

DEPARTMENT OF THE INTERIOR

REPORT ON

SULLYS HILL PARK, CASA GRANDE RUIN; THE
MUIR WOODS, PETRIFIED FOREST, AND OTHER
NATIONAL MONUMENTS, INCLUDING
LIST OF BIRD RESERVES

1915

COMPILED IN THE OFFICE OF
THE SECRETARY OF THE INTERIOR



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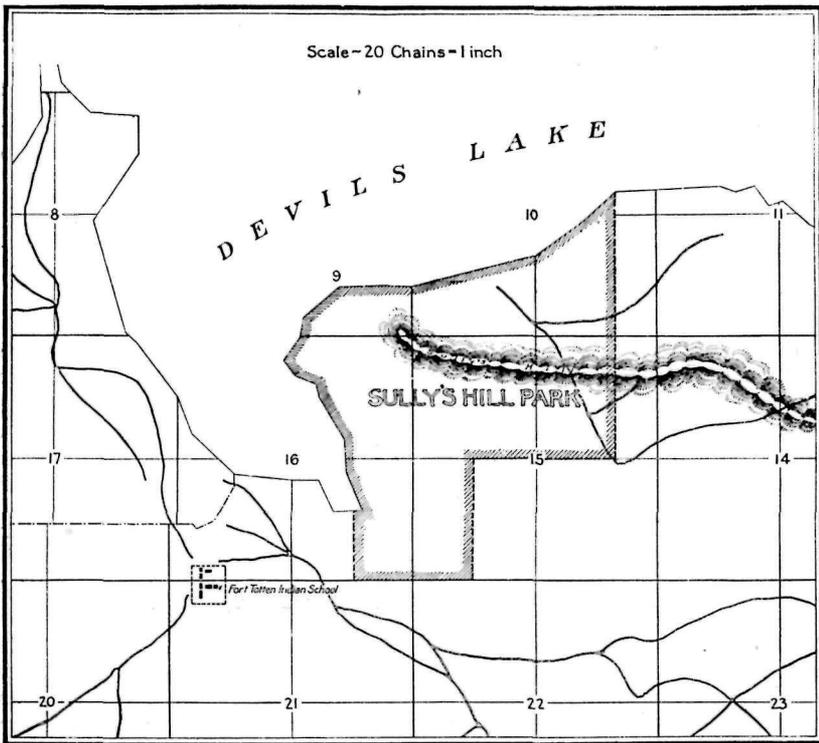
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REPORT ON SULLYS HILL PARK, CASA GRANDE RUIN; THE
MUIR WOODS, PETRIFIED FOREST, AND OTHER NATIONAL
MONUMENTS; TOGETHER WITH LIST OF BIRD RESERVES.

SULLYS HILL PARK.

This reservation, set aside by Executive proclamation dated June 2, 1904, under the act approved April 27, 1904 (33 Stat., 319), contains about 780 acres. It is located on the south shore of Devils



Map of Sullys Hill Park.

Lake, N. Dak., having about 2 miles of shore line, with its western boundary 1 mile east of the Fort Totten Indian School. Inasmuch as no appropriation has been made for the care and protection of this reservation, Mr. Charles M. Ziebach, in charge of the Indian industrial school (Fort Totten), has been continued as acting superintendent, and required to exercise the necessary supervision and control over the park until appropriation is made therefor by Congress.

The tract is well wooded and has an ample supply of water and many rugged hills, among which, on the western boundary, lies what is known as Sullys Hill. In the southwestern part is a small body of water known as Sweet Water Lake, west of which the surface is generally level and the soil good. The acting superintendent in his report for 1915 states:

No appropriation has ever been made for the maintenance of this park, and no improvements have ever been placed in it other than cutting out a few trails through the timber for roads and cleaning up a small tract near a fresh-water lake in the park for picnic grounds. Nothing as yet has been done toward making permanent roads or otherwise beautifying the grounds. The natural beauties of the park and its popularity as a picnic ground have drawn an aggregate of about 1,000 people to the place for a short time. A very small portion of these people have spent a single night in the park, and none, as far as known, have camped in the park for a longer time.

Appropriations aggregating \$10,000 have been made by Congress for the establishment and maintenance of a game preserve in this park, and it is anticipated that if such improvement is made as is intended by these acts, and a game preserve established it will draw more people to the place and eventually become one of the most attractive beauty spots in this State.

There should be some permanent roads built in this park, so as to make it more accessible to the public. A dock should be built on the lake shore, so that launches could draw up to it for a landing. The beach on the shore of Devils Lake is one of the best bathing beaches on the lake. Some bathhouses should be built and other minor improvements of this character made. A suitable residence should be constructed for a caretaker, and one employed.

An appropriation of about \$10,000 would improve this park so that it would be accessible to the public, and would make it one of the most noted resorts in the State.

CASA GRANDE RUIN.

This reservation is located near Florence, Ariz., about 18 miles northeast of Casa Grande station, on the Southern Pacific Railway, and contains about 480 acres. It was set aside by Executive order dated June 22, 1892, under the act approved March 2, 1889 (25 Stat., 961). By presidential proclamation of December 10, 1909, the boundaries of the reservation were changed by the elimination of 120 acres on which there were no prehistoric ruins and the inclusion of a tract of 120 acres adjoining the reservation on the east on which are located important mounds of historic and scientific interest.

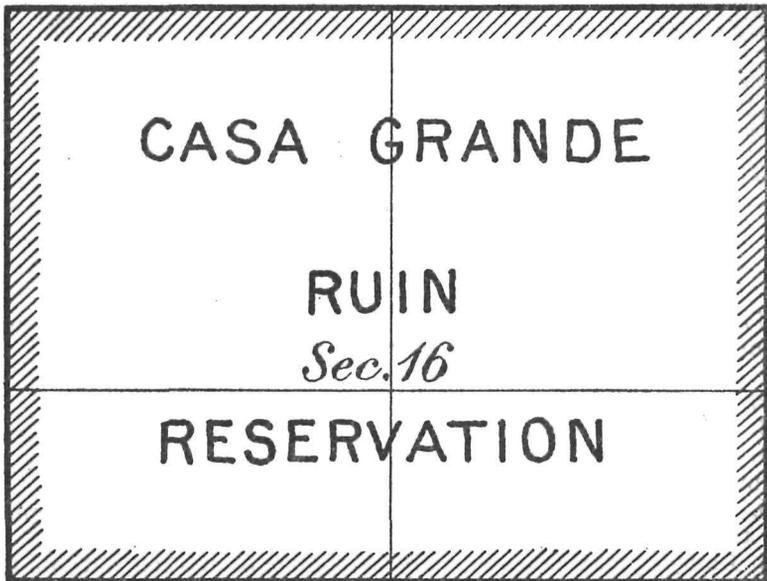
Casa Grande is an Indian ruin of undetermined antiquity, which was discovered in 1694 by Padre Kino, a Jesuit missionary. This great house is said to be the most important ruin of its type in the Southwest, and as such it has strong claims for archaeological study, repair, and permanent preservation. It is built of puddled clay molded into walls and dried in the sun, and is of perishable character. The main building was originally five or six stories high and covered a space 59 feet by 43 feet 3 inches. The walls have been gradually disintegrating, owing to the action of the elements. A corrugated iron roof has heretofore been erected over this building to protect it, so far as practicable, from further decay.

Surrounding Casa Grande proper is a rectangular walled inclosure or "compound," having an area of about 2 acres. In this inclosure, which has been called Compound A, excavations conducted under the Bureau of American Ethnology have resulted in the uncovering of a number of buildings or clusters of rooms, and others are known to exist, but have not been excavated. Two other compounds were dis-

covered and designated, respectively, Compound B and Compound C, but the latter has not been excavated and is still in the form of a mound. These three compounds together constitute what is known as the Casa Grande group of ruins. As a result of this work, conducted under the Bureau of American Ethnology, the points of interest to visitors have been materially augmented. The ground plan of the ruin was increased by some 58 rooms, a number of plazas and surrounding walls, making the total number of rooms now open on the ground floor 100.

Mr. Frank Pinkley, the custodian, who resides on the reservation, reports that the number of visitors to the ruin is constantly increas-

Reservation boundary



Casa Grande Ruin Reservation, Ariz., embracing the NW. $\frac{1}{4}$, the NE. $\frac{1}{4}$, the N. $\frac{1}{2}$ of the SW. $\frac{1}{4}$, and the N. $\frac{1}{2}$ of the SE. $\frac{1}{4}$ of sec 16, T. 5 S., R. 8 E., Gila and Salt River meridian; set aside by Executive order of June 22, 1892, under act of March 2, 1889.

ing, owing to the ease with which the ruin can be reached by automobile. No injury has been done during the year by vandals, but some erosion is taking place, for which funds are needed for repair and protective work.

NATIONAL MONUMENTS AND PRESERVATION OF AMERICAN ANTIQUITIES.

GENERAL STATEMENT.

By the act approved June 8, 1906, entitled "An act for the preservation of American antiquities,"¹ the President of the United States is authorized, "in his discretion, to declare by public proclamation

¹ Text of this act is given on page 65.

historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest that are situated upon the lands owned or controlled by the Government of the United States to be national monuments." Under such authority the President has created the following monuments:

National monuments administered by Interior Department.

Name.	State.	Date.	Area.
			<i>Acres.</i>
Devils Tower.....	Wyoming.....	Sept. 24, 1906	1,152
Montezuma Castle.....	Arizona.....	Dec. 8, 1906	160
El Morro.....	New Mexico.....	do.....	160
Chaco Canyon.....	do.....	Mar. 11, 1907	1 20,629
Muir Woods ²	California.....	Jan. 9, 1908	295
Pinnacles.....	do.....	Jan. 16, 1908	2,080
Tumacacori.....	Arizona.....	Sept. 15, 1908	10
Mukuntuweap.....	Utah.....	July 31, 1909	1 15,840
Shoshone Cavern.....	Wyoming.....	Sept. 21, 1909	210
Natural Bridges ³	Utah.....	Sept. 25, 1909	1 2,740
Gran Quivira.....	New Mexico.....	Nov. 1, 1909	1 160
Sitka.....	Alaska.....	Mar. 23, 1910	1 57
Rainbow Bridge ⁴	Utah.....	May 30, 1910	160
Lewis and Clark Cavern.....	Montana.....	May 16, 1911	160
Colorado.....	Colorado.....	May 24, 1911	13,883
Petrified Forest.....	Arizona.....	July 31, 1911	25,625
Navajo.....	do.....	Mar. 14, 1912	360
Papago Saguaro.....	do.....	Jan. 31, 1914	2,050
Dinosaur.....	Utah.....	Oct. 4, 1915	80

¹ Estimated area.

² Donated to the United States.

³ Originally set aside by proclamation of Apr. 16, 1908, and contained only 120 acres.

⁴ Within an Indian reservation.

The following regulations for the protection of national monuments were promulgated on November 19, 1910:

1. Fires are absolutely prohibited.
2. No firearms are allowed.
3. No fishing permitted.
4. Flowers, ferns, or shrubs must not be picked, nor may any damage be done to the trees.
5. Vehicles and horses may be left only at the places designated for this purpose.
6. Lunches may be eaten only at the spots marked out for such use, and all refuse and litter must be placed in the receptacles provided.
7. Pollution of the water in any manner is prohibited; it must be kept clean enough for drinking purposes.
8. No drinking saloon or barroom will be permitted.
9. Persons rendering themselves obnoxious by disorderly conduct or bad behavior, or who may violate any of the foregoing rules, will be summarily removed.

Officers having supervision of national monuments.

George Hayworth, New Customhouse Building, San Francisco, Cal.:

Muir Woods National Monument, Cal.

Pinnacles National Monument, Cal.

H. Stanley Hinrichs, Federal Building, Salt Lake City, Utah:

Mukuntuweap National Monument, Utah.

Natural Bridges National Monument, Utah.

Rainbow Bridge National Monument, Utah.

Benjamin H. Gibbs, Santa Fe, N. Mex.:

Montezuma Castle National Monument, Ariz.
 Petrified Forest National Monument, Ariz.
 Tumacacori National Monument, Ariz.
 Navajo National Monument, Ariz.
 Papago Saguaro National Monument, Ariz.
 El Morro National Monument, N. Mex.
 Chaco Canyon National Monument, N. Mex.
 Gran Quivira National Monument, N. Mex.¹

Ira Lantz, Helena, Mont.:

Lewis and Clark Cavern National Monument, Mont.

Adelbert Baker, Cheyenne, Wyo.:

Devils Tower National Monument, Wyo.
 Shoshone Cavern National Monument, Wyo.

A. Christensen, Juneau, Alaska:

Sitka National Monument, Alaska.

Administrative conditions.—The supervision of these various monuments has, in the absence of any specific appropriation for their protection and improvement, necessarily been intrusted to the field officers of the department having charge of the territory in which the respective monuments are located.

Administrative conditions continue to be unsatisfactory, as no appropriation of funds has yet been made available for this important protective and preservative work. Such supervision as has been possible in the cases of a few monuments only has been wholly inadequate and has not prevented vandalism, destruction of natural formations, unauthorized exploitation, or spoliation of relics found in those prehistoric ruins, whose preservation is contemplated by the passage of the act of June 8, 1906.

An estimate in the sum of \$5,000 for preservation, development, administration, and protection of these national monuments was submitted on December 15, 1913 (through the Secretary of the Treasury), by the Department of the Interior to Congress, and is incorporated in House Document No. 506, Sixty-third Congress, second session. Congress, however, did not act favorably upon this estimate. An estimate in similar amount has been included by this department in its general estimates for the fiscal year ending June 30, 1917. This fund is needed, not so much for the purpose of preserving by restoration the objects reserved in the national monuments as to prevent the removal of valuable relics and vandalism. Monuments suffering from these causes should be provided with a custodian or superintendent, and in this way a small general appropriation can be made most useful and its expenditure will be wholly in the interest of the public. The protection and preservation of the national monuments as public reservations are of great interest and importance because a great variety of objects, historic, prehistoric, and scientific in character, are thus preserved for public use intact instead of being exploited by private individuals for gain and their treasures scattered. These reserves should be administered in connection with the national parks, which they strongly resemble. It would be difficult to define one in terms that would exclude the other. The renewal of the estimate for a small appropriation has been made for the pur-

¹ By arrangement with the Secretary of Agriculture, the district forester of the Manzano National Forest, with headquarters at Albuquerque, N. Mex., has taken charge of patrol and protection of the Gran Quivira National Monument, as the Interior Department has no field officer in the immediate vicinity of the monument.

pose of keeping this class of reserves intact until such time as Congress shall authorize the creation of some administrative unit which shall take over both the parks and monuments and administer them under a general appropriation.

National monuments under other departments.—The following national monuments are not administered by the Secretary of the Interior:

National monuments administered by the Department of Agriculture.

Name.	State.	Date.	Area.
Cinder Cone.....	California.....	May 6, 1907	<i>Acres.</i> 15, 120
Lassen Peak.....	do.....	do.....	11, 280
Gila Cliff dwellings.....	New Mexico.....	Nov. 16, 1907	160
Tonto.....	Arizona.....	Dec. 19, 1907	1 640
Grand Canyon.....	do.....	Jan. 11, 1908	1 806, 400
Jewel Cave.....	South Dakota.....	Feb. 7, 1908	11, 280
Wheeler.....	Colorado.....	Dec. 7, 1908	300
Oregon Caves.....	Oregon.....	July 12, 1909	480
Devil Postpile.....	California.....	July 6, 1911	800
Mount Olympus.....	Washington.....	Apr. 17, 1912	299, 370

¹ Estimated area.

National monuments administered by the War Department.

Name.	State.	Date.	Area.
Big Hole Battle Field.....	Montana.....	¹ June 23, 1910	<i>Acres.</i> 5
Cabrillo.....	California.....	² Oct. 14, 1913	1

¹ Set aside by Executive order.

² Set aside by presidential proclamation.

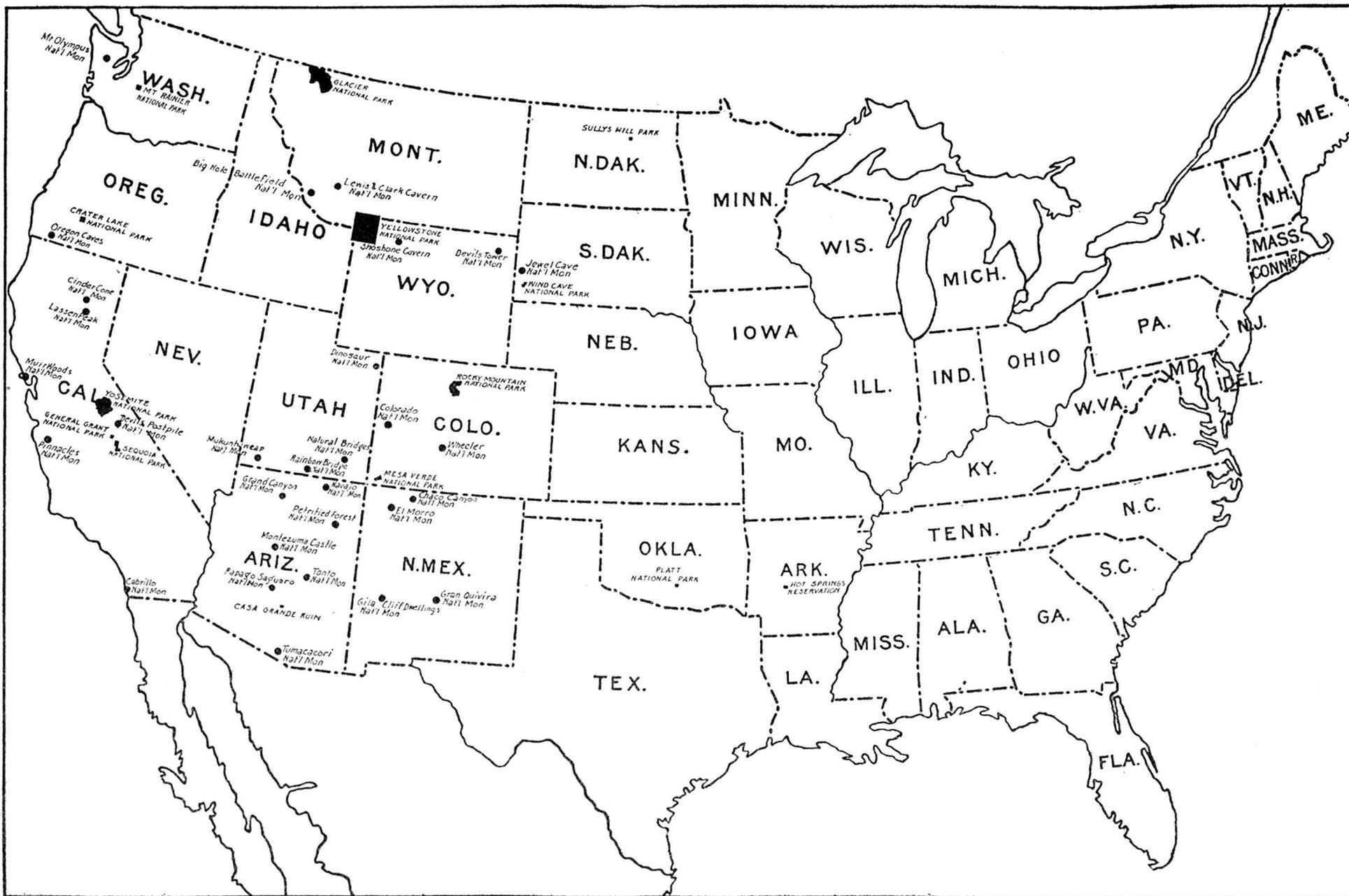
PERMITS FOR ARCHÆOLOGICAL EXPLORATION.

The uniform rules and regulations promulgated by the Secretaries of the Interior, Agriculture, and War, under date of December 28, 1906, to carry into effect the general provisions of the act for the preservation of American antiquities provide (par. 3) that—

Permits for the excavation of ruins, the excavation of archaeological sites, and the gathering of objects of antiquity will be granted, by the respective Secretaries having jurisdiction, to reputable museums, universities, colleges, or other recognized scientific or educational institutions, or to their duly authorized agents.

On February 19, 1915, permit was granted by this department to Prof. A. V. Kidder, curator of American archaeology, Peabody Museum, Harvard University, to make examination and excavation of ruins in the Chinlee Valley and the tributary canyons which enter it below the Mexican Water and the canyons heading against the Navajo Mountain on its east and north sides, as continuation of explorations under similar permits granted by the department in 1913 and 1914. This locality is in the vicinity of the Navajo National Monument.

Permit was granted on April 22, 1915, to Mr. Edgar L. Hewett, director of the School of American Archaeology, Santa Fe, N. Mex., to make explorations and excavations necessary for the making of an archaeological report upon the district lying between the north bound-



Map showing location of national parks and national monuments.

ary of the Ramon Vigil Grant and the Guages Canyon, on the Pajarito Plateau, N. Mex., and to collect specimens for the use of the Commercial Museum, of Philadelphia, Pa., which institution collaborates with the School of American Archaeology in this research work.

Permit was granted on May 20, 1915, to the Smithsonian Institution to make archaeological reconnaissance of and, if deemed practicable, to conduct excavations and gather specimens on the public domain in Millard, Beaver, Iron, and Boxelder Counties, Utah, such collections to be permanently deposited in the United States National Museum.

On June 5, 1915, permit was granted Prof. Livingston Farrand, president of the University of Colorado, to prosecute archaeological research on public lands under administration of the Interior Department in San Juan and Rio Arriba Counties, N. Mex., and in a strip of country 15 miles in width crossing Montezuma, La Plata, and Archuleta Counties (not, however, within the boundaries of Mesa Verde National Park), and to collect specimens. This work is in the nature of continuation of research under similar permit issued in 1914 covering territory contiguous to the above.

On June 10, 1915, permit was granted the University of Arizona, at Tucson, Ariz., to prosecute archaeological research within the territory south and west of Navajo Mountain and in the Sagi Canyons in northern Arizona, east of the Colorado River, and to collect specimens for use of the university, such work to be conducted under personal supervision of Prof. Byron Cummings (formerly of the University of Utah), and the territory within which explorations take place not to overlap that covered by the above permit to Prof. Kidder.

Permit was granted on July 26, 1915, to Mr. Charles H. Robinson to gather archaeological specimens on the public domain within the so-called "Spanish Diggings" country, located east of the Platte River, in Converse, Niobrara, Platte, and Goshen Counties, Wyo., during August, 1915, such collections to be permanently deposited, one-half in the McLean County (Ill.) Historical Society Museum, Bloomington, Ill., and one-half in the Illinois State Natural Historical Museum, at Springfield, Ill.

