Land Management. The Forest Service manages 72 million acres. Only about five percent of federal roaded acreage is in the East. The most heavily used portions of the federal estate are these lands lying within a half mile of roads. They include the 760 trails, more than 8,400 miles, in the National Recreation Trail System. More than 500 of these trails are managed by federal agencies,

Figure 10.1. Resource and Facility Base in the United States, 1987



Source: Outdoor Recreation and Wilderness Assessment Group, USDA Forest Service, Athens, GA.

about 140 by local government, 80 by state agencies, and almost 30 by private concerns.

Developed Land Sites. There are a total of almost 5,000 federal campgrounds operated by eight different agencies. The majority of these campgrounds are in national forests (70 percent), followed by those in land managed by the Corps of Engineers (17 percent). The Rocky Mountain region has 35.2 percent, the Pacific region 34.9 percent. Only about 10 percent of the campgrounds are in the Northeast. Federal agencies also operate over 63,000 picnic areas, about 80 percent of which are located in the East, and have developed over 144,000 miles of roads.

Water Opportunities. Among the primary remote water resources is the National Wild and Scenic River System. As of 1986, 7,178 miles had been included, most in the Pacific Region, especially in Alaska. About 911 miles were in the East. Three agencies, the Forest Service, Park Service, and Bureau of Land Management, manage nearly 30 percent of the National Wild and Scenic River System. Almost 7,550 additional miles were under study in 1986.

Among water-oriented federal properties, those most suitable for outdoor recreation include most segments of national rivers, national seashores, lakeshores, and water-oriented national recreation areas. Among the acres in national rivers, lakeshores, and recreation areas, more than two-thirds are in the Rocky Mountain Region. The Northern Region has the least such area (413,000 acres), although much of it is near major metropolitan areas. Unlike these

specially designated federal waters, more of the highly developed water areas are in the East. Most swimming areas are in the southern region. Over 60 percent are on Corps of Engineer's projects. A total of over 7,800 boat ramps are managed by five federal agencies, nearly half in the South.

Snow and Ice Opportunities. Combined, wilderness and other remote areas (more than three miles from roads) with sufficient snowfall for winter sports (16 or more annual inches) add up to about 171.5 million acres. Over 127 million of these acres are in Alaska; fewer than two million are in the East. Most of this area is highly inaccessible. There are about 71 million federal acres a half to three miles from a road that receive sufficient snowfall for winter sport activities. More than two-thirds are in national forests in the Rocky Mountain Region.

Most of the federal lands in snowfall regions that lie within a half mile of roads are available for winter sports. More than 80 percent of these acres are on Bureau of Land Management lands; about 17 percent are in national forests. More than half are in the Pacific Region, including Alaska. More than 2,000 miles of trails in the National Recreation Trail System have been designated for cross-country skiing, more than half in the Northeast. More than 1,500 miles of the National Recreation Trail System have been designated for snowmobiling use, again with the majority in the North, none in the South. During winter, more than 100,000 miles of roads on federal lands, when unplowed, may be used for winter recreation. About one-third of ski lifts are in national forests. Eighty-three percent of such sites in the Rockies and 78 percent in the Pacific Coast are in national forests.

Specially Designated Federal Lands

Special federal designations are mostly "overlays" of the federal land systems, such as the National Forest System. National designations, such as wilderness, are usually referred to as systems; for example, the National Wilderness Preservation System. They are not, however, managed as systems in the strictest sense. Congress usually designates special areas, particularly on multiple-purpose lands, to resolve disputes over competing land uses. Special designation represents a narrowing of management purpose. When accomplished at the congressional level, designation supplants administrative prerogatives.

Wilderness. Wilderness began with administrative designation of the Gila Wilderness Area in 1924. From these humble beginnings, the National Wilderness Preservation System has grown to nearly 89 million acres. Congressionally designated wilderness acreages occur in 44 states, two-thirds in Alaska. The National Park Service, Forest Service, Fish and Wildlife Service and the Bureau of Land Management manage wilderness to preserve and sometimes to restore natural conditions. While recreation is an important use, scientific research, species continuance and diversity, education, and gene pool preservation are equally important.

National Recreation Areas. Congress has individually designated 32 National Recreation Areas. The National Park Service administers 17 of these areas, the Forest Service 15. These areas generally exceed 20,000 acres, have high carrying capacity and have outstanding scenic qualities. While they vary from high mountains to seashores and inland waters, some are very close to major metropolitan areas. Each National Recreation Area carries its own particular requirements as prescribed by its act. The managing agency then prepares a management plan in accordance with these requirements, which reflect national purposes, but these requirements can be out of context with local conditions and desires.

National Wild and Scenic Rivers. The Act of 1968 authorized designation of national rivers. Subsequently, 75 river segments comprising 7,365 miles have come into the system. The federal agency having jurisdiction administers the designated river, sometimes in partnership with states. The states administer approximately 10 percent of the system miles. This national river system provides unique linear recreation opportunities for such activities as canoeing, rafting, hiking and trail riding. Its management gives primacy to protection and recreation.

National Scenic, Historical, and Recreation Trails. Congress has designated 14 National Scenic and Historical Trails, covering 23,500 miles. Again the agency with jurisdiction assumes management, typically emphasizing non-motorized uses and protection of natural and historic values. The Secretary of the Interior may designate National Recreation trails under the original act. A total of 760 trails or trail segments, including 8,400 miles, has been thus designated. Approximately 500 of these are on federal lands, 80 are on state, 140 on local, and about 30 on individually or organizationally owned lands. National Recreation trails are not limited to non-motorized uses.

Recreation Resources on State Properties

About 52.6 million acres (2.5 percent of the United States land base, excluding Alaska) of the land in state ownership are available for public recreation. The East contains 39.9 million state recreation acres. Combined, the North and South have 61.5 percent of the national total. Almost 50 percent is in state forests, the rest is in state parks (19 percent), or fish and game systems (31 percent).

Land Opportunities. An estimated 2.9 million acres of state lands are designated wilderness or are remote backcountry more than three miles from roads. State park agencies manage about 75 percent of these remote lands. The remainder of designated wilderness is on state forests, almost all of it in the

North. State-owned lands also include about three million acres of extensive backcountry between a half and three miles from roads, all of which are on state park properties. Nearly half of these acres are in the South. The greatest portion of state-owned recreation lands are within a half mile of roads, in all, more than 40 million acres. State forest agencies manage slightly more than half of these acres. State parks, forests, and fish and game agencies provide almost 2,100 campgrounds. Campgrounds on state park and forest lands are concentrated mostly in the eastern regions, especially in the North. More than 70 percent of state parks in the North have picnic facilities, compared with 67 percent in the Pacific Coast, 60 percent in the South, and 54 percent in the Rocky Mountain Region.

