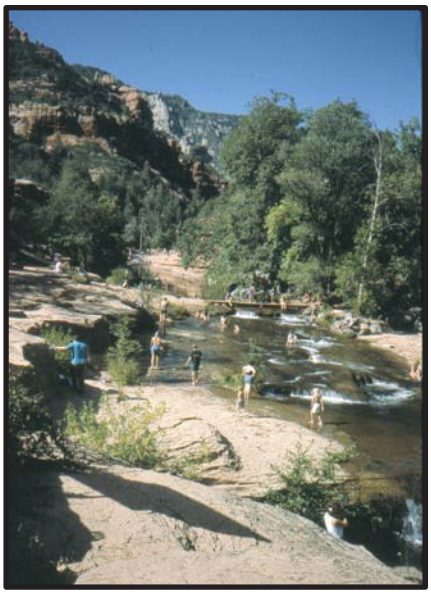


Chapter 3

IMPORTANCE OF OUTDOOR RECREATION

WHAT IS RECREATION?
Recreation is a broad category that many activities can fit under. Webster's definition of recreation is *"to create anew, restore, refresh; a refreshment of strength and spirit after work."*

More directly, recreation professionals define recreation as any form of experience pursued during leisure time in which an individual engages (physically and/or mentally) from choice because of personal enjoyment and satisfaction which it brings directly to that person. People seek to engage in desired recreational activities in preferred physical, social, and managerial settings in order to experience desired and expected psychological benefits. Managers provide and maintain a spectrum of activities and settings that will provide these desired recreation opportunities (University of Idaho, 2003). In other words, the goal of management is to provide recreation opportunities so the public can achieve the kind of recreation experience they are seeking.

What is <u>Outdoor</u> Recreation?
Most people define outdoor recreation activities as those activities that are undertaken outside the confines of buildings (i.e., in the outdoors); do not involve organized competition or formal rules (these are referred to as sports activities); can be undertaken without the existence of any built facility or infrastructure; may require large areas of land, water and/or air; and may require outdoor areas of predominantly unmodified natural landscape. Facilities, site modification or infrastructure may be provided to manage the impacts generated by the activities, however, most outdoor recreation activities can be undertaken without them (Outdoors Queensland, 2006).

For the purposes of this SCORP, we also include outdoor recreational activities such as visiting playgrounds, parks and natural areas, visiting historical and archaeological sites; playing sports such as baseball, football, soccer, basketball, tennis, golf; and attending outdoor sports events, outdoor concerts and festivals.

More than any other trait, the supply of outdoor recreation resources in the United States is characterized by its diversity. About the only common characteristic that all outdoor recreation resources share is their dependence on land and water resources.

Simply put, any land or water resource that has value to humans as an input for producing satisfying leisure experiences is an outdoor recreation resource. Such a broad definition encompasses a wide variety of resource types, settings, and attributes for outdoor recreation. It is common to think of outdoor recreation resources as occurring along a spectrum from the most wild and primitive environments to the most developed and human-influenced places (Betz and Cordell, 1998).

This range of resources corresponds roughly to its providers. The Federal government supplies the large majority of undeveloped land and water for recreation, state governments tend to specialize in what has been called "intermediate" recreation areas, and local governments and the private sector provide the bulk of highly developed recreation resources.

The demand for outdoor recreation is part of the overall demand for leisure. It is affected by the availability of an individual's time, their energy, and their ability to access locations. For some, outdoor recreation is an integral part of their routine. For some, it is the unintended consequence of another activity (dog owners, for example, think of themselves as "taking the dog for a walk" not pursuing outdoor recreation). For others, it is a pursuit that holds few attractions.

People are still playing America's traditional sport, baseball, so the traditional baseball diamond is still in demand, however more people are playing other sports such as soccer and golf, and new activities, such as geocaching and paintball, than ever before. Technology is continuing to produce new and improved equipment such as skateboards, snowboards, BMX bikes, GPS units, lightweight mountain bikes, jet skis, ATVs, and rock climbing gear that allow people different and more accessible access to recreation facilities and public lands.

Another key factor to consider, especially for the future, is that with the public's current perception regarding crime and safety, many families are restricting their children's opportunities for "free play" at local parks, natural areas and open space. Whether it is because of the perceived safety issue, decreased access to natural areas or outdoor recreation opportunities, or changing preferences in how youth spend their leisure time, children are spending fewer hours outside enjoying the out of doors. America's youth are spending more of their leisure time indoors or at structured outdoor recreation activities. This has widespread implications as these children become adults and start raising their own families. If they didn't use parks and recreation areas as children will they use them—and value them—as adults?

The face of recreation is changing and unless recreation providers and land managers change with it, problems and conflicts will increase, and support and funding may decrease.

WHAT IS OPEN SPACE?

A typical definition of open space is "land that is generally free of uses that would jeopardize the conservation values of the land or development that would obstruct the scenic beauty of the land." Conserved land remains open space if the stewards of the parcel maintain protection of both the natural and cultural assets for the long-term benefit of the land and the public and the unique resources the area contains, such as scenic beauty, protected plants, wildlife, archaeology, passive recreation values and the absence of extensive development (ASP, 2007).

At its broadest scale, open space includes the protection and preservation of farms, regional woodlands and wetlands, wildlife corridors, and unique geological formations and topographic features. Open spaces can include not only parks, but also street spaces. The primary spatial experience of many communities is that gained by proceeding down broad tree-lined boulevards, punctuated by arrival at circles, squares, or plazas.

Trying to craft a single definition of open space that would satisfy every situation, though, is impractical. There are too many individual perceptions and expectations of what open space is and should provide even within a homogeneous community (see page 146, Chapter 6). Just as you wouldn't build a baseball diamond and expect people to play basketball on it, you can't expect a narrow strip of land between dense housing that is used as a jogging trail, bike path and a place to walk your dog to also provide good habitat for sensitive wildlife species.

When referring to open space, does the public just want "breathing room" between developed areas, or flood retention basins, or scenic viewsheds, or green grassy parkland, or natural areas, or land for specific recreation facilities, or do they want large tracts of land suitable for sustaining a diversity of wildlife? Different uses may require a certain slope, soil, drainage capability, size, location or habitat potential.

Years ago, many communities enacted ordinances to set aside a percentage of developed land as parkland or open space, but are now discovering those lands are unusable for recreation or unsuitable as wildlife habitat. For example, Montana law requires developers of major subdivisions to reserve 11% of land for parks. Since the 1980s, developers have offered up steep hillsides or narrow slivers of land on busy roads. "Everything they couldn't develop is what we got," said Jackie Corday, open space manager for Missoula Parks and Recreation Department.

A recent request to count a small ditch as parkland mobilized Missoula City Council members to tighten up the rules. A resulting amendment to city subdivision regulations is expected to shore up the department's ability to provide the city with usable parks. It's designed to ensure land reserved for parks really can function as such. With an amendment in place, the parks department will continue realizing objectives laid out in its master plan. One goal of the plan is that every Missoulian live within a half-mile of a quality neighborhood park. In 2004, the department successfully asked council members to adopt an ordinance allowing small and unusable pocket parks to be sold to put money into functional parks nearby. The following year, the department asked and the council agreed to require developers to pay fair market value when they opt to offer the city cash instead of parkland (Szpaller, 2007).

Clustered-housing developments have been touted as one solution for managed growth that allows for development while preserving open space in rural areas. In a clustered development, residences are built in a central area with each having a small yard, and the entire development is surrounded by communal open space. If people cluster, it helps the majority of wildlife, but there are some species that just can't tolerate human activity. Some wildlife experts believe unless new developments are properly planned and managed, clustered housing is no more effective at preserving wildlife habitat than farms or suburban neighborhoods. Houses also mean trash, barbecues, fruit trees, pets and pet food that can upset natural habitats for miles in any direction.

It is important for planners to know what the residents expect to be achieved by securing open space within and near a community. The primary goal can affect the size, configuration and location of the open space and what should be allowed to be built within and adjacent to it. **The challenge to planners and community leaders is to decide on the purpose for securing and protecting specific areas as open space and to clearly define land type, size and condition needed** before enacting ordinances, planning and zoning standards, management policies and development requirements or set asides. It is also important to secure adequate funds to manage and maintain the land after acquisition (staff, research, monitoring, projects). (for Arizona specific open space policy information: www.asu.edu/copp/morrison/public/gromang.pdf)

City Parks

According to a 2003 study compiled by Peter Harnik, *The Excellent City Park System*, the total area covered by urban parkland in the U.S. has never been counted, but it certainly exceeds one million acres. The fifty largest cities (not including their suburbs) alone contain more than 600,000 acres. The exact number of annual visitors has not been calculated either, but it is known that the most popular major parks, such as Lincoln Park in Chicago and Griffith Park in Los Angeles, receive upwards of 12 million users each year, while as many as 25 million visits are made to New York's Central Park annually—which is more than the total number of tourists coming to Washington, D.C.

City parks serve a multitude of purposes. Collectively, they provide playfields, teach ecology, offer exercise trails, serve as a social center, mitigate flood waters, host rock concerts, protect wildlife, supply space for gardens, give a respite from commotion, and much more.

U.S. Cities Are Park-Poor

At the turn of the 20th century, the majority of Americans lived in rural areas and small towns, relatively close to the land. By 2000, 80% of Americans were living in metropolitan areas, up from 48% in 1940. Cities have not adequately planned for this population growth. The residents of many U.S. cities lack adequate access to parks and open space near their homes and the park space in many of these metropolitan areas is inadequate. Even in cities that have substantial park space as a whole, residents of many neighborhoods lack access to nearby parks (Sherer, 2003).

Low-income neighborhoods populated by minorities and recent immigrants are especially short of park space. Minorities and the poor have historically been shunted off to live on the "wrong side of the tracks," in paved-over, industrialized areas with few public amenities. From an equity standpoint, there is a strong need to redress this imbalance. Among non-Hispanic white adults in the United States, 34.9% engage in regular leisure-time physical activity, compared with only

25.4% of non-Hispanic black adults and 22.7% of Hispanic adults. Adults with incomes below the poverty level are three times as likely as high-income adults to never be physically active. In the wake of the bursting of the economic bubble of the late 1990s, states and cities facing severe budget crises are slashing their park spending. The federal government has also cut its city parks spending. In 1978, the federal government established the Urban Park and Recreation Recovery (UPARR) program to help urban areas rehabilitate their recreational facilities. The program received no funding from fiscal year 2003 on, down from $28.9 million in both 2001 and 2002. The stateside portion of the Land and Water Conservation Fund has also received little to no funding in recent years.

U.S. voters have repeatedly shown their willingness to raise their own taxes to pay for new or improved parks. In 2002, 189 conservation funding measures appeared on ballots in 28 states. Voters approved three-quarters of these, generating $10 billion in conservation-related funding (Sherer, 2003).

Arizona's City Parks Ranking

City parks in Arizona represent some of the most diverse recreational lands in the country. Not only do many of our cities and towns provide an excellent range of playgrounds, swimming pools, sports fields and courts, family picnic spots, trails and bike paths, they also provide fishing lakes, desert mountain preserves, forested open spaces, wildlife viewing areas, museums, historic buildings and archaeological sites.

In a 2003 nationwide study of parks by the Center for City Park Excellence, there were some interesting facts when comparing Arizona's local parks ranking with other states (Harnik, 2003). Arizona has three of the top ten largest city parks, and seven parks out of 100 largest city parks in the U.S (Table 9).

Table 9. National Ranking of Arizona Cities with Largest City Parks

Natl. Rank	Park/Preserve	acres	city
#2	South Mountain Preserve	16,283	Phoenix
#4	McDowell Sonoran Preserve	11,250	Scottsdale
#7	North Mountain Preserve	7,500	Phoenix
#60	Cave Buttes Recreation Area	1,200	Phoenix
#66	Red Mountain Park	1,146	Mesa
#78	Papago Park	895	Phoenix
#85	Tres Rios Park	800	Phoenix

Those municipalities with an intermediate to low population density level (Phoenix, Tucson, Mesa) have an average of 8.3% of their total land area as park and open space (Table 10).

Table 10. Total Parkland as a Percent of Place Area (2003)

Place	total land area	total park/open space	% land area in park/open space
Phoenix	303,907 acres	38,536 acres	12.7%
Mesa	79,990 acres	2,548 acres	3.2%
Tucson	124,588 acres	3,175 acres	2.5%

Those municipalities with an intermediate to low population density level (Phoenix, Tucson, Mesa) have an average of 20.5 acres of parkland per 1,000 residents (Table 11).

Table 11. Acres of Parkland per 1,000 Residents, by Place (2003)

Place	population	total park/open space	total acres per 1,000 residents
Phoenix area	1,388,416	38,536 acres	27.8 acres
Mesa	507,658	2,548 acres	6.3 acres
Tucson area	432,376	3,175 acres	5.9 acres

The national average by place for park-related adjusted expenditures per resident (capital and operating expenses) is $90 (Table 12).

Table 12. Park-related Expenditures per Resident, by Place (2003)

Place	population	adjusted park expenditures	dollars per resident
#18 Phoenix area	1,388,416	$136,335,002	$98
#42 Mesa	507,658	$36,580,000	$72
#24 Tucson area	432,376	$20,800,000	$48

BENEFITS OF PARKS AND OPEN SPACE

Parks, natural areas and open space improve our physical and psychological health, strengthen our communities, and make our cities and neighborhoods more attractive places to live and work. The perceived benefits of recreation can be linked directly to the **"quality of life"** of individuals within a larger community. What constitutes "quality of life" is subjective and there is much debate about how to determine or quantify it.

One approach is to describe the characteristics of the good life (helping others, getting along with family and friends) as dictated by religious or other philosophical systems. A second approach is based on the satisfaction of preferences, whether people can obtain the things they desire commensurate with their resources (buying the ideal house, vacations, hobbies). A third approach defines quality of life in terms of the experience of individuals, using such factors as joy, pleasure, contentment and life satisfaction (Diener and Suh, 1997).

Parks, natural areas, open space and related outdoor recreation opportunities provide many benefits to a community and its economy, when the necessary actions are taken to productively harness the benefits.

Properly managed parks, open space and natural areas can provide good wildlife habitat, which in turn attract bird watchers and nature lovers (who spend money). [Courtesy of Arizona Game & Fish Dept]

Table 13. Community Benefits of Parks, Open Space and Outdoor Recreation

Some Community Benefits of Parks, Open Space and Outdoor Recreation	IMPLEMENTATION—Community Actions to Capitalize on Outdoor Recreation Benefits
Benefit: Increases land, property and home values; pays for itself through increased property values, revenues and commercial investment	Action: *Grow Smart* — plan for growth and guide it through land conservation, public access and other smart growth measures; provide parks, trails, open space, greenbelts and natural areas
Benefit: Attracts and retains businesses; encourages businesses to relocate or expand; generates employment and tax revenues	Action: Attract investments and relocations through marketing of parks, trails and open space amenities, nearby public lands
Benefit: Motivates residential choices; attracts and retains residents who take pride in improving their community	Action: Revitalize cities—parks, gardens and open space stimulate growth and promote inner-city revitalization
Benefit: Reduces healthcare costs; acts as a preventative health service	Action: Provide diverse and accessible parks, greenbelts and trail networks throughout the community; incorporate nonmotorized transportation networks
Benefit: Increases workforce productivity and job satisfaction	Action: Use of parks and trails increase physical exercise promoting healthier bodies, greater stamina, stress reduction, positive attitudes, fewer sick days
Benefit: Reduces costs associated with crime and juvenile delinquency	Action: Fund recreation facilities and programs for children, teens and young adults; promote community pride and cohesiveness
Benefit: Attracts visitors/tourists—generates tourism expenditures; a “catalyst” for tourists and related businesses; encourages heritage and eco-tourism	Action: Fund resources for tourists; provide parks, trails, open space, natural areas, wildlife habitats, historic sites, botanical gardens, partnerships with land resource agencies
Benefit: Maintains agricultural economies; often is the highest and best use of the land	Action: Protect farms and ranches, wetlands, and wildlife habitat; offer incentives, conservation easements/ purchase of development rights
Benefit: Encourages investment in environmental protection and “green” practices	Action: Prevent floodplain damage through protected greenbelts; improve water quality and quantity through protection of rivers, washes, wetlands; improve soil stabilization and air quality through planting of trees, ground cover and other vegetation

(Source: LIN, 1997. Lifestyle Information Network and RETHINK Group. All five Benefits/Outcome tables in this chapter modified from this source; Tables 13, 14, 15, 17, 18.)

The following sections address these benefits more thoroughly.

Table 14. Personal/Health Benefits and Outcomes

PERSONAL/HEALTH BENEFITS/OUTCOMES
• Recreation enhances overall health and well being - critical to personal quality of life.
• Recreation prolongs independent living for seniors by compressing the disease and impairment period typically associated with aging - keeping seniors vital and involved in community life.
• Recreation significantly reduces the risk of heart disease and stroke - the leading cause of death in the U.S.
• Recreation combats osteoporosis - affecting 25% of postmenopausal women.
• Recreation combats diabetes - the fourth ranking killer disease (after heart disease, cancer, and respiratory disease).
• Recreation helps people live longer, adding up to 2 years to life expectancy.
• Recreation reduces stress in an increasingly demanding and stressful world.
• Recreation builds self-esteem and positive self-image, both essential to mental health and psychological wellbeing.
• Recreation is essential to child development - the majority of life skills are learned through recreation and supervised play.
• Recreation reduces self-destructive and anti-social behavior in youth.
• Recreation and parks enhance life satisfaction levels.

Personal/Health Benefits: *When people have access to parks, they exercise more.*

According to a 2006 report by Erica Gies for the Trust for Public Lands, *Health Benefits of Parks*, strong evidence shows when people have access to parks, they exercise more. In a study published by the Centers for Disease Control and Prevention (CDC), creation of or enhanced access to places for physical activity led to a 25.6% increase in the percentage of people exercising on three or more days per week. When people have nowhere to walk, they gain weight. Obesity is more likely in unwalkable neighborhoods, but goes down when measures of walkability go up: dense housing, well-connected streets, and mixed land uses reduce the probability that residents will be obese.

Despite the importance of exercise, only 25% of American adults engage in the recommended levels of physical activity, and 29% engage in no leisure-time physical activity, according to the CDC. The problem extends to children: only 27% of students in grades 9 through 12 engage in moderate-to-intensive physical activity. The sedentary lifestyle and unhealthy diet of Americans have produced an epidemic of obesity. Over 30% of adult Americans and 16% of children and teens are obese. The Centers for Disease Control and Prevention has called for the creation of more parks and playgrounds to help fight this epidemic (Gies, 2006).

Although it is an individual choice whether to be active or sedentary, the way communities develop their environment for physical activity can encourage or impede that choice. Lack of access to convenient recreation opportunities is commonly cited as a major barrier to regular physical activity. Providing recreation facilities that are easily accessible and close-to-home makes it convenient for people to incorporate physical activity into their daily lives.

Trails and paths, especially, offer people opportunities to walk, bike, rollerblade, etc., during leisure time. Trails and paths also offer a non-motorized means for connecting people with local destinations such as schools, transit centers, businesses, and neighborhoods. These multi-purpose facilities make it easier for people to engage in physical activity while carrying out their daily routines, e.g., commuting to work or school, running errands, visiting neighbors, walking the dog, or enjoying recreational time.

In the U.S., 14% of the Gross Domestic Product goes toward health care expenditures, more than any other country. A sedentary lifestyle is the most significant risk factor for coronary disease, the number one cause of death in the nation, and is also a risk factor for diabetes and cancer. A comprehensive 1996 report by the U.S. Surgeon General found that people who engage in regular physical activity benefit from reduced risk of premature death; reduced risk of coronary heart disease, hypertension, colon cancer, and Type 2 (non-insulin-dependent) diabetes; improved maintenance of muscle strength, joint structure, and joint function; weight loss and favorable redistribution of body fat; improved physical functioning in persons suffering from poor health; and healthier cardiovascular, respiratory, and endocrine systems (Sherer, 2003).

Many individuals use outdoor recreation as a major motivating force. Instead of describing themselves as a teacher or a banker many people prefer to describe themselves as a rock climber or a mountain biker. The personal rewards and satisfaction they achieve through their participation mean many participants regard it as an integral component of their life, providing the impetus for work and participation in their community, and the goal at the end of the week can all be provided by their activity.

Beyond the benefits of exercise, a growing body of research shows that contact with the natural world improves physical and psychological health. Physical activity relieves symptoms of depression and anxiety, improves mood, and enhances psychological well-being. Relaxation, rest and revitalization all happen as people participate in outdoor activities. The influence of a natural environment, the opportunity to escape the pressures of urban life and the sense of achievement that occurs through participation all contribute to increasing the ability of individuals to deal with the world around them. A 10% increase in nearby greenspace was found to decrease a person's health complaints in an amount equivalent to a five-year reduction in that person's age. One study found the U.S. could save $20 billion a year in health care costs if every sedentary American walked an hour a day.

Access to parks and outdoor recreation can lead to a healthier lifestyle, in effect acting as a preventative care strategy (along with a moderate diet) for lessening health care problems and their costs.

Table 15. Economic Benefits and Outcomes

ECONOMIC BENEFITS/OUTCOMES
• Recreation significantly reduces health care costs - fitness and well being reduces both the incidence and severity of illness and/or disability.
• Fitness and recreation improves work performance - increased productivity, decreased absenteeism, decreased staff turnover, 'reduced on the job' accidents.
• Recreation reduces costs associated with crime and social dysfunction.
• Recreation and parks are significant employment generators - professional athletes/artists, agency/program staff, equipment manufacturing/retail.
• Small investments in recreation and parks often yield large economic returns - through leverage and multiplier effects.
• Recreation and parks attract and retain businesses - a key component of quality of life, one of the most important business relocation magnets.
• Recreation and parks generate tourism expenditure - the essential foundation of the world's third largest industry.
• Parks and protected open spaces can pay for themselves - through increased adjacent property value/taxes, revenues (e.g. golf), and commercial investment.
• Parks and open spaces are often the highest and best use of land when sustainable development, risk management (e.g. flood control), storm water management and habitat protection principles are understood and respected.

Economics Benefits: *Parks and open space attract people and businesses and raise property values.*

Repeated studies over the years have confirmed that people prefer to buy homes close to parks, open space, and greenery and that parks and open space increase the value of neighboring residential property. The real estate market consistently demonstrates that many people are willing to pay a larger amount for a property located close to parks and open space areas than for a home that does not offer this amenity. The higher value of these homes means their owners pay higher property taxes. In some instances, the additional property taxes are sufficient to pay the annual debt charges on the bonds used to finance the park's acquisition and development.

One key study in 1999 by Steve Lerneris and William Poole, *The Economic Benefits of Parks and Open Space*, looked at the effect of proximity to greenbelts in Boulder, Colorado. The study showed that, other things being equal, there was a $4.20 decrease in the price of residential property for *every foot* one moved away from the greenbelt, and that the average value of homes next to the greenbelt was 32% higher than those 3,200 feet away. The same study showed the greenbelt added $5.4 million to the total property values of one neighborhood. That generated $500,000 per year in additional potential property taxes, enough to cover the $1.5 million purchase price of the greenbelt in only three years.

In a 2001 survey conducted for the National Association of Realtors by Public Opinion Strategies, 50% of respondents said they would be willing to pay 10% more for a house located near a park or other protected open space. In the same survey, 57% of respondents said that if they were in the market to buy a new home, they would be more likely to select one neighborhood over another if it was close to parks and open space.

In eastern Pima County, Arizona, on the outskirts of rapidly growing Tucson, developers once wanted to build a 21,000-unit resort and residential community on the 6,000-acre Rocking K Ranch adjacent to Saguaro National Park. But the project was scaled back to 6,500 clustered units after opposition from the National Park Service and local environmentalists threatened to derail the development. As part of the agreement that allowed the development to proceed, the most biologically important land was set aside as open space. Two thousand acres have been sold to the National Park Service (Lerneris and Poole, 1999).

The rest of the property will be managed with input from Rincon Institute, a community stewardship organization supported by homeowners and businesses in the new development and visitors to the resort. The Institute conducts long-term environmental research, helps protect neighboring natural areas and conducts environmental education programs.

"Initially the developers were skeptical, but they now see that a legitimate commitment to conservation is good for marketing," says Luther Propst, director of the Sonoran Institute, which helped negotiate the arrangement. The developer agrees. "People will pay a premium for an environmentally well-thought-out community," says Chris Monson, president of the Rocking K Development Corporation. "Sometimes less is more, so we increased densities, clustered housing, and preserved open space. We think this makes our development look attractive. It also makes the units easier to sell."

A park often becomes one of a city's signature attractions, a prime marketing tool to attract tourists, conventions, and businesses. City parks such as San Antonio's Riverwalk Park and Tempe's Town Lake often become important tourism draws, contributing heavily to local businesses. Organized events held in public parks—arts festivals, athletic events, food festivals, musical and theatrical events—often bring substantial positive economic impacts to their communities, filling hotel rooms and restaurants and bringing customers to local stores.

In this time of budget austerity, one point is crucial: to protect the positive economic impact of parks, the parks must be well maintained and secure. A park that is dangerous and ill kept is likely to hurt the value of nearby homes.

Parks and open space create a high quality of life that attracts tax-paying businesses and residents to communities. Commercial asking rents, residential sale prices, and assessed values for properties near a well-improved park generally exceeded rents in surrounding submarkets. The availability of park and recreation facilities is an important quality-of-life factor for corporations choosing where to locate facilities and for well-educated individuals choosing a place to live. If people want to live in a place, companies, stores, hotels, and apartments will follow. Urban parks, gardens, and recreational open space stimulate commercial growth and promote inner-city

revitalization. American cities large and small are creating parks as focal points for economic development and neighborhood renewal.

Open space preservation helps communities grow smart, preventing the higher costs of unplanned development. The most successful higher-density neighborhoods— those most attractive to homebuyers—offer easy access to parks, playgrounds, trails, greenways and natural open space. To truly grow smart a community must decide what lands to protect for recreation, community character, the conservation of natural resources, and open space. Instead of costing money, conserving open space as a smart growth strategy can save communities money. Even groups that usually oppose taxation have come to recognize that new taxes to acquire open space may save taxpayers money in the long run.

Open space boosts local economies by attracting tourists and supporting outdoor recreation. Across the nation, parks, protected rivers, scenic lands, wildlife habitat, and recreational open space help support a $502-billion tourism industry. Travel and tourism is the nation's third largest retail sales industry, and tourism is one of the country's largest employers, supporting 7 million jobs, including 684,000 executive jobs. At present rates of growth, the tourism/leisure industry will soon become the leading U.S. industry of any kind (Lerneris and Poole, 1999).

Communities benefit from tourism and recreation on nearby federal lands. The National Park Service estimates that in 1993 national park visitors contributed more than $10 billion in direct and indirect benefits to local economies. Recreation is the second largest producer of direct revenue from U.S. Forest Service lands—bringing in more than grazing, power generation and mining combined—and may account for as much as 74% of the economic benefit from these lands when indirect contributions are taken into account. Many towns that traditionally have depended on logging, mining, and other extractive industries on public lands are now working to bolster local economies by attracting tourists, an especially effective strategy in Arizona with 42% of the land managed by federal agencies.

Hiking and biking trails and all-terrain vehicle routes can also stimulate tourism. Each year 100,000 people come to ride the famous Slickrock Mountain Bike Trail near Moab, Utah. The trail generates $1.3 million in annual receipts for Moab, part of $86 million spent by visitors to nearby desert attractions that include Arches and Canyonlands National Parks. In 1995, tourism in Moab supported 1,750 jobs, generated nearly $1.7 million in taxes, and accounted for 78% of the local economy (Lerneris and Poole, 1999).

Natural open space supports fishing, hunting, and other wildlife-based tourism. Sport fishing alone boosted the nation's economy by $108.4 billion in 1996, supporting 1.2 million jobs and generating household income of $28.3 billion. Another $85.4 billion is generated for the U.S. economy each year by people who feed birds or observe and photograph wildlife.

Outdoor recreation, in particular, represents one of the most vigorous growth areas in the U.S. economy. Much of this recreation is supported by public lands, open space and private parks. More than three out of every four Americans participate in outdoor recreation each year. Americans spend money, create jobs, and support local communities when they get outdoors.

Simple, healthy outdoor activities such as hiking, biking, skiing, camping, hunting, fishing, canoeing, wildlife viewing and exploring backcountry roads and trails generate enormous economic power and fuel a far-reaching ripple effect that touches many of the nation's major economic sectors. When Americans participate in these activities, they aren't just having fun and staying fit, they are also pumping billions of dollars ($730 billion) into the economy. One in 20 Americans depend on the outdoor recreation economy to make a living (Southwick, 2006).

The Recreation Economy in the U.S.:
- Contributes $730 billion annually to the U.S. economy
- Supports nearly 6.5 million jobs across the U.S.
- Generates $88 billion in annual state and national tax revenue
- Provides sustainable growth in rural communities
- Generates $289 billion annually in retail sales and services across the U.S.
- Touches over 8% of America's personal consumption expenditures—more than 1 in every 12 dollars circulating in the economy

The jobs, tax revenues, and business created by the outdoor recreation economy are the lifeblood of rural communities that rely on recreation tourism to enjoy a high quality of life. Mining, logging, oil and gas, and agriculture are the traditional backbone of many rural economies. Today, the sustainable outdoor recreation economy has joined that list as communities seek to create a balanced and stable base for long-term economic and community development.

The most obvious boost the active outdoor recreation economy gives to the nation comes at the cash register. Participants spend their money on both gear and trips.
- Quality gear is key to a fulfilling outdoor experience, and Americans spend $46 billion each year on their equipment, apparel, footwear, accessories, and services.
- Americans want to spend money on outdoor excursions, and they spend $243 billion on trips ranging from a summer camping vacation to an afternoon family bike ride.

That adds up to a whopping $289 billion spent annually on outdoor recreation gear and trips, a bigger direct expenditure contribution to the U.S. economy than that of the securities, commodity contracts, and investments industry ($277 billion) (Southwick Associates, Inc., 2006).

Flagstaff, Arizona supports parks and land acquisition using funds generated by tourists. Two million tourists visit this community of 50,000 people each year, attracted by nearby Indian ruins, skiing, national forests and Grand Canyon National Park. In 1988, the city passed a 2% "bed, board, and booze" tax (known locally as the BBB tax), which currently raises $3.3 million each year. A third of the money goes to city park improvements, and an additional portion goes to city beautification and land acquisition. The funds are helping to build a 27.5-mile trail system connecting neighborhoods, commercial areas, and national forest lands (Lerneris, Poole, 1999).

The outdoor recreation economy is big business. It ranks alongside and even dwarfs other major economic sectors in the U.S., such as pharmaceuticals, automobile manufacturing, power generation, legal services, hospitals and motion pictures and videos. The total outdoor recreation economic contribution for eight states (AZ, CO, ID, NM, MT, UT, NV, WY) in the Rocky Mountain Region is $61,496,000 (Table 16) or 8.4% of the national total (Southwick, 2006).