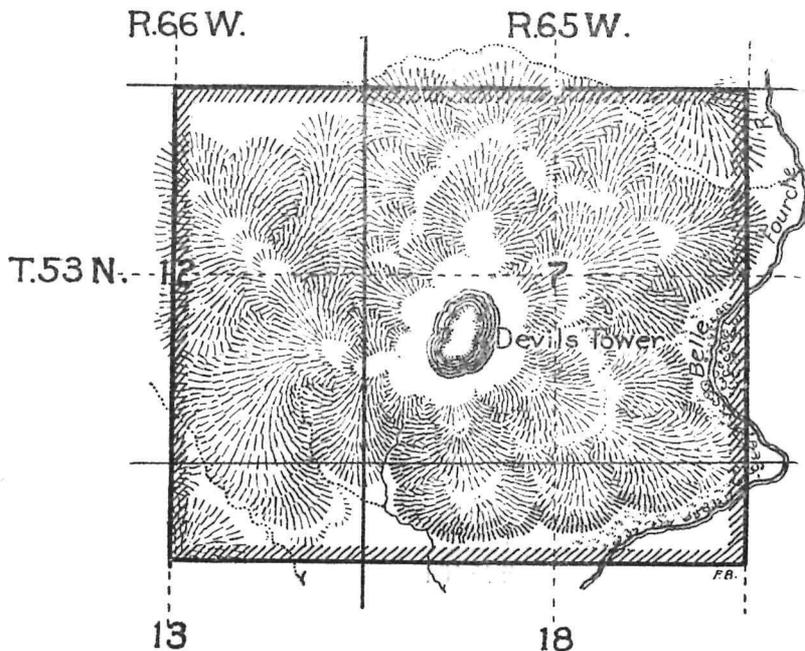
On August 17, 1915, authority was granted Dr. R. B. Earle to collect not exceeding 100 pounds of specimens of silicified wood from the Fossil Forest of Arizona (Petrified Forest National Monument) for the museum of New York University, and similar quantity for the museum of Hunter College.

DEVILS TOWER NATIONAL MONUMENT.

This extraordinary mass of igneous rock, known as the Devils Tower, is one of the most conspicuous and notable features in the Black Hills region, and has been known and utilized, doubtless, from time immemorial by the aborigines of the plains and mountains, for the American Indian of the last century was found to be directing his course to and from the hunt and foray by reference to this lofty pile. In their turn the white pioneers of civilization, in their exploration of the great Northwest, which began with the expedition of the Verendryes, pathfinders of the French Colonies of Canada, in 1742, utilized the tower as a landmark, and still later the military

expeditions into the Sioux and Crow Indian country during the Indian wars of the last century carried on operations within sight of the Devils Tower or directed their march by the aid of its ever-present beacon, for the tower is visible in some directions in that practically cloudless region for nearly 100 miles.

The tower is a steep-sided shaft rising 600 feet above a rounded ridge of sedimentary rocks, about 600 feet high, on the west bank of the Belle Fourche River. Its nearly flat top is elliptical in outline, with a diameter varying from 60 to 100 feet. Its sides are strongly fluted by the great columns of igneous rock, and are nearly perpendicular, except near the top, where there is some rounding, and near



Devils Tower National Monument, Wyo., embracing sec. 7 and the N. $\frac{1}{2}$ NE. $\frac{1}{4}$, the NE. $\frac{1}{4}$ NW. $\frac{1}{4}$, and lot No. 1, sec. 18, T. 53 N., R. 65 W.; the E. $\frac{1}{2}$ sec. 12 and the N. $\frac{1}{2}$ NE. $\frac{1}{4}$ sec. 13, T. 53 N., R. 66 W., sixth principal meridian; created September 24, 1906.

the bottom, where there is considerable outward flare. The base merges into a talus of huge masses of broken columns lying on a platform of the lower buff sandstone of the Sundance geologic formation. Ascent can be made by the general public to the top of the base which surrounds the tower proper; it is not possible, however, for ascent of the tower to be made. The tower has been scaled in the past by means of special apparatus, but only at considerable risk.

The great columns of which the tower consists are mostly pentagonal in shape, but some are four or six sided. The average diameter is 6 feet, and in general the columns taper slightly toward the top. In places several columns unite in their upper portions to form a large fluted column. The columns slope inward toward the top. They are not much jointed, but are marked horizontally by faint ridges or swellings, which give the rock some appearance of bedding,

especially toward the top of the tower. In the lower quarter or third of the tower the columns bend outward and merge rapidly into massive rock, which toward the base shows but little trace of columnar structure. This massive rock circles the tower as a bench, extending out for 30 to 40 feet. On the southwest face the long columns curve outward over the massive, basal portion and lie nearly horizontal. The rugged pile of talus extends high up the lower slopes of the massive bench at the base of the tower and also far down the adjoining slopes of sedimentary rocks.

The nearest settlement to this national monument is Tower, in Crook County, Wyo., which is reached by stage from Moorcroft, Wyo., a distance of 32 miles. Moorcroft is on the Chicago, Burlington & Quincy Railway. The tower may also be reached by conveyance from Hulett, Wyo., which in turn is reached by stage from Aladdin, the western terminus of the Wyoming & Missouri River Railway.

MONTEZUMA CASTLE NATIONAL MONUMENT.

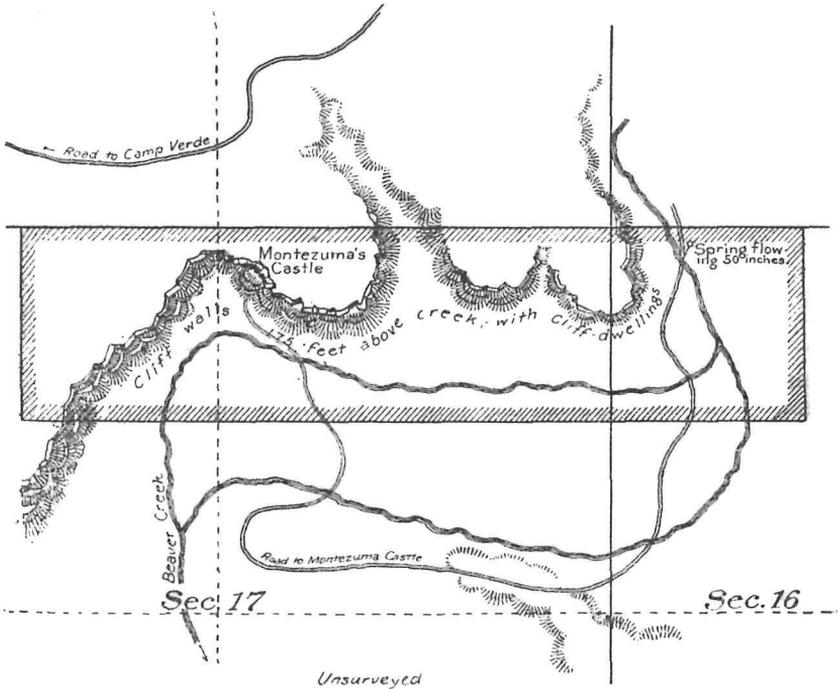
This national monument is situated in the northeastern part of Yavapai County, Ariz., and contains an assemblage of cliff dwellings, from the principal of which, known as Montezuma's Castle, this monument is named. This structure is of very great interest not only because of its picturesqueness but for ethnological and other scientific reasons. It is strictly a cliff dwelling, with the added importance that it is also a communal house. Although very small as compared with the great ruins of Chaco Canyon, Canyon de Chelly, Mesa Verde, the Mancos, and other localities of the Southwest, it is so unique in location and structural design and so perfectly preserved that it may be said to have no equal in the United States.

The character of the material used in the Verde cliff ruins, adobe, rubble, and a soft calcareous stone, has rendered the progress of disintegration and ruin somewhat rapid, though many centuries must have elapsed since the passing of the race. The Mojave Apache Indians, who occupied the valley at the advent of the white men, have no tradition respecting the existence of the people who formerly occupied this region. Montezuma's Castle, it is stated, is the only single perfect specimen and type of the architectural skill of the prehistoric cliff dwellers of this valley.

The monument embraces a prehistoric cliff-dwelling ruin of unusual size situated in a niche or cavity in the face of a vertical cliff 175 feet in height. The formation exposed along the face of the cliff is a compact tufa or volcanic ash. About half way up the cliff there is a bed of soft, unconsolidated tufa which has suffered considerable erosion, leaving irregular-shaped cavities. The bed of soft material is overlain by a harder formation which has withstood erosion and thus formed an overhanging sheltering reef.

The cliff-dwelling ruin known as Montezuma's Castle is situated in one of these cavities, the foundation being about 80 feet above the base of the cliff. The unique position and size of the ruin give it the appearance of an ancient castle and doubtless accounts for the present name. Access to the castle or ruin is made from the base of the cliff by means of four wooden ladders placed against the face of the cliff and anchored thereto with iron pins.

The structure is about 50 feet in height by 60 feet in width, built in the form of a crescent, with the convex part against the cliff. It is five stories high, the fifth story being back under the cliff and protected by a masonry wall 4 feet high, so that it is not visible from the outside. The walls of the structure are of masonry and adobe, plastered over on the inside and outside with mud. The cliff forms the back part of the structure, the front and outer walls being bound to the cliff with round timbers 6 to 10 inches in diameter, the outside ends projecting through the outer walls and the other end placed against the cliff. These timbers serve as joists for the several stories, the floors being made by placing small poles at right angles to the



Montezuma Castle National Monument, Ariz., embracing the NW. $\frac{1}{4}$ NW. $\frac{1}{4}$ sec. 16, the N. $\frac{1}{2}$ NE. $\frac{1}{4}$ and NE. $\frac{1}{4}$ NW. $\frac{1}{4}$ sec. 17, T. 14 N., R. 5 E., Gila and Salt River meridian; created December 8, 1906.

larger timbers and covering with a thatch of willows, on top of which there is a covering of mud and stones 8 inches thick.

From the appearance of the walls now standing, the structure originally contained 25 rooms, 19 of which are now in fairly good condition. Besides the main building, there are many cave chambers below and at each side of the castle. These small chambers are neatly walled up in front and have small doorways.

The rooms average about 6 by 8 feet in size and are about 7 feet high. They are connected by small doorways, and the outside rooms have small peepholes, from which a view of the outside can be had. These were probably used for portholes through which arrows could be shot.

The timbers in the building are hacked on the ends and were doubtless cut with stone axes. They are in a good state of preservation, no decay having set in owing to the dry climate. The main part of the structure is sheltered by the overhanging cliff, and the walls, thus protected from storms, are in good condition. The front part of the structure is not so well protected and the walls are wearing away and crumbling.

The method employed by the public in reaching the castle is principally by automobile from Prescott, a small city on the Santa Fe, Prescott & Phoenix Railroad, a branch of the Santa Fe system, 54 miles to the west, or from Jerome, Ariz., on a branch line of the Santa Fe, Prescott & Phoenix Railroad, 27 miles distant from the monument. A fine automobile road has recently been constructed from Prescott to Camp Verde, a small settlement 3 miles west of the castle, and the trip from Prescott to the castle and return can now be comfortably made in one day. The castle can also be reached from Flagstaff, a station on the main line of the Santa Fe Railway, 58 miles to the north. The roads, however, are very heavy, and the trip can not be made via automobile without considerable difficulty. Tourists frequently make the trip from Flagstaff by team, as it affords an opportunity of going through the large pine forest lying to the south of Flagstaff. There are two garages in Prescott making a specialty of taking parties to the castle. Each furnishes a driver who acts as a guide.

EL MORRO NATIONAL MONUMENT.

A feature of great historic interest and importance is the so-called El Morro or Inscription Rock, some 35 miles almost due east of Zuni Pueblo in western-central New Mexico.

El Morro is an enormous sandstone rock rising a couple of hundred feet out of the plain and eroded in such fantastic forms as to give it the appearance of a great castle, hence its Spanish name. A small spring of water at the rock made it a convenient camping place for the Spanish explorers of the sixteenth, seventeenth, and eighteenth centuries, and the smooth face of the "castle" well adapted it to receive the inscriptions of the conquerors of that early period.

The earliest inscription is dated February 18, 1526. Historically the most important inscription is that of Juan de Onate, a colonizer of New Mexico and the founder of the city of Santa Fe, in 1606. It was in this year that Onate visited El Morro and carved this inscription on his return from a trip to the head of the Gulf of California. There are 19 other Spanish inscriptions of almost equal importance, among them that of Don Diego de Vargas, who in 1692 reconquered the Pueblo Indians after their rebellion against Spanish authority in 1680.

It is not too much to say that no rock formation in the West or perhaps in the world is so well adapted to the purpose for which this table of stone was used—at least history does not record any collection of similar data. Here are records covering two centuries, some of which are the only extant memoranda of the early expeditions and explorations of what is now the southwestern part of the United States. On these smooth walls, usually under some projecting

stratum, inscriptions were cut by the early conquerors and explorers, which have made this rock one among the most interesting objects on the continent.

Here, in this remote and uninhabited region, in the shadows of one of Nature's most unique obelisks, wrapped in the profound silence of the desert, with no living thing to break the stillness, it is hard to realize that 300 years ago these same walls echoed the clank of steel harness and coats of mail; that with the implements of Spanish conquest the pathfinders in the New World were carving historical records upon the eternal rock.

Locally Inscription Rock and El Morro are known as separate and distinct monumental rocks. The latter, translated The Castle, is the rock standing out in bold relief to the east, while Inscription Rock is the name applied to the formation to the west, which is a part of the mesa. On the south side, in the angle formed by the two, one extending east and the other south, is a great chamber or cavern, a natural amphitheater where secure refuge from storm or human foe could easily be secured. It is here, too, that the only spring within many miles wells up as if to make the natural fortification doubly secure. Upon these walls are many of the best preserved Spanish inscriptions, although there are quite a number 200 feet east, under the shadows of a stately pine tree and on the north side of El Morro. Most of them are as plain and apparently as legible as the day they were written; especially is this true of the older ones, carved during the sixteenth and seventeenth centuries.

The existence of extensive, prehistoric ruins on the very summit of Inscription Rock is another feature of interest. On the top of the rock a deep cleft or canyon divides the western end of the formation. On each of these arms is the remnant of large communal houses or pueblos. Some of the walls are yet standing and the ground plans of the structures are well defined. That on the south arm, and almost overhanging the cavern and spring, is approximately 200 by 150 feet. Some of the buildings must have been more than one story in height.

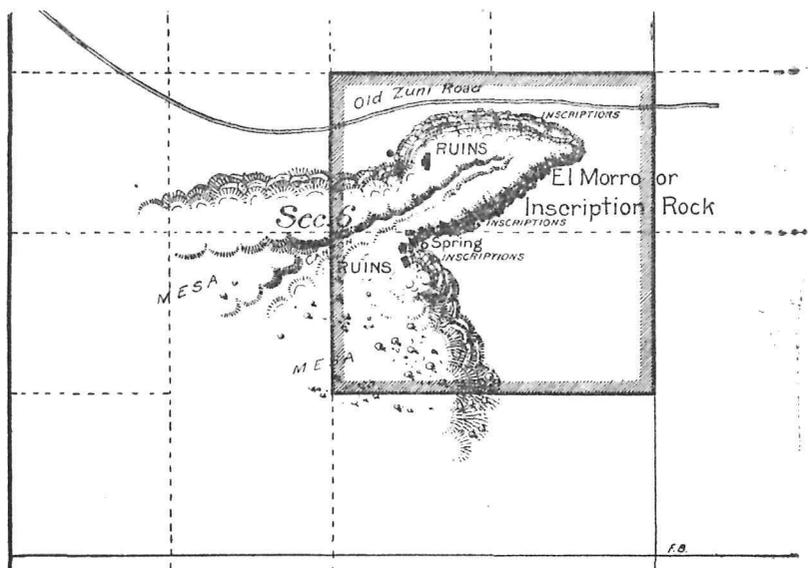
The remarkable natural defenses of the site and the existence of the spring doubtless induced the builders to select this odd location. At some distant day it may be desirable to excavate these ruins and thus add to this historic spot attractions for the scientist as well as the general public who are interested in scenic and natural curiosities.

This monument is usually visited from Thoreau or Gallup, N. Mex., the points from which access is most easily had. These points are on the main line of the Atchison, Topeka & Santa Fe Railway, and the visit to the monument is made by team and camp outfit. The trip is made in four days, in five for better comfort, and the cost for team, mountain hack, and driver, not including cost of provisions and feed of team, is from \$6 to \$8 per day. Good livery may be had at both of said points.

The main (Chicago to San Francisco) line of the Atchison, Topeka & Santa Fe Railway is the only railroad through the district, and one would have to travel hundreds of miles overland to reach the monument by any other railroad. The monument is approximately 40 miles by stage from Thoreau, N. Mex., and 55 miles by like conveyance from Gallup, N. Mex.

The country traversed in a visit from Gallup or Thoreau is a high, rolling plateau of fair scenic beauty. Plenty of water holes are

present along the road and firewood can be had in abundance at most any place. Some forest is encountered on the road from Gallup. The monument can be visited at all seasons of the year, the summer, of course, being the most delightful time. The winters in the section are not cold or severe, and visits could be made at that time comfortably. A visit to this monument can be enlivened by incorporating with it a trip to the Pueblo of the Zuni Indians, there visiting the United States Indian school and village. This visit can be made without detouring any extent while going to the monument. The village mentioned is spoken of in the records of the visits of the first Spanish explorers to the region in the latter part of the fifteenth and first part of the sixteenth centuries, and is the oldest continuously occupied Pueblo Indian village in existence so far as is known.



El Morro National Monument, N. Mex., embracing the S. $\frac{1}{2}$ NE. $\frac{1}{4}$ and N. $\frac{1}{2}$ SE. $\frac{1}{4}$ sec. 6, T. 9 N., R. 14 W., New Mexico meridian; created December 8, 1906.

CHACO CANYON NATIONAL MONUMENT.

These remarkable relics of an unknown people embrace numerous communal or pueblo dwellings built of stone, among which is the ruin known as Pueblo Bonito, containing, as it originally stood, 1,200 rooms and being the largest prehistoric ruin yet discovered in the Southwest. Numerous other ruins, containing from 50 to 100 or more rooms, are scattered along Chaco Canyon and tributaries for a distance of about 14 miles and upon adjacent territory to the east, south, and west of Chaco Canyon many miles farther. The most important of these ruins are as follows: Pueblo Bonito, Chetro Kettle, Arroyo, New Alto, Old Alto, Kin-Klet Soi, Casa Chiquita, Penasco Blanco, Kin-Kla-tzin, Hungo Pavis, Unda Vidie, Weji-gi, Kim-me-ni-oli, Kin-yai, Casa Morena, and Pintado.

But little excavating has been done upon this monument, and what has been done was done for the most part more than 10 years ago.

MUIR WOODS NATIONAL MONUMENT.

On December 31, 1907, the Secretary of the Interior, for and on behalf of the United States, accepted from William Kent and his wife, Elizabeth Thatcher Kent, of Chicago, Ill., in accordance with the act of Congress approved June 8, 1906, entitled "An act for the preservation of American antiquities," a deed conveying to the United States the following-described land, situate in Marin County, Cal.:

Beginning at a stake, A. 7, driven in the center of the road in Redwood Cañon and located by the following courses and distances from the point of commencement of the tract of land which was conveyed by the Tamalpais Land and Water Company to William Kent by a deed dated August 29th, 1905, and recorded in the office of the county recorder of Marin County, California, Book 95 of Deeds, at page 58, to wit: North eighteen degrees thirty-two minutes, east two hundred thirty-two and sixty-four hundredths feet, north sixty-six degrees thirty minutes, west one hundred and sixty-seven and thirty-four hundredths feet, north eighty-six degrees twenty-five minutes, west ninety-eight and sixty-two hundredths feet, north seventy degrees no minutes, west two hundred and forty-one and seven hundredths feet, north fifty-seven degrees twenty-nine minutes, west one hundred seventy-eight and three-hundredths feet, north forty-six degrees twenty-two minutes, west two hundred thirty-five and thirty-nine hundredths feet, and north twenty-four degrees twenty-five minutes, west two hundred twenty-five and fifty-six hundredths feet; thence from said stake, A. 7, the point of beginning, south fifty-four degrees nineteen minutes, west fourteen hundred eighty-two and seven-tenths feet to Station A. 8, from which Station 4 of the survey of the tract of land conveyed to William Kent as aforesaid bears south fifty-four degrees nineteen minutes, west three hundred ten feet distant; thence from said Station A. 8 north forty-seven degrees thirty minutes, west twenty-six hundred eighty feet; thence due west six hundred fifty and eight-tenths feet; thence north fifty-two degrees thirty minutes, west eleven hundred feet; thence north nineteen degrees forty-five minutes, west ten hundred fifty-eight and four-tenths feet to Station A. 12, from which Station 16 of the survey of the tract of land conveyed to William Kent as aforesaid bears south eighty-three degrees forty-two minutes, west three hundred ten feet distant; thence north eighty-three degrees forty-two minutes, east thirty-one hundred nine and two-tenths feet; thence north fifty-five degrees twenty-eight minutes, east fifteen hundred fifty feet to an iron bolt, three-quarters of an inch in diameter and thirty inches long, Station 14; thence south seventeen degrees eighteen minutes, east twenty-eight hundred twenty and nine-tenths feet; thence south four degrees ten minutes, east nine hundred thirty feet to a stake, A. 16, driven in the center of a graded road; and thence south-forty-five degrees seventeen minutes, west two hundred ninety-eight and five-tenths feet to said stake A. 7, the place of beginning. Containing an area of two hundred ninety-five acres, a little more or less.

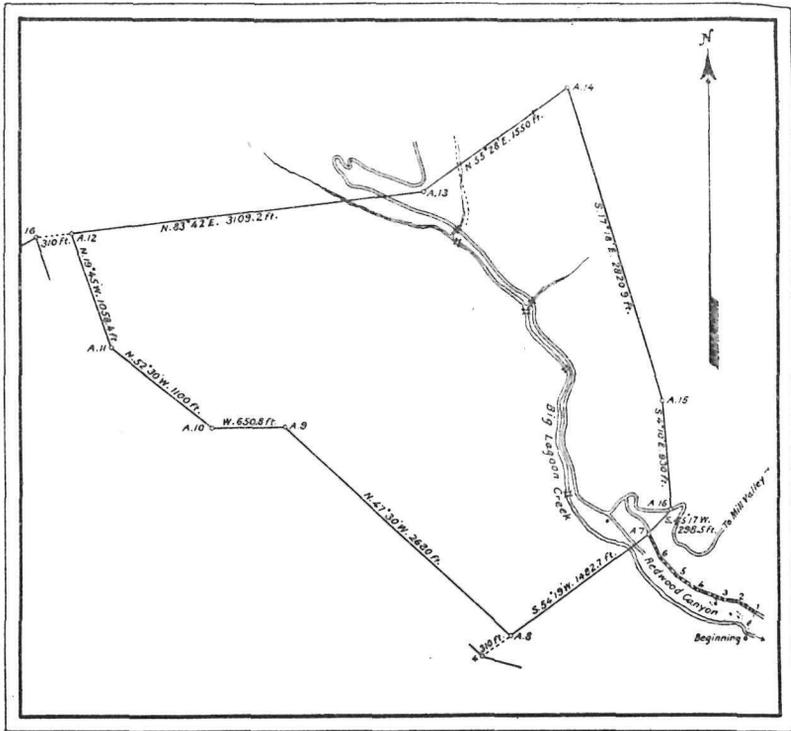
On January 9, 1908, the President, by virtue of the power and authority vested in him by section 2 of said act, declared, proclaimed, and set apart the lands described as a "national monument to be known and recognized as Muir Woods National Monument." The Secretary of the Interior had, prior to the date last mentioned, withdrawn the lands from entry or sale.