Water Opportunities. States have more than 60 thousand miles of rivers or sections of rivers under protected status. Most of these miles are in the North (35 percent) or South (37 percent). These rivers provide opportunities for remote as well as for the more accessible water-based recreation activities. The availability of state-provided, developed water facilities includes fishing and swimming opportunities at more than half of the state parks, including a few boating facilities.

Snow and Ice Opportunities. About 4.6 million acres of wilderness and other remote state lands provide winter recreation opportunities. More than half (53 percent) of these most remote acres are in the North, much of the remainder is in the Pacific Coast region. More than 35 percent of all state recreation lands with sufficient snowfall are less remote and lie a half to three miles from roads. About 45 percent of these 2.4 million acres are in the Pacific Coast Region; about one-third are in the North; one-fifth are in the Rocky Mountain Region. An estimated 29 million acres of state-owned recreation areas are within a half mile of roads and receive enough annual snowfall to provide winter opportunities. About three-fifths of these acres are in the North, another 7.4 million (25 percent) are in the Pacific Coast states. States also provide a modest amount of downhill skiing and winter resort opportunities.

Recreation Resources on Local Properties

Outdoor recreation resources provided by local governments span nearly a full spectrum, with the exception of remote, roadless opportunities. From outdoor festivals and sporting events, to nature preserves and overnight camping, local governments provide an important variety of close-to-home opportunities. The majority of local park and recreation agencies (77 percent) are under a municipal jurisdiction. Many of the remainder (15 percent) are county departments.

Local agencies are very active in providing sports fields and playgrounds; approximately 85 percent provide outdoor tennis and basketball; and about 50 percent provide fitness trails and outdoor courts. Data from the Renewable Resources Planning Act Assessment (U.S. Department of Agriculture Forest Service 1988) indicate that tent and recreation vehicle campsites are as frequently provided as tennis courts, particularly in the Pacific Coast Region. Many local departments emphasize outdoor sites; the median number per local department in the United States was 12. Total land and water area per department was 160 acres in 1986. Mostly, local governments provide opportunities at the developed end of the spectrum. Sports fields are among the most abundantly provided opportunity; pools and playgrounds generally come next. Tennis courts and golf courses also are important.

Frequently, local departments provide relatively large areas of natural parks and lakes. Across the conservatively estimated 3,821 departments providing natural areas and 2,812 providing lakes throughout the United States, there are totals of more than 450,000 natural land acres and more than 60,000 acres of lakes. The total area local agencies provide for recreation is 2.3 million acres. Local departments also provide a wide variety of trails extending over 32,000 miles, most of which are for fitness, hiking, and biking.

Overall, local government departments seem most concerned with maintaining their existing outdoor sites and facilities, adding additional outdoor opportunities, adding indoor opportunities, increasing funding, and providing more information to users. These priorities put a strong emphasis on close-to-home outdoor recreation, most of which is complementary to that provided by federal and state governments.

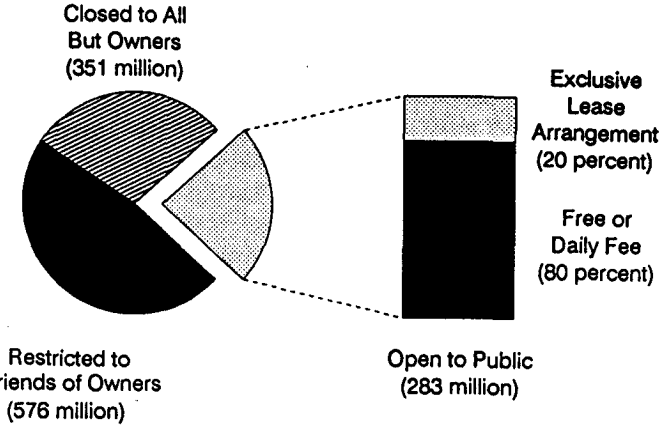
Private Lands and Development

Rural private land makes up more than 60 percent of the contiguous United States land base, about 1.28 billion acres. All but five percent of this acreage are non-industrially owned. In 1987, more than 350 million acres of this non-industrial land were closed to all but its owners. Access to 576 million acres, or 48 percent of the private land base, was estimated to be restricted to those personally acquainted with the owner. Only about 23 percent, or 283 million acres, is open to the public (Figure 10.2). More than 80 percent of this open land is either free of charge or has a daily fee. The rest, mostly in the South and the Rockies, is under some form of exclusive lease agreement. In 1977, about 29 percent of private lands was open to the public, a decrease of almost 70 million acres in more than 10 years.

An estimated 31 million acres of open private rural lands are more than one-half mile from a road and are extensive enough to be categorized as backcountry. The vast majority of this private backcountry acreage is in the Rocky Mountain Region — almost 26 million acres. Three and one-half million of the private backcountry acres in the Pacific Coast region are leased for recreational use.

Approximately 2.3 million miles of the estimated 15.5 million miles of roads and trails on non-industrial private land are open to the public for recreation (15 percent). This represents about one mile of trail or unimproved road per 125 acres of open land. Lands in the East appear to be more heavily roaded than

Figure 10.2. Private Lands Open for Public Recreation in United States, 1987



Source: Outdoor Recreation and Wilderness Assessment Group, USDA, Forest Service, Athens, GA.

those in the West. The North has more than one million miles of roads on private lands, compared to about 300,000 in the Rocky Mountain Region and about 120,000 in the Pacific Coast states. Many of these roads are little maintained and are rough.

Beyond non-industrial private lands, the private sector accounts for about 55 percent of all campgrounds in the United States and contains over 70 percent of campsite capacity. In general, private campgrounds cater to the camper who desires more facilities and services. Private campgrounds, more often than public, provide a store, hook-ups for trailers, and playground facilities. More than 50 percent of private campgrounds provide full hookups, compared to only four percent of public campgrounds. The North has more than 40 percent of private campgrounds; the South has another 30 percent.

