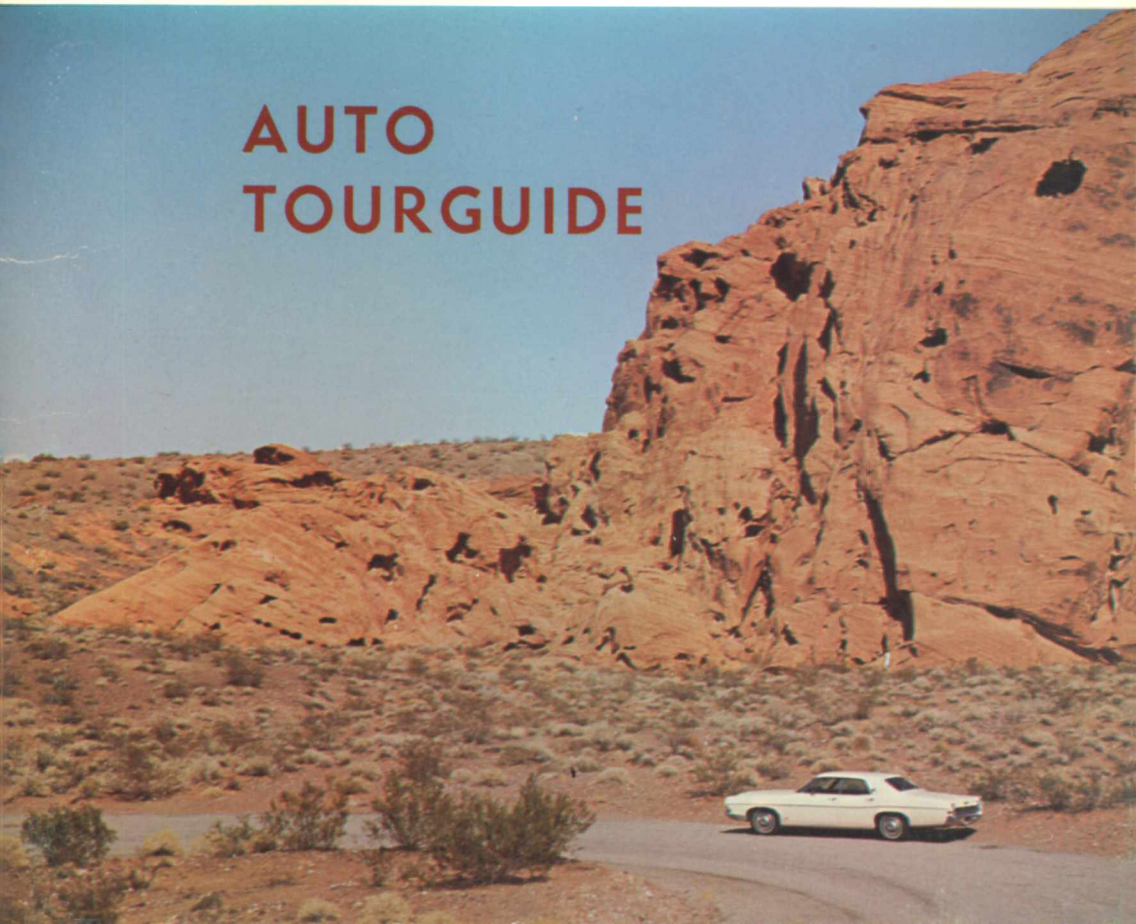


LAKE MEAD

National Recreation Area

AUTO
TOURGUIDE



COVER PHOTO:

The colorful formations of the Aztec Sandstone are beautifully displayed along the Nevada—Lake Mead Tour and in the Valley of Fire State Park.

AUTO TOURGUIDE

to the

Lake Mead National Recreation Area

by

DOUGLAS B. EVANS

CHIEF

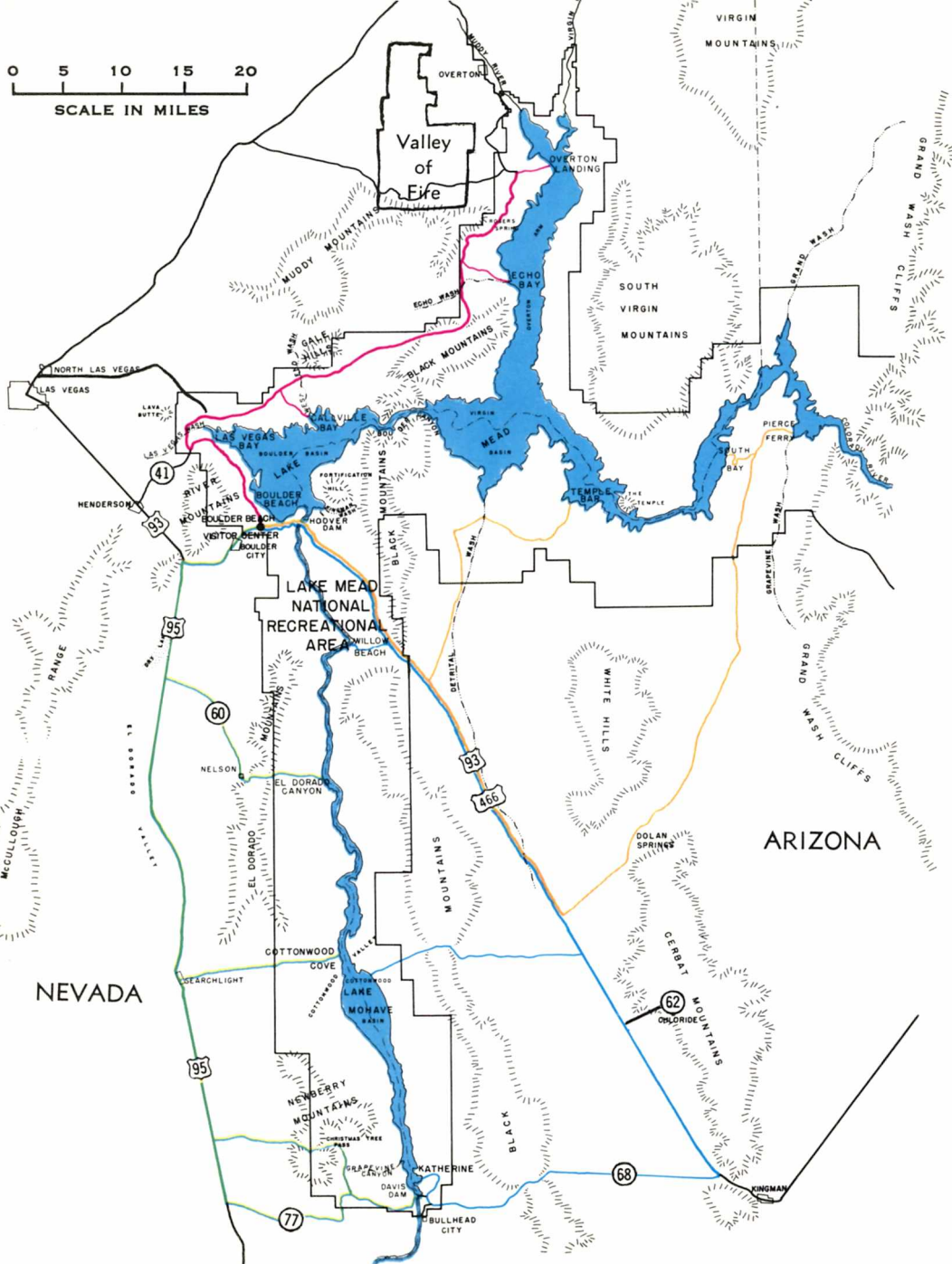
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Arizona-Lake Mead Tour
Arizona-Lake Mohave Tour

Roads To Understanding

The roads in and around the Lake Mead National Recreation Area provide access to many scenic and significant features. This booklet is a tour guide to the primary roads which are travelled with ease in standard passenger cars. It introduces the natural, historical, and recreational resources of this region, and points the direction for further exploration and study.

The roads of the Lake Mead National Recreation Area are much more than just routes of transportation between points. They are avenues through the history of earth and of man. They are corridors through fascinating communities of plants and animals. They are galleries through bizarre desert scenery sculptured and colored by nature through the eons.

Four tours are outlined herein: the Nevada-Lake Mead Tour, the Nevada-Lake Mohave Tour, the Arizona-Lake Mead Tour, and the Arizona-Lake Mohave Tour. The numbered stops progress outward from the Lake Mead Visitor Center at Boulder Beach. Travelers touring toward the Visitor Center from outlying districts should read the tours in reverse order. The stops are not numbered, nor specifically marked, along the roads. The various landmarks and junctions are well described in this guidebook for orientation and ease of location. As you progress along a tour, read ahead to the advance paragraphs, so you will recognize the points of interest as you approach them. Each tour requires a full day to enjoy and return to the starting point. To receive the maximum benefits of these tours, drive at safe speeds, and stop often. Do not try to absorb the scenery while driving. Pull well off the highway to park. Watch carefully for other traffic. Always carry drinking water in your car. And, if your car should stall, do not leave it. Do not try to walk for help. Your predicament will be discovered more quickly if you remain with your car.

And remember, this guidebook merely introduces the Lake Mead Country. The bibliography will lead you to broader and deeper knowledge of this fascinating region. Take the time to study further those portions of the Lake Mead story which interest you most. The understanding you gain will turn this stark and seemingly barren land into an inviting place of great beauty, which the uncomprehending person will never see.

*The crew of Apollo 9 viewed the rugged Lake Mead-Lake Mohave Country
from a height of 140 miles.*

Photo courtesy of N.A.S.A.



The Lake Mead - Lake Mohave Country

The Lake Mead National Recreation Area encompasses nearly 3,000 square miles of rugged country in which variety and contrasts are virtually endless. It is a region of transition. Here, the vast high Colorado Plateau to the east meets the Basin and Range Province to the north and west. Here, the Sonoran, Mohave, and Great Basin deserts meet to create an interesting and unusual blend of plants and animals. Here, several prehistoric Indian cultures met to exchange ideas and materials. Here, the history of Mormon colonization to the north meets the history of Colorado River transportation to the south.

The rock formations reveal a geologic past spanning more than 570 million years. The oldest have been so completely altered that their original character cannot be determined. Some formations are marine sediments, deposited at the bottom of ancient seas. Others are wind-blown sands of deserts which preceded those of today by millions of years. And, some are relatively young volcanic flows, perhaps no more than 10 million years old. All have been distorted and broken by the tremendous, and little understood, forces within the earth's crust. All have been shaped by the timeless forces of erosion.

This region is desert; a land of meager rainfall, winds, and high summer temperatures. It is barren — agriculturally. But naturally, it is a dynamic community of plants and animals well adapted to this arid environment. All inter-related, the many species live together in balance, depending upon each other for survival.

The most recent species to occupy this community is man. Not being adapted by nature to the desert, he found it harsh. Primitive man survived by developing cultures which were harmonious with the desert environment. Then he was displaced by modern man, who preferred not to adjust his culture to the environment, but to alter the environment to suit his culture. So, while primitive man lived in harmony with nature, modern man lives in conflict with it.