Table 16. Outdoor Recreation Related Economic Contribution of 8 Rocky Mountain States

Activity	# Participants participating	% Population participating	Gear Retail Sales	Trip Related Sales	# Jobs Supported	Taxes Fed/State	Total Economic Contribution
Wildlife viewing	6,870,000	49%	$1,132M	$1,036M	54,687	$236M	$3,757M
Bicycling	4,078,000	27%	$429M	$3,715M	59,939	$1,007M	$6,233M
Trail use	5,433,000	36%	$361M	$6,307M	96,450	$1,621M	$10,030M
Camping	4,934,000	33%	$864M	$13,992M	214,870	$3,611	$22,345M
Fishing	3,280,000	23%	$587M	$1,962M	46,319	$306M	$4,454M
Paddling	1,586,000	11%	$175M	$860M	14,976	$252M	$1,557M
Snow sports	1,858,000	13%	$490M	$6,501M	101,116	$1,699M	$10,515M
Hunting	1,340,000	10%	$752M	$667M	28,830	$174M	$2,605M
TOTAL	**29,379,000**	**-**	**$4,790M**	**$34,940M**	**617,186**	**$8,906M**	**$61,496M**

Source: Southwick Associates, Inc., *Active Outdoor Recreation Economy*. 2006. Outdoor Industry Foundation.

Table 17. Environmental Benefits and Outcomes

ENVIRONMENTAL BENEFITS/OUTCOMES
• Parks and open space protect biodiversity and ecological integrity - essential to sustainability.
• Parks and open space improve air quality in urban areas - the 'urban lung' effect of trees and the reduction of atmospheric pollution.
• Parks and open space is often the most effective solution for handling storm water – economical and ecologically sound.
• Outdoor recreation is the best way to increase ecological understanding and sensitivity – prerequisites to sustainability.
• Parks and natural environments have great spiritual meaning for many - religious and philosophical benefits.
• Trail and pathway systems save energy and protect air quality by encouraging non-motorized transportation.
• Parks and open spaces mitigate against potential environmental disaster - slip zones, aquifer depletion, flooding, etc.

Environmental Benefits: *Green space cools and cleans our air and helps control flood waters.*

Green space in urban areas provides substantial environmental benefits. The U.S. Forest Service calculated that over a 50-year lifetime *one tree* generates $31,250 worth of oxygen, provides $62,000 worth of air pollution control, recycles $37,500 worth of water, and controls $31,250 worth of soil erosion. In an area with 100% tree cover (such as contiguous forest stands within parks), trees can remove from the air as much as 15% of the ozone, 14% of sulfur dioxide, 13% of particulate matter, 8% of nitrogen dioxide, and 0.05% of carbon monoxide (Sherer, 2003).

Trees and the soil under them act as natural filters for water pollution. Their leaves, trunks, roots, and associated soil remove polluted particulate matter from the water before it reaches storm sewers. Trees absorb nutrients created by human activity, such as nitrogen, phosphorus, and potassium, which otherwise pollute streams and lakes.

Trees also act as natural air conditioners to help keep cities cooler, mitigating the effects of concrete and glass that can turn cities into ovens under the summer sun. The evaporation from a single large tree can produce the cooling effect of ten room-size air conditioners operating 24 hours a day.

Trees more effectively and less expensively manage the flow of stormwater runoff than do concrete sewers and drainage ditches. Runoff problems occur because cities are covered with impervious surfaces such as roads, sidewalks, parking lots, and rooftops, which prevent water from soaking into the ground. Trees intercept rainfall, and unpaved areas absorb water, slowing the rate at which it reaches stormwater facilities. It is estimated trees in the nation's metropolitan areas save the cities $400 billion in the cost of building stormwater retention facilities. Yet natural tree cover has declined by as much as 30% in many cities over the last several decades. Imagine what several city parks landscaped with trees could do (Sherer, 2003).

Floodplain protection offers a cost-effective alternative to expensive flood-control measures. According to the U.S. Army Corps of Engineers, flood damages in the U.S. average $4.3 billion each year. But a protected floodplain contains no property to be damaged and acts as a permanent "safety valve" for flooding, reducing destruction to developed areas downstream. A 1993 study by the Illinois State Water Survey found that for every 1% increase in protected wetlands along a stream corridor, peak stream flows decreased by 3.7%. The estimated value of all economic benefits generated by a single acre of wetland is $150,000 to $200,000. No wonder that more and more governments at all levels are prohibiting development in floodplains or are acquiring floodplains for permanent flood protection (Lerneris and Poole, 1999).

Protected floodplains also create economic benefits by providing open space for recreation, wildlife habitat, and farming. A protected floodplain that doubles as a wildlife refuge or recreation area may generate economic benefits by attracting hunters, birdwatchers, and other tourists to a community.

It is essential for planners and communities to agree on the underlying purpose for designating and protecting areas as open space. Enhancing the viewshed and providing recreation opportunities are usually compatible goals. However, if protecting wildlife and its habitat are the primary goals the area may require limitations on recreational activities and, depending on the species, other human impacts such as nearby housing developments may need to be reconsidered. Pet dogs and cats allowed to run free, pet food on back porches, non-native plants, pesticides, noise and increased human presence can impact the survival of some wildlife species. In these situations, open space should be kept in as natural a state as possible with safe access to wildlife migration corridors.

Outdoor recreation participants have historically demonstrated their willingness to preserve the conservation values of sites through maintenance and rehabilitation projects arising through an active communication and consultation process with landholders. They are willing to contribute to management strategies that reduce impact. Land management agencies have the opportunity to utilize impact assessments as well as collaborating with recreation groups to minimize impact.

Furthermore, research supports the concept that personal attachment to a site, with associated feelings of ownership and duty of care for that site, is generated by outdoor recreation involvement (McIntyre 1995; Bryan 1977).

This means outdoor recreation participants are likely to be highly motivated to assist in conservation initiatives on a site to which they feel attached. Collaboration and consultation with these groups and individuals are likely to result in successful communication of and compliance with restrictions on sites with conservation values that are incompatible with outdoor recreation use. And they are more likely to be prepared to pay for environmental protection and rehabilitation. Outdoor recreation activities based in natural environments raise the profile and community importance of looking after these places, providing insurance for a new and improved environmental future.

Table 18. Social Benefits and Outcomes

SOCIAL BENEFITS/OUTCOMES
• Recreation produces leaders that will serve their communities in many ways.
• Recreation reduces isolation and loneliness - a particular problem for many seniors.
• Recreation reduces crime and other anti-social behaviors.
• Recreation reduces racism - nurturing ethnic and cultural harmony in the community.
• Recreation and parks build strong families - the foundation of a healthy community.
• Recreation provides safe, developmental opportunities for the latch-key child.
• Recreation builds social skills and stimulates participation in community life.
• Recreation builds strong, self-sufficient communities.
• Recreation nurtures and supports independent living for those with a disability – building the skills, confidence and community contacts required.
• Recreation and parks services build pride in a community - enhancing perceived quality of life.

Social Benefits: *Parks and open space improve our quality of life in many ways.*

City parks produce important social and community development benefits. Among the most important benefits of city parks, though perhaps the hardest to quantify, is their role as community development tools. They make inner-city neighborhoods more livable; they offer recreational opportunities for at-risk youth, low-income children, and low-income families; and they provide places in low-income neighborhoods where people can feel a sense of community (Sherer, 2003).

Green spaces build community. Research shows that residents of neighborhoods with greenery in common spaces are more likely to enjoy stronger social ties than those who live surrounded by barren concrete. These benefits often arise in the context of community gardens.

Community gardens increase residents' sense of community ownership and stewardship, provide a focus for neighborhood activities, expose inner-city youth to nature, connect people from diverse cultures, reduce crime by cleaning up vacant lots, and build community leaders.

Access to public parks and recreational facilities has been strongly linked to reductions in crime and in particular to reduced juvenile delinquency. Recreational facilities keep at-risk youth off the streets, give them a safe environment to interact with their peers, and fill up time within which they could otherwise get into trouble. Many communities have reported success with "midnight basketball" programs, keeping courts open late at night to give youths an alternative to finding trouble. Research supports the widely held belief that community involvement in neighborhood parks is correlated with lower levels of crime. Importantly, building parks costs a fraction of what it costs to build new prisons and increase police-force size (Cameron and MacDougall, 2000).

For small children, playing is learning. Play has proved to be a critical element in a child's future success. Play helps kids develop muscle strength and coordination, language, cognitive thinking, and reasoning abilities. Play also teaches children how to interact and cooperate with others, laying foundations for success in school and the working world. Exercise has also been shown to increase the brain's capacity for learning.

Recent reports of societal trends have pointed to two factors which have significantly altered children and adolescents' leisure time activities during the last 50 years: 1) the rapid expansion and increasing availability of technology, and 2) a decrease in adults' perceptions of safety and a subsequent increase in fear of violence or victimization (Louv, 2005; Thompson, Rehman & Humbert, 2005). Both of these factors have acted as a barrier, preventing children and adolescents and adults alike, from participating in outdoor recreation opportunities that would serve to promote social bonding and cohesion.

Rapid advancements in technology have made global communication quicker and easier than ever before. Youth, in particular may have more exposure to new technologies given that consumer culture is increasingly targeting children and adolescents (Haworth & Veal, 2004). One result of this proliferation of technology and new communication techniques is that citizens of all ages may become increasingly cut off from individuals within their own geographic communities, even as they develop and maintain ties with others who may have similar interests around the globe (e.g., Anderson, 2002; Mortimer & Larson, 2002; Wilson-Doenges, 2000). Also, as electronic media has become more available, there has been a shift to more passive, home-based recreation (e.g., watching TV, listening to music, participating in chat rooms, etc) (Haworth & Veal, 2004; Larson, 2005).

In addition, for some time researchers have been documenting and decrying a decline in the sense of community experienced by Americans (e.g., Wilson-Doenges, 2000). Interestingly, as crime rates have decreased, fear of crime has increased. "Fear negatively affects quality of life over a long period of time, leading people to unnecessarily secure themselves, remove themselves from social activities, and increase levels of distrust of others" (Wilson-Doenges, 2000, p. 600). The ultimate result of these trends, according to Richard Louv (2005) are increased feelings of isolation and distrust within communities.

On the other hand, parks and open spaces produce important social and community development benefits by providing opportunities for interaction and networking between community members which can serve to reduce uncertainty, fuel trust, increase community members' access to social support, increase perceptions of safety in the community and encourage social cohesion (e.g., Driver, 1996). Interaction in the natural world can also serve as an important mode of socialization. As children learn about the natural world, they learn important lessons in self-sufficiency, planning skills, and also become socialized into the role of informed citizen, as they learn about environmental concerns and stewardship.

Conclusion

In the 2003 Trust for Public Land report, *The Benefits of Parks*, by Paul Sherer, there is overwhelming evidence that demonstrates the benefits of city parks and open space. They improve our physical and psychological health, strengthen our communities, and make our cities and neighborhoods more attractive places to live and work. While Yellowstone, Yosemite, and other wilderness parks are national treasures, Americans need more than once-a-year vacations in faraway national parks. We need parks near our homes, in the cities where 80% of Americans live, where we can enjoy them and benefit from them in our daily lives.

But too few Americans are able to enjoy these benefits. The lack of places for regular exercise has contributed to America's epidemic of obesity among adults and children, an epidemic that will have dire consequences on both our health and our finances. Building a basketball court is far cheaper than building a prison block. Yet because we have not invested in city parks, many children have nowhere to play outdoors [and may turn to crime]. A generation of children is growing up indoors, locked into a deadened life of television and video games, alienated from the natural world and its life-affirming benefits.

All Americans should join the effort to bring parks, open spaces, and greenways into the neighborhoods where all can benefit from them. While government plays a vital role in the creation of public parks, governments cannot do the job alone. Achieving this vision will depend on the planning skills and efforts of nonprofit groups; on the input of neighborhood groups and community leaders in designing the parks; and on the financial support and moral leadership of community-minded individuals and businesses. Working together, more Americans can experience the joys of jogging down a tree-lined path, of a family picnic on a sunny lawn, of sharing a community garden's proud harvest.

Family picnics at the park—an American tradition. [Courtesy of AOT]

Parks create green oases that offer refuge from the alienating city streets, places where people can rediscover their natural roots and reconnect with their souls. Parks are vital components of our everyday lives.

Chapter 4

OUTDOOR RECREATION SITUATION AND TRENDS

INFLUENCES ON RECREATION IN ARIZONA

Many factors influence the outdoor recreation opportunities in a particular area. Factors such as climate, geography, hydrology, vegetation and landscape provide the building blocks. Every State has unique challenges and opportunities when it comes to meeting the demands for outdoor recreation.

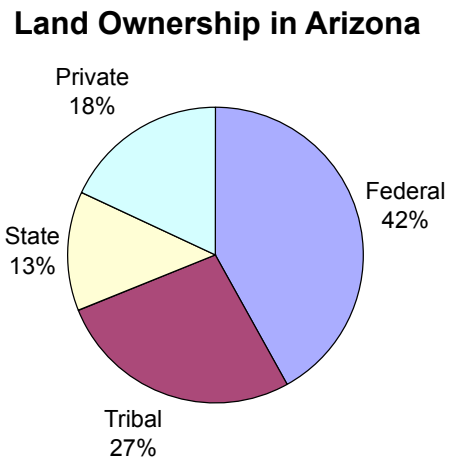
Arizona offers year-round opportunities to explore and enjoy the State's extensive backcountry regardless of one's climate or landscape preferences. When the summer heat gets too hot to enjoy the desert, travel a short distance to play in the cool, forested mountains. The winter season is a great time to explore the deserts or to enjoy snow sports in the mountains. And autumn and spring are perfect seasons for outdoor recreation anywhere in Arizona.

Arizona is an arid land with average annual rainfall varying from three inches in Yuma in the southwest corner, seven inches in Phoenix in the middle, to 23 inches in Flagstaff in the northern part of the state. The southern and western parts of the state are predominantly desert with numerous isolated mountain ranges (Basin and Range Province). The central and eastern areas are mainly high-elevation forested lands (Transition Zone), and the northern part is primarily high desert interspersed with a few mountain ranges and scenic geologic features such the Grand Canyon and Monument Valley (Colorado Plateau). (see Figure 1. Arizona Landforms, Appendix C, pg 245)

Land Ownership

As the sixth largest state in the Nation when it comes to total acreage, Arizona has plenty of land (and water) to experience nearly any desired outdoor recreation experience. The State has approximately 73 million acres (113,417 square miles).

Like many western states, Arizona has very complex land ownership patterns. Federal governments manage 42% of Arizona's land base and most of it is open to public recreation use. Tribal governments own and manage 27.5% and provide some of the State's premier recreation opportunities to camp, boat, fish, hunt, hike and ski.



The Arizona State Land Department manages 12.8% as State Trust land and while not considered "public" land, Trust lands are accessible for recreational use through a recreational permit or use fee (ASLD, 2006). (see Figure 2. Arizona Land Ownership, Appendix C, pg 246)

The 17.7% of the land base in private ownership includes many resorts and spas, dude ranches, secluded bed and breakfasts, museums, historic sites, botanical gardens, land trust preserves, and other enjoyable attractions. This 17.7% also includes the small percentage of the State owned by local governments and other state agencies, providing a wide range of city, county and state parks, wildlife areas and nature preserves.

Arizona offers a wide variety of outdoor recreation opportunities with six National Forests, twenty-one National Park sites, eight National Wildlife Refuges, eight Bureau of Land Management Field Offices, twenty-one federally recognized Indian tribes, thirty State Parks, twenty-three State wildlife areas, and hundreds of county and city parks and recreation areas. These public lands provide opportunities for activities such as picnicking, developed and primitive camping, wilderness backpacking, hiking, mountain biking, horseback riding, cross-country skiing, wildlife watching, hunting, fishing, boating, water skiing, rock climbing, four-wheel driving, motorized trail biking, all-terrain vehicle riding and snowmobiling, among others.

Municipal parks offer facilities such as playgrounds, picnic sites, walking/jogging trails, sports fields, golf courses, swimming pools, dog parks, skate parks, nature preserves, greenbelts and other open space, as well as numerous recreation and leisure programs and classes. The private sector also provides opportunities for a myriad of activities and programs including ski resorts, water parks, golf courses, nature preserves, horse stables, rentals of recreational vehicles, boats, canoes and other recreational equipment, outfitter guides, and guided trips and adventures.

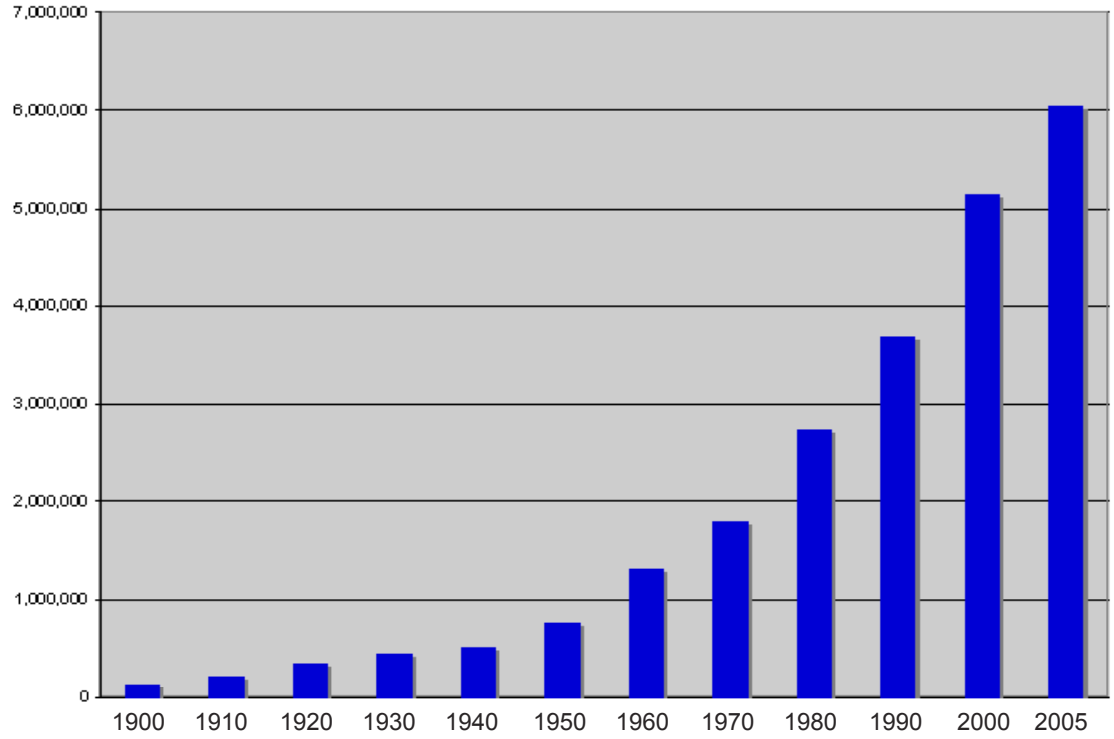
Arizona's Population Growth

As the population of Arizona increases, so does the number of people participating in outdoor recreation activities. At statehood in 1912, Arizona was populated by approximately 200,000 people and had a population density of two people per square mile. In 1940, just before World War II, Arizona's population was less than one-half million people with a population density of four people per square mile. Since that time, the population has grown phenomenally as people recognize Arizona's economic potential and quality of life (AZDES, 2006).

People are drawn to the state's scenic beauty, wide open spaces, year-round climate, cultural diversity and its incredible outdoor recreation opportunities. Arizona is also a major destination

site for millions of visitors each year. The 2000 U.S. Census reported that more than 5 million peopled resided in Arizona, a tenfold increase since 1940, and in 2005, the Arizona population had increased to more than 6 million, a 17.8% change, with a population density of 53 people per square mile (Figure 3).

Figure 3. Arizona's Population Growth, 1900-2005



Arizona can no longer be considered a sparsely populated state. Once again, Arizona has the fastest rate of population growth in the country, surpassing Nevada for the first time in nineteen years. Arizona also had three of the Nation's ten fastest growing metropolitan areas in the 1990s (Phoenix-Mesa, Yuma and Las Vegas, NV-AZ). Phoenix is now the sixth largest city in the United States, it is also the Nation's fastest growing city (AZDES, 2006). By 2030, Arizona is projected to be the Nation's tenth largest state in population with 10.4 million people, and a population density of 92 people per square mile.

(see Figure 4. Arizona Towns and Cities by Population, Appendix C, pg 247).

The makeup of Arizona's population is also predicted to change substantially over the next few decades which may influence the demand for different types of outdoor recreation. For example, the proportion of Arizona's population classified as elderly is expected to increase from 13.0 % in 2000 to 22% in 2030. The percentage of children in Arizona under the age of eighteen will decrease from 26.6% in 2000 to 24.3% in 2030.

Arizona has the 2nd highest net migration of people over the age of 65 in the United States. Approximately one-quarter of recent immigrants 65 and older came from California and Washington (U. S. Census Bureau, 2000, migration of older individuals report). Yuma, La Paz and Pinal counties had the highest rate of net migration of individuals 65 and over between the years 1995 and 2000, followed by Cochise, Pima, Maricopa, Yavapai and Mohave counties.

These changes will significantly impact outdoor recreation in Arizona. In order to accommodate this older population, it is important for outdoor recreation providers to understand the leisure opportunities that are being and will increasingly be sought out by this group as the Baby Boomer generation hits its stride.

Urban—Rural Proportions

Of particular note is the incredible change in Arizona's urban and rural populations. Over the last 100 years, the ratio between Arizona's rural and urban populations has essentially reversed. In 1900, less than 20% of the state's population lived in an urban setting; in 2000, more than 88% live in an urban setting. While both rural and urban county population numbers have experienced a steady climb since 1900, the predominantly urban counties of Maricopa and Pima account for the majority of the population increase. Until the 1940s, the numbers of people living in rural counties exceeded or equaled the numbers of people in urban counties. After World War II, that distribution changed. Now, three quarters of the state's population live in the urban counties of Maricopa and Pima.

Traditional use areas and wildland recreation landscapes are now "just out the back door" for many historically rural, but increasingly urban communities. This locational change can affect how residents view the natural world, environmental issues and their participation in outdoor recreation activities. An important factor to consider is the large number of people from highly urbanized states such as California moving to Arizona's rural areas, but pursuing and expecting a more typical urban lifestyle.

The USDA Forest Service (USFS) reports urban growth has been most pronounced in the Intermountain West region. Counties with large tracts of public lands appeal to people seeking recreation access, open space and wildlands. Often, population growth in these counties is linked to their appeal as retirement and recreation destinations in part due to the number of natural amenities they offer. Most of Arizona's counties were above the mean in terms of natural amenities. Approximately one-third of the total population increase that occurred in the U.S. between 1980 and 2000 took place in counties that contain USFS lands, a trend which is expected to continue.

As the urban population of the U.S. continues to grow, scientific studies are documenting the impacts of these shifts on the health and well-being of residents. Galea and Vlahov (2005) have identified several aspects of urban development that have links to health in residents: the urban physical environment, the urban social environment and access to health and social services. Not surprisingly, urban development (e.g., density of development, aesthetic qualities of a place, etc) in combination with other factors such as pollution and access to green space is linked to the frequency of physical activity, which in turn is linked to health outcomes for residents. Trends in population growth and changes in the demographic, social and economic characteristics of our communities must be factored into recreation site planning and investments.

Growth in Outdoor Recreation

The National Survey on Recreation and the Environment (NSRE), the 8th edition of on-going national surveys published by the USFS, reports an on-going growth in outdoor recreation that outstrips population growth rates (Cordell, Green and Betz, 2005).

Highlights of Nationwide NSRE Results:

- Over 97% of Americans participate in outdoor recreation activities. Walking, birding, hiking, swimming are growing the fastest. Participation has increased in almost all outdoor recreation activities since 1990 and is predicted to continue to increase.
- Over 94% of Arizonans participate in outdoor recreation. People most often participate in trails and driving pursuits, viewing/learning activities, and social pastimes.
- Most participants are trying a greater number of activities.
- People are living longer and staying active longer.
- Increasingly, minorities, older and urban people are participating.
- People who are college-educated, exceed $50,000 annual incomes, and live in smaller households are a major growing outdoor recreation demographic.
- Outdoor recreation is expected to continue to expand in the future, placing more demands on water and land resources.
- The largest percent increase from 1995 to 2003 is seen in individual sports, snow and ice activities, boating and trails/driving activities.
- Kayaking, rafting and jet-skiing are the biggest factors in growth of water-based recreation.
- Snowboarding, snowmobiling and ice fishing are the major influences increasing winter recreation participation.
- Family gatherings, walking for pleasure, outdoor sports events, visiting nature centers, sightseeing, picnicking and wildlife viewing engage the highest percentage of the population.

NATIONAL AND STATE PARKS (see Figure 5. Parks Map, Appendix C, pg 248)

National Park Visitation. In 2006, there were 18,111,068 visitors to national parks in Arizona. While statistics from the National Survey on Recreation and the Environment (NSRE) show steady increases in activity participation, visitation numbers at National Parks nationwide show a decline in visitors. Visits to nearly all national parks have been on a downward slide for 10 years. Overnight stays fell 20% between 1995 and 2005, and tent camping and backcountry camping each decreased nearly 24% during the same period (Cart, 2006).

This may be due to a combination of factors, such as slowdown of the national and state economies, increase in gasoline costs, a decrease in marketing, after-effects of drought and widespread wildfires. Further speculation could conclude that people are staying closer to home or not visiting national parks as often. Agency officials admit that national parks are doing a poor job attracting two large constituencies—young people and minorities—causing concerns about the parks' continued appeal to a changing population. A study commissioned by the NPS and released in 2003 found that only 13% of the African Americans interviewed had visited a park in the previous two years.

Meanwhile, the parks' most loyal visitors over the last several decades are vacationing elsewhere. Baby boomers are changing the way they play. Some of the more adventurous have embraced mountain biking and similar sports that are not allowed in many national parks. But as they age, most boomers are less interested in pitching tents and sleeping on the ground.

A Nature Conservancy study funded by the National Science Foundation found a correlation between the drop in national park visits and the increasing popularity of at-home entertainment, including video games and the Internet (Cart, 2006).

Fewer young children visiting parks and playing outdoors

According to the 2006 study done by Oliver Pergams and Patricia Zaradic, per capita visits to U.S. national parks have declined since 1988, after 50 years of steady increase. *This decline, coincident with the rise in electronic entertainment media, may represent a shift in recreation choices with broader implications for the value placed on biodiversity conservation and environmentally responsible behavior.*

Factors considered during the study included hours of television, video games, home movies, theater attendance and internet use per year; additional factors included federal funding to parks, park capacity, fee and management structures, ecotourism, oil prices, foreign travel, more extreme outdoor recreation, reduced number of vacation days, median family income, and the aging of the baby boomer generation. Indications for park visit declines pointed to sedentary recreation choices involving electronic media, also increasing oil prices and foreign travel. There were no indications that available vacation time, fee structure, park capacity, income or age were factors in declining park visits. The study authors speculate the U.S. may be seeing evidence of a fundamental shift away from people's appreciation of nature.

Children need unstructured outdoor playtime. [Courtesy of AOT]

It has been found important that people be exposed to natural areas as children if they are to care about them as adults. Similarly, it has been found that environmentally responsible behavior results from direct contact with the environment rather than knowledge of ecology.

Many young families, too, are spurning the parks. According to Emilyn Sheffield, a social scientist at Cal State Chico, children have more say in family vacation destinations than ever before and, if they must be outdoors, they prefer theme parks. But, even if children vote to visit a park, many families spend no more than three hours traveling to vacation destinations, meaning that parks far from urban areas are getting a pass. In contrast, urban parks, including Santa Monica Mountains National Recreation Area and San Francisco's Golden Gate National Recreation Area, are among the most heavily used parks in the country (Cart, 2006).

Advocates and researchers have been aware of the downturn in outdoor activity for a long time, and it has been documented by experts such as Sandra Hofferth, a family studies professor at the University of Maryland. From 1997 to 2003, Hofferth found, there was a decline of 50%, from 16 to 8%, in the proportion of children ages 9 to 12 who spent time in such outside activities as hiking, walking, fishing, beach play and gardening. Organized sports were not included as an outdoor activity in the study, which was based on detailed time diaries. Hofferth's study showed an increase in computer play time for all children and in time spent on television and video games for those ages 9 to 12. It also found increases in sleep time, study time and reading time. According to a Kaiser Family Foundation study, children ages 8 to 18 spend 6.5 hours a day on television, electronic games, computers, music and other media, with many multitasking electronically. For many, the virtual world has become a more familiar setting than the natural one (St. George, 2007).

"Kids don't think about going outside like they used to, and unless there is some scheduled activity, they don't know what to do outdoors anymore."

Experts suggest a major factor in the decline of children's outdoor time is parental fears about leaving children unattended—aggravated by excessive media coverage of horrific crimes. Changes in family life have also had an influence: more mothers in the workforce, more structured playtime, more organized sports. Fewer hours are left for kids to slip out the back door and play hide-and-seek, catch fireflies, skip stones, wish upon a star, or create imaginary worlds around makeshift forts.

Author Richard Louv writes of a *"nature deficit disorder"* and suggests parental fears about kidnapping and crime are keeping children off neighborhood streets and out of parks. "We're talking about a generation that's being raised under virtual house arrest," said Louv, whose 2005 book, *"Last Child in the Woods: Saving Our Children From Nature-Deficit Disorder,"* is being used as a study guide at some national parks (Louv, 2005).

"We scare them to death with signs and pamphlets warning them about bears, snakes, spiders, poison oak, drowning, driving on ice and in snow and all the other disclaimers we provide," said Alexandra Picavet, the spokeswoman at Sequoia and Kings Canyon National Parks. "Small wonder they are terrified" (Cart, 2006).

"Healing the broken bond between our young and nature is in our self-interest, not only because aesthetics or justice demand it, but also because our mental, physical, and spiritual health depend upon it."

Concerns about long-term consequences—affecting emotional well-being, physical health, learning abilities, environmental consciousness—have spawned a national movement to ***"leave no child inside."*** In recent months, this topic has been the focus of Capitol Hill hearings, state legislative action, grass-roots projects, a U.S. Forest Service initiative to get *"More Kids in the Woods,"* the Bureau of Land Management's initiative *"Take it Outside,"* and a national effort to promote a *"green hour"* in each day.

The solution requires a deliberate organized approach to reconnecting children with the outdoors. (See www.cnaturenet.org and www.greenhour.org for additional research and strategies.)

Some parks are using technology to draw teenagers in. Officials at Santa Monica Mountains National Recreation Area are experimenting with a Pocket Ranger game that simulates activities available in the park. The game can be downloaded from a website to iPods and other devices and continued in the park as a kind of scavenger hunt.

To Ellen Sachtjen, a seventh-grade teacher at Thomas Edison Middle School in South-Central Los Angeles, parks can be an oasis of calm for children frazzled by city living. Sachtjen leads the school's Sequoia for Youth group, a park-sponsored program that takes children into Sequoia National Park, where they overcome their fear of nature and leave behind their fear of the street violence.

"At first, no one wanted to go," Sachtjen said. "Now, it's encultured in the school. They go on a night hike, where they experience the night without the sirens and boom boxes and police presence. Those are life-changing experiences for them. I bring them back and the kids say they want to be rangers" (Cart, 2006).

It has been found important that people be exposed to natural areas as children if they are to care about them as adults.

But for many African Americans, Asian Americans and Latinos, the parks remain remote places they don't want to visit. In 2000, the park service commissioned a comprehensive survey of attitudes toward parks. While 34% told interviewers they were too busy to visit parks, others reported that they did not feel welcome or safe there.

One example of inadvertent exclusion was at Kings Canyon, where rangers began to notice in recent years that Latino families from the Central Valley visiting for the day complained they could not find enough space at family picnic sites. The park service had assumed that a family would be able to fit at one picnic table that seated about six people. But the extended Latino families visiting Kings Canyon often numbered 15 to 20 people, a size the park defined as a "group" requiring a permit. The park adjusted by enlarging the size of some picnic areas, placing tables closer together and doing the same thing at some campgrounds. Kings Canyon now has the only fully bilingual visitor center in the National Park Service (Cart, 2006).

