

A. Maintenance of Recreational Values

Background

Recreational use of public waters and lands is on the rise in the U.S. Federal and state visitor and expenditure data suggests that outdoor recreation in Nevada is growing as well. The U.S. National Park Service (NPS) reported 9,926,532 visits to National Parks in Nevada during 1995. The U.S. Forest Service (USFS) recorded 21,423,000 recreation visits to national forest lands during 1996. Nevada Division of State Parks (NDSP) reported about 3.2 million people visited its 24 state parks in 1997, compared to 2.5 million visitors at 22 state parks in 1987. In a 1996 nationwide study of freshwater sport fishing, the American Sportfishing Association estimated angler expenditures to be \$211 million, overall economic impact of \$335.7 million, and related salaries and wages to be \$92 million. According to 1996 recreation expenditure data collected by the U.S. Fish and Wildlife Service (USFWS), fishing, hunting and wildlife watching activities generated about \$211.1, \$94.9, and \$262.8 million, respectively. Boating registration has grown nearly 75% over the past ten years, according to the Nevada Division of Wildlife (NDOW). The forms of recreation are also changing. NDOW reports the number of registered personal water craft (e.g., jet skis) has grown in the past decade from 1,326 to 13,451. NDOW has also noted a groundswell in wildlife watching activities.

Water-based recreation is an integral part of meeting the recreation needs of Nevada's residents and visitors. About 70% (2,277,440) of the visits to Nevada State Parks in 1997 occurred at state parks with water resources available for recreation. Fishing, boating, skiing, swimming, camping and picnicking are popular activities at lakes and reservoirs. Nevada's larger streams offer many of the same activities plus white-water boating (i.e., rafting, kayaking, and canoeing). Of Nevada's 24 state parks, 14 incorporate water as a key component of the recreation resource. Nevada's State Wildlife Management Areas (WMA) contain natural and artificial wetlands that provide hunting, fishing, hiking, camping and bird and wildlife watching opportunities.

Some recreation resources in the state have international importance such as the Lahontan Valley Wetlands which support large populations of waterfowl migrating along the Pacific Flyway, and the Lake Tahoe Basin, with water clear enough to be the centerpiece of a multi-billion dollar tourism industry. Hydrologic, vegetative and open space conditions on some agricultural lands support recreational resources directly and indirectly with unique wildlife and aesthetic values. Providing adequate amounts of suitable water for Nevada's recreation resources is integral to the linkage between regional, state and local natural resource values and their economies. Thus, maintaining recreation values is an important consideration in water supply planning.

What are "Recreation Values"?

Water resources (i.e., streams, lakes, springs, riparian systems, wetlands, etc.) possess intrinsic characteristics that people value for passive and active recreation activities. The condition of fish and wildlife habitat and water quality, number of fish caught, upland game hunting prospects, biological diversity and aesthetics, wilderness, solitude and spiritual regeneration all play a part in

determining the public's recreation "values". The inherent values which users place on outdoor recreational experiences are difficult to measure. However, resource managers require "recreation values" information as inputs to develop plans that will provide the recreational opportunities for the state's growing population without sacrificing the quality and integrity of the natural resources and aquatic systems used and developed.

Recreation value can be measured in monetary terms in at least three ways: (1) the value users place on enjoyment of their recreation experiences measured by the amount people are willing to spend to get to and use various sites; (2) the net economic income a type of recreation generates - the revenues generated directly and indirectly by recreation activity, less the costs of providing and managing the recreation resources and facilities; and (3) an analysis of revenues (including taxes) generated by expenditures on recreational goods and services.

Additionally, the availability of water recreation resources is an amenity that can enhance a community's attractiveness to new businesses. In some communities, quality of life indicators have been adopted that recognize the linkage between economic development, community well being and outdoor recreation values.

State Agency Involvement with Recreation Values

The Nevada Divisions of Wildlife and State Parks have primary management responsibility for recreation resources and facilities at many water bodies in the state, but all divisions play an important role in maintaining recreation values. To varying degrees, the management of developed and natural features of state lands used for recreation is shared, according to each agency's area of expertise. For example, NDSP cooperates with NDOW to meet campground needs on wildlife management areas and NDOW cooperates with NDSP on fishery management matters at state parks. Key responsibilities and work efforts related to water-based recreation uses and values are summarized by state division below.

