

# Welcome to Sheldon National Wildlife Refuge!

The Sheldon National Wildlife Refuge, located in the northwestern corner of Nevada, manages over 575,000 acres of high-desert habitat as a representative area for native plants and wildlife.

Although established for the protection of habitat and wildlife the refuge incorporates other historical uses. The Virgin Valley Mining District (67,000 acres) was established for the mining of fire opals, and two patented mines offer opal mining for a fee. There are remains of many old ranches and homesteads on the refuge, plus sites of archaeological significance.

The area also has many natural geothermal hot springs, those located at Bog Hot and Virgin Valley campgrounds can be used by the public.

The remote setting, scenic vistas, and high desert country of Sheldon invite the visitor to experience the rugged landscape and observe the plants and animals that inhabit this unique ecosystem.



Virgin Creek



## History of the Refuge

The first non-natives to visit this area were trappers and explorers, who passed through in the early 1800's. Immigrants soon followed, and began settling here in the 1840s-1860s. Disputes between settlers and Indians prompted the establishment of Fort McGarry near Summit Lake in 1866. After the fort was established, a few ranching operations took root in the 1870's. The harsh environment was suitable only for grazing, and settlers used the land to raise horses (to supply the U.S. Army), sheep, and cattle.

Ranches prospered and became vast livestock empires until range deterioration resulted from excessive use. Soon, both wildlife and the ranching industry were in trouble. Native wildlife had been exploited for food and was unable to compete with domestic livestock on the deteriorating rangelands. California bighorn sheep disappeared, mule deer became rare, antelope numbers were drastically reduced, and sage grouse, once numerous, became hard to find. Overgrazing changed plant types and led to erosion; economic hardships caused livestock empires to sell out to small family owned ranches. By the turn of the century only a few small ranches remained in existence on the Sheldon.

In the late 1800's and early 1900's, the decreasing antelope populations of northwestern Nevada began to concern both residents and conservation groups.

Through the efforts of the Boone and Crockett Club and the National Audubon Society, funds were raised and in 1918 the Last Chance Ranch (30,000 acres) was purchased. In 1931, Herbert Hoover created the Charles Sheldon Wildlife Refuge. The Charles Sheldon Antelope Range (an area over 1/2 million acres to be reserved for conservation and development of natural wildlife resources) was created in 1936 by Franklin D. Roosevelt. In 1978, both areas were combined into one administrative unit and renamed the Sheldon National Wildlife Refuge.



Old Homestead - Kimney Camp

## Early Inhabitants

Archaeological evidence places humans living in the region 10,000-12,000 years ago. These early inhabitants lived on the shores of the now-extinct basin lakes which covered vast areas. Artifacts, petroglyphs (drawings carved into rocks), and cave records indicate various tribes traveled through and used this area.

About 1500 years ago the Northern Paiute and Shoshone Indians were hunters and gatherers. During the spring, summer, and fall they followed the migrating game and seasonal food sources. During the winter, their villages centered around the warm springs found in this region.

The hunting-gathering way of life ended with the establishment of the Summit Lake Indian Reservation in 1913.



Indian Petroglyphs - Bighorn Sheep

Last Chance Ranch



If you have any questions, inquire at Dufurrena sub-headquarters or write or call:

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**SHELDON**  
NATIONAL WILDLIFE REFUGE  
NEVADA

# Wetlands and Wildlife

Wetlands and their associated riparian vegetation are of critical importance to wildlife in high-desert environments. Only a limited amount of riparian habitat exists on the Sheldon, yet these areas provide important sources of food and cover for 80 percent of the wildlife species found on the refuge! Despite an overall scarcity of water in high-desert environments, a wide variety of aquatic habitats exist on the Sheldon: hot and cold springs, lakes and reservoirs, creeks and stockponds.

Over 270 wildlife species make use of the Sheldon! Some birds are permanent residents, others winter or summer here, and some occur only during spring and fall migrations when they stop to feed and rest.

Most of the mammals are year-round residents. Many use different summer, winter, and spring/fall ranges and have specific habitat requirements. Certain circumstances (e.g. too much snow or no water) will force the animals to look elsewhere for food or cover.

## Ducks in the Desert?

At least 10 species of waterfowl including Canada geese, mallards, teal, redheads, and ruddy ducks nest at Sheldon NWR. In wet years the lakes are full and the number of ducks soar, while in drought years when water is low, duck numbers decline and shorebirds, like sandpipers and avocets, benefit by the extra exposed shoreline.

