


U.S. Fish & Wildlife Service

# Stillwater

*National Wildlife  
Refuge Complex*



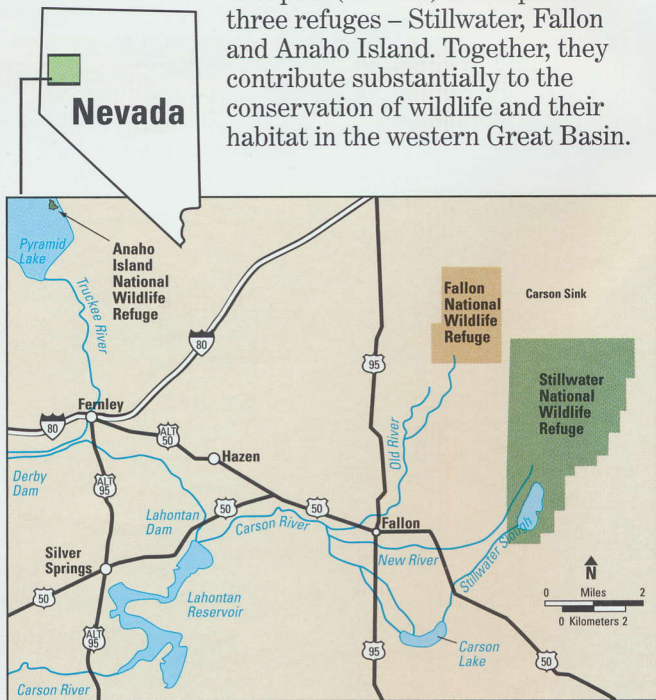
A photograph of several American white pelicans in flight over a coastal landscape. The birds are white with dark wings and long, pointed beaks. They are flying in various directions across the frame. The background features a rugged, brownish mountain range under a clear blue sky. The foreground shows a dark, rocky shoreline meeting a body of water.

*The Stillwater refuge complex provides a striking setting for hunting, observing and learning about wildlife in what is considered a globally important bird area. The abundance of species here has been described as a true wildlife spectacle.*

*American white pelicans at Anaho Island, FWS Photo*

## The Refuge Complex

Stillwater National Wildlife Refuge Complex (NWRC) is composed of three refuges – Stillwater, Fallon and Anaho Island. Together, they contribute substantially to the conservation of wildlife and their habitat in the western Great Basin.



### Diverse Habitat and Species



*Black-necked stilt*

The refuge complex encompasses a great diversity of habitat, from freshwater marshes and river habitat to brackish water marshes, alkali playas, extensive salt desert shrublands, a 25-mile-long sand dune complex and a small island in a desert lake.

Refuge habitats attract nearly 400 species of vertebrates or other wildlife, including more than 290 species of birds, plus countless species of invertebrates. Waterfowl, shorebirds and other waterbirds are abundant, especially during migration.

With its immense richness and abundance in a desert environment, the refuge complex is a great place for hunting, observing and learning about wildlife in the Great Basin.



The Stillwater NWRC refuges are several of more than 550 wildlife refuges nationwide. This network of refuge lands was established for the conservation and management of fish, wildlife, and plant resources for the benefit of present and future generations. The Blue Goose is the symbol of the National Wildlife Refuge System.

### Stillwater Dunes



FWS Janet Schmidt



*Stillwater Range*

FWS Photo



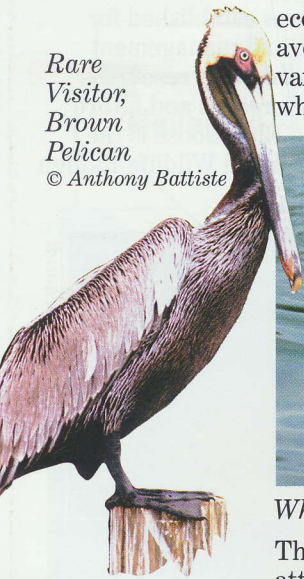
*Stillwater Marsh*

FWS Photo

*Diverse Wildlife*

*Rare Visitor;  
Brown Pelican*

© Anthony Battiste



**Wildlife Oasis**

The Lahontan Valley is a surprisingly lush oasis in the dry Great Basin ecosystem. Thousands of American avocets, black-necked stilts and a variety of sandpipers pass through in what is termed a true wildlife spectacle.



