

CONSERVATION EDUCATION AND WATCHABLE WILDLIFE

In terms of human population, Nevada was one of the fastest growing states in the nation for much of the last decade, with 3 of its most populous cities in the top 20 nationwide for growth. Though much of that growth has tapered off, it created an attendant loss of wildlife habitat, environmental contamination, and introductions of exotic species. Residents must be educated about the necessity of protecting habitat and one of the state's most important natural resources, its wildlife. Our residents, both native and new, need additional information to be able to better understand the complex issues that fish and wildlife face in this day of increased urbanization and decreased habitat.

In order to meet the needs of the public, three wide-ranging approaches must be developed and funded in Nevada: a statewide Kindergarten-12th grade Wildlife Education curriculum for use in the schools; a statewide Watchable Wildlife program that provides opportunities for urban dwellers to enjoy interpretive wildlife trails in a natural area near their metropolitan center; and a proactive outreach program that informs the public about sensitive and threatened species and the ecosystems in which they live.

Setting Conservation Objectives

Some Conservation Education actions for the WAP are already identified within the Key Habitat Conservation Strategies described previously in this plan. Priorities for these actions will be determined by the WAP Implementation Team. These actions will be incorporated into the biennial and annual work programs of NDOW's Conservation Education Division. The Conservation Education Division will work in partnership with counties, local governments, tribal governments, non-profit groups, and state and federal resource partners to support these communication actions. In addition, these objectives will be communicated within a variety of interagency planning processes, including ongoing USFWS, USFS, and BLM planning processes. In addition to the Conservation Education actions described in this plan, NDOW's Conservation Education Division in December 2011 initiated a new strategic direction for the agency's Wildlife Education program.

This program plan, which is being developed with input from the public, stakeholders, and various partners, sets goals, objectives and actions for the agency's Wildlife Education program. On parallel, the Conservation Education Division's Strategic Plan is being revised to update existing goals, objectives and strategies in line with the agency's all-encompassing Comprehensive Strategic Plan. Both of these planning elements provide opportunities for enhanced outreach and education about the Species of Conservation Priority.

In particular, the Wildlife Education plan will develop the strategies and actions necessary to implement the WAP Education Objectives identified in this plan. The Conservation Education Division Strategic Plan will develop the strategies and actions necessary to implement WAP Outreach Objectives identified in this plan. The Outreach, Watchable Wildlife, and Wildlife Education Objectives are described below.

WAP Outreach Objectives

Nevada's population growth both strains its natural resources and creates the need for outreach. According to the 2010 U.S. Census Bureau data, Clark County, the state's largest county, added 575,504 of Nevada's 702,294 new residents -- accounting for four out of every five new residents. Nearly half of those new residents were Hispanics, who now make up 27% of the state's population, up from 20% a decade earlier.

Nevada Wildlife Action Plan

Most of the state's other counties added more people, as well. Washoe County, home to Reno and Sparks, grew by 24%. Nye County, 60 miles west of Las Vegas, grew 35%. The fastest-growing county was Lyon County, home to the Fernley, which took home the title of fastest-growing city in Nevada. Lyon County grew 51%.

New approaches are necessary to communicate with these new audiences and inform them about the challenges facing wildlife and wildlife habitat in their home state.

Benefits of outreach include:

- Increase in broad-based support for conservation efforts
- Increase in support for public funding mechanisms (including tourism)
- Increased understanding of urgent conservation and human impact issues
- Changes in behavior to preclude negative impacts to wildlife and wildlife habitat

A successfully implemented public outreach program will engender recognition of the value of wildlife as an important quality of life component, enhance public understanding of the interconnectedness of wildlife and the ecosystems upon which they rely, and engender support for wildlife and the programs that support wildlife.

Communications strategies depend upon the outreach need, and would include targeted outreach to key groups, mass-media outreach through print, television, and radio, and a new push through online and social media channels, among others. The following WAP Outreach Objectives would be addressed:

Habitat Loss/Destruction

Urbanization, population growth, and increased use of Nevada's outdoors put the entire state at risk for habitat loss. As the suburbs expand outward in the northern part of the state, mule deer and black bear habitat has been converted to suburban neighborhoods with highway corridors, and schools. OHV trails in the Duck Creek Basin alone, near Ely, in Eastern Nevada, has increased 65% since 1977, with more than 225 km (140 miles) of new routes in that one area. (J. Worley, BLM, pers. comm.) Species such as deer, elk, antelope and sage grouse in particular are affected.