James Gramann, a social scientist at Texas A&M University and visiting chief social scientist for the park service, cautioned, "We can't be driven simply by changes in public tastes, because we also have responsibilities to resources that we are mandated to protect. In a rush to make parks relevant, we will end up destroying what makes them unique."

State Park Visitation. In 2006, there were 2,224,410 visitors to Arizona's state parks. For the past ten years, annual visitation has fluctuated between 2 million visitors and 2.5 million visitors. Based on more than a decade of public surveys, approximately half of all Arizonans visit a state park every year and approximately 70% rate their satisfaction with the way Arizona State Parks manages its park system as excellent or good.

Table 19 shows total visitation for each park in fiscal years 1995-96 and 2000-01, and the percent change in visitation over that time. It is clear that a number of individual parks in the Arizona State Parks system experienced declining visitation over this period, while others grew. In any given year, park visitation can fluctuate greatly due to a wide range of influences, including temporary closures during new construction or natural events (wildfires, flooding, water quality). Three State Parks that opened or were acquired after the parks listed in Table 19 include Oracle, Sonoita Creek State Natural Area, and San Rafael Shortgrass Prairie Preserve.

Table 19: Arizona State Parks Visitation — Comparing 1996 and 2001

County	State Park Name	Park Visitation 1995-1996	Park Visitation 2000-2001	Percent Change
Apache	**Lyman Lake**	50,495	28,304	-43.9%
Cochise	**Kartchner Caverns**	-	199,115	-
Cochise	**Tombstone Courthouse**	100,759	74,105	-26.5%
Coconino	**Riordan Mansion**	20,972	19,194	-8.5%
Coconino	**Slide Rock**	316,301	275,554	-12.9%
Gila	**Tonto Natural Bridge**	97,127	100,178	3.1%
Graham	**Roper Lake**	63,468	60,242	-5.1%
La Paz	**Alamo Lake**	62,102	70,969	14.3%

La Paz	**Buckskin Mountain /River Island**	94,474	93,999	-0.5%
Mohave	**Cattail Cove**	96,459	106,939	10.9%
Mohave	**Lake Havasu**	371,700	345,590	-7.0%
Navajo	**Fool Hollow Lake**	54,148	84,527	56.1%
Navajo	**Homolovi Ruins**	20,733	20,644	-0.4%
Pima	**Catalina**	132,213	154,806	17.1%
Pinal	**Boyce Thompson Arboretum**	84,876	87,238	2.8%
Pinal	**Lost Dutchman**	84,795	114,253	34.7%
Pinal	**McFarland**	4,514	4,273	-5.3%
Pinal	**Picacho Peak**	68,289	117,652	72.3%
Santa Cruz	**Patagonia Lake**	208,959	196,332	-6.0%
Santa Cruz	**Tubac Presidio**	24,090	18,770	-22.1%
Yavapai	**Dead Horse /Verde River Greenway**	74,503	103,089	38.4%
Yavapai	**Fort Verde**	31,181	21,450	-31.2%
Yavapai	**Jerome**	87,749	53,128	-39.5%
Yavapai	**Red Rock**	66,442	76,393	15.0%
Yuma	**Yuma Quartermaster Depot (Crossing)**	-	16,959	-
Yuma	**Yuma Territorial Prison**	84,606	69,698	-17.6%
Total Visitation		**2,300,955**	**2,513,401**	**9.2%**

The Arizona State Parks system has a significant economic impact on the communities and counties in which they are located. A state park's value is, of course, not measured by economic impact alone. Parks enhance community quality of life and preserve priceless historic, cultural, and recreational resources for residents and visitors from around the world. However, communities recognize the economic impact of State Parks as a tourism resource.

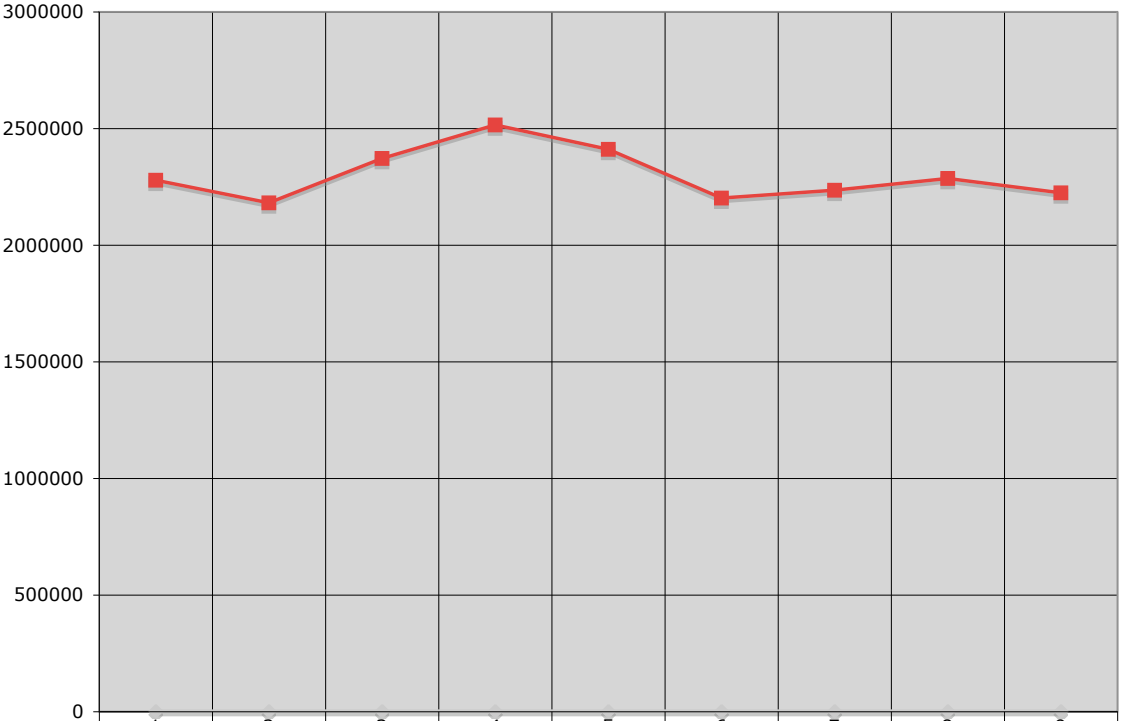
Table 20 shows the impact (between two different years) of 26 Arizona State Parks on the economies (by expenditure category) of the counties in which they are located. The economic impact of a state park is a function of visitor population and direct visitor spending, combined with multipliers reflecting the extent of re-circulation of visitors' money in the local economy.

Table 20. Total Visitor Expenditures in Arizona State Parks

Expenditure Categories	1995-96	2000-01*
Expenditures in park	-	$16,669,802
Entrance fees or permits	$5,097,889	$6,816,727
Shopping & gifts	$25,403,534	$21,283,405
Food & drink	$19,139,544	$30,667,049
Tourist services (museums, tours)	$3,968,144	$3,856,638
Gas and transportation services	$17,414,585	$21,075,702
Lodging (hotels, camping)	$27,165,509	$21,512,901
Other	$5,049,731	$4,480,810
Total	**$103,238,936**	**$126,363,033**

*Source: NAU, 2002. *Adjusted for inflation.*

Figure 6. Arizona State Parks Visitation Totals FY 1998 - FY 2006



	1	2	3	4	5	6	7	8	9
Year	1998	1999	2000	2001	2002	2003	2004	2005	2006
# of Visitors	2,277,886	2,180,136	2,371,293	2,515,651	2,410,383	2,201,281	2,235,917	2,286,324	2,224,410

Arizona State Parks conducts a *Customer Marketing Study*, a research project in conjunction with Arizona State University, to examine recreation and leisure trends among Arizona residents. The study provides information to determine recreation usage patterns, recreation motives, leisure constraints, preferences for services and facilities at State Parks, attitudes towards fees, and resident demographic characteristics. The ASP also conducts a *Survey of Arizona State Parks Visitors* providing the agency invaluable information needed for planning, management and marketing efforts on behalf of ASP. The study surveys State Park visitors on visitor expectations, customer satisfaction with existing service/facility quality, trip characteristics, experience preferences, perceived benefits, preferences for communication sources/information delivery, economic impacts, quality of facilities and services, demographics, willingness to pay for selected services, and preferences for services, facilities and activities. The Visitor Survey includes each state park and is conducted throughout an entire fiscal year.

ARIZONA'S RECREATION PROVIDERS

Of Arizona's 113,417 square miles, 42% or 47,635 square miles is federal public land. These lands are managed by various agencies most of whom are responsible for providing for both the outdoor recreation needs of the state's six million residents as well as for the protection and preservation of land for future generations.

National Park Service

Created by Congress on August 25, 1916, the National Park Service (NPS) 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 National Park System

of the United States comprises 390 areas covering more than 84.4 million acres. These areas are of such national significance as to justify special recognition and protection in accordance with various acts of Congress. In Arizona, the NPS manages twenty-two sites totaling 4.6 million acres including thirteen national monuments, one memorial, three national historic sites/parks, one national historic trail, two national recreation areas, three national parks, and four wilderness areas totaling 444,055 acres. The NPS areas include visitor centers and trails to historic, cultural, and natural and scenic sites which were visited by more than 18 million people in 2006.

Beyond managing the national park system, the NPS administers a broad range of programs that serve the conservation and recreation needs of the nation and the world. Although these programs operate outside the national parks, they form a vital part of the NPS mission. Examples include: National Natural Landmarks Program (eight sites in Arizona), National Historic Landmarks Program (thirty-eight in Arizona), National Register of Historic Places (572 entries in Arizona), National Wild and Scenic Rivers System (a forty mile stretch of the Verde River, managed by the Forest Service), National Trails System, Land and Water Conservation Fund Grants Program, and Rivers, Trails and Conservation Assistance Program.

(See Figure 7. Arizona Wilderness Areas & Other Federal Designated Areas, Appendix C, pg249)

Bureau of Land Management

The Bureau of Land Management (BLM) manages more than 12.2 million surface acres of public lands, along with another 17.5 million subsurface acres within Arizona. There are eight field offices throughout the state that provide on-the-ground management of dispersed outdoor recreation activities including camping, backpacking, hiking, biking, boating, fishing, caving, off-highway vehicle driving, picnicking, wildlife viewing, and cultural site touring on land that is mostly undeveloped. The BLM-managed lands offer trails, camping, off-road vehicle recreation, and access to caves, rivers, archaeological and historic sites. The BLM in Arizona hosts approximately 235 developed recreation sites, including twenty campgrounds, sixteen historic sites, sixteen archeological sites, four national backcountry byways, sixty-one trailheads, and two off-road vehicle areas. There are several concession resorts operating on public lands that complement the BLM's dispersed recreation settings by providing full-service campgrounds, trailer and recreational vehicle parks. The Arizona BLM manages five national monuments (2 million acres), three conservation areas (121,767 acres), forty-seven wilderness areas (1.4 million acres), and three trails. There are 14 million visitor days on public lands each year.

U.S. Forest Service

The Forest Service was established in 1905 and is an agency of the U.S. Department of Agriculture. The Forest Service manages public lands in national forests and grasslands, which encompass 193 million acres nationally. The products and services provided from these lands involve five primary resources: wood, water, forage, wildlife and recreation. All of these resources are managed under the Multiple Use Sustained Yield concept to provide the "greatest good to the greatest number in the long run." In Arizona, the Forest Service manages over 11.3 million acres of the state's most ecologically diverse lands ranging in elevation from 1,600 feet above sea level to the 12,637 foot high Humphrey's Peak. These lands include the majority of the state's lakes, rivers and streams. They provide opportunities for a wide range of recreational activities including hiking, backpacking, mountain biking, horseback riding, off-highway vehicle driving, camping, boating, canoeing, fishing, hunting, skiing, snow play, rock climbing,

canyoneering, caving and nature study. Arizona's six national forests include Apache-Sitgreaves, Coconino, Coronado, Kaibab, Prescott, and Tonto. Within these forests are more than 1.3 million acres of wilderness in 36 wilderness areas and one primitive area (Blue Range, 173,762 acres).

U.S. Fish and Wildlife Service

The National Wildlife Refuge System is a unique system of lands dedicated to preserving a rich quality of life for Americans by protecting their wildlife heritage. In the Southwest, national wildlife refuges (NWR) protect some of the most varied wildlife and spectacular landscapes found anywhere in the world. From subtropical shrub ecosystems to saguaro-studded deserts--all are filled with an unparalleled richness and abundance of life. The Fish and Wildlife Service manages eight NWRs in Arizona covering more than 1.7 million acres that are open for wildlife viewing. The FWS manages four wilderness areas totaling 1.3 million acres. NWRs provide opportunities for six wildlife-dependent recreational uses—hunting, fishing, wildlife observation and photography, and environmental education and interpretation—that, when compatible, are the priority general public uses of the Refuge System.

U.S. Army Corps of Engineers

The United States Army Corps of Engineers (USACE) mission is to provide quality, responsive engineering services to the nation including planning, designing, building and operating water resources and other civil works projects, and providing design and construction management support for Military, Defense and other federal agencies. The USACE cooperates with local and state governments on numerous flood control and ecosystem restoration projects in Arizona, many that include a range of recreation components such as boating, hiking trails, and wildlife viewing. Recent Arizona projects include Alamo Lake, Salt River— Va Shly'ay Akimel, Rio Salado, Tres Rios; Santa Cruz River, Rillito River, Indian Bend Wash, and Rio de Flag.

Bureau of Reclamation

Established in 1902, the Bureau of Reclamation (BOR) is best known for the dams, power plants and canals it constructed in the western United States. These water projects led to homesteading and promoted the economic development of the West. BOR has constructed more than 600 dams and reservoirs including Glen Canyon Dam, Hoover Dam, Davis Dam and Parker Dam on the Colorado River, providing water and hydroelectric power to the western states. The BOR's mission is to assist in meeting the increasing water demands of the West while protecting the environment and the public's investment in these structures. The resulting reservoirs provide recreational opportunities such as boating, fishing, camping, and bird watching. Most BOR dams created recreational water resources that are managed by local, state and federal entities.

The BOR's first project, authorized in 1903, was the Salt River Project, in the central portion of the state. This project created Roosevelt Dam and reservoir; it has since been expanded through the combined efforts of private and governmental agencies and now provides extensive recreation opportunities. Another project, the Central Arizona Project, which brings Colorado River water to cities such as Phoenix and Tucson, provides potential for long-distance trails if the liability and multiple jurisdiction issues can be resolved.

Indian Tribe and Nation Lands

Arizona's twenty-one recognized Indian tribes and nations account for a significant portion (27.5%) of land in Arizona. These sovereign entities have long provided visitors the opportunity

to learn about their unique and special cultures through outdoor events such as feast days, arts and crafts shows, and tours. While fishing and camping have been popular outdoor activities at tribal managed lakes, the tribes are increasingly capitalizing on their ability to provide other outdoor recreation opportunities such as skiing, rodeos, guided hunts, etc. Most recreational uses of tribal lands require a permit.

Arizona State Parks

Established in 1957, the Arizona State Parks Board manages thirty parks and natural areas distributed throughout the state, totaling over 68,000 acres not including water surface area in seven reservoirs. State parks play an important role in providing for Arizona's residents and visitors developed recreational facilities and a variety of activities including: picnicking, camping, fishing, boating, canoeing, swimming, hiking, horseback riding, mountain biking, visitor centers, museums, historic and prehistoric sites, botanical garden, nature study, environmental education, and wildlife viewing. Many state parks also offer a developed gateway into adjacent federal lands, including backcountry and wilderness areas. The State Historic Preservation Office, Grants Section and State Trails and Off-Highway Vehicle Programs are also located within the agency.

Arizona Game and Fish Department

The Arizona Game and Fish Department (AGFD) is responsible for the state's fish and wildlife resources, regulating hunting, fishing and other "taking of wildlife" activities. The AGFD's mission is to conserve, enhance, and restore Arizona's diverse wildlife resources and habitats through aggressive protection and management programs, and to provide wildlife resources and safe watercraft and off-highway vehicle recreation for the enjoyment, appreciation, and use by present and future generations. The AGFD sells hunting and fishing licenses and special permits, administers watercraft registrations and enforces rules and regulations pertaining to watercraft and off-highway vehicle use, and the protection of wildlife and fish resources. The AGFD provides a number of public programs and events concerning hunting, fishing and other wildlife-related recreational activities. It manages 33 wildlife areas and fish hatcheries that provide wildlife viewing, fishing and hunting opportunities, some include camping, picnic areas, and trails.

Arizona State Land Department

The Arizona State Land Department (ASLD) was established in 1915 to manage the lands in Arizona set aside by Congress for schools and educational purposes and for other beneficiaries. The ASLD currently manages 9 million acres or 12.8% of the state. The original State Land Commission decided that Arizona should not sell its Trust land outright, as other states had done. Instead, it should put the lands to their "highest and best use." The decision to lease or sell the land should be based upon the potential use for each parcel. Its mission has been to manage the Land Trust and to maximize its revenues for the beneficiaries. All uses of the land must benefit the Trust, a fact that distinguishes it from the way public land, such as parks or national forests, may be used. While public use is not prohibited, it is regulated to ensure protection of the land and reimbursement to the beneficiaries for its use. The ASLD sells a recreational permit to those interested in recreating on Trust land. Hunting, camping, off-highway vehicle use, hiking, horseback riding, and other recreational activities are allowed by permit on publicly accessible and non-commercial land, however, the Department does not manage or provide facilities for outdoor recreation.

Arizona Department of Transportation

The Arizona Department of Transportation (ADOT) makes a significant contribution to outdoor recreation through the promotion of alternative non-motorized transportation and multi-use trails. ADOT administers the Transportation Enhancement funds for municipalities seeking funding for projects such as bike lanes, equestrian trails and pedestrian trails and pathways along roads and streets. The ADOT also provides rest areas throughout the state and manages the Scenic Byways and Back Country Roads which are popular not only with motorists, but with cyclists.

Arizona Office of Tourism

Established in 1975, the Arizona Office of Tourism (AOT) is the State's primary tourism promotional agency. The AOT enhances the state economy and the quality of life for Arizonans by expanding travel activity and increasing related revenues through tourism promotion and development. The agency advertises the State's unique offerings in local, national and international venues, conducts research, partners with public/private sectors and publishes brochures highlighting points of interest and places to visit, such as the ACERT map of recreational facilities and historical sites.

Local Government (Counties/Municipalities/Public Schools)

While many Arizonans travel away from home to enjoy the vast opportunities of Arizona's public lands on the weekends, it is local governments which provide most Arizonans with daily accessible opportunities in the form of parks, playgrounds, sports fields, ball courts, swimming pools, golf courses, picnic areas and trails. Recreation programs, trips and special events are also offered by local parks and recreation departments. Most of these areas and programs can be found by accessing local community websites or viewing local maps. Many of the larger urban cities and counties also offer nature preserves and natural areas with trails, nature study opportunities and support facilities. Some towns are developing wetland areas to reclaim wastewater and create a green oasis in their community, with trails and wildlife-viewing areas.

Private Sector

Nonprofit organizations and private businesses provide a wide diversity of outdoor recreational opportunities throughout the state. Local land trusts acquire and manage nature preserves and open space within their communities. Local historical societies offer museums and restored historic sites open to the public. National organizations such as the Nature Conservancy and Archaeological Conservancy acquire and manage more remote natural and cultural areas.

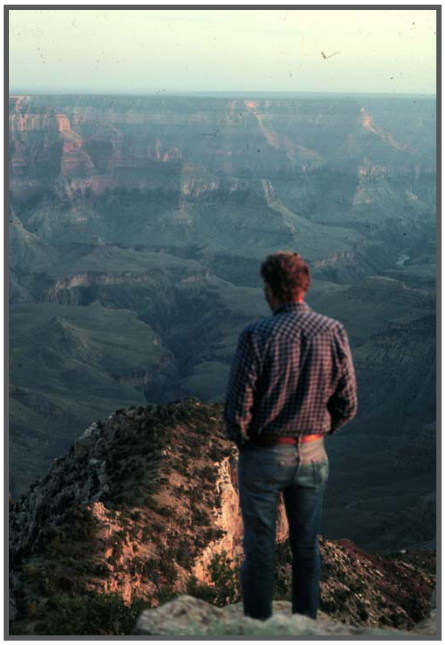
Partnership organizations such as the Elderhostel program offer a wide range of educational opportunities for older adults seeking an unusual vacation experience. This not-for-profit program offers more than 8,000 learning adventures in all 50 states and more than 90 countries abroad. Elderhostel offers in-depth and behind-the-scenes learning experiences for almost every interest and ability, including history, culture, nature, music, outdoor activities such as walking and biking, individual skills, crafts, and study cruises.

Private businesses such as dude ranches, tour guides, adventure trips, outfitters, and rental companies offer a wide range of services to the recreating public. Eco-tourism has spawned numerous new venues for outdoor recreation and vacation opportunities worldwide. Golf courses, sports fields and arenas, theme parks and water parks are popular spots for recreation. Many of these commercial recreation areas are associated with local hotels, spas and resorts.

OUTDOOR RECREATION TRENDS

By Gyan Nyaupane Ph.D. and M. Troy Waskey, Arizona State University
Additional material provided by Dawn Collins and Tanna Thornburg, Arizona State Parks

Outdoor recreation in the United States is interwoven into the historical fabric of the nation's progress. During the late 18th and early 19th century, the romanticism and conservation movements sparked public awareness of protecting natural resources. Since the establishment of the first federal park in the United States, Yellowstone in 1872, the nature of outdoor recreation embarked on a dynamic journey that is in a state of continual change today. As the nation continues to press westward in its development and urbanization, recreation trends are changing as well.



Seeking solitude at Grand Canyon National Park.

The purpose of this section is to discuss outdoor recreation trends in the United States. National recreation trends can be seen from initial survey data produced in the 1960s to recent survey conducted with the public in Arizona. This Trends section first examines national recreation participation trends and some important factors, namely technology and demographics, and then looks more closely at regional and state level recreation trends with its implications for Arizona.

National Trends

Outdoor recreation in the United States is largely a result of a wealth of natural resources, changing forces among the working and elite classes of Americans during the late 19th and early 20th centuries, and changing political views of land use policy. Early legislative measures such as the establishment of the forest reserves in 1891, the Forest Service in 1905, the Antiquities Act of 1906, and the National Park Service in 1916 paved the way for government controlled recreation management (Driver *et al.*, 1999). As the nation enjoyed new means of travel through railways and automobiles, greater awareness of the nation's distinct natural resources was achieved, albeit, mainly by the upper class society. Once World War II had ended, and the great depression era more and more in the nation's past, recreation became a major component of American life (Driver et al., 1999).

A more affluent and mobile society began to insert outdoor recreation and the grand cross country vacation into the American Dream so greatly desired during the late 1940s and 1950s. This sharp increase in demand on the nation's national parks and forests forced land managers to effectively develop and plan park and recreation facilities and programs for new generations of users. Major issues consuming management attention during this period generally revolved around overcrowding, competing uses, and resource degradation (Clark *et al.*, 1971; Dolan *et al.*, 1974; Frissell & Duncan, 1965; Magill & Nord, 1963; Schreyer & Roggenbuck, 1978; Wall & Wright, 1977).

General Participation Trends

In order to assess national recreation trends in the United States, a standardized and frequently administered survey instrument was needed to understand the short and long term recreation participation rates and demand. The first national level recreation trends survey was administered by the Outdoor Recreation Review Commission (ORRC) in 1960. Since then seven additional national surveys have been conducted in 1965, 1970, 1972, 1977, 1983, 1995, and 2000/01 (see Table 21). Although the surveys administered over this 45-year period address recreation use and demands, there inevitably arise issues with comparability (Cordell *et al.*, 2005b). In fact, Cordell and associates (2005b) purport that the surveys taking place during the 1970s are not often referenced due to a variety of problems, thus the trends discussed in this paper will highlight results from the original National Recreation Surveys (NRS) (1960, 1965 and 1983) as well as the more recent and renamed National Survey on Recreation and the Environment (NSRE) surveys (1995 and 2000/01). At the present time of this paper (March, 2007), the ninth NSRE survey is undergoing planning and implementation.

Table 21. National Recreation Surveys, USA, 1960-2001. (Cordell et al., 2005b)

Survey	Date	Managing agency	Sample size	Age range	Ref. period	Reference
National Recreation Survey (NRS)	1960	ORRC	6000	12+	Year	ORRC (1962)
NRS	1965	BOR	7190	12+	Summer	Bureau of the Census (1965)
NRS	1970	BOR	16,770	12+	Year	Bureau of the Census (1970)
NRS	1972	HCRS	3770	12+	Summer	Audits and Surveys (1972)
NRS	1977	HCRS	4030	12+	Year	U.S. Dept of the Interior HCRS (1979)
NRS	1982/83	NPS	5760	12+	Year	U.S. Dept of the Interior, National Park Service (1986)
National Survey on Recreation and the Environment (NSRE)	1994/95	USFS/NOAA	17,000	16+	Year	Cordell *et al.* (1996, 1999)
NSRE	2000/01	USFS/NOAA	47,000	16+	Year	Cordell *et al.* (2004)

The NSRE surveys represent a more recent approach to researching recreation uses and trends, in that the relationship between recreation and the natural environment is the point of focus. This coupling affords survey questions focusing on knowledge of land issues, environmental attitudes, preferences for public land management, and the values of wilderness. The NSRE is administered by way of in-home telephone surveys of people age 16 and over, covering a wide range of ethnic groups in both urban and rural areas. Thorough analyses and reports of the two most recent surveys are summarized by Cordell and associates (Cordell *et al.*, 1999; Cordell *et al.*, 2004). A subsequent analysis of the trends with off-highway vehicle recreation in the United States is also presented by Cordell and associates (Cordell *et al.*, 2005a).

Highlights of recreation trends in the United States are presented below.

The purpose of the NSRE is threefold: to ascertain current trends and patterns in recreation participation in the United States as a whole, to examine participation by geographic region within the United States, and to describe respondents' recreation use and values relative to public lands, and their attitudes about natural resource policy issues, lifestyles, and demographic characteristics (Cordell et al., 2005b). The most recent NSRE contains twelve modules or sets of questions regarding recreation use as summarized in Table 22. Recreation participation questions were based on 74 recreation activities consolidated in Table 23.

Table 22. Twelve Modules of Questions in 2000/01 NSRE

1	Participation in Recreational Activities
2	Frequency of Participation in Days
3	Favorite Activities and Constraints
4	Nature-based Trip Taking and Tourism
5	Opinions about Recreation Area Management
6	Environmental Attitudes and Values
7	Values and Objectives for Management of Public Lands
8	Wilderness Values, Knowledge, Visitation, and Management
9	Knowledge, Objectives, Satisfaction with Congressionally Designated Areas
10	Ownership, Uses, Motivations and Plans for Private Land
11	Wildland-Urban Interface Issues and Attitudes
12	Lifestyles, Demographics and Disabilities

Table 23. Activities[a] examined in the U.S. National Survey on Recreation and the Environment (NSRE), 2000/01 (Cordell et al., 2005b)

Running/jogging	Caving
Golf	Bird watching
Tennis outdoors	Wildlife viewing
Baseball	Fish viewing
Volleyball	Viewing natural vegetation, flowers
Basketball	Nature study/photography
Softball	Small game hunting
American football	Big game hunting
Soccer	Migratory bird hunting
Handball/racquetball/squash outdoors	Gathering mushrooms, berries, firewood/products
Yard games/horseshoes, croquet	Downhill skiing
Bicycling	Snowboarding
Mountain biking	Cross-country skiing
Horse riding	Ice skating
Equestrian activities	Snowmobiling
Picnicking	Sledding
Family gathering	Snowshoeing

Inline skating or rollerblading	Off-road vehicle use
Visiting a historic site, building, monuments	Sightseeing
Nature museums, nature trails, visitor centers, zoos	Visit beach/waterside
Outdoor concerts/plays	Nature tours in an ocean bay or inlet
Outdoor sports events	Driving for pleasure on country roads
Prehistoric/archaeological sites	Riding motorcycles for pleasure on highways
Visiting a farm or agricultural setting	Fishing: anadromous
Walking	Cold and warm water fishing
Visit a wilderness or other roadless area	Fishing: freshwater
Home gardening or landscaping	Fishing: saltwater
Day hiking	Ice fishing
Orienteering	Sailing
Backpacking	Rowing
Camping/primitive and developed	Rafting/tubing/other floating
Mountain climbing	Motor boating
Rock climbing	Water-skiing
Swimming/non-pool	Canoeing, kayaking
Swimming in an outdoor pool	Surfing
Personal water craft such as jet skis	Sailboarding/windsurfing
Scuba diving	Snorkeling
a Activities are shown in the order asked during the phone interview. Activity ordering is kept consistent from survey to survey.	

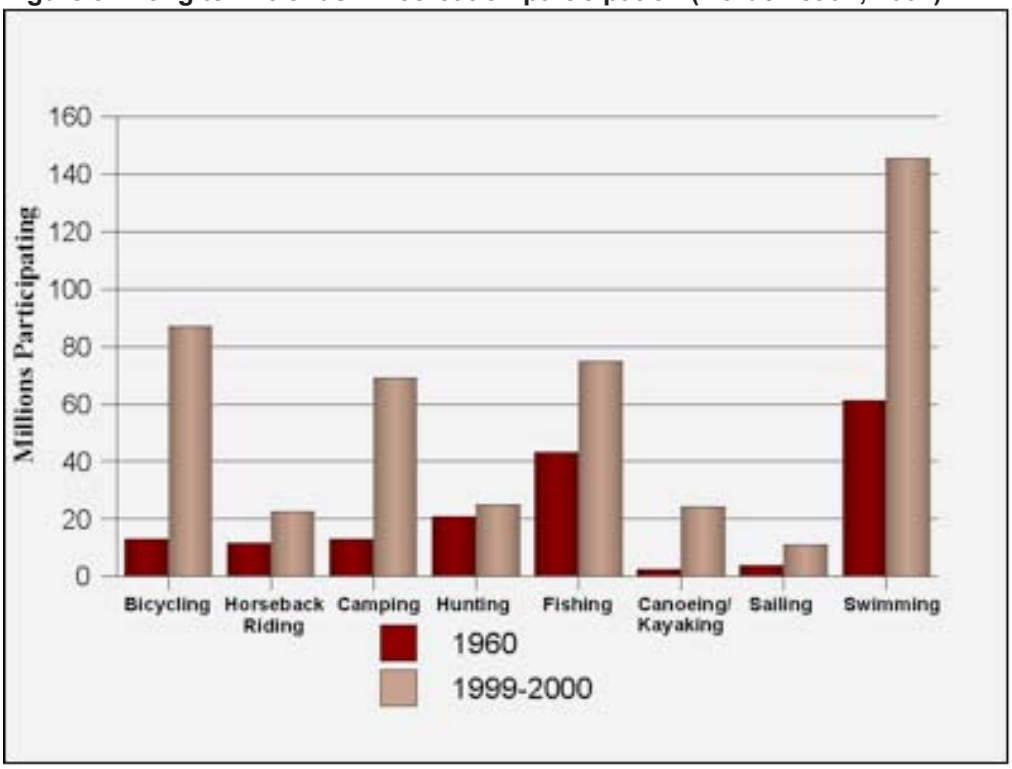
In general, the most recent NSRE shows that demand for outdoor recreation and places to recreate is increasing as well as diversifying.