On September 10, 1908, the department prescribed regulations as follows for the government and protection of said monument:

The following rules and regulations for the government of the Muir Woods National Monument, in the State of California, set aside under the provisions of the act of Congress approved June 8, 1906, are hereby established and made public pursuant to the authority conferred by said act:

1. Fires are absolutely prohibited.
2. No firearms allowed.
3. No fishing permitted.

4. Flowers, ferns, or shrubs must not be picked, nor may any damage be done to the trees.
5. Vehicles and horses may be left only at the places designated for this purpose.
6. Lunches may be eaten only at the spots marked out for such use, and all refuse and litter must be placed in the receptacles provided.
7. Pollution of the water in any manner is prohibited. It must be kept clean enough for drinking purposes.
8. No drinking saloon or barroom will be permitted.
9. Persons rendering themselves obnoxious by disorderly conduct or bad behavior or who may violate any of the foregoing rules will be summarily removed.



Muir Woods National Monument, Cal., in T. 1 N., R. 6 W., Mount Diablo meridian; created January 9, 1908.

While the sundry civil act approved May 27, 1908 (35 Stat., 317), was pending before Congress attention was called to the fact that no provision was made for the salaries of custodians or for other protection of national monuments, as recommended in the estimates for these services, and that the department would be embarrassed in its efforts to protect monuments from vandalism and unauthorized exploration or spoliation because of a lack of funds. The department had recommended an appropriation of \$5,000 for these purposes. No appropriation, however, was made by Congress for the purpose. On July 11, 1910, Andrew Lind, of California, was appointed custodian of the Muir Woods National Monument, at a salary of \$900 per annum, payable from the appropriation "Protection of public lands and timber," and he is still in charge.

These lands consist of one of the most noted redwood groves in the State of California, and were held in private ownership by Mr. Kent. The tract is of great scientific interest, contains many redwood trees which have grown to a height of 300 feet and have a diameter at the butt of 18 feet or more. It is located in a direct line about 7 miles from San Francisco, Cal., and is in close proximity to a large and growing suburban population.

In Mr. Lind's report for the year he states:

During the fiscal year 1915 the amount of \$960 was expended from the appropriation for "Protecting public-lands, timber, etc., 1915," on account of the Muir Woods National Monument, this amount being expended entirely for services of the custodian and his assistant.

The custodian and his assistant have been engaged exclusively in patrolling the park, enforcing the rules and regulations governing national monuments, and in removing fallen trees, branches, etc., from the roads and trails.

It is estimated that approximately 25,000 people visited the park during the year. The bad weather experienced during the first five months of the calendar year 1915 has resulted in a reduction of the number of visitors.

The condition of the roads and trails in the park remains unchanged, except that in the Ocean View trail, along the east side of the park, the brush has grown to a considerable height. The brush in the fire lanes has also grown considerably.

It is recommended that the sum of \$500 be expended for cleaning the existing fire lanes and for removing brush from the Ocean View trail. Attention is respectfully invited to the fact that these fire lanes have not been cleaned since July, 1912; in their present condition they are practically no protection to the monument.

PINNACLES NATIONAL MONUMENT.

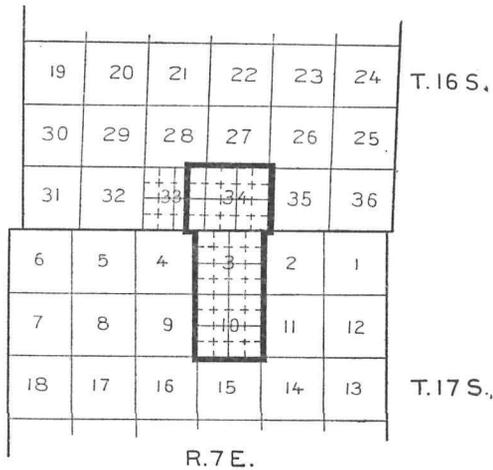
This national monument, created by proclamation of January 16, 1908, embraces 2,091.21 acres of land, of which approximately 1,900 acres is under governmental control, a small portion having been patented to private ownership prior to creation of the monument.

The name is derived from the spirelike formations arising from 600 to 1,000 feet from the floor of the canyon, forming a landmark visible many miles in every direction. Many of the rocks are so precipitous that they can not be scaled. A series of caves, opening one into the other, lie under each of the groups of rock. These caves vary greatly in size, one in particular, known as the Banquet Hall, being about 100 feet square with a ceiling 30 feet high. The caves are entered through narrow canyons with perpendicular rock walls and overhanging boulders. One huge stone, called the Temple Rock, is almost cubical in form. It stands alone in the bottom of the canyon and its walls rise perpendicularly to a height of over 200 feet. There are also several specimens of "balancing rocks" in each of the groups. The pinnacles, domes, caves, and subterranean passages of the monument are awe-inspiring on close inspection, and are well worth a visit by tourists and lovers of nature in its primitive state.

There are two groups of the so-called Pinnacles Rocks, known locally as the Big Pinnacles and the Little Pinnacles. The general characteristics of the two groups are similar. Each covers an area of about 160 acres very irregular in outline. There are springs of good water in what are known as the Chalone and Bear Creek gorges.

There are no stage lines to the monument. The best means of reaching the monument is by private conveyance over private roads

from either Soledad or Gonzales, in Monterey County, Cal., stations on the main line of the Southern Pacific Railway distant, respectively, 12 and 14 miles; or from Hollister, in San Benito County (also on the Southern Pacific), distant 35 miles. There is a good public highway from Hollister to within about 6 miles of the monument, from which a private road runs through several ranches for about 4 miles that is passable for automobiles. Between the end of the private road and the main gorge of the monument a road passable for teams leads up the bed of Chalone Creek. The route from Hollister is the most direct, as it leads to the east side of the pinnacles, where the gorges and caves are easily accessible, while the routes from Soledad or Gonzales lead to the west side and necessitate a journey, either by foot or saddle horse, to the eastern side to reach the caves and gorges.



Pinnacles National Monument, Cal.; embraces parts of Tps. 16 and 17 S., R. 7 E., M. D. M.; created January 16, 1908.

TUMACACORI NATIONAL MONUMENT.

This monument embraces 10 acres of land in Santa Cruz County, Ariz., about 57 miles south of Tucson and 17 miles north of Nogales, relinquished to the United States by a homestead entryman for the purposes specified in the act of June 8, 1906. Upon the tract is located a very ancient Spanish mission ruin, dating it is thought from the latter part of the sixteenth century, built by Jesuit priests from Spain and operated by them for over a hundred years.

After the year 1769 priests belonging to the order of Franciscan Fathers took charge of the mission and repaired its crumbling walls, maintaining peaceable possession thereof for about 60 years. In the early part of the nineteenth century the mission was attacked by Apache Indians, who drove the priests away and disbanded the peaceable Papago Indians residing in the vicinity of the mission. When found by the Americans, about the year 1850, the mission was in a condition of ruin.

The ruins as they stand consist of the walls and tower of an old church building, the walls of a mortuary chamber at the north end of the church building, and a court or church yard, surrounded by an adobe wall $2\frac{1}{2}$ feet thick and 6 feet high.

The walls of the church building are 6 feet thick, built of adobe and plastered both inside and outside with lime mortar 1 inch thick. The dome over the altar and the belfry tower are constructed of burned brick, this being one of the characteristics of the architecture of the mission, in which respect the construction differs from other early Spanish missions. Inside the dimensions of the church are 18 feet wide by 75 feet in length. The part used for the altar is situated at the north end. It is 18 feet square, surmounted with a circular dome, finished on the inside with white plaster decorated or frescoed in colors. The plaster and decorations are in a good state of preservation, but the altar is entirely gone. On the east of the altar room there is a sanctuary chamber, 16 by 20 feet, 20 feet high, covered with a circular roof built of burned brick, supported in the center by an arch. This is the only part of the mission which is now roofed over. In the south end of the church there was an arched partition which formed a vestibule. This partition has been removed. The outside wall of the north end of the church building is decorated with white plaster studded at regular intervals with clusters made of fragments of broken slag and broken brick.

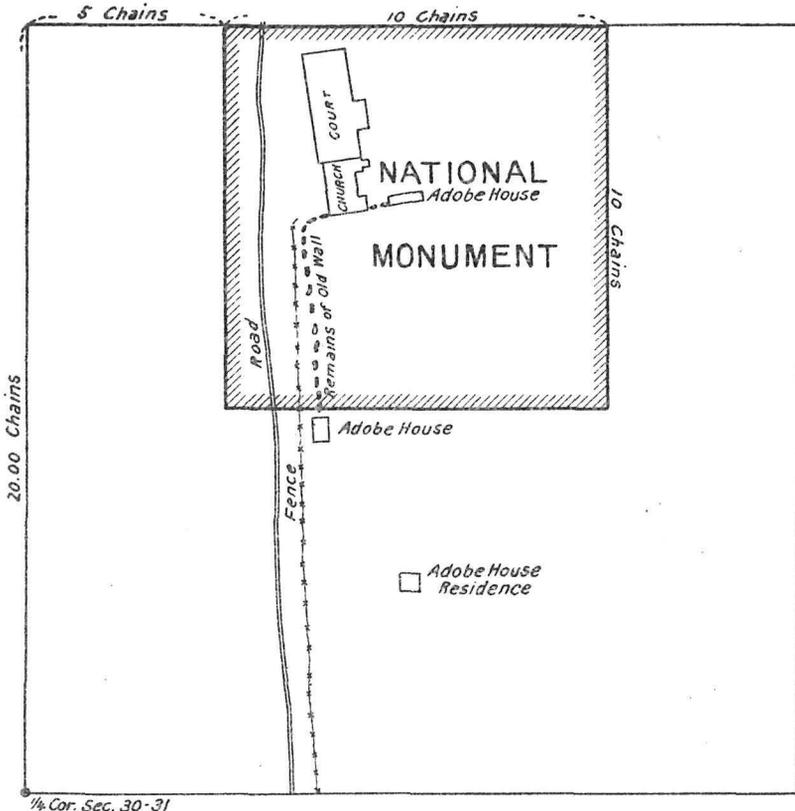
About 25 feet north of the church building, and in the center of the churchyard, there is a circular mortuary chamber. The wall is $3\frac{1}{2}$ feet thick by 16 feet high, built of adobe, surmounted on the top with a row of ornamental cornice brick (made of burned brick). The chamber has one entrance. The walls were originally decorated on the outside with white plaster studded with fragments of red brick.

The entrance to the church is at the south and has an arched doorway. The arch has partially broken out and the wall above thereby weakened. To the east of the entrance there is a room, about 18 feet square, with a winding stairway inside leading up to the belfry. The stairs, however, are gone, only the adobe walls on which the stairs were built being left. Access to the belfry is gained by means of this old stairway. This room is surmounted with the belfry tower, which is constructed of burned brick. The walls supporting the tower are adobe, and are rapidly wearing away. The support under the southwest corner of the belfry is now gone, and the brickwork is overhanging with no support and liable to fall at any time. Through action of the elements the church, appurtenant buildings, and inclosing walls are in a very bad state of ruin, most of the roofs having long since fallen in and portions of the main building having become undermined. No preservative or restorative measures have been taken, and until funds become available therefor much further deterioration is to be expected.

On March 19, 1915, the department appointed Mr. W. E. Balcom, of Tubac, Ariz., custodian of this monument. Mr. Balcom has for the past seven years lived on a ranch immediately adjoining the monument, and has done important service in protecting the ruins from vandalism.

The State highway between Tucson and Nogales passes the mission and is a good automobile road. The Tucson-Nogales branch of the Southern Pacific Railway passes within a mile of the mission, the nearest railroad station being Tubac, 3 miles to the north.

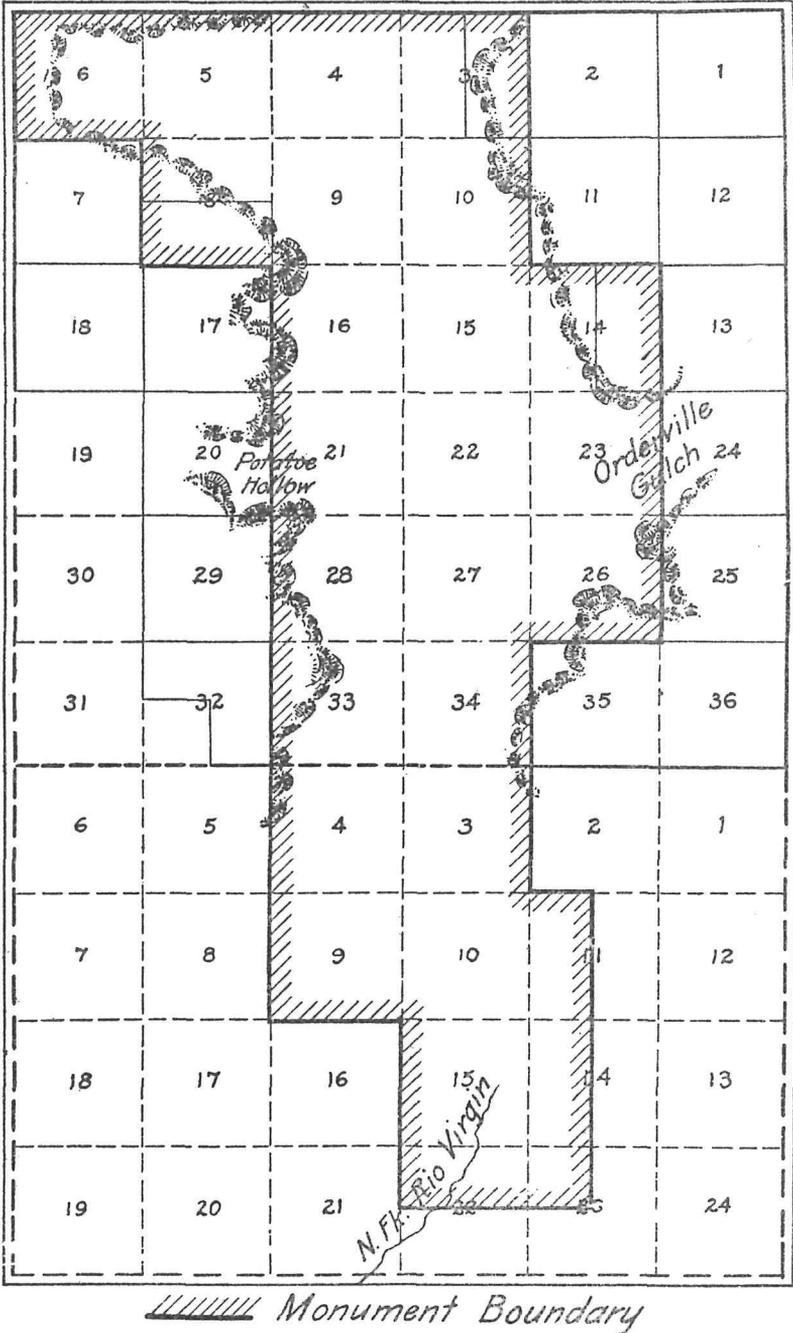
The best means of travel for the public in reaching the monument is by auto mail hack which leaves Nogales, Ariz., every morning except Monday, arriving at the ruin at 10 a. m., and leaving by the same automobile for Nogales at 5.30 p. m. The round-trip fare is \$3.



Tumacacori National Monument, Ariz., embracing the E. $\frac{1}{4}$ NW. $\frac{1}{4}$ SE. $\frac{1}{4}$ and the W. $\frac{1}{4}$ NE. $\frac{1}{4}$ SW. $\frac{1}{4}$ SE. $\frac{1}{4}$, sec. 30, T. 21 S., R. 13 E., Gila and Salt River meridian; created September 15, 1908.

MUKUNTUWEAP NATIONAL MONUMENT.

The Mukuntuweap National Monument, Utah, embraces the magnificent gorge of Zion Creek, called the Mukuntuweap Canyon by the Powell Topographic Survey of southwestern Utah, Kanab sheet, and the same is of the greatest scientific interest. The canyon walls are smooth, vertical, sandstone precipices, from 800 to 2,000 feet deep. These walls are unscalable within the limits of the boundaries of the reserve, except at one point about 4 miles from the southern and 6 miles from the northern extremity. The North Fork of the Rio Virgin passes through the canyon, and it is stated that the views into



Mukuntuweap National Monument, Utah, embracing secs. 3, 4, 5, 6, 8, 9, 10, 14, 15, 16, 21, 22, 23, 26, 27, 28, 33, and 34, T. 40 S., R. 10 W., and all of the Mukuntuweap Canyon in T. 41 S., R. 10 W., Salt Lake meridian; created July 31, 1909.

the canyon from its rim are exceeded in beauty and grandeur only by the similar views into the Grand Canyon of the Colorado.

At intervals along the west wall of the canyon are watercourses which cross the rim and plunge into the gorge in waterfalls 800 to 2,000 feet high.

The monument is best reached by way of the Denver & Rio Grande Railroad, through the town of Richfield to Marysville, in central Utah, where the train is left and either stage or private conveyance taken. This route will take the tourist through the towns of Junction, Panguitch, Glendale, Mount Carmel, and Rockville to Springdale. The mileage by this route by horse or automobile is about 135 miles.

The latter part of this route—from Mount Carmel to Rockville—is rough and a hard road to travel, although it is being driven by autoists every season.

Travelers desiring to visit this monument may obtain accurate information, without cost, by writing the passenger department of the railroad company named, addressing their communications to the city passenger agent, Salt Lake City, Utah.

Those desiring to make the trip by automobile may obtain detailed and definite information concerning roads, hotels, oil, gas, routes, distances, etc., by writing the "Publicity Bureau, Commercial Club, Salt Lake City," or from the Utah Automobile Association, at Salt Lake City.

SHOSHONE CAVERN NATIONAL MONUMENT.

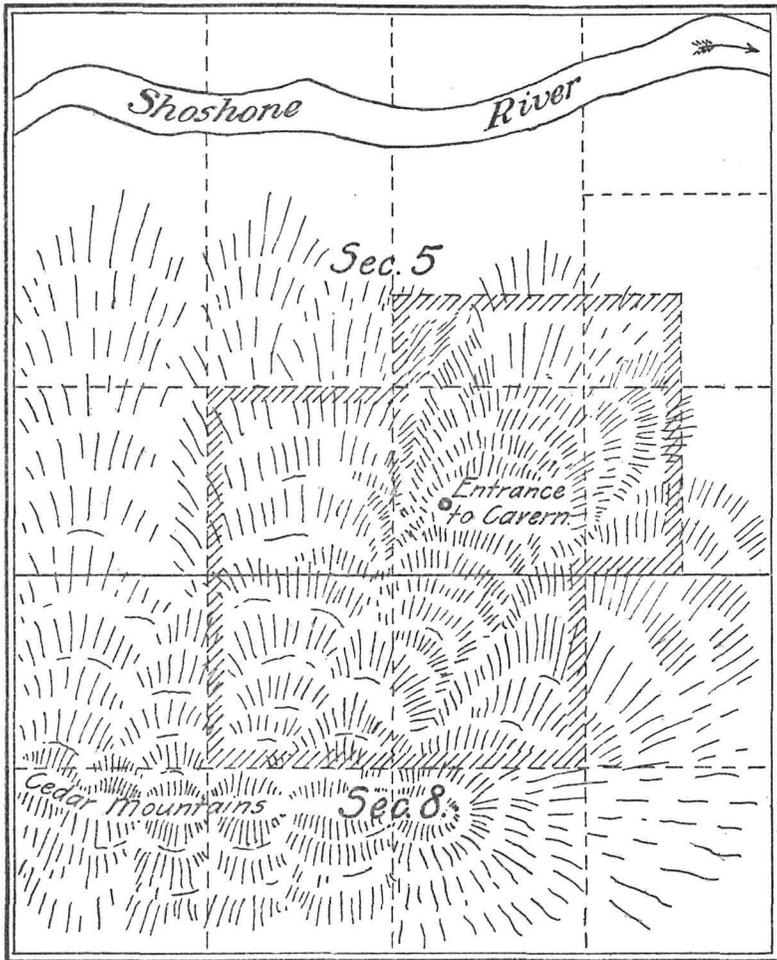
The Shoshone Cavern National Monument embraces 210 acres of rough mountainous land lying about 3 miles east of the great Shoshone Dam, in Big Horn County, Wyo. It was created by presidential proclamation of September 21, 1909. The cavern entrance is located at the summit of a reef of rocks at the head of a canyon upon the north face of Cedar Mountain, about 4 miles southwesterly from Cody, Wyo., on the Chicago, Burlington & Quincy Railway. The ascent to the entrance from the foot of the mountain is somewhat arduous. From the entrance the cavern runs in a southwesterly direction for more than 800 feet if measured in a direct line.

The best method of reaching the entrance is by means of the canyon leading from the foot of Cedar Mountain to the southwest of Cody on the east side of that mountain and which descends its eastern slope. It is possible to go by automobile or team to the foot of the mountain, a distance of about 2 miles from Cody, and then by a graded road about one-third of the way up the mountain. From the end of this road it is possible to go by foot or on horseback to within 100 feet of the entrance of the cave.

Entering the cave one proceeds for some distance, possibly 500 feet, where it is necessary to descend a steep rocky wall by means of a rope. Continuing, another declivity is encountered, and it is necessary to descend by rope about 30 feet. Advancing farther, possibly 3,000 to 4,000 feet, room after room is encountered, some of which are at least 150 feet in length and 40 or 50 feet in height. Some of these rooms, especially in the extreme interior, are beautifully incrustated with limestone crystals. Here and there as one proceeds through the accessible part of the cave can be seen small openings,

evidently leading into larger openings, but which as yet have not been explored.