These modern conquerors came first as explorers, probing the mountains and canyons for transportation routes and for resources to exploit. First the Spaniards, and later the Americans. Outstanding among these were the Colorado River expeditions of Lt. Joseph Christmas Ives in 1858 and of Major John Wesley Powell in 1869. Then followed the colonizers and the exploiters to build homes and towns. Names like Las Vegas, St. Thomas, and Eldorado Canyon, began to appear on maps.

Finally, came the developers, Twentieth Century man, who would transform vast regions into lakes, highways, and sprawling urban centers. And, momentarily at least, these are pleasurable to his senses. His concrete monuments, gridirons of neon, and black asphalt ribbons are all new and exciting. So exciting, in fact, that modern man may overlook the primitive natural environment which is being squeezed, drowned, and smothered by his achievements.

Hopefully, this book will guide you to a new understanding of this colorful desert environment and of man's efforts to wrest his livelihood from it.

Nevada - Lake Mead Tour

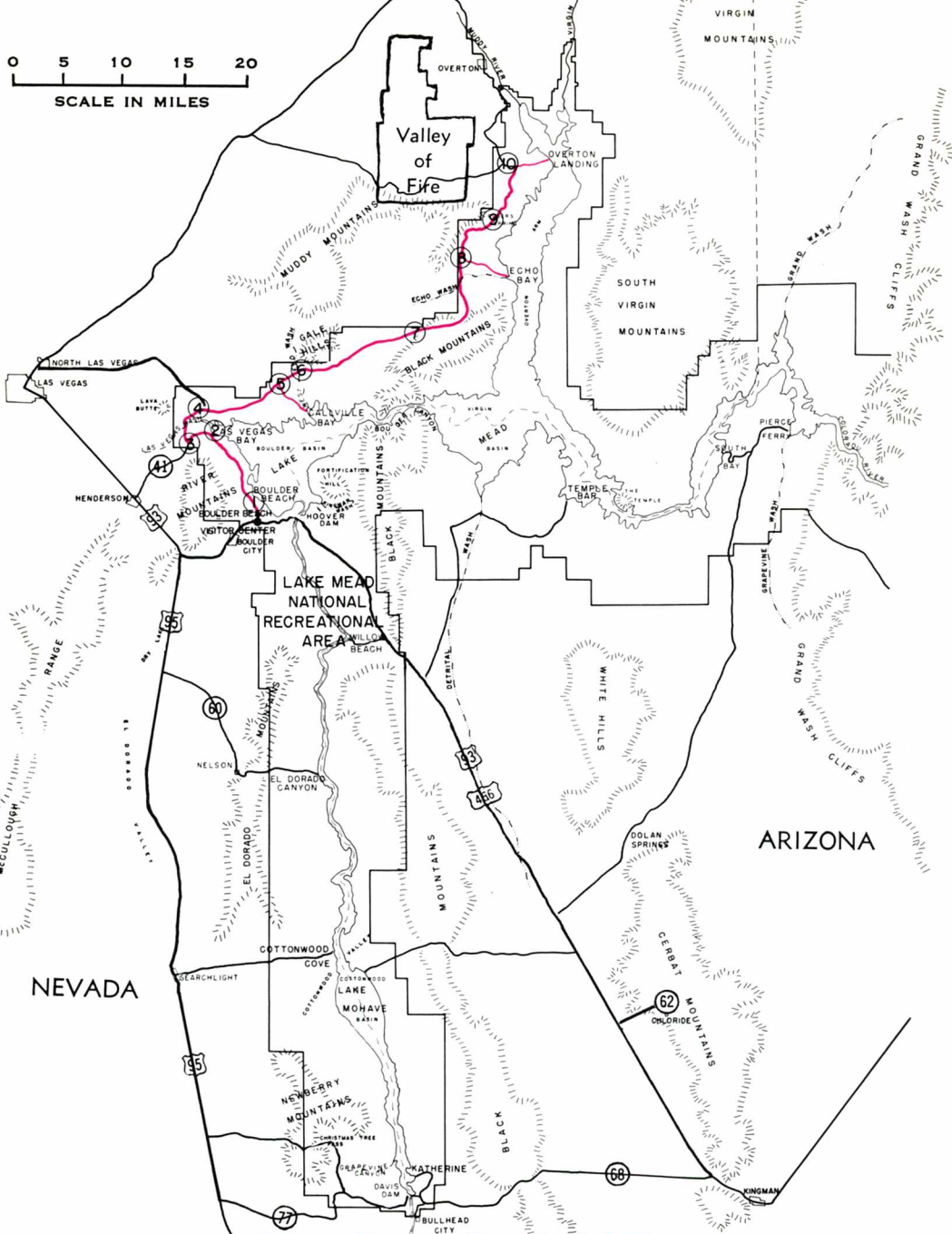
Colorful desert mountains and eroded badlands characterize the northwestern section of the Recreation Area, between the Lake Mead Visitor Center at Boulder Beach and Overton Beach. Geologic formations of rich red and black, and subtle shades of gray-green, combine with clear blue sky to make this an outstanding tour for photographers. Some of the principle recreation developments of Lake Mead are also located along this tour.

1 **BOULDER BEACH** extends for more than 2 miles along the southwestern shore of the Boulder Basin of Lake Mead, from Hemenway Harbor to Boulder Harbor. The National Park Service and its concessioners provide excellent facilities so visitors can enjoy fully the vast recreational resources of this area. The modern, centrally-located campgrounds are the hub of activities here. The swim beach has floats and lifeguards from Memorial Day through Labor Day. Swim with caution at all times, but especially when lifeguards are not on duty.

The water level of Lake Mead fluctuates, causing the shoreline to move back and forth over considerable distances. All floating facilities, such as marinas and docks, must be designed so they can be easily relocated as the water raises and lowers. All other developments must be located above the high water level, which is 1,220 feet in elevation above sea level. The normal operating level of the reservoir is between 40 and 100 feet below that.

East, across Lake Mead from Boulder Beach, is **FORTIFICATION HILL**. This prominent landmark is composed primarily of layers of basalt. The reddish formations skirting the base of Fortification Hill are known as the Paint Pots.

West of the road, opposite Boulder Beach, is a small mountain range, the **RIVER MOUNTAINS**. Although the highest point is only 3,789 feet in



Nevada - Lake Mead Tour

elevation, this range is extremely rugged. The River Mountains consist mainly of volcanic rocks which have been faulted and, in some areas, steeply tilted.

The wildlife of the River Mountains includes desert bighorn sheep which browse in the lower foothills near Boulder Beach during the hot summer months. Observe and photograph them, but please do not disturb them. Other visitors wish to see them, too.

The long dark ridge which forms the steep shoreline just north of Boulder Harbor is called **SADDLE ISLAND**. An island once, when the Lake was completely filled, the causeway will now keep it a peninsula at any water level. The hard rock and abrupt lakeside face make an ideal setting for the water developments which provide neighborhood towns with domestic and industrial water.

A snowy egret searches along the shoreline near Boulder Beach for small fish and aquatic insects. The massive lava-capped Fortification Hill dominates the far side of the Boulder Basin.



② The many bays of Lake Mead represent tributary canyons which once drained into the Colorado River. **LAS VEGAS BAY** extends up Las Vegas Wash, a drainage which heads near the city of Las Vegas.

Las Vegas Bay offers complete facilities for boaters, fishermen, and campers. The protected harbor is close to many of the popular fishing and skiing locations of the Boulder Basin.

In 1858, Lt. Joseph C. Ives reached Las Vegas Wash in his attempt to navigate up the Colorado River. Ives believed it to be the mouth of the Virgin River, and recorded the event in his diary on March 12:

“Skirting the base of Fortification rock, we ascended the river a couple of miles, and came to the mouth of a stream. . . . It was now but a few inches deep. The water was clear, and had a strong brackish taste. This fact, and its position, led me to suppose that we were at the mouth of the Virgen, but I could scarcely believe that the river could ever present so insignificant an appearance.

“I now determined not to try to ascend the Colorado any further.”

Today’s traveler would not dare to test Las Vegas Wash for its “brackish taste”. Municipal and industrial developments in the Las Vegas Valley discharge various pollutants into the Wash. All local governmental agencies are working cooperatively to reduce this unfortunate environmental degradation.

③ **JUNCTION** — Nevada Highway 41 and North Shore Road

From here, this tour extends northward along the North Shore Road, or eastward toward Lake Mead if you are southbound.

Nevada Highway 41 leads westward to **HENDERSON** (Population 17,000), the principle industrial center of southern Nevada. Its products include titanium and a variety of industrial chemicals.

To the north of this junction, **LAVA BUTTE** stands prominently on the horizon. Rising sharply above tan beds of limestone, it has the appearance of a small volcano. But don’t be fooled, like those who misnamed this peak. It is not lava, but is composed of an intruded granite-like rock.

④ **JUNCTION** — North Las Vegas Road and North Shore Road

This tour continues along the North Shore Road.

The westward spur leads to North Las Vegas and Las Vegas, the most heavily populated community of Nevada. About 300,000 people live in and near these towns. Las Vegas, named by early Spanish explorers, is rather freely translated as “the meadows”.

The sheltered waters of **CALLVILLE BAY** provide an ideal setting for the new boating facilities there. Complete overnight accommodations and campgrounds are planned for the future.

Anson Call located and established Callville on the west bank of the Colorado River in 1864, under the direction of the Mormon Church. It served briefly as a shipping point for the Mormon communities of Utah. Steam powered riverboats challenged the dangerous currents and rapids of Black Canyon to bring supplies and immigrants to the tiny river port. Callville was abandoned in 1869 with the completion of the transcontinental railroad through Utah. The ruins of this historic site now lie dark and quiet, more than 400 feet below the surface of Lake Mead.

Callville, perched on the bank of the Colorado River, served as a river port between 1864 and 1869.



6

The stark landscape in the vicinity of **WEST END WASH** results from a long, interesting, and extremely complex geological history. Tremendous forces within the earth's crust have fractured, folded, and tumbled thousands of feet of rock layers.

A great lateral shear zone extends through this area, and all the way up the length of Las Vegas Valley. The mountains on the north side of the Valley and those on the south side have slipped many miles past each other.



The steeply tilted rock layers of the Gale Hills are related to those of the Grand Canyon and Petrified Forest in northern Arizona.

The rugged peaks just north of the road are known as the **GALE HILLS**. The prominent sharp ridge, nearest the road, is a block of steeply tilted sedimentary rock beds which were deposited in this region between 190 and 250 million years ago. The dark highest rock is the Kaibab Limestone which forms the rims of Grand Canyon. The greenish gray layers, sloping toward the road, are the Moenkopi and Chinle Formations which are the petrified wood bearing shales and sandstones of the Petrified Forest National Park in Northeastern Arizona.

Erosion carves steeply inclined rock layers into this pattern of “flat-iron” shapes. Watch for other examples along this tour.

⑦ During the age of dinosaurs, about 140 million years ago, winds piled great sand dunes over a vast desert in this region. Eventually buried by other deposits, these sands were compressed and cemented into a brilliant **RED ROCK** which we now call the Aztec Sandstone. Outcrops occur along North Shore Road and throughout the Valley of Fire. Notice the pattern of cross-bedding in this formation. It is exactly like the cross section of a modern sand dune.

