

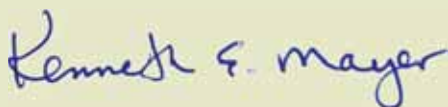
Nevada Wildlife Diversity Division

From Vision to On-the-Ground Action

Nevada's rich and varied landscapes support a tremendous diversity of native wildlife - one which ranks 11th in the nation and has helped shape our wildlife heritage. In the face of ever increasing conservation issues like climate change, invasive species and habitat fragmentation, the Nevada Department of Wildlife's Wildlife Diversity Division is working collaboratively with conservationists, sportsmen's groups, scientists, and volunteers from local communities to initiate on-the-ground projects that conserve our state's wildlife and natural landscapes.

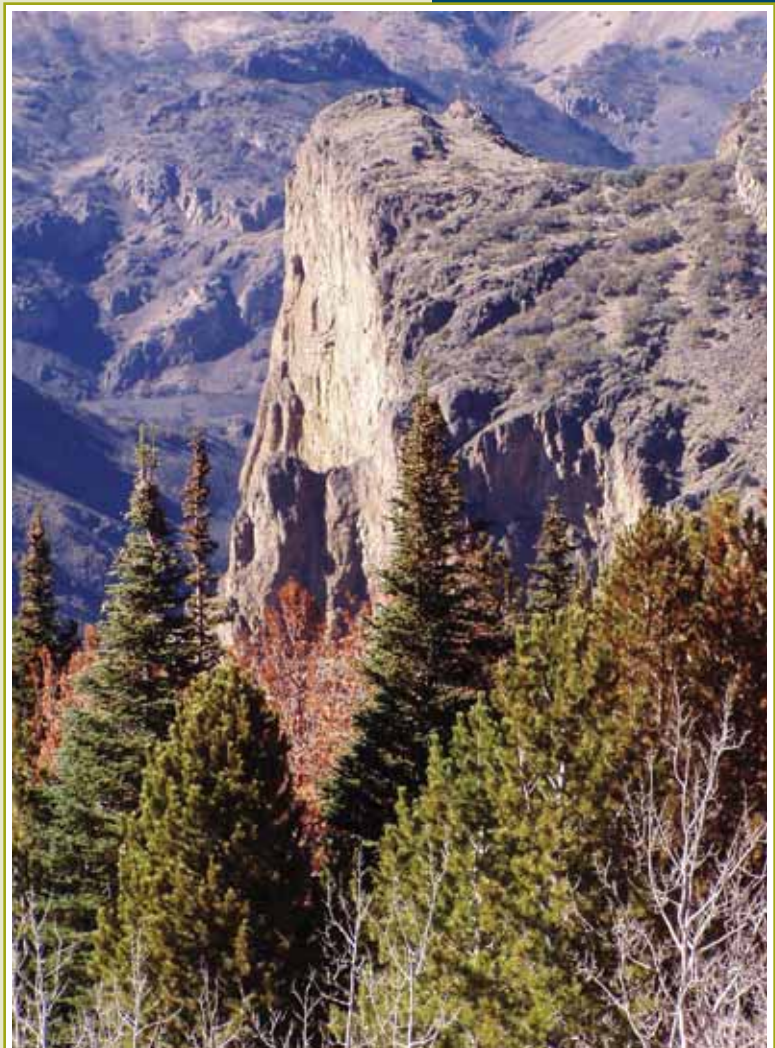
This Annual Report provides an overview of the Division's accomplishments during 2008-2009 and highlights the significant progress we are making to keep wildlife and their habitats healthy and to prevent wildlife from becoming endangered. Conservation projects include the Division's contribution to restoring critical sagebrush steppe habitats across Nevada. The report also describes ongoing projects on both public and private lands to enhance aspen, and restore riparian, willow and marsh habitats.

With limited resources to tackle a myriad of issues, proactive conservation is the smartest and most cost-effective way to address the State's conservation challenges. Accordingly, with a mandate to protect, preserve, manage and restore Nevada's wildlife and habitat and aided by Federal funding through the State Wildlife Grants Program, the Department's Wildlife Diversity Division is protecting wildlife for future generations of Nevadans.



