A Guide to

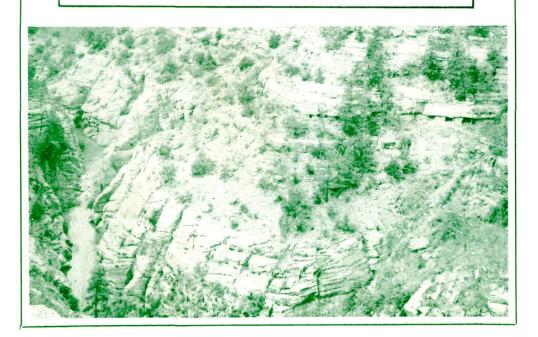
THE "ISLAND" TRAIL

at Walnut Canyon National Monument, Arizona

Published by the SOUTHWESTERN MONUMENTS ASSOCIATION Box 2011 E, Santa Fe, New Mexico



Or you are welcome to use it free of charge, returning it to the register stand when you go.



Please do not collect specimens, pick flowers, or throw rocks.

"Take nothing but pictures; leave nothing but footprints."

U. S. Department of the Interior National Park Service Southwestern National Monuments

THE "ISLAND" TRAIL

A trail begins at the observation point and will take you down and around the "island" in the canyon. It is about five-eighths of a mile round trip. Since the trail makes a loop, you need not turn back; the trail will lead you back to the Observation Point. Most of the walking is almost on the flat, but there is a steep climb of 185 vertical feet out of the canyon.

You will be lead directly to two well-preserved ruins on the other side of the "island," and will be able to see more than 100 of the 400 little cliff dwellings in Walnut Canyon.

Numbered markers along the trail refer to sections in this booklet, which explain things of interest at each marker.

If you have any questions not answered by this booklet, the ranger on duty will be glad to answer them.

When you come to a numbered marker, read the paragraph with that number.

- (1) CLIFF ROSE (Cowania stansburiana). Sometimes called Quinine Bush because the leaves leave a bitter after-taste when stewed. The blossoms appear at various times from early spring to late fall and have a sweet fragrance. They resemble small, whitish-yellow, 5-sepaled wild roses. During the winter months the leaves are an important item of the diet of deer, and Indians are reported to have stewed the bark to make a medicine.
- (2) PINYON PINE or PINYON (Pinus edulis). In good years the "nuts" were very important as food for cliff dwellers and even today tons of them are used or marketed each fall by the Southwestern Indians, particularly Navahos. The cones mature in the fall of the second year and contain from 2 to 30 edible seeds about the size of a coffee bean. Their thin shell can be cracked with the teeth, and although tedious to eat, they are nutritious. Pitch from pinyon trees was used by the Indians for medicinal purposes, for waterproofing baskets, for attaching arrow points to shafts, etc.
- (3) ROCKY MOUNTAIN JUNIPER (Juniperus scopulorum). Bark was used to pad cradles, to make sandals, etc. Also to make torches when mining turquoise and salt. The berries were used for medicine and making beads. They are eaten sparingly by nearly all kinds of wildlife. The wood is good for fuel.

(4) MOUNTAIN MAHOGANY (Cercocarpus eximius). The dead wood from this shrub makes a very hot fire with little smoke. A decoction of the roots of this plant when mixed with juniper ashes and powdered bark of alder forms a red dye.

SNAKES

No poisonous snakes are found in this area. In summer the Coral King snake with colorful black, white, and orange-red bands may be seen. This snake is harmless and should not be molested.

(5) THESE OVERHANGING LEDGES were used by pre-Columbian Indians as roofs for their houses, which could be completed by the construction of only front and side walls.

Weathering formed the ledges—moisture seeps behind the surface of the softer layers of limestone, and when it freezes and expands, cracks off thin pieces of rock. This process is called differential weathering or exfoliation.

From this point several ruins can be seen under similar ledges on the north side of the canyon.