© Dave Menke

*White-winged scoter rare appearance.*

The Stillwater marshland also attracts some rarities. White-winged scoter, stilt sandpiper, brown pelican and the pomarine jaeger are a few avian species that can make special appearances.

*Desert Species*

A variety of lizard species and kangaroo rats leave their tracks in the desert sand amidst greasewood shrubs. The white-tailed antelope

squirrel is one of the few rodents easily seen as it darts between bushes and under fences. Rabbits (cottontail and black-tailed jack) abound.



FWS Dan Roseberg

*Collared Lizard*

© Bob Goodman

*Mammals*



FWS E. Loth

*Muskrats*



FWS Photo

*Kangaroo rat*

*Mule deer*



FWS Photo

Kit fox, present but hard to view, are year-round residents. Mule deer, coyote and muskrat are often seen along refuge roads. An occasional mountain lion ventures into the valley and through the marsh in search of prey.

*Coyote*



FWS Photo



*American avocet on nest*  
FWS Photo

## Spring



FWS Photo

*American white pelican*



FWS Janet Schmidt

*Burrowing owl*

*White-faced ibis*

## Refuge Seasons

Early spring boasts an onslaught of tens of thousands of returning migrants. Canvasback, northern pintails, green-winged and cinnamon teal, and occasionally snow geese begin to arrive in late February. American white pelicans also start returning to nesting habitat on Anaho Island in Pyramid Lake.

April finds resident waterfowl nesting and shorebirds returning in significant numbers. In the water, birds such as the Clark's or western grebes and ruddy ducks put on their courting shows. Long-billed curlew, Swainson's hawks and brightly colored passerines, such as Bullock's orioles and yellow-headed blackbirds, also arrive and begin to nest.

In early May, summer colonial nesting birds including white-faced ibis, snowy, great and cattle egrets, Forster's terns and sometimes burrowing owls are nesting.



FWS L. McDaniel

*Summer*

Beginning in June, the late arrivals include the common nighthawk and a variety of flycatchers. Marsh wrens, sora, the secretive American bittern and Virginia rail can be seen among the marshes tulle and cattails.



*Red-winged blackbird*  
© Bob Goodman



*Great egret*

FWS Photo

*Fall*

*Hooded merganser*

August begins the fall migration with shorebirds such as black-necked stilt, yellowlegs, long-billed dowitcher and sandpipers trekking south. Waterfowl begin arriving in September. When cold weather arrives, usually in October, white-crowned sparrows and goldfinch seek out the warmer lower altitudes.



© Bob Goodman



*Northern pintail*

FWS Photo

*Winter*

*Black-crowned night-heron*

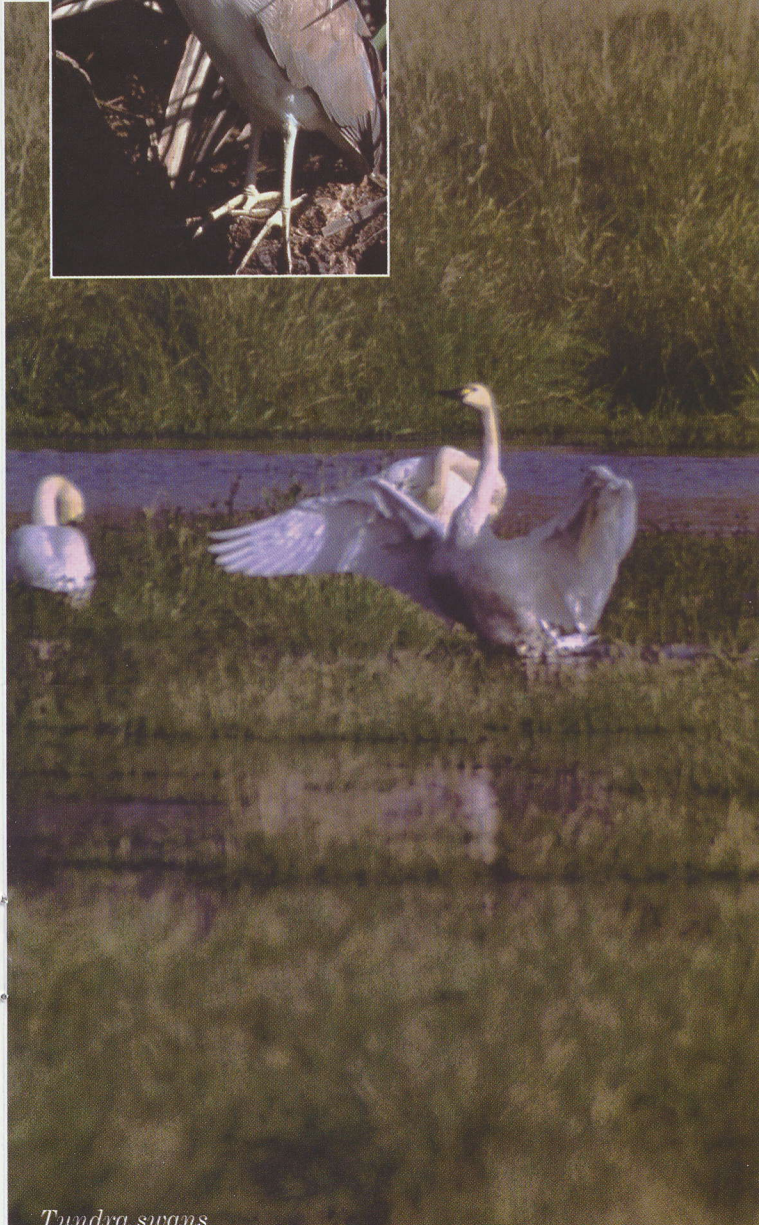
During winter months Tundra swan, bald and golden eagles, rough-legged hawks, loggerhead shrike and prairie falcons circle over the area.

