

SOUTHWESTERN MONUMENTS

MONTHLY REPORT



J U N E - - - 1 9 3 8

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

SOUTHWESTERN MONUMENTS
 JUNE, 1938, REPORT
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PERSONNEL

HEADQUARTERS, Southwestern Monuments, Coolidge, Arizona; Frank Pinkley, superintendent; Hugh Miller, assistant superintendent; Parke W. Soule, chief clerk; J. H. Tovrea, assistant engineer; Dale S. King, assistant park naturalist; Charlie R. Steen, junior park archeologist; Natt N. Dodge, junior park naturalist; Luis A. Gastellum and Russell Landry, clerk-stenographers; Ira G. Goodwin, CCC clerk; F. E. Stonehocker, machinist; J. L. L. Baehr, utility man.

<u>FIELD STATIONS;</u>	<u>NO. VISITORS, 1937;</u>	<u>POST OFFICE;</u>	<u>PERSONNEL;</u>	<u>AREA IN ACRES</u>
1. <u>Arches;</u>	1,000; Moab, Utah;	Harry Reed, ranger.- - -	- - -	4,520.00
2. <u>Aztec Ruins;</u>	14,303; Aztec, New Mexico;	T. C. Miller,- - -	- - -	25.88
custodian; James W. Brewer, Jr., park ranger.				
3. <u>Bandelier;</u>	14,380; Santa Fe, N. Mex.;	C. G. Harkins, - -	- -	26,026.20
custodian; I. McNeil, T. Onstott, J. M. Spuhler, temporary rangers; George Sholly, grader operator; 3 CCC guides.				
4. <u>Canyon de Chelly;</u>	1,422; Chin Lee, Arizona;	Johnwill - -	- -	83,840.00
Paris, custodian; Bill Lippincott, W. Spires, rangers.				
5. <u>Capulin Mountain;</u>	26,100; Capulin, N. Mex.;	H. Farr, Cust. -	-	680.37
6. <u>Casa Grande;</u>	33,631; Coolidge, Ariz.;	A. T. Bicknell,- -	- -	472.50
custodian; Don W. Egermayer, park ranger; J. Rodgers, S. Coyle, V. Scholz, T. Savage, J. Holt, and F. Morales, CCC guides and helpers.				
7. <u>Chaco Canyon;</u>	8,014; Chaco Canyon, N. Mex.;	Lewis T. - -	- -	21,512.37
McKinney, custodian; Homer Hastings, temp. ranger.				
8. <u>Chiricahua;</u>	9,288; Douglas, Ariz.;	Frank Fish, cust.;	- -	10,887.00*
H. Bennett, Wm. Stone, H. Minton, CCC guides and helpers.				
9. <u>El Morro;</u>	2,298; Ramah, N. Mex.;	R. R. Budlong, cust.- -	- -	240.00
10. <u>Gila Cliff Dwellings;</u>	250; Cliff, N. Mex.;	no custodian-	- -	160.00
11. <u>Gran Quivira;</u>	4,414; Gran Quivira, N.M.;	G.L. Boundey, cust.	- -	610.94
12. <u>Hovenweep;</u>	500; Cortez, Colo.;	A. Peterson, temp. ranger.-	-	285.80
13. <u>Montezuma Castle;</u>	9,813; Camp Verde, Ariz.;	Earl Jackson,-	-	520.00
cust.; Edwin Alberts, park ranger.				
14. <u>Natural Bridges;</u>	740; Blanding, Utah;	Zeke Johnson, cust. -	-	2,740.00
15. <u>Navajo;</u>	329; Kayenta, Ariz.;	John Wetherill, cust.;	- -	360.00
W. F. V. Leicht, park ranger.				
16. <u>Organ Pipe Cactus;</u>	5,000; Ajo, Arizona;	no custodian.- -	- -	330,670.00
17. <u>Pipe Spring;</u>	1,042; Moccasin, Ariz.;	Leonard Heaton, cu.	- -	40.00
18. <u>Rainbow Bridge;</u>	300; Tonalea, Ariz.;	no custodian. - - -	- - -	160.00
19. <u>Saguaro;</u>	20,000; Tucson, Arizona;	no custodian - - - -	- - - -	63,284.00
20. <u>Sunset Crater;</u>	10,000; Flagstaff, Ariz.;	P. Beaubien, cust.	- -	3,040.00
21. <u>Tonto;</u>	5,368; Roosevelt, Ariz.;	R. Richert, temp. ranger. -	-	1,120.00
22. <u>Tumacacori;</u>	18,472; Box 979, Nogales, Ariz.;	Louis R. - -	- -	10.00
Caywood, cust.; T. Cronyn, park ranger.				
23. <u>Walnut Canyon;</u>	10,772; Flagstaff, Ariz.;	P. Beaubien, ranger-	- -	960.00
24. <u>White Sands;</u>	91,532; Alamogordo, N. Mex.;	Tom Charles, -	-	142,987.00
custodian; Joe Shepperd, grader operator.				
25. <u>Wupatki;</u>	2,080; Flagstaff, Ariz.;	David Jones, in charge-	- -	35,865.00
26. <u>Yucca House;</u>	400; Cortez, Colo.;	A. Peterson, temp. rgr.-	-	9.60

Total visitors, 1937, 291,426. Total acreage administered last month, 731,026.96 acres, or 1,140.66 square miles.

*Added 6,407 acres during month by Presidential proclamation.