The passages leading through the cavern are very intricate, and twist, turn, double back, and descend in other rooms, so that trip through the cave should not be attempted without a competent guide, with supply of ropes, and lamps. Guides can be employed in Cody.



||||||| National Monument Boundary

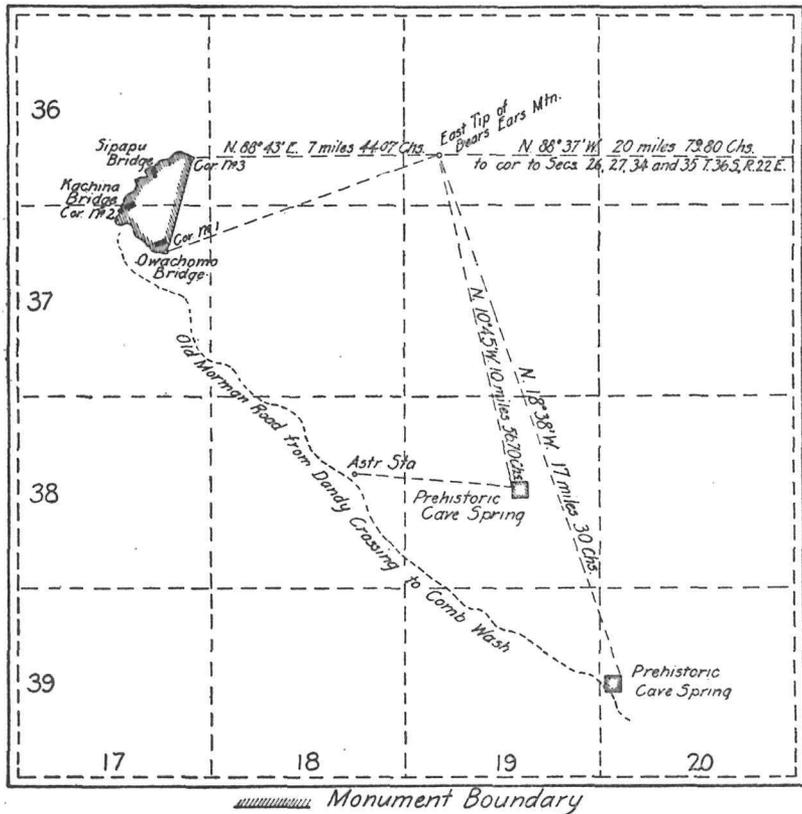
Shoshone Cavern National Monument, Wyo., embracing the SW. $\frac{1}{4}$ SE. $\frac{1}{4}$; W. $\frac{1}{4}$ SE. $\frac{1}{4}$ SE. $\frac{1}{4}$; SW. $\frac{1}{4}$ NE. $\frac{1}{4}$ SE. $\frac{1}{4}$; S. $\frac{1}{2}$ NW. $\frac{1}{4}$ SE. $\frac{1}{4}$; and SE. $\frac{1}{4}$ SW. $\frac{1}{4}$, sec. 5; the NW. $\frac{1}{4}$ NE. $\frac{1}{4}$ and NE. $\frac{1}{4}$ NW. $\frac{1}{4}$ sec. 8, T. 52 N., R. 102 W., sixth principal meridian; created September 21, 1909.

NATURAL BRIDGES NATIONAL MONUMENT.

This monument is located in the vicinity of Bluff, San Juan County, in the extreme southeastern portion of Utah, and was created originally by presidential proclamation of April 16, 1908. It

embraces three separate tracts of land, the largest containing the three great natural bridges, viz: The Sipapu, known locally as the Augusta Bridge; the Kachina, called the Caroline; and the Owachomo, given the local name of the Little Bridge.

A second proclamation, issued by the President September 25, 1909, includes, besides the three bridges originally reserved, a much more extended territory, but within which, along the walls of the canyons in the vicinity of the bridges, are found many prehistoric ruins of



Natural Bridges National Monument, Utah, embracing a subtriangular tract in unsurveyed Tps. 36 and 37 S., R. 17 E., and two smaller tracts, one each in T. 38 S., R. 19 E., and T. 39 S., R. 20 E., Salt Lake meridian; created September 25, 1909.

cavern and cliff dwellings. There are also two cavern springs containing some prehistoric ruins, which are located approximately 13 and 19 miles southeast of the bridges, respectively. These cavern springs are included within the Natural Bridges Monument. They are located upon the ancient and only trail to the bridges from the south, and are important way stations in the desert surrounding this monument. They are believed to have been originally excavated and used by the prehistoric inhabitants of the vicinity.

In order to reach the various points of interest in this monument it is necessary to use a pack train, with guides and complete camp

outfit. The natural bridges spring from the high walls of White Canyon, through which part of the journey is taken, and are the result of remarkable and eccentric stream erosion. These bridges are understood to be among the largest examples of their kind, the greatest of the three having a height of 222 feet, being 65 feet thick at the top of the arch. The arch is 28 feet wide, the span is 261 feet, and the height of span 157 feet. The other two bridges are only a little smaller. All three are within a space of about 5 miles.

There are two routes by which this monument may be reached, one by way of the Denver & Rio Grande Railroad, detraining at Dolores, Colo., thence by team to Bluff, Utah, via McElmo, Colo., and Aneth, Utah. This necessitates travel over a fairly good road for a distance of approximately 80 miles before Bluff, Utah, is reached. The bridges are about 45 miles northwest of Bluff, thus making a total mileage to be traveled by horse of about 125 miles. The springs lie between Bluff and the bridges and can be visited without making any side trips. Most of this route may be traveled by auto—from Dolores, Colo., to Bluff, Utah. Pack animals and guides are necessary from Bluff to the monument.

The second route may be taken by leaving the Denver & Rio Grande Railroad at Thompsons Station, Utah, thence by stage or team to Moab and Monticello, Utah, a distance of about 95 miles; thence to the monument (bridges), a distance of approximately 50 or 60 miles. At Monticello tourists should outfit for the trip to the bridges. Competent guides, with pack horses, etc., including all necessary equipment may be hired there at reasonable figures. This second route is the better, as roads and trails are better than from any other point.

Tourists coming in through Colorado may, after reaching Bluff, Utah, go north via Grayson to Monticello, a distance of about 50 miles, and proceed to the bridges from the latter point. As stated, Monticello is the best outfitting point in that section of the country and the best guides are to be found there.

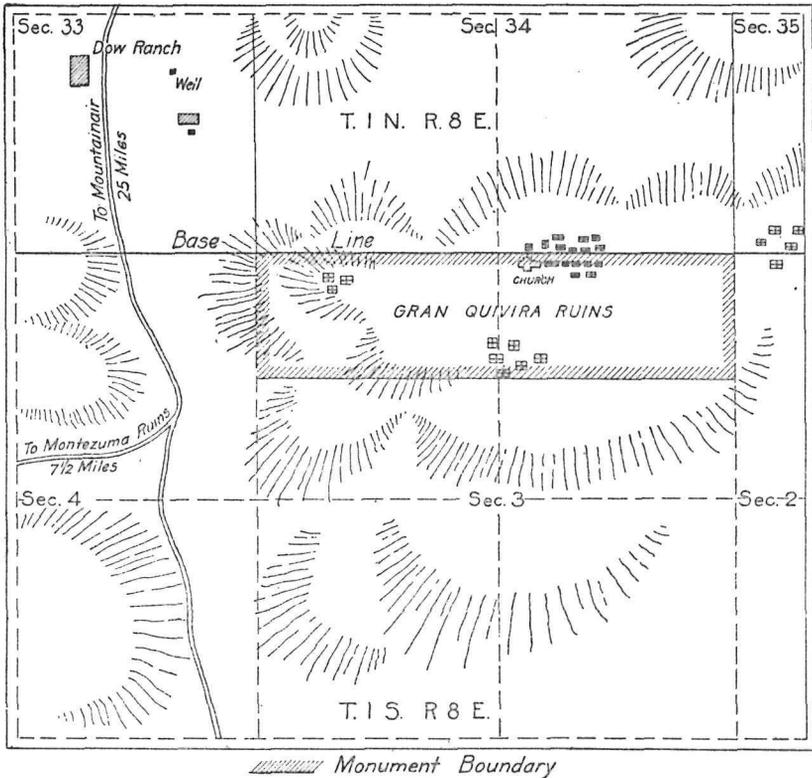
GRAN QUIVIRA NATIONAL MONUMENT.

The Gran Quivira has long been recognized as one of the most important of the earliest Spanish church or mission ruins in the Southwest. Near by are numerous Indian pueblo ruins, occupying an area many acres in extent, which also, with sufficient land to protect them, was reserved. The outside dimensions of the church ruin, which is in the form of a short-arm cross, are about 48 by 140 feet, and its walls are from 4 to 6 feet thick and from 12 to 20 feet high. Enough of the walls of this main building are present to show that originally it was at least three stories in height. The altitude at the ruins is about 6,800 feet and the ruins themselves are built upon an eminence visible for a great distance, commanding a vast expanse in all directions. These ruins are extensive and cover an area of probably 80 acres.

The Gran Quivira National Monument is located $1\frac{1}{2}$ miles outside of the exterior boundaries of the Manzano National Forest, and is remote from the headquarters of any officer of this department.

On September 12, 1910, the Interior Department requested the Department of Agriculture to assume temporary charge of patrol and protection of this monument, in view of the better facilities at the disposal of the Forest Service in the Manzano National Forest, inasmuch as the monument is remote from location of any field officer of the Interior Department; and this charge was accepted by the Department of Agriculture. A ranger of the Forest Service of that department visits the monument every few weeks.

The Business Men's Association of Mountainair, N. Mex., is very active in preservation of the monument and in prevention of van-



Gran Quivira National Monument, N. Mex., embracing unsurveyed N. $\frac{1}{2}$ of N. $\frac{1}{2}$ sec. 3, T. 1 S., R. 8 E., New Mexico principal meridian; created November 1, 1909.

dalism, the site being visited (except in winter) by some member of the association at least once every two weeks.

On account of the altitude of the monument the region is subject to heavy snows between the middle of December and the latter part of March, so that visits to the monument during those months are not practicable. At other seasons the monument is best reached by stage or automobile by a good road from Mountainair, which is 24 miles distant on the Santa Fe Railway. Service of both classes may be obtained in Mountainair at any time, the parties operating auto-

mobiles for benefit of tourist traffic having established a schedule, so that parties of four people can visit the monument for \$12 for the round trip; and parties of three persons or less, \$10 for the round trip. There are no accommodations at the ruins, but water can be found along the route. The automobile trip occupies one day.

Other points of exceeding interest to tourists are located in the immediate vicinity of Mountainair and the Gran Quivira National Monument, though not upon Federal reservations. These are the ruins of Montezuma, of a nature similar to the Gran Quivira and some 8 miles to the northwest thereof; the region of Abo and the Painted Rocks, having a rather interesting geological origin, showing geologic studies in highly colored formation for a thickness of some 4,000 feet; the ruins and ancient Mexican villages of Cuarai, Punta, and Manzano, as well as Tajiique and Chilili. These points are approximately the same distance in a northerly direction from Mountainair and have ancient ruins of churches and community dwellings, and are some of the best examples extant of the original plaza villages of the native Mexican population, the villages dating back to the very earliest Spanish settlement of this country, and showing the native life as it has always been, without alteration.

SITKA NATIONAL MONUMENT, ALASKA.

This monument reservation, created March 23, 1910, under the act of June 8, 1906, embraces about 57 acres of comparatively level gravel plain formed by sea wash and by the deposits of Indian River, which flows through the tract, and is situated about a mile from the steamboat landing at Sitka. Upon this ground was located formerly the village of a warlike tribe—the Kik-Siti Indians—who, in 1802, massacred the Russians in old Sitka and thereafter fortified themselves and defended their village against the Russians under Baranoff and Lisianski. Here, also, are the graves of a Russian midshipman and six sailors who were killed in a decisive battle in 1804. A celebrated “witch tree” of the natives and 16 totem poles, several of which are examples of the best work of the savage genealogists of the Alaska clans, stand sentrylike along the beach.

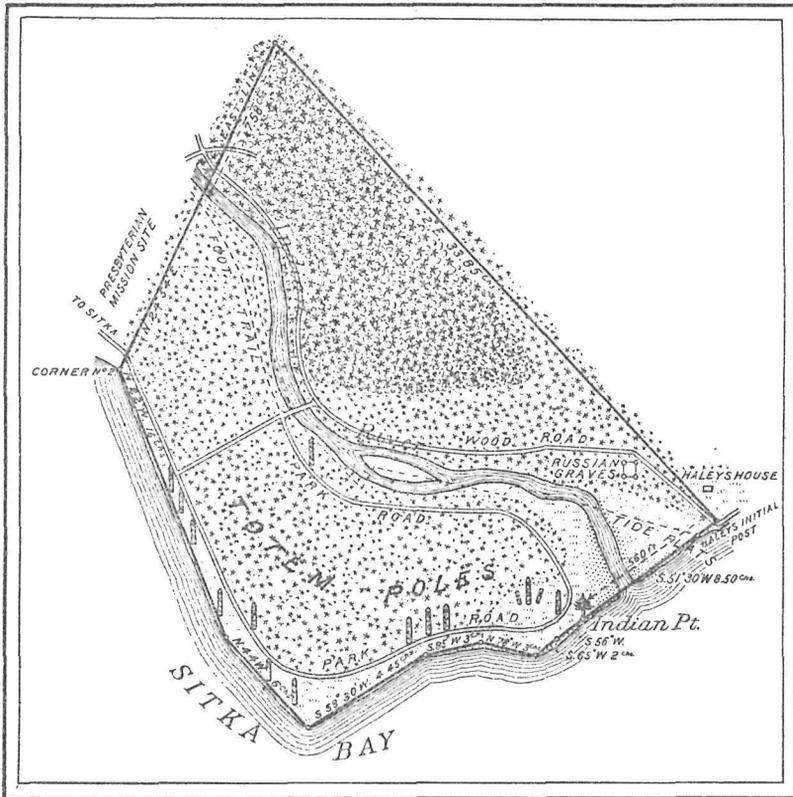
The following is from a letter dated August 31, 1913, from Arthur G. Shoup, member of Alaskan Legislature, to J. W. Lewis, special agent, General Land Office, and now part of General Land Office files:

The great natural beauty of this park is extolled by every tourist who has ever visited Sitka, and it is partly on account of the exceptional opportunities that it affords for visitors from the States to see at once the timber growth, wild mosses and small verdure, and mountain streams of Alaska that our Government has so carefully guarded this reservation.

Referring briefly to the historical features of the Sitka National Monument, or Indian River Park, as it is called: It was here that the Russians under Baranoff in 1802 fought and won the “decisive battle of Alaska” against the Indians and effected their lodgment in southeastern Alaska that placated the then very active attempts of Great Britain to get possession of this part of the country. The Russian title thus acquired to the Alexander Archipelago was later transferred to the United States, and because of this battle ground being in the Sitka National Monument it is of great patriotic interest to every Alaskan.

Another interesting feature of this park is that it is the place where the natives used to conduct their weird trials and executions for witchcraft. The tree where the victims were hanged still stands as an object of awe to the descendants of the old schamen and a subject of curiosity to the whites.

Estimate in amount \$1,000 was submitted by the governor of Alaska (as part of estimates for the fiscal year ending June 30, 1917, for administration of that Territory) for protection and preservation of the Sitka National Monument, including repair of the ancient totems and other historic relics, and same has been included in the departmental estimates as forwarded to the Secretary of the Treasury.



Sitka National Monument, Alaska, embracing a tract of land which includes the mouth of Indian River and adjacent territory near Sitka; created March 23, 1910.

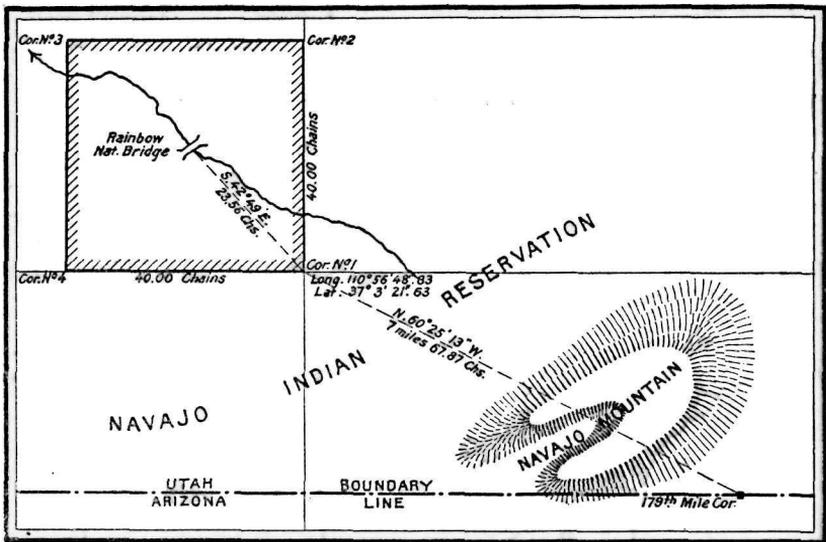
RAINBOW BRIDGE NATIONAL MONUMENT.

This natural bridge is located within the Navajo Indian Reservation, near the southern boundary of Utah, a few miles northwest from Navajo Mountain, a well-known peak and landmark, and spans a canyon and small stream which drains the northwestern slopes of this peak, and is of great scientific interest as an example of eccentric stream erosion. Among the known extraordinary natural bridges of the world, this bridge is unique in that it is not only a symmetrical arch below but presents also a curved surface above, thus presenting,

roughly, the character of the rainbow, for which it is named. Its height above the surface of the water is 309 feet and its span is 278 feet.

The existence of this natural wonder was first disclosed to William B. Douglass, an examiner of surveys of the General Land Office, on August 14, 1909, by a Piute Indian, called "Mike's boy," later "Jim," who was employed in connection with the survey of the natural bridges in White Canyon, Utah.

The best and easiest way in which to reach the Rainbow Bridge National Monument is to outfit at Monticello, thence travel to the Natural Bridges Monument, thence south and west down the Grand Gulch and the San Juan River. In order to reach Monticello tourists should leave the Denver & Rio Grande Railroad at Thompsons, Utah. This will necessitate travel by team and pack outfit of 220



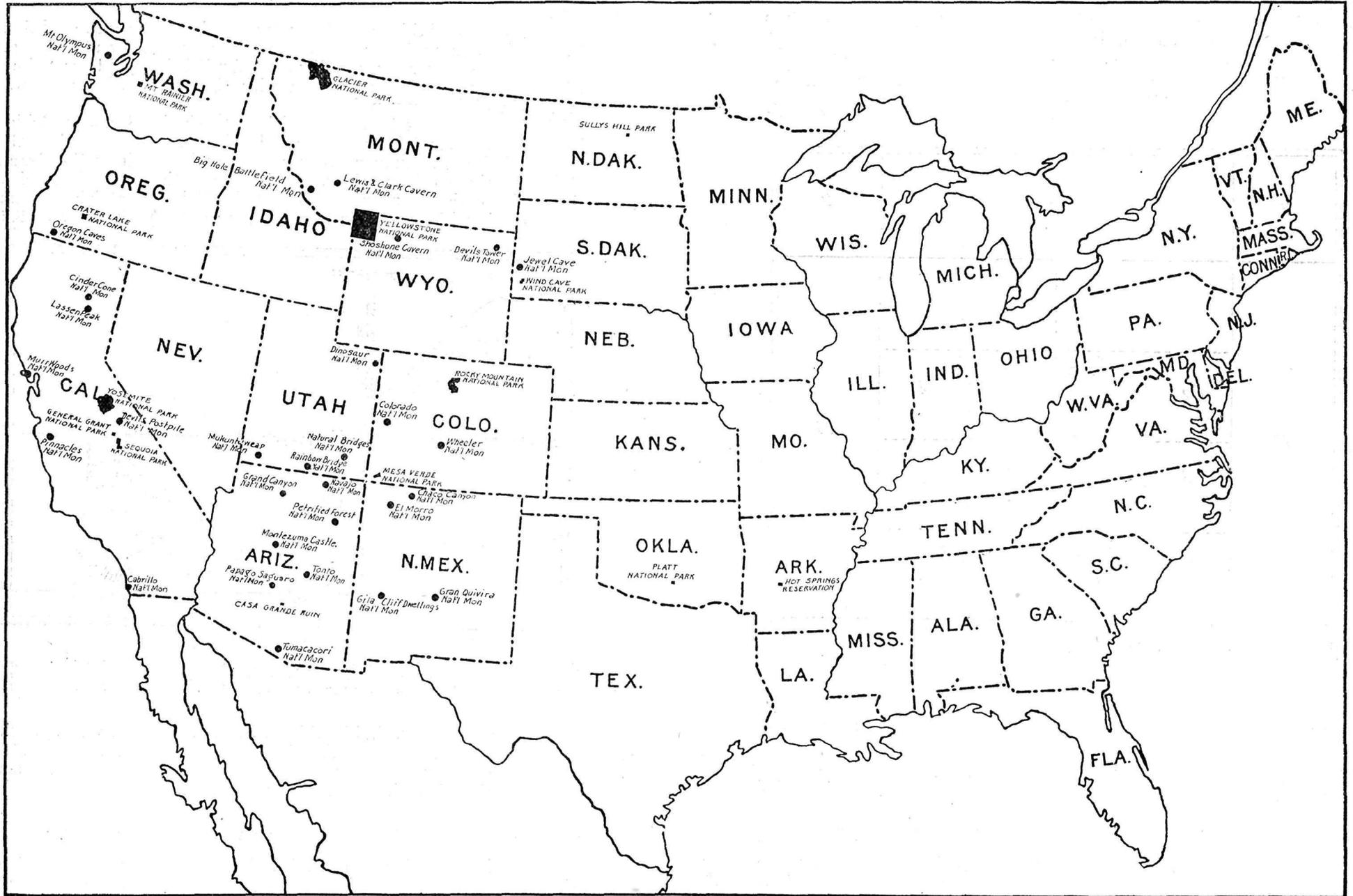
///////. Monument Boundary

Rainbow Bridge National Monument, Utah, embracing 160 acres of land in square form, the southeast corner of which bears from one hundred and seventy-ninth mile corner on the Utah and Arizona boundary N. 60° 25' 13" W. 7 miles 67.87 chains distant; created May 30, 1910.

miles, approximately. While this may seem a very long trip, yet the scenery, cliff dwellings, prehistoric caves, vast canyons, etc., located between the Natural Bridges Monument and Rainbow Monument are worth the labor, time, and money expended.

LEWIS AND CLARK CAVERN NATIONAL MONUMENT.