Nevada Division of State Parks

The Statewide Comprehensive Outdoor Recreation Plan (SCORP), prepared by NDSP, is intended "to carefully examine the collective influence of the many recreation providers, analyze the recreational issues important to both providers and recreationists, and provide a policy plan to improve and maintain Nevada's recreation base...[and] provide a tool for recreation leadership and action in Nevada for the next five years." Two of the foremost concerns identified by the participants in the 1992 SCORP planning process were: (1) "Water resources are vital components of Nevada's recreational base and should be protected to maintain sufficient quantity, quality and adequate accessibility, where appropriate; and (2) Existing levels of outdoor recreation funding are inadequate to meet the recreation needs of Nevada."¹ In recent years, steps have been taken to address both of these issues.

¹ 1992 State Comprehensive Outdoor Recreation Plan. Nevada Division of State Parks. October 1992.

A comprehensive State Park System Plan was completed in 1997 which contains individual master development plans for each park unit. Almost \$28 million has been spent since 1987 acquiring and improving state parks. Some of this funding came from the 1990 Parks and Wildlife Bond Initiative. A few of the many actions include acquisition of three major ranches along the Carson River between Fort Churchill and Lahontan Reservoir creating an innovative water trail, construction of the South Fork Reservoir boat launch facilities and campground, acquisition of Little Washoe Lake and development of basic day use facilities, and upgrading sewer and water systems in several parks.

Nevada Division of Wildlife

The protection, preservation, management, restoration and use of wildlife populations in Nevada is the primary responsibility of NDOW. Agency planning, operations and funding for wildlife population and habitat management are linked to the public's wants and needs for boating, hunting, fishing and wildlife watching opportunities. Protection and management of wildlife habitat and acquiring legal access to it for recreation purposes is a priority objective that is implemented cooperatively with other state and federal agencies, and private parties (e.g., owners of crop land with wildlife habitat). Acquiring access, conservation easements and water rights from willing parties to enhance fishery and other wildlife values of open water and wetland resources is one strategy being pursued. These actions will progressively meet the growing public demand for boating, fishing, and wildlife watching resources.

Another strategic action is the development of 150 water sources in areas where water is a limiting factor for wildlife. Over 1000 wildlife guzzlers have been installed, and NDOW has plans for more.² In addition, NDOW manages wildlife and habitat on approximately 120,000 acres at 11 State Wildlife Management Areas (WMAs). Wetlands are important features of most of the WMAs.

The Division's responsibilities for management and protection of fisheries, boating, and migratory and resident bird habitat are three major areas of statewide recreational resource management directly related to water resources. Approximately 150,000 people fish in Nevada each year, accounting for an estimated expenditure of over \$211 Million, according to a Division study in 1996. Special protections for rare and jeopardized fishes, production of fishes at hatcheries and rearing stations, regulation of anglers, and access are elements of the fisheries program. Use of personal water craft is increasing also, presenting new challenges to maintenance of water recreation values. Boating activity is concentrated on lakes and reservoirs, although white-water boating on streams is growing.

Six major areas of NDOW's boating safety program are administration and enforcement of regulations, education, registration and titling, navigational aids and public access.

Competition among multiple users of public lands and land use changes to private lands have resulted in impairment and loss of wetlands and riparian areas inhabited by waterfowl. The Division cooperates with several agencies and organizations in management of migratory game birds under provisions of the federal Migratory Bird Treaty Act. The Division's overall direction is to manage and protect all aquatic habitats for both game and non-game species.

² *Comprehensive Strategic Plan*. Nevada Division of Wildlife. 1997.

Nevada State Water Plan

The Wetland Conservation Plan Applicable to Nine State of Nevada Wildlife Management Areas was completed in 1998. The preliminary assessment of wildlife resource values and functions at the WMAs (Volumes II and III of the above mentioned report) resulted in identification of several policy and management issues, of which the foremost was water management. Specific areas of concern mentioned are: (1) water has not always been managed efficiently in all areas of the State; (2) water availability depends on adequacy and seniority of water rights owned by NDOW; and (3) cyclical, prolonged drought periods exacerbate shortfalls in water needed to sustain wetlands at the WMAs. The Board of Wildlife Commissioners will review and may revise relevant policies as a result of this planning effort.³

