

HOT SPRINGS



NATIONAL PARK ARKANSAS

HOT SPRINGS

National Park

Set in wooded mountains overlooking the city of Hot Springs, Arkansas, this National Park is a health resort and recreation area for the benefit of all. Here you can refresh both body and spirit through hot-spring baths and outdoor life.

These springs have attracted an ever-growing procession of people over the past few centuries. Relics found nearby show that Indians visited these waters in the Ouachita (pronounced Wash-i-ta) Mountains for many years before Europeans arrived in the New World. The first white man to see the springs was probably Hernando de Soto, who traveled through the region in 1541. During the 17th and 18th centuries, occasional visitors came from white settlements. The Dunbar and Hunter Expedition in 1804 mapped the water route from Natchez to the springs and made a chemical analysis of them. Soon after, a permanent settlement developed which by 1820 boasted an inn and several crude bathhouses.

The Federal Government entered the picture in 1832, when Congress set aside the hot springs and 4 square miles around them as a reservation, but there was no supervision for more than 40 years. In 1877, many property disputes were settled when a Federal survey separated the reservation from the city of Hot Springs.

Development of the community progressed steadily from the '70s onward, spurred particularly by completion of the "Diamond Jo" railroad in 1874. Establishment of a Federal Registration Board in 1903 insured that only qualified physicians would be allowed to attend visitors. Since 1921, when Congress redesignated the reservation as a National Park, much has been done to realize its potential for outdoor recreation as well as for hot-spring bathing.

The park now comprises 1.5 square miles, which include Hot Springs Mountain, North and West Mountains, parts of Sugar Loaf and Indian Mountains, and Whittington Park.

What Causes the Hot Springs

The 47 hot springs in the park are located along a faultline, or break, that developed in the geologic past as a result of internal earth strain. These springs are at the southwestern base of Hot Springs Mountain.

Several theories have been advanced to explain the mechanism of the hot springs. Most favored is the meteoric-water theory, which supposes that the rainwater which sinks into the valley floor between Sugar Loaf and West Mountains follows the slope of the rocks southeastward under North and West Mountains to emerge finally in the hot springs. Somewhere in its underground path the water is believed to be heated by passing close to a mass of hot rock. Since the rocks overlying the water-bearing strata are quite impervious, the heated water must reach the surface along a line of weakness, presumably the fault.

According to another theory, the hot-spring water has never been at the surface of the earth, but comes from heated rocks of the earth's interior. Such magmatic, or juvenile, water escapes from cooling molten rock and rises to the surface. Other sources of heat that have been suggested to explain the temperature of the water are (1) chemical reactions taking place near the water; (2) friction from rock masses sliding along each other; (3) compression due to overlying rock burden; and (4) radioactive minerals.

Whatever the source of water and its heat, the springs continue to have a constant daily flow of almost a million gallons of water, with a constant average temperature of more than 143° F.

Character and Action of the Waters

Analyses of the 47 hot springs have shown the waters to be practically identical in chemical composition. The waters from all these springs are impounded in reservoirs, and all bathhouses receive exactly the same water.

A central cooling system enables the National Park Service also to supply cooled hot-spring water to the bathhouses. In this way, all water in the properly tempered bath is obtained from the springs without loss of natural gases.

The water from the hot springs is generally considered to have favorable therapeutic effects. Many bathers in a rundown condition have improved in overall health and increased in body resistance, strength, and vitality. Arthritic sufferers also have shown improvement.

The hot-spring water is used exclusively in the bathhouses at Hot Springs National Park, usually with satisfactory results when the approved methods of modern hydrotherapy are used. These include full- and partial-immersion baths of different types and baths in vapor cabinets. These forms of treatment are beneficial for increasing perspiration and other elimination of body wastes.

There are several types of the full-immersion warm-water bath. The customary, or "standard," bath is in neutral water for about 15 minutes. The bather drinks hot water brought to him, and perspiration results. After the attendant rubs the submerged bather down with a fiber mitt, the bather concludes with a short, graduated shower. Reclining in a cooling room, he then enjoys a rest period. This bath, in addition to causing the usual eliminative effect, brings a general feeling of relaxation. It is the type customarily taken by visitors who seek relaxation or recuperation, and it may be taken without a physician's directions.