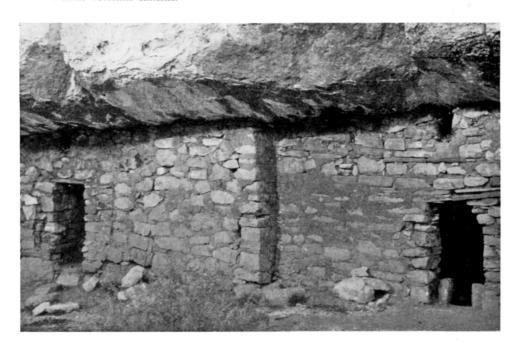
- (6) FREMONT MAHONIA (Mahonia fremonti). The berries were used for food and a yellow dye was made from the wood. The root bark has medicinal properties. Some tribes made their bows from this wood. It is a winter browse for deer.
- (7) LITTLE REMAINS OF THESE ROOMS but piles of rubble. Most of the damage was done by vandals. Portions of only two walls are standing. Note the room directly across the canyon—this dwelling is in an excellent state of preservation. Originally the walls were coated with a layer of adobe so that none of the rocks were visible. Notice the T-shaped doorway. Apparently the balanced rock on the rim above this room did not frighten the Indian builders.

All of the cliff ruins are found in the upper layer of rock that forms the canyon. This layer is known as the Kaibab Limestone, and it is the same formation that composes the rim of Grand Canyon. It was formed in the Permian period of 200 million years ago, and this area was at the bottom of the sea.

The lower layer, which makes up the inner gorge of the canyon, is Toroweap Sandstone. Because of the way it was laid down, geologists say it is a flood plain deposit. See how the sandstone opposite seems to be made up of large wedges of rock. They are known as cross-laminations. (8) YOU ARE NOW HALFWAY around the trail. Note the types of vegetation found here. Some of these plants are typical of the deserts in the southern part of Arizona and grow here because this slope receives the sun during most of the day.

The trail leads upward here. Please follow the steps.

(9) TORREY EPHEDRA or MORMON TEA (Ephedra torreyana). This shrub with its green stems and very small leaves, is able to withstand great drought. A pleasant bitter tea may be brewed from the stems which contain tannin.



(10) THESE ARE THE BEST PRESERVED RUINS on the trail. Some restoration has been done around the doorways, using a dark mud to distinguish it from the original. The black soot deposit on the ceilings is the result of using pitch pine for fuel. The fireplace was in the center of the room, and smoke escaped through the small opening above the door. In cold weather a skin, blanket, or mat could have been hung over the doorway to keep out the cold. The floor was hard-packed mud, not the fine dust underfoot today.

Each room may have housed a family of about four or five. They built terraces in front of each set of rooms to serve as dooryards.

(11) IF YOU LOOK CLOSELY at the inside walls of this room, you will see handprints of the women who plastered it—prints placed here long before America was discovered. Since so many people wish

to see them, we ask that you do not touch the wall; otherwise in a few years the handprints would be completely obliterated. Once gone, they could never be replaced.

Note the smoke-blackened rocks inside the wall itself. They show that some rocks were re-used from a still earlier dwelling, probably constructed on the same site.

- (12) BY THE "TREE RING" METHOD of dating ruins, the following dates for some of these dwellings are known: 888, 933, 911, and 1103 A.D. It is believed that the major period of occupation extended from 1000 A.D. to some time after 1200.
- (13) THIS FINE OVERHANGING LEDGE once contained five rooms of which only a few walls are left.

The vegetation here is different than it was at point No. 3. You are now on the northwest side of the "island" which receives little sun, is colder and has vegetation found in the great forests of the northern United States.

- (14) DOUGLAS FIR (Pseudotsuga taxifolia). This tree requires more moisture than is found on the south side of the "island." The wood is harder, stronger, and more durable than pine. Douglas fir and white fir are the conspicuous trees on the canyon walls facing north while pinyon and juniper are dominant on the walls facing south.
- (15) ELDERBERRY (Sambucus cerulea neomexicana). The blueblack berries are eagerly consumed by birds and small animals. They are also put to present day use in jams, jellies, and pies.
- (16) PONDEROSA PINE (also known under 23 other common names.) (Pinus ponderosa). The leaves (needles) occur in groups of three and are 5 to 11 inches in length. The trees reach an age of 350 to 500 years, and are considered the most important lumber tree of the Rocky Mountain region. Indians in the Rocky Mountain region are reported to have stripped and eaten the living cambium tissue just beneath the bark.
- (17) THIS WAS at one time an extensive string of rooms. There are the remains of a fireplace near the center of the last room. This pit is almost obliterated, so please do not walk on it.