The Aztec Sandstone is a western extension of the Navajo Sandstone of Zion Canyon and Rainbow Bridge in Utah; a clue to the extent of that ancient desert.

⑧ **JUNCTION** — North Shore Road and Echo Bay Road

ECHO BAY offers complete modern accommodations and facilities for boaters and fishermen. It is situated on the Overton Arm, that long northerly reach of Lake Mead up the valley of the Virgin River. Echo Bay was formed when the rising waters of the Overton Arm inundated the lower portions of Echo Wash.

To the west of the junction, opposite the Echo Bay Road, the skyline is dominated by the eastern scarp of the **MUDDY MOUNTAINS**. These mountains were formed when the rock layers were faulted and folded by tremendous pressures pushing horizontally from east to west. The folding was so extreme, that the rock layers were completely overturned, and then pushed eastward over the surface for approximately 14 miles.

The scarp or cliff in the foreground here is the upthrown side of the Rogers Spring Fault.

This area has a long and colorful history. Prehistoric Indians mined salt from large deposits near the Virgin River. Some built permanent Pueblos, such as the Lost City, and farmed the fertile lands along the Muddy and Virgin Rivers. These farmers abandoned their villages about A.D. 1200. Then the area became populated with people who lived by hunting and gathering wild plant foods. These were the ancestors of the modern Paiute.

Early explorers passed through this vicinity in their travels to and from California. Jedediah Smith, Kit Carson, John C. Fremont, and Jacob Hamblin are names deeply etched in the historical heritage of this vicinity.

The Mormon Church colonized the region during the 1860's and later. Towns like Overton, St. Thomas, and Kaolin were located near the rivers. The fields, abandoned centuries before by the Puebloans, once again produced food for people.

As the waters of Lake Mead backed up the Virgin Valley, Kaolin, St. Thomas, and the Lost City Pueblo became mere memories.



Though covered with silt, the tree lined streets of St. Thomas are still discernible when the level of Lake Mead is low.

9 ROGERS SPRING (see next page) issues from the base of the great Rogers Spring Fault scarp to form this lush green oasis. The water temperature averages 80°F., warmed perhaps by residual heat of ancient volcanic activity deep within the earth.

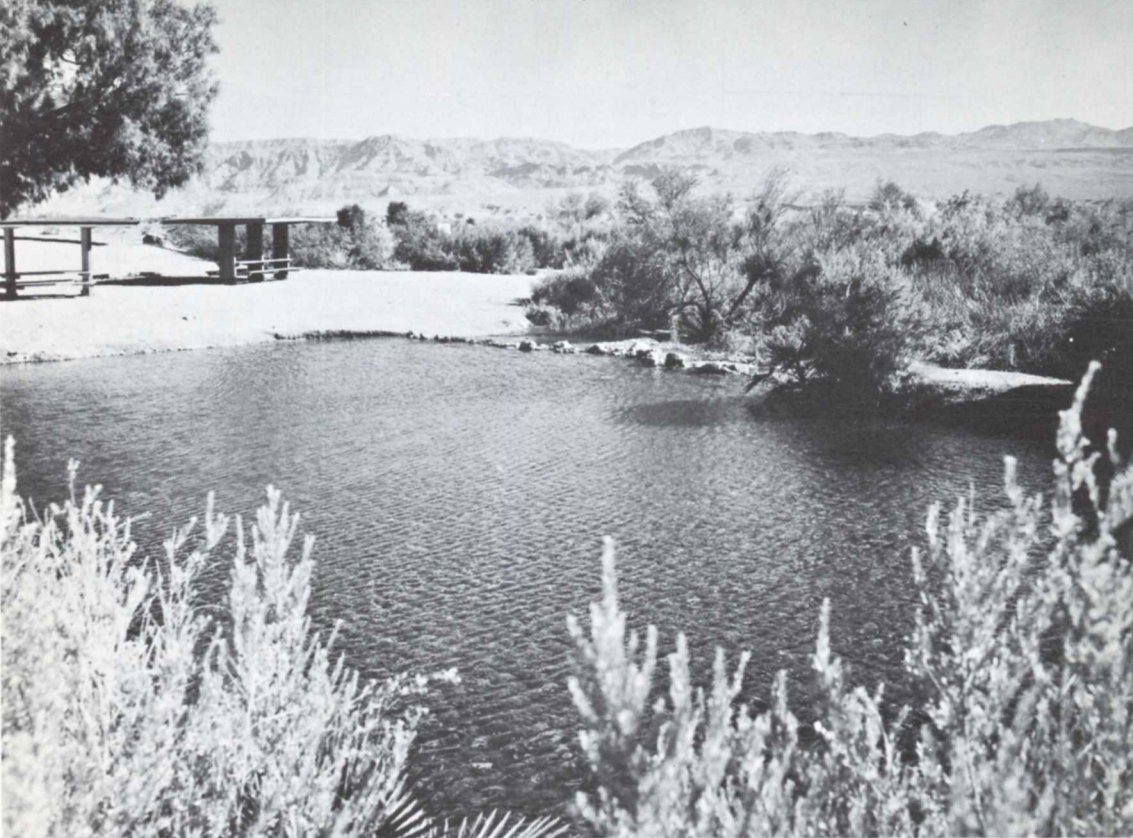
The tamarisks (saltcedars), saltbushes, and cattails thriving in this wet location, form an interesting contrast with the surrounding desert vegetation which consists primarily of creosotebush and blackbrush.

The small minnow, speckled dace, was native to Rogers Spring. However, due to man's disturbance of the habitat, it no longer occurs here. The Spring now abounds with a great variety of exotic species including perch, mollies, and golden shiners.

Prehistoric Indians camped near the Spring. Modern travelers also find this spot ideal for a restful picnic.

On the distant skyline to the east, across Lake Mead, are the **VIRGIN MOUNTAINS** with a summit over 8,000 feet above sea level. The geology of the Virgin Mountains is extremely complex. Limestones, sandstones, and ancient schists more than 570 million years old are fractured, folded, tilted, and deeply eroded to a chaotic array of mountains and canyons.

10 OVERTON BEACH, the northernmost developed site on Lake Mead, has accommodations and facilities for fishermen who like to test their skills on the channel catfish, largemouth black bass, and rainbow trout of the Overton Arm.



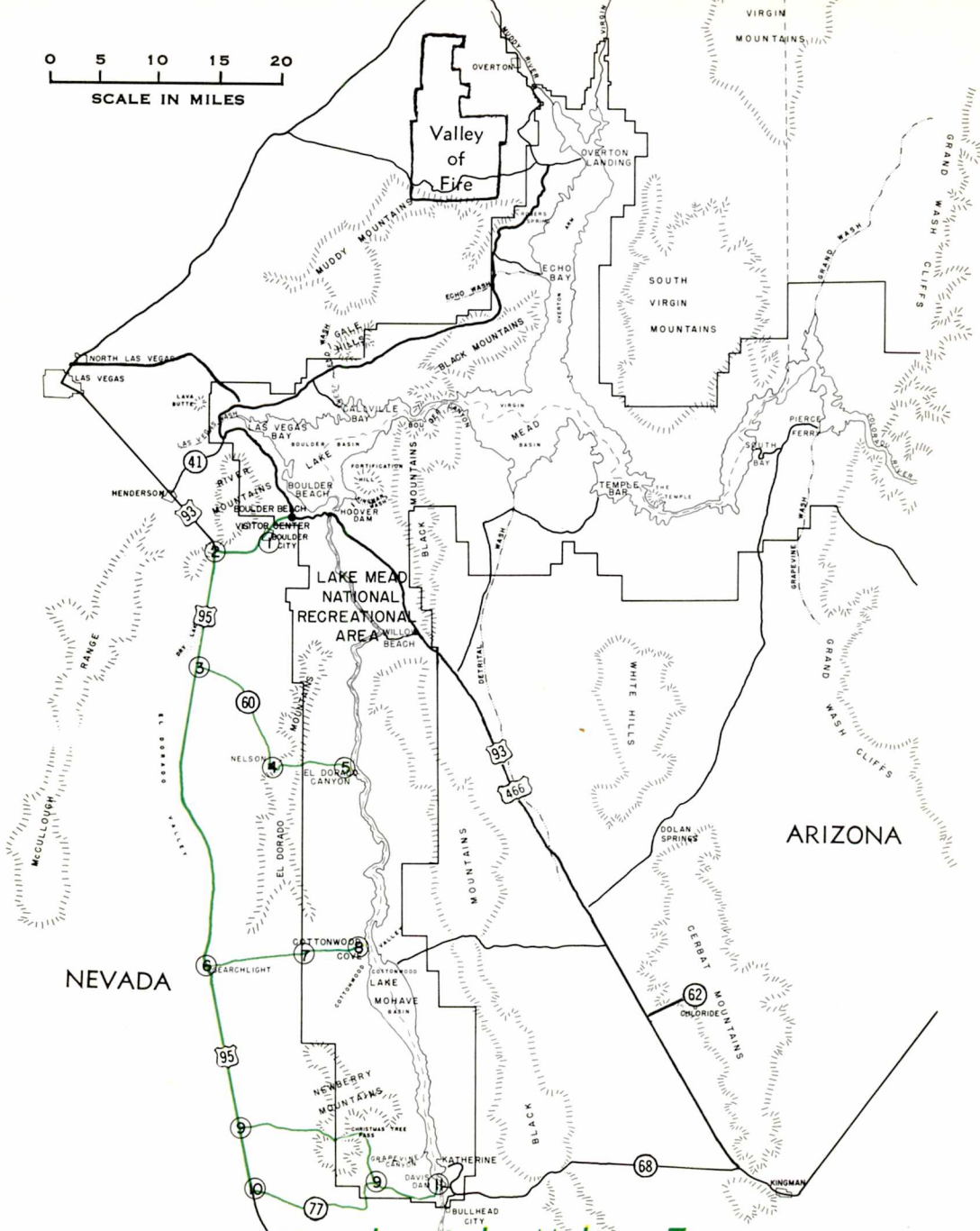
*The oasis of Rogers Spring provides a peaceful setting for a picnic.
The Virgin Mountains form the eastern horizon.*

West of Overton Beach is the **VALLEY OF FIRE STATE PARK** where a great expanse of the Aztec Sandstone has been exposed and eroded into brightly colored red rock cliffs and canyons.

Just north of the Recreation Area is the small farm community of **OVERTON** (Population 1,200). In Overton is the **LOST CITY MUSEUM**, operated by the State of Nevada, where you can learn about the prehistoric peoples who occupied this region, and see the artifacts of their cultures.

Nevada - Lake Mohave Tour

The rugged mountain ranges and broad enclosed basins, between the Lake Mead Visitor Center at Boulder Beach and Davis Dam, exemplify the geographic region known as the Basin and Range Province. Ancient Indian



Nevada - Lake Mohave Tour

petroglyphs and deserted mining camps remain in isolated canyons as clues to the long and exciting saga of man in this area. Echos of the past can still be heard ringing in these mountains and canyons by those who take the time to stop, to look, and to listen.

