

# Hot Springs

NATIONAL PARK

*Arkansas*



# Hot Springs

## NATIONAL PARK

### Historic Events

- 1541 Hernando de Soto visits Hot Springs area—a probability.
- 1682 La Salle claims the area for France.
- 1762 France gives the area to Spain.
- 1801 Spain returns it to France by secret Treaty of Madrid.
- 1803 Hot Springs becomes property of the United States through the Louisiana Purchase.
- 1804 Dunbar and Hunter Expedition visits Hot Springs.
- 1820 First inn is erected.
- 1830 First bathhouse is built.
- 1832 Congress establishes Hot Springs Reservation and sets aside 4 square miles of land, including the hot springs.
- 1874 "Diamond Jo," the first railroad, reaches Hot Springs.
- 1877 A Federal survey separates the reservation from the city of Hot Springs.
- 1903 Federal Registration Board begins regulating the practice of physicians.
- 1921 Congress makes Hot Springs Reservation a National Park.
- 1932 Centennial anniversary.

### Welcome

This National Park, situated in a picturesque wooded part of the Ouachita (pronounced Wash-i-ta) Mountains, functions as a national spa, or health resort, and recreation area. In 1832 Congress set aside the hot springs and surrounding lands to preserve them for the benefit of all generations, free from monopoly and commercial exploitation. In 1921 the reservation became a National Park.

The park contains 1.5 square miles and includes Hot Springs Mountain, North and West Mountains, parts of Sugar Loaf and Indian Mountains, and Whittington Park.

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.

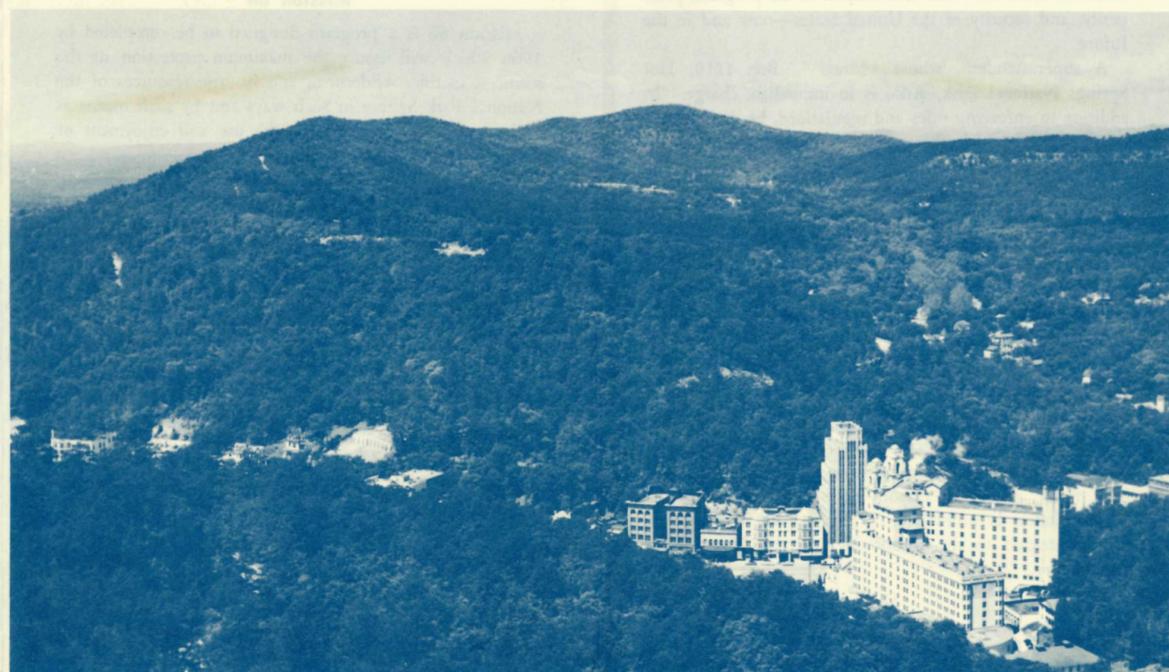
The superintendent and his staff welcome you and hope that your visit here will be a happy one. While you're here, please help us protect and preserve the park for the benefit of future generations.

### What Causes the Hot Springs

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

Although the exact mechanism of the hot springs is unknown, several theories have been advanced. The most favored is the meteoric-water theory, which supposes that the rainwater which sinks into the valley floor between Sugar Loaf and West Mountains finally emerges in the hot springs. The rainwater follows the downward slope of the rocks under North and West Mountains to the southeast, being confined between impervious beds of shale. 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 reaches the surface along a line of weakness, presumably the fault.

Central Avenue and West Mountain, from the observation tower on Hot Springs Mountain.