Over-wintering egrets and herons are quite often spotted, and black-billed magpies, year-round residents, are also seen.



FWS Photo

FWS Photo



*Tundra swans*

## Stillwater Refuge

Stillwater NWR is located in the Lahontan Valley, 16 miles from the center of Fallon. It was established in 1949 as a wildlife sanctuary, closed to all public access.

In 1990, the refuge boundary was expanded to encompass Stillwater Marsh for the purpose of maintaining and restoring natural biodiversity; providing for the conservation and management of fish and wildlife and their habitat; and fulfilling international treaty obligations of the United States with respect to fish and wildlife.

Another important obligation was providing opportunities for scientific research, environmental education and fish and wildlife-oriented recreation.



*Environmental education for young and old.*

*FWS Janet Schmidt*



*FWS Photo*



*Wildlife observation*

## *Birders Paradise*



*© Bob Goodman*

The Stillwater wetlands are well known to birders. The area has been designated a site of international importance by the Western Hemispheric Shorebird Reserve Network, because of the hundreds of thousands of shorebirds, such as the long-billed dowitcher, black-necked stilt and American avocet, using this area during migration. Stillwater Refuge also received the designation of a Globally Important Bird Area by the American Bird Conservancy.

More than 290 species have been sighted in the area. Its tremendously rich and diverse wetlands attract more than a quarter million waterfowl, as well as over 20,000 other water birds, including American white pelicans, double-crested cormorants, white-faced ibis and several species of egrets, herons, gulls and terns.

## Anaho Island Refuge

Anaho Island NWR is located near the eastern shoreline of Pyramid Lake in Washoe County, Nevada, 30 miles northwest of Reno. President Woodrow Wilson established this refuge in 1913 as a sanctuary for colonial nesting birds, primarily American white pelicans.

Anaho Island is part of the Pyramid Lake Paiute Indian Reservation, but is managed as part of the National Wildlife Refuge System under an agreement with the Pyramid Lake Paiute Tribe.

Archeological surveys of the island have not identified any significant prehistoric cultural resources, but the island figures prominently in the spiritual beliefs of the Pyramid Lake Paiute Tribe. Early inhabitants gathered eggs and feathers from the island for food and adornment of ceremonial dress.

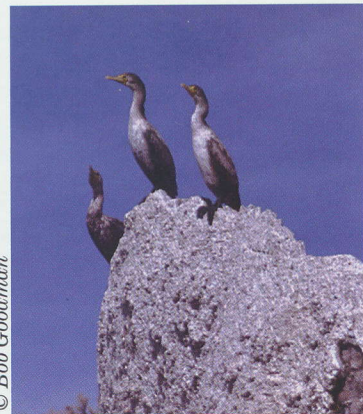
Anaho Island NWR is one of the largest of only eight nesting colonies of American white pelicans in western United States and Canada. In summer, 7,000 to 10,000 pairs congregate on the island to nest and as many as 3,500 young are raised. In 1999, over 20,000 adult pelicans returned to Anaho Island to successfully nest and rear over 10,000 juvenile birds.

