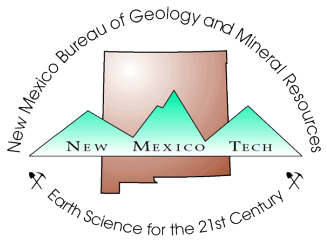
Conchas Lake New Mexico State Park Series

New Mexico Bureau of Mines and Mineral Resources

New Mexico Geology, v. 7, n. 1 pp. 8-9, Print ISSN: 0196-948X, Online ISSN: 2837-6420.
https://doi.org/10.58799/NMG-v7n1.8

New Mexico Bureau of Geology & Mineral Resources
New Mexico Institute of Mining & Technology
801 Leroy Place
Socorro, NM 87801-4796

https://geoinfo.nmt.edu

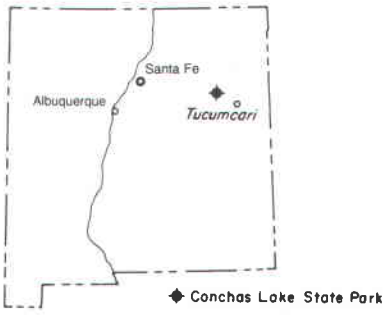


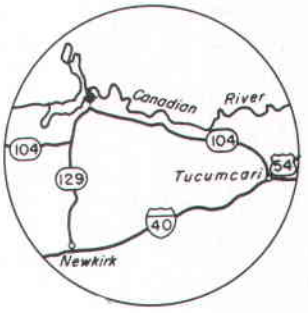
This page is intentionally left blank to maintain order of facing pages.

Conchas Lake

New Mexico State Park Series

Editor's note: The following information was compiled initially in 1971 by NMBMMR staff in cooperation with the New Mexico State Park and Recreation Commission. Updated material was provided by John V. Young from his book *The state parks of New Mexico*: University of New Mexico Press, 1984, pp. 28–31. Photo credits: John V. Young.





New Mexico's largest public works project of the Great Depression period has become one of its most popular water-based recreation areas at Conchas Lake State Park. This park occupies three sites on the shores of the 10,000-acre Conchas reservoir, 30 miles northwest of Tucumcari. A state park since 1955, Conchas has most of the amenities of a full-scale lakeside resort—a paved and lighted airstrip, a nine-hole all-grass golf course, a modern motel, a cabin colony, stores, restaurants, and year-round berths for hundreds of boats at two well-equipped marinas. Only a small part of the very irregular shoreline is open to public access by land because most of the surrounding land is private property. However, all of the water area, about 15 mi^2 at high water, is open to the public.

The name *Conchas* is from the Spanish word for shells, applied for an unknown reason to a tribe of Indians who were inhabiting the area when the Spaniards arrived late in the 17th century. A relic of the vanished Indian culture is preserved in a large petroglyph exhibited in the Corps of Engineers administrative area at the north end of the spillway.

The normally quiet rivers and dry creek beds in this area can become raging torrents of destruction in a matter of hours during the summer season of violent thunderstorms. To harness this destructive force and conserve waters that would otherwise evaporate after flooding the lowlands, multipurpose dams were constructed. These dams, in addition to controlling floods and providing a reliable source of water for irrigation, also give us wonderful recreation areas like Conchas Lake State Park.

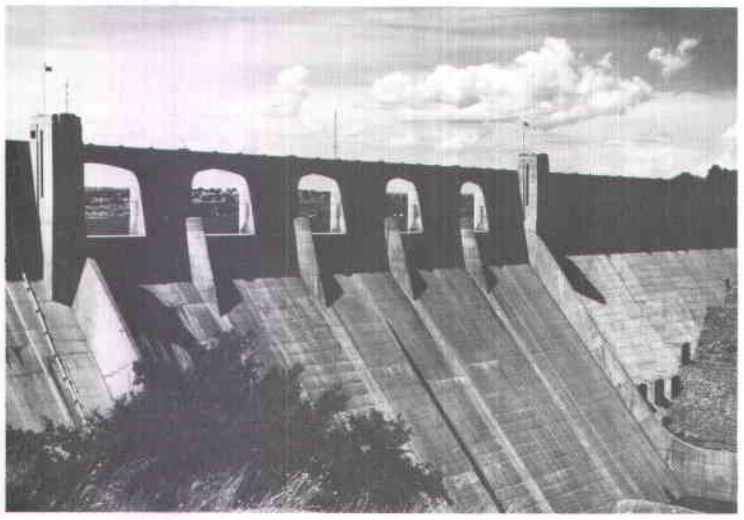
Conchas Dam and Reservoir

Most of the water in Conchas Reservoir comes down the Canadian River. This river heads in the northern part of New Mexico, west of Raton. Along its path to the reservoir it picks up water from numerous tributaries that drain the eastern slopes of the Sangre de Cristo Mountains. The most important of these tributaries are the Vermejo, Cimarron, Ocate, and Mora. It is interesting to follow the development of the Canadian as it is joined by these rivers. Just south of Raton, above the confluence of the Vermejo, the discharge of the Canadian River amounts to only 3,940 acre-ft per year. (An acre-foot is the amount of water needed to cover an acre of land to a depth of one foot; this is approximately 325,000 gallons). Below the mouths of the Vermejo and Cimarron Rivers the flow increases to 77,460 acre-ft and below the Ocate and Mora Rivers it reaches 170,900 acre-ft. The Conchas River, which empties into the reservoir from the west, is dry during part of the year and supplies only an average of 13,250 acre-ft of water annually.