Partial-immersion baths are often prescribed by physicians. Sitz baths, a type of the partial-immersion baths, can be taken at all bath houses.

Modern apparatus is available to give showers, sprays, and douches in accordance with the directions of the bather's physician.

In conjunction with these treatments, drinking the hot water is considered beneficial to some people. Several fountains furnish free hot water

direct from the springs. The natural hot water, low in mineral content, has no disagreeable taste.

Thermic physiotherapy pool treatments, given only by qualified physical therapists, are used primarily for muscle reeducation in cases of paralysis. The buoyant effect of the water enables the patient to exercise and develop muscles impossible to use when not submerged. Easy regulation of water temperature also helps this treatment. Caution is taken to prevent fatigue.

Thermic physiotherapy is used particularly in various paralyses following infantile paralysis and other nerve lesions leading to weakening and nonuse of muscles still capable of development. This form of therapy is also successful in reducing the stiffness, pain, and spasm common in arthritic joints. Motions of wide range, painful and often impossible under ordinary conditions, may be given by the physiotherapist in the pool.

Physicians

While the baths may be taken without the advice of a physician by application at the bathhouses, it is preferable to take treatments under a physician's direction. Patients who try to diagnose their ailments and prescribe for themselves often fail to obtain the desired relief. In many ailments the baths will afford greatest benefit when taken in connection with proper medicines prescribed by physicians. Persons with a history of tuberculosis, cancer, or cardiovascular diseases may obtain benefit, but should consult a federally registered physician in Hot Springs before bathing.

The only physicians allowed to prescribe the waters of the hot springs are those licensed practitioners of the State of Arkansas who have been approved by a Federal board of medical examiners appointed by the Secretary of the Interior, and who have been registered in the office of the superintendent. This rule is for your protection. If you

desire a bath, you should secure a copy of the list of registered qualified practitioners at the information desk in the visitor center (No. 1 on the map) before employing a physician.

Physicians' fees for examination for the baths are generally from \$5 to \$10. These fees are not regulated by the Federal Government.

Bathhouse Fees

There are 18 concessioner bathhouses operated under rules and regulations approved by the Secretary of the Interior—8 in the park and 10 at various points in the city. The water is the same in all, but prices charged for the baths differ according to equipment and accommodations furnished. Rates are set in each instance by the National Park Service, and they include charges for services of attendants. Mitts, blankets, bathrobes, laundering bathrobes and blankets, and services for handling helpless invalids (except at the Physical Medicine Center) are not included in rates quoted. Bath tickets are redeemable according to the redemption scale for baths fixed by the National Park Service. A copy of the redemption scale is posted in each bathhouse.