Dude ranches and golf courses are among the myriad commercial enterprises operated by private entrepreneurs. Generally, private businesses provide resources and services not otherwise available. Often they facilitate access to public areas. The majority of land-based commercial enterprises are located near population centers. For example, almost three out of five resident camps and nearly half of the country's 11,000 commercial resorts are in the North. Another 18 percent of resorts are located in the South. Three-fourths of the over 6,000 golf courses open to the public are located in the eastern half of the country. The 2,400 members-only golf courses also are located primarily in regions with the greatest population. Golf courses also provide an important

open space resource for walks and jogging in warm weather, or skiing and snowshoeing in winter.

Special Designations, Non-federal

State park, forest, and fish and game agencies manage sizable acreages of specially designated lands for recreation and wilderness. Local governments and some private organizations also manage specially designated natural, historic, and cultural sites, along with lake and river facilities.

Wilderness. Nine states have formally designated wilderness similar to, but smaller in size than, the federal system. These wildernesses are managed as a part of either state parks or forests. In total, almost five million acres, including two million managed by non-profit organizations, can be considered non-federal wilderness. Of these, about three-fourths are in tracts of 5,000 acres or more. Non-federal designations complement the federal system by filling gaps, particularly in the East.

Rivers. The states have placed approximately 6,000 miles of rivers under some form of protection for both recreation and to preserve natural values. Additionally, states administer more than 750 miles of federally designated wild and scenic rivers. Some states have river acts patterned after the federal act.

Trails. State and local jurisdictions manage about 35,000 miles of specially designated trails, including 776 National Recreation Trails approved through the Secretary of the Interior. These trails are significant because of their close proximity to populations, thus offering close-to-home opportunities.

EFFECTIVENESS OF RESOURCES FOR OUTDOOR RECREATION AND FOR PRESERVATION OF WILDERNESS

Recreation Opportunities

Marion Clawson is credited with conceptualizing a measure of the *effectiveness* of land and water resources for recreation opportunities (Clawson 1982). Reported here are regional comparisons and future projections of the effectiveness of recreational opportunities across federal, state, local and private providers, as conceptualized by Clawson. Effectiveness basically is an index of the availability of recreational opportunities across different types of recreational resources, facilities and services within the distances people are willing to travel and relative to the number of people living within these distance zones. Opportunities are downweighted because they are increasingly more distant from population centers. Effectiveness, as a supply measure, greatly improves the utility of raw data, such as acreages, miles or number of sites, as a statement of the appropriateness of the kind, mix, quantity, and location of available recreational opportunities, relative to the location and number of people living in the communities spread throughout our country.

On the average, effective opportunities per capita for each of the succeed-

ingly less remote, more developed, land-based recreational environments are much greater in the West than in the East. Opportunities for all types of land-based recreation in both the Rocky Mountain and Pacific Coast regions are effectively five to 10 times greater than opportunities in the northern and southern regions. Within regions, average effectiveness indices of opportunities for land-based recreation vary only slightly.

The effectiveness indices for water-based recreation environments are nearly the same for the two eastern regions, but east-west differences for water opportunities are not as great as they are for land opportunities. Effectiveness indices reflect a three-fold greater abundance of water recreational opportunities in the West relative to the East. In the Eastern and Pacific Coast regions, intensively developed water recreation sites have provided the highest effective opportunities, nearly twice that of wild or remote water recreation. Wild water recreation has the highest average effectiveness value for the Rocky Mountain region. In this region, indices of effective opportunities are about the same across all four categories of water recreation environments.

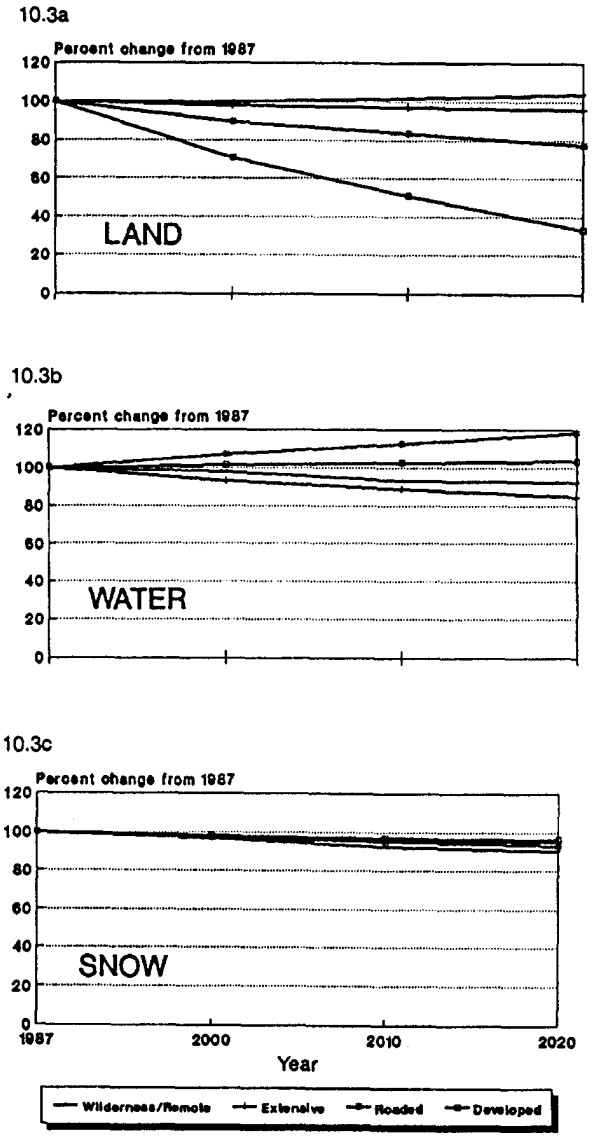
Among the average snow-based effectiveness indices, the most notable are the expected near-zero values in the southern region. The average snow-based effectiveness values in the western regions are five to 10 times those of the northern region. The highest average effectiveness index values for snow-based recreational environments are in the Rocky Mountain region.

Observable recent trends, since about 1970, of the availability of public and private resources (land, water, snow-based), facilities, and services serve as a baseline for describing the result of implemented public policy and private sector reactions to markets. It is highly informative to examine the effect that continuation of these trends would have in the future if no conscious policy change or large-scale market shifts were to occur. General summarizations of recent past trends in resource availabilities are presented in the 1989 Renewable Resources Planning Act Assessment (U.S. Department of Agriculture Forest Service 1988) and are not repeated here for the sake of brevity.