① **BOULDER CITY** is a modern community of about 5,000 people. It began to grow out of the desert in 1931 as a construction camp for Hoover Dam. The town was designed by planners of the Department of the Interior, and to this day remains an excellent example of how good planning can provide a pleasing urban environment. Boulder City remained as a Federally owned and administered town until 1960, when it became a self-governing municipality.

Today Boulder City provides a variety of services and facilities for its permanent residents as well as for area visitors. The National Park Service headquarters of the Lake Mead National Recreation Area are located in Boulder City.

② **JUNCTION** U.S. Highway 93-466 and U.S. Highway 95 (South) This tour extends southward along Highway 95, toward Searchlight, or eastward on Highway 93-466, toward Boulder City, if you are north bound.

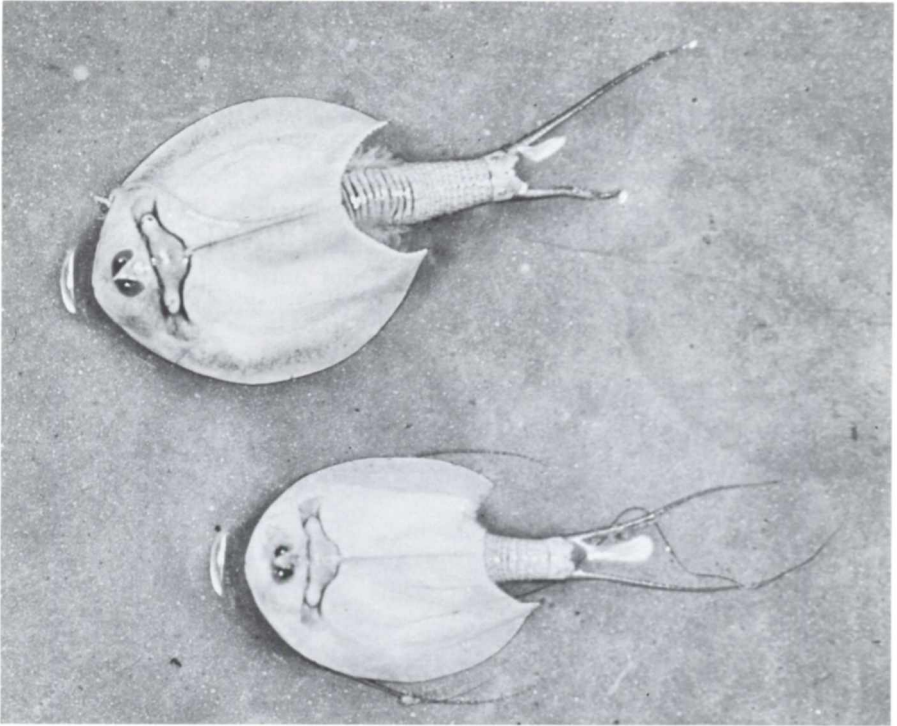
This junction is located in **RAILROAD PASS**, named for the Union Pacific branch line which runs through it. This railroad branch was built to facilitate the construction of Hoover Dam, and now serves as a freight line to Boulder City.

Early prospectors named this pass Alunite for an ore of aluminum which occurs here. These rocks also contain small amounts of gold and silver, but attempts to mine them were not successful. A few prospect holes remain as evidence of those futile efforts.

③ **JUNCTION** — U.S. Highway 95 Nevada Highway 60 to Eldorado Canyon.

This broad basin, named **ELDORADO VALLEY**, is typical of the Basin and Range Province which lies between the Colorado Plateau to the east and the Sierra Nevada to the west. This Province is characterized by north-south trending mountain ranges interspersed with broad basins. Many of these basins, including Eldorado Valley, have no external drainage outlet. All drainage is toward the centers of the basins, where shallow temporary lakes form after rain showers. The high rate of evaporation quickly reduces the lakes to dry lake beds.

These ephemeral lakes are the habitat of one of nature's strangest creatures, the long-tailed apus. During the brief periods when the lakes hold water, the apus eggs hatch and the adults mature quickly, reaching a length of about two inches. The shrimplike adults lay millions of eggs, then die when the lake



*The long-tailed apus hatches in the "dry lakes" following heavy rains.
They quickly grow to a length of about two inches.*

evaporates. As the mud dries, the dust and microscopic eggs are scattered by the wind. The eggs can survive months of heat and drought until it rains again and the cycle is repeated.

Centuries ago, when the climate was cooler and wetter, Eldorado Valley was occupied by a permanent lake. Geologists can trace its shoreline. Along the ancient shoreline archeologists have located campsites of the nomadic Indians who hunted through the area.

Eldorado Valley is bounded on the west by the McCullough Range, with a maximum elevation of 7,000 feet, and the Eldorado Mountains, to the east, with elevations exceeding 4,500 feet. The northern sections of both ranges are composed of volcanic rocks formed within the past 60 million years. The southern sections have been carved from ancient granite over 570 million years old.

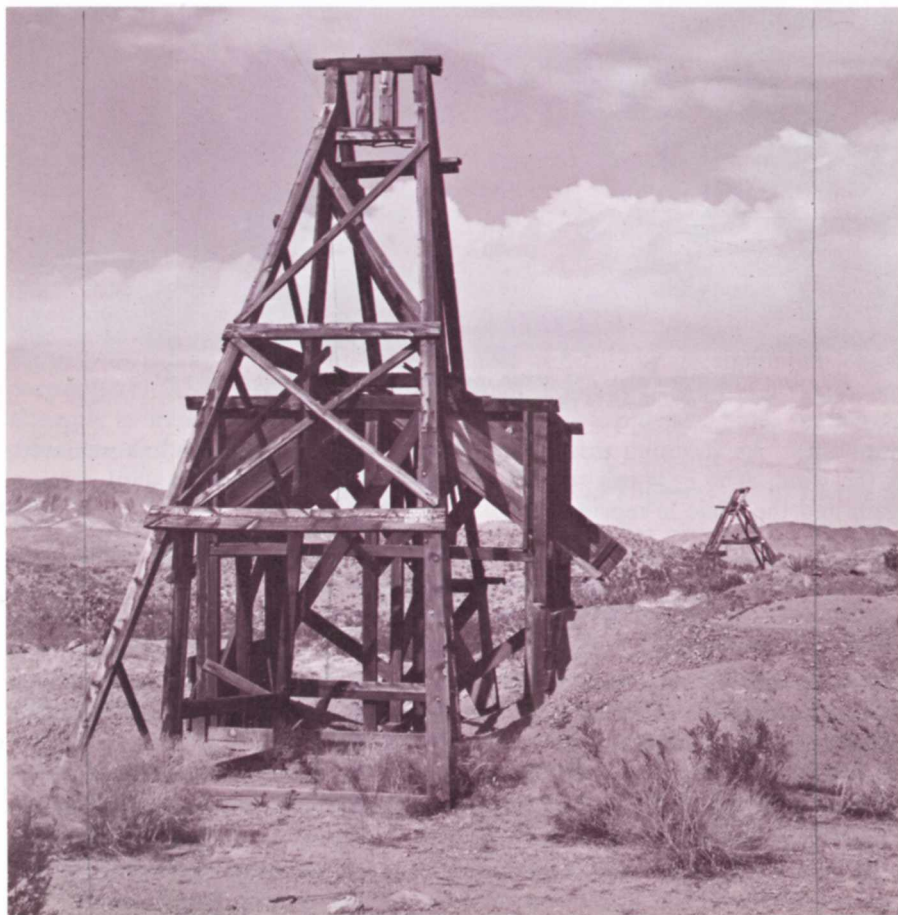
Turn east on Highway 60 to Eldorado Canyon, a small scenic recreation development on Lake Mohave especially popular among fishermen.

④ Highway 60 passes through the famed **ELDORADO MINING DISTRICT**. Local tradition says that the Spanish or Mexicans may have worked mines in the area at an early date. American mining began about 1859 and continued for nearly a century. It is estimated that \$9,000,000 worth of gold, silver, copper, lead, and zinc were removed from the District.

The abandoned mines and the nearly deserted town of Nelson remain today as reminders of those lawless days when many lives were lost in the fierce competition for Eldorado's mineral wealth.

Visitors walking in the Eldorado Mining District must watch carefully for the many dangerous open mine shafts. These mines, though no longer op-

Many reminders of the turbulent past stand silently in the Eldorado Mining District.



erating, remain the property of private owners. Please obey all signs, and do not remove or disturb any private property.

5 In 1858, Captain George Alonzo Johnson sailed his steamer, the General Jesup, up the Colorado River in a race against Lt. Ives in the Explorer. Each man yearned to be first to reach the head of navigation. Johnson started first, and in January, 1858, he wrote:

“We reached a point which I named El Dorado Canyon, and which was determined to be the head of navigation.”

El Dorado in Spanish, translates roughly as “the gilded” or “the golden”, and is used to denote a place of gold. The name has been corrupted here to Eldorado.

While the mines of Eldorado Canyon prospered, a gold processing mill and shipping facilities operated on the bank of the Colorado River at the mouth of the Canyon. Wood-burning steamers performed navigational miracles hauling tons of supplies and gold over the rapids and shifting sand bars of the muddy Colorado River.

Today, fishermen and water skiers skim over this historic site on the clear placid waters of Lake Mohave.

Return to U.S. Highway 95 to continue the tour.

6 JUNCTION — U.S. Highway 95 and Cottonwood Cove Road.

SEARCHLIGHT, founded in 1897, was a booming gold mining camp. Gold production became so valuable the Santa Fe Railroad constructed a spur to Searchlight in 1906. The mines ceased operations in 1953. Today, Searchlight's modest economy is based on services for travelers who pass through en route to Las Vegas, Lake Mohave, and southern California.

The Cottonwood Cove road descends gradually for 15 miles from Searchlight at 3,500 feet elevation to Lake Mohave at 647 feet. Notice the effects of elevation upon plant life along this route. The vegetation around Searchlight is typical of the higher cooler desert. Large Joshua tree yuccas dominate the scene. At the lower elevations, cactus and creosote bush replace the Joshua trees.

7 Where the Cottonwood Cove road enters the Lake Mead National Recreation Area, at about 1,800 feet elevation, it passes through an extensive stand of **JUMPING CHOLLA** (CHOY-a), also known as teddy-bear cactus. The jointed stems of this cactus detach so easily they appear to jump as they are brushed from the plant by passing skirts and trouser legs. These fallen joints readily take root, forming new plants.

The sweeping view, to the southwest of this cactus garden, is of **COTTONWOOD BASIN**, the largest open expanse of water on Lake Mohave.

8 **COTTONWOOD COVE** is a picturesque area with complete facilities and accommodations for water recreationists. Located at the upper end of Cottonwood Basin, it provides convenient access to the upper canyon sections of Lake Mohave, as well as the broad expanses of open water to the south.

Return to U.S. Highway 95 to continue the tour.

9 **JUNCTIONS** — U.S. Highway 95 and Christmas Tree Pass Road, and Nevada Highway 77.