OPENING

By Superintendent Frank Pinkley,
Southwestern Monuments,
Coolidge, Arizona.

If the up-swing, which seems to have set in with eastern markets as this is being written, July 2, is a real one, we are as yet unable to report that it has reached our district. The best report that we are able to give is that business is not so good as last year at this time and if it is better than last month, it is such a small shade that we cannot tell it through the traffic reports of our men. Don tells me that he has been studying the registration at Casa Grande as he was closing the month-end reports, and there is a lack of tourist traffic out of the Illinois and Iowa country, as compared with last year and the year before. From some of the current press releases we note some of the parks are having increased attendance. We wonder if our monuments, being in many cases off the highways, are more responsive to a slacking off of travel.

One interesting observation is that Flagstaff, in northern Arizona, has put on a drive with the idea of detaining the visitor and getting him to stay longer in the country. Several young lady "Hostesses" greet strangers and distribute information about nearby points of interest, travel conditions, etc. Our figures would seem to show that they are getting results, for while Tumacacori, Casa Grande, Tonto, and Montezuma Castle, running through the middle line of the state, show decreases over last year, the three monuments within striking distance of Flagstaff, Walnut, Sunset Crater, and Wupatki show sharp increases.

Our financial year closed in a fairly satisfactory manner. Our equipment is in good condition and we were able to put in a heating plant at Tumacacori, a power and light line at Montezuma Castle, and to put part of our power line at Casa Grande under ground with the last of our funds. We are thus advancing in our general program of construction, a little at a time.

Under personnel changes, James B. Felton, ranger, White Sands National Monument, has been transferred to Fort Jefferson National Monument, Florida. Irving McNeil, T. Onstott, and J. M. Spuhler, are temporary rangers at Bandelier. Wm. Lippincott and Woodrow Spires are temporary rangers at Canyon de Chelly. Alfred Peterson is ranger at Hovenweep and Yucca House. R. S. Richert is ranger at Tonto. This fills our quota of summer men with the exception of one man for a new position at Chiricahua after July 1. These men are all settling into their positions and absorbing the extra load of the summer season.

Boundary changes were made by Presidential proclamation at Chiricahua National Monument during the month. 6,407 acres were added to the monument, making a total area now of 10,887 acres. The increase was necessary to obtain administrative control of the road to Massai Point and also of some of the formations which had been accidentally omitted

OPENING (CONT.)

in the original reservation.

Further field action was had on a small extension to Walnut Canyon National Monument during the month and this matter is now in the Washington office awaiting your conference with the Forest Service. Action on Saguaro boundaries was closed for the time being by the adjournment of Congress and we understand all things will remain in the present status until after January next.

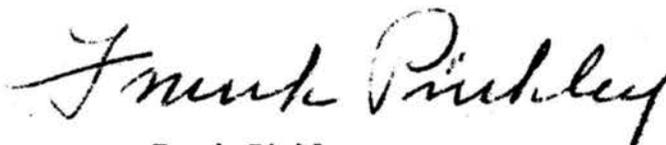
Our CCC camps at Bandelier, Chiricahua, Chaco, and Casa Grande continued operation during the month. The new camp, NM-5-A, Camp Elden, near Flagstaff, Arizona, was not yet in operation, although we expect the men to occupy it soon after July 1. This new camp will begin its work at Walnut Canyon. The side camp at Chaco Canyon is being financed through the aid of the Indian Service, its membership being composed of Navajo Indians. There were fears for a time that the Indian Service support might be withdrawn, but as we write this, it looks like we will be able to continue for the next fiscal year.

As we enter the new fiscal year, the outlook is good if there be no impoundment of our funds. By this we mean that we will be able to get through the year holding our personnel and equipment together in good condition and deliver service to about half the 340,000 visitors who will visit the monuments under our charge. The lack of service to the other half of the visitors will be because they will visit monuments where we cannot yet place personnel to take care of them.

In the following six pages you will find a condensed report of the administration of the 26 monuments under this headquarters for the past month. Detailed reports from the individual monuments then follow, to which we refer you for a more complete description of what happened at the monument. You will then find a general report from the headquarters covering the work of the Educational, Administrative, and Mechanical divisions and including statistics and records of the month. The whole is closed with a couple of pages of personnel notes.

An index is attached to this report. It covers the past six months of the Monthly Report and we hope will assist interested persons in finding any section of any report during that time.

Cordially,



Frank Pinkley,
Superintendent.

CONDENSED REPORT

IN WHICH THE HIGHLIGHTS OF THE MONTH ARE GIVEN

Coolidge, Arizona,
July 1, 1938.

The Director,
National Park Service,
Washington, D. C.

