

Quivira National Wildlife Refuge Auto Tour Guide



Quivira National Wildlife Refuge (NWR) is managed by the U.S. Fish and Wildlife Service (USFWS), an agency of the federal government within the Department of the Interior. Quivira is part of the National Wildlife Refuge System, consisting of over 560 National Wildlife Refuges and covering 92 million acres across the United States. Refuges range in size from the ½-acre Mille Lacs NWR in Minnesota to the 19.2 million-acre Arctic NWR in Alaska.

Quivira was established in 1955, to provide wintering habitat and a migration stop for migratory birds moving up and down the Central Flyway. It now encompasses 22,135 acres, about one third of which are wetlands. At the visitor's center, learn more about the refuge's history and natural resources.



Looking north from the observation tower, you can see the Little Salt Marsh. This 900-acre wetland provides habitat to an abundance and diversity of migratory birds with a wide range of life requirements, such as small shorebirds, dabbling and diving waterfowl species, white pelicans, and sandhill cranes. Rattlesnake Creek is its main source of water, which originates southwest of the Refuge near the town of Greensburg. The water flows through Little Salt Marsh and/or is distributed to many wetlands throughout the Refuge.



The information kiosk here describes some of the early history of Quivira. Following the decline of market hunting (unregulated hunting for economic gain), the lands and marshes of Quivira were acquired by private hunting clubs to provide exclusive hunting rights for their members only. Over a dozen clubs owned portions of the marshes. One, the Klepper Gun Club, was just west of this spot. At one time, there were two clubhouses, a boathouse, windmill, and residence all at this location. The Salt Marsh Hunting Association operated about one mile north, and the Artesia Hunting Association operated on the west side of Little Salt Marsh.



You are about to cross one of two spillways designed to direct flood water from the Little Salt Marsh. After a major 1973 flood caused extensive damage to Refuge facilities, these spillways were installed to alleviate adverse impacts of future flooding. Flood waters in 1993, and again in 2007, were successfully diverted around infrastructure, saving roads and bridges from being overwhelmed and washed out.

Rattlesnake Creek is largely perennial. It enters the refuge west and flows through the Little Salt Marsh, and continues north before merging with Salt Creek at the north end of the refuge, and then east to the Arkansas River.



Quivira has over 80 water control structures on the Refuge. By adjusting the structures' gates, water can be moved via a system of canals throughout the Refuge to over 30 managed wetland units. Collectively, smaller wetlands are managed to complement the large salt marshes to support native communities.



Prior to Quivira's establishment, many areas of the refuge were planted with crops at one time or another. For many years after Quivira's establishment, upwards of 1,300 acres of wheat, milo, and other crops were planted annually in cooperation with local farmers. These fields have since been retired to allow the reestablishment of native communities. The field beyond the route location sign was one of the previously farmed areas. Fields such as this are located throughout Quivira NWR and are in various stages of rehabilitation. While restoration may take many years to complete and likely will never be the same as what occurred prior to growing crops, conditions will support an abundance and diversity of native plants and wildlife.



The area of rolling terrain to the west of the road are sand hills, much like the more expansive dune features in Nebraska. Certain species, such as prairie sand reed and sand bluestem, are associated with sand prairie. The timber area to the west, now called Santana Grove, is part of an old "Tree Claim". Following the Homestead Act of 1862, settlers could claim a quarter section (160 acres) of free land by living on the property and making certain "improvements" which, at the time, included tree planting. The Santana Grove currently hosts a mix of walnut, hackberry, and cottonwood.



This is the start of the "Migrants Mile" Interpretive trail, named for both the human and wildlife migrants that have crossed the Refuge. This trail winds through shaded woodlands, along marshy edges and through native grasslands before returning to this spot. The 1.1-mile trail contains a ½-mile surfaced, accessible loop, as well as a grass-surfaced outer loop. The trail crosses several marsh areas on elevated wooden boardwalks. One board walk is 335 ft. in length, with a central deck area where you can stop for a close-up view of the marsh.



This blacktop road is known by many names: Quivira Road, Rattlesnake Road, K19, and the Sterling blacktop among them. From here, the town of Larned is 33 miles west, and the town of Sterling is 16 miles east. For a nice panoramic view of Big Salt Marsh, drive 4 miles west to the Scenic Overlook. Otherwise, continue straight ahead to continue the tour.