Conchas Dam was approved by President Franklin D. Roosevelt as an emergency relief project on July 29, 1935. Construction by the Corps of Engineers started soon afterward and storage of water began on December 29, 1938. Construction was completed September 15, 1939.

The dam is a concrete structure that is 235 feet high and 1,250 feet long at the crest. There are outlets near the base of the dam to maintain low water flow and a 340-ft ungated spillway in the middle of the dam for ordinary high water flow. The elevation at the crest of the spillway is 4,201 feet. At this level, the reservoir contains 352,551 acre-ft of water, covers an area of 9,797 acres or about 15 mi^2, and extends 14 mi up the Canadian River and 11 mi up the Conchas River. Originally the reservoir had a capacity of 370,200 acre-ft at an elevation of 4,201 feet, but silting, primarily by the Canadian River, is steadily reducing the storage capabilities of the reservoir. Just north of the dam is a concrete emergency spillway with a crest elevation of 4,218 feet. At this level the reservoir would contain 550,799 acre-ft of water. Although Conchas Reservoir has overflowed the main spillway on numerous occasions, it has yet to reach the level of the emergency spillway.

The dam has helped prevent the Canadian River floods that formerly devastated farms



and communities in Texas, Oklahoma, and eastern New Mexico. The maximum amount of water impounded by the reservoir was recorded April 24, 1942, when it contained 479,600 acre-ft. The minimum water content after initial filling was on September 12 and 13, 1964, when 82,840 acre-ft were in storage.

Irrigation water is diverted from the reservoir through a tunnel under the earth- and rock-fill south dike. The sill of the tunnel is at an elevation of 4,155 feet, at which level the reservoir would contain 90,800 acre-ft. About 40,000 acres are irrigated in the Arch Hurley conservation district with water from Conchas Reservoir. The principal crops grown at the present time are alfalfa, sorghum, wheat, barley, oats, rye, silage, cotton, peanuts, and various vegetables. Water quality is satisfactory for irrigation purposes, containing slightly more than 500 ppm dissolved solids. This is above the minimum standards for drinking water, but this level only means that it may be somewhat hard on plumbing and the taste may be a little strong because of the sulfates. Following treatment it is perfectly safe for drinking.

Recreation

Fishing, boating, water skiing, skin diving, swimming, and golf are very popular activities at Conchas Reservoir. Everything from small outboards and canoes to large cabin cruisers, houseboats, and sailboats ply the waters of the lake. Game fish include walleye pike, large-mouth bass, channel catfish, white and black crappie, green sunfish, bluegills, and black bullheads. Because of the overlap of the time of irrigation and the spawning season, it is necessary to restock the lake with certain species.

Facilities

Conchas Lake State Park has more than 150 developed campsites with tables, fireplaces and rest rooms in three recreation areas accessible by paved roads. Drinking water is available at the north, south, and central areas, and there are electrical hookups for trailers at the south area. Marinas at the north and south areas have tie-ups for approximately 700 boats. There is a mile-long paved air strip, swimming pool, and nine-hole, all-grass golf course at the south area. The central area, next to the spillway, has camping and picnic facilities and a launching ramp, but no commercial establishments.

For those without camping equipment or trailers there are fisherman cabins and a restaurant in the north area and a lodge with restaurant and lounge at the south area. Just 30 miles to the southeast is the city of Tucumcari where there are a number of motels and restaurants. The Tucumcari area has numerous other attractions for the tourist both in town and in the immediate area. Ute Reservoir, also on the Canadian River, is 25 miles to the north. The "caprock," Tucumcari Mountain, and Mesa Redondo lie to the south and are excellent areas for hiking, camping, and color photography. A golf course, swimming pool, a fine museum with early western relics, and a rock and mineral collection are located within the city.

Geologic setting

Rocks seen in the Conchas Lake area were deposited during the Mesozoic Era. This part of geologic time began about 225 million years ago and ended 70 million years ago. The rocks you can see in all directions from the dam were deposited during the "Age of Reptiles," the time of the great dinosaurs. The sandstones that border the lake and the shales that underlie the lowlands beyond represent Triassic time; those in the slopes of the high mesas to the north and south represent Jurassic time. Most of these sediments were deposited by rivers but there were also extensive sand dunes during parts of Jurassic time. In the last period of the Mesozoic Era, the Cretaceous, a large inland sea covered much of New Mexico and the western United States and Canada. The shoreline of this sea fluctuated back and forth across the present site of Conchas Lake leaving behind thick deposits of sands and shales that contain numerous fossils of clams, oysters, and cephalopods. At the close of Mesozoic time the major uplift of the Rocky Mountains began and eastern New Mexico was once again above sea level. Erosion removed large quantities of the Cretaceous rocks and this erosional cycle has continued with minor interruptions to the present. The development of the canyons of the Canadian River and its tributaries, which began less than a million years ago, is a very recent event in this cycle.