The fastest growing activities since 1960 are bicycling, camping, canoeing/kayaking, and swimming (Cordell et al., 2004). Various technological and lifestyle changes have affected the growth of these activities. Bicycles now have full suspension technology, recreation vehicles and trailers are more affordable with greater infrastructure at campsites (e.g., electric hookups, sewage dump stations, etc.), and Americans are placing higher priorities on living near water resources, including private pools (Cordell et al., 2004).

Conventional activities such as horseback riding, hunting, and fishing have also increased in participation; these participation rates, however, do not compare to the above mentioned activities growing at much faster rates (see Figure 9).

While these land and water based activities have increased in long term participation rates, winter sports have also received dramatic increases in participation since 1960. Overall, skiing has increased from an estimated 2% of the population in 1960 to 11% of the population in 2000-2001, representing 2.6 million increasing to 33.3 million Americans, respectively (Cordell et al., 2004).

Figure 9. Long term trends in recreation participation (Cordell et al., 2004)



Recent trends in recreation participation reveal an even more interesting story than long term recreation participation trends. Bird watching is the most actively growing recreation activity since 1980s, representing more than 72 million participants, growing by more than 231% (see Table 24). Day hiking and backpacking have also expanded in participation by 193% and 182%, respectively. Snowmobiling and other forms of motorized recreation also increased at participation rates over 100% in this 20 year period.

More active forms of recreation dominate the 50-100% growth segment, including attending outdoor concerts, plays, and other events; walking for pleasure; camping at developed sites; canoeing/kayaking; running/jogging; downhill skiing; and swimming in natural waters.

More passive forms of recreation are represented in the 25-50% segment of participation increase, including ice skating, visiting nature centers/museums, picnicking, horseback riding, sightseeing, and driving for pleasure (Cordell et al., 2004).

New types of recreation activities are emerging such as "canyoneering," "free running," and "parkour." Canyoneering is working your way through rugged canyons usually with rivers and waterfalls, and involves challenging and technical aspects of hiking, mountain and rock climbing, jumping, swimming and rafting. Free running and parkour are urban activities and have similar origins but differ in intention. Parkour is traversing an urban landscape efficiently using the city's architecture like an obstacle course. The goal is to connect several moves in a fluid, unbroken string while running as if your life depended on it; aesthetics is as important as agility. Railings, ramps, fences and rooftops are fair game as you run, jump, roll, and balance. Free running emphasizes self-develoment and freedom of movement, and includes street stunts and acrobatic vaults, grabs and flips over obstacles as you move forward.

Table 24. Trends in participation in selected outdoor activities, USA, 1982/83 to 2000/01

	Persons aged 16+	
Outdoor Recreation Activity	**Percent growth, 1982/83 to 2000/01**	**Millions of participants in 2000/01**
Bird watching	231%	73
Hiking	194%	76
Backpacking	182%	25
Snowmobiling	125%	14
Primitive camping	111%	*38*
Off-road driving	170%	42
Walking	91%	191
Developed camping	86%	62
Downhill skiing	73%	21
Swimming/river, lake or ocean	66%	98
Motor boating	62%	57
Bicycling	53%	93
Cross-country skiing	50%	9
Sightseeing	37%	118
Picnicking	37%	124
Horse riding	37%	23
Driving for pleasure	30%	117
Outdoor team sports	25%	56
Fishing	24%	80
Hunting	21%	27
Water skiing	19%	20
Sailing	10%	12

Those who were most active in recreation were also most concerned about the environment. Those with higher levels of education reported engaging in outdoor recreation activities more frequently. White Americans participated in more outdoor recreation activities, on average, than did Black or Hispanic Americans. Families with children participate in outdoor recreation activities more often annually than the national average (RoperASW, 2003).

There are many factors that affect recreation trends as presented above. These factors generally revolve around social and technological factors. Of the social factors, rapidly growing population rates in all parts of the country, gender dynamics, household size, ethnicity and diversity, and an aging American population all affect recreation participation rates, styles, and impacts. Technology also impacts recreation as new activities and better equipment are created through technological advances. Additionally, greater travel ability has also affected recreation trends. These factors are presented below.

Socio-Demographic Factors

A major driving force affecting changing trends in outdoor recreation in the United States is population size and composition (Schelhas, 2002; Struglia & Winter, 2002; Winter *et al.*, 2004).

The current United States population is estimated at 301,208,298 (U.S. Census Bureau, 2007e). In the United States, the population is both aging and diversifying. In general, birthrates are falling, parents are delaying having children and divorce rates are high but stable (Mortimer & Larson, 2002). In particular, the Baby Boomers (born between 1946 and 1964) are aging to elderly. The U.S. Census Bureau's (2007) population projection shows that the population between 65 and 84 years, and over 84 years will increase by 114% and 389%, respectively, as opposed to overall 49% population increment by 2050. The population projection further reports that persons age 65 and over will increase from 12.4% in 2000 to 20.7% in 2050.

Similarly, the population project report shows that ethnicity and race in the United States will shift. Although Caucasian will remain the most common race, it will drop down from 81% in 2000 of the U.S. population to 72% in 2050. Most importantly, the percentage of Hispanic and Asian populations will double from 12.6% in 2000 to 24.4% in 2050, and 3.8% in 2000 to 8% in 2050, respectively. The percentage of African Americans will be relatively static.

Table 25. Projected Percent of Population of the United States, by Age: 2000 to 2050

Age/ Year	2000	2010	2020	2030	2040	2050
0-4	6.8	6.9	6.8	6.7	6.7	6.7
5-19	21.7	20	19.6	19.5	19.2	19.3
20-44	36.9	33.8	32.3	31.6	31	31.2
45-64	22.1	26.2	24.9	22.6	22.6	22.2
65-84	10.9	11	14.1	17	16.5	15.7
85+	1.5	2	2.2	2.6	3.9	5

Source: U.S. Census Bureau, 2004, <http://www.census.gov/ipc/www/usinterimproj/>

Table 26. Projected Percent of Population of the United States, by Race/Ethnicity: 2000 to 2050

Race and Ethnicity/ Year	2000	2010	2020	2030	2040	2050
White alone	81	79.3	77.6	75.8	73.9	72.1
African American alone	12.7	13.1	13.5	13.9	14.3	14.6
Asian alone	3.8	4.6	5.4	6.2	7.1	8
All other races 1/	2.5	3	3.5	4.1	4.7	5.3
Hispanic (of any race)	12.6	15.5	17.8	20.1	22.3	24.4
White alone, not Hispanic	69.4	65.1	61.3	57.5	53.7	50.1

Footnotes: 1/ Includes American Indian and Alaska Native alone, Native Hawaiian and Other Pacific Islander alone, and Two or More Races
Source: U.S. Census Bureau, 2004, "U.S. Interim Projections by Age, Sex, Race, and Hispanic Origin," http://www.census.gov/ipc/www/usinterimproj/

These population factors have implications for current and future recreation trends. For example, a recent article highlights some unique recreation trends taking place among aging Americans such as venues which host physical, social, and cultural activities in the same setting (NRPA, 2005).

Age

U.S. residents are living longer, healthier lives in the year 2000 than ever before (U.S. Census Bureau). As the Baby Boomers (a cohort of 76 million people born between 1946 and 1964) approach retirement, Arizona is expected to see an increase in the population of residents age 65 and over. Between 2000 and 2030, it is projected that Arizona's population of residents 65 and older will increase by 255%.

The Baby Boomers typically have higher levels of income than other segments of society, thus affording them the opportunity to seek out unique and trendy forms of recreation suited for their interests. Chick and Hood (1996) state that recreation preferences generally change with age, where new forms of relaxing and educational activities are preferred by older generations compared to more physically demanding activities are favored by young recreationists. Between the 1982-83 NSRE and the most recent survey (2000-2001), participation among older Americans increased in nearly every participation activity (Cordell et al., 2004). This is especially true for age groups 45-59 and 60 and older where activities such as walking, visiting nature centers and museums, sightseeing, day hiking, and driving off-road.

There have been significant changes in youth leisure activities. According to Reed (2005), the three most significant influences on the shift from free play to organized activities over the last 50 years for children's after-school time has been: 1) a decrease in safe places to play, 2) the expansion of technology, and 3) for teenagers, paid work as an attractive alternative to leisure activity. In addition, land development has resulted in open space being more segmented and oftentimes divided by roads, making these less safe play environments.

As a result of the shift from creative, exploratory play, children's time outside of school is increasingly becoming filled with structured activities. Some researchers are concerned about what this shift will mean for children's cognitive, social and psychological development (Gauvain & Perez, 2005; Larson, 2005, Jacobs, 2005).

Employment

The ratio of men to women in the labor force changed from 70/30 in 1950 to approximately 50/50 currently (Brownson, et al, 2005). In 1970, male breadwinner families represented 51.4% of married couples. That percentage decreased to 26% by the year 2000, with dual-earner couples making up 59.6% of married couples (Jacobs & Gerson, 2004). According to Jacobs and Gerson (2004), although the number of hours worked for individual women and men looks remarkably similar over the last 30 years, individuals and families are experiencing increasing time pressures which can be explained by looking at a variety of societal and contextual factors.

Finally, due to the increasing number of jobs in the service industry and the increasing prevalence of a 24 hour a day, 7 day a week economy, more people are working nonstandard shifts (e.g., evenings, nights, rotating shifts and weekends). Various studies have found correlations between spouses working non-standard shifts, and decreased marital satisfaction, and less family leisure time (Presser, 2004). Also, technological advancements in communications equipment may be blurring the lines between work time and leisure time, as individuals can now check their work e-mails from home, take a cell phone with them on leisure trips, etc.


A popular outdoor volunteer activity is trail building.

Twenty-one percent of Americans expressed interest in volunteering on public lands. Of these, 24% reported volunteering on public lands in the last year. Interest in volunteering on public lands was highest among adults ages 18-29, divorced adults, active outdoor recreationists, and canoers/kayakers (57%), wildlife viewers (46%) and RVers (41%) (RoperASW, 2004).

Arizona was one of only eight states in the nation in which the number of volunteers increased each year since 2002. The number of volunteers increased from 921,400 in 2002 to more than 1.1 million in 2005. However, Arizona's volunteer rate was below the rate of the West, and the nation, generally (Corporation for National and Community Service, 2006, pg 42). Only 1.3% of volunteers in Arizona volunteered in environmental or animal care organizations or causes.

Ethnic Trends

Not only is the demographic makeup of the United States population diversifying, the composition of recreation participants is also undergoing changes. In a comprehensive review of recreation trends among ethnic minorities, Gramann (1996) provides early insight into demographic trends affecting recreation participation. Summarizing early research findings, Gramann (1996) sites that African American minorities participated in outdoor recreation less than whites, even when socio-economic factors were controlled. This early summary suggested a difference in subcultural preference among African American recreationists.

African American: Underparticipation and underutilization based on race and ethnicity dominate early research studies regarding recreation trends among minorities (Chavez, 1992; Floyd & Gramann, 1993; Gramann, 1996; Hutchison, 1987; Johnson & Bowker, 1999). Studies indicate that white Americans generally participate in outdoor recreation activities more than black Americans (Gramann, 1996). The recent NSRE survey data indicate that whites generally contribute to the overall recreation trends in the United States, however, blacks did contribute to overall trends for attending outdoor concerts and dramas, developed and primitive camping, and hunting (Cordell et al., 2004). This trend of significant black participation in hunting confirms early research presented by Gramann (1996) where he cites that participation rates of hunting and fishing among African Americans in the United States are at least equal and have been shown to be higher in some cases among African Americans. One possible explanation for this exception is that some low-income minorities participate in hunting and fishing to provide sustenance in addition to the recreation experience gained.

Hispanic American: As mentioned earlier, one of the fastest growing segments of the United States is the Hispanic population. Despite this rapid growth, few research studies exist to date on the relationship of this growing population segment to recreation trends in the United States (Chavez, 2000), although many studies have suggested that recreation managers begin recognizing Hispanic recreationists in their planning and management efforts (Chavez, 1992; Clawson, 1985; Gramann, 1996). One recent study cites that Hispanic Americans are seeing increases in their overall leisure time at roughly the same rate as whites, however, they still

have nearly 45 minutes less of leisure time per day than whites and about 35 minutes less than African Americans (Adams *et al.*, 2006). The amount of leisure time and more specifically, the growth rate of leisure time is important when considering outdoor recreation activity participation (Adams et al., 2006; Shaw, 1994).

The popularity of mountain biking has increased steadily since the 1980s. [Dead Horse Ranch State Park]

In a comparative study, researchers asked visitors to a national forest in California if they had heard of, participated in, and/or would try various recreation activities ranging from traditional activities such as horseback riding, nontraditional activities such as mountain biking, conservation travel such as green vacationing, and adventure travel such as bungee jumping (Chavez, 2000).

Overall trends were similar between activities, however, percentages of Hispanic participants identifying with activities was less than whites. Much work has been completed in terms of overall cultural differences between Hispanics and whites (Adams et al., 2006; Dunn *et al.*, 2002), however, the differences between Hispanics and whites in relation to future recreation trends need further exploration (Chavez, 2000; Dunn et al., 2002; Moore & Driver, 2005) to expand upon the current knowledge base.

A study by the Outdoor Industry Foundation (2006) suggests the following strategies would be effective in targeting outdoor recreation opportunities to the Hispanic population of Arizona; a focus on family, community and personalization of service. A focus on family and community might include providing facilities that accommodate larger family groups, or planning group activities appropriate for multigenerational groups. Personalization of services may include providing materials in Spanish, employing bilingual employees, and connecting with community leaders in primarily Hispanic communities.

Asian American: The Asian American segment of the U.S. population is experiencing tremendous growth as well and is even more sparsely researched in terms of recreation participation than the Hispanic population (Winter et al., 2004). Winter and colleagues (2004) conducted a survey in the San Francisco Bay Area to determine recreation participation and motivation trends among various types of Asian Americans. Study results indicate that recreation participation among 34 activities was dependent on assimilation conditions for Asian Americans. For example, (Winter et al., 2004) found that education, income, gender, ethnic group, and linguistic acculturation affect participation rates of Asian Americans, resulting in higher income, Chinese/English speaking males experiencing higher recreation participation rates.

Major findings from this research suggest that Asian Americans cannot be treated as a homogenous group and recreation participation trends and motivations vary depending on the above mentioned criterion (Winter et al., 2004). While other research has addressed Asian Americans in terms of outdoor recreation participation (Gobster & Delgado, 1993; Tierney *et al.*, 1998), Winter and others' (2004) study stands alone as a singularly focused study of Asian Americans' recreation trends.

Other Ethnic Considerations

As the number of immigrants increase across the country, cultural clashes are also increasing, even in park settings. Differences in outdoor cultural celebrations and practices, high rates of attendance in certain sports such as soccer and cricket, and ethnic food preferences, all raise issues for parks departments such as the need for extra staff, porta johns, parking, and security for some events, the permit process, language barriers, new vendor concessions (Gowen, 2007).

Other Demographics

Gender and changing household compositions are also relevant when considering recreation trends. Changing definitions of families are challenging assumptions made by the travel industry and one-size fits all family package deals (e.g., trips with children and grandparents increased from 13% in 1999 to 21% in 2000; single-parents and gay parents are increasingly traveling with their children; multigenerational vacations are more common, especially among Hispanics) (American Demographics, 2001).

Recent trends evident from the NSRE surveys (1994-1995 and 2000-2001) indicate that men and women generally prefer the same types of recreation activities, albeit in different orders. In the most recent NSRE survey, bicycling entered into the top ten recreation activities for males for the first time (Cordell et al., 2004). Other recreation activities gaining ranking higher in the most recent survey include visiting nature centers, attending sports events, and picnicking. Activities gaining in rank for women include picnicking, attending sports events and viewing wildlife. Another important factor dictating recreation participation is household size.

Technology Factors

Technological innovations affect many aspects of modern lifestyles. New types and styles of outdoor recreation activities and participation continue to emerge in the outdoor recreation realm (Moore & Driver, 2005). Mountain biking for example is an increasingly popular land based recreation activity that did not exist prior to the 1970s (Moore & Driver, 2005). White and associates (2006) cite that general biking is the second most popular land based recreation activity with over 20% of users riding on backcountry trails, according to findings from the recent National Survey on Recreation and the Environment (USDA Forest Service, 2003).

Recreation activities such as mountain biking, motorized watercraft, off-highway vehicles (OHVs), snowmobiling, snowboarding, and geocaching are some recent technologically driven activities surfacing in natural resource settings. Moore and Driver (2005) note that countless lightweight backpacking materials make long treks into the wilderness more accessible to a wider variety of trail users. Not only does technology create greater opportunities, but improves existing recreation experiences through making activities safer than before (Attarian, 2002).

Off-highway vehicle recreation (OHV) represents a form of recreation that has grown substantially in terms of participation and technological advancement. Earlier NSREs referred to “off-road” driving, whereas now, there are many forms of land-based motorized recreation that the term off-highway vehicle recreation is now more representative of the many forms of recreation activities taking place off of the pavement. Participation in OHV driving grew 32% between the 1994-1995 NSRE and the 1999-2000 NSREs (Cordell et al., 2005a). This growth alone, illustrates the relevance of considering technology’s effect on recreation activities.

Advances in technology have increased the number of sedentary leisure activities individuals engage in, mostly in their own home, but increasingly out on the road as well (e.g., portable DVD players, Wifi internet access, etc.) (Cordell, 2004; Haworth & Veal, 2004; Larson, 2005; RoperASW, 2003). This is especially true for 18-29 year olds, who are participating in less outdoor recreation. Indeed, Mortimer and Larson (2002) report that the most common forms of e-recreation are chat and games.

Technology and Management

With technological advances and emerging recreation activities, come the questions of how to manage these new recreation activities and create protocols for new management standards. Again, using mountain biking as an example, questions surface over undesirable social and ecological impacts to recreation settings such as user conflict, crowding and resource degradation (Moore & Driver, 2005; White et al., 2006). OHV use is another activity of primary concern for managers due to the ability for these vehicles to cover large amounts of territory over a variety of terrain (Cordell et al., 2005a).

Shifting work schedules due to telecommuting and flexible work hours present new opportunities for the American working class to recreate more often. Increasing understandings of the links between physical exercise and health benefits of recreation also affects participation rates (Bedimo-Rung *et al.*, 2005; Henderson & Bialeschki, 2005). Many other philosophical questions remain about the social acceptability of technology in recreation settings, particularly wilderness settings (Attarian, 2002; Freimund & Borrie, 1997). As the technological realm continues to evolve, the effects of a technologically advanced society on recreation issues have yet to be fully understood.

Regional Trends

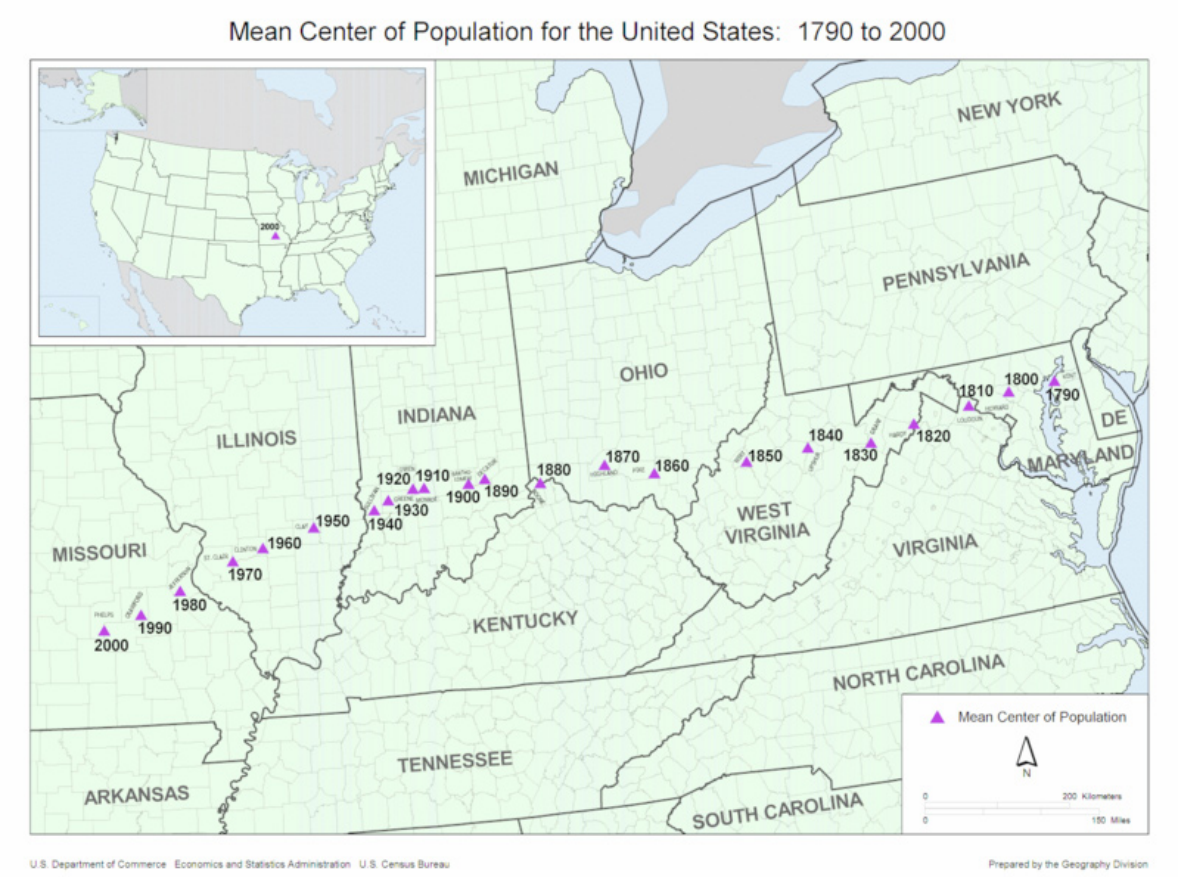
Not only is the United States' population diversifying, but it is also urbanizing and suburbanizing (Moore & Driver, 2005) and shifting away from the Northeast and Midwest to the sunbelt states. More than 80% of Americans live in a metropolitan region. Americans are also moving west. Evidence of this westward shift can be seen in a graphical representation of the mean center of population in the U.S. (Figure 10). While periodic ebbs and flows are evident from this image, a pronounced and consistent increase in movement westward can be seen from 1970 through 2000. In a study of hunting trends, Li and others (2003) note that according to 2000 census data, the population of Pennsylvania grew by only 1% while Colorado's population grew 23%.

Recent NSRE data also reveal that in terms of direction and magnitude there is an overall generality to recreation trends in the United States, however, various activities differ according to geographical region within the United States (Cordell et al., 2004). For example, the southern states contributed to overall recreation participation trends for visiting nature centers and museums (44% to 53%), picnicking (40% to 49.5%), sightseeing (41% to 50.6%), driving for pleasure (43% to 50.1%), and off-road driving (9% to 18%).

Recreationists in the West experienced significant increases in participation percentages in bicycling (31% to 42.8%), day hiking (23% to 45.8%), and backpacking (9% to16%) between the 1982-83 NSRE and 2000-2001 NSRE. As for the Northeast, recreation participation

contributions during this same 20 year period were strong in birding (12% to 34.5%), attending outdoor concerts (28% to 45.7%), and motorboating (15% to 22.6%). This shift from the Northeast and Midwest to the south is most common among older Americans (Li et al., 2003) and is also driven by seasonal migration of older Americans, known as "snowbirds" who maintain a house in both northern and southern states (Coates *et al.*, 2002). Both seasonal and permanent movements have implications for recreation participation trends (Coates et al., 2002; Li et al., 2003).

Figure 10. Mean Center of Population in the United States



Ten Truths and Trends in the New American West (taken from Sonoran Institute, 2006)
The West is changing rapidly. Our population is growing and becoming more diverse. Our economy is booming, though a number of traditional industries are not faring well and many places are left out. With more people and economic activities, many of our landscapes are under more pressure than ever. Whether you have lived in the West for a long time or a short time, you may have wondered: What happened to the West we once knew? What kind of West are we creating?

In recent decades, the West has been significantly affected by the global economy and overseas markets, aging of our population, and growing popularity of our unique public lands and natural amenities. How we support our families has changed considerably in the last generation alone. And yet our perceptions have often not been so quick to evolve. As with the persistent myth of the individualist cowboy, we cling to notions that are out of step with today's realities.

This report highlights ten important – often misread – truths and economic trends that every Westerner should know. These truths and trends can provide some insight into what has become of the West we once knew. More importantly they can help guide us toward "a West both prosperous and environmentally healthy, with a civilization to match its scenery," as Western writer Wallace Stegner envisioned.

1. The West is more than big cities and remote rural landscapes.
The vast majority of the West's people live in urban areas. Some of its cities are among the nation's fastest growing. At the same time, the region contains great expanses of open lands with very low population densities. These two facts can lead us to overlook a thriving middle ground where people are finding ways to enjoy the benefits of small-town living while still having access to larger markets.

2. Your next job will likely be in services.
As our national economy evolves beyond competitive advantages in basic commodity production and even manufacturing, we're seeing a mature service sector emerge as the new economic goliath. The West is by no means exempt from this trend. Seventy percent of all net new jobs created in the West between 1970 and 2000 were service and professional jobs.

3. More and more of us don't have conventional jobs.
We know that many people are punching time clocks, filing paperwork, selling products or harvesting crops across the West. But it might surprise you to know non-labor income, such as retirement and investments, is the second largest source of income (after services) in the West.

4. The more you learn, the more you earn!
In the West's longstanding lament over low wages, there is a glimmer of hope: education. Places that successfully educate their young and attract and retain educated workers are seeing rising wages.

5. Public lands benefit the economy of the West.
In the West, the presence of public lands in a county is good for the economy. Personal income, adjusted for inflation, grows faster in counties with a significant percentage of their land base in public ownership. What's more, counties with protected public lands – land set aside for conservation – show an even more marked increase in personal income.

6. The extractive economy of the Old West is rare in the New West.
Much of the West and our regional sense of place have been shaped by mining, energy development and timber production. Yet today there are few truly resource-dependent counties left – even in the face of a sharp push for energy development in the interior West.

7. Agriculture is not growing.
Agriculture has a long and important history in the West and is still the most extensive land use in the region. However, its relative economic contribution has been flat in recent decades. As the rest of the economy grows, agriculture's importance in terms of jobs and income has diminished, and in some cases the industry is having trouble competing for scarce resources, such as water, with other users.

8. More residences don't mean extra tax revenues.
County officials and other elected leaders are often led to believe that land converted to residential use will bring government extra revenue due to an expanded tax base. But the financial contribution that residences make via tax revenues is far outweighed by their increased demand on the local infrastructure and services like roads, public health and safety, and education.

9. Energy development has high opportunity costs.
There is not enough oil recoverable at reasonable cost in the United States to substantially displace imports. Reserves in the intermountain West contain only a three-and-one-half-month supply of petroleum. Pursuing these limited resources could jeopardize the emerging competitive advantage of the West: *quality of life.*

10. Standard of living is not the same as quality of life.
Economic success is often measured in terms of growth, such as changes in employment and total personal income. While growth is a good gauge for comparing different regions of the West, it is a blunt and often misleading instrument for understanding well-being.
(Sonoran Institute, 2006)

Arizona Trends

In Arizona, the vast majority of land lies in public ownership. This fact alone creates myriad recreation opportunities for Arizonans. More than 42% of the state's land is managed by federal agencies; 27% is owned by Indian tribes. Only 17% of the state is privately owned, leaving 13% of the state's land in state ownership in the form of State Trust lands.

As the population in Arizona increases it is inevitable that competition for existing resources, including land and water, will become an even more critical issue for Arizonans. An increase in development to accommodate incoming residents and visitors will undoubtedly conflict with demand for more and varied outdoor recreation opportunities.

This push to develop may also jeopardize Arizona's position as a land where one can see the wide open spaces of the West. Additionally, increasing development to accommodate population growth will infringe upon areas currently being used for outdoor recreation, displacing recreationists as well as natural ecosystems, and causing other outdoor recreation sites to become even more crowded, as outdoor recreation opportunities wane.

It is also likely access to existing recreation resources may be compromised by growth, as less private land is being opened up to recreation uses for a variety of reasons (Cordell, 2004). Finally, the number of people using existing outdoor recreation resources will increase at the same time that tax support for outdoor recreation areas is decreasing resulting in the degradation of natural and cultural resources and little capital available to maintain and manage these sites (Cordell, 2004). The resolution of such conflicts has important long-term implications for the future of tourism and quality of life in Arizona.

Recreational Activities

"Pursuit of an activity is replacing vacations" according to a report by Ken Cordell (2004). Also, recreation is becoming increasingly "green" with the proliferation of ecotourism, place-based tourism, volunteer vacations, etc. Those who were most active in recreation were also most concerned about the environment. Common activities taking place in Arizona include picnicking, developed and primitive camping, wilderness backpacking, hiking, mountain biking, horseback riding, cross-country skiing, bird and wildlife watching, hunting, fishing, four-wheel driving, motorized trail biking, all-terrain vehicle riding, snowmobiling, and many other recreation activities.

With an astounding and persistent population growth taking place in Arizona, especially since the mid 1990s, recreation participation in these and other outdoor activities is on the rise as well. The present population in Arizona according to the 2006 estimate is 6,166,318 (U.S. Census Bureau, 2007b). Arizona is renowned for its scenic beauty, openness, year round temperature (in southern Arizona), economy, and overall quality of life.

Socio-Demographics

The socio-demographic makeup of Arizona is becoming increasingly diverse. Like the rest of the nation, Arizona is a predominantly racially-white. The second largest segment of society is Hispanic which grew from 25.3% of the state's population in the 2000 census to 28.6% of the population in the 2005 estimated census (U.S. Census Bureau, 2007c). These percentages do not represent undocumented Mexican immigrants, thus presenting a conservative estimate of the Hispanic population in Arizona.

Also similar to national population trends, the African American population and Native American population was outpaced in growth between 2000 and 2005, where Asians represented 1.8% and 2.2%, respectively. In terms of elderly Americans, Arizona is expected to have an elderly population of 21.3% by 2025. The elderly population is 12.6% for the 2005 estimated census, slightly down from 13% in the 2000 census.

Urban Shift

Population is shifting from rural to urban areas even faster in the west. In Arizona, urban population grew from 20% in 1900 to 88% in 2000. The population in urban areas in Arizona increased by 41% between 1990 and 2000, while the population in rural areas increased by 32% during the same time period. This rural to urban shift is relevant to recreation trends due to differences in how urban and rural residents view the natural world, environmental issues, and participate in outdoor recreation activities. For example, recent survey research shows that urban residents living in crowded cities are recreating more often. In addition to this effect of an urban population, flexible work schedules allow for long weekends and mini-vacations.

Arizonans are willing to drive long distance to participate in recreation activities at recreation facilities throughout the state. Fortunately for these urbanites, local recreation facilities ranging from neighborhood playgrounds, city managed mountain parks, and regional county parks provide many recreation activities such as sports, hiking, dog parks, mountain biking, and many others.

In an age of rapid advancement in information and communication technologies, proximity to one's workplace is less of a requirement. Therefore, urban settings that once experienced revitalization after production industries disappeared, are now focusing on consumption (in terms of entertainment and services offered) and amenities (including clean air, aesthetically pleasing open spaces) to draw in business and new residents.

Decreasing Access

Another aspect of urban growth is that access to resources near metropolitan areas is being limited. Land traditionally used for agriculture and ranching is being subdivided and developed into upscale mini-ranches/estates. Additionally, out of state residents bringing different land use preferences and private property restrictions are making access to landlocked parcels of public lands difficult to access for recreation uses.