Quivira contains over 13,000 acres of grassland and meadow, making it the most abundant habitat type. Grassland management on Quivira follows a historic pattern of grazing and burning that occurred prior to human settlement. Historically, great herds of bison grazed the grasslands as they migrated through the region. Current management uses seasonal cattle grazing to emulate some similar effects, such as influencing the vegetation structure and composition to support a diversity of wildlife with different life requirements. The cattle belong to local ranchers who are permitted to graze on the refuge following prescriptions that benefit rancher and refuge objectives. Certain native birds, such as upland sandpiper and grasshopper sparrows, are dependent on areas of large contiguous prairie. A diversity of pollinators is supported with the mix of different grasses and forbs found in the grasslands and meadows.



This bridge crosses Rattlesnake Creek which enters Salt Creek approximately 1/2 mile north of this site. Rattlesnake Creek meanders through the length of the refuge. If it flowed in a straight line, the distance from where it enters Quivira (west of Little Salt Marsh) to its confluence with Salt Creek would be about 9 miles. However, if the bends are measured, termed stream miles, then the distance totals over 16 miles! The combined flows of Salt and Rattlesnake Creek eventually enter the Arkansas River to the northeast, near the town of Raymond. Certain species are associated with stream habitat, such as belted kingfishers. The flowing water is critical in maintaining water quantity and quality of wetland systems on the refuge. For example, water flow helps prevent salts from increasing beyond a natural range of variation and a critical threshold for wildlife.



This is the start of the Quivira Wildlife Drive, a four-mile loop, which affords some of the best wildlife viewing areas on the Refuge. Travel slowly and quietly, be observant, and enjoy the wildlife. Birds here are accustomed to vehicles and are less disturbed if you remain in your car. Numbers of waterfowl, cranes, and pelicans are at their highest during the first and last few hours of daylight, with peak numbers observed during the Spring and Fall migrations. The Wildlife Drive features a mosaic of wetland communities, such as open mudflat (beach); short, dense meadow; and taller bulrush and cattail. Inland Saltgrass (*Distichlis spicata*) is the light green plant that dominates areas of high salinity (salt content).



While the Big Salt Marsh system includes the Wildlife Drive and areas north of NE 170th St. (Marsh Road), the 1,200-acre wetland area south and west of the Wildlife Drive is commonly referred to as the Big Salt Marsh. Prior to the development of the levee/road system during the 20th century, the Big Salt Marsh covered a large, uninterrupted area – approximately 2,300 acres, according to the 1871 General Land Survey. It is characterized by a large, shallow salt flat that holds water seasonally. A great diversity of waterbird use occurs on mudflats and in areas with <1 foot of water.

The salt comes from parent material picked up by groundwater. Salinity levels vary depending on rainfall and evaporation and the movement of groundwater. Plants and wildlife differ in levels of salt tolerance. A natural range of variation in salinities supports a high abundance and diversity of species. Various pondweeds and other aquatic floating and submerged plants normally thrive during the warm months, providing a rich breeding ground for numerous invertebrates. This, in turn, provides a banquet on which various birds feed on plant parts and/or invertebrates. Think of it as “marsh soup”!



This is one of the favorite wildlife viewing spots on the Refuge. During migrations in the Spring and Fall, the waterfowl viewing can be spectacular! The west shore of the Big Salt Marsh is a roosting site of sandhill cranes. Often, many thousands are observed during migration and at times in winter months.

The Big Salt Marsh is also used by wintering bald eagles, which patrol the waterfowl for weak or injured birds. This is also one of the best locations to view whooping cranes. During late October through mid-November, and again from late March through mid-April, whooping cranes pass through the Quivira area in small numbers (usually in groups of 2-5). Look for very tall, white birds, with long legs and long necks.



During spring, summer, and fall, the salt, or mudflat areas (flats) you see both north and south of the road are some of the most frequently used by waterfowl, shorebirds, and cranes. Periodic shallow flooding (from rainfall and/or spring-water flow) and drying results in a very active and dynamic invertebrate food population that attracts many types of birds.