Figures 10.3a, b, and c illustrate projections of future recreation opportunity effectiveness under a scenario where resource availability and facility development trends would continue in the future. These projections are based on computed models that account for policy, population and market dynamics. Using these models, it was possible to simulate a continuation of trends since 1970. With such continuation, some projections imply continued opportunity growth, sometimes rapid, in order to stay on trend lines established since 1970. These projection results are presented very briefly below.

Figure 10.3b indicates that continuing recent past trends in the provision of access, facilities, and services would result in future gains in opportunities for both road accessible, partially developed, and highly developed water opportunities. Continuing past trends would only slightly diminish remote and wild water opportunities, as well as those for all types of snow- and ice-based

Figure 10.3. Projections of Change in Recreation Opportunities



Source: Outdoor Recreation and Wilderness Assessment Group, USDA, Forest Service, Athens, GA.

activities. Effectiveness of land-based recreational opportunities would be quite a different matter. Continued closure of private lands, population growth, land conversions, and rural land subdivision and occupancy for residential purposes may well diminish those for roaded and partially developed land activities to as little as 50 percent of current levels in little more than 20 years. Wild, remote opportunities may diminish nearly 20 percent in this time. Developed opportunities would stay nearly constant, if they were to be expanded by about the rate of population growth, the prevalent trend over the last several years.

Future Wilderness Preservation and Management

The 1964 Wilderness Act specifically authorized that "wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use." A number of these uses are further endorsed in subsequent acts, including the 1974 Forest and Range Land Renewable Resources Planning Act and the National Forest Management Act of 1976. The manuals of the Forest Service, National Park Service, Fish and Wildlife Service, and Bureau of Land Management accordingly acknowledge and support a variety of recreational and nonrecreational wilderness uses. In the past, wilderness has often been viewed and managed largely as a recreational resource. But recreation is only one of the values and uses of wilderness. The value to society of knowing that wilderness exists or vicariously experiencing it through television or stories, even though one does not personally visit a wilderness area, may equal or exceed the value of an on-site visit. There also are other critical values, such as maintenance of species diversity, protection of threatened and endangered species, protection of watersheds, and social uses, such as human development programs. Wilderness areas also are used for scientific research, and sometimes for such "nonconforming" commercial uses as mining and grazing.

Nonrecreational uses and values of wilderness are often difficult to document. National wilderness statutes specifically acknowledge spiritual values, but their meanings are highly variable (McDonald et al. 1989). The use of wilderness for spiritual growth may include the use of sacred places or things, organized group experiences, and individual experiences. Spiritual and aesthetic values of wilderness are highly personal, but may be very powerful.

Wilderness settings provide outdoor classrooms for environmental education and natural resource management training programs (Reed 1989; Spray and Weingart 1989). Lastly, wilderness landscapes may be important symbols providing national identity to many Americans, not only for aesthetic reasons, but for cultural, political, and religious reasons.

Because there has been little research on the extent of nonrecreational values and uses of wilderness, the public has not always been aware of these values. Benefits from wilderness are mostly intangible and not as easily measured as those of timber, water, forage, or mining. As a result, many uses

of wilderness are not included in the forest planning process. Interest in the nonrecreational uses and values of wilderness is increasing and improved methods to measure and describe such uses will have to be developed.

Many feel that the National Wilderness Preservation System is not yet as complete as it should be. There are an estimated 189 million federal, 17 million state and more than 30 million private acres of remote, roadless lands not in the National Wilderness Preservation System; 112 million acres lie more than three miles and 124 million lie between a half and three miles of roads. Almost half of the federal, non-wilderness roadless area is in Alaska. As only one of many possible criteria, the current National Wilderness Preservation System contains representations of only 157 of the 261 different ecosystems of the United States. Threatened and endangered species occur in 57 percent of the wilderness areas. Both of these indicators point to a possible need to expand ecosystem representation and to assure continuation of habitat for threatened and endangered species. The rising interest in non-recreational uses and the existence of large areas of unroaded, remote lands could enhance future prospects for expansion.

ADMINISTRATIVE, LEGISLATIVE, AND PRIVATE INITIATIVES

Executive Branch

The report of the President's Commission on Americans Outdoors, one among several public and private national initiatives important to the future of outdoor recreation, has sparked a number of activities. In response to the commission, the Domestic Policy Council created a Task Force on Outdoor Recreation Resources and Opportunities. Its report emphasized needs for actions to create an appropriate recreation ethic, for steps to encourage recreational access to private lands, for a series of steps to expand recreational opportunities on federal lands, and for local initiatives. The focus on local initiatives mirrored the President's Commission on Americans Outdoors' emphasis on greenways, river protection, and other activities to be accomplished largely without federal dollars.

A variety of federal agency initiatives are underway, with the Forest Service clearly leading the way. Its National Recreation Strategy, which includes new programs such as the challenge cost-share and creation of a Scenic Byways System, is a bold departure for this agency. Included are broad new organizational goals and values, emphasis upon "customer satisfaction" and marketing, a new focus on cooperation with the private sector, and a clear invitation to field personnel to experiment. The Bureau of Land Management, the National Park Service, and other agencies have parallel efforts underway.

Other important initiatives underway within agencies include better coordination of policies. A National Recreational Fisheries Management Policy, cosigned by some 70 public and private organizations, has recently been developed. The Fish and Wildlife Service has been working with the Farmers

Home Loan Administration to exchange partial forgiveness of debt in exchange for restrictions on certain uses of lands that have high wildlife potential.

Legislative Branch

The volume and diversity of recreation-oriented legislation in the Congress have grown. Funding has been a major focus. The Wallop-Breaux Trust Fund, providing in excess of $200 million annually to enhance boating and fishing opportunities through matching grants to states, was recently re-authorized and strengthened. This legislation requires a national boating survey to more accurately estimate collections of federal motorboat fuel taxes, a key source for this fund.

Fee legislation has come before the Congress in several forms. Approval for higher park entrance fees and for special accounting of these revenues was achieved. The return of these revenues to the sites where the fees were collected, without a commensurate reduction of appropriations, remains to be resolved. The Congress has supported partnership funding, where federal dollars leverage private contributions for recreation and wildlife projects on federal lands. The re-authorized Sikes Act allows supplementary fees on state fishing and hunting licenses, with proceeds to be spent on federal lands. The 101st Congress will consider proposals for new, fee-financed trust funds to improve trails and protect wetlands.

