

= Ganoga Lake =

Ganoga Lake is a natural lake in Colley Township in southeastern Sullivan County in Pennsylvania , United States . Known as Robinson 's Lake and Long Pond for most of the 19th century , the lake was purchased by the Ricketts family in the early 1850s and became part of R. Bruce Ricketts ' extensive holdings in the area after the American Civil War . The lake is one of the highest in Pennsylvania , which led Ricketts to name it Highland Lake by 1874 and rename it Ganoga Lake in 1881 ; Pennsylvania senator Charles R. Buckalew suggested the name Ganoga from the Seneca language word for " water on the mountain " .

The Ricketts built a stone house on the lake shore by 1852 or 1855 ; this served as a hunting lodge and tavern . In 1873 a large wooden addition was built north of the stone house , which became a hotel known as the North Mountain House . The hotel had one of the first summer schools in the United States in 1876 and 1877 . A branch railroad line to the lake served the hotel and also hauled ice cut from the lake for refrigeration . The hotel closed in 1903 , though the house remained the Ricketts family summer home . After the death of R. Bruce Ricketts in 1918 , his heirs sold much of his 80 @, @ 000 acres (32 @, @ 000 ha) to the state for Pennsylvania State Game Lands and Ricketts Glen State Park . The state tried to purchase the lake in 1957 , but was outbid by a group of investors who turned the land around it into a private housing development ; as such it is " off limits " to the public .

Ganoga Lake is on the Allegheny Plateau , just north of the Allegheny Front , in sedimentary rocks from the Pocono Formation . The Wisconsin Glaciation some 20 @, @ 000 years ago changed the drainage patterns of the lake ; this diverted its waters to Kitchen Creek and carved the 24 named waterfalls in Ricketts Glen State Park in the process . Ganoga Lake has a continental climate , with average monthly high temperatures ranging from 33 ° F (1 ° C) in January to 82 ° F (28 ° C) in July . Ganoga Lake 's drainage basin is heavily forested and it is in an Important Bird Area . The lake and its surroundings have a variety of flora and fauna , although the ecosystem has been damaged by acid rain .

= = Description = =

Ganoga Lake is a natural spring @-@ fed lake just west of Pennsylvania Route 487 in southern Colley Township in southeastern Sullivan County , Pennsylvania . It is near the meeting point of Sullivan , Columbia and Luzerne counties , and is less than 0 @. @ 4 miles (0 @. @ 6 km) northwest of Ricketts Glen State Park . Ganoga Lake is on the Allegheny Plateau at an elevation of 2 @, @ 260 feet (690 m) . William Reynolds Ricketts , who owned the lake in the first half of the 20th century , claimed it was the highest lake in the United States east of the Rocky Mountains ; Petrillo repeats this in his history of the region , Ghost Towns of North Mountain . While the United States Geological Survey Geographic Names Information System identifies Ganoga Lake as the second highest in Pennsylvania (after Siebert Lake in Somerset County , at 2 @, @ 287 feet (697 m)) , the Pennsylvania Audubon Society says Ganoga Lake is " the highest elevation natural lake in Pennsylvania " .

Ganoga Lake has a long , narrow oval shape , oriented north @-@ northwest to south @-@ southeast . In 1936 William Reynolds Ricketts wrote that the lake has an average width of 700 to 800 feet (210 to 240 m) and is " about one mile long , lacking 600 to 700 ft . " or about 0 @. @ 88 miles (1 @. @ 42 km) in length . However , according to a 1917 Pennsylvania Water Resources Inventory Report , in its largest dimensions it is 3 @, @ 720 feet (1 @, @ 130 m) long (0 @. @ 705 miles or 1 @. @ 135 kilometres) by 1 @, @ 025 feet (312 m) wide . It has an average depth of 10 feet (3 @. @ 0 m) and a maximum depth of 13 feet (4 @. @ 0 m) . The drainage basin for the lake is an area of 1 @. @ 5 square miles (3 @. @ 9 km²) , and its capacity is 373 acre feet (460 @, @ 000 m³) (121 @, @ 500 @, @ 000 US gallons or 459 @, @ 900 @, @ 000 litres or 101 @, @ 200 @, @ 000 imperial gallons) .

A branch of Kitchen Creek flows from the southern end of the lake ; 0 @. @ 4 miles (0 @. @ 64 km) downstream it enters Lake Jean in Ricketts Glen State Park . From there the water flows through

Ganoga Glen and its 10 named waterfalls , then joins the main stem of the creek at Waters Meet ; below this it flows over five more named waterfalls . Kitchen Creek is a tributary of Huntington Creek , which flows into Fishing Creek , which is a tributary of the Susquehanna River .