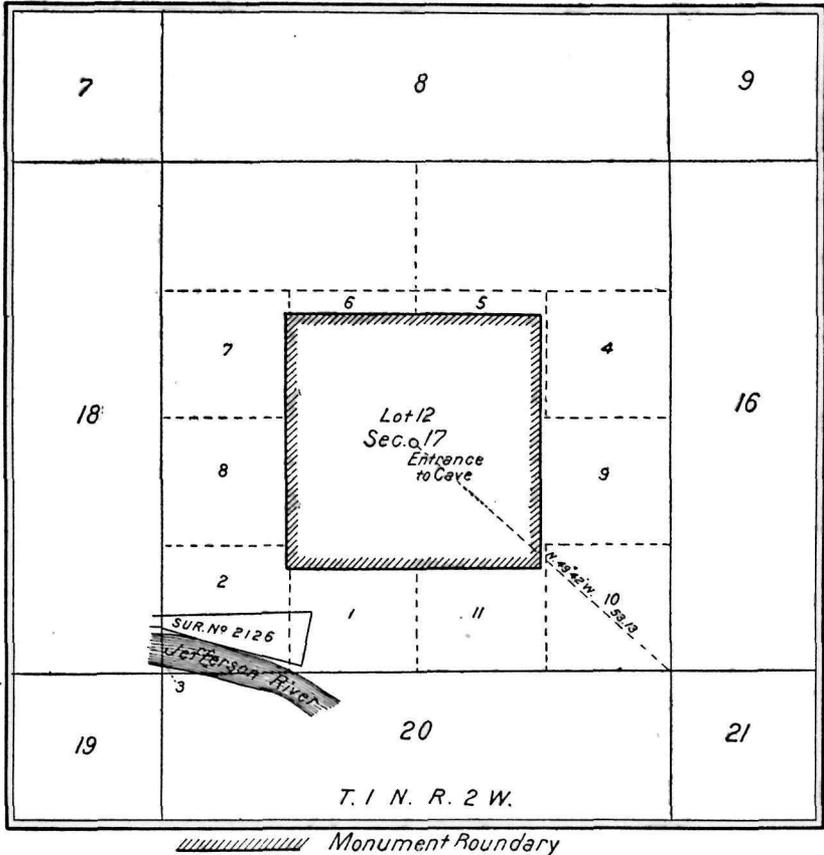
The feature of this monument is a limestone cavern of great scientific interest, because of its length and because of the number of large vaulted chambers it contains. It is of historic interest, also, because it overlooks for a distance of more than 50 miles the trail of Lewis and Clark along the Jefferson River, named by them. The vaults of the cavern are magnificently decorated with stalactites and stalag-



Map showing location of national parks and national monuments.

mite formations of great variety in size, form, and color, the equal of, if not rivaling, the similar formations in the well-known Luray caves in Virginia. The cavern has been closed to the general public for some time on account of depredations by vandals.

The cavern is located about three-quarters of a mile northeasterly from Cavern, a post office in Jefferson County, and a station on the Northern Pacific Railway about 45 miles southwest from Butte, Mont. It is situated in a massive deposit of what is known as Madi-



Lewis and Clark Cavern National Monument, Mont., embracing lot 12, sec. 17, T. 1 N., R. 2 W.; Montana principal meridian; created by proclamations of May 11, 1908, and May 16, 1911.

son limestone, which at this place dips steeply to the southwest. The various chambers in the cave as far as explored extend for a distance of about 700 feet horizontally and 350 feet vertically, but there are many openings and passages that have never been explored. The chambers and passages seem in general to follow the dip of the formation. The cavern is best reached by following the railroad track easterly for about a quarter of a mile and then following a circuitous road or trail about 1½ miles. The mouths of the cavern are 1,300 feet

above the railroad, and the climb requires about an hour and a half. Its two entrances, which are about 100 yards apart, are upon the walls of a deep canyon about 500 feet below the rim.

The second proclamation establishing this monument is as follows:

Whereas the unsurveyed tract of land containing an extraordinary limestone cavern and embracing 160 acres, situated in township one north, range two west of the Montana principal meridian, Montana, and which was created the Lewis and Clark Cavern National Monument by proclamation dated the 11th day of May, 1908, has recently been definitely located by an official survey thereof, made under the direction of the Commissioner of the General Land Office, and such survey having determined that the tract in question lies wholly within the limits of the grant of the Northern Pacific Railway Co., but has not yet been patented to that company;

And whereas by its quitclaim deed the said Northern Pacific Railway Co. relinquished unto the United States all its right, title, and interest to lot 12, section 17, township 1 north, range 2 west of the Montana principal meridian, Montana, the same being the original tract proclaimed a national monument for the purpose of maintaining thereon the said Lewis and Clark Cavern National Monument, under the condition that the instrument of relinquishment shall become void and the premises immediately revert to the grantor should the monument no longer be maintained.

Now, therefore, I, William H. Taft, President of the United States of America, by virtue of the power in me vested by section two of the act of Congress approved June 8, 1906, entitled "An act for the preservation of American antiquities," do hereby set aside and confirm as the Lewis and Clark Cavern National Monument the said tract, embracing one hundred and sixty acres of land, at and surrounding the limestone cavern in section seventeen, township one north, range two west, Montana, subject to the conditions set forth in the relinquishment and quitclaim deed No. 18129E, dated February 14, 1911, of the Northern Pacific Railway Company, the said tract being in square form and designated as lot twelve in the survey and deed, with side lines running north and south and all sides equidistant from the main entrance of the said cavern, the center of said entrance bearing north forty-nine degrees, forty-two minutes west, fifty-three and thirteen hundredths chains distant from the corner to sections sixteen, seventeen, twenty, and twenty-one, as shown upon the diagram hereto attached and made a part hereof.

Warning is hereby expressly given to all persons not to appropriate, injure, or destroy any of the natural formations in the cavern hereby declared to be a national monument, nor to locate or settle upon any of the lands reserved and made a part of said monument by this proclamation.

In Witness whereof I have hereunto set my hand and caused the seal of the United States to be affixed.

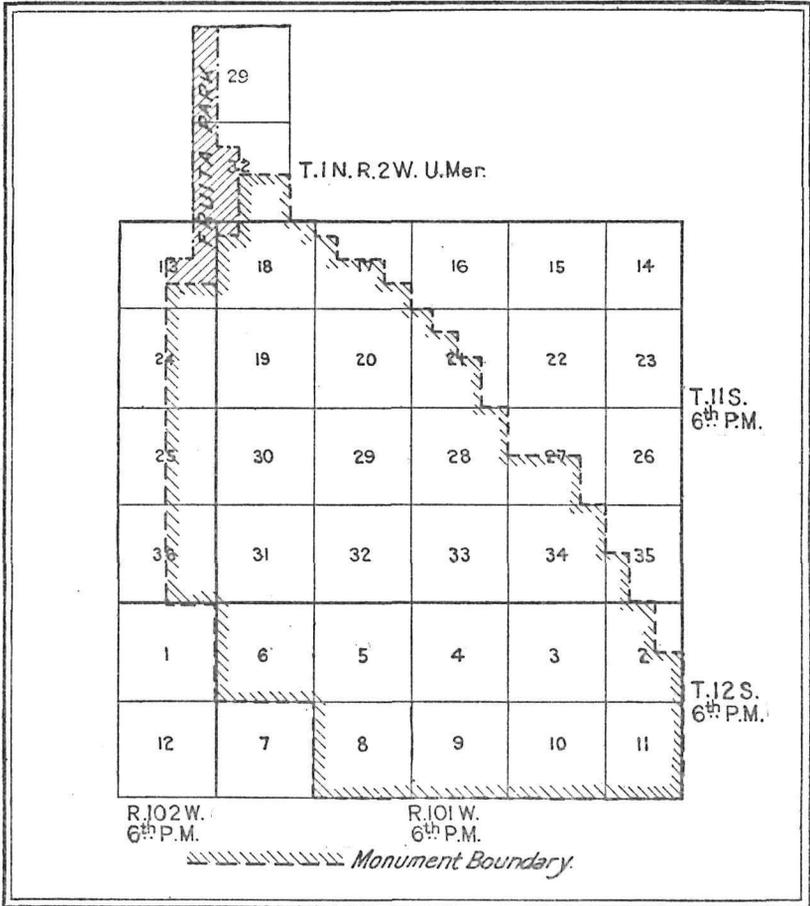
Done at the city of Washington this sixteenth day of May, in the year [SEAL.] of our Lord one thousand nine hundred and eleven, and of the independence of the United States the one hundred and thirty-fifth.

COLORADO NATIONAL MONUMENT.

This area was set aside as a national monument by the President's proclamation of May 24, 1911, and is situated near Grand Junction, Colo., from which that portion of the monument known as No Thoroughfare Canyon is reached by wagon road. Other parts of the monument are reached by foot trails. The site is in a picturesque canyon, which has long been an attractive feature of that portion of the State. The formation is similar to that of the Garden of the Gods at Colorado Springs, Colo., only much more beautiful and picturesque. With the exception of the Grand Canyon of the Colorado, it exhibits probably as highly colored, magnificent, and impressive examples of erosion, particularly of lofty monoliths, as may be found anywhere in the West. These monoliths are located in several tributary canyons. Some of them are of gigantic size, one

being over 400 feet high, almost circular in cross section, and 100 feet in diameter at base. There are also many caverns within the monument which have not been explored. There are many fine springs in the park, which furnish water to visitors. During the winter hundreds of deer come down into the park.

Mr. John Otto, of Fruita, Colo., has acted as custodian of this monument since June 7, 1911, and has single handed surveyed and



Colorado National Monument, Colo., embracing parts of Tps. 11 and 12 S., Rs. 101 and 102 W. of the sixth principal meridian, and part of sec. 32, T. 1 N., R. 2 W. of the Ute meridian, Colorado, containing 13,833.06 acres; created May 24, 1911.

built several good roads and trails and has carved steps in the monoliths which form the chief scenic features of the monument. Mr. Otto spends practically all of his time in the monument and is continually at work in making the monument more attractive and accessible.

By order of February 19, 1915, the President modified the proclamation of May 24, 1911, to the extent of authorizing the Secretary of the Interior to issue permits to the town of Fruita to occupy and

use certain lands in this monument in township 11 south, range 102 west, sixth principal meridian, for construction, operation, and maintenance of a conduit and related works for municipal water supply and power development.

PETRIFIED FOREST OF ARIZONA.

The Petrified Forest of Arizona lies in the area between the Little Colorado River and the Rio Puerco, 15 miles east of their junction. This area is of great interest because of the abundance of petrified coniferous trees, as well as its scenic features. The trees lie scattered about in great profusion; none, however, stands erect in its original place of growth, as do many of the petrified trees in the Yellowstone National Park. The trees probably at one time grew beside an inland sea; after falling they became waterlogged, and during decomposition the cell structure of the wood was entirely replaced by silica derived from sandstone in the surrounding land. Over a greater part of the entire area trees lie scattered in all conceivable positions and in fragments of all sizes. The localities where the petrified trees are found are known as the First Forest, Second Forest, and Rainbow Forest.

The First Forest lies 6 miles south of Adamana, a station on the Santa Fe Pacific Railway. In this forest there are not as many large tree trunks as in the other forests, the chief object of interest and perhaps the most prominent of all the scenic features of the region being the well-known Natural Bridge, consisting of a great petrified tree trunk 60 feet long spanning a canyon 45 feet in width, and forming a footbridge over which anyone may easily pass. The ends of the tree trunk are embedded in the surrounding sandstone, the canyon evidently having been formed after the tree had silicified.

The Second Forest lies about $2\frac{1}{2}$ miles south of the First Forest and contains about 2,000 acres covered with fragments of petrified wood and tree trunks up to 4 feet in diameter. The wood is all highly colored and beautiful specimens are in abundance.

The third or Rainbow Forest lies about 13 miles south of Adamana and 18 miles southeast of Holbrook, Ariz., also on the Santa Fe Railway. In this forest the tree trunks are larger than elsewhere, more numerous, and less broken. There are in this vicinity several hundred whole trees, some of which are more than 200 feet long, partially embedded in the ground. The color of the wood is deeper and more striking than in the other localities. The main traveled road from Holbrook to St. Johns passes through this forest.

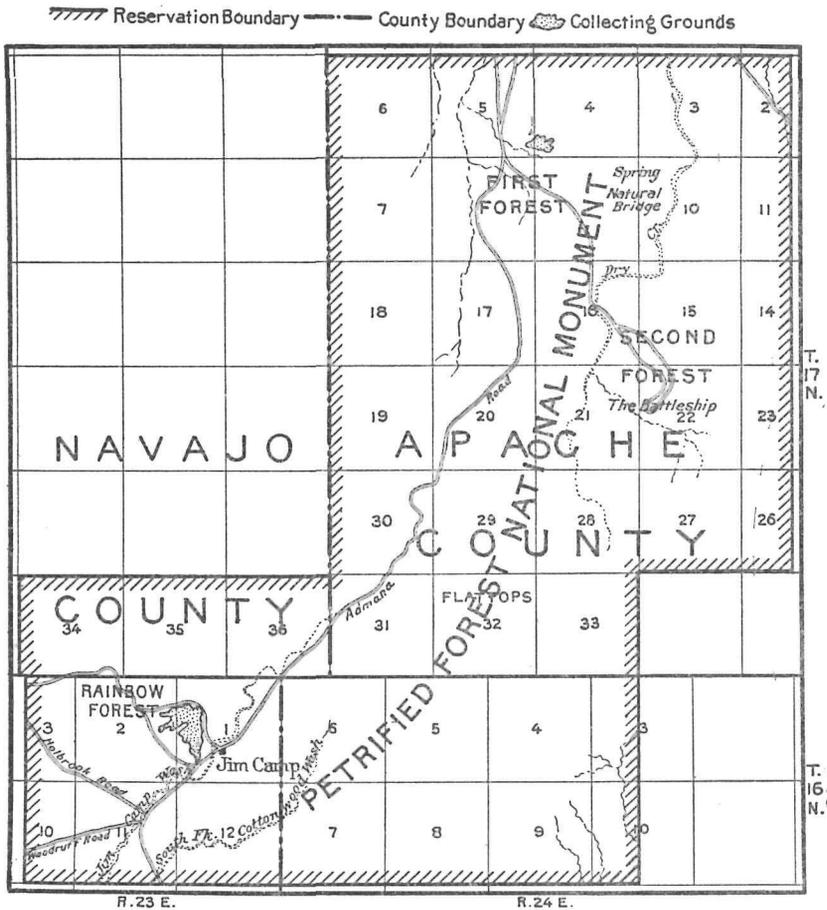
The First and Second Forests are reached by team and wagon from Adamana. The Third Forest can be reached from Adamana, but it is a long drive and is seldom made; the better method is by either team or automobile from Holbrook. The roads to the First and Second Forests from Holbrook are too sandy for automobile travel and the distance is too great to make the trip comfortably by team.

Prof. Lester F. Ward, of the Geological Survey, has stated that—

There is no other petrified forest in which the wood assumes so many varied and interesting forms and colors, and it is these that present the chief attraction for the general public. The state of mineralization in which much of this wood exists almost places them among the gems or precious stones. Not only are chalcedony, opals, and agates found among them, but many approach the condition of jasper and onyx. The degree of hardness attained by them is such that they are said to make an excellent quality of emery.

Dr. Walter Hough, of the Smithsonian Institution, who visited this monument, states that—

In the celebrated Petrified Forest, which is some 18 miles from Holbrook, Ariz., on the picturesque Santa Fe Railroad, there are ruins of several ancient Indian villages. These villages are small, in some cases having merely a few houses, but what gives them a peculiar interest is that they were built of logs of beautiful fossil wood. * * * The prehistoric dwellers of the land selected



Petrified Forest National Monument, Ariz., embracing secs. 1, 2, 11, and 12 and E. $\frac{1}{2}$ secs. 3 and 10; T. 16 N., R. 23 E.; secs. 4 to 9 and W. $\frac{1}{2}$ secs. 3 and 10, T. 16 N., R. 24 E.; secs. 34, 35, 36, T. 17 N., R. 23 E., secs. 3 to 10, 15 to 22, 27 to 33, and W. $\frac{1}{2}$ secs. 2, 11, 14, 23, 26, T. 17 N., R. 24 E., Gila and Salt River meridian, containing 40.04 square miles, set aside by proclamation of the President July 31, 1911.

cylinders of uniform size, which were seemingly determined by the carrying strength of a man. It is probable that prehistoric builders never chose more beautiful stones for the construction of their habitations than the trunks of the trees which flourished ages before man appeared on the earth.

This wood agate also furnished material for stone hammers, arrowheads, and knives, which are often found in ruins hundreds of miles from the forest.

Mr. Chester B. Campbell, custodian of the monument, reports that while the general condition of the monument is good, the natural bridge has become badly cracked and requires support, which could

best be effected by installing a steel beam running the entire length of the bridge. About 700 visitors per month go to the forests from Adamana.

NAVAJO NATIONAL MONUMENT.

The Navajo National Monument as originally created by proclamation of March 20, 1909, embraced approximately 600 acres within the Navajo Indian Reservation, which was reserved tentatively and with a view to reduction to such small tract or tracts as might thereafter be found to contain valuable prehistoric pueblo or cliff dwellings, when the extent of the same could be determined by an examination on the ground and their locus definitely fixed by traverse lines connecting them with some corner of the public survey. Both of these conditions having been fulfilled, the monument was reduced by proclamation dated March 14, 1912, to three small tracts aggregating 360 acres. Within two or these tracts are located, respectively, two interesting and extensive pueblo or cliff-dwelling ruins in a good state of preservation and known as Betata Kin and Keet Seel, and a third cliff-dwelling ruin called Inscription House.

The new boundaries of the Navajo National Monument under the latter proclamation are shown in figure 2.

The Betata Kin ruin gets its name from the fact that the buildings are situate on the steep sloping sides of a cliff, Betata Kin being the Navajo words signifying "sidehill house." They were found August 8, 1908, by J. W. Wetherill and Prof. Byron Cummings, a Navajo Indian having informed Mrs. Wetherill of their existence.

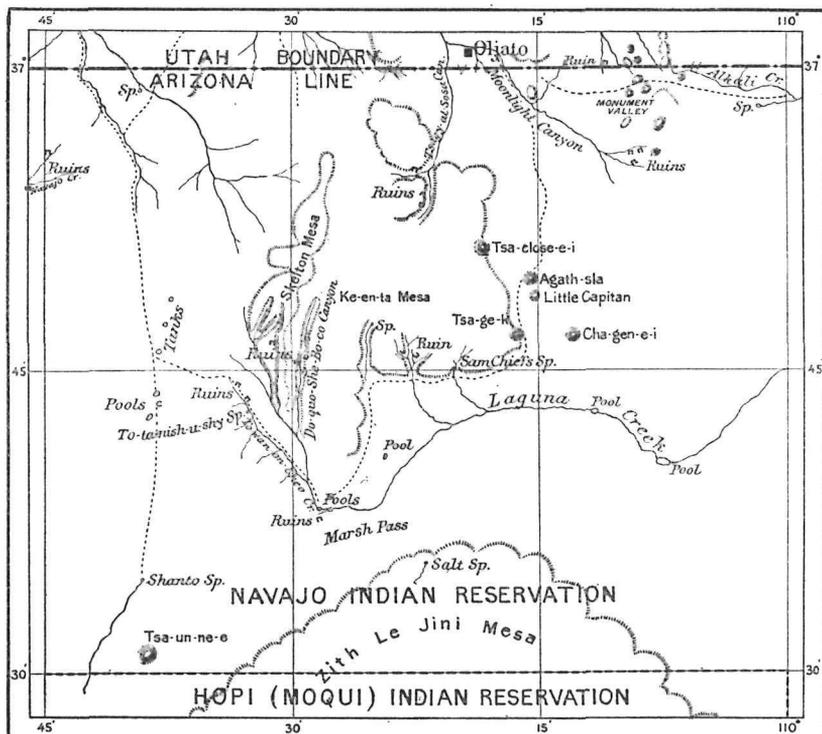
This ruin is situate at an elevation of 7,000 feet, in a crescent-shaped cavity 600 feet wide by 350 feet high, in the side of a soft red sandstone cliff which forms the walls of a small canyon. The location is about 2 miles west of Laguna Creek, 8 miles north of Marsh Pass, and 18 miles northwest of Kayenta, a post office and trading post on the Navajo Indian Reservation.

An inspection of the walls of the ruin indicates that there were originally 106 houses or rooms. The walls of 51 rooms are now standing, 17 of which have well-preserved roofs. The walls of the houses are constructed of sandstone blocks, held together with mud and mortar. The roofs are made of spruce timbers, placed crosswise to form joists, the ends projecting through the outer walls. Smaller poles are placed at right angles with these and then covered with a thatch of willows and mud, which forms the roof. Inside, the floors are plastered with mud; and in nearly every room there is a small circular or square hole about 9 inches deep, which was evidently used for a fireplace. The rooms have doorways or openings in the roofs and sides, the largest opening noted being 18 by 30 inches. The average size of the rooms is 6 by 6 by 6 feet.

The Keet Seel (Navajo for "broken pottery") ruins were discovered in March, 1894, by Richard Wetherill. They are situate at an elevation of 7,100 feet, in a crescent-shaped cave 400 feet long by 150 feet high, near the base of a soft red sandstone cliff on the west side of Laguna Creek, 12 miles north of Marsh Pass and 24 miles northwest of Kayenta.

These ruins are very much similar in construction to the Betata Kin ruins, but are in a much better state of preservation. This is doubtless due to the fact that the overhanging cliffs protect the

buildings from the action of storms. In the ruins there are several 2-story buildings and 2 circular-shaped rooms. There are 47 rooms with standing walls, the roofs having fallen in, and 56 rooms covered over with well-preserved roofs. The construction of the roofs in these buildings is similar to those in the Betata Kin ruins. The rooms are about 7 by 7 by 5 or 6 feet high. The openings or doorways are 18 inches by 30 inches, set about 2 feet from the floor of the structure.