Proposals to alter the Land and Water Conservation Fund were also considered, but not acted upon. One initiative would have replaced the Land and Water Conservation Fund with an American Heritage Trust sufficient to provide $1 billion annually for land acquisition and recreation facility development. The legislation did not prevail in the face of fiscal difficulties and concerns that the legislation may skirt normal appropriation processes. An alternative approach to strengthening the Land and Water Conservation Fund would have devoted a portion of federal oil and gas royalties from onland leasing activities, much as Outer Continental Shelf revenues are now used. It seems realistic that legislation amending the Land and Water Conservation Fund will be considered by the 101st Congress.

Other legislative efforts have focused on corridors for recreation. A number of river protection bills were considered and enacted. In nearly every case such legislation has called for special management of river corridors to accommodate local interests. Downstream river uses were added to the authorizing legislation for five major existing water projects. Legislation to encourage the conversion of abandoned rail lines into recreational trails was enacted in 1988, especially those lines abandoned on or near federal lands.

Finally, congressional sources and the highway lobby have begun discussions regarding the nation's long-term highway needs. A key component of those discussions is the recreational needs of American drivers, including the scenic byways movement. There is broad interest in this issue.

Private Sector Initiatives

New information and reservation systems have been developed to provide improved access to recreational opportunities. Leading systems are Mistix, a division of Home Shopping Network in California, Utah, and Colorado, and AIS, developers of the Official Recreation Guide, accessed through American Airline's Sabre computer system. In the Pacific Northwest, an information system about trail opportunities has been created.

Another important private sector initiative unites the nation's leading recreation interests with key private landowner organizations, ranging from the National Cattlemen's Association to the American Farm Bureau Federation. Together these groups seek to remove access disincentives facing private landowners and to establish new incentives for opening lands. A key part of this initiative is passage of "Good Neighbor" laws that strengthen limitations on liability. Still more private partners are involved in the Take Pride in America effort, designed to raise awareness about the outdoors and to encourage involvement in its protection.

SOCIAL TRENDS

Population

The population of the United States is growing at a slower rate than in the past. About 100 million people have been added over the past five decades, about two million people per year. Wharton Econometrics Forecasting Associates estimates that additional growth over the next five decades, to the year 2040, will total slightly over 90 million, an annual average increase of only 1.75 million. Immigrants will provide a substantial proportion of this expected increase. Geographic redistribution, apart from the well-publicized sunbelt/snowbelt shift, shows important changes in residence patterns, with some rapidly growing non-metropolitan areas. Continued extensive population growth is forecast in coastal states. In the 1970s, the growth rate of non-metropolitan counties exceeded that of central cities and the suburbs, reversing a long-standing trend. In the 1980s, however, the general trend has reversed again, with cities and suburbs growing more rapidly. But there are a number of non-urban counties that continue to grow at a rate more than twice the national average. Both retirees and the young are seeking these fast growing "exurban" counties because of quality of life factors, such as scenic and recreational amenities. Also, the estimated 40 percent of the population living within 50 miles of the ocean shore in 1984 is projected to double by the 21st century.

Socioeconomic Makeup

Aging of the population is a dominant characteristic. Although the segment of the population 65 years and older will continue to fall until about 1995, a result of the baby bust of the 1920s and the depression of the 1930s, more than half of

the population will be over 40 by 2000 (Snyder 1984).

The population is also becoming more diverse ethnically. Immigration and very high birth rates among minority populations are rapidly changing the make-up of American society. The American-Asian population increased 146 percent between 1970 and 1980, while the number of people of Spanish origin rose by 56 percent between 1970 and 1982. During this same period the black population grew by only 22 percent and the white population by only 11 percent.

Income distribution projections show polarization toward more high and low income families, but a decline in middle income families. Households with incomes of more than $50,000 (in 1980 dollars) are projected to triple by the mid-nineties. Older Americans have become more financially stable, and are an actively sought segment of the market in recreation, travel, and tourism.

Single-parent families doubled between 1970 and 1984, reaching 6.6 million. Although the divorce rate is expected to stabilize, estimates are that half of all children today will live in a home without a father.

Overall, changing social trends portend a much more varied and harried group of visitors and concentrations of these visitors at public facilities close to the centers of population where they live.

Employment and the Economy

Employment patterns are shifting to information and service sectors. Already, more than half of the working population is engaged in white collar or information work, while about 30 percent of the workforce is in the service sector. The share of industrial workers has dropped to less than 20 percent, and agriculture involves less than five percent of American workers. Recreation, travel, and tourism are important service and information components of many state and local economies, in some cases providing replacement jobs for those lost in agriculture, energy, mining, and timber.

Recreation is tied in several important ways to economies at all levels. It also has significant economic efficiency and welfare dimensions. Secondary economic benefits are realized through increased employment and personal incomes; investment in recreation facilities and services; tourist, visitor, and provider spending; regional and local economic growth and redistribution; and increased revenue and costs to local, state, and federal governments. Increasingly, states and localities are looking to outdoor recreation and tourism as a major source of economic growth. Some of the opportunities for expanding local economic activity will lie in activities involving extended stays, such as at ski resorts or campgrounds. Recent trends have shown greater development of private accommodations, food and other services and transportation associated with public land recreation than in the past. An expansion of recreation opportunities to meet projected demand would result in an increase of several hundred million recreation trips per year— most of them to rural areas. Local spending associated with these trips would likely exceed $15 billion per year, with an expected impact on total industrial production of between $20 billion and $25 billion per year.

Political Change

Authority in governance is being decentralized. Daniel Bell has said that "the nation-state is becoming too small for the big problems of life, and too big for the small problems of life" (Bell 1987). Domestically, the rise of activism and innovation among states has coincided with a decline of support for many federal programs. There appears to be an emerging need for regional groupings of states or counties to more effectively deliver services and satisfy needs for regional identity (Garreau 1981). The power of the electorate is shifting from political parties to special interest groups.

Population shifts to the South and West have shifted congressional seats from the Northeast, and should do so again after the 1990 Census. Population estimates show that California, Texas, and Florida will be the principal gainers, while New York and Pennsylvania will lose. As congressional district lines are redrawn, central cities are also likely to lose voting strength.