The 17 mile dirt road across the Newberry Mountains, through Christmas Tree Pass, provides a scenic and interesting alternate route. Cars usually pass through without difficulty, however, the road surface may become eroded and very rough following heavy rains. So drive slowly, and examine the road ahead of you carefully before proceeding.

CHRISTMAS TREE PASS was named for the junipers and pinyon pines that grow at these higher cooler elevations. The yucca-like nolina, or bear-grass, also thrives here. Its tough grass-like leaves were used for weaving by early Indians. When blooming in the spring, the white flowering stalks make artistic and colorful foregrounds for photographs of these rugged mountains.

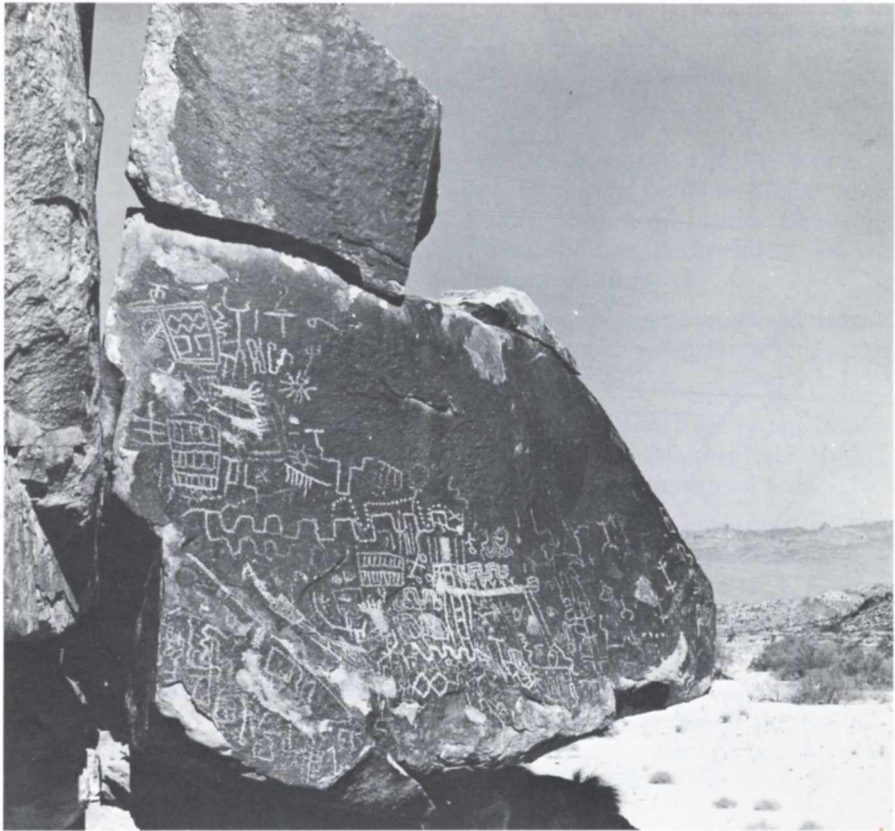
The Newberry Mountains are formed mostly of the dark, ancient, coarse-grained, granite found in the Eldorado and McCullough Mountains to the north. A massive intrusion of much younger whitish granite comprises the high heartland of the range. These mountains were named in 1858 by Lt. Ives for Dr. J. S. Newberry, official geologist of the Ives Expedition.

On the eastern slope of the Newberrys, between Christmas Tree Pass and Highway 77, a short walk leads into **GRAPEVINE CANYON** to an outstanding display of petroglyphs. These **PETROGLYPHS** were chipped into the rocks centuries ago by Indians who gathered wild seeds and hunted game throughout this region. Very little is known of the origin or the meaning of these rock symbols.

Scholars agree that they are not a form of communicative writing. There is no reason to assume they are texts or messages. Since they frequently occur in narrow canyons which lead to water and where game animals could be ambushed easily, they may have been related in some way to hunting rituals.

Regardless of what they meant to the Indians who made them, they are now priceless treasures of art. Cherish and protect them as you would a valued painting.

10 **JUNCTION** — U.S. Highway 95 and Nevada Highway 77 (alternate to Christmas Tree Pass route)



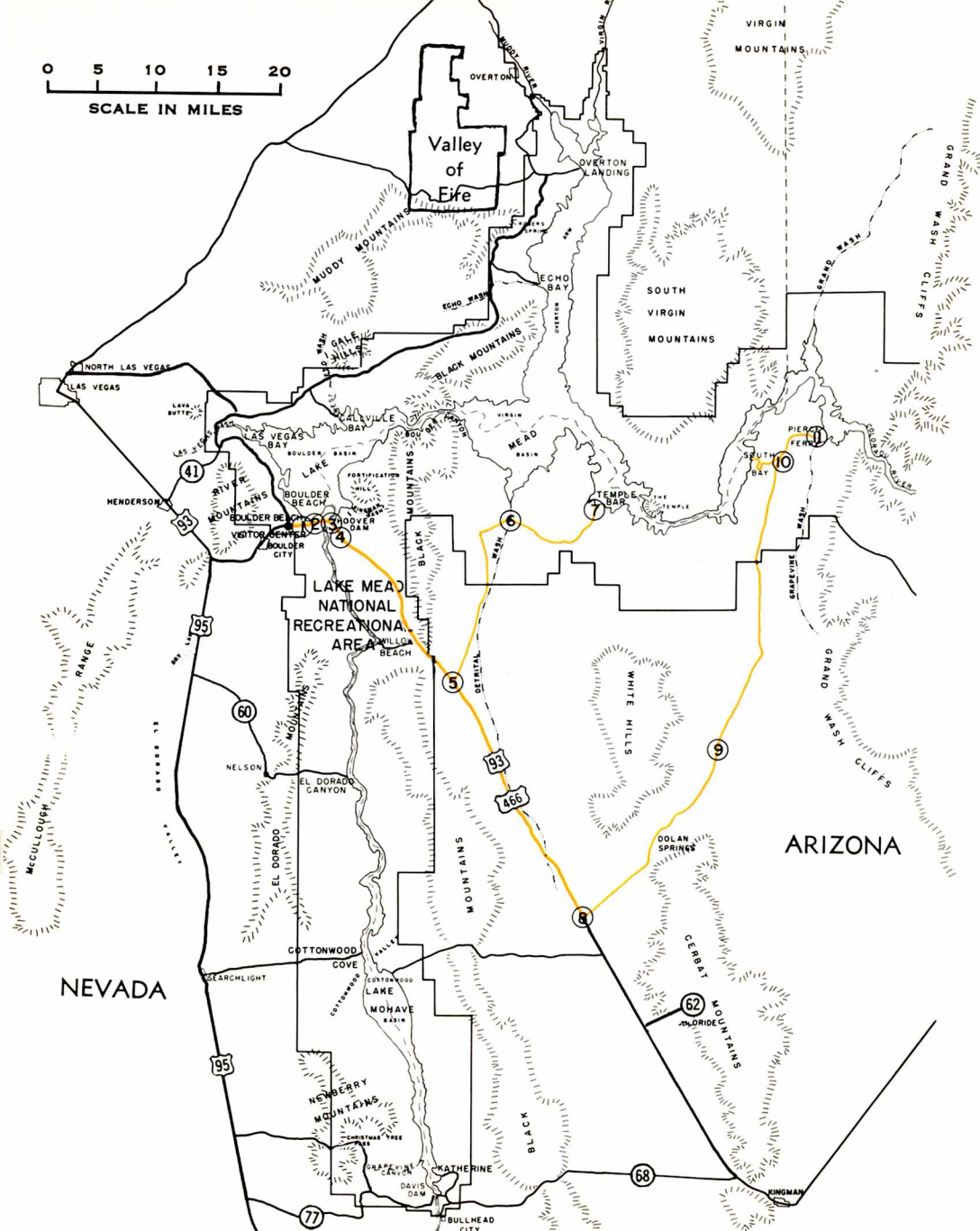
Petroglyphs, such as these in Grapevine Canyon, are priceless bits of your ancient heritage preserved in your National Park System.

This tour continues eastward 20 miles on Nevada Highway 77 to Davis Dam, if you are southbound, or northward along U.S. Highway 95.

U.S. Highway 95 continues southward to Needles, California, a historic crossroads on the Colorado River.

11 **DAVIS DAM** is an earth and rockfill dam, completed in 1953, to store water for irrigation of farmlands downstream along the Colorado River in this country and in Mexico. It also supplies electrical energy to several southwestern cities. Take the self-guided tour of the power plant to learn more about it.

The reservoir, Lake Mohave, provides a superlative recreational resource of national significance.



Arizona - Lake Mead Tour

Arizona - Lake Mead Tour

Colorful rock formations, unusual Mohave Desert plants, and the terminus of the Grand Canyon highlight this tour. Explorers such as Major John Wesley Powell and the early pioneer travelers, viewed this same fascinating region. Today, we do not suffer their hardships and discomforts, but we can share their pleasures and their excitement of discovery.

From the Lake Mead Visitor Center, this tour proceeds eastward across Hoover Dam into Arizona, and to the recreation developments along the southern and eastern shores of Lake Mead.

1 The **GOLD STRIKE INN** development is on a privately owned mining claim surrounded by the Lake Mead National Recreation Area. This is not a concession of the National Park Service.

When the Recreation Area was established, there were numerous private inholdings. The property rights of the owners are respected by the United States Government.

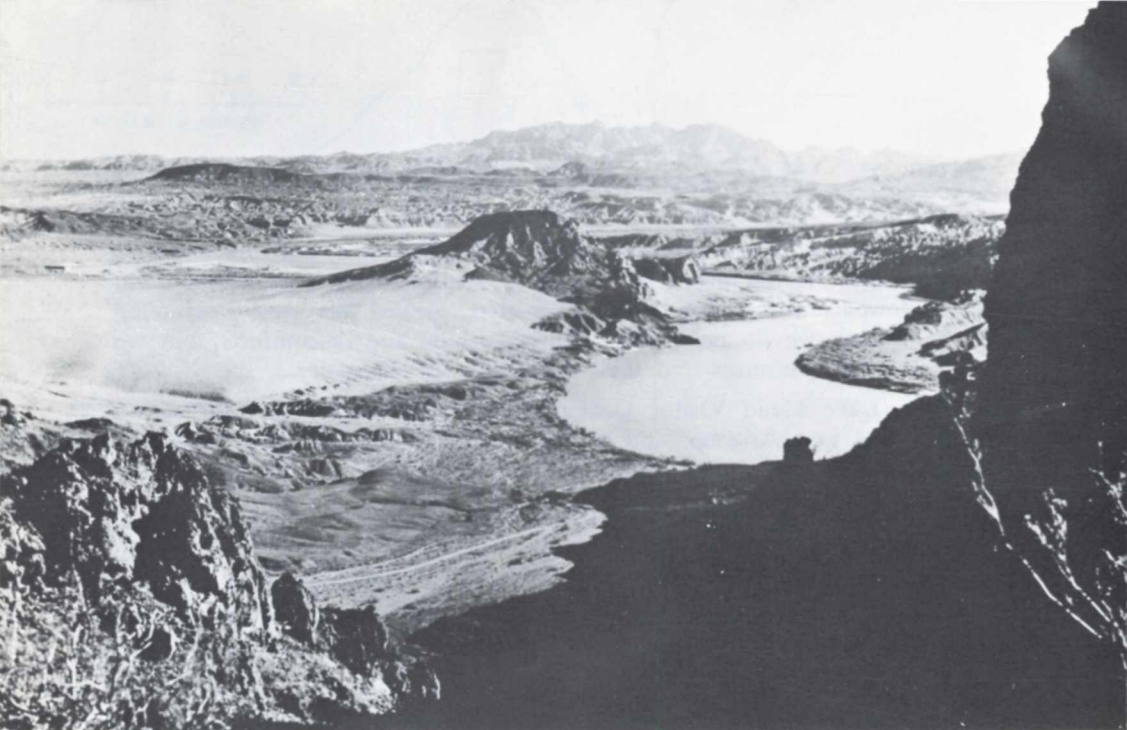
2 **LAKEVIEW POINT** affords a sweeping panorama of the Boulder Basin of Lake Mead (See next two pages). The shape of the Lake reveals the general configuration of the landscape prior to the construction of Hoover Dam. This Basin of open water was a broad gently sloping valley. The islands were small hills standing above the valley floor. Narrow sections of the Lake are steep-walled canyons through which the Colorado River once cascaded over thundering rapids.