Significant portions of State Trust land, for example, fall into this landlocked category, where federal, municipal, or private lands are interspersed within a large matrix making it difficult to manage for recreation use across a visually continuous landscape. Recreationists are left confused regarding changing rules and regulations, not knowing who manages what portion of trail or land they are using.

Future Recreation Demands

Tent camping has competition as more families are staying in cabins and yurts when visiting national and state parks. [Lyman Lake State Park]

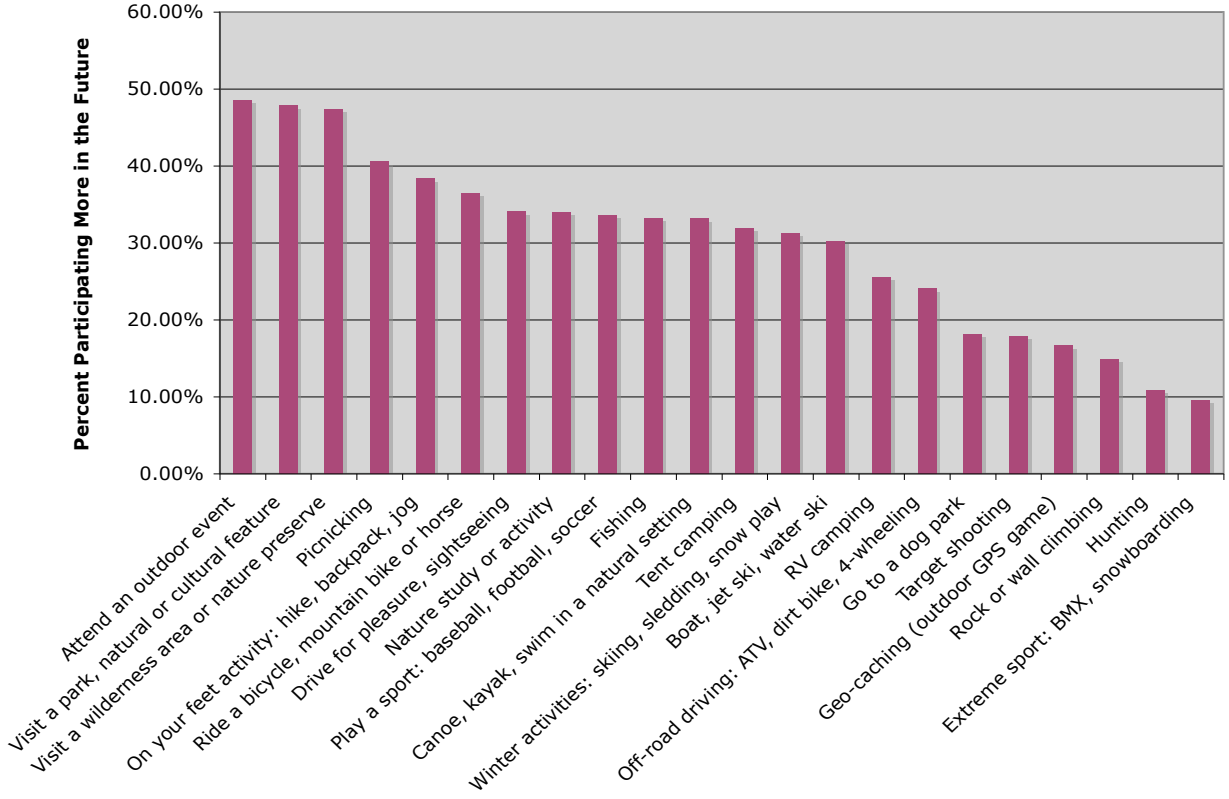
More recently, a telephone survey of Arizona residents (18 years and over) was conducted between October 2nd and October 31st, 2006. A section of the survey included recreation participation and future demand. Respondents were asked how much they will participate in 22 activities in the next five years in Arizona compared to the past twelve months? The options given were more, less, or about the same.

Figure 11 shows the percentage of respondents indicating they will participate in the activity more in the next five years in Arizona. There is no information presented for percent decreases or constants, as there were negligible amounts (1-4%) of respondents indicating that future participation will decrease.

More than 40% of respondents stated that future increases in outdoor events, visiting cultural and natural features, visiting wilderness areas, and picnicking will increase in participation in Arizona over the next five years (Figure 11).

The activities which will have least increases in the future included hunting, extreme sports, rock climbing, and target shooting. These findings are somewhat consistent with the national trends although the categories do not exactly match. Please refer to Chapter 6 to see the findings broken down regionally by Councils of Government.

Figure 11. Future Recreation Participation in Arizona



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OUTDOOR RECREATION - IT MAKES ARIZONA TOURISM UNIQUE

By Mike Leyva, Tourism Education and Development Director, Arizona Office of Tourism

Arizona's outdoor recreational experiences are a vital part of Arizona's tourism industry, which is a major contributor to the Arizona economy. Tourism has been essential to Arizona's development since the early 20th century, when pioneer entrepreneur Fred Harvey first brought easterners out West by train. Since then, visitors have continued to travel to the state because of its natural wonders, unique cultures, exciting heritage, vibrant cities, quaint towns, and – most importantly – abundant and diversified outdoor recreational opportunities. Many of those visitors have returned and stayed, helping to make Arizona the fastest growing state in the nation.

Visitors enjoying the spectacular views at Grand Canyon National Park. [Courtesy of AGFD]

Arizona offers visitors a wide range of recreational experiences from hiking in the Grand Canyon and Sedona to the distinctive and historic communities of Bisbee, Florence, Prescott and Tombstone. Outdoor recreation on public lands provides opportunities for activities such as picnicking, developed and primitive camping, wilderness backpacking, hiking, mountain biking, horseback riding, cross-country skiing, bird and wildlife watching, hunting, fishing, four-wheel driving, motorized trail biking, all-terrain vehicle riding and snowmobiling, among others. The private sector also provides opportunities for a myriad of activities including winter snow activities, water play facilities, nature preserves, vehicle and equipment rentals and guided trips and adventures.

Economic Impact of Tourism

Many of the 30 Arizona State Parks, six National Forests, 22 National Parks, monuments & historic sites, eight National Wildlife Refuges, eight Bureau of Land Management Field Districts, 21 Indian tribes and 23 State wildlife areas are located near or adjacent to rural communities. As a result of this close proximity, these outdoor attractions bring visitors and residents to rural communities in all of Arizona's fifteen counties stimulating local economies throughout the state.

Whether in these rural communities or in the major urban centers of the state, the tourism industry plays a significant role in Arizona's economy. It is the second-largest industry (based on annual earnings) behind micro-electronics. According to research commissioned by the Arizona Office of Tourism (AOT) and conducted by Dean Runyan Associates, the 31 million domestic and international overnight travelers that visited Arizona in 2005 generated more than $17.5 billion in spending or almost $48 million per day. Furthermore, direct travel spending that year in Arizona generated $456 million in local taxes and $583 million in state taxes. Also, Arizona tourism generated a total (direct and secondary) impact of 313,000 jobs with earnings of $9.3 billion in 2005 (Table 27).

Table 27. 2005 Arizona Office of Tourism Study

Number of AZ Domestic/International Overnight Visitors	31 million visitors in 2005
Visitor Expenditures	$17.5 billion/yr; $48 million/day
Local Tax contribution	$456 million/yr
State Tax contribution	$583 million/yr
Jobs generated	313,000 jobs; $9.3 billion in earnings

According to travel industry research Arizona's leisure travelers (residents or non-residents) do take advantage of the many outdoor recreation opportunities available.

- 37% of domestic overnight non-resident leisure travelers enjoy sightseeing while in Arizona
- 19% visited national or state parks
- 14% visited historic sites
- 8% enjoyed hiking and biking
- 25% of the state's overnight leisure travelers who were Arizona residents enjoyed sightseeing during their vacations in Arizona
- 13% visited national and state parks
- 9% went camping
- 6% took part in nature and cultural activities

Travel industry research also indicated that visitors and residents on outdoor recreation vacations seek clean air, clean water, outdoor beauty and recreation. They stay in hotels, bed and breakfast establishments, pitch a tent to camp and even stay in yurts to have adventures in the great outdoors. They buy RVs, boats and other recreational equipment to pursue their passion outdoors.

Marketing the Outdoors to Visitors

Arizona's unique outdoor recreational offerings help to differentiate the state from its competitors – both nationally and internationally. That is why the Arizona Office of Tourism, as well as many communities and private sector companies in the state's tourism industry, rely heavily on outdoor images in advertising and collateral marketing materials to show potential visitors why they should visit and enjoy the wide variety of recreation opportunities available throughout the state.

Through an integrated, research-based marketing strategy, AOT targets potential travel consumers in international, domestic and in-state markets. The marketing activities and promotions are strategically designed to highlight and promote the myriad vacation and outdoor recreation opportunities available throughout Arizona.

Here are some of the specific ingredients in the marketing program that highlight Arizona's outdoor recreation opportunities:

Official State Visitors Guide – With a circulation of 625,000 annually, the Arizona *Official State Visitors Guide* is the official fulfillment publication for the Arizona Office of Tourism. It is the only magazine included in AOT's standard travel packet that is given to requesting consumers domestically, in state for residents, and in targeted international markets. It is the largest and

most complete visitor publication in the state, and features detailed information and colorful photography of all areas of Arizona. The 2007 issue of the *Official State Visitors Guide* contains the section *"An Adventure Outdoors*" which promotes outdoor recreation.

2007 Official State Visitors Map – With a circulation of 650,000 annually the State Visitors Map is the official map for the AOT. It is included in the standard travel packet and provided to all requesting consumers. The 2007 version has a section titled *"Explore Arizona"* which identifies outdoor recreation opportunities in National Forests, National Parks, Monuments and Historic Sites, National Recreational Areas, National Riparian Conservation Areas, National Wildlife Refuges, Arizona State Parks, as well as resource information for additional information.

ArizonaGuide.com – The AOT provides information on its web site – ArizonaGuide.com – which identifies the recreation opportunities throughout the state in a special section titled *"Outdoor Recreation"* with links and additional information.

Arizona Council for Enhancing Recreation & Tourism (ACERT) Recreation and Historic Site Map – The map identifies archaeological, historical and recreation areas within the state of Arizona that are of interest to local, regional, national and international visitors. This includes campgrounds, recreation facilities, historical sites, historical monuments, wildlife refuges, and related public land amenities for all state, federal and tribal lands. Its purpose, in addition to identifying significant areas of tourism activities on public lands, is to stimulate and increase economic opportunities in the associated communities. The map has been popular with both Arizona residents and visitors.

In 2007 the ACERT map will be updated to enhance the readability and the general look of the map. The redesign and reprint of the map is a joint effort of all participating ACERT member agencies, with combined funding from Arizona State Parks, Arizona Game and Fish, the National Park Service, the National Forest Service, and the Arizona Office of Tourism. The map will be provided to partnering ACERT agencies for their use and distribution, and also through the AOT Welcome Center and to its network of 62 Local Visitor Information Centers.

Monument Valley is a popular destination for visitors and photographers. [Courtesy of AOT]

Arizona Scenic Roads – There are currently 22 routes in Arizona designated as Parkways, Historic and Scenic Roads. The routes are located in areas throughout the state and encourage travelers to see the scenic and historic beauty of Arizona and provide an opportunity for them to participate in outdoor recreation since many of the routes are located in communities with a diversity of activities, attractions and experiences.

AOT partnered with *Arizona Highways* magazine and the Arizona Department of Transportation (ADOT) to promote awareness of Arizona Scenic Roads and outdoor recreation by creating a new web site – *arizonascenicroads.com*. This innovative site is easily navigable. Loaded with more than 120 vibrant, color photographs, it offers an interactive map of Arizona that organizes driving tours according to the interests and schedule of the traveler. Visitors can search

through the site based on the state's five major regions – West Coast, North Central, Northern, Phoenix and Central, and Tucson and Southern. Development of the site was funded by a Federal Highway Administration grant. Additional grant dollars were awarded again in FY07 to maintain and enhance the offerings on this web site.

Kid Zone Web Site – A kid friendly, interactive learning section within the Arizona Office of Tourism's web site *arizonaguide.com* (and which can be linked from other ACERT member web sites) where K-8 school children, along with parents and teachers can explore and learn more about Arizona's history, tourism, public lands and recreation opportunities. Kid Zone offers school children a colorful and interactive environment where they can "travel" Arizona. The site, geared primarily towards fourth-and fifth-grade school children, also includes state information, virtual maps, and games. ACERT members contributed material to Kid Zone, including information on public lands and cultural and historical sites. Each public land and tribal site features a brief description, a photograph and a web link where applicable.

New Geotourism MapGuide – AOT recently launched the *National Geographic Arizona-Sonora Desert Region Geotourism MapGuide*. One side of the fold-out publication is a map of the Arizona-Sonora Desert region that showcases selected places – scenic roads, festivals, national monuments, missions and museums. The other side of the guide details subjects such as the arts, food and produce, and spiritual heritage of the region. The guide also includes geotourism tips such as what to do if you want to visit Tribal lands. Many of the sites offer opportunities for outdoor recreation. For example, walking through Organ Pipe Cactus National Monument where one can experience the Sonoran desert ecosystem to see wildflowers and 28 species of cacti, including two found nowhere else. Or see 200 species of birds. Or visit Papago Park, where one can hike among red sandstone buttes.

The MapGuide is the first step in AOT's plans to continue promoting geotourism. AOT is launching an entire campaign around the "Arizona Origins" brand, with the center of the project being an interactive web site that highlights many of the geotourism sites not incorporated on the hard copy of the MapGuide. The new Arizona Origins site is accessible from AOT's consumer web site – *ArizonaGuide.com*. To ensure broad application of geotourism concepts throughout the state, AOT also has developed an educational component with workshops and a curriculum to help educate communities in Arizona on the principles and values of geotourism that ultimately will help them better market their assets

Other Partnerships – AOT is working with Arizona State Parks, Arizona Game and Fish Department and the Arizona Trail Association to align resources and develop comprehensive marketing strategies to increase awareness and promote outdoor recreational opportunities to Arizona residents throughout the state. AOT will be the lead agency in this cooperative

Horseback riding is a popular trail activity in Arizona. [Courtesy of AOT]

venture and will invest budget dollars in the collaborative marketing initiatives and provide technical assistance. The comprehensive marketing and promotional strategy will encourage visitation to State Parks facilities, participation in the outdoor recreation opportunities managed by the Game and Fish Department, and exploration of the Arizona Trail. The Arizona Trail is a 790-mile, non-motorized route that traverses Arizona from Mexico to Utah. It is intended to be a primitive, long distance trail that highlights the State's topographic, biologic, historic, cultural diversity and outdoor recreation assets.

Rural Tourism Development Grant Program, Teamwork for Effective Arizona Marketing (TEAM) and Other Grant Programs –
In FY 07, AOT provided $2 million in grants to rural and tribal communities to assist with infrastructure development, marketing and promotion, and visitor information services. Many of these grant recipients are communities with outdoor recreation as the primary offering or attraction. AOT also works in partnership with state agencies and the private sector on a variety of projects to enhance and promote the state's tourism industry.

Visitor Information – AOT currently operates a Welcome Center on Interstate 40 in northeastern Arizona. The Center located at the Arizona/New Mexico state line is open seven days per week to accommodate and service visitors. The Center is staffed by three professional travel counselors who provide a variety of visitor information services as well as disseminate travel literature. Itinerary planning assistance is often times requested and this includes suggested visits to national and state parks to fully experience the outdoor recreation experience. AOT plans to renovate and enhance the interior of the Welcome Center and incorporate technology, high quality images and user friendly interpretive information to highlight the abundance and diversity of our world-class attractions and one-of-a-kind outdoor experiences.

AOT will partner with the Greater Phoenix Convention and Visitors Bureau and operate a state-of-the-art Visitor Center at the new $600 million Phoenix Convention Center. Professional staff from both agencies will offer information on attractions, communities and outdoor recreation.

AOT works with 62 Local Visitor Information Centers in communities throughout Arizona and provides agency destination and collateral materials including the Official State Visitors Guide, Arizona Map featuring public lands and outdoor recreation as well as other promotional literature. Technical assistance is also provided to assist with improving visitor information services with the goal of creating awareness of attractions and experiences available in local and regional areas. AOT conducts educational workshops for Local Visitor Information Center staff and invites representatives from State Parks, Game and Fish and the U.S. Forest Service to share information on their respective agency programs to increase awareness and promotion of outdoor recreation opportunities.

Arizona offers a wide variety of land and water-based recreation activities. [Courtesy of AOT]

Regional Trends

There are a number of trends occurring in the western United States that have an impact on tourism in Arizona and especially on the outdoor recreation component. The entire region is experiencing rapid growth and Arizona has recently been identified as the fastest growing state in the country – moving up from the number two spot. This growth has an impact on outdoor recreation facilities themselves as well as on the demand for outdoor recreation opportunities.

As urban areas continue to grow, land that used to be open and available for outdoor recreation has disappeared only to be replaced by houses or businesses. Between 1982 and 2002, almost 35 million acres of rural land were converted to developments. State lands are reaching maturity, leaving little room for more development except for high end improvements. Private landowners are continuing to close more public land. There is an increasing burden of demand on public lands – restoration and management of ecosystems and recreation are high priorities, but securing adequate funding is a challenge.

And yet the West leads the nation in outdoor recreation participation with 73% of Westerners saying they participate in outdoor recreational activities. For many, it is the reason why they moved to the region.

Other trends impacting the West and the rest of the U.S. include the inflow of immigrants – about one million per year. The country and the West is becoming more urban – 81% of the population live in cities and towns. The population is aging – the median age is now 35 and will be 38 by 2020. The ethnic mix is also changing. Anglo-Americans represent about 50% of the population – down from 76%. African-Americans are 15% of the population, up from 12%. Hispanic-Americans make up 21% of the population – an increase from 9%. And Asian-Americans are 11% of the population – up from 4%.

Technology and recreational interests have also changed. There now are new and extreme sports such as base jumping and cave diving. Technology is creating new interests and activities such as geocaching, night vision goggles, paintball, remote control and artificial intelligence vehicles, and rocket launching. Off-highway vehicles (OHV) are four times as popular as they were a decade ago. In the West, OHV sales are double the national average, increasing 154% in five years.

While virtual access to public recreation lands has increased dramatically in step with the explosive growth of internet access and usage, the actual increased usage being experienced, especially with demands from climbing, off-road vehicle use, hiking, horseback riding, wildlife viewing, etc. are likely to create more competition and conflicts for both public and private lands. In addition, increased demands for access to water, trails, the backcountry, as well as developed sites and roads are also likely sources of conflicts.

Trends/Opportunities for Arizona

There are some specific trends that Arizona's travel, tourism and outdoor recreational industries should be prepared to deal with:

Baby Boomers – As the population ages, those born between 1946 and 1964 who are known as baby boomers represent the largest segment of the population with 78 million people.

Baby Boomer households generated the highest travel volume in the U.S. in 2003 (registering 268.9 million trips, more than any other age group). Baby Boomer households are the most likely to stay in a hotel, motel or bed and breakfast establishment on overnight trips (59%) and travel for business (29%). As their children leave home, they have more time and resources available for travel and they are interested in active recreational pursuits.

Playing golf is big with both Arizona residents and visitors.[Courtesy of AOT]

Geotourism – A study from the Travel Industry Association (TIA) – sponsored by National Geographic Traveler – examined the travel habits and attitudes of the 55 million Americans now classified as sustainable or "Geotourists," as well as the nearly 100 million traveling Americans moving in that direction. The term "geotourism" is defined as tourism that sustains or enhances the geographical character of the place being visited – its environment, culture, aesthetics, heritage, and the well-being of its residents. The Geotourism Study identified eight traveler segments or "profiles" from the 154 million Americans who have taken at least one trip in the past three years. For example, Geo-Savvy and Urban Sophisticates – dominated by Baby Boomers – show a distinct preference for culturally and socially-related travel.

The Internet – Travelers tend to be quite computer savvy with two-thirds of the 98.3 million travelers who were online in 2004 using the internet to make travel plans. Among online frequent travelers, 70% use the internet for travel planning. Use of the Internet to actually book travel continues to increase with 82% of online travel bookers saying they bought airline tickets for a trip taken in the past year, 67% booked overnight lodging accommodations, and 40% made rental car reservations.

Outdoor Travel and Recreation – American travelers love the great outdoors as evidenced by the 40% of U.S. adults in 2003 who visited a national park at least once while on a trip of 50 miles or more, one-way away from home in the past five years. American traveling households generated 87 million leisure person-trips including national or state parks in 2002 alone. Outdoor recreation and/or visiting national or state parks continues to be one of the top activities for U.S. travelers taking leisure trips within the U.S. One in four leisure person-trips includes some form of outdoor recreation and/or a visit to a national or state park. Outdoor trips are also likely to be taken by car (76%) and one in six outdoor trips includes camping in an RV or tent.

Weekend and short trips – Because of their increasingly busy schedules, half of all U.S. adults – nearly 103 million – take at least one weekend trip per year. Almost 30% of Americans have taken five or more weekend trips in the past year and 35% of all weekend travelers say they've taken their children with them on at least one weekend trip. Compared to five years ago, day trips and weekend trips appear to be more popular today than trips lasting one week or longer. In fact, 40% of weekend travelers report they are taking more day trips and/or weekend trips (38%) today than five years ago. Interest in longer trips lasting more than one week seems to be declining – 43% of weekend travelers claim they are taking fewer long trips than they did five

years ago. Most weekend travelers (42%) make last-minute plans and select their destination within two weeks of their trip. Thirty percent of weekend travelers say they took advantage of discounts, coupons, or special offers while planning or while on their most recent weekend trip. Visiting cities (33%) and small towns (26%) are favored destinations for weekend travelers, followed by beaches (16%), mountain areas (10%), lake areas (4%), state or national parks (3%) and theme or amusement parks (3%).

Suggestions

With these varied trends in mind combined with the fact that visitation to state parks and some of the other outdoor recreation facilities in Arizona has declined, here are some suggestions about how this trend can be reversed.

1. Arizona State Parks will celebrate their 50th anniversary this year. The facilities are showing their age from the impact of weather and general usage. In recent years, there has not been adequate funding to make repairs and improvements that are necessary to not only preserve the state parks but, in some cases, to put them in compliance with environmental regulations. Some groups are being formed to help support local facilities but more funding must be found for repairs and operations.

2. State agencies and private sector operators of visitor facilities should be encouraged to work together to develop packaged experiences that include outdoor recreation activities. Some of these could be organized for facilities located in communities adjacent to an outdoor recreation facility. Others might be developed to link urban areas with more rural attractions. A good example of this type of partnership is the emerging Tourism Council in Cochise County. Representatives from county visitor destinations came together to collectively combat declining visitation to both private and public attractions. The group has packaged attractions such as a museum with a state park in an effort to offer a more integrated option to viewing attractions within the county. This unified approach has given the county's destination the opportunity to showcase attractions with a more holistic approach rather than just focusing on one attraction.

3. Even without such a formal partnership, outdoor recreation facilities can increase the communication of their availability and capabilities to referral sources such as meeting planners for inbound travelers and organizations, chambers of commerce and visitor center personnel, concierges at properties in the major urban communities of the state, and similar people that are in frequent contact with visitors.

4. Itineraries can be developed that are accessible on-line and in a printed format to help visitors discover the outdoor recreation opportunities that are available throughout the state. One source for such itineraries might be the Arizona Office of Tourism's Teamwork for Effective Arizona Marketing (TEAM) program, which requires that regions submit with their grant applications, five-day itineraries and inventories of the facilities available for visitors. This information could be adapted and promoted in formal media advertising and collateral pieces as well as through the word-of-mouth promotion program with concierges and others previously suggested above.

5. Because of Arizona's close proximity to Mexico and the extreme importance that Mexican visitation has on the state's economy, state and local parks should be encouraged to use bilingual signage to help accommodate the Mexican visitor. The amount of visitors from Mexico is continuing to increase and it is important to consider that relationship when developing signage for area attractions. In addition, because of the state's growing interest in attracting more international visitors, state and local parks should consider providing information in other languages as well.

6. State and local parks need to consider the changing demographics of Arizona, particularly the growing Hispanic population and the needs of that population. For example, state and local parks need to consider enlarging recreation facilities to accommodate Hispanic families that often have larger or extended family gatherings.

7. Given the increasing number of baby boomers in the population and their interest in new experiences as well as their increased availability of time and resources for travel, efforts should be increased to let this segment of the population know about all of the outdoor recreation opportunities that are available and easily accessible in Arizona.

8. Because of the continuing population growth in Arizona, there should be a marketing campaign focused on recent newcomers to encourage them to get out and get to know and experience the real Arizona. With the increased urbanization of Arizona and the country and the many demands on people's time, outdoor recreation has become a more important leisure time activity and stress reliever – for both residents and visitors. However, as visitor numbers and diversification of recreation travel modes increase there are accompanying increases in environmental impacts, crowding, and conflicts between different types of uses and the users themselves. Managers of natural areas must accommodate the increased usage while at the same time, maintaining environmental quality and assuring that visitors have the high quality experience they expect. Planning and partnerships by governmental agencies and the private sector must take place in order to promote, sustain and enhance outdoor recreation as a vital part of the Arizona experience – for visitor and resident alike.

9. Incorporating more technology should be considered by state and local parks to attract and engage younger visitors. Having more interactive signage and displays can increase the attention of younger visitors. Kartchner Caverns State Park is a good example of using interactive displays to attract and educate visitors about the caverns.

Opened in 1999, Kartchner Caverns State Park near Benson attracts visitors from around the world.

HISTORIC PRESERVATION AND OUTDOOR RECREATION IN ARIZONA

By Eric Vondy, Preservation Incentive Program Coordinator, State Historic Preservation Office

While outdoor recreation is normally thought of pertaining to activities such as hiking, fishing, and camping, historic preservation also plays an important role. From walking tours of historic neighborhoods to visiting archaeological parks, historic preservation acts as an economic driver to spur cultural heritage tourism. This is particularly effective in rural Arizona.

Ft. Verde State Historic Park in Camp Verde—a step back in time.

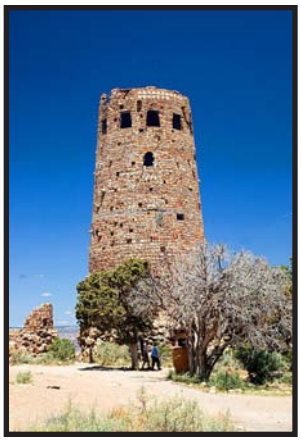
Historic communities like Bisbee, Jerome, and Tubac exist because of the cultural heritage tourist. Other communities such as Superior are working to capture the cultural heritage traveler by using preservation to revitalize their aging downtown.

National Parks

An examination of the National Park Service's parks in Arizona shows the importance of preservation. Eleven of the twenty-one national parks in Arizona are primarily historic parks (Table 28).

Grand Canyon National Park—scenic vistas.

The Grand Canyon is by far the most visited National Park in Arizona. In 2006 over four million people visited it. The second most visited park, Glen Canyon, had only one and half million visitations last year. Lake Mead is in third place at 1.4 million visitors. While obviously the feature to see in the Grand Canyon is the canyon itself, the structures built to showcase the canyon cannot be ignored. Places like El Tovar, Bright Angel Lodge, and the Indian Watchtower at Desert View are all historic structures that are designed to enhance the experience of being at the Grand Canyon.



The Indian Watchtower at Desert View, Grand Canyon National Park.

When the top three National Parks in Arizona (Grand Canyon, Glen Canyon, Lake Mead) are removed, visitation to historic parks is greater than visitation to natural parks (2.3 million vs. 2 million). Canyon de Chelly, Montezuma Castle and other NPS parks feature ruins where historic preservation techniques are used to arrest further deterioration.

Table 28. National Park Service Visitation: Arizona 2006 *(bold indicates historic park)*

National Park Service	2006 Visitation
Grand Canyon National Park	4,357,685
Glen Canyon National Recreation Area	1,552,826
Lake Mead National Recreation Area	1,456,310
Canyon de Chelly National Monument	**830,253**
Saguaro National Park	727,208
Montezuma Castle National Monument	**622,320**
Petrified Forest National Monument	598,378
Organ Pipe Cactus National Monument	280,068
Sunset Crater Volcano National Monument	229,913
Wupatki National Monument	**219,480**
Walnut Canyon National Monument	**128,275**
Tuzigoot National Monument	**108,262**
Casa Grande National Monument	**97,214**
Hubbell Trading Post Natl Historic Site	**95,676**
Coronado National Monument	86,618
Tonto National Monument	75,140
Chiricahua National Monument	60,224
Pipe Spring National Monument	**54,704**
Navajo National Monument	**54,688**
Tumacacori National Historic Park	**46,949**
Fort Bowie National Monument	**9,656**

NPS Visitation 2006 (partial #s for 2006)	*11,616,707*
Grand Canyon, Glen Canyon, Lake Mead	7,366,821
Historic Parks	**2,267,477**
Other Non-Historic Parks	1,982,409

At one time reconstruction of ruins was a favored method of showcasing the structures in historic parks. Parks such as Tuzigoot and Montezuma Castle have significant portions which have been rebuilt. This technique is no longer considered appropriate, however these reconstructions have taken on historical significance of their own.

Most natural parks in the state also feature important historic structures. The visitor center in the Petrified Forest, for example, was built by Richard Neutra, one of the most prominent architects in the 20th century, as well as the Painted Desert Inn. While buildings like these are not primary reasons why visitors come to the park, and indeed most people will never know they are in a visitor center designed by a prominent architect, these structures do enhance the character of the natural park. They provide a contrast to the openness and provide a place for interpretation of what the visitor is seeing in the park or to buy souvenirs.

There are also forty National Historic Landmarks in Arizona. The diversity of them shows the abundant opportunity for the outdoor recreationist. The San Bernardino Ranch, for example,

offers opportunities for birding, picnicking, and it is next to the San Bernardino National Wildlife Refuge. Another example is Hoover Dam which offers tours of the dam and is located on Lake Mead, the third most visited National Park in the state, as well as the main route between Phoenix and Las Vegas. Tumacacori, an old Spanish mission, is linked to Tubac, an old Spanish presidio (which is a State Park), by an historic hiking trail (Anza Trail) that follows the Santa Cruz River.

State Parks

As far as State Parks are concerned, nine of the thirty parks are considered historic parks, and several others have historic or prehistoric sites within them. These parks are often focal points of the community in which they are located: Ft. Verde in Camp Verde, Homolovi Ruins near Holbrook, Jerome in Jerome, McFarland in Florence, Riordan Mansion in Flagstaff, Tombstone Courthouse in Tombstone, Tubac Presidio in Tubac, and Yuma Territorial Prison and Yuma Quartermaster Depot in Yuma. In each of these cases, the state park becomes an anchor for surrounding commerce and each of these communities in turn utilizes their history and their historic architecture to make their community attractive to tourists.

Local Identity and Economics

For decades Tombstone has relied on the myth of the OK Corral gunfight to sustain it, but as the popularity of the Western continues to be marginalized Tombstone is changing its tourism tactics. While many of the buildings suffer from being made to look more like Hollywood film sets than how they did historically, a major effort has been underway to rectify that and return the city to its historic roots. Beyond that, efforts are being made to expand the Tombstone niche beyond the Wild West enthusiast. For example, one of the local mines has been excavated and will soon be open to tourists. It is also starting to focus on outdoor activities such as birding, hiking, horseback riding, and jeep tours.

