

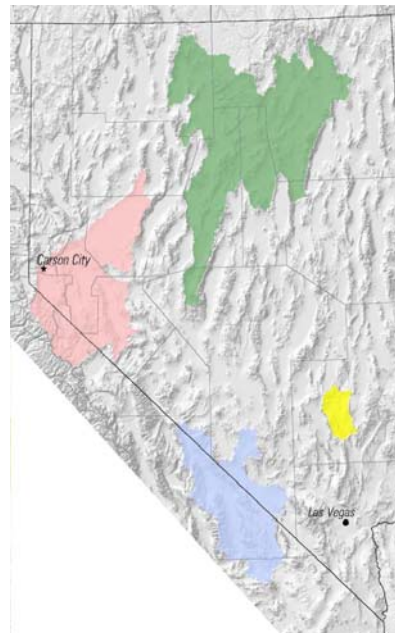


Introduction and General Description

The most mountainous state in the nation—Nevada—means “snowcapped” in Spanish. Nevada has more than 300 named mountain ranges, all running north-south as part of the Great Basin complex. Nevada is also referred to as the driest state in the nation, with an average annual rainfall of only 7 inches. The wettest region of the state, the Sierra Nevada range, receives about 40 inches of precipitation per year, while the Mojave Desert in southern Nevada receives less than 4 inches per year.

On a percentage basis, Nevada has more Federal land than any other state. Although 86 percent of the land in Nevada is owned and managed by the Federal government, much of the land along perennial water courses and springs is under private ownership. Given that human population growth is occurring on only 14 percent of the land, and that many imperiled species depend on aquatic systems found on these lands, partnerships with private landowners are essential to restoring and maintaining Nevada’s unique biodiversity.

Nevada



PARTNERS FOR FISH & WILDLIFE NEVADA INITIATIVE AREAS:

- Humboldt River Watershed
- Carson/Walker Watershed
- Pahrnagat Valley
- Amargosa River Watershed

Nevada Activities

The Partners Program has been active in Nevada since 1996 and has assisted private landowners in restoring nearly 32,000 acres of upland and wetland habitats, and over 65 miles of stream habitat.

Restoration projects include:

- Riparian corridor restoration
- Wetland restoration
- Wet meadow enhancement
- In-stream restoration
- Streambank stabilization and restoration
- Spring restoration
- Sagebrush steppe restoration
- Range improvements
- Aspen stand enhancement
- Pinon-Juniper enhancement
- Restoration, enhancement, protection of habitat for threatened, endangered, or rare species
- Fish barrier removal
- Schoolyard habitats

Habitats of Special Concern

Aquatic Habitat

Aquatic habitats in Nevada support 25 rare fish species and 2 amphibians that are on the candidate species list. The Great Basin, which covers most of Nevada, supports the highest diversity (at least 150 species) of spring-dwelling mollusks in the United States, 65 of which are found only in Nevada.



Removing Non-native Fish from Nevada Stream

For example, The Partners Program has worked cooperatively with private

landowners, The Nature Conservancy, NV Department of Wildlife, Natural Resources Conservation Service, Bureau of Land Management, Nevada Natural Heritage Program, Beatty Habitat Committee, and other partners on projects to restore springs, wetland and riparian habitat for the Amargosa toad, found only in the Oasis Valley in Nye County, Nevada. These projects also benefit the endangered southwestern willow flycatcher.

Sagebrush Steppe

Much of the sagebrush habitat in Nevada is used to graze livestock, but also provides homes for species such as the Greater Sage Grouse, pygmy rabbit, pronghorn antelope, and songbirds. Overgrazing and the invasion of non-native or nuisance plant species, such as cheat grass, have degraded this habitat leaving it vulnerable to repeated wildfires. The Partners Program in Nevada is focused on efforts to control invasive plants with a combination of proper grazing management, mechanical removal, and chemical treatment, thus reducing the threat of recurrent catastrophic wildfires.



Greater Sage Grouse

Challenges

Water Issues

Nevada has lost over 52 percent of its wetlands. This loss is primarily due to water diversions and ground water pumping for urban and agricultural uses. Urban use is replacing agriculture as the major water user in some areas. Current hard rock mining practices also impact wetland and stream habitats. Huge mining pits dug well below the water table require de-watering to extract the silver or gold-bearing ore. De-watering has long term effects on vital streams, springs, and wetlands by lowering the ground water table.