Dear Mr. Director:

The Condensed Report for the month of June, 1938, follows:

	June 1938	June 1937	June 1936	To Last Month	Travel Year To Date
<u>TRAVEL</u>					
Arches.	114	--	--	766	880
Aztec Ruins	1,873	1,802	1,323	9,837	11,710
Bandelier	1,718	1,341	1,810	5,029	6,747
Canyon de Chelly.	178	208	209	542	720
Capulin Mountain.	2,000*	2,000	2,500	6,200	8,200
Casa Grande	1,794	2,389	1,661	26,621	28,415
Chaco Canyon.	903	901	643	3,068	3,971
Chiricahua.	1,292	1,501	851	5,232	6,524
El Morro.	417	258	223	1,005	1,422
Gila Cliff.	10*	--	--	35	45
Gran Quivira.	553	781	309	1,614	2,167
Hovenweep	25*	--	--	100	125
Montezuma Castle.	1,121	1,205	1,216	5,183	6,304
Natural Bridges	67	109	--	167	234
Navajo.	55	--	--	139	194
Organ Pipe.	150*	--	--	5,100	5,250
Pipe Spring	388	50	362	1,041	1,429
Rainbow Bridge.	35*	--	--	102	137
Saguaro	900*	--	--	18,572	19,472
Sunset Crater	885	491	459	2,499	3,384
Tonto	301	403	335	3,847	4,148
Tumacacori.	856	1,429	911	11,284	12,140
Walnut.	2,138	1,548	1,441	4,270	6,408
White Sands	10,039	8,674	8,852	46,549	56,588
Wupatki	356	252	267	769	1,125
Yucca House	10*	--	--	130	140
TOTALS	<u>28,178</u>	<u>25,342</u>	<u>23,471</u>	<u>159,701</u>	<u>187,879</u>
Same date year ago					<u>160,056</u>
Increase to date					<u>27,823</u>
*Estimated.					

CONDENSED REPORT (CONT.)

Although some of the northern monuments reported very bad weather for June, the month as a whole has been a pleasant one in the Southwest. Travel to a few units is being slowed up because of road construction, but most highways are open and in A-1 condition, which probably means that the general falling off of traffic is due to unsettled economic conditions in the nation. Rains have fallen over almost all of the Southwest and ranges have benefitted by them. There is very little water stored in most of the reservoirs, however, because of last winter's very scanty snowfall.

000 GENERAL

010 Matters of Unusual Interest or Importance.

Chiricahua: The proclamation for the extension to the monument has been signed by the President. (Page 503).

100 ADMINISTRATIVE

120 Park Inspections by

123 National Park Service Personnel

Aztec Ruins: H. C. Bryant; Charles N. Gould; W. B. McDougal; Ward Yeager; and Natt Dodge. (Page 496).

Bandelier: W. H. Wirt; Natt N. Dodge; Lyle Bennett; W. B. McDougal; John H. Diehl; Harry Montgomery; Fred Johnson. (Page 477).

Canyon de Chelly: High Miller; Natt Dodge; Homer Hastings.

Capulin Mountain: Natt Dodge.

Casa Grande: John H. Haile; Louis Caywood; William Lippincott.

Chaco Canyon: Charles N. Gould; W. B. McDougal; H. C. Bryant; Hugh Miller; Natt Dodge.

Chiricahua: Natt Dodge; Luis Gastellum. (Page 503).

El Morro: Hugh Miller; Ward Yeager. (Page 488).

Gran Quivira: Natt Dodge; Charles N. Gould. (Page 497).

Montezuma Castle: Hugh Miller; Harry Montgomery; J. H. Tovrea.

Tumacacori: Frank Pinkley; Dale King; Mrs. R. E. Polk; John H. Haile. (Page 498).

Walnut Canyon: Hugh Miller; J. H. Tovrea; Mr. H. A. Montgomery; Natt Dodge.

Wupatki: Paul Beaubien; Carelton Wilder; Frank Richardson; D. Babenroth.

150 New Equipment

Bandelier: Museum equipment received during the month: two study skin cases, one geological case, one herbarium case, and one wall Multiplex. (Page 478).

Walnut Canyon: One typewriter. (Page 482).

Aztec Ruins: A typewriter. (Page 495).

Gran Quivira: An herbarium case. (Page 497).

Headquarters: Blue point wrench set, two hand trucks, meter and rheostat for battery charger, electric polisher and grinder, transformers for utility area, one-ton chain hoist. (Page 522).

CONDENSED REPORT (CONT.)

200 MAINTENANCE, IMPROVEMENTS, AND NEW CONSTRUCTION

210 Maintenance, Unusual

Aztec Ruins: Roof of the Custodian's residence repaired and water-proofed. (Page 495).

Canyon de Chelly: Residence and tool shed have been plastered.

Casa Grande: A laborer has hired to plaster, paint, and kalsomine in three residences and the Custodian's office. (Page 520).

Headquarters Mechanic: Report on page 522.

Montezuma Castle: Entrance road completed. Flamo gas plate installed in Ranger's tent. Temporary installation of gas tank and pump made. (Page 509).

Tumacacori: Cemetery wall completed except for brick capping. Adobe pit partially filled. New clothes line posts erected. Ramada built at Custodian's residence.

230 New Construction

231 CCC Construction

Bandelier: Plastering and rough plumbing completed in lobby during the month. Operator's residence completed except for interior finish. All doors and windows in dormitory hung. 550-gallon gas tank installed in the power house, project complete. First guest cabin group started. Construction of dining room tables started. Rock quarry crew kept busy all month. (Page 479.)

Casa Grande: The shop, Job No. 50, nearly complete. Man days, 87. Guide and contact work, 111 man days. Oil house, Job No. 52, begun, man days--107. Cleanup, 47 man days. Making adobes, 18 man days.

Chaco Canyon: 55 man days building pit toilets. Ten man days on drainage, and 276 man days on wall support. (Page 518).

Chiricahua: 100 sq. yards of rock banks sloped on Bonita Highway. Crew has been at work all month on the water system. Bridge No. 2 completed and forms in place for Bridge No. 1. Echo parking area is 100 per cent complete. Utility area wall completed. 27 man days used in fighting two fires in the Coronado Forest. 310 man days and 35 truck days released to the Army for camp rehabilitation. (Page 315).