Numerous rooms may be seen from this point on this side of the canyon. The trail will soon lead upward and to your right.

If you stop and rest occasionally on the climb out, you'll feel less strain. We sincerely hope that you have enjoyed your visit.

GENERAL

Walnut Canyon National Monument takes its name from the black walnut trees found at the bottom of the canyon. Although walnut trees are commonly found in the lower elevations of Arizona, it is unusual to find them at an elevation of nearly 6,700 feet.

The national monument was established by proclamation of President Woodrow Wilson on November 30, 1915, to protect the ancient cliff dwellings of a vanished people. These remains are of great ethnologic, scientific, and educational interest and it is the purpose of the National Park Service to preserve them as near as possible in their original state. Small sections of fallen walls have been repaired and some of the mud plaster or mortar replaced but no room is more than ten per cent repaired.

The cliff dwellings were discovered by pioneers and in 1883 James Stevenson visited Walnut Canyon for the Smithsonian Institution. For many years the main road from Flagstaff to Winslow, now Highway 66, ran within a few rods of Walnut Canyon and brought numerous visitors even in horse and buggy days. Promiscuous digging in Indian Ruins, "pot hunting," was then a popular pastime and the remains of Walnut Canyon suffered from thoughtless individuals who were seeking relics.

In 1921 Dr. Harold S. Colton, director of the Museum of Northern Arizona, made a survey of the cliff dwellings in Walnut Canyon and located 120 sites, which include more than 400 rooms. Perhaps not all the rooms were occupied at the same time but conservative estimates place the maximum population at 500 to 600 Indians.

WHY THE INDIANS LIVED IN WALNUT CANYON

It is believed that a permanent stream was found in Walnut Canyon when the Indians built their homes. In fact, a few miles down stream at Winona there was a sizeable settlement that must have drawn its water from Walnut Creek or from ponds and streams then found in the vicinity. There would be water almost constantly in the canyon even yet, if it were not for Lake Mary, an artificial lake developed on the headwaters of Walnut Creek in 1904. Walnut Canyon is about 400 feet deep and the Indians lived about half way down the side. This required a lot of arduous climbing whenever they went for water, to gather fire wood, to cultivate the fields, or to meet any of their daily needs.

It appears that the Indians' choice of a homesite in the canyon was

guided mainly by where they found natural caves, which might explain why the Indians selected this particular part of the canyon rather than some spot a few miles up or down the stream. Here, too, the main canyon could be entered from a side canyon leading in from the north and emerging practically on the level where most of the cliff dwellings are found. Perhaps the Indians first chose the caves which received the most sunlight in winter, because of the warmth that was gained. As the settlement grew, some families were obliged to live in the less desirable caves which remained shaded throughout the cold days of winter.

Not only was there water and natural shelter in Walnut Canyon, but there was tillable land not far away where crops would mature without irrigation. The average annual precipitation is about 20 inches and the crops seen from Highways 66 and 89 depend upon rainfall. The cliff dwellers were farmers, as shown by the remains of beans, squash, and the corn cobs found in their homes. Several varieties of both corn and beans were produced.

A few miles to the north of Walnut Canyon there was a settlement now known as Elden Pueblo. To support the inhabitants, several acres of land were brought under cultivation. The only apparent source of water was a spring about one mile distant, a source more remote than for the Indians in Walnut Canyon.