Nevada Division of Water Resources

The State Engineer recognizes recreation and wildlife as legitimate beneficial uses for which water rights may be held (to establish and maintain wetlands, fisheries and watering sources at springs and seeps for wildlife use). Under statutory criteria the State Engineer must consider the public interest in his decision making process. The State Engineer has approved water rights for recreation purposes such as: (1) wetlands and open waters at many of the WMAs; (2) instream flows for Mahogany Creek and Condor Canyon (Meadow Valley Wash); (3) numerous spring developments for wildlife; and (4) minimum pool elevations at several reservoirs (Illipah, Lahontan, Knott Creek, Lake Tahoe, Lake Mead, and Topaz Lake). Ongoing actions to secure more water for recreation include applications received for many streams in the Jarbidge and Bruneau River drainages and negotiations involving Onion Reservoir.

Nevada Division of Environmental Protection

The Nevada Division of Environmental Protection (NDEP), with the State Environmental Commission, sets water quality standards protective of designated beneficial uses that include recreation, (i.e., contact and non-contact recreation activities, sustaining populations of aquatic organisms, and wildlife propagation). Water quality of major river systems, lakes and reservoirs is monitored to determine whether ambient conditions meet the site and use specific water quality standards. NDEP is also involved in water quality investigations to determine whether recreation activities, among others, may be impacting water quality. An example is study of the potential water quality impacts resulting from motorized recreational activities on Lake Tahoe. The division also cooperates with other agencies where changing water quality conditions may place the recreating public's health at risk.

Nevada Division of Forestry

The Division of Forestry (NDF) protects recreation values with watershed management activities, such as: (1) managing wildland fires; (2) operating a seed bank and nursery that provides native and adapted plants for rehabilitation projects; (3) managing conservation honor camp inmate crews to

³ *Wildlife Resource Values of Wetlands. Task II. Wildlife Resource Values of Wetlands at the State of Nevada Wildlife Management Areas.* Prepared for Nevada Division of Wildlife by Huffman and Associates, Inc. July 1998.

rehabilitate recreation lands; and, (4) assisting public and private land owners to manage forest resources for watershed protection, wildlife habitat and recreation. Since 1990 NDF has written Forest Stewardship plans for over 121,377 acres of private land leading to projects such as bank stabilization on the Muddy River and timber stand improvement in the Lake Tahoe Basin.

Federal Agency Involvement with Recreation Values

More than 62 million acres are managed by federal agencies in Nevada. Recreation has become a major management emphasis for the federal agencies which include the U.S. Bureau of Land Management, U.S. Forest Service, U.S. Fish and Wildlife Service, U.S. Bureau of Reclamation, Bureau of Indian Affairs, and the National Park Service. They manage developed recreational resources throughout Nevada. Most of the prominent natural and man-made lakes and reservoirs with developed recreation resources are located on public lands. State and federal agencies cooperatively manage fish and wildlife populations, water quality, lands leased by the state for recreation facilities, and other recreation resources.

The majority of public lands in Nevada are open for dispersed recreational activities such as day hiking, horseback riding, vehicle touring, camping, backpacking, canoeing and kayaking, fishing, and hunting. Dispersed activities on public lands may have cumulative water resource impacts where large numbers of recreationists visit popular streams, springs, wetlands and lakes, such as those near urban areas. Federal agencies generally recognize the potential water quality impacts from recreation as important watershed management considerations, especially in those watersheds that are sources for public water supplies.

Federal land managers have become more recreation-focused in their forest plans and land use plan revisions in response to public demand nationwide. The creation of wildlife management areas and refuges and national recreation areas, and efforts to acquire water rights for wildlife habitat are indicators of this changing focus, as is the National Recreation Lakes Study Commission. The commission was created in the Omnibus Parks and Public Land Management Act of 1996 (P.L. 104-333). The purpose of the commission's study is to "review the current and anticipated demand for recreational opportunities at federally-managed manmade lakes and reservoirs" and "to develop alternatives for enhanced recreational use of such facilities."