Pipe Spring: Four enrollees were used to haul dirt and construct pit toilets during the early part of the month. (Page 517).

250 Improvement of Nearby Federal Highways.

White Sands: Contract for construction of 26 miles of highway between Alamogordo and Las Cruces means that the gap of rough gravel road near the monument will be finished. The work should be finished by winter. (Page 493).

Aztec Ruins: The highway from Aztec to Farmington is being oiled; the spur road to the monument is also receiving the same treatment.

300 ACTIVITIES OF OTHER AGENCIES

320 Cooperating Government Agencies

Montezuma Castle: The General Land Office survey party has completed the survey of the monument boundary. (Page 510).

Aztec Ruins: Fifteen $2\frac{1}{2}$ -hour man days have been put on grounds cleanup through cooperation of the NYA.

CONDENSED REPORT (CONT.)

330 Cooperating Non-government Agencies

Arches: The Denver and Rio Grande Western Railroad sent a party into the Arches to film the monument. The film will be a part of a full length feature of Utah and will be shown free of charge by the railroad company. (Page 506).

400 FLORA, FAUNA, AND NATURAL PHENOMENA

420 Museum Service

Bandelier: Junior Park Naturalist Dodge spent three weeks working on the geology and biological cases. (Page 478).

Montezuma Castle: A museum case, formicary, and aquarium were all installed in the museum room. (Page 509).

Tumacacori: Two truck loads of exhibits were received from the Western Museum Laboratories. Lorenzo Moffett and Bert Floyd spent ten days at the monument, doing preliminary installation. (Page 500).

440 Insect Control

Bandelier: Four trees infected with *Ips Confusus* were destroyed.

600 PROTECTION

620 Fire protection

Bandelier: Fire pre-suppression schools held each week-end. Five fires fought during the month--four were on the Ramon Vigil Grant and one on the monument. Monument fire lookout reported all blazes before the Forest Service.

Chiricahua: 27 man days spent in fighting two small fires on the Coronado National Forest. (Page 316).

650 Signs

Hovenweep: Warning signs are being placed around the ruins of this monument. (Page 491).

Arches: Three signs have been erected to mark the trail from the highway to the Windows section of the Arches.

700 ARCHEOLOGY, PRE-HISTORY, AND HISTORY

Navajo: A disgruntled Navajo told a trader that he intended to wreck Inscription House, but since the ruin still stands, he probably forgot about it. (Page 505).

Chaco Canyon: Controlled tests are being made to determine the strength of bitudobe capping against weathering. (Page 517).

Casa Grande: Pottery repair project ended during the month. (Page 519).

900 MISCELLANEOUS

Tumacacori: Water table in Santa Cruz Valley lowered because several deep wells with pumps have been installed by ranchers. As a result, the old mission canal which has served the monument and local farmers for many years is dry and trees and crops are suffering. (Page 499).

CONDENSED REPORT (CONT.)

900 MISCELLANEOUS (CONT.)

MAIL COUNT

Incoming:

Official	2,899
Personal	<u>1,238</u>

Total incoming 4,137

Outgoing:

Official only	<u>4,026</u>
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Total outgoing 4,026

TOTAL POSTAL MAIL 8,163

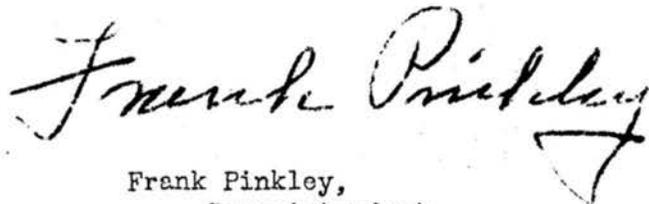
Telegrams:

Incoming	48
Outgoing	<u>74</u>

Total telegrams 122

GRAND TOTAL PIECES OF MAIL HANDLED 8,285

Cordially,



Frank Pinkley,
Superintendent.

ANNOUNCING A NEW FEATURE

With the next number, we start a new volume of this Monthly Report of the Southwestern Monuments and we expect to change the format a little. With this in mind, we have held out some of the material this month and explanation is made here so that those who notice it may know that we have very good reasons for what we do and that it is not an accident or carelessness or non-appreciation on our part.

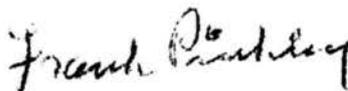
We are getting so many and such interesting observational notes from the field that we think we will start a little department in the Supplement where they can be drawn together and given a little more attention. By withholding these notes this month, we can carry them over into next month's Supplement, which goes to press some days ahead of the regular report and that will give us time to dress them up a little. Natt Dodge is going to have charge of this innovation and you will see better next month what we intend to do.

If the field personnel will extend its efforts in this direction just a little more, we are quite sure we can have enough material to make a complete Supplement about once each quarter of these observational reports and of these quarterly numbers, we can run enough separates to make a special report. This will be akin, but not a duplicate, to the 'Nature Notes' put out by many of the parks.

With this issue, we close the first volume of the 1938 reports and you will find an index at the end of this number which will cover the reports from January to June, inclusive. To be quite truthful with you, we rather surprise ourselves at the amount of reference material we tuck away month by month in these reports and only those inside our Service can realize how much fun we have in doing it.