CLIFF DWELLERS AS FARMERS

Soil near the canyon's rim is too shallow and rocky to produce a crop, but by traveling two or three miles to the north, land could be found where the soil is deep enough to retain moisture. Here seeds could be planted with a sharpened stick and tended with a stone hoe. No doubt the cliff dwellers had summer camps near these fields where black-eyed watchers maintained constant vigil to keep away birds and squirrels seeking to dig up the seeds, and later, the deer, rabbits, and other animals that came to eat the tender plants. What a struggle it must have been to raise crops without benefit of steel tools, fences, insecticides, and other advantages now considered necessary!

The Indians farmed at the upper limit of elevations where corn, beans, and squash may be expected to mature because of the short growing season which is usually not more than 115 days. Since they had no Weather Bureau, they may have observed the vegetation like certain eastern Indians who watched the oaks until the first leaves were as large as a red squirrel's foot when they knew it was time to plant their corn. However, there must have been unseasonal frosts such as occurred on August 15, 1949, when present day farmers in this vicinity found their crops severely damaged or completely ruined. Then is when the Indians needed a reserve supply of seed for next year's planting.

Sunflower seeds were also found in the dwellings but whether these were cultivated or gathered from wild varieties still abundant in this vicinity is not known.

An understanding of the cliff dweller's farming activities may be approached by studying the Hopi Indians who live on a reservation about 70 miles north of Winslow, Arizona. Most families have a farm or garden plot where corn, beans, and squash are still the principal crops. At Hotevilla some gardens are found on a terraced hillside, each garden with an embankment around it to retain moisture, and producing a pattern resembling a waffle when seen from above. Some Hopis travel four or five miles on foot each day to cultivate their fields and return home with the setting sun.

THE CLIFF DWELLERS AS GATHERERS

Wild fruits which could be gathered by the cliff dwellers include grapes and elderberries, both of which are found in the canyon. There is also a wild potato sometimes found in the canyon bottom. The tubers are small, seldom as large as small cherries. Perhaps these were eaten with a seasoning of clay, as is the Hopi custom of today. These Indians are known to eat a salty clay with the wild potato and the berries of Lycium. This particular clay counteracts the acid which would otherwise make the foods inedible.

Walnut Canyon produces several annual plants which could be boiled and eaten as greens. These include cleome or bee weed, lambs quarter, and mustard.

THE CLIFF DWELLERS AS HUNTERS

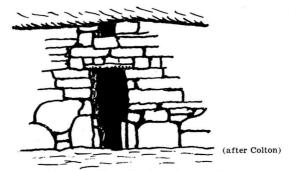
Among the remains of these ancient people, archeologists find bones from deer, antelope, turkey, rabbits, and various waterfowl. Present day visitors are often delighted to see deer or antelope along the approach roads to Walnut Canyon and occasionally turkeys are seen. These are native wild turkeys which in some parts of Arizona are found in sufficient numbers to permit a limited hunting season.

Animals considered good food by living Indians include coyote, wolf, fox, dog, wild cat, porcupine, beaver, badger, squirrel, gopher, kangeroo rat, and pack rat. From the scant evidence at hand, it appears that the pre-Columbian cliff dwellers ate the same animals.

Game could be taken with snares and traps or with arrows. Since each arrow was slightly different from the others, the hunter must have familiarized himself with its peculiarities and probably had to approach to within 50 yards or less of the game.

CONSTRUCTION OF A HOME

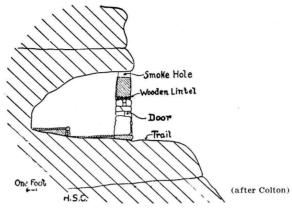
Once the cliff dweller family had selected a cave, they did very little to enlarge it. Most of the cliff cavities are rather shallow and extend back into the cliff no more than 10 to 12 feet. The Indians closed these cavities with masonry walls and partitioned off the rooms. Walls were constructed from rough chunks of limestone gathered wherever they could be found. Apparently there were no quarries. The stones were laid up to form a double wall with the straight faces turned to the outside and the center filled with rubble. Mud was used for both mortar and plaster, in fact most of the mortar and plaster seen in the cliff dwellings today was produced by the Indian builders. Because of humus and foreign matter in the soil there is little on the canyon ledges which is suitable for mortar. However, a layer of clay is found about 100 feet above the stream bed. This, when pulverized and mixed with water, would produce a satisfactory building material.