MINING REGISTRATIONS
(AUGUST 24, 1984, THROUGH NOVEMBER 15, 1984)

Bureau of Mine Inspection — Energy & Minerals Dept. — 2825-E Broadbent Pkwy. NE — Albuquerque, NM 87107

Date and operation	Operators and owners	Location
8-24-84 gold, silica	Operator—85 Proper, Phelps Dodge Corp., P.O. Box 151, Safford, AZ 85548-0151; Person in charge—J. E. Cross, 1323 W. Relation, Safford, AZ, phone: (602) 428-5349; Property owner—Federal Resources, Westar, Phelps Dodge	Hidalgo Co.; sec. 12, T. 23 S., R. 18, 19 W.; private land; Virginia mining district; directions to mine: 3 mi south of Lordsburg, NM
8-24-84 silver, copper	Operator—Silver Reef, Trans Mountain Industries, Box 10180, El Paso, TX 79992; Gen. Mgr.—A. G. Jarvis, 10420 Montwood, El Paso, TX, phone: (915) 592-5874; Other official—Mack W. Dalton, same address and phone as Gen. Mgr.; Property owner—C. B. Wilson, Box 21, Lordsburg, NM 88045	Hidalgo Co.; T. 23, 24 S., R. 19 W.; federal land; Pyramid mining district; directions to mine: south of Lordsburg on Animas road, approximately 6 mi.
9-25-84 metal	Operator—Virtue, Phelps Dodge Corp., P.O. Box 151, Safford, AZ 85448-0151; Person in charge—J. E. Cross, Mine Foreman, 1323 W. Relation, Safford, AZ, phone (602) 428-5349	Grant Co.; sec. 2, T. 19 S., R. 15 W.; private land; Burro Mountain mining district; directions to mine: 7 mi SW of Silver City, NM
10-9-84 limestone	Operator—Sunspot, Sunshine Services, Inc., 1160 Airways, El Paso, TX 79925; Gen. Mgr.—Lily Amparan, same address, phone: (915) 592-5212; Gen. Supt.—Mack Harris, same address, phone: (915) 434-0280; Property owner—Lincoln National Forest, Cloudcroft, NM	Otero Co.; federal land; directions to pit: from Cloudcroft, take NM-24 south to Forest Hwy. 64; go to Sunspot, NM; quarry is located 2 mi east
10-9-84 copper, zinc, silver	Operator—Pinos Altos Project, Boliden Minerals, Inc., 2596 N. Silver St., Silver City, NM 88061; Gen. Mgr.—Louis Bernard, same address, phone: 388-2084; Mine Supt.—John L. Cesar, same address, phone: 388-5759; Property owner—Boliden Minerals, Inc., same address	Grant Co.; sec. 25, 30, T. 16 S., R. 14 W., federal land; Pinos Altos mining district; directions to mine: 1.5 mi north of Pinos Altos on NM-15, turn left at Boliden sign, cross Bear Creek to property gate
10-9-84 copper, zinc, silver	Operator—Pinos Altos, J. S. Redpath Corp., P.O. Box 27328, Tempe, AZ 85282; Gen. Mgr.—A. L. "Pete" Vincent, General Delivery, Silver City, NM 88061; Safety director—Bruce Harvey, same address; Property owner—Boliden Minerals, Inc., 2596 N. Silver St., Silver City, NM 88061	Grant Co.; sec. 25, 30, T. 16 S., R. W.; federal land; directions to mine: approximately nine mi north of Silver City on NM-15
11-15-84 gold, silver	Operator—Great Republic, M. E. MacRae & Assoc., 8702 Spain Rd. NE, Albuquerque, NM 87111, phone: 821-5209; Gen. Mgr.—same address and phone; Property owner—Ed James, Livermore, California	Sierra Co.; sec. 1, T. 10 S., R. 9 W.; private land; directions to mine: none given
11-15-84 limestone	Operator—Littlesolder Ent., Ribble Contracting, Inc., 1000 Gabaldon Rd. NW, Albuquerque, NM 87104, phone: 247-4313; Gen. Mgr.—Norman C. Ribble; Person in charge—Jim Simpson; Gen. Supt.—Steven Brennan; all have same address and phone; Property owner—Elsie Synder, Cibola County (1/4 SE)	Cibola Co.; S1/4 of #4; T. 9 N., R. 13 W.; private land; directions to mine: 31 mi from I-40 exit (San Rafael) on NM-53
11-15-84 gold, silver	Operator—Mimbres Pilot Mill, Mimbres Resources, Route 1, Box 47C, Deming NM 88030; Gen. Mgr.—C. Frank Turley, same address, phone: 546-7890; Supt.—C. Frank Turley; other official—Jerome P. Reif; all have same address and phone; Property owners—Jerome P. Reif and C. Frank Turley	Luna Co.; sec. 10, T. 24 S., R. 9 W.; private land; directions to mine: 2 mi south of Deming on NM-11, turn left on NM-497, go 0.25 mi west

(CONTINUED NEXT ISSUE)