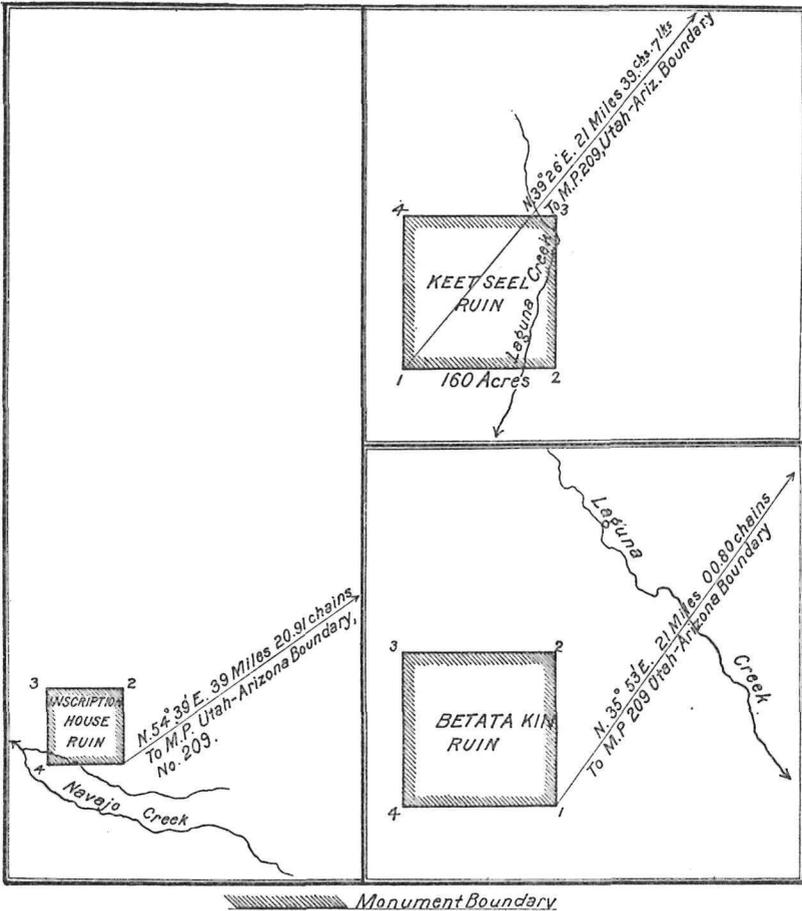


Navajo National Monument, Ariz., embracing all cliff-dwelling and pueblo ruins between the parallel of latitude $36^{\circ} 30'$ and 37° north and longitude 110° and $110^{\circ} 45'$ west from Greenwich, with 40 acres of land in square form around each of said ruins, as originally created March 20, 1909.

The ruins are difficult to reach, it being necessary to scale a steep sandstone cliff for a distance of 30 feet in order to reach the base of the ruins.

Inscription House Ruin is located on Navajo Creek, about 20 miles west of the Betata Kin Ruin. This ruin is regarded as extraordinary, not only because of its good state of preservation, but because of the fact that upon the walls of its rooms are found inscriptions written in Spanish by early explorers and plainly dated 1661. It is located about half way up the side of a steep cliff in a crescent-shaped niche or cave 15 to 50 feet in depth by 500 feet in length and about 75 feet in height. There is very little sheltering cliff over the ruins, and they are in places easily reached by storms.

These ruins differ from the other ruins in the material used in their construction. The walls are constructed of mud bricks made by rolling bunches of straw in mud and then molding into shape. The bricks are about 4 inches square by about a foot or more in length and are laid into the walls with mud mortar. The walls thus formed are tough and rigid and are free from cracks. Several of the rooms



Navajo National Monument, Ariz., containing 360 acres, embracing the Keet Seel and Betata Kin ruins, located in two small tracts of 160 acres each, along Laguna Creek, and Inscription House ruins, on Navajo Creek, in a 40-acre tract, all within the Navajo Indian Reservation, as reduced by proclamation of March 14, 1912.

are made of reeds and tules, set vertical and plastered over and filled in with mud. The roofs of the buildings are made of the mud bricks placed on a framework of small poles covered over with reeds and tules. There are 64 rooms, 30 of which are roofed over. The rooms are small and mostly single story. Two of the buildings are two stories high. The doorways are small and are built with a small niche at the bottom.

The ruins can be reached only by saddle horse and pack outfit over a very rough trail from Marsh Pass or Kayenta. Kayenta can be reached by team from Flagstaff, Ariz., via Tuba, or from Gallup, N. Mex., either point being about 125 miles distant. At Kayenta pack horses and guides can be secured to make a trip to the ruins, two or three days being required to visit the Betata Kin and Keet Seel Ruins, and at least three days more to visit the Inscription House Ruin. The Inscription House Ruin can best be reached from Tuba, via Red Lake, a distance of about 60 miles, over a rough mountain trail. The Santa Fe Railway is the nearest and most accessible railroad from which to reach the ruins.

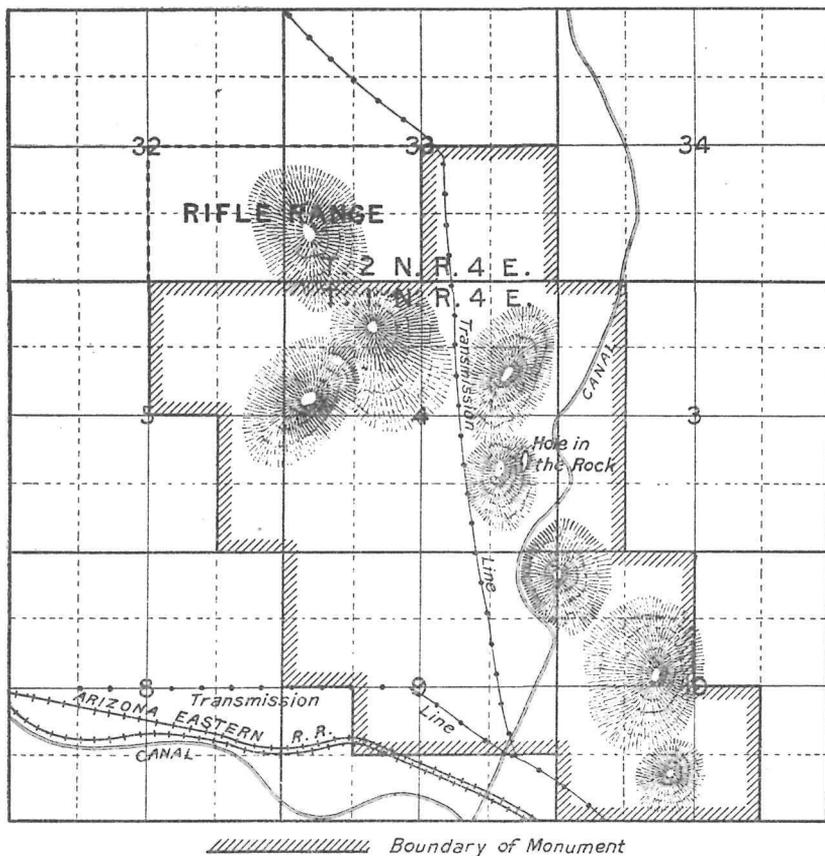
An interesting description of this national monument and vicinity is contained in Bulletin No. 50 of the Bureau of American Ethnology, which comprises results of explorations by Dr. Jesse Walter Fewkes, of that bureau, in 1909 and 1910.

These ruins are in an excellent state of preservation, their condition not having changed in the past 35 years. The houses are protected from the elements by the overhanging cliffs, and deterioration is very slow. No vandalism has occurred, as practically the only inhabitants in the vicinity are Indians, who refrain from molestation of the ruins in any manner.

PAPAGO SAGUARO NATIONAL MONUMENT.

This monument was created by proclamation of January 31, 1914, and embraces approximately 2,050 acres of rocky and desert land in Maricopa County, about 9 miles east of Phoenix, Ariz. Within the tract is found a splendid collection of characteristic desert flora, including many striking examples of giant cactus (saguaro) and many other interesting species of cacti, such as the prickly pear, Cholla, etc., as well as fine examples of the yucca palm, all of which are of great scientific interest and grow in this monument to great size and perfection. The saguaro is that variety of cactus which grows in a cylindrical form to a height of 30 or 35 feet, with from one to a dozen branches of the same character from the main stalk, generally near the top. There are also within the tract prehistoric pictographs which are found upon the faces of the rocks, adding to the interest of the reservation and to its ethnological and archaeological value. Through the center of the tract, running northwest and southeast, is a ridge of low hills rising from the flat desert to a height of 150 to 200 feet. The rocks in the ridge have been worn considerably by the elements, resulting in numerous caves and a few openings extending entirely through the rocks. One of these openings, known locally as "Hole-in-the-rock," is an aperture some 15 feet high and 25 feet long with an amphitheater approach to the hole on each side. These approach rooms are about 30 feet square, with the overhanging rock for a roof in each case. The monument is visited by several thousand people each year as a picnic ground, as it is readily reached by automobile or team, over good roads, from Phoenix or Tempe, Ariz., distant respectively 9 and 3 miles. Phoenix is reached by rail by the Santa Fe, Prescott & Phoenix Railroad, a branch of the main line of

the Santa Fe Railway from Ash Fork, Ariz. Phoenix and Tempe are also reached by the Arizona & Eastern Railroad, which branches from the main line of the Southern Pacific Railway at Maricopa, Ariz. The monument is well located to be viewed in connection with a trip over the great irrigation system of the Salt River Valley, better known as the Roosevelt project of the Reclamation Service.



Papago Saguaro National Monument, Ariz., embracing the SE. $\frac{1}{4}$ of sec. 33, T. 2 N., R. 4 E.; W. $\frac{1}{2}$ of W. $\frac{1}{2}$ sec. 3, all sec. 4, NE. $\frac{1}{4}$ and E. $\frac{1}{2}$ of SE. $\frac{1}{4}$, sec. 5, W. $\frac{1}{2}$ and W. $\frac{1}{2}$ SE. $\frac{1}{4}$ sec. 10, N. $\frac{1}{2}$ N. $\frac{1}{2}$ SE. $\frac{1}{4}$ and NE. $\frac{1}{4}$ of SW. $\frac{1}{4}$ sec. 9, T. 1 N., R. 4 E., all east of Gila and Salt River meridian, containing 2,050.43 acres.

DINOSAUR NATIONAL MONUMENT.

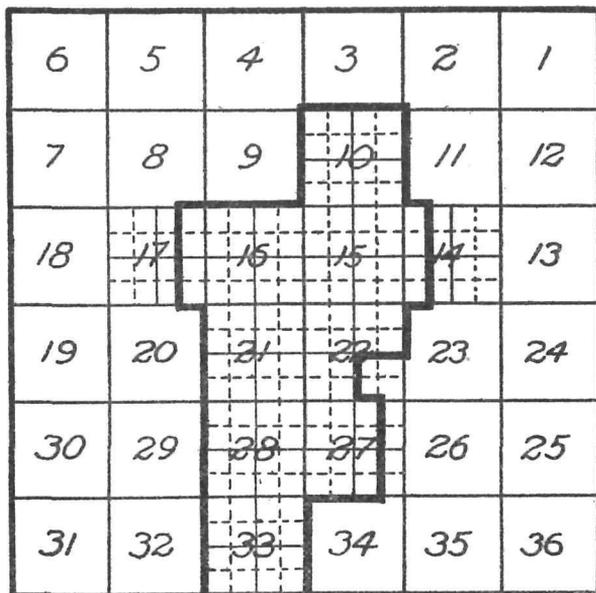
This national monument was created by proclamation dated October 4, 1915, and embraces 80 acres of land situated in Uinta County, northeastern Utah, east of Vernal, the same being the NW. $\frac{1}{4}$ of the SE. $\frac{1}{4}$ and the NE. $\frac{1}{4}$ of the SW. $\frac{1}{4}$, sec. 26, T. 4 S., R. 23 E., Salt Lake meridian. By this proclamation lands are reserved upon which is located an extraordinary deposit of dinosaurian and other gigantic reptilian fossil remains, of the Juratrias geologic period, which are of

great scientific interest and value, the object of creation of the monument being to prevent their unauthorized excavation and removal.

CINDER CONE NATIONAL MONUMENT.

The Cinder Cone National Monument was created by proclamation dated May 6, 1907. It is situated within the Lassen Peak National Forest, and with the adjacent area, embracing a lava field and Snag Lake and Lake Bidwell, is of scientific interest as illustrative of volcanic activity, and is of special importance in tracing the history of the volcanic phenomena of that vicinity.

This monument may be reached by old secondary roads from Fall River Mills, on Pit River, or from Susanville, on the Fernley-Lassen



Cinder Cone National Monument, within Lassen Peak National Forest, Cal., embracing part of T. 31 N., R. 6 E., Mount Diablo meridian; created May 6, 1907.

branch of the Southern Pacific Railway. The best route is by road from Red Bluff, Susanville, or Westwood, on the Southern Pacific Railway, or from Keddie, on the Western Pacific Railway, to Drake Hot Springs (now known as Drakesbad). From this point a good trail leads to the Cinder Cone National Monument, distant 12 miles.

Hotel and camping accommodations are furnished at Drakesbad in summer, and the round trip by saddle horse can easily be made in a day to the Cinder Cone, taking in Twin Lakes and Snag Lake en-route.

LASSEN PEAK NATIONAL MONUMENT.

The Lassen Peak National Monument was created by proclamation dated May 6, 1907. It is situated within the Lassen Peak National Forest and marks the southern terminus of the long line of extinct volcanoes in the Cascade Range, from which one of the greatest

volcanic fields in the world extends, and is of special importance in tracing the history of the volcanic phenomena of that vicinity.

This monument covers sections 34 and 35, township 31 north, range 4 east, Mount Diablo meridian, and takes in the summit of Lassen Peak, now an active volcano.

The monument may be reached from all sides, but the main trail goes up the southwest shoulder of the mountain. The mountain may be reached from Red Bluff on the Southern Pacific Railway, via Red Bluff-Susanville Road to Morgan Springs and thence 10 miles up the Mill Creek trail; or one may go on to Drake Hot Springs and thence 11 miles by trail up Kings Creek to the summit. Morgan Springs and Drake Hot Springs may also be reached by auto or team from Keddie, on the Western Pacific Railway, or Susanville or Westwood, on the Fernley-Lassen Branch of the Southern Pacific. Morgan and Drake Springs have hotel accommodations in summer.

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

Lassen Peak National Monument, within Lassen Peak National Forest, Cal., embracing part of T. 31 N., R. 4 E., Mount Diablo meridian; created May 6, 1901.

GILA CLIFF-DWELLINGS NATIONAL MONUMENT.

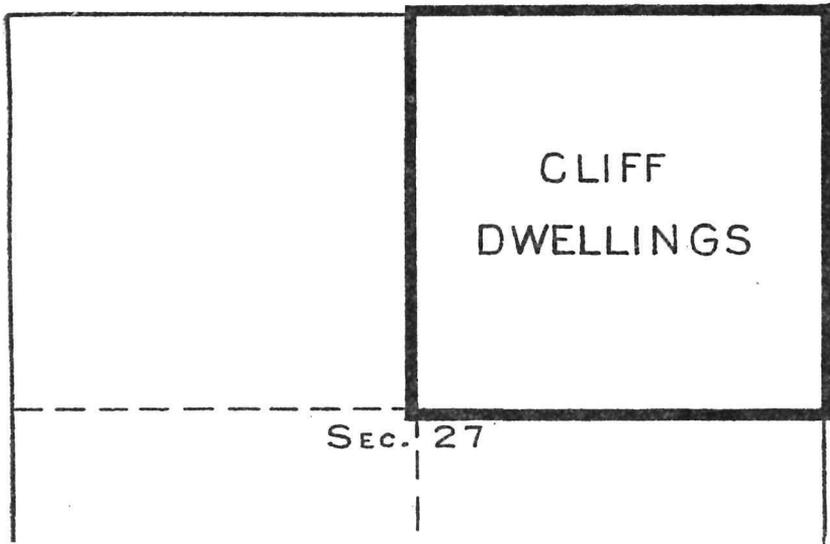
The Gila Cliff-Dwellings National Monument was created by proclamation dated November 16, 1907. These cliff-dweller ruins are neither very large nor very important, but are located in a district in which few prehistoric ruins are found.

The ruins are situated approximately 50 miles northwest of Silver City, N. Mex., and about 4 miles northwest of the Gila Hot Springs. The best way to reach them is by wagon and trail from Silver City via Pinos Altos.

The ruins are located in the mouth of a deep, rough canyon, known as the Cliff Dwellers Canyon, flowing into the West Fork of the Gila River from the south. They occupy four natural cavities in the base

of an overhanging cliff which is about 150 feet high and composed of a grayish yellow volcanic rock.

The largest cavity is nearly circular and about 50 feet in diameter. The arched rock forming the roof is about 10 feet above the center of the floor. In one corner is a small room 6 by 8 feet, built of rock and adobes and provided with a small entrance window. Natural archways lead into two smaller tributary cavities. These are divided into a number of small rooms by walls built of adobe and small stones which are in such a good state of preservation that finger imprints made in the adobe when the walls were built, can still be plainly seen. Above the small doorways and windows, pieces of timber were used which are perfectly preserved. In some of the higher walls holes can



Gila Cliff-Dwellings National Monument, within Gila National Forest, N. Mex., embracing NE $\frac{1}{4}$ of sec. 27, T. 12 S., R. 14 W., New Mexico meridian; created November 16, 1907.

be seen where timbers which undoubtedly formed the joists for a second story have been burned out.

A fourth cavity, separate from the others, contains the walls of small rooms in a good state of preservation. There is still another cavity, high on the face of the cliff, which has never been explored. As the cliff overhangs, it is impossible to enter it by means of suspended ropes. It can be entered only by means of a ladder.

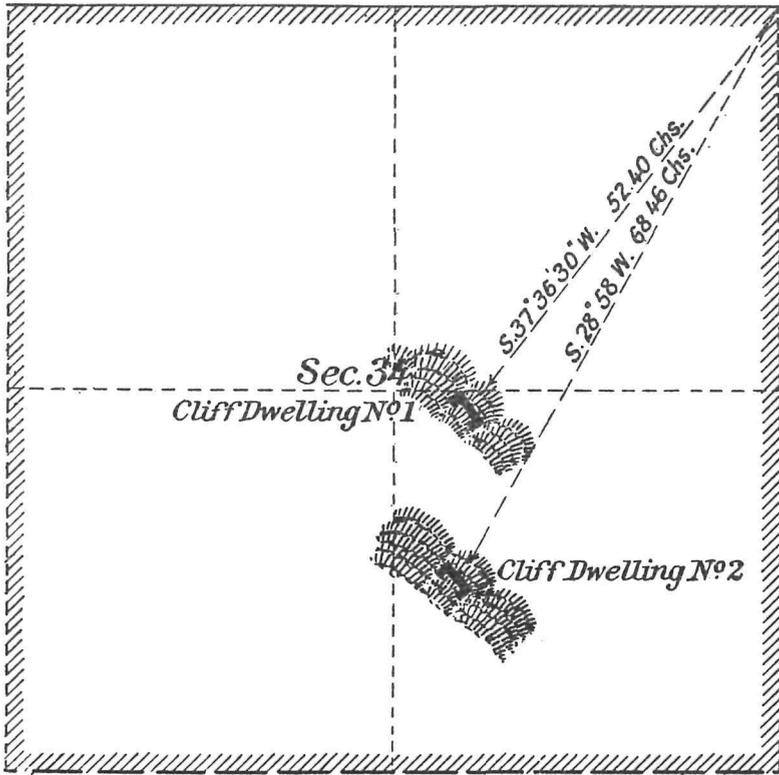
Part of the outer wall, which at one time evidently closed the openings into these cavities, is still partially preserved. The remainder shows that it was intended for defensive purposes, as small windows are the only openings.

When these cliff dwellings were first discovered by prospectors and hunters in the early seventies, a number of relics in the shape of sandals, baskets, water vessels, cooking utensils, spears, etc., were found. Corncobs can still be found in numbers. Some of the walls have been destroyed by vandals.

A mummy was found here a number of years ago which eventually was placed in the Smithsonian Institution. Another mummy, found in 1912, also was forwarded to the Smithsonian Institution.

TONTO NATIONAL MONUMENT.

The Tonto National Monument was created by proclamation dated December 19, 1907, and is located in Gila County, Ariz. Situated only 1 mile south of the ocean-to-ocean highway, 80 miles east of



Tonto National Monument, unsurveyed sec. 34, T. 4 N., R. 12 E., Gila and Salt River meridian, Ariz., containing 640 acres; created December 19, 1907.

Phoenix, 40 miles north of Globe, Ariz., and about 4 miles east of the Roosevelt Dam, the Tonto National Monument is one of the most easily accessible ruins of the vanished race of cliff dwellers. From the main road between Globe and Phoenix, Ariz., automobiles may be driven over a good branch road to within half a mile of the nearest of the groups of cliff dwellings.

The southern group of dwellings is located in a cavern formed by the peculiar weathering of argillite rock, which forms a perpendicular or overhanging wall, with a steep talus slope below, so plentifully studded with cholla cactus as to suggest their having been planted there by the cliff dwellers as a defense against their enemies. This natural cavern is about 125 feet across and the ledge upon

which the dwellings are built is 35 feet wide at the widest point. From the outer edge of the footwall to the overhanging roof of the cavern the perpendicular distance is 30 or 40 feet. The dwelling, evidently communal, contained originally about 15 chambers, each from 12 to 16 feet square and 6 feet in height. Ten chambers are in a fair state of preservation, and most of these are two or three storied, depending upon whether or not the inhabitants lived in the space between the second artificial roof and the cavern roof above. The construction of the dwellings shows careful planning and no mean knowledge of the art of masonry. The walls are of flat rocks cemented together with a gravelly adobe. The ceilings are cleverly constructed of wooden poles with their ends deeply embedded in the side walls. A solid layer of fibers from the Sajauro or giant cactus rests transversely upon the poles, and upon them is spread about 4 inches of adobe, forming the floor of the chamber above. Small openings, or doors, generally about 2 by 4 feet, provided communication between chambers on the same level, but in only one instance (noted in the northern group of dwellings) is there an opening in the ceiling of a chamber to allow egress to the chamber above. There are occasional small holes in the side walls of the inner chambers, apparently for the purpose of ventilation, lighting, or communication, but so-called "arrow holes" in the outer walls, through which the beleaguered inhabitants are popularly supposed to have shot arrows at storming parties of their enemies, have every appearance of being simply apertures left by the removal of the roofing poles. Fragments of metates, or primitive stone utensils for grinding corn, and even corncobs, are to be found among the ruins.

The northern group of dwellings includes two caverns. One contains about 12 rooms in a better state of preservation than those of the southern group, although badly vandalized. One large interior chamber is in a perfect state of preservation. The other cavern of this group contains eight single-storied chambers, poorly preserved.

GRAND CANYON NATIONAL MONUMENT.

A considerable portion of the area set aside by the proclamation creating this national monument is covered by three different proclamations, one of which created the Grand Canyon Forest Reserve, one the game preserve embracing that part of the national forest north of the river, and the third the monument proclamation. The monument now comprises a tract of 800,000 acres lying within the Tusayan and Kaibab National Forests, and is partly coextensive with the Grand Canyon Game Preserve. It is believed that the most wonderful portion of the canyon is contained within the present limits of the national monument and game preserves.