Old West justice—the gallows at Tombstone Courthouse State Historic Park.

Communities like Tubac, Jerome, and Bisbee have used their historic structures to attract artists who in turn have converted old and dying towns into art communities. Bisbee, for example, has many specialty shops housed in historic buildings. It is a pedestrian friendly community where nearly the only way to get around is to park your car and walk.

Other communities such as Superior are currently working on becoming tourist oriented towns like Bisbee by using preservation as a tool for economic development. Superior also plans to build a trail that leads from Boyce Thompson Arboretum (State Park) through the center of town and on north of town. Their hope is that this trail will also attract hikers who will stop in their historic downtown for a bit to eat or to shop before tackling the rest of the hike.

Ghost Towns

There is also the curious role that ghost towns play in preservation. While there are places like Goldfield near the Superstition Mountains that are fake ghost towns, there are also actual ghost towns around the state, like Swansea or Ruby, that are frequented by visitors. Fairbank is a ghost town in Southern Arizona run by the Bureau of Land Management and offers interpretive signs. The BLM is actively trying to preserve it. Other ghost towns such as Pearce, Gleeson, and Courtland are for the most part left to deteriorate while being a driving destination for tourists in Cochise County.

Exploring remnants of Swansea, an old mining town in western Arizona.

Trails

There are also many trails that are linked to historic preservation such as the Powers Garden Trail in Graham County and the Call of the Canyon Trail in Oak Creek Canyon. Powers Canyon Trail leads to the Powers Cabin which is listed on the National Register of Historic Places. The Call of the Canyon trail winds past the remains of Mayhew Lodge which burned in 1983.

Archaeological Sites

In the Tucson area, there have also been instances of new developments incorporating archaeological sites into their plans. The Vista del Rio Cultural Park, for example, involved saving an archaeological site and making it part of the suburb's local park. An archaeological site known as Honeybee Village in Oro Valley will become part of a local park once excavation work is complete.

Winslow, another town which has used historic preservation as a driver for economic development, is in the planning stages for creating a paddle trail which crosses a reservoir leading to a hiking trail which then will go to petroglyphs. This is a new direction for Winslow whose main preservation focus has been downtown revitalization.

Historic Vehicle Routes

Many communities located along the old Route 66 are also using preservation. Winslow renovated its old Harvey House, the La Posada, which has become a resort. Seligman and Holbrook are preserving their historic hotels and retail shops to attract Route 66 tourists – many of whom come from Europe and Asia just to drive the "Mother Road." Both communities were also used as models for Radiator Springs in the Disney/Pixar movie *Cars* which will surely increase driving Route 66.

Niche Tourism

Niche or specialty tourism has been a trend for some years. Many communities can use niche tourism as an economic driver. Dark tourism, for example, is niche tourism focusing on the unpleasant places. In Europe these could be places like concentration camps or battlefields. Here in Arizona, sites like the Yuma Territorial Prison, the Oatman Massacre site, Wham

Robbery Site, or even a driving tour of sites associated with trunk murderess Winnie Ruth Judd could be considered dark tourism.

Another niche example which lacks a catchy name like Dark Tourism is focused on visiting and photographing bridges. Bridgepix.com has over 12,000 photographs of bridges, many of them historic, and a fair amount of them in Arizona. Gillespie Dam Bridge north of Gila Bend, Cienega Creek Bridge south of Tucson, the remains of the old Mill Avenue Bridge in Tempe, and Trails Arch Bridge in Topock are examples of Arizona bridges featured on the 'bridgepixing' site. Many of the photos are submitted by local fans who photograph the bridges in their communities.

Geocaching also plays a role in preservation. It involves a kind of treasure hunt wherein someone hides a cache – often a logbook and maybe some kind toy or trinket – and posts its coordinates on a website. Using handheld GPS receivers, people then find the coordinates and hunt for the hidden stash. Caches can be hidden anywhere from a tree in the newest block in Anthem to the Butterfield stagecoach station at Dragoon Springs. Geocaching brings players to all sorts of far flung places they wouldn't normally go thus exposing them to historic and prehistoric sites across the state. A visit to a prominent geocaching website showed that seven new sites had been added in Arizona that day – including one near the old mining town of Chloride.

www.arizonaheritagetraveler.com is a website which contains many historic preservation sites. The website is designed for the heritage tourist. Drop down menus include topics where a viewer can learn the important sites in Arizona relating to a number of topics such as architecture, archaeology, the American Indian, Hispanic culture, and Mormon pioneers. Thus a tourist interested in Mormon sites could quickly find the prominent locations such as Pipe Spring National Monument, Sirrine House in Tempe, the Snowflake Temple, and Brigham City. Alternately, the tourist can search by region. The site's other benefit is that it can easily build a customized itinerary based on the tourist's selections.

Visitors can learn about an archaeological dig at Homolovi Ruins State Park near Holbrook.

RECREATIONAL TRAILS IN ARIZONA

By Annie McVay, State Trails Coordinator, and Amy Racki, State OHV Coordinator, Arizona State Parks

Arizona Trails 2005 : Statewide Motorized And Nonmotorized Trails Plan

The purpose of the Arizona Trails Plan is to provide information and recommendations to guide Arizona State Parks and other agencies in Arizona in their management of motorized and nonmotorized trail resources, and specifically to guide the distribution and expenditure of the Arizona Off-Highway Vehicle Recreation Fund (A.R.S. § 28-1176), trails component of the Arizona Heritage Fund (A.R.S. § 41-503) and the Federal Recreational Trails Program (23 U.S.C. 206).

Hiking in Red Rock Country near Sedona.

The plan includes both motorized and nonmotorized trail information, public involvement results and recommendations for future actions regarding trails in Arizona. This plan was prepared by Arizona State Parks as required by state legislation (State Off-Highway Vehicle Recreation Plan, A.R.S. § 41-511.04 and State Trails Plan § 41-511.22). The 2004 publication of the two plans referenced above has been incorporated into this single document titled *Arizona Trails 2005: State Motorized and Nonmotorized Trails Plan*, which supersedes the *ARIZONA TRAILS 2000 PLAN*.

When the word "trail" is used, it refers to recreational trails and /or roads used by motorized and nonmotorized trail users.

Specific objectives of the *Arizona Trails 2005: State Motorized and Nonmotorized Trails Plan* include:

- Assess the needs and opinions of Arizona's residents as they relate to trail recreation opportunities and management;
- Establish priorities for expenditures from the Arizona OHV Recreation Fund, Arizona Heritage Fund trails component and Federal Recreational Trails Program;
- Develop strategic directions to guide activities for the Arizona State Parks' OHV and Trails Program; and
- Recommend actions that enhance motorized and nonmotorized trail opportunities to all agencies and private sectors which provide trail resources in Arizona.

Arizona State Parks implemented an extensive research and public involvement process to determine the final priority recommendations of the plan. A statewide survey of over 5,000 residents was conducted from January to September 2003. The statewide survey had two components, first Arizona residents were contacted via telephone for a short survey and those that agreed were given a mail survey. In addition to the statewide survey, Arizona State Parks facilitated 15 public workshops in order to gain further information from trail users, land managers, recreation and natural resource managers and interested residents.

The plan is written primarily for recreation planners and land managers. The plan also includes information regarding trail users and trends affecting trails in Arizona. The plan first presents background information on trails in Arizona. Next the planning process is described along with findings of the surveys and workshops and recommendations. The plan also includes appendices of relevant information. This information is intended to be a resource to guide trail managers for the next five years.

Survey findings

- 62.7% of all respondents participated in nonmotorized trail use at some point during their time in Arizona and 56.5% said most of their trail use involved nonmotorized activities.
- 24.5% of all respondents participated in motorized trail use at some point during their time in Arizona and 7.0% said most of their trail use involved motorized activities.
- The most important motives for using trails for both nonmotorized and motorized trail users were *to view scenic beauty, to be close to nature*, and *to get away from the usual demands of life.*
- The most popular nonmotorized activities on Arizona's trails are *trail hiking (day hiking)*, *walking, visiting historical archaeological sites*, and *jogging/running.*
- The most popular motorized activities on Arizona's trails are *four wheel driving*, *driving to sightsee or wildlife viewing/ birding*, *all terrain (ATV) riding* and *motorized trail biking/ dirt biking.*
- Nonmotorized trail users most often recreate just outside a city or town or in a city or town, but said they prefer to use trails in a remote area or a rural area. Motorized trail users most often recreate in rural and remote settings and most prefer those settings.
- Nonmotorized users travel an average of 23 miles and motorized trail users travel an average of 51 miles for the activity they do most often.
- The majority of trail users (62% to 70%) prefer trails of moderate difficulty, though more motorized users (17%) prefer challenging trails than do nonmotorized trail users (5%).
- Public access to trail opportunities is a concern of Arizona's trail users, especially motorized trail users. Nearly half (48%) of motorized users feel that public access to trails for their preferred activities has declined in the last five years.
- Both nonmotorized and motorized users feel that environmental concerns, such as *litter*, *trash dumping, erosion of trails, damage to historical or archaeological sites* are slight to moderate problems.
- Social issues that are considered slight to moderate problems by nonmotorized and motorized trail users include *residential/commercial development, unregulated OHV use,* and *lack of trail ethics by other users*.
- Both nonmotorized and motorized users said that *to keep areas clean of litter/trash, maintain existing trails, repair damage to trails,* and *enforce existing rules and regulations* were top priorities.

Motorized and nonmotorized trail users sharing the trail.

- Trail support facilities that were important to both nonmotorized and motorized users included *trash cans*, *trail signs, restrooms, and drinking water.*
- When asked to rank the top three trail issues in Arizona nonmotorized users said *lack of planning for future trails, urban development limiting trail access,* and *lack of funding for trails* and motorized users replied *closure of trails*, *urban development limiting trail access,* and *lack of funding for trails*.

Table 29. Arizona Trails 2005 Plan Recommendations

First Level Priority Motorized Recommendations	First Level Priority Nonmotorized Recommendations
Develop New Trails and Motorized Recreation Opportunities	Renovation and Maintenance of Existing Trails
Protect Access to Trails/Keep Trails Open	Protect Access to Trails/Acquire Land for Public Access
Renovation and Maintenance of Existing Trails	Develop Signage and Support Facilities
Education and Trail Etiquette	**Second Level Priority Nonmotorized Recommendations**
Second Level Priority Motorized Recommendations	Comprehensive Planning
Enforcement of Existing Rules and Regulations/Monitoring	Trail Information/Maps
Trail Information and Maps	Education and Trail Etiquette
Comprehensive Planning	

Trail Funds Available in Arizona

Arizona has several funds available for motorized and nonmotorized trail development and trail related activities. These funds include the Arizona Trails Heritage Fund, up to $500,000 annually funded by state lottery proceeds, Arizona Off-Highway Vehicle Recreation Fund – up to $2.7 million annually funded by state gas tax, and the Federal Recreational Trails Program – approximately $1.2 million annually through the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU).

Nonmotorized Recreational Trails Program Trail Maintenance

The nonmotorized portion of the Recreational Trails Program monies was dedicated solely to maintenance of existing trails starting in 2001. The need for maintenance on existing trails in Arizona encompassed the top priority recommendations of both the Arizona Trails 2000 and 2005 Plans. Money for trail maintenance is not available through many sources including agency budgets and grants. Arizona State Parks partners with agencies across the State to fund and complete RTP Nonmotorized Trail Maintenance Projects (Table 30).

Table 30. Nonmotorized Recreational Trails Program Trail Maintenance Partners FY 2002-2007*

Partnering Entity	# of Projects	RTP Project Amount (estimated**)
Cities/towns	16	$694,748
Counties	8	$431,445
State	6	$232,703
Federal	72	$3,756,006
Tribal	2	$50,038
Totals	**104**	**$5,164,940**

*Federal Recreational Trails Program Source: Transportation Efficiency Act for the 21st Century (TEA-21) from the Federal Highway Administration.
**All projects have not yet been completed so the amount is estimated until expenditures are finalized.

Arizona Trails Heritage Fund

A task force representing land management agencies and trail user types was formed to develop criteria based on the needs identified in the *Arizona Trails 2005 Plan*- for rating Trails Heritage Fund grant applications. Following are the criterion developed by the task force and the number of projects funded from FY1999 to FY 2004 that include elements that address that criterion.

Table 31. Trails Heritage Fund Grant Project Summary FY 1999-2004

NONMOTORIZED TRAIL PROJECTS	
Grant Rating Criterion Used in Projects	**# of Project Elements***
Renovate trails	27
Keep trails clean/clear	48
Promote trail etiquette/environmental ethics	25
Protect access (acquisition)	7
Promote partnership/volunteerism	9
Develop new trail opportunities	24
Reduce environmental/cultural impacts	34
Provide information/maps	37
Enhance support facilities	35
**48 projects were funded from FY1999 to FY2004 for $2,489,747*	

Arizona Off-Highway Vehicle Recreation Fund

The Off-Highway Vehicle Recreation Fund, A.R.S. §28-1176, is allocated fifty-five one hundredths of one percent (0.55%) of the total license tax on motor fuel received by the State of Arizona into the Highway User Revenue Fund. The Fund is administered by the Arizona State Parks Board (ASPB) and the Arizona Game and Fish Department (AGFD). Approximately $2.7 million is received annually into the fund. In recent years, over $7 million has been swept by the Arizona Legislature and was not available for OHV recreation purposes. In addition, $692,100 annually from the Fund is appropriated by the Legislature to aid ASPB operating costs for non-OHV purposes. The AGFD is authorized to use funds for information, education, and law enforcement. Arizona State Parks is authorized to use funds for OHV planning and program administration, and for building or renovating OHV trails and routes, construction of related

facilities, land acquisition, mitigation of environmental damage, off-highway vehicle related law enforcement, and information and education programs.

Until 2002, ASPB used the OHV Recreation Fund for a competitive grants program to eligible entities. Since 2002 the grants program is funded through the motorized portion of the Federal Recreational Trails Program (RTP). From FY1994 to FY2005 over $12 million from the ASPB portion of the OHV Recreation Fund was used to fund more than 70 OHV projects. Currently, the ASPB is leveraging the Fund through partnerships with entities that manage high-use OHV areas to implement a variety of programs and projects such as the newly established OHV Ambassador volunteer program, motorized route evaluations, on-the-ground OHV projects, and OHV education that complement the competitive motorized trails grants program. With OHV Recreation Funds the ASPB also prepares statewide OHV surveys and studies; provides for planning/technical assistance and interagency coordination; conducts trail conferences, training, and education events; develops informational and educational materials, and serves as the clearinghouse for OHV information.

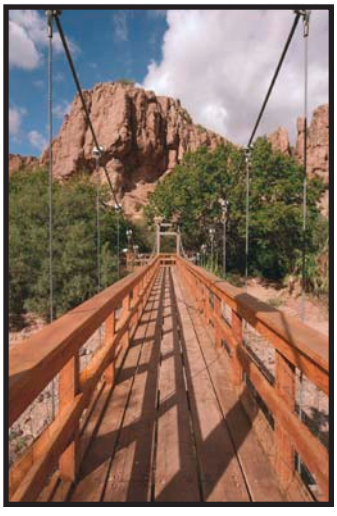
Motorized Federal Recreational Trails Program
The Recreational Trails Program (RTP) motorized portion is a Federal Program to assist States with funding for Arizona trail projects. The Arizona State Parks Board administers Arizona's RTP with the Federal Highway Administration and the Arizona Department of Transportation. The RTP (motorized portion) is a reimbursable, matching program. Monies are awarded through a competitive grants program based on the priorities established in the State Motorized and Nonmotorized Trails Plan. Forty-four percent (44%) of Arizona's RTP funds are available for competitive motorized trails project grants, which equates to approximately $550,000 annually. Projects range from development of trail facilities to mitigation of damage caused by off-highway vehicles. From FY1993 to FY2006, over $6 million have been awarded.

National Recreation, Historic and Scenic Trails in Arizona
The National Trail System Act of 1968 (Public Law 90-543) authorized creation of a national trail system comprised of National Recreation Trails, National Scenic Trails and National Historic Trails. Through designation, these trails are recognized as part of America's national system of trails.

National scenic trails are 100 miles or longer, continuous, primarily non-motorized routes of outstanding recreation opportunity. Such trails are established by an Act of Congress.

National historic trails commemorate historic (and prehistoric) routes of travel that are of significance to the entire Nation. They must meet all three criteria listed in Section 5(b)(11) of the National Trails System Act. Such trails are established by an Act of Congress (Table 33).

National recreation trails**,** also authorized in the National Trails System Act, are existing regional and local trails recognized by either the Secretary of Agriculture or the Secretary of the Interior upon application (Table 32).



Foot bridge along trail at Boyce Thompson Arboretum State Park near Superior.

Table 32. National Recreation Trails in Arizona

Trail Name	Managing Agency	Trail Type	Mileage
Arcadia Trail	Coronado National Forest	Not listed	6
Arivaca Cienega Trail	U.S. Fish and Wildlife Service	Other	1.25
Arivaca Creek Trail	U.S. Fish and Wildlife Service	Backcountry	1
Aspen Spring Trail	Mohave County Parks	Backcountry	10
Benham Trail	Kaibab National Forest	Backcountry	4
Betty's Kitchen Interpretive Trail	Bureau of Land Management	Not listed	0.5
Bill Williams Mountain Trail	Kaibab National Forest	Backcountry	4
Blue Ridge Trail	Apache-Sitgreaves National Forest	Not listed	8.7
Bright Angel Trail	Grand Canyon National Park	Not listed	7.8
Central Arizona Project (CAP)Trail	Pima County Natural Resources, Parks & Recreation Dept.	Urban trail bikeway,Other	8+
Coronado Peak Trail	Coronado National Memorial	Not listed	0.4
Desert Ecology Trail	Saguaro National Monument	Not listed	0.3
Eagle Trail	Apache-Sitgreaves National Forest	Not listed	28.5
Escudilla Trail	Apache-Sitgreaves National Forest	Not listed	3.3
General George Crook Trail	Coconino/Apache-Sitgreaves National Forests	Not listed	138
Granite Mountain Trail	Prescott National Forest	Not listed	4
Highline Trail	Tonto National Forest	Not listed	50.2
Hunter Trail	Arizona State Parks/Picacho Peak State Park	Not listed	3.5
Joe's Canyon Trail	Coronado National Memorial	Not listed	3.1
North Kaibab Trail	Grand Canyon National Park	Not listed	14.2
North Mountain Trail	Phoenix Parks and Recreation Department	Not listed	0.9
Old Baldy Super Loop Trail	Coronado National Forest	Not listed	12.9
Painted Desert Trail	U.S. Fish and Wildlife Service	Other	1.3
Palm Canyon Trail	U.S. Fish and Wildlife Service	Not listed	0.5
Parks Rest Area	Kaibab National Forest	Not listed	0.5
Prescott Peavine Trail	City of Prescott	Rail trail Backcountry	5.5+
River Trail	Grand Canyon National Park	Not listed	1.7
Sixshooter Canyon	Tonto National Forest	Not listed	6
South Kaibab Trail	Grand Canyon National Park	Not listed	7
National Trail	City of Phoenix Parks and Recreation Dept	Not listed	14
Summit Trail	City of Phoenix Parks and Recreation Dept	Not listed	1.2
Sun Circle Trail	Maricopa County Parks	Not listed	68
Wilson Mountain	Coconino National Forest	Not listed	5

* *Information provided by the National Recreation Trails Online Database (American Trails)*
http://tutsan.forest.net/trails/default.htm

Table 33. National Scenic and Historic Trails in Arizona

Trail Name	Authorized Miles
Juan Bautista de Anza National Historic Trail	1,200
Old Spanish National Historic Trail	2,700

The Juan Bautista de Anza National Historic Trail commemorates the 1,800 mile route followed by the Spanish commander in 1775-1776 when he led a contingent of thirty soldiers and their families on the first overland colonizing expedition from Sonora, Mexico across vast stretches of desert to colonize northern California for Spain, founding a presidio and mission near San Francisco Bay.

The Old Spanish National Historic Trail was a pack mule trail linking New Mexico with coastal California. Mexican trader Antonio Armijo led the first commercial caravan from Abiqui, New Mexico to Los Angeles late in 1829. Over the next 20 years, Mexican and American traders traveled variants of the route, frequently trading with Indian tribes along the way.

There are currently no National Scenic Trails in Arizona; the Arizona Trail is working towards National Scenic Trail designation.

Packhorses along trail near Arizona/New Mexico border.

Other Trail Information

Arizona State Committee On Trails

The Arizona State Committee on Trails (ASCOT) is an advisory committee to the Arizona State Parks Board, providing expertise on nonmotorized trail issues. ASCOT is an active group that has a long history in Arizona and benefited Arizona's trails through numerous achievements. ASCOT began in January of 1972 as the Arizona State Hiking and Riding Trails Committee consisting mainly of equestrians and primarily focusing on Arizona's first long distance urban trail, Sun Circle Trail, and Arizona's first long distance rural trail, the Black Canyon Trail (an historic sheep driveway corridor). ASCOT has evolved over the years as trail needs changed and new user groups emerged. In 1992, the committee was renamed Arizona State Committee on Trails to recognize the full range of mountain bikers, hikers, equestrians and water trail users. The Committee is comprised of diversified trail user groups, agency representatives, and interested members of the general public from throughout the State.

Off-Highway Vehicle Advisory Group

The Off-Highway Vehicle Advisory Group (OHVAG) is a body of dedicated citizen volunteers who assure public involvement in the implementation of Arizona's OHV Program. The Arizona State Parks Board (ASPB) established the OHVAG to advise the ASPB on the development and implementation of the Arizona OHV Recreation Plan and Program and expenditures from the OHV Recreation Fund. The OHVAG consists of seven members with no more than two members residing in one county; five members must be OHV recreationists affiliated with an organized OHV group and two members of the group represent the general public or casual OHV recreationist.

State Trails System
Vision Statement:
Arizona's State Trails System is invaluable, offering a diversity of quality nonmotorized trails that inspire people to experience the State's magnificent outdoor environment and cultural history.


Poppies along 50 Year Trail in Catalina State Park.

The Arizona State Trails System is a partial inventory of Arizona's nonmotorized trails. The System includes a database of existing and proposed nonmotorized trails in Arizona that have been formally nominated by land managing agencies and accepted by the Arizona State Parks Board. There are currently 681 trails in the State Trails System.

The fourth edition of the Arizona State Trails Guide was developed in 2003. The guide includes all existing trails in the State Trails System and provides a trail description, map, elevation profile and contact information for each trail. The Guide is available for purchase and has been widely popular around the State.

The Arizona State Committee on Trails (ASCOT) and other volunteers work each year to monitor the trails in Arizona. By monitoring, ASCOT aids the State in assuring the trails in the State Trails System are safe and maintain the quality of the System.

Arizona Trail
The Arizona Trail will eventually be an 800-mile nonmotorized trail that traverses the State from Mexico to Utah. The Arizona Trail is intended to be a primitive, long distance trail that highlights the State's topographic, biologic, historic and cultural diversity. The cross-state trail now has approximately 720 miles developed. The Arizona Trail Association is a volunteer organization dedicated to completing and maintaining the trail.

Great Western Trail
The Great Western Trail (GWT) is a long and primitive, shared-use route (motorized and non-motorized) anticipated to run from Mexico to Canada through Arizona, Utah, Idaho, and Montana. The 800-mile Arizona section of the GWT is nearly 50% complete and is located on existing backcountry routes. It incorporates stunning desert and canyon landscapes, plateaus, woodlands, dense forests and alpine meadows. Some segments require vehicles to be highway-licensed. The Bureau of Land Management is in the process of inventorying designated GWT sections in Arizona. Few members of the GWT Trail Association are currently active, and are seeking a leader to work with land management agencies and tribal governments to secure access and officially designate new GWT routes.

Motorized Recreation Management in Arizona

Off-Highway Vehicle (OHV) Recreation, once termed Off-Road Vehicle Recreation, is undoubtedly the most controversial and least understood recreation occurring on lands in Arizona today. It is an emotional battle for the users and a concern for land managers. OHVs represent a diverse body of motor vehicles that are capable of traveling over unimproved terrains such as full size four-wheel drive, trials, dual-sport motorcycles, sandrails, all-terrain vehicles, rock crawlers, and snowmobiles. People use OHVs to access a particular destination (camping) or are used as the essential part of the recreation experience (dirt biking). There are increasing numbers of OHV users, impacts, and a need for management response in Arizona.

Custom four-wheel drive rock crawling vehicle, Florence Junction.

Based on the *Arizona Trails 2005 Plan*, OHV users represent over 24% of the Arizona population which include residents who use motorized vehicles on trails for multiple purposes. Of that, 7% of Arizona residents reported that motorized trail use accounted for the majority of their time and are considered 'core users.' According to a 2005 report from the National Survey on Recreation and the Environment (NSRE), based on Motorcycle Industry Council reports, the number of ATVs and off-highway motorcycles sales tripled from 1993 to 2003 where more than 1.1 million vehicles were sold in 2003 (totaling more than 8 million ATVs and off-highway motorcycles). ATVs account for more than 70% of the OHV market according to a 2005 NSRE report.

In Arizona, all-terrain vehicles and cycles titled or registered with the Arizona Motor Vehicle Division increased 347% from 1998 (51,453 vehicles) to July 2006 (230,000 vehicles). This does not include untitled OHVs, out of state visitors, or other OHVs that recreate in Arizona. OHV recreation is one of the most extensive recreational activities taking place on public and state lands in Arizona and is forecasted to continue to grow at an increasingly rapid rate.

Benefits of OHV recreation include access for people with disabilities and mobility issues, a significant economic impact in Arizona (more than $4 billion a year based on a 2003 Arizona State Parks study), and the benefits of outdoor recreation (family-based fun, stress relief, outdoor adventure and appreciation). Concerns of OHV impact include factors such as environmental and habitat damage, cultural site damage, safety issues, sound pollution, conflict with other users, visual impacts, noxious weeds, damage to livestock, traffic control, and proliferation of trails. Specific issues in Arizona include:

- Lack of suitable riding areas near large urban centers to provide OHV recreation opportunity.
- Lack of an interdisciplinary group to technically encourage and aid local planners.
- Lack of on-the-ground management presence and self-policing for safety, information, education, and enforcement activities.
- Lack of steady, reliable, adequate funding to manage OHV recreation for planning, maintenance, enforcement, and other OHV related activities.
- Inconsistency of rules and regulations including signing across jurisdictional boundaries.
- Lack of comprehensive, collaborative OHV use planning. Each planning and management entity may address complex planning problems individually.
- Lack of robust State Off-Highway Vehicle laws due in part to the lack of understanding of the seriousness of OHV issues.

- Lack of industry involvement to educate OHV users on specific Arizona rules, regulations, trail etiquette, and places to ride.
- Lack of user knowledge on where he or she can responsibly recreate using an OHV.
- Development encroachment on public lands causing reduction of recreation access.

Volunteer dirt biker uses Global Positioning System to inventory OHV routes for federal and state agencies. [Larry Lindenberg photo]

OHV Recreation Opportunity

The land managers that provide for and manage the most OHV opportunity in Arizona are the Bureau of Land Management (BLM) and U.S. Forest Service, which control over 22 million surface acres of the State's land. The BLM and the Forest Service are currently in the process of inventorying and/or evaluating motorized routes and areas to designate acceptable locations for OHV recreation. Evaluation is the beginning step in identifying major OHV corridors for use by motorized vehicles.

Arizona State Land Department State Trust lands also receive high OHV use. The ASLD is not mandated by law or funded to manage recreation on State Trust lands. However, recreational permits are available to the motorized recreationist to cross State Trust lands on open, existing routes, subject to certain terms and conditions.

County parks and preserves provide limited opportunity for motorized recreation. Few counties and cities offer OHV recreation staging area(s) that are often a gateway to BLM and Forest Service managed land. Pima County oversees the management of an OHV park to provide needed OHV recreation sites near urban centers. Management of the Park went through many challenges.

Some counties are also completing trails and open space planning which should include strategies to address motorized recreation. Other governmental entities do not provide any or only provide a limited amount of opportunity for motorized recreation.

Identification of motorized parks/areas and designated routes by local planners near population centers would help alleviate OHV recreational issues on private, state, federal, and tribal lands.

Forest Service Travel Management and Planning

The new Forest Service Travel Management Rule (TMR), published in 2005, requires each national forest or ranger district to designate roads, trails, and areas open to motor vehicles within a four-year timeframe. It acknowledges motorized recreation as an appropriate recreation under proper management and provides a definition for OHVs. Implementation of the rule will generally restrict cross-country travel. The Forest Service rule does not affect snowmobiles;

cross-country restriction of snowmobiles is left to the discretion of the local manager. It includes travel planning for big game retrieval and dispersed camping. A wide range of elements are included in the travel analysis and motorized route/area designation process including environmental, social, and cultural analysis; public involvement; and coordination with other agencies and tribal governments.

Motorized route/area designations will be identified on a motor vehicle use map (MVUM) (36 CFR 212.56) which must be published by the year 2009. Once the map is published, motor vehicle use inconsistent with designations is prohibited (36 CFR 261.13). Until designation is complete current rules and authorities will remain in place.

In Arizona, there are six National Forests and twenty-six Ranger Districts which cover over 10 million surface acres and over 30,000 miles of routes. Each Forest may use a different process for reaching motorized route/area designations. Analysis and public comment will occur in different phases on each ranger district for some of the National Forests.

All six National Forests in Arizona are also currently in the process of forest plan revision. Forest Plans provide a broad long-term strategy for guiding natural resources and land use activities on the Forest, including motorized recreation. It will set the vision and direction for the future. Plans are being revised as some are near twenty years old and may not address current issues. The Plan does not address specific actions or projects, but are important in identifying the general suitability of motorized recreation across each Forest.

Saffel Canyon Trail and staging area near Eagar.

The Forest Service is also considering how to proceed with inventoried roadless areas. In January 2001, the United State Department of Agriculture (U.S.D.A) Forest Service issued The Roadless Area Conservation Rule (36 CFR 294). Within roadless areas, road construction and logging is prohibited. There are approximately 1.1 million acres of inventoried roadless areas in Arizona. In 2005, the national Rule was repealed and replaced with a State Petitions Rule that required governors of each State to petition the USDA for establishment of management requirements for roadless areas within their States. The Arizona Game and Fish Department was directed to lead the petitioning effort in Arizona. In September 2006, a U.S. Federal District Court of California reinstated the Roadless Rule and the State Petition Rule was suspended.

Bureau of Land Management Travel Management and Planning

The BLM developed a comprehensive approach to travel planning and management. BLM issued the "National Management Strategy for Motorized Off-Highway Vehicle Use on Public Lands" (2001), "National Mountain Bicycling Strategic Action Plan" (2002) and "The BLM's Priorities for Recreation and Visitor Services" workplan (2003). Arizona BLM is in the process of establishing a designated travel network through its land use planning efforts.

Arizona BLM is developing Resource Management Plans (RMP) for its various units, known as field offices. The plans often take 3 to 5 years to develop and generally cover the entire field office. There are currently four districts, eight field offices, five National Monuments, and three National Conservation Areas which cover approximately 12 million surface acres and 25,000 miles of roads, primitive roads and trails on BLM managed land in Arizona.

The purpose of the RMP is to allocate resources for certain uses (grazing allotments, recreational areas). As part of the RMP, under 43 CFR 8340, BLM offices are required to allocate the entire planning area into three area subdivisions: open (travel permitted anywhere), closed (e.g., wilderness areas), and limited (e.g., limited to existing or designated roads/trails, limited to seasonal use, limited to certain vehicular use). The RMPs also define "desired future conditions" of the planning area transportation network.