Issues

1. Maintenance of recreation values is an issue considered in the state water plan because recreation is an important beneficial use of the state's water resources. Recreationists today expect an diverse range of recreation choices in a variety of settings. Maintenance of recreation values depends upon a balance between developing facilities to accommodate a diversity of recreation types while protecting the quality and quantity of aquatic systems and natural resources from overuse for present and future generations.
2. With increased recreation, there is growing public interest in enhancing and maintaining stream

flows, reservoir and lake levels, good water quality conditions, high quality riparian zones and wetlands for fish and wildlife habitat, and public access to waters and adjacent land. However, major rivers in Nevada are fully allocated and during droughts recreation resources are negatively impacted. During the prolonged drought of the late 1980's through early 90's, many boating access points at lakes and reservoirs were unusable; fish and wildlife habitat deteriorated and populations declined; perennially flowing segments of major rivers went dry; water quality declined; and overall water-based recreational opportunities were fewer. It is likely that more innovative water allocation approaches will be needed to sustain water-based recreation values in the face of growing recreation demand, fully allocated rivers, and recurring droughts.

3. Nevada's urban areas are expanding. In some areas, development of private land abutting public land results in loss of access to recreational waters. Increased cooperation between federal, state, and local land use planning agencies could avoid or mitigate access issues.
4. While the public's demand for water-based recreation has grown, the cost of agency operations per user has increased and federal funding for recreation has dwindled (e.g., Federal Land and Water Conservation Fund awards to Nevada fell from \$3.2 million in 1979 to zero in 1995). Funding is inadequate to maintain existing water based recreation sites and amenities. New funding strategies are warranted.
5. Conflicts occur between recreationists and other water resource users using the same water body for different purposes. For example, new diversion dams or weirs that extend the full width of river channels can impact navigability, limit fish passage and create safety hazards. Agencies reviewing project proposals to modify existing or construct new structures, as well as other land use activities in water bodies and shore zones, have become increasingly cognizant of the need to take changing recreation needs and values into consideration.
6. The type and intensity of recreation activities affects waters with unique or sensitive resource values, such as habitat of protected animal and plant species, archeological and historical features, and waters with unique or outstanding resource values. An example is the effect that increasing personal water craft use has on water quality. Recreation has been managed by state and federal agencies to avoid or minimize those effects, however increasing recreational activity could present the need for more monitoring to ensure unique or sensitive resources are adequately protected.
7. Most of Nevada's outdoor recreation occurs on and around waters managed by state and federal agencies. Finding opportunities to increase coordination between agencies could enhance recreation resource planning and management. Collection of recreation data (e.g., visitor days, forms of recreation, and recreation values) is one example where agency cooperation could be mutually beneficial in terms of sharing and reducing cost, improving data consistency and reliability, and assisting in making better informed recreation resource management decisions.

Recommendations

The *1992 State Comprehensive Outdoor Recreation Plan (SCORP)* contains discussion of specific issues, policy recommendations and suggested actions that pertain to the broader issue of

maintenance of recreation values.⁴ Recreation issues applicable to the state water plan are found in Chapter IV of the 1992 *SCORP*, Issues and Actions for the Next Five Years. In 1997 NDSP produced the State Park System Plan which describes operations and resources within the park system and its future. Another source of guidance on recreation values is the policies and plans developed by the Nevada Board of Wildlife Commissioners and the NDOW presented in the *Wetland Conservation Plan Applicable to Nine State Wildlife Management Areas* (1998). This plan focuses on wetland protection at WMAs, but recommendations may have applicability to wetlands statewide.

1. The Department of Conservation and Natural Resources (Department) should continue to periodically evaluate the state's water-based recreation resources, assess public demand for this type of recreation, and apply this information to state recreation planning and management efforts to improve customer satisfaction while protecting natural resources.
2. The Department should encourage public agencies to consider impacts to recreation resources and their values relative to existing and potential recreation uses, whenever modification to existing or new public water-related projects, such as dams, weirs and reservoirs, are proposed.
3. The Department should continue to seek opportunities to acquire water rights from willing sellers for recreational purposes, including enhancements for fish habitat, wildlife habitat, flat water recreation and river-based recreation, where consistent with an agency's management plans.
4. The Department should continue to seek new and additional sources of funding to enhance opportunities and maintain resources for recreation.
5. The Department should research the feasibility of alternative mechanisms the state could use to meet public water-based recreation needs, such as purchasing land adjacent to state-owned water bodies, and obtaining development rights, conservation easements, and land use agreements.
6. The Department should encourage and support the efforts of state, federal and local agencies to manage watersheds for protection and enhancement of a full complement of recreation values, in addition to the other natural resource conservation considerations.

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⁴ The update of the State Comprehensive Outdoor Recreation Plan by the NDSP is ongoing. It should be completed late in 1999.

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