The Nemaha Wildlife Area is located 1 mile east and 4 miles south of Seneca on Highway 63. The property was obtained by Nemaha County in 1934 to develop a recreational area as a memorial to the Veterans of the Spanish American War and World War I. A lake was built by Civilian Conservation Corps laborers and completed in 1939. The lake was turned over to the Kansas Forestry, Fish, and Game Commission (now the Kansas Department of Wildlife, Parks and Tourism [KDWPT]) for management. The lake was a productive and well-used fishery, but siltation took its toll and the lake was drained in 1986. In 2002, KDWPT, Army Corps of Engineers, Nemaha Lake Improvement Association, Ducks Unlimited, and Nemaha County completed a $1.2 million dollar project to restore a fishery in a portion of the dry lake bed and create a new wetland. The end result was a 125-acre wetland and an 18-acre fish pond created from a borrow area for construction of the wetland berm.

Two primitive camping areas are available on the wildlife area. One of many game trails or following the scenic nature trail through the southwest portion of the area provides an opportunity to observe a variety of wildlife.

The 705 acres that make up Nemaha Wildlife Area are open to hunting during the open season. The boundary around the property is marked. Hunters should be cautious of the residences along the east side of the property. White-tailed deer, squirrel, rabbits, and turkey are plentiful in the woods. Migrating waterfowl and shorebirds can be found in the wetlands. The area supports a fair population of quail and pheasants. They can be found around the cropfields or in the upland areas. The area is open to trapping during the open seasons.

A new spillway for the Big Nemaha River was built in 1986. NOTE: The gabions (rock-filled baskets) are used to prevent the river from scouring the banks under the bridge. This form of bank stabilization was state-of-the-art when the bridge was built and rare in Kansas at that time.

The native rock columns that adorn the top of the old lake dam on Highway 63 are listed on the Kansas Historical Register as part of Kansas history.