To you who may not be directly connected with our Service, yet who receive these reports, we hope they are of interest and value to you. If they are not, please do not hesitate to write and tell us so and we will take your name off our list; we have plenty of other uses for the time we spend in getting your copy to you and if it isn't a real service to you, we had better spend the time elsewhere.

Cordially,



Frank Pinkley,
Superintendent.

FIELD REPORTS

FROM THE MEN ON THE JOB

BANDELIER

By C. G. Harkins, custodian,
Box 669, Santa Fe, New Mexico.

Visitors this month, 1,718; total since October 1, 6,747.

PARK SERVICE VISITORS

Mr. W. H. Wirt, regional forester, Santa Fe, New Mexico.
Mr. Natt N. Dodge, junior park naturalist, arrived June 1 from headquarters, Southwestern National Monuments, Coolidge, Arizona, to install a few cases in the museum.
Mr. Lyle E. Bennett, associate landscape architect, Santa Fe.
Mr. W. B. McDougall, wild life technician, Santa Fe.
Mr. John H. Diehl, regional engineer, Santa Fe.
Mr. Montgomery, assistant engineer, Santa Fe.
Mr. Fred Johnson, deputy assistant director, Washington, D. C.

Three temporary rangers entered on duty June 1: James N. Spuhler, Thomas B. Onstott, and Irving McNeil, Jr.

OFFICIAL TRIPS

One official trip was made during the month at the request of the Director. The Custodian accompanied the National Geographic Magazine photographer to the source of the Rio Grande. Many beautiful pictures were secured for a future article in the magazine. Rain and snow in the mountains west of Creede, Colorado, delayed the party for several days, but the source was finally reached by pack horse on the fourteenth. New snow had fallen the day previous, and with the snow already on the ground, the horses wallowed belly deep at times. Some remarkable pictures were secured, in addition to a case of sunburn. The travel for one day was 220 miles by car and 36 by pack horse. After returning from Colorado, several days were spent in the vicinity of Albuquerque and Santa Fe. Mr. Marden, the photographer, left for Washington, D. C. the 22nd.

FIRE PROTECTION

Three small fires were suppressed during the month. One in Lummis Canyon was started by lightning and covered about one acre, but was easily suppressed. Another fire was in Ancha Canyon, and was presumably started by a careless tourist flipping a cigarette out of the car window as he drove along the road.

GUIDE SERVICE

With the addition of three temporary rangers, guide service has been

BANDELIER (CONT.)

offered to all our visitors, and with the additional cases in the museum, a great deal of interest has been shown by the visitors. One change noted is that as soon as the local visitors find we have a museum, they are anxious to see it instead of going on over to the camp ground, and guiding themselves. Another thing noted is that once they get out to see the museum, very few stop until they have taken a regular guided trip. This is very gratifying, in view of the fact that our guided trips have not been as numerous as they might have been, and it is hoped that the trips will show a great improvement in numbers over the past. This condition is also affected by the very competent temporary rangers that we have.

Travel to Bandelier was slightly greater than that for the corresponding month in 1937, although business men in Santa Fe say that the tourist business is very bad.

The weather had been very dry up to the first of June. However, since then, we have had showers nearly every day and, as a result, our road is in very good condition.

Several days were spent on the Otowi Hill road with a crew of men, and we now have it in fair condition.

Temporary Ranger James Spuhler has spent nearly the entire month in the museum arranging the geological and biological cases. Natt Dodge, junior park naturalist, spent three weeks working on museum preparations. Contracts are out for the glass to complete our cases. This will leave our cases completely closed.

Two storage cases, one geological case, one herbarium case, one study skin case, and a wall multiplex were received during the month.

CONTACT PROBLEM

As many people who live in nearby towns and have been here many times before bring friends to see the ruins and prefer to show them through themselves, it makes it very hard to get a high percentage of educational contact. As previously mentioned in this report, the museum, even in its unfinished state, helps to contact these people, but as far as this month's figures are concerned, it has made little impression. The museum time has been rather short and guided trips few. This can be attributed to two main causes: first, the exhibits are not half completed; and, second, the lights are not on enough to take care of many parties who would be very willing to go through. After the cases are all completed and the lights are regulated, the educational contact time should almost double.

Due to a shortage of man power in the field, the SWM Stencil #16, third revision, has heretofore not been workable. However, the last half of this report finds it working in top form. Next month, when Oscar Van Curen, CCC guide, returns from his vacation and we have a full

BANDELIER (CONT.)

force guiding it will be quite possible to work the three loops of ruins and the museum, making a 400 per cent possible contact, and a consequently longer field trip time. The loops as proposed are: first, Tyuonyi and talus ruins immediately above it; second, Long House; third, the Ceremonial Cave.

The inaccuracies in this month's visitor statistics, we hope, are absorbed in the average. Next month, we should have little trouble making both ends of SWM #16 meet.

*****SWM*****

Congratulations on the improvement in Form SWM 16 this month. I think maybe we had better try a little harder, while we have the guides available this summer at Bandelier, to handle all the parties we can. I don't feel quite right about letting these local repeaters guide their own parties just because they want to do so. The visitor who is thus guided certainly gets a fearful and wonderful assortment of archeology and geology and our ruins do not get much protection. I am aware of the friction which might arise from the local repeater who "has been here a hundred times and knows all about the ruins", and who will probably not come back if we do our own guiding, but, in a pinch, I am willing to dispense with him as a volunteer guide.

Suppose, while we have men enough this summer, you carry on some experiments.--F. P.