Door of a Cliff Dwelling Showing Smoke Hole

The rooms vary in size, according to the amount of space available, with an average of about 170 square feet of floor space. The outer wall was set back far enough under the ledge so that rain water running down the cliff would drip down outside the wall. The floors were made from hard-packed clay used in sufficient quantity to produce a fairly level surface. Some rooms examined in 1948 were found to have as many as 10 thin layers, none of which exceeded three-eights of an inch in thickness. Each layer was separated from the other by accumulations of ash and household refuse. The impression is gained that it was easier to lay a new floor than it was to sweep. The back of the cave was sometimes higher than the outside and this might be floored separately to form a slightly raised platform or bench.

Little wood was used in the construction of a home since the cave shelter had a solid rock roof. There were pole lintels over the doors and apparently a few pegs set into the walls for supporting garments or other paraphernalia.



Section of Cliff Dwelling

Construction tools included stone axes, hammers, and picks. In those tools that were hafted, a groove was made three-fourths of the way around the stone to retain a stick bent into the shape of the letter "J" and lashed to form a handle.

COOKING

Firepits were found in most of the dwellings. These were usually directly in front of the door four or five feet inside the room. Smoke vents were placed above the door at the top of the wall against the cave roof. Not all the smoke found its way out, as can be seen where the walls and roofs of many rooms are still heavily smoke-blackened. However, there seems to have been a definite attempt to develop circulation of air by adjusting the size of the smoke vent and the door opening.

Fires were kindled with a wooden spindle rotated on a hearth-stick until friction ignited tinder. The spindle might be made from holly grape, the hearth-stick from yucca, and the tinder from shredded juniper bark.

Clay pots were used for cooking vessels. These were placed directly over the fire and were able to withstand considerable heat. Some cooking may have been done over with a flat rock or comal used as a griddle, and other foods could be broiled over the coals.

There was little opportunity for seasoning food. Salt could be obtained from the Verde Valley near Montezuma Castle about 75 miles to the south. No doubt salt was an item of barter which was eagerly sought, and instead of being found in the daily diet it may have been used almost like a confection.

For sweetening they may have used mescal or century plant. Cactus fruits and dried squash are said to have been used.

A "lemonade" beverage could be made from the berries of sumac found occasionally on the monument.

WHO WERE THE CLIFF DWELLERS?

Pueblo Indians are distinguished by a combination of three culture traits. These are the construction of communal houses, the practice of agriculture, and the making of pottery. All these traits were exhibited by the cliff dwellers in Walnut Canyon. Archeologists designate them as the Sinagua, and place them into the broad classification of the Pueblo III period which marked the zenith of the prehistoric Pueblo culture. There are no kivas in Walnut Canyon. The masontry is usually not coursed, perhaps because of the rough building material available.

The predominate pottery is a polished brown ware. Some decorated pottery with black designs on a white background was found. This is regarded as trade ware imported into the area.

Burials were scattered. Apparently some were made along the walls just outside the rooms, but there was no orderly burial ground. Bodies of the Sinagua were usually buried in an extended position.

WHY DID THE CLIFF DWELLERS LEAVE?

Three forces which may have worked singly or in combination to displace the cliff dwellers were drouth, enemy raids, and insanitary conditions. One of the most probable causes of abandonment was drouth. The cliff dwellers may have found it necessary to augment their water supply by making earthen dams along the lower side of natural pools. With only a slight decline in annual precipitation the stream would fail entirely in early summer and disrupt the entire community.

A study of tree rings reveals that a 23-year drouth prevailed in the Southwest from 1276 to 1299 A.D. It appears that the Walnut Canyon cliff dwellers were gone before that time and perhaps they were displaced by an earlier drouth of less duration.

A careful study of most cliff dwellings reveals a concern for protection, although we are unable to identify the enemies. The builders seem to have followed a slogan, "The more inaccessible, the better," with some cliff dwellings more difficult to reach than those in Walnut Canyon.