Kenneth E. Mayer, Director

The Wildlife Diversity Division is dedicated to the protection, management and restoration of Nevada's diverse wildlife heritage.



Jarbidge Canyon/Pete Bradley

Through sound science, data management, innovative partnerships and implementation of Nevada's Wildlife Action Plan, the Division is working to maintain healthy, diverse populations and habitats.

Wildlife Diversity Division

From Vision to On-the-Ground Action

The Nevada Department of Wildlife's Wildlife Diversity Division was expanded in 2002 with the influx of a new federal funding source into the state, the State Wildlife Grants (SWG) program, which was established by Congress to enhance state wildlife diversity programs across the nation. Annual SWG funds have been used to implement a wide variety of wildlife conservation projects across the state through the Department's Wildlife Diversity, Habitat, Fisheries and Conservation Education Divisions. Through sound science, innovative partnerships, and implementation of Nevada's Wildlife Action Plan, the Division is working to maintain healthy, diverse wildlife populations and the habitats they depend on.

Division Overview

The Wildlife Diversity Division administers the Department's Question 1 Bond Program, Nevada Department of Wildlife's portion of the Lake Tahoe Environmental Improvement Program, Geographical Information System (GIS) Section, and Landowner Incentive Program (LIP). It is also charged with implementing Nevada's Wildlife Action Plan. These programs are closely coordinated and integrated with other Division programs in the Department and our partners in the conservation community.

Structurally, the Division comprises a Division Chief, three Staff Specialists and three Supervising Biologists, eight Field Biologists stationed across the state, two Conservation Aides, and support staff shared with two other Divisions.



Santa Rosa Range/Larry Neel

Looking Forward

We anticipate many conservation challenges in the years ahead including the complex issue of climate change and its effects on Nevada's wildlife and key habitats. Also at stake is our ability to conserve wildlife communities in the face of more frequent and wide-spread wildfires, conversion of native plant communities by invasive species like cheatgrass, habitat fragmentation, human population growth, and alteration of hydrologic processes.

Proactive, rather than reactive conservation is the smartest and most efficient way to address these challenges and we are ready to embrace them through innovative partnerships and cross-cutting initiatives. Through close coordination among the Department's Divisions, and a strong commitment for collaboration with our conservation partners, we will continue to build conservation success across Nevada.

Wildlife Action Plan

Nevada's Wildlife Action Plan is the result of a collaborative effort by biologists, conservation organizations, and sportsmen. It encompasses a suite of species from endangered to traditionally managed game, and provides a blueprint for achieving comprehensive wildlife conservation in the state.

Nevada's Plan targets species of greatest conservation need and the key habitats upon which they depend. The Plan identifies 263 Species of Conservation Priority including Greater Sage-grouse, Lahontan cutthroat trout, pygmy rabbit, mule deer, bighorn sheep, and spring fish, as well as 27 key habitat types including sagebrush, aspen woodland, marshes, springs, lakes and reservoirs. By working with species that are indicative of the diversity and health of the state's ecosystems, we are working to avoid additional formal protections.



Least Sandpiper/Larry Neel

State Wildlife Grants

The State Wildlife Grants (SWG) program provides key federal funding for implementing State Wildlife Action Plans. Since Congress created the State Wildlife Grant program in 2000, the Nevada Department of Wildlife has received \$9.0 million in federal funds. These federal funds have been matched with over \$3.0 million in General Funds by the Nevada Department of Wildlife and our partners to protect and preserve wildlife across the state. The following are examples of projects funded through this program.

Sagebrush ecosystems are among the most endangered in the United States. They have been disturbed and degraded due to more frequent and widespread wildfires, invasion of non-native species like cheatgrass and land development.

Restoring Nevada's Sagebrush Steppe

Because Nevada encompasses the heart of sagebrush country, it naturally assumes high stewardship responsibility for maintaining the health of these wildlife habitats. The Department is working with numerous partners including federal and state agencies, sportsmen's groups and conservation organizations to restore and stabilize the loss of this important habitat. The following are examples of the Wildlife Diversity Division's contribution to this effort.