The vast beach stretching off into the distance along the left shore is Boulder Beach. Its recreation developments include boat launching ramps, swim beach, campgrounds, marina, and a special events beach where boat and ski races are held.

Water skiers favor the sheltered water immediately below Lakeview Point, especially on windy days.

3 **HOOVER DAM** stands as a great monument to American engineering ingenuity. Completed in 1936, it serves to control floodwaters of the Colorado River, to store irrigation water for farmlands downstream, and to generate electricity for the metropolitan areas of the Southwest.

Originally planned for construction in Boulder Canyon, it was named Boulder Dam. Later, the engineers decided it should be located further downstream, in Black Canyon. Since the original name was no longer fitting, it was changed in 1947 to honor ex-President Herbert Hoover.



Prior to the construction of Hoover Dam, the Colorado River meandered gracefully around rocky prominences in this broad valley.

Visit the Bureau of Reclamation Exhibit Building above the Dam, and take one of the tours conducted through the Dam each day.

4 JUNCTION — U.S. Highway 93-466 and Kingman Wash Road

This scenic dirt road winds 4 miles down to the shore of Lake Mead at **KINGMAN WASH.** Drive carefully, and watch for rough spots ahead, especially after rains.

On such side roads, visitors enjoy the solitude of the more isolated sections of Lake Mead, away from the crowds of the developed areas. Listen to the silence of the desert, sniff the freshness of the air, and notice the brilliance of the sunlight. "Feel" how pleasant this environment is.

Stop along the road and watch closely for the wildlife. Feral burros, whose ancestors carried the gear of early prospectors, thrive here. Sit quietly and scan the slopes for desert bighorn sheep, coyotes, or jackrabbits.

The road ends on the Lake shore at the base of Fortification Hill in the colorful Paint Pots. The oxidation of minerals, especially iron pyrite, produced the reddish colors. Compose imaginative photographs of Lake Mead by "painting" the foregrounds with the vivid hues of the Paint Pots.



Today, this same view from Lakeview Point is filled with the broad Boulder Basin of Lake Mead. The prominent rock hill became Sentinel Island.

Thick flows of basalt, interspersed with freshwater deposits of cemented gravel and sandstone, form the bulk of **FORTIFICATION HILL**. Together these layers comprise the Muddy Creek Formation, one of the youngest formations around Lake Mead. The basalt cap on Fortification Hill is only about 10 million years old.

Erosion carves canyons where the earth's crust has been weakened and fractured along faults. The intervening blocks remain as high mesas, like Fortification Hill. Kingman Wash follows the Horsethief Fault.

5 JUNCTION — U.S. Highway 93-466 and Temple Bar Road

Turn north to Temple Bar where complete modern facilities serve the needs of outdoor recreationists. Fishermen, especially, are attracted to this section of Lake Mead to meet the challenge of the largemouth black bass, rainbow trout, and channel catfish which abound in these waters.

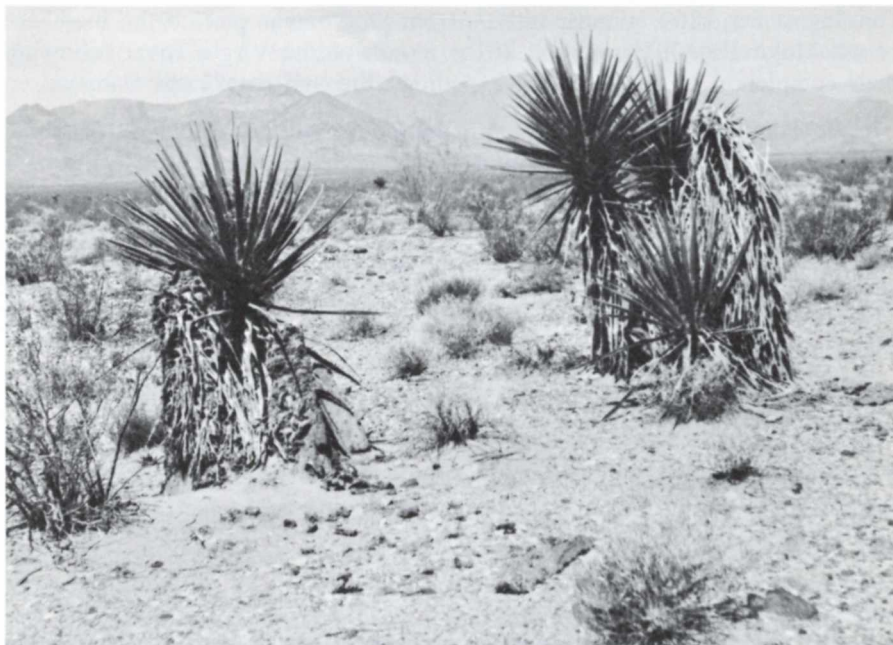
The tall spiny-leaved **MOHAVE YUCCA** thrives along this road to Temple Bar. Many different species of yucca, including the Joshua tree, grow in the Southwest. These unique members of the lily family are often mistakenly called cactuses. The cream colored flowers of the Mohave yucca usually bloom in March and April.



*Not all the wildlife is native. The burro was introduced to America by Europeans.
Early prospectors brought them into the Southwest.*

Yuccas provided the Indians with many useful materials. They wove the leaf fibers into baskets, sandals, mats, and rope. The roots produced “soap”, and the fruits were cooked for food.

The shiny-leaved evergreen **CREOSOTEBUSH** and the small tree **MESQUITE** also grow in various locations along this route. Notice how these two species respond to variations in the abundance of moisture. Drainage from the pavement and the disturbed soil of the road shoulders stimulate growth of vegetation. The roadside creosotebushes are much larger than those just a few yards away. Observe, also, that the mesquite is virtually restricted to the drainages where the meager rainfall is channeled.



The Mohave yucca is but one of many species of yucca in the Southwest. This interesting member of the lily family grows in many locations throughout the Mohave Desert.

This ecological balance is very delicate in the desert. Slight changes in living conditions can drastically affect plants and animals which are adapted very precisely to this arid environment.

6 **DETRITAL WASH** extends southward nearly to Kingman, and drains many square miles of land. Dry washes like this are quickly transformed into muddy torrents following thundershowers. These brief floods carve deeply, shaping the desert landscape, and carry great loads of sand and gravel called detritus. Detrital Wash empties into the Virgin Basin of Lake Mead, near Bonelli Landing.

Bonelli Landing is a primitive camping and boat launching site; a favorite spot of fishermen who like to "rough it" away from the modern campgrounds.

The broad Virgin Basin of Lake Mead occupies the valley surrounding the original junction of the Virgin and Colorado Rivers. This historic river junction was, for many years, the scene of colorful and exciting events which shaped the growth and development of this region. Mormon pioneers settled the valley in the 1860's to farm and mine its great deposits of salt. One of them, Daniel Bonelli, also owned and operated a ferry across the Colorado here for many years.

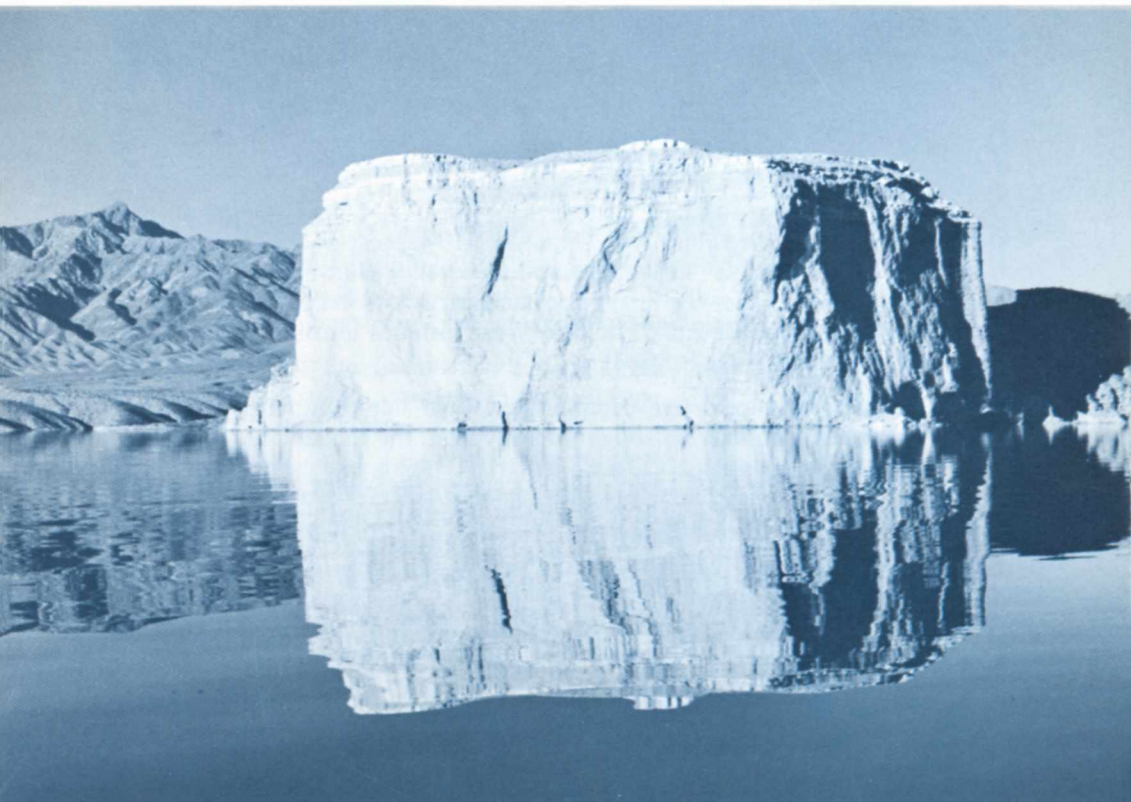
On August 30, 1869, pioneer settlers from St. Thomas greeted the members of the Major Powell Expedition at the mouth of the Virgin River following their completion of the first boat expedition through the Grand Canyon.