= = History = =

= = = First inhabitants = = =

Ganoga Lake is in the Susquehanna River drainage basin , the earliest recorded inhabitants of which were the Iroquoian @-@ speaking Susquehannocks . Their numbers were greatly reduced by disease and warfare with the Five Nations of the Iroquois , and by 1675 they had died out , moved away , or been assimilated into other tribes . After this , the lands of the Susquehanna valley were under the nominal control of the Iroquois , who encouraged displaced tribes from the east to settle there , including the Shawnee and Lenape (or Delaware) .

On November 5 , 1768 , the British acquired land , known in Pennsylvania as the New Purchase , from the Iroquois in the Treaty of Fort Stanwix ; this included what is now Ganoga Lake . After the American Revolutionary War (1775 ? 1783) , Native Americans almost entirely left Pennsylvania . The lake was originally in Northumberland County , then became part of Lycoming County when it was formed in 1795 . Sullivan County was formed from Lycoming County in 1847 , and two years later Colley Township was formed from Cherry Township . The lake drains into Kitchen Creek , where a Native American pot , decorated in the style of " the peoples of the Susquehanna region " , was found under a rock ledge around 1890 .

A hunter named Robinson , whose cabin was at the lake 's northern end about 1800 , was the first recorded inhabitant . He gave the lake its earliest known name : Robinson 's Lake . However , for most of the 19th century the lake was known as Long Pond , because of its elongated shape . From 1822 to 1827 the Susquehanna and Tioga Turnpike , which followed the lake 's western shore , was built between the Pennsylvania communities of Berwick in the south and Towanda in the north . Beginning in 1827 the northbound daily stagecoach left Berwick in the morning and stopped for lunch at the Long Pond Tavern on the lake about noon . The stage operated until 1851 ; the road was the Susquehanna and Tioga Turnpike until 1908 , when the modern Pennsylvania Route 487 was built . Route 487 follows the course of the turnpike as it approaches the lake from the south , then passes to the east of the lake instead .

While on a hunting trip north of the lake in 1850 , brothers Elijah and Clemuel Ricketts were frustrated at having to spend the night on a hotel 's parlor floor . In 1851 or 1853 they bought 5 @,@ 000 acres (2 @,@ 000 ha) , including the lake , as their own hunting preserve , and built a stone house on the lake shore by 1852 or 1855 . The stone house served as their lodge and as a tavern ; it was known as " Ricketts Folly " for its isolated location in the wilderness . Clemuel died in 1858 and Elijah bought his share of the land and house .

= = = R. B. Ricketts = = =

Elijah 's son Robert Bruce Ricketts , for whom Ricketts Glen State Park is named , joined the Union Army as a private at the outbreak of the American Civil War in 1861 , and rose through the ranks to become a colonel . After the war , R. B. Ricketts returned to Pennsylvania and purchased the stone house , lake , and some of the land around it from his father on September 25 , 1869 for \$ 3 @,@ 969 @.@ 81 (approximately \$ 71 @,@ 000 in 2016) ; eventually he controlled or owned more than 80 @,@ 000 acres (32 @,@ 000 ha) , including the lake and the park 's glens and waterfalls .

From 1872 to 1875 Ricketts and his partners operated a sawmill near the lake , 0 @.@ 5 miles (0 @.@ 8 km) southeast of his house . In 1872 Ricketts used lumber from the mill to build a three @-@ story wooden addition next to the stone house ; this opened as the North Mountain House hotel in 1873 , and was run by Ricketts ' brother Frank from then until 1898 . The hotel hosted many of the Ricketts friends and relations as well as guests from Wilkes @-@ Barre , Philadelphia , New

York City , and other places . Many of the guests arrived after school let out in June and stayed all summer until school resumed in September . In 1876 and 1877 , Ricketts ran the first summer school in the United States at his house and hotel ; one of the teachers was Joseph Rothrock , later known as the " Father of Forestry " in Pennsylvania .