Monitoring Success of Sagebrush Restoration

Significant resources are being invested in sagebrush restoration. But questions remain regarding the best planting methods to use when re-establishing sagebrush habitat for species like Greater Sage-grouse, Brewer's sparrow, mule deer and pronghorn. In northern Nevada, State Wildlife Grant monies are funding a project to help us answer this. Together with the Bureau of Land Management and University of Nevada, Reno, Department employees are testing options, including the use of different species of sagebrush seedlings. By monitoring wildlife use at these sites, we will be able to modify restoration efforts to provide better quality habitat for several species of wildlife.

Partnering for Sagebrush Restoration

Over the past two years, staff in Winnemucca have worked to bring a diverse group of partners together in the interests of sagebrush restoration. To establish a local source of native plants to re-vegetate sagebrush habitat devastated by fires, the Nevada Chukar Foundation, Nevada Muley's, Bureau of Land Management, and Marigold Gold Mine are funding the construction of greenhouses at two local schools; and with State Wildlife Grant funding, Department employees are providing technical assistance and on-the-ground coordination of planting activities. Together with numerous volunteers, more than 1,500 locally grown seedlings have been planted and an educational link established.



Restoring sagebrush/Brad Bauman

Restoring Nevada's Sagebrush Steppe

Greater Sage-grouse Regional Database

Nevada has been monitoring sage-grouse lek sites and activity since the 1940's. Today, with more than 1,950 documented sites, and some 10,280 surveys later, the amount of data collected is quite extensive. Until recently, most of this information was tucked away in filing cabinets or on spreadsheets. This year, Wildlife Diversity and Game Division staff designed a new database that will be much more efficient. It provides easier data entry, includes standardized forms, and allows mapping software to be used. The data has also been organized to conform to other state databases as part of an agreement with the Western Association of Fish and Wildlife Agencies. This system will prove invaluable as we determine how best to manage sage-grouse across Nevada's changing landscape.

Monitoring and Evaluating Sagebrush Conservation Efforts

Nevada's Wildlife Action Plan sets out a course of action for deploying State Wildlife Grant funds to achieve comprehensive wildlife conservation across the state. Because Nevada's Plan has defined goals and objectives, it is critical that we recognize and measure the effects of wildlife conservation actions in the habitats and wildlife populations under our management. In 2008, the Department began working with a panel of experts to identify practical measures for monitoring the effectiveness of our management actions in the sagebrush ecosystem. Ultimately this effort will result in a performance monitoring project that tells land managers if the actions they are taking to conserve sagebrush habitat are working. This will allow us to channel funds and resources into conservation treatments and actions that most effectively preserve Nevada's sagebrush heritage.

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Re-seeding in the snow/Steve Foree

Restoring Nevada's Wildlife Habitat

The Wildlife Diversity Division has expanded its program to include and implement wildlife habitat restoration and enhancement projects. In addition to our work in the sagebrush, we are also working in riparian zones, aspen woodlands and old growth forests. These projects benefit a myriad of wildlife species including sensitive, threatened and endangered as well as game species like mule deer and elk.



Volunteer crew and staff/Nevada Department of Wildlife

Restoring Quaking Aspen Habitat in Elko County

Over 150 species of Nevada's wildlife use quaking aspen and its understory habitats during

portions of their life. Unfortunately, many of these wildlife areas have been disturbed by livestock grazing, fire, and humans. As a result many stands are not regenerating. In 2008, using State Wildlife Grant funds, Department personnel worked with Bureau of Land Management staff and local volunteers to construct protective rail fences around aspen stands in the Stag Mountain area and Elko Bighorns Unlimited provided meals. The 2006 Charleston Fire destroyed most of the trees located in this 148,000-acre burn in Elko County. These temporary exclosures will help jumpstart aspen regeneration, providing future habitat for Rocky Mountain elk and mule deer as well as many species of birds, small mammals and reptiles.

have worked cooperatively with our partners from the US Forest Service, Bureau of Land Management and Nevada Division of Mines to secure 25 abandoned mines in the Ely area. Local business partners also supported our efforts generously by donating heavy equipment and materials. These mines in the Egan, Schell Creek, Grant and the Quinn Ranges now provide access for bats and other small wildlife while preventing unsafe human entry.