During the RMP process, BLM conducts route inventory within the planning area and the public is given a period to comment, usually ninety days. The RMP Record of Decision (ROD) is signed, which implements the Plan, which is generally 15 to 20 years. Implementation plans, known as "Travel Management Plans" will tier off the RMP to accomplish specific route designations; establish routes as roads, primitive roads, or trails; and establish monitoring protocols, mitigative procedures, and a maintenance schedule. A standard signing protocol, statewide route numbering system, and map format (known as "Arizona Access Guides"), has been established.

Arizona State Land Department, State Trust Lands – OHV Use

The Arizona State Land Department (ASLD), which manages over nine million surface acres of State Trust land, which accounts for approximately 13% of land ownership in Arizona, also receives high OHV use. State Trust lands are scattered throughout the State, and the majority are located in more rural areas.

State Trust lands are not public lands, but are instead a trust created to earn funds for trust beneficiaries, mainly Arizona's educational and public institutions. Federal land managers frequently inventory routes on State Trust land sections that are checker-boarded between their land management jurisdictions. This assists in motorized route connections and consistency across jurisdictional boundaries.

Through a partnership with OHV stakeholders, two State Trust land areas surrounding Phoenix Metropolitan were signed, mapped, and temporarily available for motorized recreation on existing routes for those who have purchased a recreation permit. Use of these areas can be closed at anytime, however, such areas may help alleviate the pressure on public lands while providing the public recreation opportunity near population centers. Additional collaboration between multiple entities to provide such opportunities benefits many OHV stakeholders. However, according to the ASLD, allowing recreational use on State Trust lands does not financially benefit trust beneficiaries, which is the agency's primary mandate.

OHV Legislation in Arizona

During 2006 and 2007 legislative sessions, OHV legislation was introduced in both the House and Senate (e.g., SB1508, HB2443) for the purposes of enhancing State OHV laws through operation restrictions and equipment requirements, and generating new revenue for OHV recreation management, opportunity, mitigation and law enforcement. Draft legislation was crafted by an interdisciplinary group of stakeholders. In 2006, the Arizona Game and Fish Department, on behalf of the OHV Workgroup, hosted a series of open houses for informational purposes and to receive comment on draft legislation. OHV legislation is often misunderstood due to lack of understanding of statewide OHV issues and activities. Neither the 2006 nor 2007 proposed OHV legislation passed to become law. It is expected that a similar version of the draft legislation will be reintroduced in the future.

OHV Recreation Trends

Off-highway vehicle recreation is one of the fastest growing activities on public lands in the nation and is not going away. With the introduction of the first commercially made OHV, the four-wheel drive Jeep (1945), motorized bicycle (1947), sport utility vehicle (1958), snowmobile (1959), and dune buggy (1965), the use of off-highway vehicles for recreation in the last 60 years has greatly increased and is only expected to continue on this trend. Also, recreational vehicles are diversifying.

Four-wheeling near Saguaro Lake, Maricopa County (Four Peaks in the background).

More people are buying and using OHVs, but they are discovering that signed and designated routes and areas are limited and difficult to find, especially areas close to home. In the absence of available information, education and maps, many uninformed OHV users ride anywhere there is open land, creating unauthorized routes resulting in damage to the natural environment. Also, many users do not understand the unique and fragile nature of the Sonoran Desert ecosystem and that any soil disturbance (even a single tire track) does not "disappear" with the next rain. This soil disturbance contributes to dust pollution, and allows invasive and non-native vegetation to take hold which increases the chance for wildfires. The soil damage caused by breaking the "desert crust" can remain for centuries. Well-designed, signed routes (especially near urban areas) and statewide education efforts could alleviate much of the resource impacts of OHV use.

With new and increased use of lands for recreational activities, user conflicts increase. Recreation management budgets are often cut. Land management agencies are challenged with balancing the needs of the recreationing public with other land uses. Agencies are changing approaches to managing off-highway vehicle use including more consistent rules, greater restriction, and land closures.

The Arizona Bureau of Land Management and Forest Service are moving toward a designated motorized system where travel use maps will be the enforceable indicator of which routes/areas allow, prohibit, or limit motor vehicle use. Many of the motorized routes currently being used by recreationists are "unauthorized" routes and may be closed through this evaluation process. Once a system is designated (proposed completion in the year 2009 for the Forest Service and 2012 for the BLM) the future challenge is the on-the-ground implementation and monitoring of the new travel management direction. Once the designation process is complete implementation of travel management will include travel maps, signs, trailhead locations, and other information to assist OHV users in making responsible OHV recreation choices.

Motorbike riders on dirt road, east of Phoenix near Bartlett Lake.

Particulate matter pollution is increasing, becoming an issue in Arizona's Maricopa, Pinal, and Pima counties and is affecting OHV use. Under the Clean Air Act, the U.S. Environmental Protection Agency set national ambient air quality standards for primary air pollutants to protect public health and the environment. Portions of Maricopa, Pinal, and Pima counties have been designated nonattainment for not meeting air quality standards, including particulate matter. Under the air quality State Implementation Plan, control measures must be implemented to meet national standards. More recently, *Executive Order 2007-03, Improving Air Quality*, requires the Arizona Department of Environmental Quality to develop an Air Quality Improvement Action Plan by March 31, 2007. The Plan provides the Governor with recommended strategies to reduce particulate matter and ozone pollution in Arizona, and meet national air quality standards. As sources of particulate pollution include open areas, unpaved parking lots and roads, disturbed vacant lots, and paved road dust, OHV recreation will likely be impacted.

Closures of portions of State Trust land for dust violations in areas of OHV recreation use are currently occurring and with increased air quality regulation, more land closures and regulations are expected.

As there is an increased need to manage OHV recreation, operation restrictions, equipment requirements, and generation of new revenue for OHV recreation management and opportunity, OHV legislation was introduced in the State Legislature during 2006 and 2007, however, the bills did not pass. It is likely that some form of OHV legislation will be reintroduced in future years. County sheriffs and local law enforcement officials are increasingly requested to assist agencies that manage high-use or high-impact OHV areas. Proposed new OHV fund revenues, if authorized by the State Legislature, may support additional law enforcement through the Arizona Game and Fish Department, county sheriffs and/or other entities.

Members of the Off-Highway Vehicle Advisory Group (OHVAG) riding ATVs on field trip, Moss Wash Trail near Kingman.

Tourism and recreation have risen to one of Arizona's top industries—communities benefit from the economic impact of OHV recreation. As the population growth and popularity of OHV use increases, there is a demand for new riding opportunities. Interfaces at the edge of rural and urban communities are increasingly impacted by OHV recreation. OHV opportunity close to large population centers becomes increasingly important, however, it is limited by factors such as loss of access, closures, liability issues, sound pollution concerns, dust pollution concerns, and lack of local/regional OHV recreational use planning. Well-designed and sustainable motorized route systems are essential in managing OHVs to reduce resource damage and user conflicts. Interconnected networks of trail loops of varying length and degree of difficulty with scenic sites and facilities are ideal. However, a limited number of trail systems in Arizona have been designed specifically for recreational OHV use – existing roads and unauthorized routes tend to make up the motorized route system in Arizona. Federal and state land managing agencies are now beginning to close unauthorized routes not officially designated by the managing agency. Inclusion of OHV recreation parks and designated route systems into recreation plans is new to most local planners and motorized recreation opportunities are often neglected or ignored.

Land management agencies are formulating strategies to help resolve OHV issues including defining suitable motorized recreation locations, more consistent rules and regulations, education and increased enforcement. As budgets are limited to manage OHV recreation on public land and use increases, fees for use of OHV facilities (as well as other recreation sites) are becoming increasingly popular.

With land closures, route closures, loss of access, and existing route systems not designed for sustainable, high-quality OHV experiences, the bottom line is OHV recreational opportunities in Arizona are not trending to meet the growing demand for OHV recreation.

BOATING RECREATION IN ARIZONA

By Danielle Silvas, SLIF Grants Coordinator, Arizona State Parks

Arizona is thought of as a desert environment; most people would suspect a lack of water resources. Actually Arizona has water, but it is a precious commodity – one to be used wisely and conservatively to ensure there is water for future generations.

When it comes to water-based recreation opportunities in Arizona, there is an abundance of choices. Arizona has a variety of rivers, natural lakes and reservoirs that provide people with ample possibilities to boat, swim, water ski, and fish. Water-based recreation is an extremely popular and important aspect of Arizona's lifestyle.

(see Figure 8. Arizona Boatable Lakes and Streams, Appendix C, pg 250).

Waterskiing at Lyman Lake State Park near St. Johns.

Boaters that use Arizona waterways have many recreational opportunities in some of the most scenic landscapes. There are about 200 boatable recreation lakes in Arizona that provide approximately 400,000 acres of surface water for the enjoyment of residents and visitors (see Figure 8. Arizona Lakes and Rivers). For the purpose of this report, the state can be divided up into four water-based recreation regions; Colorado River, Northern, Southern, and Central.

- The **Colorado River** is the largest and most popular waterway, running along the north Utah boarder down the west side of Arizona from Nevada to California and exiting the state at the Mexico border. With more than 500 miles and an estimated 340,000 surface acres of fresh water, the Colorado River is the hot spot for recreation and six major lakes. Lake Powell, Lake Mead, Lake Mohave, Lake Havasu, Parker Strip, and Martinez Lake all offer accessible boat launch ramps, courtesy docks, fuel stations, camping with and without hook-ups, picnicking, fishing, boat rentals, boating and fishing supplies, and much more. While many Arizonans use the Colorado River, more Californians use this water resource.

- The **Northern Region** has an estimated 5,000 surface acres of boatable water. This area includes many lakes in the Coconino National Forest such as Upper Lake Mary, Apache-Sitgreaves National Forest with Luna Lake and Willow Springs, White Mountain Apache Indian Reservation with Big Lake and Reservation Lake, Arizona State Parks with Lyman Lake and Fool Hollow Lake, and Clear Creek Reservoir in Navajo County.

- The **Central Region** has an estimated 30,000 surface acres of boatable waters. Most of these waterways are run by the Tonto National Forest such as Roosevelt Lake, Apache Lake, Canyon Lake and Saguaro Lake on the Salt River, and Horseshoe Lake and Bartlett Lake on the Verde River. Arizona State Parks manages Alamo Lake, and Lake Pleasant is run by Maricopa County Parks and Recreation.

- The **Southern Region** has an estimated 20,000 surface acres of boatable waters. San Carlos Lake is run by the San Carlos Apache Tribe, Patagonia Lake and Roper Lake are Arizona State Parks, and the Coronado National Forest has the popular Parker Canyon Lake and Peña Blanca Lake.

Arizona's Northern, Central, and Southern Region lakes and reservoirs are much more remote than the Colorado River. Because they are inland these lakes and reservoirs are very popular for fishing, camping, boating, picnicking, and enjoying the great outdoors primarily by Arizonans.

Arizona Watercraft Survey

The Arizona Department of Transportation (ADOT), the Arizona Game & Fish Department (AGFD), and the Arizona State Parks Board (ASPB) are required, under Arizona Revised Statutes (Sec. § 28-5926), to conduct a study every three years on watercraft fuel consumption and recreational watercraft usage. The primary purposes of this study are to determine the percentage of total state taxes paid to Arizona for motor vehicle fuel that is used for propelling watercraft and determine the number of days of recreational watercraft use in each of the state's counties by boat use days and person use days (BRC, 2006).

Jet skiing at Lake Havasu State Park.

The fuel consumption data is collected to determine the allocation of motor vehicle fuel tax to the State Lake Improvement Fund (SLIF). The information on recreational watercraft usage patterns on Arizona's lakes and rivers is necessary, in part, to determine the distribution of SLIF funds to eligible grant applicants.

This study also provides selected attitudinal and behavioral data on;

- Water-based and non-water-based recreational activities participated in,
- Boating and water-based recreational facility needs,
- SLIF fund utilization priorities,
- Adequacy and focus of watercraft law enforcement activities; and
- Attitudes about selected watercraft and outdoor recreation issues.

The information contained in this report is based on two key study components:

- A statistically valid and projectable telephone survey of registered watercraft owners in Arizona, California, Nevada and Utah.
- An audit/survey of the fuel sales and consumption patterns of: (1) marinas, (2) public agencies, and (3) concessionaires, commercial boat operators and excursion operators.

In addition to the boat owner surveys and the marina, agency and concessionary audits, this study also included a launch ramp survey. The launch ramp survey was conducted to check the ratio of in-state to out-of-state boaters at ten selected Arizona lakes and rivers.

Between June 1, 2005 and May 31, 2006, Arizonans used a total of 2,737,702,381 gallons of taxable gasoline. An estimated 46,970,760 gallons of gasoline was used to propel watercraft in the state of Arizona. This total represents 1.7157% of the total gallons of taxable gasoline sold during the study. The 2006 SLIF allocation of 1.7157% is up from the 2003 percentage of 1.4514%. The primary reason for the increase from 2003 is that the percent of boaters who used their watercraft on Arizona lakes and rivers in a two-week period increased from 8% in 2003 to 10.2% in 2006. Registered watercraft owners that typically use Arizona waterways are from Arizona, California, Nevada, and Utah.

Total boat use days in 2006 were 4,793,501, a 48% increase over the 3,229,153 boat use days recorded in 2003. Similar to the prior three studies, Mohave County is the dominant boating location in Arizona with 49.9% of total boat use days – up from 40.8% in 2003. The study also reveals increased boat use in Maricopa, La Paz, Coconino, Gila and Yuma Counties. Person use days also increased from 14,781,894 in 2003 to 23,409,303 in 2006 – a 58% increase. As in the case with boat use days, Mohave County is the dominant boating location in Arizona accounting for 52.2% of all person use days.

Survey Questions

- When boaters are asked if they feel the program's funds should be used mostly for renovations or new building, a majority of boaters select renovations over new building – 55% vs. 31%.

- Boaters are asked how important they feel each of six SLIF funding functions are, four of the functions are rated very or somewhat important by over eight out of ten boaters:
  1) the construction of first-aid stations and other safety facilities, 88%;
  2) the purchasing of law enforcement and safety equipment such as patrol boats, radios and lights, 87%;
  3) the construction of water-based boating facilities such as marinas, launch ramps and piers, 86%; and
  4) the construction of recreation support facilities such as restrooms, campgrounds and picnic tables, 85%.

  These four functions have remained the top four over the past three studies.

- A new question was added starting with the 2000 study to determine boaters' preferences for the uses of a new lake, should one be developed. Seven different boating activities were evaluated and in 2006, as was the case in 2000 and 2003, four received ratings of very important or somewhat important by more than 80% of the boaters:
  1) general pleasure boating, 95%;
  2) fishing, 91%;
  3) water skiing, 85%; and
  4) power boating, 84%.

  Stopping people who are boating recklessly, 52%, and stopping people who are boating while drunk, 50%, continue to be the two law enforcement activities which boaters would most like to see increased at their favorite lake or river.

The next Arizona Watercraft Study will be in 2009.

WILDLIFE RELATED RECREATION IN ARIZONA

By Sal Palazzolo, Landowner Relations Program Manager, Arizona Game & Fish Department

Introduction

With more than 87 million people 16 years of age and older participating nationally in wildlife-related recreation in 2006, it is clearly an important leisure activity in the U.S. This equates to an average of nearly four out of every 10 people you meet at work, at school, in a restaurant, or while strolling down a sidewalk will participate in some type of wildlife recreation (FWS, 2007).

Fishing for largemouth bass at Alamo Lake State Park.

Arizona is gifted with varied habitats that support a great diversity of wildlife as well as a significant amount of state and federal lands. As a result of this abundant and diverse wildlife and the large amount of public lands, hunting, fishing, and wildlife viewing is an important outdoor recreation for many resident and non-resident sportsmen.

Arizona has a long tradition of providing recreational opportunities for the hunting and angling public along with supporting several other types of wildlife recreation. We strive to maintain and enhance programs for conservation of wildlife resources, and for hunters, anglers, wildlife watchers, photographers and other recreational users of wildlife and for all of those who take pleasure in enjoying that wildlife exists. The funding for this management is acquired through fees charged to hunters, anglers and trappers for licenses, permits, stamps and tags, and a federal excise tax on hunting and fishing equipment.

The purpose of Game Management is to protect and manage game populations and their habitats to maintain the natural diversity of Arizona, and to provide wildlife-oriented recreation opportunities for present and future generations. This includes big game, small game, fur-bearing animals, predatory animals, upland game birds and migratory game birds. Providing habitat for game animals also directly provides habitat for all wildlife in that habitat, which provides opportunities for all recreational users (or observers) of wildlife.

The purpose of Sportfish Management is to protect and manage sportfish populations and their habitats, while also working to maintain the natural diversity of Arizona. Sportfish management also provides fishing opportunities for present and future generations. “Sportfish” means fish that are pursued by anglers, including cold-water fish (such as trout) and warm-water fish (such as largemouth bass).

Management of Hunting and Fishing Recreation in Arizona

The activities of hunting and fishing are resource dependent, meaning that the harvest or take of wildlife and fish needs to be regulated to protect against over-harvest. This can be accomplished

in a number of ways: limiting the number of licenses or tags that are sold, setting limits on the number of animals or fish that can be harvested within a set time period (i.e. one deer per year, 10 bluegill per day, etc.). This setting of limits also helps to allow the greatest number of individuals possible to enjoy the activity.

The regulations and guidelines that govern the pursuits of hunting and fishing are established and enforced by the Arizona Game and Fish Department (AGFD or the Department). The Department is part of the executive branch of Arizona state government. State law mandates that the Department protect Arizona's wildlife resources, regulate watercraft use and enforce OHV laws. They do this by implementing rules and policies; developing cooperative partnerships; taking actions to conserve, manage and enjoy wildlife; and enforcing laws that protect wildlife, public health and safety.

Family affair—Boating and fishing go hand in hand. [Courtesy of AGFD]

Economic Importance of Hunting and Fishing in Arizona

Fishing and hunting recreation generates spending that has a powerful effect on Arizona's economy. More than 255,000 Arizona anglers spend an estimated $831.5 million on equipment and trip-related expenditures annually. Hunters, more than 135,000 of them in Arizona, account for an additional $126.5 million in retail sales. This combined $958 million in spending creates an economic impact of $1.34 billion to the state of Arizona. Furthermore, this spending supports more than 17,000 jobs, provides residents with $314 million in salary and wages and generates more than $58 million in state tax revenue.

The following report prepared by Arizona State University, School of Management presents a detailed economic analysis on the impacts that fishing and hunting recreation generate at the state and individual county levels.

Economic Importance for Non-consumptive Wildlife-Related Recreation in Arizona
Expenditures made by watchable wildlife recreationists generate rounds of additional spending through the economy. This results in numerous direct, indirect, and induced impacts. The sum of these impacts is the total economic impact resulting from the original expenditures. These economic figures show the total economic effect from 2001 watchable wildlife activities in Arizona to be $1.5 billion. In addition, watchable wildlife recreation supports over 15,000 jobs in the state, providing total household income near $430 million and generates over $57 million in state taxes.

The following report prepared by Southwick Associates, using data provided in the National Survey of Fishing, Hunting and Wildlife-Associated Recreation, presents a detailed economic analysis on the impacts that watchable wildlife recreation generate at the state and individual county levels.

Issues Affecting Hunting and Fishing Recreation

Arizona's human population has been increasing at a far greater rate than the national average. This growth is likely to continue throughout the life of this plan. A growing human population places increasing demands on wildlife populations, in part because of shrinking wildlife habitat due to human development and encroachment.

Increasing human population and decreasing wildlife habitat also result in loss of areas in which to recreate, concentrate human activity in existing recreation areas, increase human-wildlife conflicts, increase density of watercraft and off-highway vehicles, and may reduce the quality of habitat available for wildlife as a result of these competing uses.

Arizona's increasing human population is more urban and less rural. Perceptions among urban and rural residents regarding traditional uses of wildlife differ. The proportion of people who hunt and fish is declining, although the absolute number of participants in these activities is relatively stable. Assessing the desires of Arizona's diverse human population is essential to implementing appropriate management direction.

The increasing use of recreational vehicles like personal watercraft and off-highway vehicles often results in conflicts among user groups and requires balance between recreation management and protection of wildlife and wildlife habitat. Compliance with regulations becomes a greater challenge as recreational participants increase and often compete for limited space and resources. Increased emphasis must be placed on human safety, not only in recreational situations, but also in human-wildlife conflicts in both rural and urban areas.

Educational efforts must address all Arizonans and target diverse user groups to provide the necessary information to ensure compliance, reduce conflicts among users and with wildlife, and encourage sustainable enjoyment of Arizona's diverse wildlife resources.

The demand for access to public and State Trust lands for recreation has increased. About 18% of Arizona is privately owned and these lands can provide recreational opportunities and access into public and State Trust lands. However, as more Arizona landowners exercise their right to deny access to or through their private lands, access to public and State Trust lands has become difficult. Many times, collaboration with private landowners results in improved wildlife habitat in exchange for short-term or perpetual access agreements. These efforts must continue to address the underlying reasons for denial of public access, such as vandalism, trespassing, littering, illegal off-road activities, disruption of landowner operations, liability, undocumented immigrants and drug trafficking.

Participation - Hunting

Providing an accurate account of participation of hunting and fishing in Arizona can be difficult in some situations. For example, determining the number of people interested in fishing or small game hunting (i.e. quail, dove, rabbit) is relatively easy. Any person wishing to participate in that activity must purchase a hunting or fishing license.

Quail hunting in the desert.
[Courtesy of AGFD]

However, in the case of big game hunting (elk, bighorn sheep, deer) these licenses or tags are distributed via a lottery draw. Meaning, that the numbers of people who wish to participate far exceed those that actually participate because of the need to regulate the number of animals harvested. For example, in 2005 there were 11,266 applicants (people wishing to participate) for only 84 Bighorn sheep tags (people who actually participated) (Table 34). This example is true every year for most big game hunts.

Table 34. Summary of Big Game Hunt Applicants and Permits Issued

Year	Species	# of applicants	# of permits issued
2005	Elk	92,687	24,969
2005	Bighorn Sheep	11,266	84
2005	Deer	87,396	40,057
2005	Pronghorn Antelope	20,073	519

Table 35. Summary of Small Game Hunter Participation

Year	Species	Hunters	Hunter days	Days/Hunter
2004	Mourning Dove	45,933	191,651	4.2
2004	White-winged Dove	20,962	69,104	3.3
2004	Quail	44,142	220,032	5
2004	Cottontail Rabbit	12,819	74,571	5.8
2004	Squirrel	6,217	14,892	2.4

As Arizona's population continues to grow the participation in certain aspects of hunting and fishing has grown the same. Table 36 demonstrates the increase in participation in these activities:

Table 36. Trend in Select Big Game Applications

Species	Year	# of Applicants	Year	# of Applicants
Bighorn Sheep	1965	573	2005	11,266
Spring Turkey	1979	6,275	2005	16,682
Pronghorn Antelope	1966	6,781	2005	20,073
Elk	1966	7,811	2005	92,687

While the interest in participating in big game hunting has generally increased, the same is not seen with interest in small game hunting. Table 37 illustrates this:

Table 37. Trend in Number of Small Game Hunters

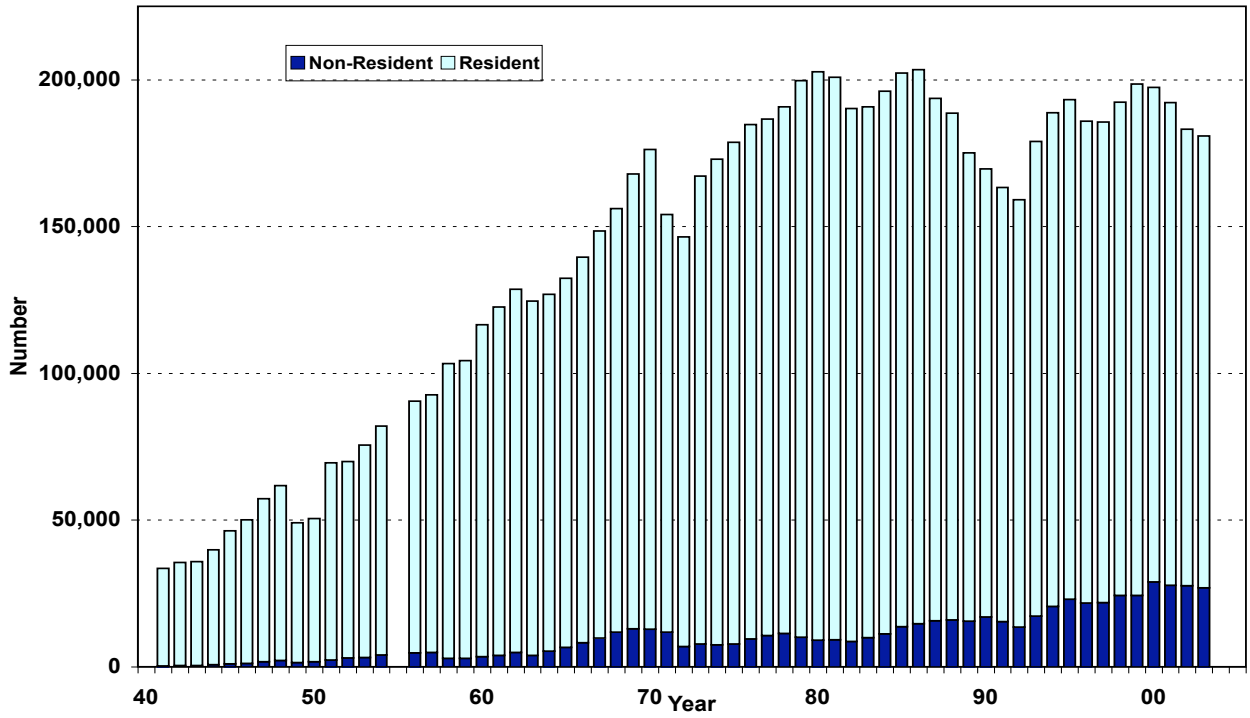
Species	Year	# of Hunters	Year	# of Hunters
Mourning Dove	1995	52,357	2004	45,933
White-winged Dove	1995	27,429	2004	20,962
Quail	1995	68,661	2004	44,142
Cottontail Rabbit	1995	20,941	2004	12,819
Squirrel	1995	15,955	2004	6,217

Demographics of Arizona Hunters

In April 2004, the Department sent a randomly selected sample of 2,000 purchasers of 2003 hunting licenses a demographics and satisfaction survey. The survey was designed to collect data that could be used for trend comparison with data collected during similar surveys in 1987, 1994 and 2000. All surveys included residents and non-residents in proportion to their occurrence in the hunting population. Arizona population statistics were taken from the Arizona Department of Economic Security's Internet website: www.azdes.gov, 2006).

Sales of Arizona hunting licenses reached a high in 1986. The Department was offering double deer tags during this period. After 1986, hunting license sales declined until a low was reached in 1992. Several factors may have contributed to this decline: poor deer and quail hunting, application deadline for the draw shortened by a week, archery javelina was added to the draw, and an increase in the cost of hunting licenses in 1990. From 1992 to 1993, hunting license sales jumped 12.4% (Figure 12). Small game hunters appear to be responsible for much of this increase, as their numbers increased by approximately 11,300 (13.6%), based on the annual small game hunter questionnaire.

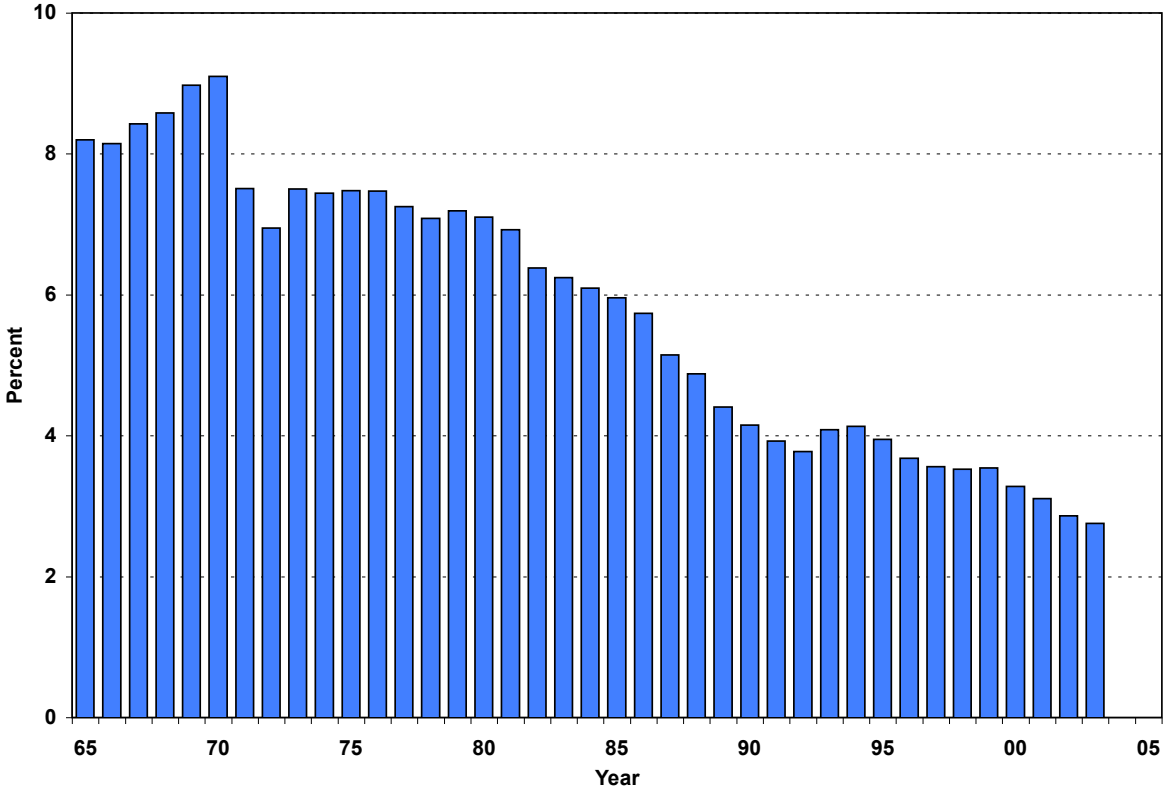
Figure 12. Arizona Hunting License Sales



The number of applications submitted in drawings increased by 5.7% in 1993, indicating that the number of hunters who bought licenses to hunt big game probably increased as well. Arizona hunting license sales increased from 1993-1999 with a slight drop in 1996 and 1997. This drop may have been a response to poor hunting conditions for all species, especially deer, quail, and dove.