*****SWM*****

BANDELIER CCC

By H. B. Chase, project superintendent, Box 669, Santa Fe, N. M.

The plastering and rough plumbing was completed in the lobby and sales room building during the past month. The carpenter crew cut out and started the assembling of all doors in this building, making ready for installation immediately following complete drying of the plaster.

During the month the operator's residence was completed to the point of starting interior finish, all stone walls and flagstone floors are now in place and the roof completed entirely. It is planned to install the rough plumbing and follow with interior plastering and painting during the next month.

The hanging of all doors and windows and the installation of the necessary hardware completed the employees' dormitory to the point of painting and staining. There remains the plumbing fixtures to install and after decorating will complete this unit in its entirety.

A 550-gallon gasoline storage tank was purchased and installed in

BANDELIER CCC (CONT.)

connection with the power house. This completes this project.

The first guest cabin group in connection with the hotel development was started this month. This is Group A, immediately in the rear of the lobby and sales room unit and directly west of the operator's residence. The excavation has been completed, all footings constructed, and a good start made on the wall construction.

In addition to the carpenter crew duties in connection with the different units of the hotel development now under way, this crew started the construction of the dining room tables under our furniture project. Time spent on this work was mostly consumed by cutting out materials preparatory to the assembling operation.

The usual crew has been maintained in the rock quarry all month for the purpose of quarrying and shaping building stones, the activity for the last half of June being confined to clean-up and that shaping of materials that would require only hammer and chisel operation. This is due to the project foreman's being on annual leave prior to the Service instructions separating three members of our personnel.

A small number of man days was consumed during the month in fighting small forest fires. A detailed report of the fires is included in Forestry Foreman Fulton's report, submitted for this month.

*****SWM*****

BANDELIER FORESTRY

By James T. Fulton, forestry
Foreman, Box 669, Santa Fe, N.M.

FIRE CONDITIONS

For nearly the whole month no rain has fallen to speak of; consequently the forest has been really dry. During this time we have been doubly expecting that fires would occur. However, on June 22 rain storms covered nearly all of the monument and were exceptionally heavy on the Ramon Vigil Grant. We are fortunate that rain was heavier on the Grant, because of the fact that man-caused fires are prevalent in that area. I would say that without more rain hazards won't be bad for at least another week.

FIRE PRESUPPRESSION

About the only fire suppression work that has been done this month is the usual instructing of scheduled enrollee fire crews on week ends. Each foreman fire guard makes a point of showing his particular fire crew the tools to be used, their proper use, and the construction of the fire trail.

BANDELIER FORESTRY (CONT.)

FIRE FIGHTING

We have had fires on the following dates: May 29, June 2, June 5, and June 21. All of these fires were small ones and the total acreage burned amounted to two acres plus about 2,530 square feet. Four of these fires were on the Ramon Vigil Grant and only one was on the monument. A total of 18 man days were expended in this work. In the case of all of these fires our enrollee lookout, who mans Roadside Point, was the first to report the fires. In other words, he beat the Dome Lookout in every case. This might bring out the point that perhaps we should change the grade of our lookout from secondary to primary. Anyway, report time was good, get-away time was excellent, and no fire was left until it was out. We feel that we have an excellent fire fighting organization here.

INSECT CONTROL

You will recall that last month I reported an insect control project carried on in the case of landscape planted trees. This month four more Ips confusus infested trees were removed. These trees were missed in the previous control work.

MISCELLANEOUS

For the past month I have been working on lobby unit of the hotel, excepting for the past two weeks, at which time I located and began to lay footing for Cabin A.

*****SWM*****

WALNUT CANYON

By Paul Beaubien, park ranger,
Flagstaff, Arizona.

Visitors this month, 2,138; total since October 1, 6,408.

Visitors contacted were as follows: 1,006 at the station, 326 at the Observation Point, and 924 were not contacted. I saw 49 picnic parties, and there were 14 camping parties. Because most local people come on Sundays, they are the big days. But there were 10 other days with 20 or more parties.

Park Service visitors were: Hugh M. Miller, J. H. Tovrea, H. A. Montgomery, and Natt N. Dodge. H. Clay Parker, Project Superintendent of CCC Camp NM-5-A, spent several days of the month here.

All but 11 enrollees of the CCC camp have been transferred away, but a new group of boys are expected to arrive early in July.

This has been an extremely dry month, and many flowers have withered. The fire hazard is great.

WALNUT CANYON (CONT.)

Recently a mail route has been established through the monument. This route will cut down my official trips to town. The county has promised to keep the road open the year around, so future rangers may not have to have such a large supply of groceries on hand as has been customary.

A new typewriter has been received during the month. As I already had an eraser, it will be a great help.

*****SWM*****

WUPATKI

By David J. Jones, park ranger.
Tuba Star Route, Flagstaff, Ariz.

Visitors this month, 356, total since October 1, 1,152.

Visitor travel to this monument has increased about fifty per cent since May, and more than thirty per cent over the same period last year. At last conditions are beginning to look normal, but for a while it looked as though we were not going to get any visitors at all. In the last two weeks we have been getting a good many of our visitors from the Grand Canyon, which, I believe, is a result of our contacts with the fellows from the Canyon, both here at the ruins and in Flagstaff.

WEATHER

One could easily summarize the weather for this month by saying that it has been dusty and windy practically the entire month. Hardly a day has gone by that we have not had at least one dust storm, and the Little Colorado is a cloud of dust almost all of the time. We are hoping for an early rainy season.