Invasive Species

Devastating wildfires over the past few years are responsible for the decline in the health of many Great Basin ecosystems. Without quick, decisive restoration actions, much of the native grasslands and shrublands burned each year will be invaded by exotic annual grasses and noxious weeds. Exotic grasses contribute to the natural burn cycle and accelerate the loss of native vegetation of the Great Basin ecosystems. Restoration of these ecosystems must include actions that promote diverse, native plant communities that are resilient to disturbance and resistant to invasive species over the long term. Restoration will also assist in the recovery of diverse wildlife and fish populations.

Overgrazing

Overgrazing can affect stream and riparian areas by changing dominant plant species, reducing or eliminating

vegetation cover, compacting soils, trampling streambanks, and degrading water quality. Riparian areas are lost through channel widening, channel degradation, and lowering of the water table. The effects of overgrazing on fish habitat include reduction of shade and cover resulting in increased water temperature, more intermittent than permanent flows, changes in stream channel and bottom shape, and additional sedimentation due to streambank and upland soil erosion. Grassland and shrub habitat is degraded as soils are compacted and native plants are replaced by invasive species. In sagebrush ecosystems, the loss of understory grasses and forbs results in the loss of nesting and foraging habitat for species such as the sage grouse.

Conservation Strategies

Wetlands

Wetlands equal life in the arid ecosystems of Nevada for migratory birds, fish, and amphibians. The Partners Program is restoring wetlands by removing water diversions and returning flows into wetland basins. Wetland restoration projects have focused on the Humboldt River and its tributaries, Carson Valley, and Amargosa Valley.

Streams and Riparian Areas

Fish, amphibians, invertebrates and many other upland species are dependent for at least a portion of their lives on streams and riparian areas for water and cover. The Partners Program is restoring stream corridors by installing fences (to exclude

livestock), implementing bank stabilization and replanting trees and shrubs. Riparian restoration projects have focused on streams in the Bonneville and Humbolt River basins.

Sagebrush Steppe

The conversion of agricultural lands back to native sagebrush steppe will benefit Great Basin wildlife species (e.g., sage grouse, Brewer’s sparrow, sage sparrow, pygmy rabbit, sagebrush vole, and sagebrush lizard). Installation of livestock fencing and reseeding of native vegetation is currently underway on private ranches to restore habitat for sage grouse and other sagebrush dependant species. The fencing will also benefit a designated recovery stream for Lahontan cutthroat trout.

Invasive Species

Non-native, invasive plants, purple loosestrife and tall whitetop have been introduced to the United States from Europe and Asia. Purple loosestrife is invading wet meadows, pasture wetlands, marshes, stream and river banks, lake shores, and irrigation and drainage ditches. Tall whitetop is invading fallow agriculture fields, stream

and river banks, and drainage ditches. These exotic plants are extremely hardy. They crowd out native plant species and interfere with the regeneration of willows and cottonwoods. They provide less shade and cover than the native shrub species along streams for fish, waterfowl, migratory birds and other wildlife. The Partners Program is addressing this invasion with fire, the application of herbicides, and mechanically, as appropriate. Restoration of riparian and upland habitats in the Truckee and Carson River watersheds will reduce or eliminate populations of these exotic species.



Partners Biologist Manually Removing Invasive Thistle

Partners

- Natural Resources Conservation Service
- National Fish and Wildlife Foundation

**5-year Targets
(2007-2011)**

- 4,134 acres of wetland
- 19,093 acres of uplands
- 38 miles of instream and riparian habitat
- 895 riparian acres

- Bureau of Reclamation
- U.S. Army Corps of Engineers
- U.S. Forest Service
- Bureau of Land Management
- Intermountain West Joint Venture
- Nevada Department of Wildlife
- Nevada Division of Environmental Protection
- Nevada Division of Forestry
- Nevada Division of State Parks
- Nevada Department of Prisons
- Nevada Natural Heritage Program
- University of Nevada, Reno
- Pyramid Lake Paiute Tribe
- Duckwater Shoshone Tribe
- Summit Lake Piute Tribe
- Moapa Band of Paiutes
- Washoe County
- Storey County
- Nye County
- Eastern Nevada Landscape Coalition
- Bat Conservation International
- The Nature Conservancy
- Trout Unlimited

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