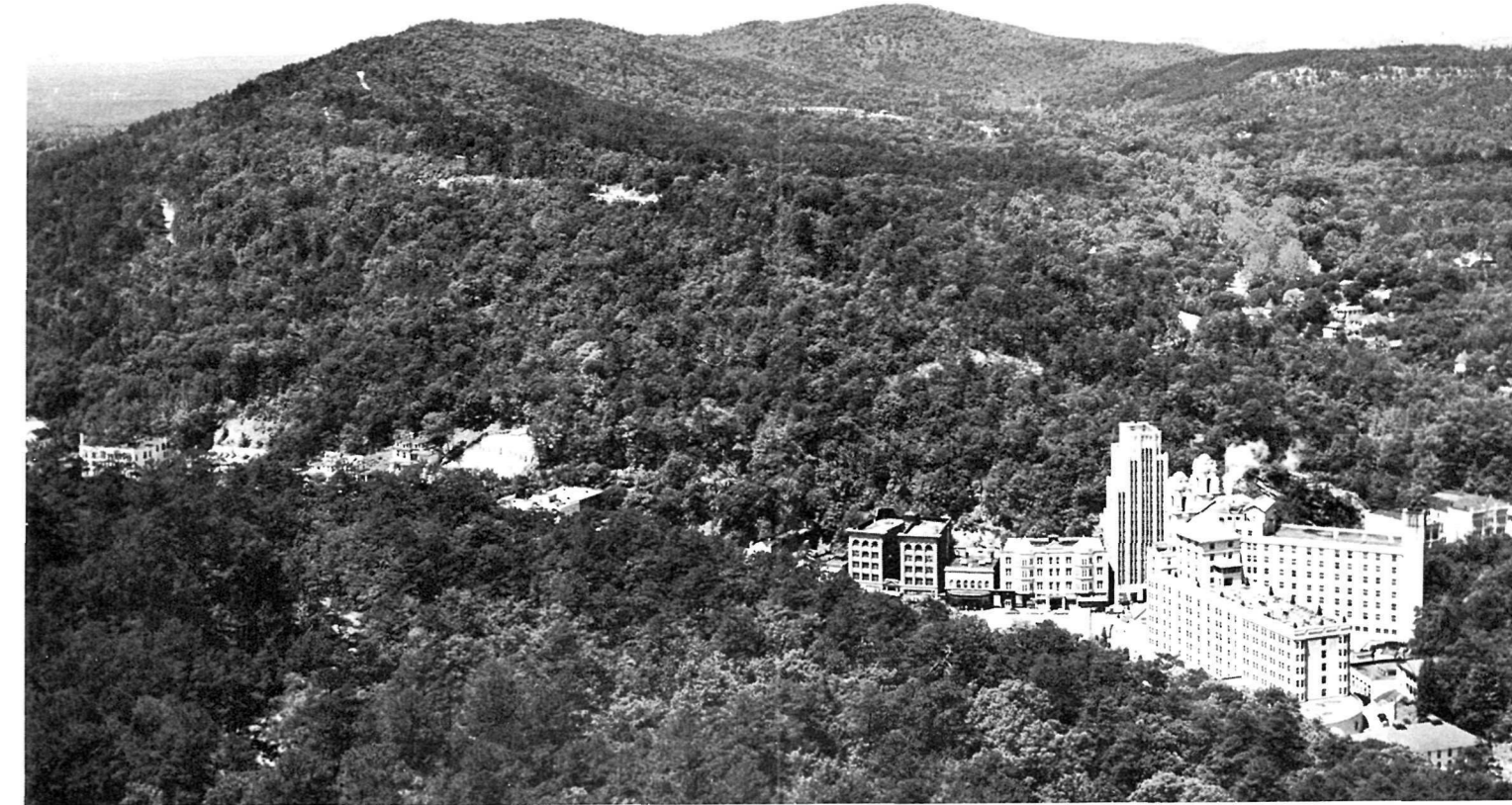
Any dissatisfaction relating to administration of the baths or treatment of patients should be brought to the attention of the park superintendent.

Free Baths for Indigents

The Government supplies free baths for indigent persons pursuant to an act of Congress in 1878. Legislation requires an applicant for free baths to make oath that he is without, and unable to obtain, means to pay for baths. A false oath as to his financial condition makes him guilty of a misdemeanor and subjects him, upon conviction thereof, to a fine of not more than \$300, or 60 days' imprisonment.

Tickets are issued only to those who, after examination, are found to be suffering from diseases that may reasonably be expected to be alleviated by the baths.

At right, Central Avenue and West Mountain, from observation tower on Hot Springs Mountain, below, Bathhouse Row.



Applicants for free baths may apply at the office of the superintendent. They must be prepared to provide and pay for their own board and lodging and have return railroad fare. There are no hospitals in the city of Hot Springs to which they can be admitted at Government expense, nor any funds available from which relief can be afforded or railroad transportation furnished.

This statement is emphasized because many destitute persons come from other and distant States in the belief that the Government maintains an institution where they will be cared for free of charge.

Physical Therapy Treatments

Through a complete physical therapy program, Libbey Memorial Physical Medicine Center in Hot Springs National Park offers specific treatment of physical problems involving poor functions, tightness, or paralysis. Patients are more easily taught various functions in the buoyant thermal water.

Specific underwater therapy can do much to relieve the pain and limitations of arthritis, general injuries, and nervous-system damage.

Patients are referred to this center by federally registered local physicians, who are familiar with the thermal waters, physical therapies, and modalities available. The general manager, a graduate of an accredited school, and a qualified staff work under the physicians' direction.

Climate and Recreation

Hot Springs has a favorable climate all year. The winters are mild, permitting outdoor recreation in comfort except at infrequent intervals, and the summers are moderated by the elevation of the forested hills. The beneficial effects of outdoor life in Hot Springs, with its pleasant climate and sunshine, are considered important aids to the bath treatments.