The best time to view waterfowl is during spring and fall migration when many stop to rest and feed during the long journeys between their northern nesting and southern wintering grounds.



## Sage Grouse

Historical accounts describe early settlers gathering buckets of sage grouse eggs for camp fare. Today the sage grouse, a large chicken-like bird, exists in smaller numbers on the refuge due to loss of habitat caused by overgrazing.

The preferred habitat of the grouse are gently rolling hills and valleys where patches of big sagebrush are interspersed with low sagebrush. In spring and summer, wet meadows are important sources of forbs and high-protein insects needed by chicks for growth. As summer progresses, grouse move to higher elevations to find more succulent forbs.



## Pronghorn Antelope

At Sheldon, the pronghorn population peaks during winter months, when herds migrate from Oregon to wintering areas such as Big Springs and Gooch Table. In the summer, herds wander the refuge looking for food and water. Bitterbrush becomes an important food source in late summer and fall, while sagebrush can form up to 90 percent of the pronghorn's diet during the winter. In dry summers each animal may need up to 1 1/2 gallons of water per day!

Pronghorn rely on good eyesight and speed for safety; broad, open, flat areas in low sagebrush are the preferred habitat.



## Bighorn Sheep

California bighorn sheep were once abundant in northwestern Nevada, as documented by petroglyphs and remains found at numerous locations throughout the Sheldon. Several factors, including competition with domestic livestock, disease, and overhunting, led to the elimination of sheep from the area around 1930. In an effort to re-establish bighorns on their native range, the U.S. Fish and Wildlife Service transplanted 8 sheep into an enclosure on Hell Creek in 1968. A second reintroduction to McGee Mountain took place in 1987, and today, although still relatively few in number, the distribution of bighorn sheep continues to expand.



## Horses and Burros

Horses and burros on the Sheldon NWR are exotic (non-native) species, offspring of domestic stock turned loose around the turn of the century. Horses, burros, and domestic cattle are primarily grass eaters, and the combined effect of these animals grazing can devastate native vegetation and cause severe riparian damage if populations are not kept in check. Horse and burro round-ups are required periodically to minimize their impact on native flora and fauna.



## Reptiles and Amphibians

The numerous rocky outcrops and canyons are excellent habitat for reptiles. However, winters are usually too cold and summers too dry to support many amphibians. Of the three amphibians found on the Sheldon, the native Pacific treefrogs and Great Basin spadefoot toads are widespread and found near virtually every source of water. The bullfrog, an introduced species, is found throughout Virgin Valley. Snakes and lizards are most abundant in the northeast portion of the refuge, with 12 of the 15 species of reptiles concentrated in the Virgin Valley, Bog Hot, and Jackass Flat areas. The western rattlesnake, the only venomous reptile, is found in all areas throughout the refuge.



## Mule Deer

Mule deer on the Sheldon migrate up to 40 miles annually to spend winter in big sagebrush habitat in the eastern portion of the refuge. In springtime, they seek out dense cover for fawning; summers are usually spent at high elevations in bitterbrush and mountain mahogany.



# Habitat Management and Restoration

Improving the habitat for wildlife guides the management practices used on the Sheldon today. Many methods (mechanical, chemical, biological) are used to help achieve this goal, including fire and grazing.

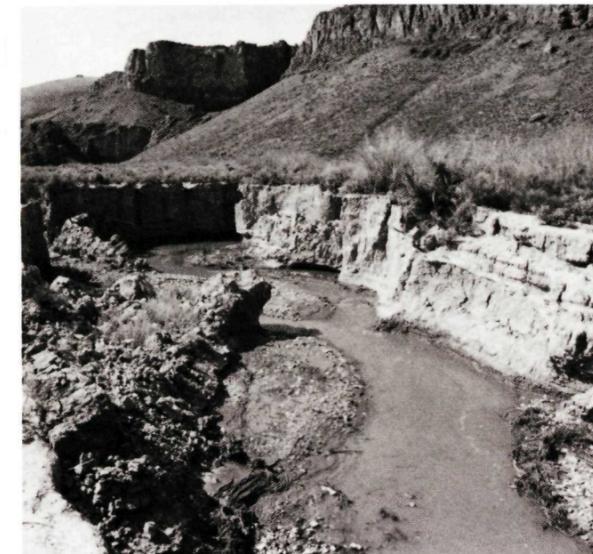
Controlled burns are most often used to create grassy patches in shrubby habitat or to slow the encroachment of sagebrush into meadows, increasing habitat diversity.