Many local jurisdictions are changing from a system of at-large seats to single-member districts. This will make those who are elected more accountable at the neighborhood level, a trend that could impact numerous recreation managers. The widespread desire of individuals to gain more control over their lives and of their environment is forcing such local changes, and is also surfacing in strong local opposition to uncontrolled development in all parts of the country. This desire for control of development will likely contribute significantly to the protection and dedication of lands for recreation, open space, and preservation purposes. This non-development posture will be most evident in suburban areas and in those non-metropolitan areas where population growth is being attracted by visual and recreational amenities.

Leisure

Available, unobligated time has declined. There is a continuing drop in the amount of leisure available to most citizens. Between 1973 and 1984 the average number of hours of leisure fell more than 31 percent (Harris 1984). The 1988 Harris survey revealed a further decline, an overall loss of about 37 percent in 15 years. Harris identified increased number of women in the workforce and longer hours on the job for factory workers as major reasons. The increase in time Americans devote to commuting has also depleted leisure. Retired individuals have the greatest amount of leisure, while households where both parents work have the least.

Leisure activities today tend to center more on the home. While outdoor recreation has embraced some new activities and developments that have made it easier to engage in traditional activities, there have been equally impressive changes in the home leisure technology. Contributing to the trend toward more

"at-home" activity are the aging of the population, the rediscovery of the family as the baby boomer generation bears children, and electronic home-video entertainment.

The Influence of Technology

Technology directly creates new recreation equipment and uses, but a large part of technological advancement has come from the military and other nonrecreation sources. From military technology has come four-wheel-drive vehicles, rubber rafts, and the parachute. Much of the outdoor clothing and camping equipment have also come from military research. More recently, space technology has provided the lightweight "space blanket."

New technology creates new challenges to public land management. Some of these challenges relate to health or safety. Other problems rest upon questions of the appropriateness of new activities. Any number of problems may arise from this situation, including user conflicts, vandalism, adverse publicity, and inappropriate decision making. On the opposite side, new technology can also create opportunities for private providers. The private sector can usually respond quickly to new demands. Providing such opportunities as a commercial venture is one way rural areas can add to their economic vitality.

RECREATION DEMAND TRENDS

Much attention has been focused on whether recreation demand is growing, and if so, how fast. Some recent diagnoses speculate that the outdoor recreation market has matured, meaning that per capita growth rates are approaching zero. Below, we present an overview of the demand side of the recreation market.

Recreational Use of Public Lands

The number of visitor days at federal recreation areas (a measure of total time spent by visitors at these sites) grew about four percent between 1977 and 1987. However, this statistic is somewhat misleading because visits to federal areas (a measure of the number of times people come to sites for recreation) has continued to grow into the 1980s at about the same rate as in the 1970s. In national forests, growth in visits averaged almost four percent per year between 1977 and 1987 (Figure 10.4). The explanation for these seemingly incongruous trends is that visitors are spending less time per visit and are using off-site accommodations more frequently, rather than camping or otherwise overnighting at federal areas proper.

Another phenomenon is that people are not traveling as far for recreation. In 1972, many more trips were overnight trips of more than 100 miles, and most day outings were more than 50 miles from home. In the 1980s, the majority of overnight trips are within 100 miles and many more day trips are within 25 miles.

The ratio of overnight-to-day trips has also dropped dramatically from about seven of 10 and four of 10 for the Forest Service and Park Service, respectively, in 1977, to two of 10 and about one of 10 for these agencies in the mid-1980s. These are drastic changes reflecting much greater visitation at close-to-urban areas and some reductions of visitation to "far away" areas. The exceptions are those areas which effectively serve as major destinations and which have the necessary commercial accommodations to meet today's travel needs.

While federal visitation in the past has significantly involved overnight visits, state areas have mostly been used for day trips. The nine-of-10 day-to-overnight trip ratio for state parks has largely remained stable. Most visits to state lands for recreation have involved visits of three to four hours and visitors typically live within 35 miles.

As we move into the beginning of the 1990s, visitation patterns and the "draw" of federal areas seem to be approaching the close-to-home patterns that have long existed for state areas. Neither of these categories of public lands, however, provides the degree of near-home opportunities that local government does. Independent estimates place the number of different people who use local government outdoor recreation sites at about two-thirds of the United States population and three-fourths of the adult population. At all levels of government, visitation to public sites close to or within cities and other populated places is growing most rapidly.

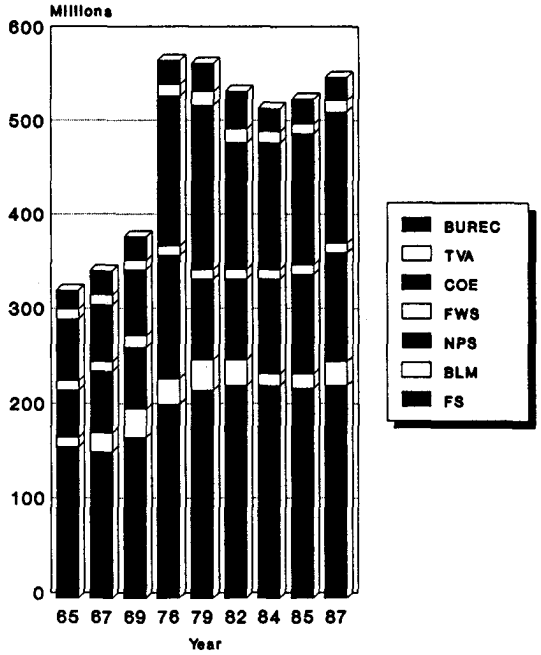
Population Participation

Overall, 89 percent of the United States population reports participation in some form of outdoor recreation. In 1987, Americans spent some part or all of 28.2 billion personal days in outdoor recreational activities. The most popular activities, measured by the number of trips away from home, include:

	(Millions of trips)
Swimming outdoors	461
Driving for pleasure	421
Sightseeing	293
Walking for pleasure	267
Picnicking	262
Attending outdoor sports events	261
Warm water fishing	239
Motor boating	220

Management of natural resources for outdoor recreation is most affected by consumption in the form of trips away from home. Of the approximate 4.6 billion outdoor recreation trips Americans took away from home in 1987, about 50 percent (some 2.25 billion) were taken to participate in activities that are

Figure 10.4. Millions of Visitor Days at Federal Areas



Source: USDI National Park Service Fee Reports.

highly dependent on natural environments (U.S. Department of Agriculture Forest Service 1988). Involved with these 2.25 billion trips were such traditional activities as camping, canoeing/kayaking, fishing, hunting, hiking, horseback riding, bicycling, wildlife observation, winter skiing and visiting prehistoric sites. In general, activities that are physically demanding, involve risk and adventure, are educational, or are equipment-oriented have been growing most quickly.