GENERAL

Again this month we made a survey of the possible sites for the new road. Project Superintendent Parker, of NM-5-A, was here on the 28th and again on the 6th in this connection. He has selected two possible places to cross the canyon which is the only serious obstacle to the proposed routing. It is my opinion that Al Kuehl did a mighty fine job in planning the road for its scenic value, and keeping it out of sight from the ruins.

So that it will be possible to estimate the size of the storage tank, and determine the best source for water, Al Kuehl suggested that I check the flow from the spring. The following represents my results as compared to those of former years:

August, 1935, 514.2 gallons per 24 hours; January, 1936, 720 gallons; May 24, 1938, 960 gallons; June 23, 1938, 595.3 gallons.

WUPATKI (CONT.)

Apparently the flow is quite erratic, and varies from year to year. I understand that when the CWA excavation was in progress here during 1933 and 1934, it was necessary to haul water from Heiser spring. According to Brewer's check in 1935 and 36, the flow from Heiser amounted to about 1,000 gallons per day. Unfortunately, the pipe was taken away from this spring and we have no means of checking it as the present time. However, I intend to check the flow of the Wupatki spring until we can get a good idea of its flow.

The trappers cabin mentioned in the last month's report has not been cleaned up as yet, since I have been unable to contact Mr. Babbitt. This matter will be taken care of as soon as possible.

On the 15th six CCC boys from NM-5-A came out with me to help put the Electrolux into the newly constructed "refrigerator room". It was not quite as bad a job as I thought it might be. One can do a good deal with a bit of man power. Two days later the Standard Oil man from Flagstaff came out with the Flamo and made the necessary adjustments on the refrigerator. Everything will be in fine order when I get a roof on the room, but every time I start to the river to get materials, a visitor arrives or there is something else to do. We are ventilating this room in the prehistoric manner by having a shaft from the surface to the floor of the room, and a "smokehole" in the roof to let warm air escape. The Electrolux representative in Flagstaff says that with this system our refrigerator should function better than one would ordinarily on a porch.

On returning to town with the CCC boys, I found a visitor with a broken axle and had to tow him into Flagstaff.

Here, Boss, is a new one for the Committee on Signs and Markers. On our mailbox at Highway 89 there is a wooden hand painted white with a finger pointing to our entrance road. This, according to Clyde Peshlakai, is for the Navajos and Hopis who cannot read, and who want to get to Wupatki. Clyde has told all of his friends about it so that in a few years the fame of Wupatki may spread among the Navajos as the "Ruin with the White Hand".

GEOLOGY

The question of the cinder formation mentioned in last month's report may have a bit of light shed upon it in the near future. Mr. George L. Green, a geologist from the San Francisco Junior College took a specimen of the cinder formation in order to make a thin section for study purposes. From this he hopes to be able to determine whether or not the cinder is cemented with calcium carbonate, or whether it can be explained in another manner.

Mr. Green was also very helpful in showing me that I was a bit

WUPATKI (CONT.)

wrong in thinking that there were some fine examples of mud cracks in the Kiabab Limestone. Near Doney Mountain there is a formation that looks very much like a dried up mud puddle, except that it is in the limestone. Actually, it turns out that this is quite common in limestone and is called "real weathering". As I understand the surface of the limestone shatters into fairly regular shapes. Water falling on the flat surfaces erodes the limestone until the edges seem to turn up as in mudcracks.

USE OF MONUMENT FACILITIES BY THE PUBLIC

Visitors registering at the Citadel: 227; at Wupatki, 129. Since 56 of the visitors registered at both places, the total travel to the monument this month is 356. Two parties stayed overnight.

NEWSWORTHY VISITORS

National Park Service. On the 26th and again on the 6th, Project Superintendent Parker of NM-5-A, and Ranger Beaubien of Walnut Canyon. From the Grand Canyon we have had the following visitors: Carelton Wilder, Frank Richardson, and D. Babenroth--all of the Ranger Naturalist Division.

Other. On the 19th we enjoyed a visit from Miss Ruth Underhill who has done so much work on the Papagoes. From her we acquired considerable information which will be of value to Custodian Bicknell of Casa Grande.

Joseph Miller, Field Supervisor for the Federal Writers' Project was here for a short visit. Afterwards, he sent up the manuscript on Wupatki which is to be used in the Guide Book. I greatly appreciated his doing this, as there were several things which are of interest, but are usually omitted in the publications which serve as guides to the public.

*****SWM*****

CHACO CANYON

By Lewis T. McKinney, custodian,
Chaco Canyon, New Mexico.

Visitors this month, 903; total since October 1, 3,971.

The travel through the monument hasn't been anything to brag about this month, especially from the north. I believe the cause of this is the road's being under construction between Aztec and Farmington. All of the roads within this part of the country have certainly been in bad shape, due to so much dry weather, dust and wind storms which have been doing a great deal of damage to everything in general. The grass and other plants had begun to suffer. The evening of the 21st brought us a little moisture, then again yesterday afternoon it rained most of the

CHACO CANYON (CONT.)

time for about five hours, making a total of .48 of precipitation within 24 hours. It was one of these good old soaking rains rather than the hard showers that we generally have this time of year. Everything seems to have a new lease on life this morning. Even the Navajos are laughing and chanting as they work away with their mud and stone, repairing the wonderful old ruins of Pueblo Bonito, where probably a thousand years ago worked another tribe that were just as happy and contented as the Navajos today. However, they were probably repairing a roof where it had leaked through on some brave while he lay sleeping, dreaming of the piece of venison he would eat after a long walk through the timber that probably grew on the mesas near Pueblo Bonito, rather than dreaming of the check he would receive from Washington, and the piece of salt pork he would buy at one of the trading posts near Pueblo Bonito.