Rosy-Finch Roost Protection

Although the majority of our work around abandoned mines has focused on securing maternity and hibernation roost needs for Nevada's native bat fauna, 2008 saw the first attempt to protect communal winter night roosts for two species of finches. Black Rosy-finches and Gray-crowned Rosy-finches utilize these artificial roosts as surrogates for natural cave habitats. As a result of our work, White Pine County became home to the first wildlife-friendly mine closure in Nevada built specifically for birds.

Securing Abandoned Mines in Eastern Nevada

Historical hard rock mines have become significant roosting habitat for dozens of wildlife species including several species of bats.

While abandoned mines provide valuable man-made habitat for wildlife, they can be dangerous sites for people. Over the past several months, using State Wildlife Grant and Question 1 Bond funds, we



Bat Gate/Nevada Department of Wildlife



Wildlife friendly mine closure/Pete Bradley

Restoring Nevada's Wildlife Habitat

Partnering with Private Land Stewards to Restore Crystal Springs

In southern Nevada, using State Wildlife Grant, Landowner Incentive Program (LIP), and Federal Partnership for Wildlife funds, Wildlife Diversity employees are working with private land stewards in Pahrnagat Valley to restore riparian wildlife habitat while supporting local livelihoods. Following years of successful removal of exotic Russian olive trees and fencing at Crystal Springs by the private landowner, Nevada Department of Wildlife, Nevada Division of Forestry crews, and volunteers planted native ash and cottonwood trees, and wildrose plants. With over 90% of the native trees surviving, restoration of this key wildlife habitat will benefit several special status species including the endangered Southwestern Willow Flycatcher, Yellow-billed Cuckoo and endemic Pahrnagat Valley montane vole.



Volunteers planting Ash trees, Crystal Springs/Cris Tomlinson

Enhancing Aspen and Riparian Habitat in the Sierra Nevada's

Aspen stands are a priority habitat in Nevada's Wildlife Action Plan but across the Sierra Nevada's these habitats are declining - conifers are outcompeting and replacing aspens due to the absence of regular

disturbances like fire. In 2008, using Question 1 Bond monies, another 50 acre habitat enhancement project was initiated to improve forest health. Over the long-term, this work will promote aspen regeneration and a diverse understory of riparian shrubs. Dozens of species of breeding birds rely on aspen stands in healthy riparian zones for nesting. So do black bears, small and medium sized mammals and humans. Through our restoration efforts, breeding bird richness is beginning to improve, wildlife corridors are being restored, and scenic value enhanced.



Aspen stand/David Catalano

Working with Nellis Air Force Partners in Central and Southern Nevada

Wildlife Diversity, Game and Habitat Divisions continue to work closely with Nellis Air Force (NAF) personnel to document important wildlife habitats on the Test and Training Range in central and southern Nevada. In 2008, habitats for bighorn sheep, pronghorn, raptor, and nongame wildlife species were identified. Surveys also identified critical spring areas targeted for restoration. The Nevada Department of Wildlife is pursuing Question 1 Bond Funds and Bureau of Land Management Spring funds for this project. In addition, we continue to work closely with NAF on several planning efforts and associated activities on the Range; and Nellis is using Nevada's Wildlife Action Plan to guide future management and planning efforts.

From Vision to On-the-Ground Action

Living With Venomous Reptiles Brochure

Living in the arid Southwestern U.S. often times means living near venomous reptiles, such as rattlesnakes, coral snakes, and the Gila monster. To address concerns of the public while providing necessary safety precautions and to reduce unnecessary killing of wild reptiles, Wildlife Diversity personnel partnered with Southwest



Great Basin rattlesnake/Larry Neel

Partners in Amphibian and Reptile Conservation, Tucson Herpetological Society, U.S. Geological Survey, Texas Tech University and the Oklahoma City Zoo to develop informational brochures for distribution to the public. The brochures are in the design and layout phase but should be finished in early 2009.