As a recreation area, Hot Springs offers numerous



America's Natural Resources

Created in 1849, the Department of the Interior—America's Department of Natural Resources—is concerned with the management, conservation, and development of the Nation's water, wildlife, mineral, forest, and park and recreational resources. It also has major responsibilities for Indian and territorial affairs.

As the Nation's principal conservation agency, the Department works to assure that non-renewable resources are developed and used wisely, that park and recreational resources are conserved for the future, and that renewable resources make their full contribution to the progress, prosperity, and security of the United States—now and in the future.

Visitors are advised that, on the trains and buses running into Hot Springs, soliciting for hotels, boardinghouses, or doctors is in violation of law, and they are warned against heeding the advice of irresponsible and unknown persons. In the interest of the public it has been found necessary to prohibit the bathing of anyone who stays at a hotel or boardinghouse in which the solicitation of patronage for doctors is allowed.

Chemical composition of the Hot Springs waters in parts per million

Silica (SiO ₂)	45	Sulfate (SO ₄)	7.8
Calcium (Ca)	45	Chloride (Cl)	2
Magnesium (Mg)	4.9	Fluoride (F)	.1
Sodium (Na)	4	Nitrate (NO ₃)	.3
Potassium (K)	1.6	Phosphate (PO ₄)	.1
Bicarbonate (HCO ₃)	162		

Gases in cubic centimeters per liter at 0° C. and 760 millimeters pressure

Nitrogen (N)	8.8	Free carbon dioxide (CO ₂)	6.9
Oxygen (O)	3.8		

Radioactivity through radon gas emanation is 0.81 microcurie per liter.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

Speed limit in the campground area is 15 m.p.h.

Horses have the right-of-way at all times and must be given the inside of trails when they desire it. Please be careful not to frighten them.

Commercial vehicles are prohibited from using park roads, except those which are operated under special-use permits or in connection with operation or maintenance of the park.

Pets are prohibited on Government lands unless they are on leashes or otherwise confined.

Camping. Visitors using the campground must first register at the campground office. Automobiles and trailers must be placed in designated areas only. No structure of poles, lumber, or sheet metal may be erected, and camps must be kept clean. Use of the campground is limited to a 30-day period, except during summer when a special 14-day limit is in effect.

Park rangers are glad to answer inquiries at all times. They are here to help you.

Administration

Hot Springs National Park, established on March 4, 1921, is administered by the National Park Service, U. S. Department of the Interior.

The National Park System, of which this park is a unit, is dedicated to conserving the scenic, scientific, and historic heritage of the United States for the benefit and enjoyment of its people.

The development of this area is part of MISSION 66, a 10-year program to develop and staff the areas of the National Park System so that they can be used and enjoyed by both present and future generations.

A superintendent, whose address is Box 1219, Hot Springs National Park, Ark., is in immediate charge of the park.

(meals included). Many motels and several hundred boarding places are available. If you desire permanent or light-housekeeping quarters, you will find kitchenette and standard apartments and cottages, furnished and unfurnished.

Lists of hotels, boardinghouses, and other accommodations, as well as general information regarding transportation and recreation features, may be obtained from the Hot Springs Chamber of Commerce.

Campground

The National Park Service operates a free campground in Gulpha Gorge, a beautiful valley at the foot of the eastern slope of Hot Springs Mountain. Trailer space, without electric or water connections, is available. Fireplaces and tables are provided for picnic use. The camp is 2 miles from the center of the city of Hot Springs.

Regulations

Preservation of natural features. Public buildings, signs, trees, flowers, shrubbery, rocks, and birds and other animals must not be disturbed, injured, or destroyed.

Fires are one of the greatest perils to the park's existence. Campfires are not permitted except in designated sites. Extreme care should be taken that all cigarettes or cigars have been completely extinguished before they are thrown away.

Hunting is not permitted within the park.

Private operations. To solicit or sell anything, no matter how minor, except by persons holding contract with the United States, is prohibited. The excepted activities are those restricted to the bathhouses and the Hot Springs Observatory.

Advertising or distribution of placards or advertising matter is not permitted within the park.

Automobiles and motorcycles. Park roads are of mountain types and require careful driving at all times. Muffler cutouts must always be closed.