The island also provides nesting areas for double-crested cormorants, California gulls, great blue herons and occasionally, Caspian terns.



*Few Nesting Colonies Left*

*Double-crested cormorants*



FWS A. Uchiyama

*American white pelicans*

*Do Not Disturb*

*Where Can I See the Birds?*



FWS Photo

Common passerines found on the island are the rock wren and white-crowned and savannah sparrows. While the only mammal appears to be the deer mouse, and the only snake a Great Basin rattler, lizards such as the spiny, desert

horned, side-blotched and zebra tailed join a diverse group of insects to round out island diversity.

Birds like the white pelican need solitude for nesting. Disturbances which seem slight are often enough to frighten adult birds from their nests. This leaves their eggs or young to die from overheating in the hot summer sun, or to be attacked and eaten by ever watchful gulls.

To protect the nesting colonies, the entire island is closed to the public and boating is prohibited within 500 feet of the island.

It is not necessary to visit the island to see the birds. Pyramid Lake and Lahontan Valley wetlands (including Stillwater NWR), 60 miles to the southeast, provide fish to feed the adult and juvenile pelicans. Pelicans can be readily viewed as they forage in these areas, or as the adults make a return trip to feed flightless young on

Anaho Island. The majority of these birds leave Anaho Island at the end of the summer and pass through Salton Sea NWR to spend the winter in the Gulf of Mexico.



## Fallon Refuge

Fallon NWR is located approximately 30 miles northeast of Fallon, at the terminus of a branch of the Carson River. Established in 1931 as a breeding ground for birds and other wildlife, it is dominated by gently rolling to flat desert shrublands consisting of greasewood and saltbush.

A system of both active and stable dunes also characterizes the topography in this area, including the lowest elevation found in the refuge, about 3,800 feet in the Carson Sink.

Limited hunting is available on Fallon NWR, including waterfowl and upland game. Access is limited to open roads and four-wheel drive vehicles are recommended.



FWS Photo

*Water delivery system: canals, dikes, and marsh units*



FWS Photo

## The Water Cycle

Stillwater Marsh has always been subject to natural cycles of drought and flood. Most of the marsh's water originates as snowmelt in the Sierra Nevada, and a year of poor snow means drought in the wetlands.

### *Boom or Bust*

While water evaporates at the rate of 5 feet per year in the Lahontan Valley, rainfall averages only 5 inches annually and is highly unpredictable from one year to the next. Spring rains, combined with heavy snowfall in the Sierra, can flood not only the Stillwater marshes but also the entire Carson Sink. On the opposite extreme, between 1986 and 1992 there was drought in both Nevada and the Sierra.

### *Plants and Animals Cope*

Stillwater's plants and animals have been coping with these cycles for thousands of years. Eggs of fairy shrimp, seeds, and rhizomes of many wetland plants can lie dormant for years while waiting for spring runoff to refill the wetlands. Birds can fly long distances in search of food, delay nesting until a better year or seek different nesting areas. Populations of other animals, such as minnows or muskrats, may decline to tiny remnants but recover quickly when good water conditions return.

### *Water Management*

However, for populations of plants and animals already challenged by drought, survival lies in the balance. Water diversions can mean the difference between the marsh getting little water or none at all in the driest years. For this reason, the Fish and Wildlife



FWS Photo

Service continues to purchase the water needed to sustain 14,000 acres of the historic marshes within the refuge complex.

## A History of Change

Twelve thousand years ago, a giant lake created by melting glaciers, Lake Lahontan, filled the valleys of western Nevada. As the climate warmed, the glaciers retreated and the lake dried up. Stillwater Marsh is one of its last remnants. Look for old shorelines of Lake Lahontan etched high on the hills surrounding the marsh.

## Early Settlement



When the first Euro-American explorers arrived here in the mid-1800's, they found a marsh teeming with fish, birds and plant life, and a people known as the *Toidikadi*, or Cattail-Eater Paiute, who used these resources in ingenious ways.