Short-horned Lizard Status in Nevada

Nevada's Wildlife Action Plan lists both the greater short-horned lizard and pygmy short-horned lizard as Species of Conservation Priority. Gaining a better



Pygmy short-horned lizard/Polly Conrad

understanding of greater and pygmy short-horned lizard distributions throughout the state will lead to understanding habitat use of both species and identifying populations in need of

increased management. A State Wildlife Grant funded project between the Department and University of Nevada, Las Vegas will provide information on the distribution of these species in our state as well as how short-horned lizard populations across the state are related. During the course of this project, Wildlife Diversity personnel were able to collect the first confirmed and documented records of pygmy short-horned lizards in northwestern Nevada. Proactive work like this helps the Department address potential future species listings.

Increasing Our Understanding of Chipmunks in Nevada

The Palmer's, Hidden Forest Uinta, and Humboldt yellow-pine chipmunks are endemic to Nevada, occurring nowhere else in the world. Restricted to isolated mountain ranges across the state, these Species of Conservation Concern face a tenuous future because of landscape level disturbances like habitat conversion, urban encroachment, woodcutting, and possible shrinking habitats resulting from global climate change. Through State Wildlife Grant funding we are



Humboldt Yellow-Pine Chipmunk, Pine Forest Range/Christy Klinger

From Vision to On-the-Ground Action

increasing our understanding of their distributions, densities, habitat preferences and genetic relationships in Nevada. This will provide us with greater knowledge to direct future conservation actions for these chipmunks and their habitat.



Columbia Spotted Frog/Teri Slatauski

Cooperative Conservation for the Toiyabe Subpopulation of the Columbia Spotted Frog

The Columbia spotted frog is a candidate for the U.S. Fish and Wildlife Service Threatened and Endangered Species List. In central Nevada, using State Wildlife Grant monies, Department biologists are working collaboratively with federal, state and local agencies as well as private organizations to implement monitoring and habitat enhancement projects for a geographically isolated sub-population. Efforts include installing additional breeding and wintering ponds, collecting movement information, and gathering genetic samples. Monitoring data will assist us in developing conservation strategies and provide agencies with information that can be used to modify land management practices - all necessary to maintain a healthy stable subpopulation.

Applying Research to Conservation Decision Making

State Wildlife Grant and Tahoe Environmental Improvement Program funds are being used to understand mountain beavers in the Sierra Nevada Range and apply this knowledge to conservation and land management decisions. Research suggests fewer than 100 individuals exist in Nevada; consequently, development or water diversion activities in the Tahoe Basin could have a huge impact on mountain beavers and their habitat. Over the past year, however, Department biologists have worked closely with other agencies, contracted engineers and sub-contractors to guide the alignment of a replacement water pipeline through mountain beaver colonies which when completed will deliver household water from Marlette Lake to Carson City. Information from our research proved valuable in ensuring no habitat disturbance occurred and development continued.



Marlette Lake/Shirley Atkinson

Question 1 Bond Funding

Nevada's Question 1 Bond Initiative was passed by voters in 2002 and authorizes the state to issue up to \$200 million in bonds for projects to protect and preserve natural resources across Nevada. The Department of Wildlife's portion of the Bond Initiative, totaling \$27.5 million, has been extremely important for Nevada's wildlife resources and the Department has maximized the use of bond dollars by leveraging dollars with partnerships and matching funds from other funding sources.

Bond sale funds are being used to (i) acquire wildlife habitat, (ii) enhance recreational opportunities related to wildlife, and (iii) improve existing habitats for fish and wildlife. Many conservation projects have been implemented across the state including wildfire rehabilitation and restoration of springs and aspen stands.

Watchable Wildlife Opportunities in an Urban Setting

Brazilian free-tailed bats fill the night sky in Reno during the summer, providing a perfect wildlife viewing and educational opportunity for the public. Using Question 1 Bond funding, staff are developing this important bat habitat for public education and easier access especially for the physically handicapped. Interpretive signs will be constructed and a camera will be mounted to record the bats as they emerge from the bridge in the evening for their feeding activities. This large colony of bats not only makes an excellent viewing opportunity but they are a valuable part of the ecosystem.