Ricketts and the others living in the area were not aware of the waterfalls in what is now the state park until about 1865 , when they were discovered by two of the Ricketts ' guests who went fishing and wandered down Kitchen Creek . In 1879 Ricketts started the North Mountain Fishing Club , for anglers on the lake and creek . Guests of the hotel paid one dollar to fish as a club member . By 1874 Ricketts had renamed Long Pond as Highland Lake , and by 1875 had named the highest waterfall on Kitchen Creek as Ganoga Falls . In 1881 , Ricketts renamed Highland Lake as Ganoga Lake . Pennsylvania senator Charles R. Buckalew suggested the name Ganoga , an Iroquoian word which he said meant " water on the mountain " in the Seneca language . Donehoo 's A History of the Indian Villages and Place Names in Pennsylvania identifies it as a Cayuga language word meaning " place of floating oil " and the name of a Cayuga village in New York . Ganoga Lake is the source of the branch of Kitchen Creek that flows through Ganoga Glen , which has the tallest waterfall .

Ricketts was a lumberman who made his fortune clearcutting nearly all his land , but no logging was allowed within 0 @. @ 5 @-@ mile (0 @. @ 8 km) of the lake , and the glens and their waterfalls in the state park were " saved from the lumberman 's axe through the foresight of the Ricketts family " . One hemlock tree cut near the lake to clear land for a building in 1893 was 6 feet (1 @. @ 8 m) in diameter and 532 years old .

Ricketts and his business partners built the lumber town of Ricketts about 4 miles (6 km) northeast of the lake starting in 1890 ; it had up to 800 inhabitants and several saw mills and operated until 1913 , when the timber was exhausted . A 3 @. @ 85 @-@ mile (6 @. @ 20 km) branch line of the Lehigh Valley Railroad ran from Ricketts to the north end of the lake , opening in 1893 . There was daily passenger service to Wilkes @-@ Barre and Towanda on this line , which also served freight trains hauling ice from the lake for use in refrigeration from 1895 on . The ice cutting business on the lake employed 175 men , and had a 80 @-@ by @-@ 400 @-@ foot (24 by 122 m) ice house at the north end of the lake , near the small train station made of logs . The Ganoga Lake Ice Company was incorporated in 1897 , and operated until about 1915 . Ricketts ' son William Reynolds Ricketts was one of five partners in the ice company . Ice skating was also a popular pastime on the lake . In 1913 the lake had a boathouse and was used by rowboats .

The North Mountain House was threatened by a forest fire in 1900 ; the subsequent loss of much of the surrounding old @-@ growth forest led to decreased numbers of hotel guests . In 1903 another large fire on North Mountain threatened the sawmill in the village of Ricketts . The wooden addition to the stone house was torn down in either 1897 or 1903 , and the land became a garden . The hotel closed in November 1903 , and the fishing club and passenger train service ended with the closure .

The stone house remained the Ricketts family 's summer home . After the hotel closed , several small cabins were built around the lake for rental to sportsmen . Ricketts proposed moving the highway from his front yard in 1904 ; the Pennsylvania General Assembly approved this in 1908 , after he paid for the construction of the new highway . The house was renovated and added to in 1913 , and Ricketts died there during the 1918 flu pandemic . His wife died shortly thereafter , and they are buried in the small Ricketts family cemetery near the north end of the lake .

= = = Modern era = = =

R. B. Ricketts and his wife had three children ; their son William Reynolds Ricketts lived in the house after his parents ' deaths . Between 1920 and 1924 the Pennsylvania Game Commission bought 48 @, @ 000 acres (19 @, @ 000 ha) from the Ricketts heirs , via the Central Pennsylvania Lumber Company . This became most of Pennsylvania State Game Lands Number 13 , west of the lake in Sullivan County . These sales left the Ricketts heirs with over 12 @, @ 000 acres (4 @, @ 900 ha) surrounding Ganoga Lake and the glens with their waterfalls . The stone house was listed on the Historic American Buildings Survey in 1936 , which gave its name as " Ganoga " . The area

was approved as a national park site in the 1930s , and the National Park Service operated a Civilian Conservation Corps camp at " Ricketts Glynn " (sic) . Budget problems and World War II brought an end to national plans for development .

In 1942 the Commonwealth of Pennsylvania bought 1 @, @ 261 acres (510 ha) , including the glens and their waterfalls , from the heirs for \$ 82 @, @ 000 . Ricketts Glen State Park opened in 1944 . The state bought a total of 16 @, @ 000 acres (6 @, @ 500 ha) more from the heirs in 1945 and 1950 for \$ 68 @, @ 000 ; the park today has about 10 @, @ 000 acres (4 @, @ 000 ha) from the Ricketts family and about 3 @, @ 000 acres (1 @, @ 200 ha) acquired from others . After World War II , William Reynolds Ricketts also sold the old @-@ growth timber around Ganoga Lake to help pay property taxes .