During June, July, and August, outdoor evening programs and nature walks are scheduled at the Gulpha Gorge Campground. Ask for a "Naturalist Program" at the visitor center.

How to Reach Hot Springs

By train. Hot Springs is served by the Missouri Pacific Railroad. Passengers en route to other destinations will find stop-over privileges available on both one-way and round-trip tickets.

By automobile. Hot Springs is located on two transcontinental highways, U.S. 70 and 270, and on Ark. 7. These are all-year, hard-surfaced roads.

By bus. Arkansas Motor Coaches, Continental Trailways, Wolf, and Midwest Buslines, with their connections, provide service to Hot Springs. During summer, low round-trip fares to the park are in effect from practically all points in the United States and Canada. In addition, convenient side trips to the park and stop-over privileges may be arranged on bus tickets to, or by way of, most points in Arkansas.

By airplane. Trans-Texas, Delta, and Central Airlines make daily scheduled stops at Memorial Airport, adjacent to the city of Hot Springs and about 2 miles from the park. These airlines connect with major transcontinental airlines in nearby principal cities, thus providing service to all parts of the United States.

Hot Springs—the City

Administration of the National Park by the Federal Government does not extend to the city of Hot Springs, which operates under municipal and State laws. City and park authorities cooperate in planning joint programs and in coordinating their efforts to promote the welfare of the entire community.

There are many hotels in Hot Springs, the largest accommodating more than 1,000 guests. Among the larger hotels, you have a choice between those operating on the European plan (meals not included in price of rooms) and those on the American plan

and varied attractions. Outdoor activities include motoring, horseback riding, and walking through the pine forests. Roads near the park lead through picturesque mountain-life settings. Many other scenic places of interest and recreation can be reached easily from the park. On Lakes Catherine, Hamilton, and Ouachita—created through the building of large hydroelectric dams on the Ouachita River near Hot Springs—motorboating, sailing, canoeing, and fishing may be enjoyed. Nearby streams are accessible for fly fishing.

Excellent facilities for golf are found at the Hot Springs Golf and Country Club, where there are 3 complete 18-hole courses. Belvedere Country Club also has an 18-hole course, and Oaklawn Park has a 9-hole course.