According to another theory, the hot springs 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) heat from chemical reactions taking place near the water; (2) heat of friction from rock masses sliding along each other; (3) heat of compression due to overlying rock burden; and (4) heat from 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 definite favorable therapeutic effects. It is used exclusively in the bathhouses at Hot Springs National Park, generally 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. This form of treatment is of benefit where increased elimination is desired.

The full-immersion warm-water bath is used in several forms. The customary, or "standard," bath is a neutral bath for about 15 minutes. The bather is advised to drink freely of hot water brought to him during the bath, and perspiration results. The attendant rubs the bather down with a fiber mitt while the bather is submerged. The bather concludes the bath 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 about a general feeling of relaxation. It is the form of bath customarily taken by visitors to the park who desire relaxation or seek recuperation, and it may be taken without a physician's directions.

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

In addition to the different forms of baths, modern apparatus is available to give showers, sprays, and douches in accordance with the directions of the bather's physician.

In conjunction with each of these types of treatment, drinking the hot water is considered to be beneficial to some people. Several fountains at convenient locations in the park furnish free hot water direct from the springs.

Among many bathers who were in a run-down or debilitated condition and who availed themselves of the Hot Springs water, it has been noted that there was an improvement in general health and an increase in body resistance, strength, and vitality. A general improvement also has been noted in chronic joint troubles (arthritis), so often seen in cases of slow absorption of poisons of bacterial origin.

Thermic physiotherapy pool treatments 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. This treatment is materially aided by the readily regulated temperature of the water. Caution is taken to prevent overwork or fatigue, which often follows submerged exercises. Only qualified physical therapists give these treatments.

This form of therapy is used particularly in various paralyses following anterior poliomyelitis (infantile paralysis)

and other nerve lesions leading to weakening and nonuse of muscles still capable of development.

A second class successfully treated in the thermic hydrotherapeutic pool is that comprised under the term "arthritis of joints." The stiffness, pain, and spasm common in these joints are reduced when the patient is submerged in the warm spring water of the pool. Motions of wide range, painful and often impossible when attempted under ordinary conditions, may be given by the physiotherapist in the pool.

### Approximate chemical composition of the Hot Springs waters in parts per million

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

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

Nitrogen (N) . . . . .	8.8	Free carbon dioxide	
Oxygen (O) . . . . .	3.8	(CO <sub>2</sub> ) . . . . .	6.9

Radioactivity through radon gas emanation is 0.81 millimicrocurie per liter.

The natural hot water is low in mineral content and has no disagreeable taste.

### Medical Attention

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 directions. 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 park administration building before employing a physician.



Bathhouse Row.

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

### Bathhouses—Hydrotherapy Treatments

There are 20 concessioner bathhouses operated under rules and regulations approved by the Secretary of the Interior—9 in the park and 11 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, and 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 which 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 act of Congress of December 16, 1878. Legislation requires that an applicant for free baths shall 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 benefited by the baths.

*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 per-

sons come from other and distant States in the belief that the Government maintains a public institution at which 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' directions.