South Fork of the Little Humboldt/ Snowstorm Mountains Acquisition

The Wildlife Diversity Division collaborated with the Fisheries and Habitat Divisions to acquire the South Fork of the Little Humboldt River/ Snowstorms Mountains property in Elko County. The 7,000 acre property will benefit Lahontan cutthroat trout, pygmy rabbit, Sage Sparrow, mule deer, bighorn sheep and other species. The Department and the Bureau of Land Management (BLM) will continue to jointly restore this important area, together with key partners from U.S. Fish and Wildlife Service (USFWS), Nevada Bighorns Unlimited and Trout Unlimited. A USFWS Recovery Land grant and Question 1 Bond funds were used to acquire the property.



Snowstorm Mountains/Carol Evans

Landowner Incentive Program

The Landowner Incentive Program has enabled the Nevada Department of Wildlife to assist with the restoration and protection of habitat for a variety of species that inhabit the private lands of Nevada.

Post Fire Rehabilitation

Devastating fires have ravaged millions of acres of important riparian and sagebrush habitats in northern Nevada over the last several years. These habitats are important to a variety of endemic species, including Greater Sage-grouse, Lahontan cutthroat trout, pygmy rabbits, and Brewers Sparrow. Using Landowner Incentive Program funding, the Nevada Department of Wildlife is working cooperatively with the Bureau of Land Management and private landowners to re-seed native plant species such as sagebrush and bitterbrush. We are also working to fence off important riparian pasture so that these areas may re-establish vegetation. This year, aerial re-seeding and fencing occurred over 6,000 acres of privately owned land providing continuity in restoration efforts across public and private ownership boundaries.

Riparian Restoration and Protection

Nevada's aquatic systems are home to some of the most diverse but threatened species; of Nevada's 104 native fish species and subspecies, 23 are listed as threatened or endangered under the Endangered Species Act and approximately 56 percent are designated as sensitive. Several Landowner Incentive Program projects are currently underway to protect these important aquatic resources. A cooperative project with the Eastern Nevada Landscape Coalition and Partner's Program with the US Fish and Wildlife Service will benefit Lahontan cutthroat trout, Greater Sage-grouse, and other species through the restoration of streams suffering severe head-cutting. Another project will protect an important desert spring complex for the Amargosa toad.



Riparian restoration/Connie Lee

Conservation of wildlife habitat on privately owned property is an integral component of Nevada's Wildlife Action Plan. The Landowner Incentive Program is working with landowners to protect important wildlife habitat.

Climate change is emerging as a major stressor to habitats and species across Nevada and conservation planning efforts need to take this into consideration.

Conservation Planning Efforts

Planning for Climate Change

The Wildlife Diversity Division has begun working with partner agencies and conservation organizations to draw up a blueprint to help guide our state's wildlife conservation actions in the face of climate change. Through this effort, we will identify habitats and species most likely to be affected by changing conditions. This information will be integrated into effective strategies for managing and mitigating impacts. It will also help determine where conservation efforts should be directed to maximize natural resource protection for game and nongame species.

Conserving Shorebirds in the Great Basin

Department personnel are working with Stillwater National Wildlife Refuge (NWR) and Intermountain West Joint Venture staff to assess the conservation needs of shorebirds at the Lahontan Valley Wetlands complex. These wetlands comprise one of the Great Basin's most critical waterfowl and shorebird conservation areas. At full production they host over 200,000 migrating shorebirds, earning formal designation as a

Reserve of International Significance within the Western Hemispheric Shorebird Reserve Network. When complete, the assessment will assist in more effective and comprehensive shorebird management. It will also help demonstrate the State's intent to continue managing one of the wetlands, Carson Lake and Pasture, as a component of the Shorebird Network after it is transferred to state ownership through stipulation in the Truckee-Carson Settlement Act of 1990.

Working with Partners on Land Use Issues in Southern Nevada

The Wildlife Diversity Division continues to work closely with staff from Fisheries, Habitat and Game Divisions to mitigate land-use actions that may impact wildlife. We are actively coordinating with federal partners on the Spring Valley Stipulation Agreement regarding water withdrawals in eastern Nevada. This effort led to the development of a Biological Monitoring Plan based on 'best science' that incorporated all wildlife needs. And in southern Nevada, we continue to work with the BLM and wind energy proponents to develop wildlife monitoring protocols for birds and bats prior to wind power construction.



Flying Dunlin/Larry Neel

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