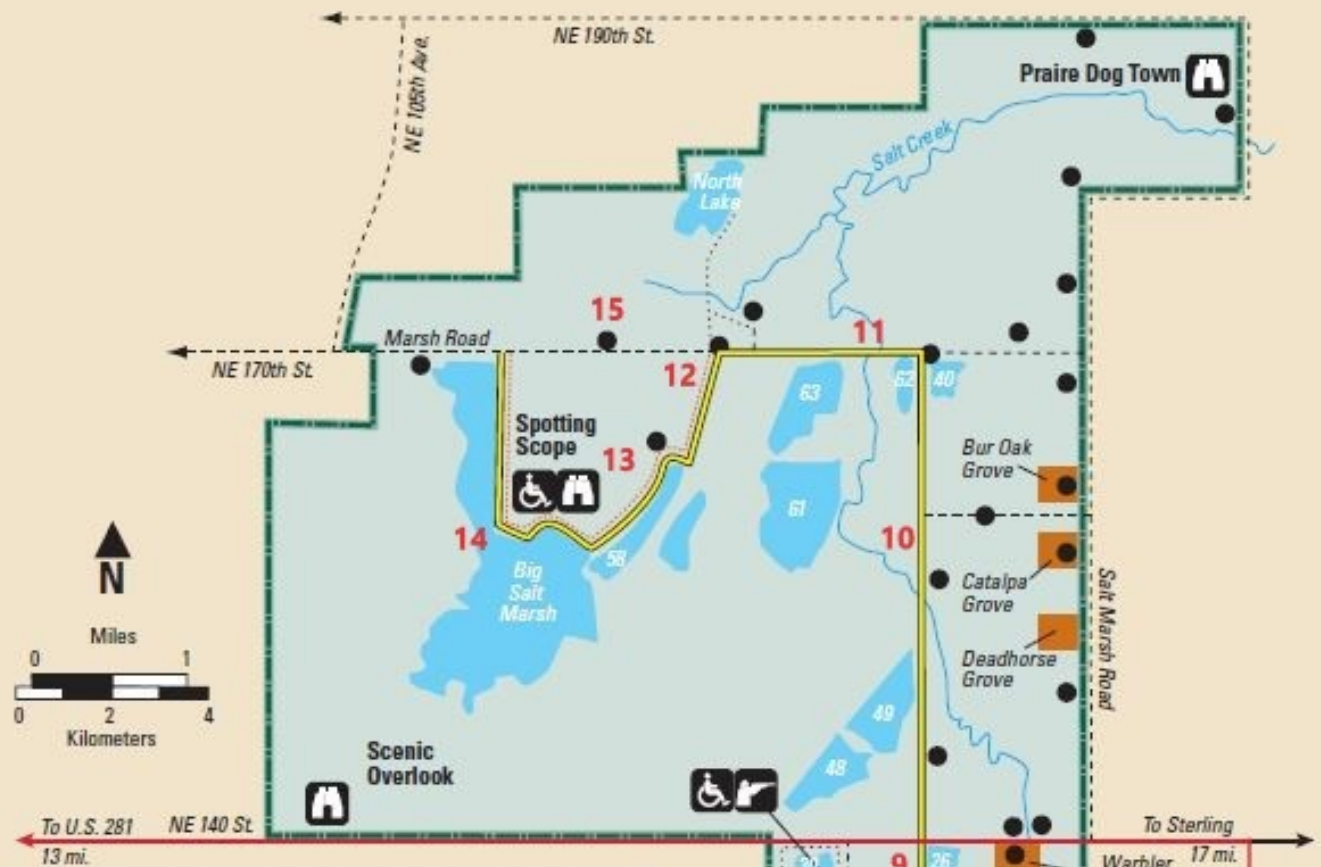
During summer, these flats are often visited by whooping cranes in fall and spring. Avocets, stilts, snowy plover, and killdeer regularly use flats on both sides for nesting. Other shorebirds, such as sandpipers, dowitchers, yellowlegs, collectively migrate through from as early as February to as late as November, with peak numbers in both early May and mid-August, respectively.

As the wind blows, the shallow water on these flats moves around on the ground surface. As this water moves and shifts due to changing wind directions, it exposes new feeding areas to the shorebirds.

The sand prairie and wetland ecosystems on the refuge are constantly changing, providing many opportunities for a fulfilling experience.

THIS CONCLUDES THE REFUGE TOUR. PLEASE REMEMBER THAT THE REFUGE IS 'HOME' TO THE WILDLIFE AND TO TREAT THEIR HOME WITH RESPECT. THE REFUGE STAFF HOPE YOU ENJOYED YOUR VISIT AND WILL RETURN SOON AND OFTEN.

Please Feel Free to Contact Us if you have any questions or comments at 620-410-4011, email quivira@fws.gov and visit our website at <http://www.fws.gov/refuge/quivira>.



Quivira

National Wildlife Refuge

Refuge boundary	Refuge headquarters and visitor center
Gravel road	Restroom
Auto tour route	Accessible features
Wildlife drive	Photo blind
Foot path	Hunting blind
Wetlands and wildlife National Scenic Byway	Wildlife observation area
Parking	Fishing area
Woodlot	
Water unit	