In Las Vegas Valley, suburbs and a burgeoning human population create extensive networks of roads across sensitive desert habitats. Fragile sand dunes, and unique desert hot springs home to endemic fishes and aquatic species found nowhere else in the world, are threatened by development, agricultural uses, and other human activity.

Communications to increase understanding of these issues will help gain public support for changes in behavior, and may facilitate increased understanding of wildlife needs as part of local government planning efforts. The identified outreach goals will be:

- Increased public knowledge of the impacts specific activities have upon wildlife and wildlife habitat
- Change behavior to alter OHV use in sensitive areas
- Increased monitoring and input into local government planning processes to support planning for wildlife.

Climate Change

Climate change is emerging as a major stressor to habitats and species across Nevada and conservation planning and public education and outreach efforts need to take this into consideration. Climate change is often not well understood by general audiences, therefore creating difficulty in gaining support to combat the effects of climate change. A dedicated effort will be made to engage the public and key stakeholders to educate them about what climate change actually is and how it impacts wildlife will be the first step toward cooperative efforts to combat the effects of climate change.

Aquatic Invasive Species

With the passage of AB167 in the 2011 Legislative Session, the Nevada Department of Wildlife (NDOW) will develop a coordinated statewide aquatic invasive species (AIS) management plan to control and prevent species like quagga mussels, Didymo (rock snot), Asian clams, curly leaf pondweed, northern pike and many others.

Several important bodies of water in the state are already infested with harmful aquatic invasive species. Lake Mead in southern Nevada is infested with quagga mussels and two other reservoirs are considered suspect.

Communications to increase understanding of invasive species issues will help gain public support for changes in behavior to prevent spread and new introduction of AIS. The identified outreach goals will be:

- Educate boaters to clean, drain and dry boats between every use
- Inform anglers about the practice of clean angling
- Increase outreach to the public regarding releasing of non-native species

Sensitive Species

Nevada ranks third highest nationwide in the percentage of species at risk, with the fourth highest percentage of fish and third highest percentage of amphibians at risk. Clark County, home to 70 percent of Nevada's population ranks second in the nation among U.S. metropolitan counties in number of species imperiled by development. Many residents are completely unaware of the number of sensitive species and lack knowledge in what can be done for these species. More educational programs to familiarize the public with the value of wildlife on the list of species of conservation priority are sorely needed. As people learn more about the life history and habitat needs of these sensitive species, they'll be more prepared, and more likely to get involved in decisions affecting those species. People need to know the consequences of extinction and what they can do to help prevent it. The following sensitive species and ecosystem issues will be addressed in some detail in the outreach programs:

Endemic Fishes

- Increase public knowledge of species life history
- Increase understanding of how human impacts, from recreation, habitat fragmentation, urbanization, and dewatering affect endemic fishes

Nevada Wildlife Action Plan

- Increase understanding of how exotic competitors, such as mosquito fish, guppies, mollies, and cichlids affect native habitats and species.

Mollusks and other Aquatic Species

- Invite volunteers and public to provide input on mollusk and amphibian population management
- Increase awareness of aquatic nuisance species and their impacts on state waters
- Increase awareness of issues related to releasing pets to the wild and problems with exotic releases

Bats

- Increase understanding and appreciation of bats
- Increase understanding of the importance of mines and caves for bat species
- Build partnerships to support bats and bat conservation in the state
- Support bat education in the schools with video and brochure

Mesquite Bosques

- Increase understanding of the value of the mesquite-catclaw environment for wildlife

Sagebrush

- Increase public understanding of the value and importance of sagebrush ecosystems of the

Wetlands, Playas, and Springs

- Increase public understanding of the value and importance of wetlands, playas, and springs in Nevada.