The Grand Canyon of the Colorado was discovered in the year 1540 by Don Garcia Lopez de Cardenas, a captain under Coronado. The pioneer work in its scientific exploration was done between the years 1869 and 1882 by the late Maj. John Wesley Powell, United States Army, and formerly Director of the United States Geological Survey. In 1902 it became accessible by railroad and is now visited by 100,000 people each year.

All experienced travelers, with one accord, have given the Grand Canyon a high place among the great wonders of the world. It con-

sists of a mile-deep gorge cut through a hundred miles of high forested plateau, and is principally remarkable for its brilliant and variegated color effects and the extraordinary sculpturing of its interior by ages of erosive action. The lateral canyons contain many cliff dwellings. While the main canyon is more than 10 miles wide at all points, the river itself runs through an inner chasm of solid granite and contains many rapids which have claimed a number of lives and have not been often successfully navigated. A cable ferry crosses the river at one point.

That part of the Grand Canyon National Monument south of the river, which is the part most often visited, is administered by the United States Forest Service as part of the Tusayan National Forest. The forest supervisor's headquarters is at Williams, Ariz., and the local forest ranger is stationed at Rowe Well, $3\frac{1}{2}$ miles southwest of the railroad terminal. To preserve the scenic value of points along the rim, especially thorough protection is provided against forest fires.

The easiest way to reach the Grand Canyon is by way of the Santa Fe Railway, which maintains a branch line extending from its main transcontinental line at Williams, Ariz., to the south rim of the canyon itself. At this point first-class hotel facilities and livery service are afforded, while excellent roads and trails lead into the canyon and to points along the rim in either direction.

Transcontinental motorists are also visiting the canyon in increasing numbers. Good branch roads lead to the canyon from the main ocean-to-ocean highway.

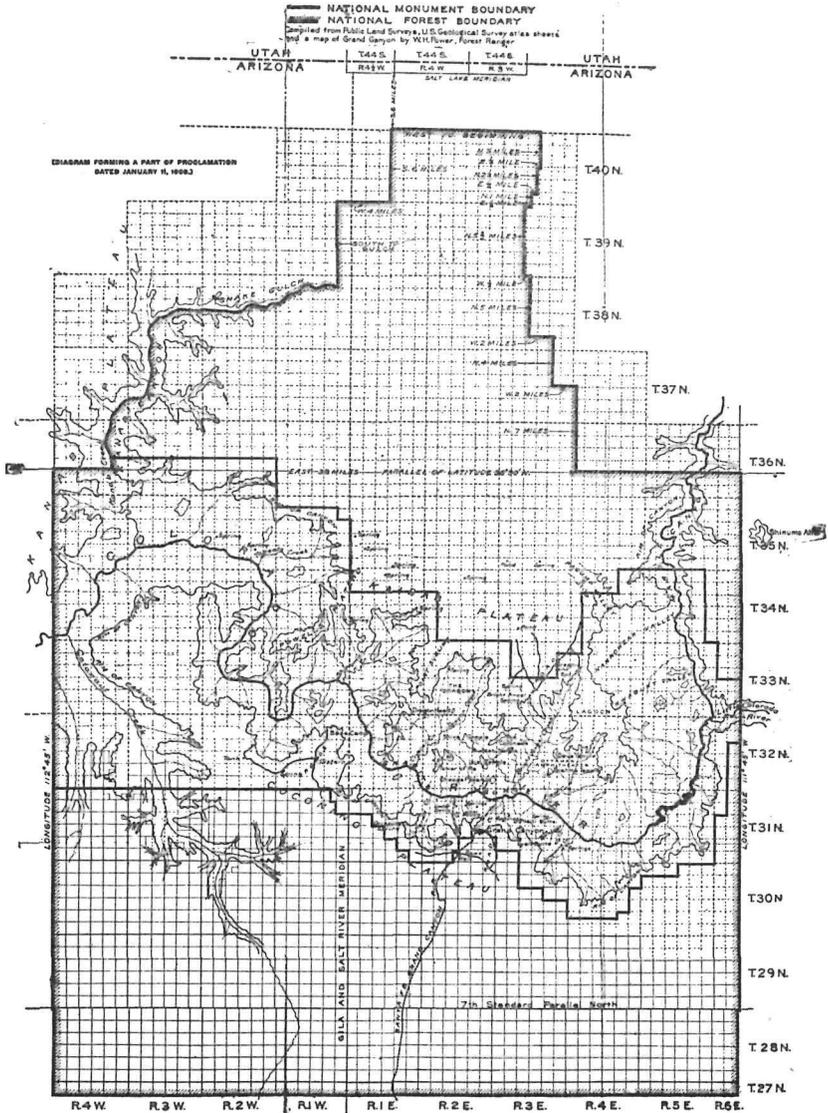
Under the protection given by the Forest Service, under the authority of the proclamation establishing the Grand Canyon National Game Preserve, game animals have steadily increased. The preserve is now estimated to contain 10,000 head of blacktail deer and a large number of bighorn or mountain sheep. Mountain lions and other predatory animals are systematically destroyed by forest officers.

Steps were taken to create a national park of the Grand Canyon of the Arizona, and a bill (H. R. 6331) providing for such purpose was introduced in Congress April 20, 1911. The bill, however, did not become a law. The Association of American Geographers has recommended that the above-mentioned park be designated as Powell National Park, and the Geological Society of America has approved the naming of the national park in the Grand Canyon of the Colorado after its explorer, Maj. John Wesley Powell.

The sundry civil act approved March 4, 1909, appropriated \$5,000 for the purpose of procuring and erecting on the brink of the Grand Canyon in the Grand Canyon Forest Reserve (within the limits of the Grand Canyon National Monument) a memorial to Maj. John Wesley Powell in recognition of his distinguished public service as a soldier, explorer, and administrator of Government scientific work, and provided that the design for the memorial and the site should be approved by the Secretary of the Interior. Thereafter the Secretary designated as an advisory committee Dr. W. H. Holmes, Chief of the Bureau of Ethnology, Dr. C. D. Walcott, Secretary of the Smithsonian Institution, and Col. H. C. Rizer, chief clerk of the United States Geological Survey, to assist in determining the character of the monument and the selection of the site. This committee

submitted designs prepared by Mr. J. R. Marshall, of Washington, D. C., and his plans were referred to the Commission of Fine Arts and have received its approval.

Subsequently, in 1915, at the instance of the Secretary of the Interior, these plans were revised in certain respects by Mr. Mark



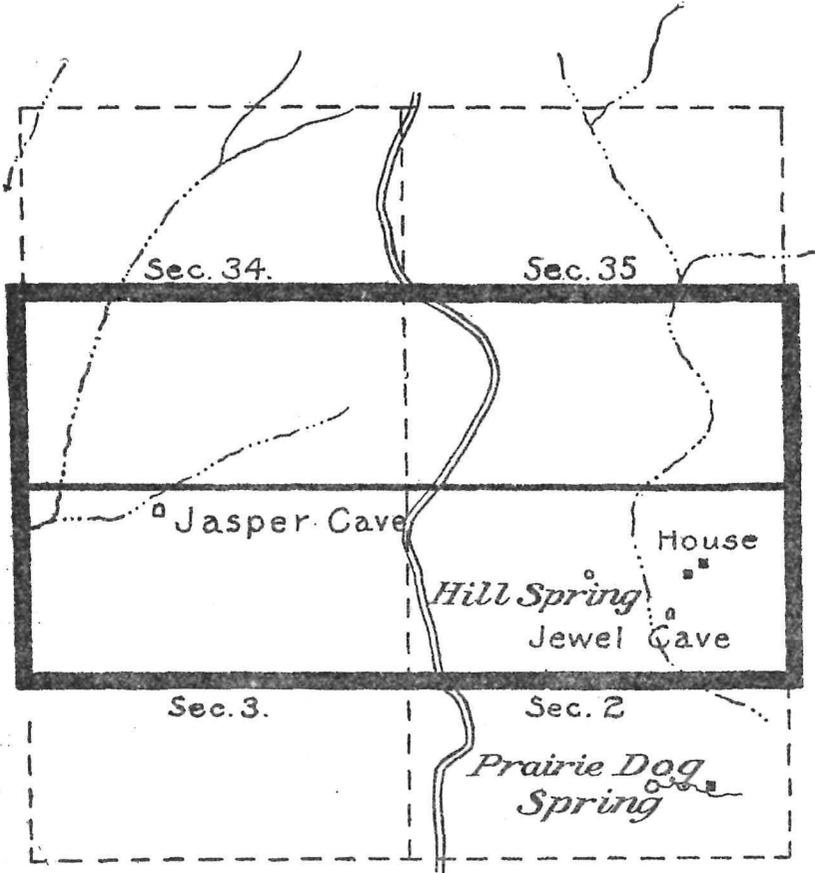
Grand Canyon National Monument, within Grand Canyon National Forest, Ariz.; created January 11, 1908.

Daniels, general superintendent and landscape engineer of national parks, and Mr. Walter Ward, engineer of the Reclamation Service, was placed in charge of actual construction work on the memorial. This work was commenced late in the summer of 1915, and was completed on October 26, 1915.

JEWEL CAVE NATIONAL MONUMENT.

Jewel Cave National Monument was created by proclamation dated February 7, 1908.

Jewel Cave, which is located 13 miles west and south of Custer, the county seat of Custer County, S. Dak., was discovered on August 18, 1900, by two prospectors, Albert and F. W. Michaud, whose attention was attracted by the noise of wind coming from a small hole in the



Jewel Cave National Monument, within Black Hills National Forest, S. Dak., Tps. 3 and 4 S., R. 2 E., Black Hills meridian; created February 7, 1908.

limestone cliffs on the east side of Hell Canyon. In the hope of discovering some valuable mineral and the source of the wind, these men, in company with one Charles Bush, enlarged the opening.

The cave, as far as known, is located in limestone formation and is apparently the result of action of water. A prominent geologist who visited this cave believes it to be an extinct geyser channel. The main passage has been explored a distance of over 3 miles, although it has been opened up for visitors only $1\frac{1}{2}$ miles, a short distance beyond Milk River, which is a stream flowing through a white limestone, which gives the water the appearance of milk.

The limits of the main passage and side galleries are as yet unknown. Explorations have been carried in a northerly direction and vertically 100 feet below the entrance.

On either side of the main passage are side galleries and chambers of various sizes. The first chamber, or gallery, is lithographic limestone and resembles the Gothic style of architecture. About 500 feet from the entrance, the walls and roofs of a number of the chambers are lined with a thick crystalline calcite and the floor is of calcite and manganese.

Within the different chambers one may see different colored chert. It varies in color, some having a peculiar light-green tint, also dark green and bronze. The surface of the rock is smooth and should take a high polish.

The chambers are connected with narrow passages generally, although wide passages are sometimes found. The narrow passages are very picturesque. The "box work" or honeycomb crystallization is very attractive. The color ranges from a light brown to a deep chocolate shade, and the boxlike cavities, covered with minute crystals, stand in relief from the ground mass.

Geodes of various size and shape are found in the walls and passageways, galleries, and chambers. The brilliancy of some of these cavities is very beautiful.

The explorers have been careful observers of the action of the wind within the cave. They have discovered that ordinarily the wind blows in and out of the cave for regular periods, the periods of blowing in and out being 15 hours each, although they have known the periods to be of 72 hours' duration. Other wind passages have been discovered in the vicinity of the cave.

The cave is a wonderful creation of nature and worthy of many hours of study. As yet the cave has not been robbed of its beautiful specimens. A good automobile road leads to the cave from Custer, about 12 miles distant. Good spring water is plentiful near the cave.

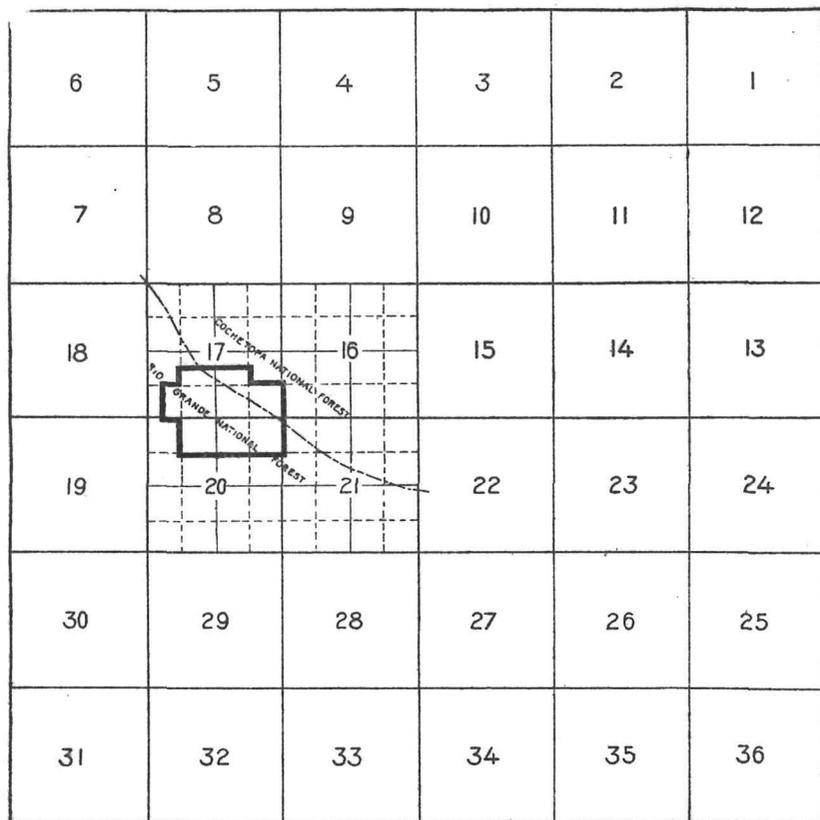
WHEELER NATIONAL MONUMENT.

Wheeler National Monument was created by proclamation of December 7, 1908, and is located on the east slope of the divide between the head of the West Fork of Bellows Creek on the south side of the range and the head of the South Fork of Saguache Creek on the north side of the range and about 1 mile southeast of Half Moon Pass, in sections 17 and 20, township 42 north, range 2 east, New Mexico principal meridian, Mineral County, Rio Grande National Forest, Colo.

The tract lies on the southern slope of the ridge which forms the crest of the Continental Divide. It is traversed from north to south by numerous deep canyons with very precipitous sides, the intervening ridges being capped by pinnacle-like rocks, making it practically impossible to cross the tract from east to west, even on foot. There are also many crevices cutting the ridges transversely, making an intricate network of ravines separated by broken, precipitous ledges and broken mesas.

It is probable that the formation found here is the result of a succession of outpourings of lava and showers of volcanic ash which have left a series of nearly horizontal strata of varying degrees of

hardness. Numerous pebbles and breccia of a flint-like rock are embedded in the softer lavas which were probably gathered up by the flowing lava mud from the original bedrock. The formation is for the most part scoriaceous tufa and trachyte, with some rhyolite. The effect of erosion on this formation has been to cut it into sharply defined forms of many kinds. The harder broken rocks embedded in the lavas have acted as veritable chisels, greatly accelerating erosive action and making the lines and angles more sharply defined than



Wheeler National Monument, within Cochetopa and Rio Grande National Forests, Colo., T. 42 N., R. 2 E., New Mexico meridian; created December 7, 1908.

would be the case in ordinary weathering. This erosion is still going on at a remarkably rapid rate, making the place very interesting from the geological point of view.

The fantastic forms resulting from the rapid erosion make this spot one of exceptional beauty. The numerous winding canyons, broken ridges, pinnacles, and buttes form striking and varied scenes.

From the most reliable data it is believed that the ill-fated expedition of John C. Fremont, in 1848, reached this immediate vicinity, when disaster came upon the party, compelling it to turn back. Skeletons of mules, bits of harness, and camp equipage are found here, lending force to the recorded data.

In order to reach the monument it is necessary to use saddle horses from Wagon Wheel Gap or Creede, points on the Denver & Rio Grande Railroad. From these places the monument may be reached by two different routes; one by leaving the Rio Grande a short distance above Wagon Wheel Gap and following the old wagon road into Blue Creek Park, thence following the trail around to the monument by the way of the head of East Bellows Creek. By this route the distance is approximately 17 miles over a fairly good trail. The second route is to follow down the Rio Grande on the north side from Creede to about 1 mile below Wason, or 3 miles below Creede, thence taking the Forest Service trail, which is posted for the entire distance from where it leaves the river bottom below Wason to the monument. This is a good trail, and the distance is about 13 miles.

OREGON CAVES NATIONAL MONUMENT.

The Oregon Caves National Monument was created by proclamation of July 12, 1909.

The Oregon Caves, or "Marble Halls," of Josephine County, discovered in 1874, are located in the Siskiyou National Forest about 30 miles south of Grants Pass in Cave Mountain, a peak of the Greyback Range that divides the headwaters of the Applegate and Illinois Rivers and connects with the Siskiyou Mountains near the north line of California.

Leaving the Southern Pacific Railway at Grants Pass, a fair wagon and automobile road runs as far as the Stephens Ranch on upper Williams Creek, a distance of 26 miles. From this point to the caves the trip must be made on horseback or afoot over a very good forest trail a distance of about 10 miles.

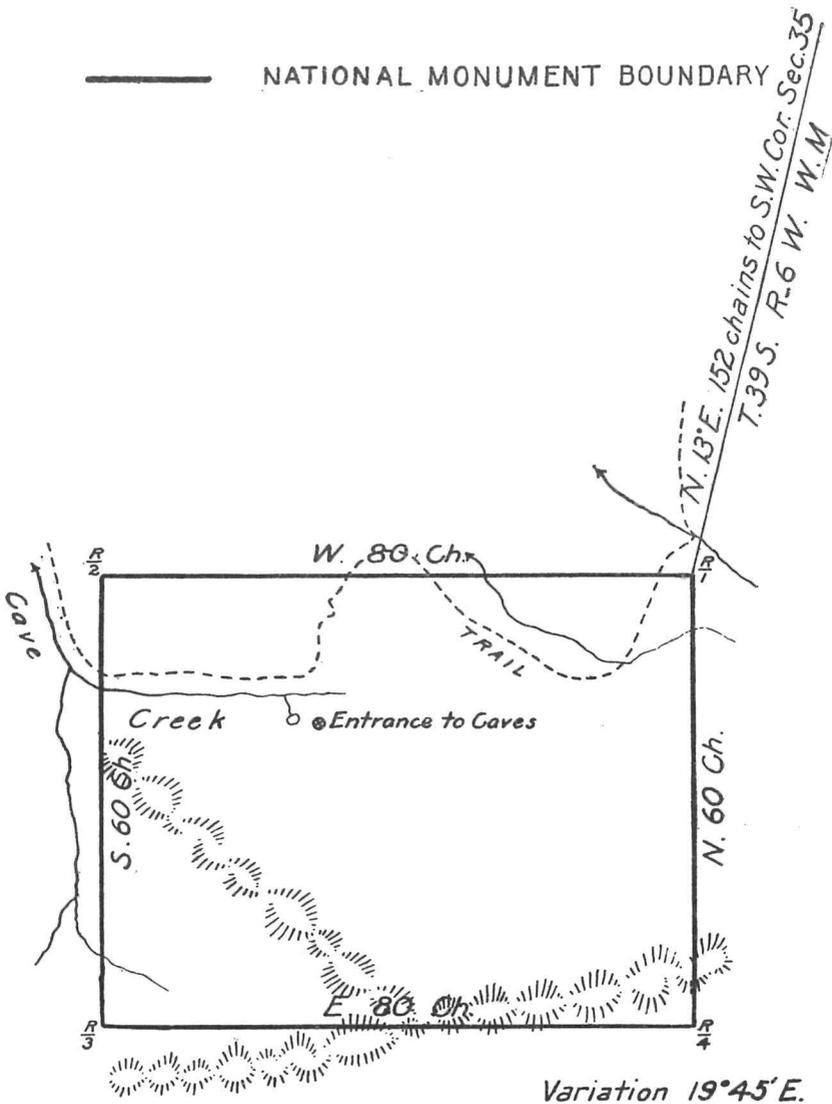
Cave Mountain, the peak which contains these caves, rises to an elevation of about 6,000 feet and is of limestone formation. The main openings around which the national monument has been created are at an elevation of 4,000 feet, but the entire mountain side of 5 or 6 miles shows caverns of various sizes, and in all probability throughout its interior is honeycombed like the portion that has been explored.

These caves are more of a series of galleries than of roomy caverns, though many beautiful rooms have been discovered, while miles of galleries have been visited; but there are thousands of passageways leading in all directions—partly closed by stalactites—that have never been opened, and with the distant and unexplored openings on the opposite side of the mountain the magnitude of the Oregon Caves can be said to be practically unknown.

Many small streams are found at different elevations, and larger bodies of running water can be heard in pits bottomless so far as measured (by 300-foot line). This running water probably accounts for currents of wind that in some of the galleries blow so hard as to extinguish an open light at once.

The lime deposits take many beautiful forms—massive pillars, delicate stalactites of alabaster whiteness with the crystal drop of water carrying its minute deposit of lime, from which they are formed, and broad sheets resembling drapery with graceful curves and waves that were certainly made by varying currents of wind during formation.

The Forest Service has rebuilt and improved the trails leading to the caves from each side of the divide, in order to more easily protect the valuable forest surrounding and to make the caves more accessible to tourists.

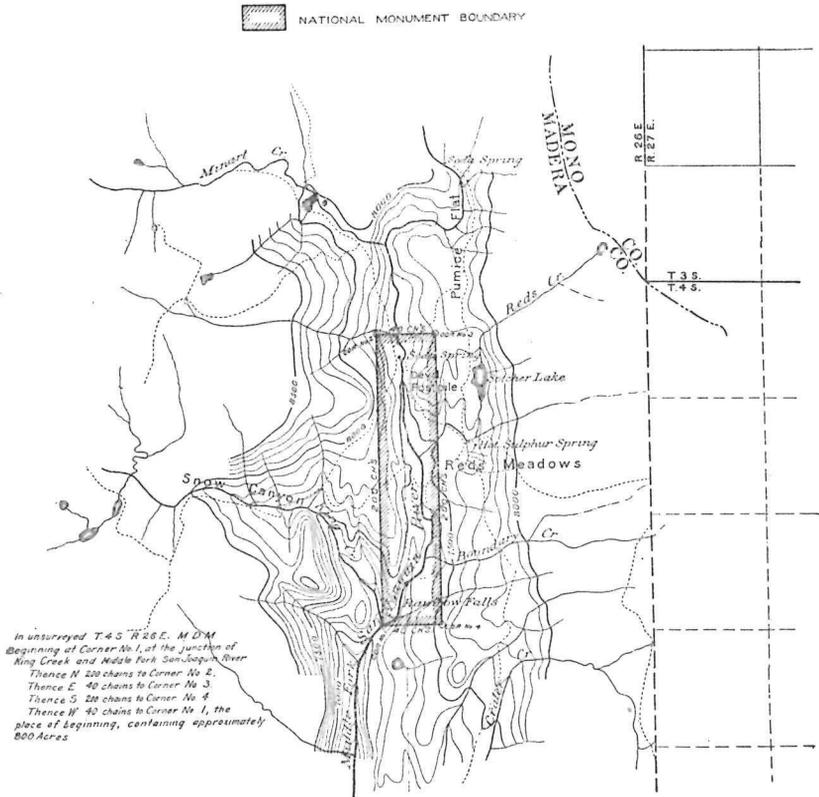


Oregon Caves National Monument, within Siskiyou National Forest, Oreg.