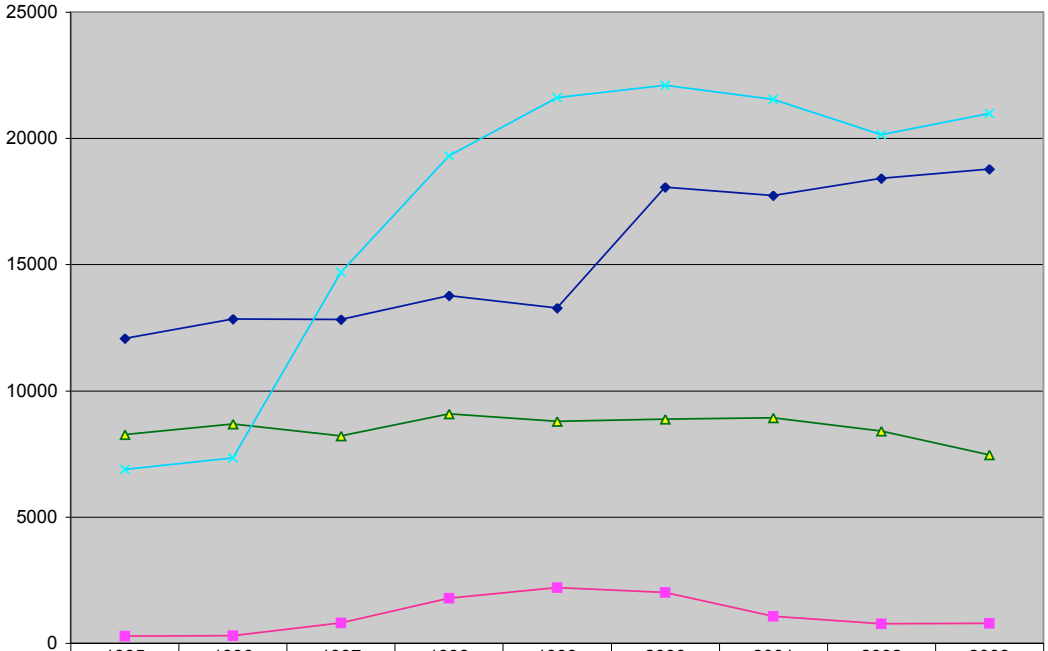
In 1998, deer was added to the bonus point system allowing unsuccessful deer applicants in 1999 to begin accumulating points. This may have reversed the slight drop in hunting license sales in 1996 and 1997. From 2000 to present, the Department has seen a 9% decrease in license sales. Population levels for many species, both big game and small game, are at record low levels, which may be a factor in this decline.

Figure 13. Percent of Arizona Residents who Purchase Arizona Hunting Licenses



People of all abilities enjoy hunting, fishing and watching wildlife. Some people "hunt" wildlife by means other than shotgun or bow, preferring a camera or pair of binoculars. [Courtesy of AGFD]

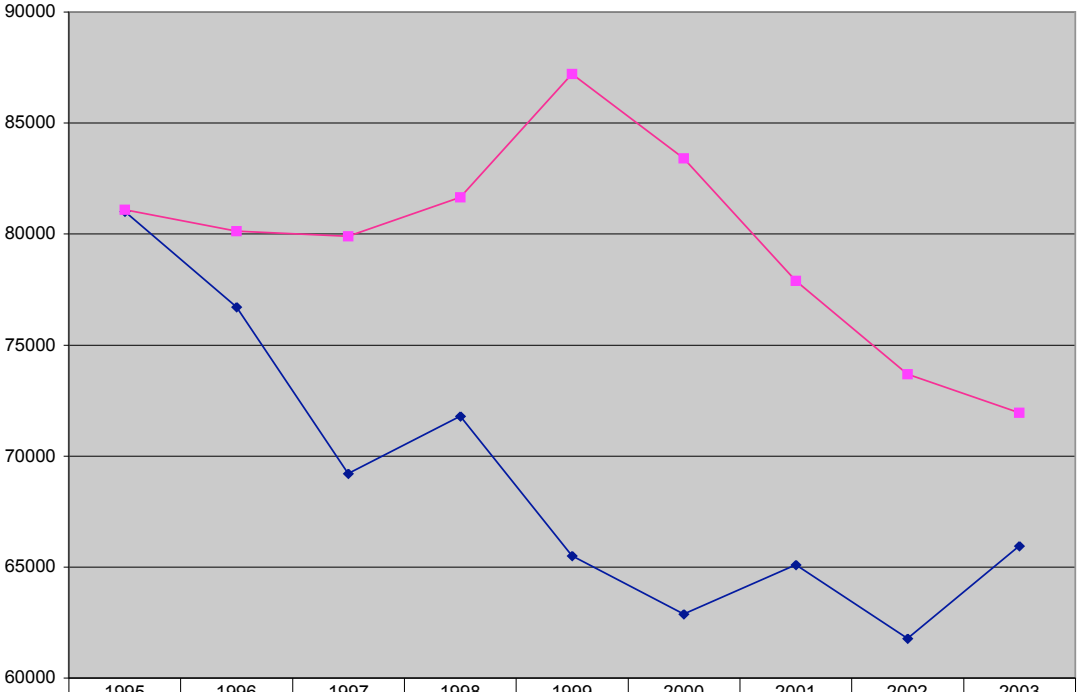
Figure 14. Non-Resident and Other License Sales



	1995	1996	1997	1998	1999	2000	2001	2002	2003
Non-Resident Hunt	12067	12834	12819	13762	13270	18061	17731	18407	18788
Non-Resident Combo	285	297	803	1777	2197	2010	1068	767	788
3-Day Hunts	8259	8675	8205	9081	8779	8869	8923	8396	7462
Youth Hunts	6890	7334	14694	19307	21607	22095	21543	20149	20983

Number of Licenses Sold by Year

Figure 15. Resident Licenses



	1995	1996	1997	1998	1999	2000	2001	2002	2003
Resident Hunt	81014	76698	69195	71787	65491	62880	65084	61778	65946
Resident Combo	81081	80120	79886	81650	87195	83399	77886	73684	71945

Number of Licenses Sold by Year

First successful quail hunt. [Courtesy of AGFD]

The percent of Arizona residents who purchased hunting licenses has decreased since 1993 with only 2.8% of Arizonans purchasing a hunting license in 2003 (Figure 13). This decrease is more a reflection of Arizona's population increasing while the number of resident hunters remained stable. The proportion of non-resident to resident hunting license purchasers was 14.8% in 2003, a 2.5% increase from 1999 (Figure 13 and 16).

Women continue to comprise only a small proportion of hunters, 5.8% in 2004 versus 6.4% in 2000 and 6.9% in 1987.

Age data was not collected during this survey period. This survey will be repeated in 2-3 years at which time age data will be collected. Results from the 2000 survey showed ages reported on samples of licenses continued to increase during 1987-2000. Mean ages shifted upward from 36.8 years in 1987 and 37.8 years in 1993 to 44.7 years in 1999. This shift is evident upon comparison of age class composition (Figure 17).

Figure 16. Percent of Arizona Hunting Licenses Purchased by Nonresidents

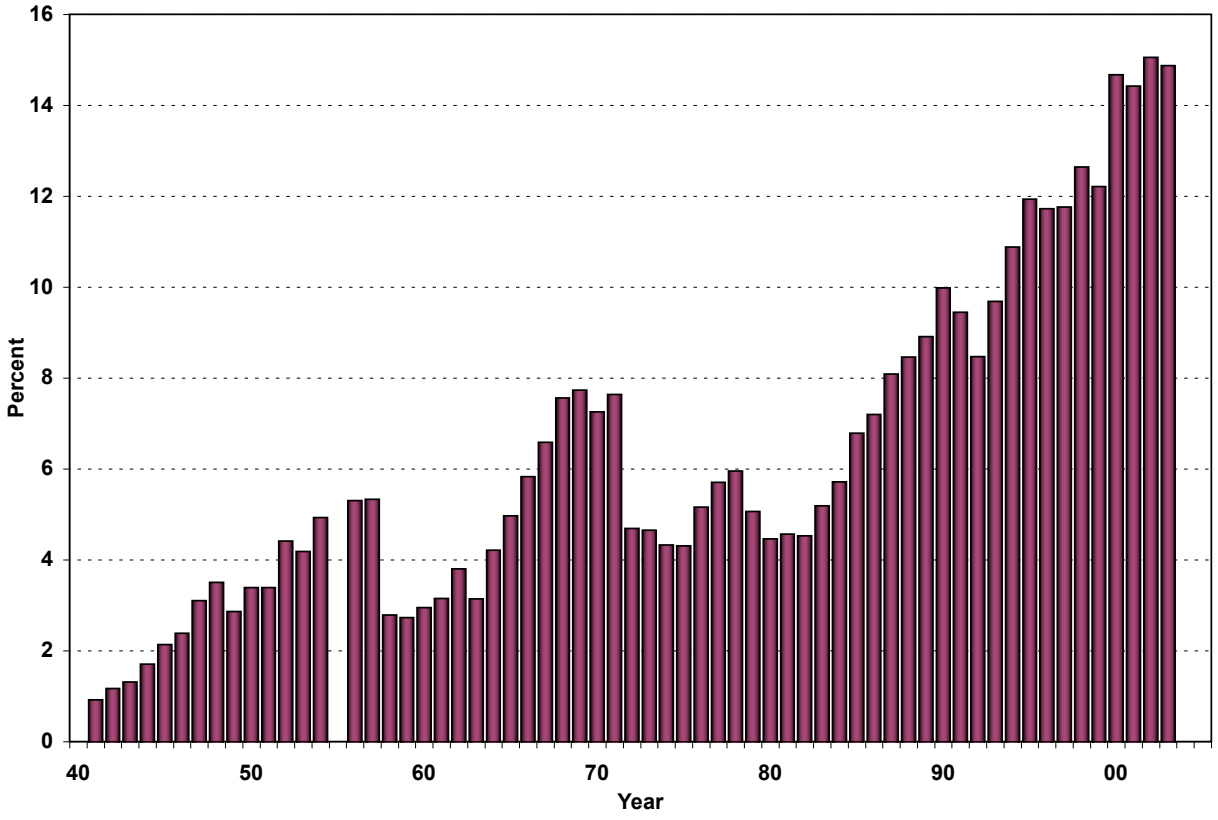
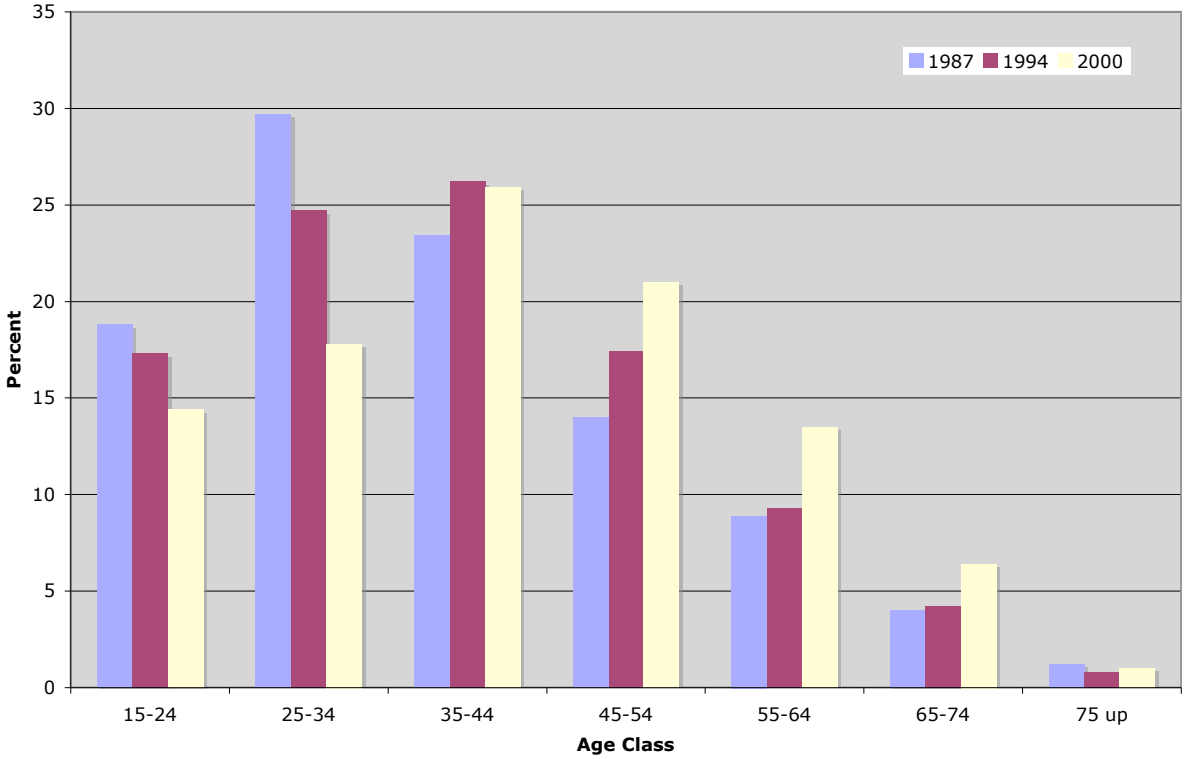


Figure 17. Age Classes of Arizona Hunting License Purchasers



Years of residency for Arizona resident hunters continue to shift towards the middle/older age classes. Education level of Arizona hunters continues to rise with 62.7% of respondents in 2004 completing trade school or some level of college. Over 50% of hunters reside in communities with populations less than 100,000.

In conclusion, following a steady decline of license sales form 1987 to1992 the sales of hunting licenses increased each year through 2000, and from 2000 to present there has been a slow decline (Figure 15). Continued drought conditions adversely affecting most wildlife populations are a likely cause for the decline. The long-term outlook for hunting license sales does not look encouraging. The average age of hunters continues to increase while the number of young hunters remains stable. Special licenses (youth combination), special hunts (juniors-only big game hunts and juniors-only afternoon dove hunts), and special hunter education programs have allowed Jr. license sales to remain stable but not increase (Figure 14). In most respects, characteristics and opinions of hunters in 2004 were similar to those of hunters in 1987, 1994 and 2000. They remain heavily male and middle-aged with average or slightly higher levels of education.

Participation - Angler

The most recent Angler data collected by the Department was compiled in 2001 (Table 38). On average Arizona anglers in 2001 spent 19 days fishing. The average angler spent 11 days fishing for trout and 16 days for non-trout angling. Since 1986, the average days fished has increased to a high of 22.7 in 1992. This activity level has since dropped to 19.1 days in 2001.

Table 38. Estimated Angler User Days (x 1000) by Survey Year

	1986	1989	1992	1995	2001*
Trout	1,797	1,954	2,140	1,764	1,441
Non-Trout	4,996	5,419	5,272	5,017	3,666
Total	6,793	7,373	7,412	6,781	5,107

**Questionnaire redesigned, may not be comparable to previous years.*

Individuals who fished in Arizona during 2001 took on average 15 fishing trips. One person recorded a maximum of 300 trips, a very avid angler. The majority of anglers take multiple one-day trips for fishing.

Since 1986, statewide Angler Surveys have collected trout and non-trout fishing data. This information was grouped into three categories, trout only anglers, mixed (anglers fishing for both trout and non-trout species), and non-trout only anglers. The distribution of these angler types has remained constant from 1986 to 1995. In 2001 the distribution shifted with the mixed group increasing to 43% and the non-trout only anglers dropping to 32%. This change in angler type proportions may in part reflect an increase in the occasional or generalist angler.

The average hours spent fishing per "day" for trout and non-trout species was investigated in this survey. Anglers on average spent 5.4 hours fishing for trout and 6.0 hours fishing for non-trout species such as largemouth bass and channel catfish. Overall, people fished for 5.7 hours per day in 2001. Generally, the hours spent on coldwater angling for trout were less than those spent on warmwater species. These results are similar to findings from creel (angler catch) studies throughout the State. Licensed anglers that did not fish in 2001 were asked to indicate the primary reason for not fishing. Of the 16% that did not fish in 2001, 48.3% indicated "Not enough spare time" as the major reason for not participating in fishing.

The actual number of licensed anglers in Arizona is calculated at 360,334 license holders, of which 265,605 are resident, 24,451 are non-resident and the remaining 70,274 make up the mixed residency category.

Programs to Promote Outdoor Recreation

Urban Fishing Program:
Arizona's Urban Fishing Program is recognized nationally as one of the best in the country. The Program is a partnership with the Department and local parks and recreation departments to intensively stock and manage urban park lakes for fishing recreation. Simply put, the Program operates on the premise that "if people can't get out of town to fish, we will bring fish into town for the people." The Program provides convenient, affordable, accessible and fun fishing for anglers of all ages and abilities.

Kids enjoy catching bluegill at urban lakes. [AGFD photo]

There are currently 20 designated Urban Fishing Program lakes in 11 cities. The parks and recreation departments of Chandler, Gilbert, Mesa, Payson, Peoria, Phoenix, Sahuarita, Scottsdale, Surprise, Tempe and Tucson are currently working collaboratively with the Arizona Game and Fish Department to provide this fishing opportunity in their communities. These 20 lakes are intensively stocked from 20-24 times per year with trout, catfish and sunfish. The cost of bringing these keeper-sized fish into city park lakes means that anglers age 14 and over must purchase a $16 Class U (urban fishing) license to fish Urban Program lakes. Signs posted at each park identify participating lakes.

These specially designated Program lakes are stocked with healthy, catchable fish on an every-other week basis throughout most of the year. Farm-raised channel catfish (15-18 inch average) are stocked from mid March through early July and from late September through mid November. Rainbow trout (9-12 inch average) are stocked from mid November to March. Sunfish are stocked two times during the year in May and November. There are no fish stockings scheduled between July 10 and September 20 due to high lake temperature conditions and the high risk of transporting fish at that time of year.

Many Department sponsored fishing clinics and aquatic educational programs are held each year at park lakes. Youth participation is a high priority and they represent 25% of the Program participants. In addition to catching healthy and delicious 11-inch trout and 1.8-pound catfish, anglers benefit socially and psychologically by spending time with friends and family. The Sport Fishing Education Program is designed to help anyone become more proficient in basic fishing techniques. This statewide program takes advantage of the many fishable waters available in both rural and urban areas of the state. The Department sponsored fishing clinics provide trained fishing instructors and all educational materials, rods, reels, and bait. The normal fishing license requirements are waived during a Department sponsored sport fishing program.

Arizona's Watchable Wildlife Program

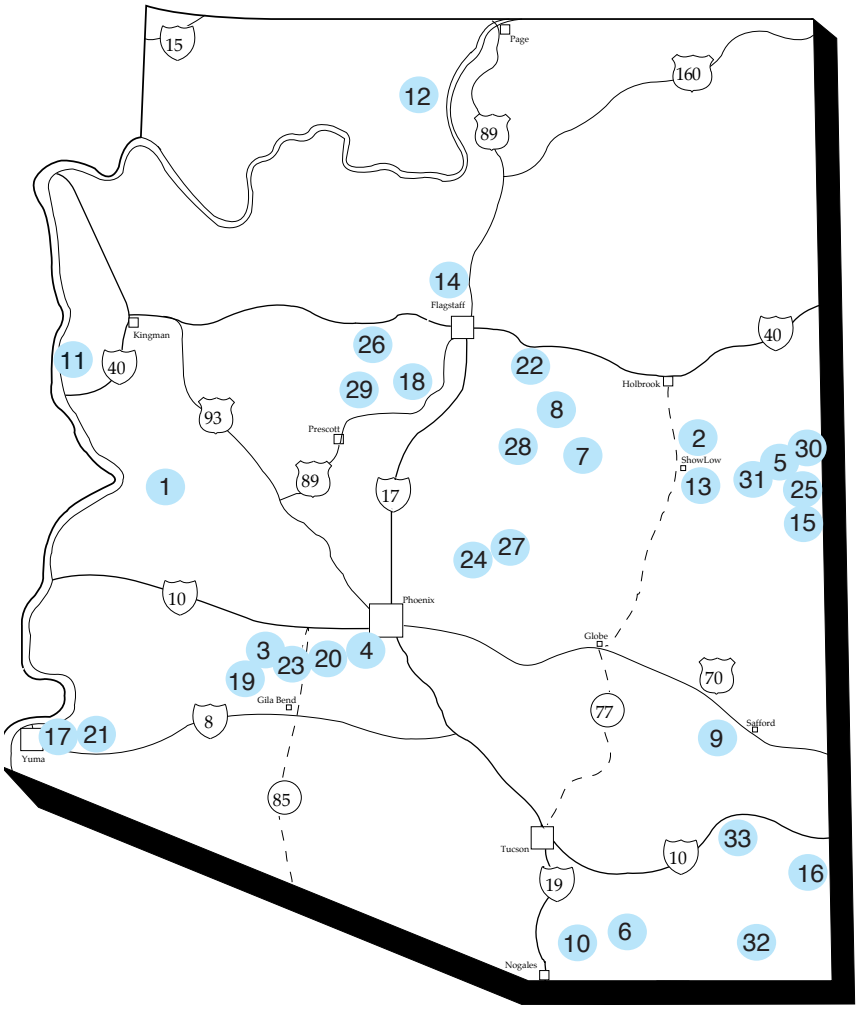
The Arizona Game and Fish Department currently owns or manages more than 266,870 acres of land statewide, including wildlife areas, fish hatcheries, shooting ranges, and regional offices. There are thirty-three designated state wildlife areas available for public uses, including fishing, hunting, camping, hiking, birding and viewing wildlife (Figure 18). Each year the Department acquires more land to provide outdoor recreation opportunities for the public.

Wildlife watching is a popular outdoor recreation activity nationwide. To be considered wildlife watching, one must either take a "special interest" in wildlife around their homes or take a trip for the primary purpose of wildlife watching. More than 71 million people 16 years and older (31% of all Americans) fed, photographed, and observed wildlife in 2006. Of the 71 million wildlife watchers, 48 million are bird watchers.

Birdwatching is often a social activity. [AGFD photo]

More than 78% of wildlife watchers enjoy feeding wildlife, 63% enjoying observing wildlife, 26% enjoy photographing wildlife, 19% visited public parks or natural areas to enjoy wildlife, and 20% maintain plantings or natural areas for the benefit of wildlife. About a third of all wildlife watchers took trips more than a mile from home to observe, photograph or feed wildlife. There has been an 8% increase in wildlife watching activities from 2001 to 2006 and a 13% increase from 1996 to 2006. Wildlife watchers spent nearly $45 billion on their activities in 2006, which equates to one out of every hundred dollars of all goods and services produced in the U.S. is associated with wildlife recreation (USFWS, 2007).

Figure 18. Arizona Game and Fish Commission Designated State Wildlife Areas



1. Alamo Lake
2. Allen Severson
3. Arlington
4. Base & Meridian
5. Becker Lake-Enders
6. Bog Hole
7. Canyon Creek Fish Hatchery
8. Chevelon Canyon
9. Cluff Ranch
10. Coal Mine Springs
11. Colorado River Nature Center
12. House Rock
13. Jaques Marsh
14. Lamar Haines
15. Luna Lake
16. May Memorial
17. Mittry Lake
18. Page Springs Fish Hatchery
19. Painted Rock
20. Powers Butte
21. Quigley
22. Raymond Ranch
23. Robbins Butte
24. Roosevelt Lake
25. Sipe White Mountain
26. Sunflower Flat
27. Three Bar
28. Tonto Creek Fish Hatchery
29. Upper Verde River
30. Wenima Riparian Corridor
31. White Mountain Grasslands
32. Whitewater Draw
33. Willcox Playa

NATIONAL WETLANDS PRIORITY CONSERVATION PLAN

Background

The U.S. Fish and Wildlife Service (USFWS) is responsible for preparing the National Wetlands Priority Conservation Plan (NWPCP). The NWPCP provides a planning framework, criteria and guidance to assist agencies in identifying the types and locations of priority wetlands warranting consideration for state and federal acquisition and protection in accordance with Section 303 of the Emergency Wetlands Resources Act of 1986. **Section 303 amends the Land and Water Conservation Fund (LWCF) Act to authorize wetlands specifically as suitable replacement for LWCF lands slated for conversion to other uses**. The NWPCP applies only to wetlands that would be acquired by Federal agencies and States using LWCF appropriations.

Streams and lakes support wetlands and riparian areas [Sonoita Creek as it flows into Patagonia Lake State Park near Patagonia].

Section 303: *Inclusion of Wetlands in Comprehensive Statewide Outdoor Recreation Plans,* requires that for fiscal year 1988 and thereafter each Statewide Comprehensive Outdoor Recreation Plan (SCORP) shall specifically address wetlands within that State as an important outdoor recreation resource as a prerequisite to approval, and requires the production of a wetlands priority plan developed in consultation with the State agency with responsibility for fish and wildlife resources and consistent with the national wetlands priority conservation plan developed under Section 301.

The NWPCP was printed by the USFWS in 1989 and updated in 1991. Copies are available from the Service Publications Unit (Region 8) located in Arlington, Virginia (call USFWS, 703-358-2161). www.fws.gov/policy/660fw4.html

Regional USFWS Offices are responsible for maintaining a Regional Wetlands Concept Plan, in coordination with State fish and wildlife agencies and other State and Federal agencies, that includes lists of wetland sites warranting priority for acquisition. Arizona falls under the USFWS Region 2 office. For information regarding the Region 2 Regional Wetland Concept Plan published in 1991, contact the Regional Wetlands Coordinator, USFWS National Wetlands Inventory, P.O. Box 1306, Albuquerque, New Mexico 87103.

Arizona's Wetland Priorities

In Arizona, all occurring wetland types are naturally scarce. Because the state's wetlands are believed to have been generally attenuated in the last 140 years, and the process may be continuing, all wetland types are considered eligible for acquisition or other protection.

Under the LWCF program, existing facilities acquired or developed with LWCF monies must be replaced if converted to nonrecreational uses. In choosing acceptable replacement sites,

wetlands should be ranked for acquisitions. After determining that wetlands will be acquired or converted under Section 6(f) of the LWCF program, the priorities identified in this plan should take precedence for determining the best sites.

The wetlands acquisition priorities listed in this plan represent no change from those appearing in the 1988, 1994 and 2003 Wetlands Addendum to the SCORPs. These priorities are based on NPS guidelines and the methods outlined in the NWPCP. Acquisition priorities for general wetland types in Arizona were determined by consultations with the U.S. Fish and Wildlife Service and Arizona Game and Fish Department and were prioritized in relation to the nation's priority listings in the NWPCP.

Priority consideration will be given to the following (all are weighted equally):

1. Wetland types least protected by regulation or preservation (public or private).
2. Wetland types that have been destroyed, altered or degraded within the state.
3. Regions within the state with the least number of wetlands protected by regulation or preservation (public or private).
4. Wetland sites subject to identifiable threat of loss or degradation.
5. Wetland sites with diverse functions and values and/or high or special values for specific wetlands.
6. Wetland sites that are contiguous to protected areas or public land, or provide corridors, or enhance the functions and values of adjacent wetlands.

Table 39. Priority Wetland Types

	NWPCP	Arizona
Decreasing	Palustrine emergent	Palustrine emergent
	Palustrine forested	Palustrine forested
		Upper Riparian
		Lower Riparian
	Palustrine scrub/shrub	Palustrine scrub/shrub
		Upper Riparian
		Lower Riparian
	Estuarine intertidal emergent	*Palustrine open water
	Estuarine intertidal forested	*Lacustrine
	Estuarine intertidal scrub/shrub	Riverine
	Marine intertidal	
Stable	Estuarine intertidal non-vegetated	
	Estuarine subtidal	
	Lacustrine	
Increasing	Palustrine open water	
	Palustrine unconsolidated shore	
	Palustrine non-vegetated	
**Naturally occurring wetland types*		

See definitions on page 114.

Wetlands

Wetlands have long been recognized as critical to a clean, properly functioning environment and to ecosystem health. They provide a protective buffer for our towns and cities against floods and storm surges; and they provide important ecological benefits, contributing to water quality, supplying life-sustaining habitat to hundreds of species, and connecting aquatic and terrestrial ecosystems.

Yellow-billed Cuckoos are dependent on a specific riparian habitat to survive in Arizona's deserts.

The Nation's wetlands provide an array of benefits to society, and their continued ability to function and thrive affects the economic, ecological, and cultural heritage of all Americans. The importance of wetland stewardship is reflected in the array of public–private partnerships that have formed, enhanced through efforts at the Federal level.

Recognizing the need for more effective use and coordination of Federal wetland activities, on April 22, 2004, President George W. Bush announced a new national policy on wetlands to go beyond "no net loss" of wetlands and attain an overall increase in the quality and quantity of wetlands in America. As President Bush said in April 2004, *"The old policy of wetlands was to limit the loss of wetlands. Today I'm going to announce a new policy and a new goal for our country: Instead of just limiting our losses, we will expand the wetlands of America."*

The goal is to restore or create, improve, and protect at least three million wetland acres between Earth Day 2004 and 2009. Between 1998 and 2004 there was a net gain of 191,750 wetland acres. After two years of progress toward the President's five-year goal, the team of six Federal departments and multiple states, communities, tribes, and private landowners is on track to meet or exceed this goal. Since this goal was set in 2004, 1,797,000 acres of wetlands have been restored, created, protected, or improved (Dept. of Agriculture, 2006).

Because more than 85% of our Nation's wetlands are on non-Federal lands, the effectiveness of Federal efforts to improve the health, quality, and use of the Nation's wetlands will be greatly enhanced by expanding public–private partnerships. Through cooperative conservation, the Federal government can facilitate these partnerships by providing matching grants, technical assistance, and opportunities for recreation and other activities. Federal agencies must encourage and partner with nonFederal parties (state and local governments, tribes, and nongovernmental organizations). Well-coordinated public–private partnership efforts focused on wetland opportunities will yield significant ecological benefits.

Wetlands can be added by creating new wetlands or by restoring former wetlands lost to drainage. New wetlands are created in upland areas or deepwater sites. A gain in wetland acres may also be achieved by re-establishing former wetlands to restore functions and values approximating natural/historic conditions. Because of difficulties in establishing wetlands in

upland areas, agencies have preferred to re-establish former wetlands when possible. In many cases the necessary soils and seed stock still exist, and wetlands flourish once more as soon as the hydrology is restored.

Some degraded wetlands do not function properly because of past or present stressors. Agencies can improve wetlands by modifying the physical, chemical, or biological characteristics of a degraded wetland site with the goal of repairing its natural/historic functions and associated values (referred to as rehabilitation). They also can modify the physical, chemical, or biological site characteristics to heighten, intensify, or improve specific functions or to change the growth stage or composition of vegetation. These actions are taken with a specific goal in mind, such as improving water quality, floodwater retention, or wildlife habitat. This type of improvement, called enhancement, results in a change in wetland functions and associated values, may lead to a decline in other wetland functions and values, and does not result in a gain in wetland acres.

Priority wetlands can be protected from activities that may imperil their existence or condition. In this report, protection refers to acquisition of land or easements of at least 30 years. Because protection maintains the base of existing wetlands, it does not result in a gain of wetland acres or function. Federal wetland projects often involve partnerships of state and local governments and nongovernmental and private organizations seeking to acquire wetland habitat. These acquisitions may be incorporated into the USFWS National Wildlife Refuge System or into a state's protected area system, or they may be included in holdings protected by a nonprofit conservation organization (e.g., The Nature Conservancy).

Definitions:
Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. Wetlands must meet at least one of the following:

1) at least periodically the land supports predominately hydrophytes,
2) the substrate is predominately undrained hydric soil, and
3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year.

Riparian systems include the interface between land and a flowing surface water body such as a river or stream. Plant communities along the river margins are called riparian and they are found at all elevations.

Palustrine systems include any inland wetland which lacks flowing water, contains ocean derived salts in concentrations of less than .05% and is nontidal such as inland marshes, swamps, bogs, fens, tundra or floodplains.

Lacustrine systems include inland depressions and riverine channels containing standing water such as permanently flooded lakes, reservoirs, intermittent lakes, and ponds, including vernal pools. Depth can vary from a few centimeters to hundreds of meters.

Estuarine systems include semi-enclosed coastal bodies of water with one or more rivers or streams flowing into it, and with a free connection to the open sea. An estuary is typically the tidal mouth of a river and is characterized by sedimentation or silt carried in from terrestrial runoff. They are made up of brackish water and are often given names like bay, sound, fjord, etc.