7 The primeval Colorado River thundered swiftly through its canyons, but meandered lazily through the open valleys where broad sand bars formed within the arcs of the sweeping meanders. **TEMPLE BAR** was one of these. To Daniel Bonelli, the massive monolith just upstream from Temple Bar resembled his beloved Mormon Temple in Salt Lake City. And so, sometime in the 1870's, he named it the Mormon Temple. Today, the name Temple Bar denotes the recreation development on the south shore of Lake Mead, opposite the Temple.

Erosion shaped the Temple from a thick bed of firmly cemented gravel, one of the sedimentary layers of the Muddy Creek Formation.

The South Virgin Mountains dominate the northern horizon, across the Lake from Temple Bar. Angular Bonelli Peak, elevation 5,334 feet, is the highest appearing point from here.

The Temple towers above the water, across Lake Mead from the recreation facilities at Temple Bar. Bonelli Peak dominates the distant skyline.



Visit the exhibit room in the Temple Bar Ranger Station to learn more about this historic region. Then, drive back to U.S. Highway 93-466 and continue southward to the Pierce Ferry Road.

8 JUNCTION — Highway 93-466 and Dolan Springs-Pierce Ferry Road

This 51 mile oiled road to Pierce Ferry traverses a variety of landscapes including hills, open valleys, rugged canyons, and forests of Joshua tree yuccas. It ends near the bank of the Colorado River just below the terminus of the Grand Canyon. This interesting country has attracted private land developers who offer property for sale.

9 The magnificent **JOSHUATREE YUCCA** dominates the landscape along the road to Pierce Ferry. It occurs naturally only in the biological province known as the Mohave Desert, and so is called the indicator plant of this desert. Joshua trees may reach heights of 30 feet or more.

The Joshua tree and other yuccas are inextricably linked with the small white yucca moth. One cannot survive without the other. The moth pollinates the yucca as it inserts its eggs into the stigmas of the flowers. The ripening fruit capsule serves as a nursery for the moth larvae, while the seeds provide a ready supply of food.

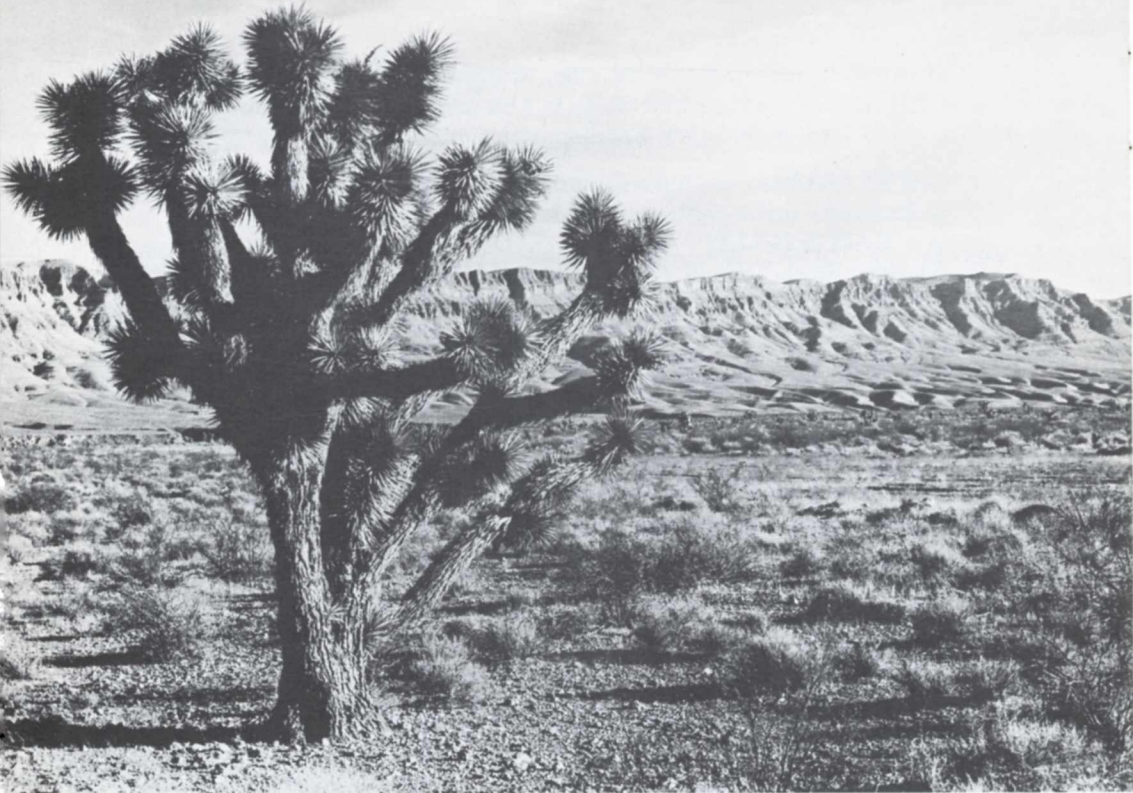
Imagine the effect that careless spraying of insecticides would have on the beautiful stands of yucca in the Southwest.

The very low dark gray shrub growing commonly with the Joshua tree is **BLACKBRUSH**, a hardy member of the rose family. Because of its abundance, the association of blackbrush with Joshua trees and other plants and animals is known as the Blackbrush Community.

10 JUNCTION — Pierce Ferry Road and South Bay Road

The four mile spur road to **SOUTH BAY** provides access to the upper reaches of Lake Mead. The only development there, however, is the excellent paved boat launching ramp. This scenic descent to South Bay offers many colorful opportunities to compose striking photographs of rugged desert canyons and the Lake.

11 In 1876, Harrison Pearce established a ferry crossing of the Colorado River, providing an important link in the transportation route between the Mormon settlements in Utah and the booming mining camps of northwestern Arizona. Over the years, the spelling of the name was changed to **PIERCE FERRY**.



The Grand Wash Cliffs form a dramatic backdrop for the magnificent Joshua trees of the Pierce Ferry region.

To the east, the **GRAND WASH CLIFFS** rise more than 3,000 feet above the River. They mark the abrupt transition between the Basin and Range Province and the vast Colorado Plateau which covers more than 150,000 square miles in Arizona, Utah, Colorado, and New Mexico.

The Grand Wash Cliffs represent a fault, or fracture, of the earth's crust. The high cliffs are the sheared face of the uplifted block of the fault, and are composed of the same rock layers that form the inner walls of Grand Canyon.

The point where the Colorado River emerges through the Grand Wash Cliffs marks the terminus of the **GRAND CANYON**, the mightiest of the long chain of canyons carved through the Colorado Plateau.

Major John Wesley Powell, and his five surviving crewmen, passed through this portal on August 29, 1869, thus completing the first boat expedition through the Grand Canyon. He wrote in his diary:

"The river still runs swift, but we have no serious difficulty, and at twelve o'clock emerge from the Grand Canyon of the Colorado. We are in a valley now, and low mountains are seen in the distance, coming to the river below. We recognize this as the Grand Wash.

"Tonight we camp on the left bank, in a mesquite thicket. The relief from danger, and joy of success, are great."

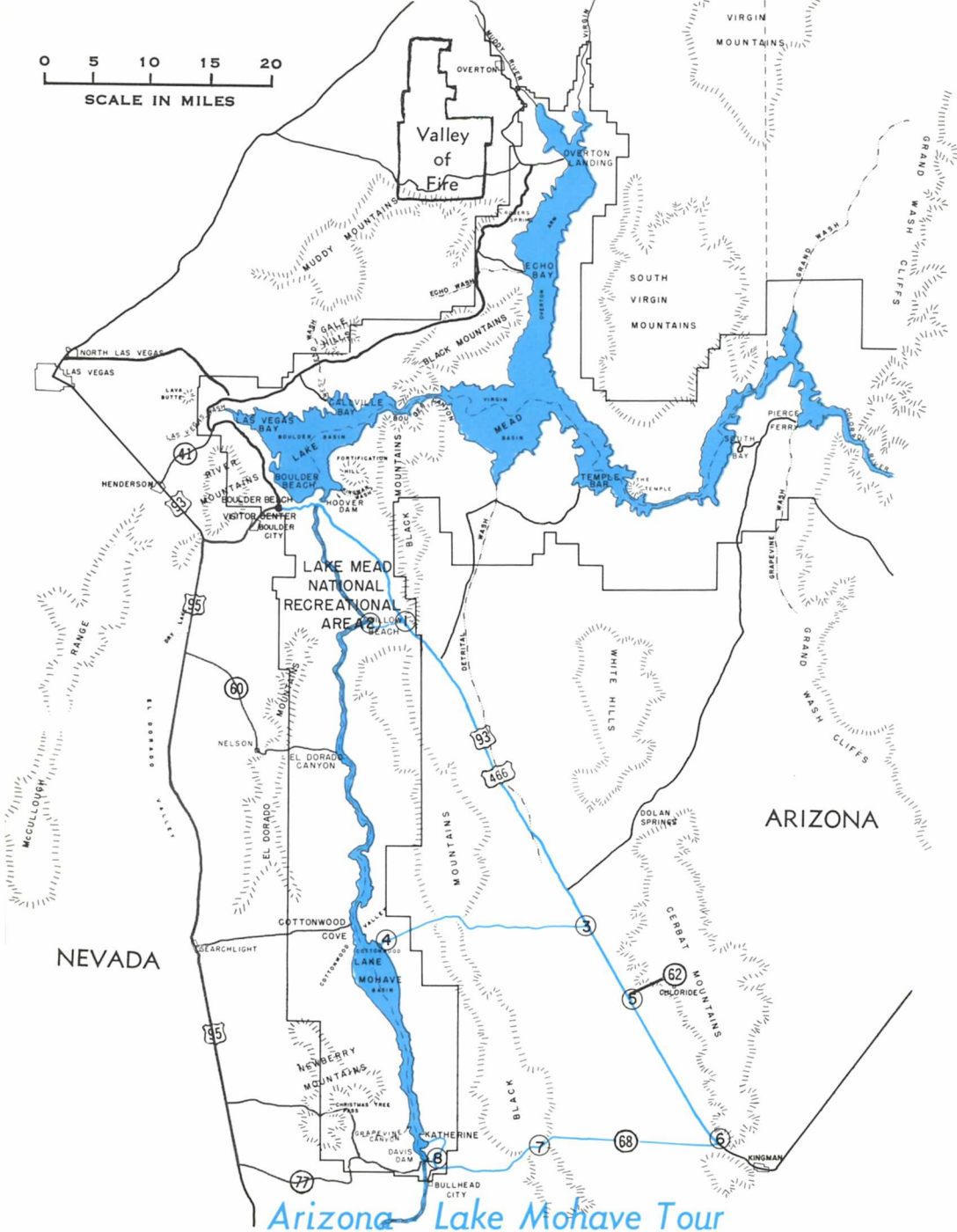
Shooting the rapids of the Colorado River now is exciting outdoor recreation. Several commercial river runners guide thousands of people through the Canyon each year. Most of these expeditions debark at Temple Bar.