William Reynolds Ricketts died in 1956 and the lake and surrounding land were sold in October 1957 for \$ 109 @, @ 000 . The Department of Forests and Waters (predecessor of the Pennsylvania Department of Conservation and Natural Resources) bid on the 3 @, @ 140 acres (1 @, @ 270 ha) including the lake , but were outbid by a group of private investors . They initially planned to sell up to 788 building lots around the lake , but when sales were slower than expected , they instead " formed the Lake Ganoga Association in September 1959 to regulate and preserve the recreation and residential facilities at Lake Ganoga " . Thus , private development of houses on the lake only began in the 20th century .

The association built 2 @. @ 5 miles (4 @. @ 0 km) of roads around the lake ; the Air Force paved some of these to provide better access from the Benton Air Force Station in the park to a radio transmitter southwest of the lake . The Ganoga Lake Association also cleared some land at the lake 's southern end , and its members built more than 50 houses on the lake shore . The stone house serves as the association 's headquarters and clubhouse , and is used for association meetings , weddings , and picnics ; in 1983 the house was listed on the National Register of Historic Places as the Clemuel Ricketts Mansion . Today the lake is used by kayakers and wind surfers . As a private development , " To all outsiders that have no property around the lake , the lake and grounds are off limits . "

= = Geology and climate = =

The rocks underlying Ganoga Lake are from the Mississippian Pocono Formation , which is a " light @-@ gray to buff or light @-@ olive @-@ gray , medium @-@ grained , crossbedded sandstone " , with some siltstone and conglomerates . The Pocono Formation formed more than 340 million years ago , when the land was part of the coastline of a shallow sea that covered a great portion of what is now North America . The high mountains to the east of the sea gradually eroded , causing a build @-@ up of sediment made up primarily of clay , sand and gravel . Tremendous pressure on the sediment caused the formation of the rocks that are found at the lake and in the drainage basin for Kitchen Creek : sandstone , shale , siltstone , and conglomerates . In 1894 R. Bruce Ricketts planned to mine yellow ocher near the lake .

Ganoga Lake is on the Allegheny Plateau , just north of the Allegheny Front , which is the boundary between the dissected plateau to the north and the Ridge @-@ and @-@ Valley Appalachians to the south . Kitchen Creek , which drains the lake , drops approximately 1 @, @ 000 feet (300 m) in 2 @. @ 25 miles (3 @. @ 62 km) as it flows down the steep escarpment of the Allegheny Front . About 300 to 250 million years ago , the Allegheny Plateau , Allegheny Front , and Appalachian Mountains all formed in the Alleghenian orogeny . This happened long after the sedimentary rocks at the lake were deposited , when the part of Gondwana that became Africa collided with what became North America , forming Pangaea . In the years since , up to 5 @, @ 000 feet (1 @, @ 500 m) of rock has been eroded away by streams and weather . At least three major glaciations in the past million years have been the final factor in shaping the land around the lake today .

Prior to the last ice age , Ganoga Lake drained into Big Run , a tributary of Fishing Creek . This changed when the glaciers retreated to the northeast about 20 @, @ 000 years ago , and formed glacial lakes . The retreating glaciers also left deposits of debris 20 to 30 feet (6 to 9 m) thick , which formed a dam blocking water from draining into Big Run . Instead , water from Ganoga Lake

and the area that later became Lake Jean was diverted into the Ganoga Glen branch of Kitchen Creek . These diversions added about 7 square miles (18 km²) to the Kitchen Creek drainage basin , increasing it by just over 50 percent to 20 @. 1 square miles (52 km²) . The result was increased water flow in Kitchen Creek , which has been cutting the falls in the glens since . Glacial striations are found on the eastern side of the lake . The lake is in a shallow valley , 13 feet (4 @. 0 m) deep , which is impounded by glacial till up to 30 feet (9 @. 1 m) thick at the southeast end , where Kitchen Creek exits .

The Allegheny Plateau has a continental climate , with occasional severe low temperatures in winter and average daily temperature ranges (the difference between the daily high and low) of 20 ° F (11 ° C) in winter and 26 ° F (14 ° C) in summer . Ganoga Lake is part of the Huntington Creek watershed , where the mean annual precipitation is 40 to 48 inches (1 @. 016 to 1 @. 219 mm) . Weather records are not available for Ganoga Lake , but they are known for the adjoining Ricketts Glen State Park . The highest recorded temperature at the park was 103 ° F (39 ° C) in 1988 , and the record low was ? 17 ° F (? 27 ° C) in 1984 . On average , January is the coldest month , July is the hottest month , and June is the wettest month .