As farms and pastures began to replace marshes, meadows and river bottoms in the 1870s, some native plants and animals grew more scarce. But for many years, the Stillwater marshes remained a paradise for migratory birds.

In 1898, one visitor described the marsh as a "half shallow lake, half tule swamp which extends for 20 miles along the valley bottom... a breeding ground for great numbers of water and shore birds."

## A Resource Almost Lost

In the early 1900s, the Bureau of Reclamation developed the Newlands Irrigation Project to supply Lahontan Valley farmers with an abundant and reliable water source. The Carson River was dammed, creating the Lahontan Reservoir. This reduced water flowing into the marsh to a trickle.

In the following decades, deep-water ponds favored by waterfowl gave way to dense jungles of tules and cattails. The great flights of birds that Pony Express riders saw darkening the skies in the 1860s dwindled to a remnant.

## Wildlife Management Area

In 1948, action was taken to prevent complete loss of the Stillwater marshes. The U.S. Fish and Wildlife Service and the Nevada Fish and Game Commission entered into an agreement with the Truckee-Carson Irrigation District to develop and manage 224,000 acres of Bureau of Reclamation-Newlands Irrigation Project lands for wildlife and grazing. The new lands were designated as the Stillwater Wildlife Management Area.

## Saving the Flyway

Although at that time Carson River flows sustained only a fraction of the original marsh, this action prevented the loss of the Pacific Flyway in western Nevada. In 1991, 77,500 acres of the management area was set aside as the Stillwater National Wildlife Refuge. Today, the Service purchases water to flood refuge marshes.

## Cultural Heritage



Stillwater NWR is one of the most important archaeological areas in western Nevada. In the mid-1980s, floods washed away topsoil, exposing numerous village sites, artifacts and burials dating from 300 to 3,200 years ago. These cultural remains have added greatly to our understanding of the marsh and the people who obtained a living from it.

## Do Not Disturb Artifacts

Cultural resources such as arrowheads, grinding stones, burials and associated articles are important clues to the past and are protected from collecting by Federal law. You can help protect the past by leaving artifacts where you find them and reporting your discovery to the refuge office.

Nevada













# Fallon National Wildlife Refuge

Battleground Point

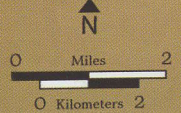
Carson Sink

# Stillwater National Wildlife Refuge

## Legend

-  Paved Roads
-  Dirt Roads
-  No Hunting Area of Refuge
-  Refuge Boundary
-  Rivers
-  Wetlands
-  Dunes
-  Boat Ramp / Parking Area
-  Parking Area
-  Visitor Information
-  Camping
-  Trail

Fallon



95

50

116

Leter Reservoir  
Carson River  
Timber Lake  
Wolf Dam  
Papoose Lake  
Big Indian Lake  
Cottonwood Lake  
East Lake  
Upper Lake  
Likes Lake  
Vaughn Lake  
Twin Lakes  
Sagouspe Dam  
Carson River  
Indian Lakes Road  
Ole's Pond  
S-Line Reservoir  
Rio Vista Rd.  
Stillwater Road  
Harmon Reservoir

Fallon Paiute-Shoshone Tribal Reservation

Carson Sink  
DUNES  
Stillwater National Wildlife Refuge  
Pintail Bay  
Big Water  
North Road  
Swan Check Lake  
Swan Lake  
Nutgrass Lake  
Willow Lake  
Tule Lake  
Millen Lake  
Lead Lake  
Goose Lake  
Division Pond  
Navy Cabin Road  
Division Road  
Cattail Lake  
E Alkali  
Doghead Pond  
Dry Lake  
Foxtail Lake  
Hunter Road  
Environmental Education Site  
Upper Foxtail Lake  
Auto Tour Loop  
Overlook  
West County Road  
East County Road  
STILLWATER R A  
Stillwater Point Reservoir

PRIVATE

**Stillwater National Wildlife Refuge**  
1020 New River Parkway, Suite 305  
Fallon, Nevada 89406

**For Visitor Information**  
Refuge Headquarters: 775-423-5128  
<http://www.fws.gov/refuge/stillwater>

**National Wildlife Refuge**  
Information: 1-800-344-WILD  
<http://www.fws.gov>

**Nevada Relay Center**  
Voice 1-800-362-6888  
TTY 1-800-362-6868

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**upon request.**

**March 2019**