WAP Wildlife Education Objectives

Long-range wildlife education will consist of a comprehensive K-12 public school curriculum designed to form attitudes of responsible wildlife resource stewardship. This effort must start in the primary years with continual reinforcement at each grade level. Currently there are no state statutes or funding mechanisms in place to support conservation education. An appropriate education program must be designed and aligned with the Nevada State curriculum standards, with emphasis on usability for the classroom teacher. The curriculum materials must be constructed so that teachers view it as a tool to help them meet their identified district and state standards rather than another requirement to fit into their day. The goals of this Wildlife Education program are:

- Develop life-long interest in state wildlife, and interest in stewardship ethic
- Increase student understanding of the states' wildlife species and the ecosystem where they live
- Provide opportunities for student use of hands-on wildlife kits that support the scientific method of inquiry
- Produce public school graduates prepared to understand issues and make responsible science-based wildlife management decisions

Watchable Wildlife WAP Objectives

A Watchable Wildlife program is a crucial element in the Nevada Department of Wildlife's efforts to inform the people of Nevada about their wildlife resources and, in turn, build support for its conservation. Over 91% of Nevada residents live in urban areas, much of Nevada's population is unaware of the area's wildlife, ways to enjoy it, and the impacts they have on it. Therefore, there is a need to offer opportunities for viewing and learning about Nevada's natural wildlife resources. A fully equipped Watchable Wildlife program would enable the public to facilitate their own learning at interpretive trails and information kiosks and viewing platforms. In this way, NDOW could offer additional opportunities to view and enjoy wildlife in both rural and urban environments.

Currently, NDOW is affiliated with several facilities near urban areas throughout the state including the Oxbow Nature Study Area, Verdi Wildlife Education Center and Washoe Lake Wetlands, which provide information through the use of kiosks in a natural setting. Kiosks are also being planned and developed for seven Wildlife Management Areas across the state. Wildlife viewing festivals are currently held in the City of Fallon (Spring Wings Bird Watching Festival) and with the City of Hawthorne's annual Loon Tour. In addition, the agency has supported the development of a statewide birding map with the Lahontan Audubon Society.

Opportunities to expand the state's watchable wildlife program could be entered into with partners at the federal, state, county and city level. Signage, kiosks, seminars, and clinics in these areas would provide increased information and education to the public on wildlife-related issues, techniques for viewing wildlife, feeding birds, and landscaping to encourage or discourage wildlife visitors. These components would be promoted using newspaper articles, radio, and print media.

Ultimately, economic benefits to the state from watchable wildlife could be tremendous. According to the 2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation, over \$866 million is spent each year in Nevada on wildlife related recreation, of that, \$415 million comes from non-consumptive recreational activities, indicating a real interest in watchable wildlife. A Watchable Wildlife program would prove beneficial in the following ways:

- Increase in broad-based support for conservation efforts
- Increase in support for public funding mechanisms (including tourism)
- Increased understanding of urgent conservation and human impact issues

Implementation

Implementation of the Conservation Education actions for a statewide Watchable Wildlife, comprehensive Kindergarten-12 Wildlife Education program, and outreach efforts for the identified Conservation Strategies will be effected by NDOW and resource partners across the state. A number of resource agencies already work cooperatively on planning efforts, such as the Cooperative Resource Management subcommittee on information (Nevada Resource Outreach Network). This group meets monthly to share information about resource activities around the state and develop communications strategies on key issues. Most recently, sage grouse have risen as a key issue, and the group is currently focused on developing a statewide sage grouse communications strategy in support of the Governor's Sage Grouse Team implementation efforts. In the past, members of the Cooperative Resource Management Public Information Officers group have developed Leave No Trace outreach materials. In the future, there will be additional emphasis on proper and ethical use of OHVs. This is one of the key outreach objectives in the WAP, and can be met through this collaborative communications partnership.

Partners and collaborative communications efforts are essential if conservation planning is to be effective. To date state and federal agencies in the state have provided good information and communications on joint efforts, in particular, BLM, USFWS, USFS, and the Natural Resource Conservation Service.

Effectiveness Monitoring

Public surveys through NDOW's Comprehensive Strategic Planning Process, which occurs every five years, and through regional survey approaches, such as the Western Association of Fish and Wildlife Association's recent survey on public attitudes (see Teel and Dayer 2005) will be used to identify whether key communications goals are being met. In addition, online survey mechanism, focus group surveys via telephone and print, and regional focus groups, will be applied to identify that outreach, education and watchable wildlife goals and objectives are being met.