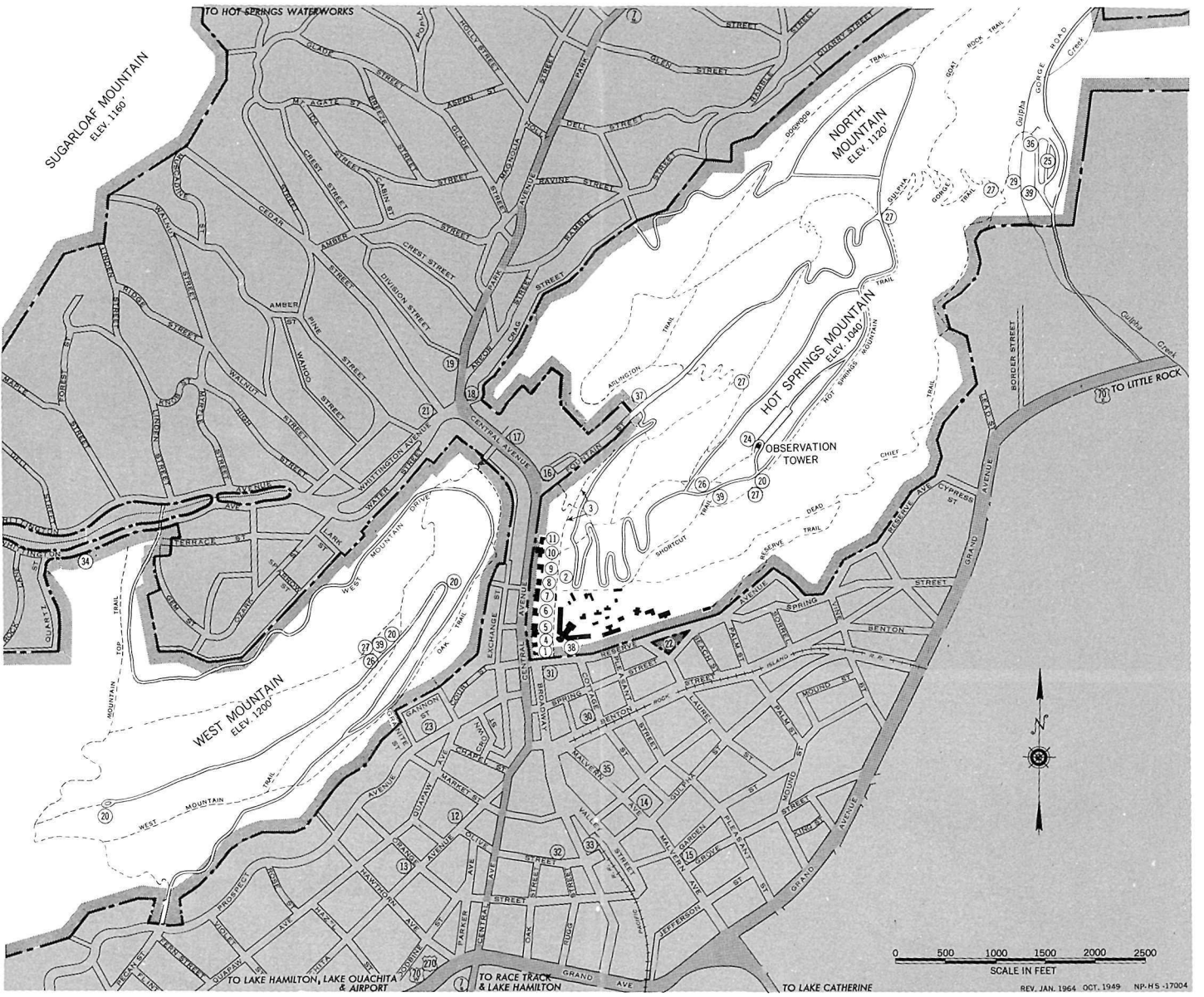
Plants and Animals

A dense forest covers the steep, rocky hills of the park. Oaks, pines, and hickories are abundant in the overstory, while huckleberries predominate in the shrub layer. Many trees have attractive flowers, and the autumn foliage is especially colorful. Wildflowers bloom all year, with goldenrod, aster, bitterweed, coreopsis, and black-eyed-susan making beautiful displays. Lichens, mosses, ferns, grasses, and sedges occur in profusion.

Animal life includes a few common mammals, such as rabbits, skunks, opossums, and squirrels; several species of lizards, snakes, turtles, salamanders, and frogs; and more than 90 species of birds.

Park Interpretive Services

At the visitor center, on the corner of Central and Reserve Avenues, you can see displays depicting geologic history; mechanism of the hot springs; rocks, minerals, and fossils; prehistoric culture; early and recent history; development of bathing; interesting plants and animals; and scientific studies of the hot waters.



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| 1. Visitor Center | 14. Pythian Bathhouse | 27. Shelter |
| 2. Display Hot Springs | 15. National Baptist Bathhouse | 28. Novaculite Quarries (Indian) |
| 3. Promenade | 16. Arlington Hotel Bathhouse | 29. Iron Springs |
| 4.-11. Bathhouse Row | 17. DeSoto Hotel Bathhouse | 30. Chamber of Commerce |
| 4. Lamar Bathhouse | 18. Rockafellow Bathhouse | 31. U.S. Post Office |
| 5. Buckstaff Bathhouse | 19. Majestic Hotel Bathhouse | 32. Ouachita General Hospital |
| 6. Ozark Bathhouse | 20. Scenic Overlook | 33. Mo. Pacific R.R. Station |
| 7. Quapaw Bathhouse | 21. St. Joseph's Hospital Bathhouse | 34. Whittington Avenue Fountain |
| 8. Fordyce Bathhouse | 22. Libbey Memorial Physical Medicine Bathhouse | 35. Bus Center |
| 9. Maurice Bathhouse | 23. Levi Memorial Hospital | 36. Campfire Circle |
| 10. Hale Bathhouse | 24. Observation Tower | 37. Happy Hollow Fountain |
| 11. Superior Bathhouse | 25. Gulpha Gorge Campground | 38. Rehabilitation Center (State) |
| 12. Alhambra Bathhouse | 26. Comfort Station | 39. Picnic Grounds |
| 13. Moody Bathhouse | | |