Forecasts developed for the 1989 Renewable Resources Planning Act Assessment provide an indication of what might happen in future years. Based on an assumed future that would continue the change of availability of public and private lands for recreation as they have occurred since 1970, estimates of expected future consumption of recreational trips away from home were developed (Table 10.1). Among land activities, the fastest growing are expected to be: 1) active pursuits— hiking, walking, running, bicycling; 2) educational pursuits— visiting museums, historic sites, and prehistoric sites; and 3) social-oriented activities— developed camping and family gatherings. All forms of

snow activities and canoeing, rafting, and swimming are also projected to grow rapidly.

For comparison, forecasters estimated the numbers of trips Americans would prefer if opportunities were made available at a faster rate than has occurred in the past. In general, the greatest differences between futures if Americans could have all the opportunities they would prefer, and those we might expect if the rate at which opportunities are made available, are predicted for dispersed recreation. This "shortage" will mostly involve roaded, partially developed forest and range areas that currently provide the greatest share of dispersed, warm-season land and winter-snow opportunities. If the trend toward greater closure of private land continues and greater access to public land is not forthcoming, some shortages, as we have defined them, may be substantial. The most "critical" shortages are likely to be for warm-season, land recreation, both motorized and non-motorized. This category of setting alone accounts for almost three-fourths of the total predicted shortage of future recreational trip opportunities.

NEEDS FOR CHANGE AND ACTION

The nation's population is increasing, there is continuing growth of demand for outdoor recreation, and the public is becoming more diverse, as are their recreational pursuits. There are, however, many who do not participate in outdoor recreation or who do not participate as much as they would like, for a variety of reasons. One of the principal reasons is that many of the opportunities for outdoor recreation are located some distance from where the bulk of the population lives. There is growing interest in providing more outdoor recreation opportunities closer to the concentrations of populations, but this is also where recreation opportunities and open spaces are most threatened by development. Together with addressing this mismatch of location, there are a wide variety of options for change and action in order to improve the effectiveness by which land, water and facilities afford recreational opportunities.

Expand Opportunities on Public and Private Lands

Most existing public lands can accommodate substantially higher visitation. For the most part, most public lands see relatively little use. In some cases, new or improved access roads, facilities, trailhead parking, and trails would greatly improve effectiveness. Even in areas experiencing relatively high visitation, there are opportunities to accommodate greater use with little apparent adverse environmental effect. These opportunities include more intensive management to separate conflicting uses, encouraging use in the off-season, and better information on low-impact use of backcountry areas.

Private lands comprise nearly two-thirds of this nation's land base and can

provide numerous outdoor recreation opportunities. According to recent research, however, an estimated 77 percent of the private land potentially available for outdoor recreation is closed to public access and this percentage is growing. This may in part be turned around if landowners can realize some economic or other gain from public use of their land.

Provide Opportunities Close to Home

More numerous, shorter-duration, close-to-home trips are quickly replacing the long vacation. Thus outdoor recreation opportunities close to where large numbers of people live are growing in importance. Such opportunities can be realized through acquisition of land in and near urban areas and through improved planning and provision of economic incentives to encourage recreation and open spaces as communities develop. Some public forest and range lands lie close to urban areas, particularly in the West. Examples are the national forests adjacent to Los Angeles-San Diego, Portland, Seattle, Salt Lake City, and Atlanta. These and other public lands can provide urban residents with expanded opportunities for outdoor recreation in natural settings.

Improve Quality

A quality environment is typically essential for quality outdoor recreational experiences. Through careful management of other uses, scenic qualities can be maintained and activities such as timber harvesting made more compatible. Necessary facilities, from roads to restrooms, can be designed and placed to maintain aesthetic quality while enhancing enjoyment of the outdoors. Trails can be located to improve the hiking experience.

Litter is a pervasive problem affecting aesthetic quality. Agencies must deal with the flooding tide of non-biodegradable containers and trash. There is an exceptional need for volunteers and civic organizations to assist in the collection of litter and the restoration of the aesthetic quality of federal, state, and local recreation areas. Moreover, public educational programs, such as Take Pride in America, and on-site interpretive programs can stress the prevention of littering and vandalism.

Because of inadequate funding, there has been a growing backlog of maintenance of public recreational areas. Poorly maintained or unsafe facilities reduce visitors' enjoyment and can actually deter use. The elimination of maintenance backlogs, a badly needed initiative, in part seems already to have begun.

Other aspects of quality include protecting historic and prehistoric sites from deterioration and erosion, vandalism, theft, overuse, and neglect. In addition to already identified significant prehistoric and historic sites, there are needs to identify, evaluate, and preserve areas now unprotected. Also, improve-

Table 10.1. Current Supply of Recreational Trips and Indices of Future Growth to 2040

Resource Category: LAND

Activity	Trips in 1987 (million)	Percentage of 1987 Supply				
		2000	2010	2020	2030	2040
Wildlife Observation	69.5	107	113	120	126	130
Primitive Camping	38.1	108	115	122	130	134
Backpacking	26.0	124	144	165	185	198
Nature Study	70.8	99	101	103	107	108
Horseback Riding	63.2	114	125	135	144	149
Day Hiking	91.2	123	144	168	198	229
Photography	42.0	115	128	141	154	163
Visit Prehistoric Sites	16.7	148	148	173	203	236
Collecting Berries	19.0	110	120	132	149	169
Cutting Firewood	30.3	109	118	130	144	161
Walking	266.5	116	132	148	168	183
Running/Jogging	83.7	131	160	192	229	260
Bicycle Riding	114.6	124	146	170	197	218
Off-Road Driving	80.2	104	108	112	118	121
Visiting Museums	9.7	118	134	152	172	187
Attending Special Events	73.7	115	129	144	161	175
Visiting Historic Sites	73.1	117	133	152	178	204
Pleasure Driving	421.6	110	120	129	139	145
Family Gatherings	74.4	121	139	160	182	202
Sightseeing	292.7	114	128	144	164	185
Picnicking	262.0	110	120	131	145	156
Developed Camping	60.6	120	138	158	178	195

Source: USDA, 1988

ments in the quality of the nation's waters, already improved over the 1960s and 1970s, is a significant need.