## Rodero Creek: A Damaged Resource Being Rebuilt



Rock Dam Under Construction in Rodero Creek

In 1981, an experimental rehabilitation project was tested out on the severely eroded Rodero Creek. Loose rock dams were installed to trap sediment and leak water slowly. Since then, sediment deposited behind the dams has built up the stream bottom. Plants are colonizing the sediment, creating a series of small, wet meadows.



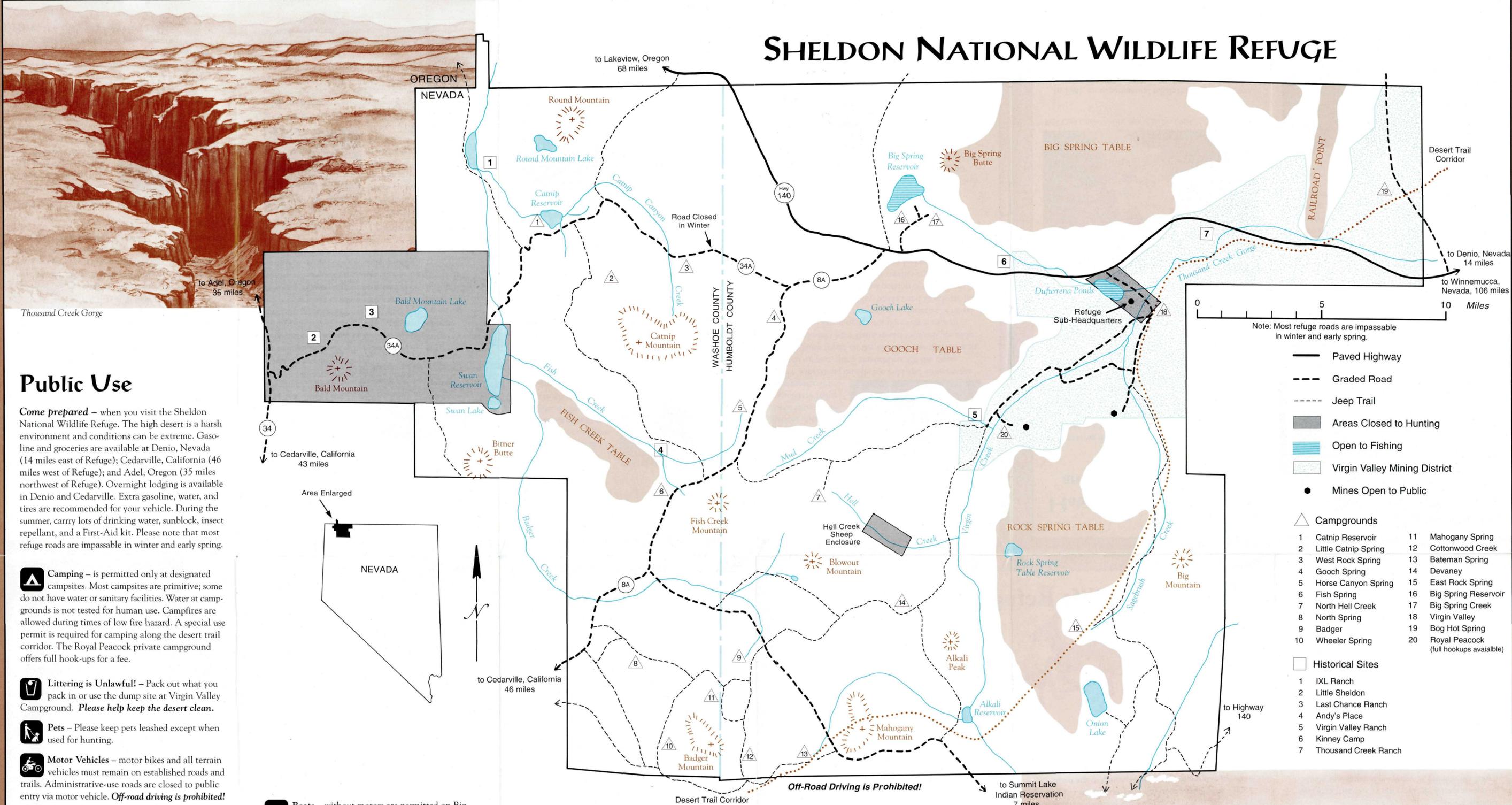
Gully with Severe Erosion Problems

Today, areas of the creek that had flowed periodically now flow year-round. Ponds behind dams are used by ducks as brood habitat. Other riparian areas are currently being rehabilitated throughout the refuge, in fulfillment of one of the prime management objectives.