It is also likely that insanitary conditions took their toll. At Montezuma Castle there is evidence that the cliff dwellers enjoyed flies, yet there were no screens for the doors or smoke vents. Even today some Hopi Indians live in pueblos housing as many as 200 people without benefit of plumbing. Some of their toilets are open-air affairs that appears to be used by several families.

It is doubtful that all the cliff dwellers perished but rather that their blood flows in the veins of some of the living Pueblo Indians. The Hopis are said to have legends which indicate their ancestors once lived in cliff caves. Hopi Indian visitors sometimes comment on the cliff dwellings being the homes of their ancestors and there is some evidence to support this. Hopi Indians are of the same basic type which inhabited Walnut Canyon. Studies made on the cliff dweller's physical remains reveal they were a short, stocky people much like the Hopis of today.

ARTS, CRAFTS, AND ORNAMENTS

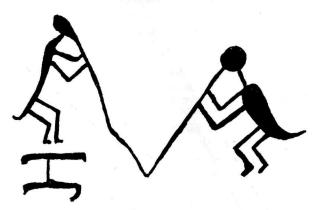
In addition to pottery making, the Indians did some weaving and basket making. They were acquainted with cotton textiles, and since cotton would not mature at this elevation, they must have traded for raw cotton or the finished products. We do not know what style of clothes these people wore but we may believe they liked shell beads, pendants, armlets, paint of several colors, and lignite buttons.

Turquoise was possessed by some. The nearest known sources are several miles distant where it is mined from solid rock with stone and wooden tools.

Some shells were imported from points as distant as the Gulf of Mexico over trade routes that have been well defined.

Petroglyphs are rare in the region, perhaps because of the absence of flat sandstone on which to work. The rock pictures have been found at only one spot in the bottom of the canyon and here they are few.

Some families may have possessed macaws since their bones were found in other prehistoric dwellings not far away. Bones of the American raven were found in Nalakihu, a ruin near the Citadel in Wupatki National Monument, ind in the Winona Ruin near Walnut Canyon.



Petroglyph cut on the walls of Walnut Canyon, below the "island."

FLORA AND FAUNA

Walnut Canyon National Monument is found at the junction of the pine with the pinyon and juniper belt. Ponderosa pine trees grow on both sides of the canyon and have golden brown bark. The shorter trees are pinyon or juniper, four species of which are known to occur on the monument. There are scattered clumps of Gambel oak, and several perennial shrubs of smaller size. One hundred and sixty plant species have been collected, identified, and filed in the herbarium. Several varieties of penstemon are seen in summer and the Evening primrose is common.

In addition to the animals mentioned elsewhere, visitors in the warm months may see two kinds of squirrels and numerous birds including the raven, turkey buzzard, Stellar jay, nuthatch, and others. In summer, lizards are common and are often found on the outside walls or benches of the museum where they seem to be studying the visitors with considerable interest.

APPROACHES AND FACILITIES

Walnut Canyon is located on a dirt road which forms a loop off from Highway 66. From the east the entrance gate is about four miles from the paved road and from the west about seven.

There are no overnight accommodations or camp ground on the monument but there is a picnic area. Flagstaff, Arizona, where meals and lodging may be found, is 12 miles from the monument.

There is a superintendent and a ranger in residence on the monument and it is open the year around. However, the season of most desirable weather extends from April 1 to November 1.

There is a museum which has two principal objectives, one to acquaint visitors with the life of the ancient cliff dwellers, and the other to direct his attention to the living Pueblo Indians or to points of interest in the vicinity.

PLEASE NOTICE

Many persons visit here each day. If each will preserve the wild flowers, and protect the ruins from defacement, Walnut Canyon will remain a lovely place for future visitors to enjoy. For this reason it is also asked that picnickers leave a dead fire and a clean camp in the designated picnic area.

Because the wild animals—birds, squirrels, foxes, turkeys, etc.—become tame and trusting in this, their protected refuge, domestic pets should not be allowed to harm them, and must be kept on leash or in cars.