Improve Services

To take advantage of opportunities, the public must have information on both public and private facilities. Often, potential users simply are not aware of what is available nearby. The need is for imaginative efforts such as clear informational brochures, awareness of existing outdoor recreation sites and opportunities through marketing campaigns, "user-friendly" computer terminals in public places, and centralized information centers that provide one-step information offered by local, state, and federal agencies, local chambers of commerce, and private businesses. Expanded programs of visitor information, including on-site interpretive and educational services, are needed to help match users with recreational opportunities.

Increase Coordination, Cooperation, and Partnerships

Many organizations, agencies and private businesses provide or otherwise service outdoor recreation. In a continuing era of tight government budgets and growing potential for private investment, improved coordination among public and private entities can increase recreational opportunities cost-effectively. Research and technology transfer is a particularly fertile area for cooperation. The opportunities to bring public agencies and the private sector together in short-term, goal specific associations, or long-term, more comprehensive relationships, are nearly infinite. Cooperation and partnerships can also serve to build coalitions for support of federal, state, local, and private outdoor recreation programs and open space preservation.

Expand Non-recreational Benefits from Wilderness

There seems to be an increasing awareness of the non-recreational benefits of wilderness. Preservation of critical wildlife, fish, and plant habitats, watershed protection, gene pool preservation, scientific uses, human development and spiritual growth, education, and ecosystem representation and diversity are purposes of wilderness that need management emphasis, much as recreation already receives. Some actions which should be considered to enhance non-recreation uses of wilderness include:

1) Continuing inventory of roadless areas.

2) Establishing recreation opportunities on areas with wilderness character, but which are not in the National Wilderness Preservation System, in order to reduce pressure on sensitive wilderness.

3) Incorporating protection of non-recreational values into wilderness management plans.

4) Systematically assessing threats to wilderness.

Research opportunities transcend virtually all the needs for action and change discussed thus far. While there has been substantial research, there remain large gaps in knowledge. These gaps include:

1) Better information on participation trends, future demand, and effectiveness of supplies of outdoor recreation and wilderness.

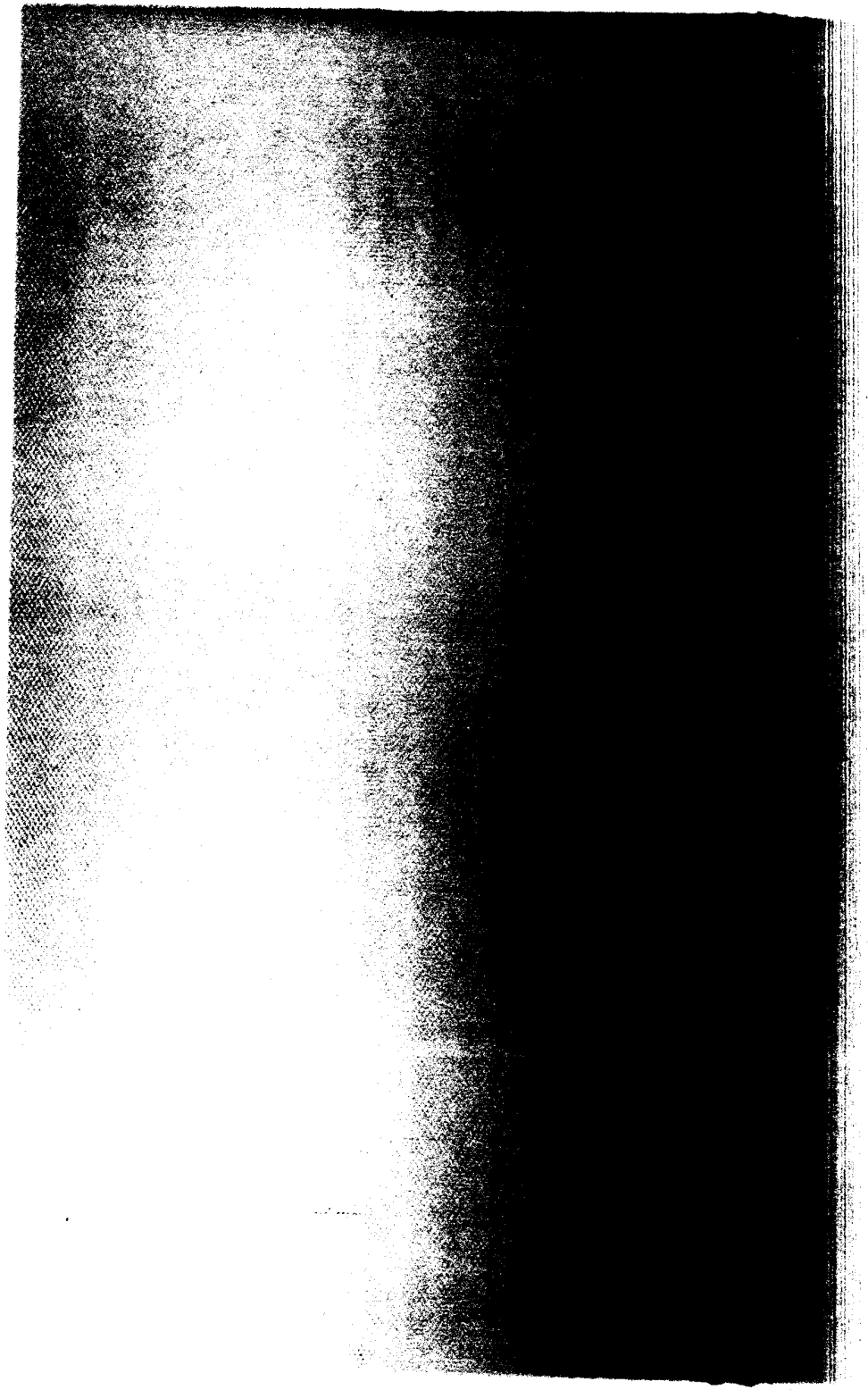
2) Better understanding of how public opportunities and those provided by the private sector complement one another.

3) Better measures of recreation suitability and quality.

4) Improved knowledge of the motivations, barriers to, and norms of recreation participation.

5) Better understanding of the social and economic benefits of outdoor recreation and wilderness.

6) Improved valuation technology and models.



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