Following the completion of Hoover Dam, the waters of Lake Mead backed up into the lower reaches of Grand Canyon, thus flooding the historic crossing at Pierce Ferry. The stilled waters lost their power to carry the great load of silt, sand, and gravel, and so this material settles to the bottom, when it arrives at Lake Mead, forming a delta. The vast mud flats at Pierce Ferry are the upper portions of this delta. This silting-in, followed by the lowering of the Lake level, forced the abandonment of the concession which once operated at Pierce Ferry.

Tamarisk, or saltcedar, now covers these mud flats. This exotic tree was introduced into the United States many years ago from lands along the Mediterranean Sea. It has taken over the water courses of the Southwest.

The Tamarisk consumes large quantities of water, and has virtually dried up some streams. Expensive programs are necessary to eliminate it from those drainages.

0 5 10 15 20
SCALE IN MILES



Arizona Lake Mohave Tour

Arizona - Lake Mohave Tour

The Black Mountains form a massive rampart along the entire eastern shore of Lake Mohave. This tour traverses three scenic passes through these colorful mountains. The first Anglo-American to travel through the Black Mountains was the famous pathfinder Jedediah Smith on his way south to the Mohave villages in 1826. Brilliant displays of wildflowers blanket the slopes along this tour during spring and summer.

1

JUNCTION — U. S. Highway 93-466 and Willow Beach Road

The road between Hoover Dam and the Willow Beach Junction, traverses the western flank of the **BLACK MOUNTAINS**, along a broad slope of cemented gravels which have been eroded from the mountains above. The hard rock which forms the bulk of the Black Mountains is the same ancient granite-like rock found in the Eldorado and McCullough ranges to the west. The Black Mountains reach 5,456 feet in elevation.

LAKE MOHAVE fills the old channel of the Colorado River, in the bottom of the Black Canyon, below the road. Its maximum surface elevation is 647 feet above sea level.

This four-mile spur road descends 1,200 feet to the very bottom of Black Canyon at Willow Beach. Desert wildflowers color the slopes along this scenic drive during the spring and summer. The large magenta flowers of the beavertail cactus and the yellow daisy-like flowers of the brittlebush are especially conspicuous here. Watch also for purple phacelia, goldpoppy, blue lupine, golden evening primrose, and the cream-colored flowers of the rock-nettle.

2

WILLOW BEACH, just eleven miles downstream from Hoover

Dam is the rainbow trout capitol of the Lake Mead National Recreation Area. The waters of Lake Mohave are clear and cold, being drawn from the depths of Lake Mead, and are ideal for this fighting game fish.

The U.S. Bureau of Sport Fisheries and Wildlife operates the Willow Beach Trout Hatchery, and keeps Lake Mohave well stocked. Visit the Hatchery and see how fish are hatched and raised.

The complete facilities and accommodations at Willow Beach fulfill all the needs of campers, boaters, and fishermen.

Willow Beach became an important campsite and trading center for the Indians of this region between 250 B.C. and 1150 A.D. Pottery and textiles from the Pueblos to the north and east, seashells from the west coast, and

local turquoise provided ample material for hours of lively bartering around campfires on the bank of the Colorado River. These prehistoric campsites, excavated by the National Park Service, are now under the waters of Lake Mohave.

In March, 1858, the expedition led by Lt. Ives navigated up the Colorado River into Black Canyon with the steamboat Explorer. Here, the rocks and rapids prevented the boat from going further upstream. Ives and some of his men continued on up to Las Vegas Wash with a small skiff.

The precipitous walls of Black Canyon provide perfect habitat for the desert bighorn sheep. These handsome animals have become accustomed to boats on Lake Mohave, and when viewed quietly, will “pose” majestically for photographs.

Drive back up to U. S. Highway 93-466 to continue this tour.

3 JUNCTION — U.S. Highway 93-466 and Cottonwood Valley Road

This broad valley is the upper end of **DETRITAL WASH** which drains northward into Lake Mead. It lies between the Black Mountains to the west and the Cerbat Mountains to the east.

The name Black Mountains is descriptive of the ancient dark rock which forms the core of this range. Lt. Amiel Whipple named the Cerbat Mountains in 1854. According to him, cerbat was the Coco-Maricopa Indian word for bighorn sheep.

This graded dirt road crosses Detrital Wash, climbs through a scenic pass in the Black Mountains, then descends the gentle slope of Cottonwood Valley to the shore of **LAKE MOHAVE**, a driving distance of 20 miles.

Drive carefully and watch for washouts following heavy rains.

4 Quiet solitude prevails at the **COTTONWOOD VALLEY** primitive campsite. The Lake, the desert, and the shoreline willows blend to create a restful spot to picnic or camp.

Lt. Ives named Cottonwood Valley, in 1858, for the cottonwood trees that grew abundantly here along the Colorado River. The broad basin of Lake Mohave, which now fills the Valley floor, is known as Cottonwood Basin.

Drive back to U. S. Highway 93-466 to continue the tour.

5 JUNCTION — U. S. Highway 93-466 and Arizona Highway 62

CHLORIDE sprang from the foothills of the Cerbat Mountains as a wild and lawless mining camp in the 1880's. By 1900, the population reached 2,000 and several firms were shipping gold, silver, lead, and zinc. Today

a few families still live here. Visit this historic town, but please respect the property rights of mine owners and residents.

6 JUNCTION — U. S. Highway 93-466 and Arizona Highway 68

This tour extends westward toward Davis Dam on Highway 68, or toward Hoover Dam if you are northbound.

KINGMAN (population 9,800) is the industrial and transportation center of northwestern Arizona. There, the Mohave Museum of History and Arts portrays the colorful and exciting history of this region.

7 UNION PASS (Elevation 3,680 feet) has been a primary transportation route through the Black Mountains for many years. Many tons of mining machinery, gold and silver passed over the old narrow wagon road while the mines at Searchlight, Katherine, and Chloride prospered.

Lt. Lorenzo Sitgreaves and guide Antoine Leroux led the first recorded expedition through the Pass in 1851 on their way from Zuni to Fort Yuma.

In his diary of November 5, Lt. Sitgreaves wrote:

“The Pass was . . . exceedingly rough, and bordered by overhanging crags, which it was deemed prudent to occupy before advancing . . . We passed through, however, unmolested and were at length cheered

Union Pass has served as a major route through the Black Mountains for over a century. Prospectors have tapped its rocky cliffs in search of mineral wealth.



by the view of the Colorado River, winding far below through a broad valley . . .”

8 JUNCTION — Arizona Highway 68 and Katherine Road

Turn toward Katherine, or eastward to Kingman if you are northbound.

The complete modern facilities at **KATHERINE** offer many opportunities to enjoy the recreational resources of Lake Mohave. Trout and bass fishing, swimming, and water skiing are especially popular here.

Katherine is situated on the broad gravel slope bordering Lake Mohave. This gravel was deposited in an earlier lake, Lake Chemehuevi, which existed here during the Pleistocene Epoch, within the past 2 million years. Lake Chemehuevi formed when the Colorado River was dammed by a natural barrier. The nature and location of this dam are still unknown, however, the Chemehuevi deposits indicate the Lake was at least 1,000 feet deep and more than 15 miles wide.

Ridges and knobs of granite, containing veins of gold-bearing quartz, protrude up through the gravel beds. Several gold mines prospered in the Katherine Mining District until the 1930's. The largest was the Katherine Mine, named for the sister of one of the early prospectors. The shaft of this mine descended vertically 900 feet below the surface.

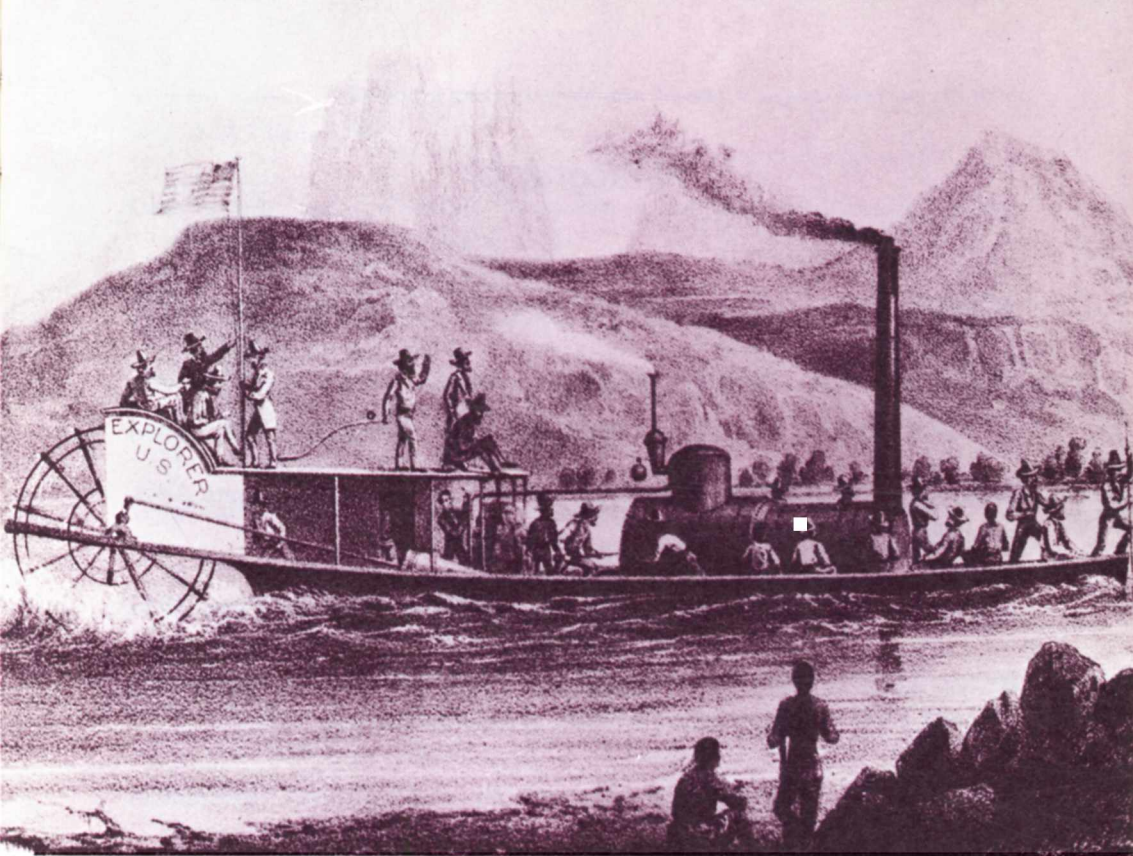
Lt. Ives steamed upstream past this point on February 24, 1858. In his diary, he wrote:

“For several miles our course lay through the foothills, when the river narrowed and entered a cañon through a gate, one side of which looked like the head of a bull.”

Returning downstream a month later, he wrote:

“We have camped . . . under the lee of the Bull's Head rock.”

This famous landmark, now under Lake Mohave, became known as the Bullhead, and was the name source for Bullhead City.



The artist for the Ives expedition sketched the Explorer as she pushed her way up the mighty Colorado in 1858.

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