A carelessly dropped cigarette stub or match could cause a serious fire in this dry country.

If you smoke, please be very careful while on the trail.

Your suggestions and cooperation will be sincerely appreciated.

This national monument contains 1,642 acres. Most of it is forested and at times the fire hazard is extreme. Please help us maintain a record of no serious fires, and LET'S KEEP IT CLEAN.

Walnut Canyon National Monument, a unit of the National Park System, is one of the 25 national monuments administered by the General Superintendent, Southwestern National Monuments, National Park Service, Department of the Interior, Santa Fe, New Mexico.

The traveling public is becoming increasingly aware of the national monuments, which have received less publicity than the great, wellknown National Parks, yet which possess extremely interesting features.

Many of these are in the Southwest; we hope you will take the opportunity to visit one or more of them on your trip.

Administered as a group by the General Superintendent, Southwestern National Monuments, Santa Fe, New Mexico

IN COLORADO:

Great Sand Dunes National Monument, Mosca

IN UTAH:

Arches National Monument, Moab

Natural Bridges National Monument (care of Arches) Rainbow Bridge National Monument (care of Navajo)

IN NEW MEXICO:

Aztec Ruins National Monument, Aztec Bandelier National Monument, Santa Fe Capulin National Monument, Capulin Chaco Canyon National Monument, Bloomfield

El Morro National Monument, Ramah

Gila Cliff Dwellings National Monument (care of Gen'l Supt.)

Gran Quivira National Monument, Gran Quivira White Sands National Monument, Alamogordo

IN ARIZONA:

Canyon de Chelly National Monument, Chinle Casa Grande National Monument, Coolidge Chiricahua National Monument, Dos Cabezas Montezuma Castle National Monument, Camp Verde Navajo National Monument, Tonalea Organ Pipe National Monument, Ajo

Saguaro National Monument, Rt. 8, Box 520, Tucson Sunset Crater National Monument (care of Wupatki)

Tonto National Monument, Roosevelt Tumacacori National Monument, Tumacacori Tuzigoot National Monument, Clarkdale Walnut Canyon National Monument, Flagstaff

Wupatki National Monument, Flagstaff

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Zion National Monument, Utah

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which is a non-profit distributing organization pledged to aid in the preservation and interpretation of Southwestern natural and historic features of outstanding national interest.

The Association lists for sale many interesting and authentic publications for adults and children and color slides on Southwestern subjects. These make fine gifts for birthdays, parties, and special occasions, and many prove to be of value to children in their school work and hobbies.

May we recommend, for instance, the following items which give additional information on Walnut Canyon National Monument and the surrounding area?

3.	ARIZONA'S NATIONAL MONUMENTS. King, ed. Comprehensive chapters, written by rangers, on the 16 monuments in the state and Grand Canyon. Beautifully illustrated, maps, 116 pp., 8 color pages
6.	GRAND CANYON COUNTRY. Tillotson and Taylor. Guidebook to geology, wildlife, history, and recreation. 108 pp., illus. \$1.50
12.	ARIZONA, A STATE GUIDE. Compiled by W.P.A. 530 pp., illus\$4.50
13.	SCENIC GUIDE TO ARIZONA. Johnson. Excellent dictionary-style description 104 pp., maps., illus., paper (dealer discounts granted)\$1.50
14.	ARIZONA, LAND OF FAIR COLOR. Reprints of the unexcelled color pages from Arizona Highways Magazine. Contents vary with each edition. 88 pp., stiff cover, plastic clasp binding \$1.50
99.	ANCIENT LANDSCAPES. McKee. Popular geology of the Grand Canyon and surrounding region. Paper, illus. \$0.50
650.	EXPLORING OUR PREHISTORIC INDIAN RUINS. Butcher. Well-illustrated descriptions of all of the archeological national monuments of the National Park System. 64 pp., paper

For the complete sales list of more than 220 publications and 570 color slides on Southwestern Indians, geology, ruins, plants, animals, history, etc., ask the Ranger or you can obtain one by mail by writing the

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