Meadow Vegetation Recolonizing Sediment Deposited Behind Dam

# SHELDON NATIONAL WILDLIFE REFUGE



## Public Use

**Come prepared** – when you visit the Sheldon National Wildlife Refuge. The high desert is a harsh environment and conditions can be extreme. Gasoline and groceries are available at Denio, Nevada (14 miles east of Refuge); Cedarville, California (46 miles west of Refuge); and Adel, Oregon (35 miles northwest of Refuge). Overnight lodging is available in Denio and Cedarville. Extra gasoline, water, and tires are recommended for your vehicle. During the summer, carry lots of drinking water, sunblock, insect repellent, and a First-Aid kit. Please note that most refuge roads are impassable in winter and early spring.

**Camping** – is permitted only at designated campsites. Most campsites are primitive; some do not have water or sanitary facilities. Water at campgrounds is not tested for human use. Campfires are allowed during times of low fire hazard. A special use permit is required for camping along the desert trail corridor. The Royal Peacock private campground offers full hook-ups for a fee.

**Littering is Unlawful!** – Pack out what you pack in or use the dump site at Virgin Valley Campground. *Please help keep the desert clean.*

**Pets** – Please keep pets leashed except when used for hunting.

**Motor Vehicles** – motor bikes and all terrain vehicles must remain on established roads and trails. Administrative-use roads are closed to public entry via motor vehicle. *Off-road driving is prohibited!*

**Horseback Riding** – is allowed on the refuge. Please do not bring any hay, only pelletized feed is permitted because of the possibility of weed introduction.

**Rockhounds** – may collect up to 7 pounds of rocks per person per day except in the Virgin Valley Mining District. Within the mining district are thousands of claims (some of which are patented) and permission from claim owners must be obtained for rock collecting. Two patented mines offer opal hunting for a fee.

**Cultural Artifacts** – *Searching for and removing cultural artifacts is prohibited!*

**Fishing** – is allowed at Big Springs Reservoir, Dufurrena Ponds 20 and 21, and McGee Pond in accordance with Nevada Department of Wildlife (NDOW) regulations. McGee Pond is open only to children 12 and under, adults 65 and over, and handicapped individuals.

**Boats** – without motors are permitted on Big Springs Reservoir; boats are not allowed at Dufurrena Ponds, however, inflatable rafts or float tubes can be used.

**Hunting** – of antelope, mule deer, bighorn sheep, sage grouse, California quail, and chukar is allowed in accordance with NDOW regulations. Areas closed to hunting include Little Sheldon, Dufurrena, the Hell Creek bighorn sheep enclosure, and other areas as posted.

**Firearms** – Field possession of centerfire rifles or archery hunting gear is allowed during big game hunting seasons for persons holding a valid big game tag. Possession of shotguns afield is permitted during sage grouse, California quail, and chukar seasons for hunters with small game tags. Except as stated above, all firearms must be unloaded and cased or disassembled.

**Aircraft** – Including hang gliders, may not land the refuge. *The use of aircraft over refuge lands to harass, drive, or hunt wildlife is prohibited.*

## Geology

About twenty million years ago Sheldon was covered with pine forests and grasslands. The climate was milder then, with more than 50 inches of rainfall annually. Camels, saber-toothed cats, ancient antelope, and three-toed horses roamed the land. The area and climate changed—volcanos erupted, mountains were thrust up along faults in the earth's crust, enormous lakes covered the basins, and glaciers and erosion left their mark on the land.

The volcanos spewed rhyolitic magma. Over thousands of years, the land surface sank, and the water carved gorges through the volcanic tuff and ash, dissolving organic matter, petrifying or opalizing wood, and leaving mineral deposits behind. The last volcanic eruptions covered much of the refuge with basalt, up to 100 feet thick, forming the large, broad tables characteristic on the refuge today.

## Fisheries

The Sheldon has three species of native fish: cutthroat trout, tui chub, and Alvord chub. These native fishes are unique, as each population has adapted and evolved to its particular hot or cold spring, small creek, or lake. The Lahontan cutthroat trout is listed as a federally threatened species and has been stocked in Catnip Reservoir since 1947 to provide eggs and sperm for propagation and restocking of other waters.

Exotic (non-native) fish introduced for sport fishing include largemouth bass, white crappie, bluegill, pumpkinseed, and yellow perch in Dufurrena Ponds; and rainbow and cutthroat trout in Big Springs Reservoir. These areas can provide excellent fishing in good water years.