### 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.

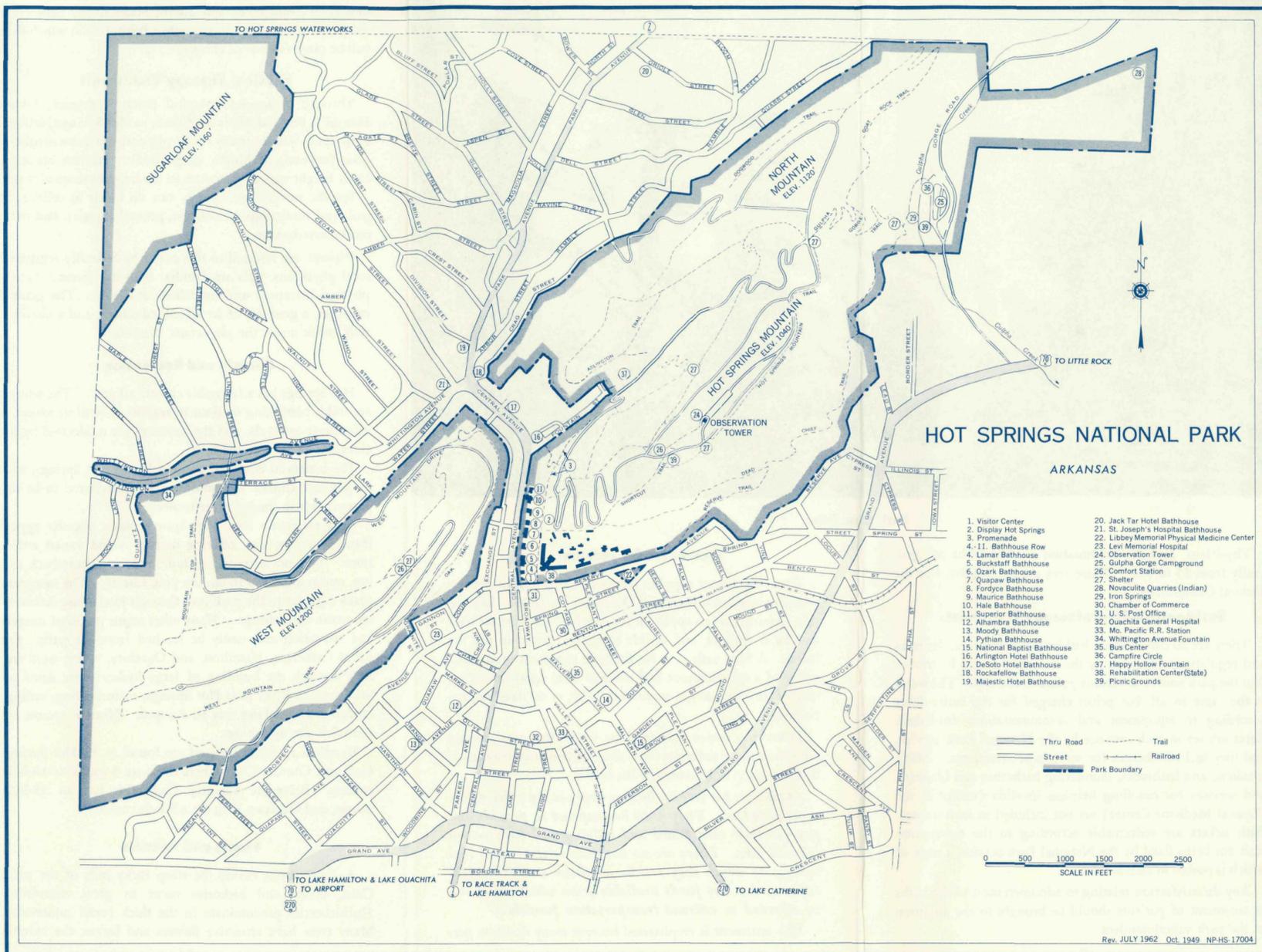
The beneficial effects of outdoor life in Hot Springs, with its pleasant climate and sunshine, are considered to be important aids to the bath treatments.

As a recreation area, Hot Springs has a popular appeal throughout the year, offering numerous and varied attractions. Outdoor activities include motoring, horseback riding, and tramping through the pine forests. The mountain roads adjacent to the park lead through interesting Arkansas mountain-life settings. Many other scenic places of interest and recreation may easily be reached from the park. On Lakes Catherine, Hamilton, and Ouachita, which were 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 occur in great abundance. Huckleberries predominate in the thick forest understorey. Many trees have attractive flowers and leaves, the autumn



foliage being particularly colorful. Wildflowers bloom every month of the 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 and other small rodents; several species of lizards, snakes, turtles, salamanders, and frogs; and more than 90 species of birds.

#### Park Interpretive Services

A modern visitor center, at the corner of Central and Reserve Avenues, includes 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.

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 State Route 7, which are all-year, hard-surfaced roads.

**By bus.** The Arkansas Motor Coaches, Continental Trailways, Wolf, and Midwest Buslines, with their connections, provide service to Hot Springs. During the 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 its own municipal and State laws. City and park authorities cooperate in planning joint programs and in



One of the hot springs.

coordinating their efforts to promote the welfare of the entire community.

There are many hotels in Hot Springs, the largest affording accommodations for 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 (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, road maps, 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.

#### Administration

Hot Springs National Park is administered by the National Park Service, U.S. Department of the Interior. 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 nonrenewable 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.

A superintendent, whose address is Box 1219, Hot Springs National Park, Ark., is in immediate charge. In addition to enforcing rules and regulations, he directs sanitation measures, hydrotherapy, and general operation of all bathhouses served with the hot waters; he also defines the standards of qualifications of bath attendants.

#### 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.** No advertising or distribution of placards or advertising matter is permitted within the park.

**Automobiles and motorcycles.** All roads are of mountain types, and care should be taken at all times while driving through the park area. Muffler cutouts must always be closed. Speed of motor vehicles in the campground area must not exceed 15 miles an hour.

**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.** All 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.** Dogs and cats and other pets are prohibited on Government lands in the park unless such animals are on a leash 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 campground is limited to a 30-day period, except during the summer when a special 14-day limit is in effect.

*Park rangers are glad to answer inquiries at all times.*

#### Mission 66

Mission 66 is a program designed to be completed by 1966 which will assure the maximum protection of the scenic, scientific, wilderness, and historic resources of the National Park System in such ways and by such means as will make them available for the use and enjoyment of present and future generations.

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.

Cover: Hot Springs, Ark., from the West Mountain Loop.



Revised 1962

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE



U.S. GOVERNMENT PRINTING OFFICE: 1962-O-656313

# Hot Springs

## NATIONAL PARK

Arkansas