= = Ecology = =

Ganoga Lake is the largest tributary of Lake Jean , via a 0 @. 4 @- mile (0 @. 6 km) branch of Kitchen Creek . While Lake Jean lies entirely within Ricketts Glen State Park , much of its 1 @. 998 @- acre (809 ha) drainage basin extends beyond the park , and Ganoga Lake 's 960 @- acre (390 ha) watershed accounts for nearly half of the total area . Lake Jean covers 253 acres (102 ha) ; the remaining 1 @. 745 acres (706 ha) of the Lake Jean watershed are 81 @. 0 % hardwood forest , 12 @. 6 % pastures , 4 @. 7 % other lakes (including Ganoga Lake 's 78 @. 8 acres (31 @. 9 ha)) , and 1 @. 7 % wetlands . The park has more than 80 species of vines , shrubs , and trees ; black gum , black spruce , eastern hemlock , eastern white pine , eastern larch , red maple , and yellow birch are found in area forests .

In the 19th century Ganoga Lake was home to trout , bullhead catfish , pike , pickerel , and black bass . The lake had very few plants in it , but its shore was lined with mountain laurel and , in the east , mountain ash . After the Ganoga Lake Association 's 1957 purchase , they drained the lake to kill its fish , then stocked it with " 30 @. 000 fingerling brook trout " . In 2007 Lake Jean , which is connected to Lake Ganoga via Kitchen Creek , was still home to many of the fish found there in the 19th century : brook trout , brown trout , brown bullhead , yellow bullhead , chain pickerel , and largemouth bass .

Although there are no pollution point sources in the drainage basin , acid rain is a major concern . Acidification has altered the ecology of the lakes and region ; in Lake Jean low pH has decreased the number and quality of insects and plankton at the base of the food chain . Fish which are acid tolerant are predominant , including fathead minnow , muskellunge , pumpkinseed , walleye , and yellow perch . There are relatively few predators like chain pickerel and largemouth bass , and adult fish " appear to have good growth rates but poor reproductive success " .

Despite the increased acidity , all of the Kitchen Creek drainage basin , which includes Ganoga Lake , is classified by the state of Pennsylvania as a " High Quality @- Cold Water Fishery " . Under the Clean Water Act a Total Maximum Daily Load (TMDL) has been established for acidic pollution in the Lake Jean watershed . Ganoga Lake 's TMDL for acidity is 4 @. 1 pounds (1 @. 9 kg) per day . Long term exposure to acid rain also damages soil , depleting calcium levels , which may in turn affect insect populations and reproduction in birds . Lake Jean is also " impaired for mercury due to atmospheric deposition " , although TMDLs have not yet been established for this .

Ganoga Lake and Ricketts Glen State Park are part of the much larger 114 @. 978 @- acre (46 @. 530 ha) Pennsylvania Important Bird Area (IBA) # 48 , which the Audubon Society describes as " the largest extant forest in northeastern Pennsylvania and one of the largest in the Commonwealth " . Over 75 species of bird are known to breed in the state park adjoining the lake . Lake Jean is home to bald eagle and Canada goose ; aquatic birds found in the IBA include

American bittern , American black duck , great blue heron , green @-@ winged teal , hooded merganser , mallard duck , osprey , Virginia rail , and wood duck . Historically , common pheasant were found in the woods around the lake .

Ganoga Lake is on the Allegheny Plateau just north of the Allegheny Front ; this region is known locally as North Mountain . Many bird species are found in the forests on North Mountain , including the state 's only population of blackpoll warbler ; other birds seen there include evening grosbeak , northern goshawk , red crossbill , and Swainson 's thrush . Historically North Mountain was home to olive @-@ sided flycatcher , and " was one of the few places one could enjoy the songs of all of Pennsylvania 's native thrushes " ; today it is home to the state 's largest yellow @-@ bellied flycatcher population .

Ganoga Lake and its surroundings have a variety of insects and animals . Butterflies in the region are studied by lepidopterists , and the hemlock woolly adelgid threatens many of the hemlock trees . Animals found on North Mountain and in the park include squirrel , black bear , fisher , hoary bat , otter , porcupine , raccoon , and white @-@ tailed deer . In 1912 , white @-@ tailed deer around the lake became locally extinct due to loss of habitat from lumbering and overhunting . Pennsylvania imported nearly 1 @, @ 200 white @-@ tailed deer from Michigan between 1906 and 1925 to re @-@ establish the species , and made it the official state animal in 1959 . By 2001 , deer populations had increased to the point where it was feared that " Pennsylvania is losing its vegetative diversity from deer over @-@ browsing " .