DEVIL POSTPILE NATIONAL MONUMENT.

This national monument was created by proclamation of July 6, 1911, and is located in the high Sierras a few miles west of the main crest of the range in the northeastern end of Madera County, in the Sierra National Forest.

The Devil Postpile consists of a spectacular mass of hexagonal basaltic rock columns, about 2 feet each in diameter and varying up to 50 feet in height, which are exposed on one side on the face of a nearly perpendicular cliff. These are laid down in the form of an immense pile of posts, and while there are similar formations in different parts of the country this is especially prominent, being one of the most noted of its kind on the continent, and said to rank with the famous Giants Causeway on the coast of Antrim, in the north of Ireland. A mile or so below the Postpile and within the limits of



Devil Postpile National Monument, Cal.

the national monument is a beautiful waterfall, known as Rainbow Fall, in the chasm of the upper Middle Fork of the San Joaquin River. The fall, while not so high, resembles in appearance the Vernal Falls of the Merced River in Yosemite National Park, and one of the few of its kind on the continent.

Within the national monument there is also a picturesque meadow which affords a fine camp site for travelers and from which the Postpile is in sight, while in the edge of the river near this meadow is a hot sulphur spring which lends much interest to the locality.

The national monument is surrounded by some of the grandest scenery of the Sierra Nevada Range, while forests of fir, lodge pole and mountain pine clothe the surrounding slopes. Its beauties and

wonders will well repay the difficulties which are imposed upon the trip by the remoteness and relative inaccessibility of its location.

The Devil Postpile National Monument is most easily reached over the crest of the range from the east. From Laws, on the Southern Pacific, there is an automobile stage through Bishop to Mammoth, which lies at the foot of the range, and from Mammoth animals can be engaged for the trip by trail which takes only half a day over Mammoth Pass to the national monument. The latter can also be reached from Fresno, in the San Joaquin Valley on the west, either by automobile stage to Northfork, Madera County, thence by a secondary road, passable for automobiles for some 10 miles farther, some 30 miles to Granite Creek, near the junction of the forks of the San Joaquin River, and from thence by trail only some 25 miles additional, or by the Southern Pacific and the San Joaquin & Eastern Railroads from Fresno to Cascada (or Big Creek, as the post office is called), where animals can be hired for the trip by trail over Kaiser Pass, or around the western flank of the Kaiser Ridge, about a two days' trip each way.

MOUNT OLYMPUS NATIONAL MONUMENT.

This monument as originally set aside by presidential proclamation of March 2, 1909, contained approximately 608,640 acres. It was created for the purpose of preserving many objects of great and unusual scientific interest, embracing numerous glaciers, and the territory has also been from time immemorial the summer range and breeding ground of the Olympic elk, a species which is rapidly decreasing in numbers. A bill was introduced in Congress on July 15, 1911, providing for the setting aside as a national park the same tract of land as was set aside by proclamation of the President creating the Mount Olympus National Monument.

It was reduced by presidential proclamation of April 17, 1912, to 608,480 acres in order to permit certain claimants to land therein to secure title to the land. By proclamation of May 11, 1915, the monument was further reduced, and the lands eliminated thereby made part of the Olympic National Forest, in order to permit of their development, the area eliminated not being essential to the purposes for which the monument was originally established. The present area of the monument is 299,370 acres. The proclamation of May 11, 1915, reads:

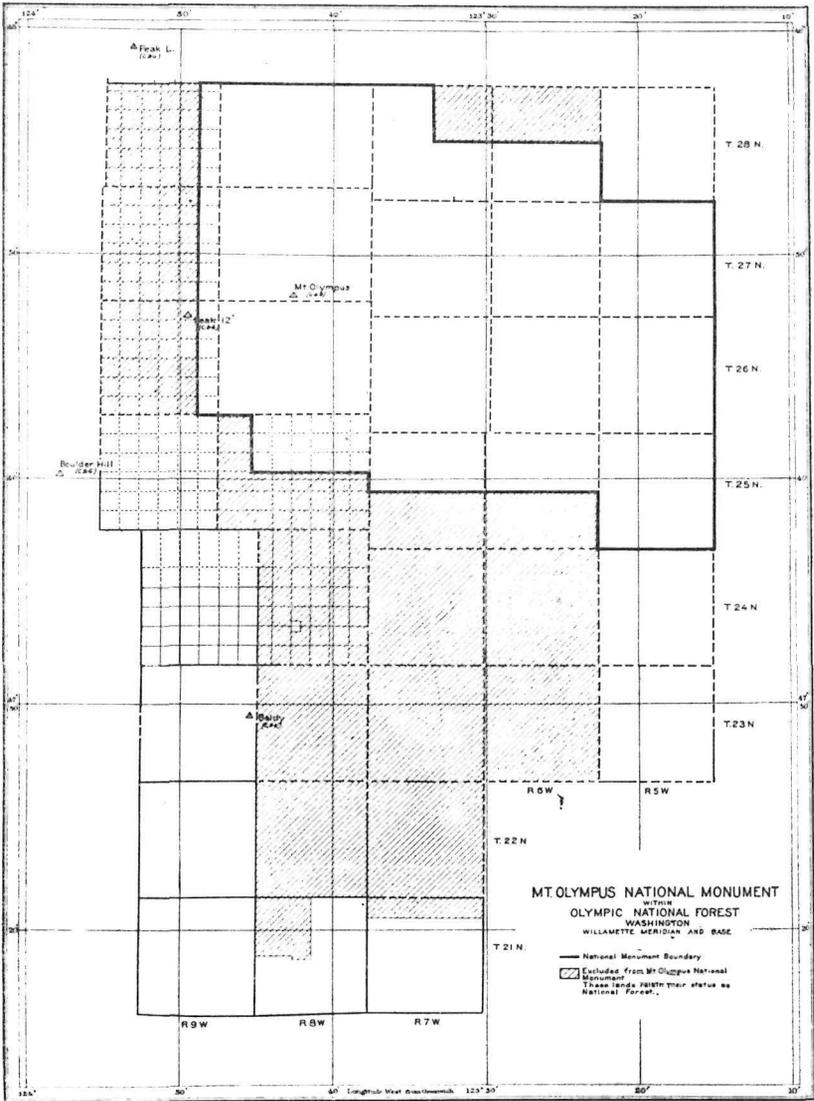
I, Woodrow Wilson, President of the United States of America, by virtue of the power in me vested by section 2 of the act entitled, "An act for the preservation of American antiquities," approved June 8, 1906 (34 Stat., 225), do hereby proclaim that the boundaries of the Mount Olympus National Monument as fixed and defined by proclamation of March 2, 1909 (35 Stat., 2247), and as modified by proclamation of April 17, 1912 (37 Stat., 1737), are hereby further modified and established as shown on the diagram forming a part hereof, and said national monument, as so modified and established, shall be administered in accordance with the aforesaid proclamation of March 2, 1909.

It is not intended that the lands eliminated from the Mount Olympus National Monument by this proclamation shall be eliminated from the Olympic National Forest, as established by proclamation of March 2, 1907 (34 Stat., 3306), but such lands shall continue subject to the reservation for forest purposes therein made.

In witness whereof I have hereunto set my hand and caused the seal of the United States to be affixed.

Done at the city of Washington this 11th day of May in the year of our [SEAL.] Lord one thousand nine hundred and fifteen, and of the independence of the United States the one hundred and thirty-ninth.

There are a number of different routes by which the Mount Olympus National Monument may be reached, all of which require some travel by trail. The most convenient and quickest route, though not the shortest in point of miles, by which a most excellent view can be had of Mount Olympus and scenic surroundings—about 6 miles



Mount Olympus National Monument.

air line—is by way of Port Angeles and the Sol Duc Hot Springs, as follows: Leave Seattle on a Puget Sound steamer about midnight, arriving in Port Angeles about 7 the following morning. Take automobile stage for Sol Duc Hot Springs, 45 miles, arriving about noon. Monument boundary about 2 miles by trail up river, but close

view of Mount Olympus not possible until Soleduck-Hoh divide is reached, about 11 miles by trail from Sol Duc Hotel.

Another route, and the most practicable in case a trip through the monument from north to south is desired, is by way of Port Angeles and the Elwha and Queniult, coming out by way of Queniult Lake and Hoquiam. From Port Angeles to the Elwha River bridge on the Lake Crescent road is a little under 11 miles, the morning stage reaching that point about 9.30 a. m. Horse or foot travel must then be resorted to over a mountain trail of more than ordinary steep pitches, exasperating ups and downs, and, on the Queniult side, some very narrow and rather dangerous grades for a total through distance to Queniult Lake of about 70 miles. A side trip to the Elwha-Queets divide at the base of Mount Olympus would add 12 miles more. Other trail routes approach close to portions of the monument, but do not lead through or into the highest and most scenic interior, such travel being possible only on foot and by merely picking one's way along rough snowcapped ridges or through creek bottoms, along elk trails, etc. The two best trails from the east, or Hoods Canal, side are up the Dosewallips River and the North Fork of Skokomish River. The Dosewallips route is accessible from Seattle as follows: Take steamship *Potlatch* from Seattle at 9 a. m., reaching Brinnon about 2 p. m. A wagon road extends up the Dosewallips River 7 miles from Brinnon, and quite satisfactory horse trail continues to Sulphur Springs, 13 miles farther, which lands one within 5 or 6 miles of the monument boundary. Travel beyond that point is only possible on foot and with considerable personal exertion and rough going. At least 30 miles of very rough travel would be necessary to reach Mount Olympus, the highest point, 8,200 feet.

The North Fork Skokomish route may be reached from Seattle as follows: Take steamship *Potlatch* from Seattle at 9 a. m., arriving at Hoodspout about 4.30 p. m. Automobile stage to Lake Cushman, 9 miles, same evening. A fair horse trail from the hotels at that point reaches the head of the river a few miles inside the monument boundary, a distance of nearly 20 miles, from which point an excellent view may be had of the Mount Anderson country. Cross-country travel to Mount Olympus is, however, impossible from this point, excepting on foot and with unusually careful and tedious mountain climbing.

The only feasible route from the west side is up the Hoh River over a horse trail, which is quite satisfactory in dry weather, extending 40 miles from the settlement of Forks. Forks is reached by automobile road from Port Angeles and from Clallam Bay, being about 62 miles from the former and about 30 from the latter. The horse trail on the upper Hoh ends at 4 or 5 miles inside the monument and perhaps 10 miles by a rough and somewhat dangerous foot travel route from the top of Mount Olympus.

BIG HOLE BATTLE FIELD MONUMENT.

This monument, which is under jurisdiction of the War Department, was created by presidential proclamation of June 23, 1910, by which 5 acres of unsurveyed land, embracing the monument, in Beaverhead County, Mont., was reserved for military purposes for use in protecting same. It commemorates a battle fought on August 9, 1877, between a small force of United States troops and a

much larger number of Nez Perce Indians, which ended in complete rout of the Indians. The nearest settlement to the monument is the town of Gibbons, Beaverhead County, Mont., which is reached by stage via Wisdom from Divide, Mont., a distance of about 45 miles. Divide is a station on the Oregon Short Line Railroad, some 25 miles south of Butte, Mont.

CABRILLO NATIONAL MONUMENT.

The Cabrillo National Monument was created October 14, 1913, at Point Loma, of a small tract of land containing 21,910 square feet which lies within the military reservation at Fort Rosecrans, Cal., the same being of historic interest because of the discovery of the territory now partly embraced in the State of California, by Juan Rodriguez Cabrillo, who at this point first sighted land on September 28, 1542.

BIRD RESERVES.

All of the bird reserves have been created through reference from the Interior Department to the President of forms of Executive orders providing therefor. These reserves are regarded as in all essential particulars reservations of public lands for public use or other purposes, for which there are numerous precedents. The first specific act of Congress providing for the protection of birds by bird reserves created by Executive order was introduced by Hon. John F. Lacy, of Iowa, and became a law on June 28, 1906. (34 Stat., 536.) This act makes it unlawful to kill birds, to take their eggs, or to willfully disturb birds upon the reservations, and it provides a fine of not exceeding \$500 or imprisonment for not exceeding six months, or both fine and imprisonment, for each conviction secured. This law was substantially reenacted in the new penal code approved March 4, 1909 (35 Stat., 1104), in the following language:

SEC. 84. Whoever shall hunt, capture, willfully disturb, or kill any bird of any kind whatever, or take the eggs of any such bird, on any lands of the United States which have been set apart or reserved as breeding grounds for birds by any law, proclamation, or Executive order, except under such rules and regulations as the Secretary of Agriculture may from time to time prescribe, shall be fined not more than \$500 or imprisoned not more than six months, or both.

The reservations now existing are 70 in number, of which 68 are being administered under the direction of the Biological Survey, Department of Agriculture. The Pribilof Reservation in Alaska is administered by the Bureau of Fisheries of the Department of Commerce and the Canal Zone Reservation, Panama, by the Isthmian Canal Commission.

Bird reserves created.

Name of reservation.	Date.	Location.	Area.
Pelican Island.....	Mar. 14, 1903	East Florida coast.....	5.50 acres.
Breton Island.....	{ Oct. 4, 1904 Nov. 11, 1905	{ Southeast coast of Louisiana.....	Unknown.
Stump Lake.....	Mar. 9, 1905	North Dakota.....	27.39 acres.
Huron Islands.....	Oct. 10, 1905	Lake Superior, Mich.....	Unknown.
Siskiwit Islands.....	.....do.....	.....do.....	Do.
Passage Key.....	.....do.....	Tampa Bay, Fla.....	36.37 acres.
Indian Key.....	Feb. 10, 1906	.....do.....	90 acres.

Bird reserves created—Continued.

Name of reservation.	Date.	Location.	Area.
Tern Islands.....	Aug. 8, 1907	Mouths of Mississippi River, La.....	Unknown.
Shell Keys.....	Aug. 17, 1907	South Louisiana coast.....	Do.
Three Arch Rocks.....	Oct. 14, 1907	West Oregon coast.....	Do.
Flattery Rocks.....	Oct. 23, 1907	West Washington coast.....	Do.
Quillayute Needles.....	.....do.....	.....do.....	Do.
Copalis Rock.....	.....do.....	.....do.....	Do.
East Timbalier Island.....	Dec. 7, 1907	South Louisiana coast.....	Do.
Mosquito Inlet.....	Feb. 24, 1908	East Florida coast.....	Do.
Tortugas Keys.....	Apr. 6, 1908	Florida Keys, Fla.....	Do.
Klamath Lake.....	Aug. 8, 1908	Oregon and California.....	Do.
Key West.....	.....do.....	Florida Keys, Fla.....	Do.
Lake Malheur.....	Aug. 18, 1908	Oregon.....	Do.
Chase Lake.....	Aug. 28, 1908	North Dakota.....	Do.
Pine Island.....	Sept. 15, 1908	West Florida coast.....	Do.
Matalacha Pass.....	Sept. 26, 1908	.....do.....	Do.
Palma Sola.....	.....do.....	.....do.....	Do.
Island Bay.....	Oct. 23, 1908	Florida.....	Do.
Loch Katrine.....	Oct. 26, 1908	Wyoming.....	Do.
Hawaiian Islands.....	Feb. 3, 1909	Hawaii.....	Do.
East Park.....	Feb. 25, 1909	California.....	Do.
Cold Springs.....	.....do.....	Oregon.....	Do.
Shoshone.....	.....do.....	Wyoming.....	Do.
Pathfinder.....	.....do.....	.....do.....	Do.
Bellefourche.....	.....do.....	South Dakota.....	Do.
Strawberry Valley.....	.....do.....	Utah.....	Do.
Salt River.....	.....do.....	Arizona.....	Do.
Deer Flat.....	.....do.....	Idaho.....	Do.
Minidoka.....	.....do.....	.....do.....	Do.
Willow Creek.....	.....do.....	Montana.....	Do.
Carlsbad.....	.....do.....	New Mexico.....	Do.
Rio Grande.....	.....do.....	.....do.....	Do.
Keechelus Lake.....	.....do.....	Washington.....	Do.
Kachess Lake.....	.....do.....	.....do.....	Do.
Clealum Lake.....	.....do.....	.....do.....	Do.
Bumping Lake.....	.....do.....	.....do.....	Do.
Conconully.....	.....do.....	.....do.....	Do.
Bering Sea.....	Feb. 27, 1909	Alaska.....	Do.
Pribilof.....	.....do.....	.....do.....	Do.
Tuxedmi.....	.....do.....	.....do.....	Do.
Farallon.....	.....do.....	California.....	Do.
Culebra.....	.....do.....	Porto Rico.....	Do.
Yukon Delta.....	.....do.....	Alaska.....	Do.
St. Lazaria.....	.....do.....	.....do.....	Do.
Bogoslof.....	Mar. 2, 1909	.....do.....	Do.
Clear Lake.....	Apr. 11, 1911	California.....	Do.
Forrester Island.....	Jan. 11, 1912	Alaska.....	Do.
Hazy Islands.....	.....do.....	.....do.....	Do.
Niobrara.....	.....do.....	Nebraska.....	114,640 acres.
Green Bay.....	Feb. 21, 1912	Wisconsin.....	1.87 acres.
Chamisso Island.....	Dec. 7, 1912	Alaska.....	Unknown.
Pishkun.....	Dec. 17, 1912	Montana.....	Do.
Desecheo Island.....	Dec. 19, 1912	Porto Rico.....	Do.
Gravel Island.....	Jan. 9, 1913	Wisconsin.....	Do.
Aleutian Islands.....	Mar. 3, 1913	Alaska.....	Do.
Canal Zone.....	Mar. 19, 1913	Panama.....	Do.
Walker Lake.....	Apr. 21, 1913	Arkansas.....	Do.
Petit Bois Island.....	May 6, 1913	Alabama and Mississippi.....	Do.
Anaho Island.....	Sept. 4, 1913	Nevada.....	247.73 acres.
Smith Island.....	June 6, 1914	Washington.....	Unknown.
Dungeness Spit.....	Jan. 20, 1915	.....do.....	226.02 acres.
Ediz Hook.....	.....do.....	.....do.....	1.83 acres.
Mille Lacs.....	May 14, 1915	Minnesota.....	Unknown.
Big Lake.....	Aug. 2, 1915	Arkansas.....	Do.

BIRD RESERVES ENLARGED, REDUCED, AND ABOLISHED.

Pelican Island.....	Jan. 26, 1909	Florida (enlarged).....	Unknown.
Mosquito Inlet.....	Apr. 2, 1909	.....do.....	Do.
Cold Springs.....	Nov. 25, 1911	Oregon (enlarged).....	Do.
Clear Lake.....	Jan. 13, 1912	California (reduced).....	Do.
Minidoka.....	Feb. 21, 1912	Idaho (enlarged).....	Do.
Niobrara.....	Nov. 14, 1912	Nebraska (enlarged).....	115,253.7 acres.
Deer Flat.....	Apr. 21, 1915	Idaho (reduced).....	Unknown.
Klamath Lake.....	May 14, 1915	Oregon and California (reduced).....	Do.
Blackbeard Island.....	May 25, 1915	Georgia (abolished).....	Do.

¹ Approximate area.

As appears from this list, these reservations are scattered between Alaska and Porto Rico. After careful consideration, based upon representations made by this department, the Isthmian Canal Commission secured an Executive order for the protection of the native birds within the zone, which in its punitive features conforms to section 84 of the United States Penal Code. Jurisdiction over the Canal Zone Reservation is, however, retained by the Isthmian Canal Commission instead of being placed with the Department of Agriculture, as is the case in other Government bird reserves.

The Niobrara Reservation, Nebr., which was created by Executive order dated January 11, 1912, has been enlarged by a second order, dated November 14, 1912, so as to include within its boundaries about 614 acres, covering the old parade ground of the Fort Niobrara Military Reservation, including a spring of fresh running water and some of the military buildings and barracks which could be used for stables and for residence purposes by a custodian. This additional tract has been fenced and small herds of buffalo, elk, and deer, donated by J. W. Gilbert, a citizen of Nebraska, have been permanently domiciled therein, and it is believed that the climate and natural environment will insure the healthful and rapid increase of all of these most valuable of the larger native mammals.

Active administrative work by the Agricultural Department upon all of the reserves within its jurisdiction, which in the past have been in serious need of efficient warden service, has been most satisfactory.

APPENDIX.

[PUBLIC—No. 209.]

An Act For the preservation of American antiquities.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That any person who shall appropriate, excavate, injure, or destroy any historic or prehistoric ruin or monument, or any object of antiquity, situated on lands owned or controlled by the Government of the United States, without the permission of the Secretary of the department of the Government having jurisdiction over the lands on which said antiquities are situated, shall, upon conviction, be fined in a sum of not more than five hundred dollars or be imprisoned for a period of not more than ninety days, or shall suffer both fine and imprisonment, in the discretion of the court.

SEC. 2. That the President of the United States is hereby authorized, in his discretion, to declare by public proclamation historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest that are situated upon the lands owned or controlled by the Government of the United States to be national monuments, and may reserve as a part thereof parcels of land, the limits of which in all cases shall be confined to the smallest area compatible with the proper care and management of the objects to be protected: *Provided,* That when such objects are situated upon a tract covered by a bona fide unperfected claim or held in private ownership, the tracts, or so much thereof as may be necessary for the proper care and management of the object, may be relinquished to the Government, and the Secretary of the Interior is hereby authorized to accept the relinquishment of such tracts in behalf of the Government of the United States.

SEC. 3. That permits for the examination of ruins, the excavation of archaeological sites, and the gathering of objects of antiquity upon the lands under their respective jurisdictions may be granted by the Secretaries of the Interior, Agriculture, and War to institutions which they may deem properly qualified to conduct such examination, excavation, or gathering, subject to such rules and regulations as they may prescribe: *Provided,* That the examinations, excavations, and gatherings are undertaken for the benefit of reputable museums, universities, colleges, or other recognized scientific or educational institutions, with a view to increasing the knowledge of such objects, and that the gatherings shall be made for permanent preservation in public museums.

SEC. 4. That the Secretaries of the departments aforesaid shall make and publish from time to time uniform rules and regulations for the purpose of carrying out the provisions of this act.

Approved, June 8, 1906.