WEATHER

Days clear- - - - -	-21	Maximum temperature.. - - - -	-93
Days partly cloudy- - - - -	8	Minimum temperature - - - -	-35
Days cloudy - - - - -	2	Precipitation- - - - -	.48

VISITORS

Nine hundred and three visitors were through the monument this month, arriving in 259 automobiles, 21 pick-ups, 12 trucks and busses, and one airplane which took a peek at the monument from "way up there".

Robert S. Richardson came out from Gallup on June 16 to collect data for preparing a tree-ring chart to be used as an educational exhibit by the Soil Conservation Service. We loaned him the pine log cross-section from our museum, and such publications as we thought would be useful.

National Park Service. On May 24, Dr. Charles N. Gould and W. B. McDougall, of the Santa Fe office, and Dr. H. C. Bryant, of the Washington office, were monument visitors. Dr. Bryant had the privilege of using the oldest dark room that he had ever used. However, after he had rerolled a part of his film we discovered a hole in the roof that was letting in some light. Hope it didn't spoil his film.

Hugh M. Miller arrived on May 29, and departed on the evening of May 30.

Natt N. Dodge drove in on June 20 to pay his first visit to this monument, and to make some colored moving pictures. The day was especially cloudy and windy so we can only hope his samples turn out well enough to indicate what could be done with colored pictures in the Chaco.

CHACO CANYON (CONT.)

THREATENING ROCK

Threatening Rock is still jiggling around out here. We have been measuring it twice daily again since the first of June. A graph of the movements will be mailed in on June 30. Measurements now are as follows:

<u>West end</u>	<u>Center</u>	<u>East end</u>
3 inches	3 11/32 inches	3 7/32 inches

*****SWM*****

TONTO

By Roland Richert, park ranger,
Roosevelt, Arizona.

Visitors this month, 301; total since October 1, 4,148.

Although the days have been warm and dry here at Tonto, the cool and beautiful moonlight nights are all that one could wish for. Roosevelt Lake is getting rather low, much to the consternation of the water users and fishermen alike.

Mr. Alexander, Tonto Forest Ranger, informs us that the Sierra Anchas are quite dry at this time; consequently, the fire hazard in that section is great. In fact, several small fires have already been noted, but promptly extinguished with slight damage occurring.

Traffic has been light on the Trail, which is to be expected at this season. Discounting Arizona, the majority of visitors this month have been from California and Texas, the former going east and the latter, west. Two conventions on the Coast, the Shriners at Los Angeles and the meeting of the American Medical Association at San Francisco were responsible for visits to Tonto by several Shriners and physicians.

A distinguished and most informative visitor was Miss Ruth Underhill of Washington, D. C., noted authority on the Papago. Miss Underhill told us that she is now with the United States Indian Service, acting as an Associate Supervisor. She was en route to California where she will conduct a summer school for Indian School teachers whose purpose it is "to teach the teachers more concerning the Indians whom they teach". It is of value to note that Miss Underhill has recently come across certain points in Papago history which confirm the suggested linkage between the Papago and Hohokam. Although primarily an ethnologist, her work overlaps that of archaeology, and she was particularly anxious to see various places of archaeological import on her way to California via the Southwest. We hope she followed our suggestion to see the Snake-town material at Gila Pueblo, and Casa Grande Ruins which are important features in connection with the work she is doing.

TONTO (CONT.)

Below is the weather report for the Roosevelt area, kindly furnished by Mr. Reynolds, official observer:

Maximum temperature- - - - -109 Days partly cloudy- - - - - 3
Minimum temperature- - - - - 62 Days clear- - - - - 28
Precipitation (June 13)- - -.02 inches.

*****SWM*****

It looks like Roland has taken hold at Tonto in fine shape. Word comes into headquarters from his visitors that he talks like a veteran guide and we note that his field trip and museum time hold up very well.--F. P.

*****SWM*****

EL MORRO

By Robert R. Budlong, custodian,
Ramah, New Mexico.

Visitors this month, 417; total since October 1, 1,422.

June has been a busy month -- busier than we had expected. Roads were rough and sandy, high winds frequent, weather often threatening, and we had quite an increase over last June's travel.

WEATHER

As I write this report, we are having our second rain of the "rainy season" and it is greatly needed. Local farmers were reporting crops wilting in the fields, and many expressed the fear that unless rain fell this week, they would lose their crops. However, rain has fallen both yesterday and today, the ground being well soaked to a depth of about three inches.

Maximum temperature during the month was 89 degrees, on the 20th; minimum 32 degrees, on the 14th, when we had a killing frost. Traces of rain fell June 5, 6, 12, and 21; and rain in measurable quantities on the 13th, 22nd, and 23rd, to a total depth of .50 inch. Lightning and thunder accompanied most of the rains, and hail fell on the 13th. Our rainy season seems to be with us at last.

ROADS

As stated in the first paragraph, these were very rough. Continued high winds whipped the sand from the roads, exposing lava outcroppings and rock ledges. As was the case last month, holes and ruts that had been filled in within the monument boundaries were blown out, leaving

EL MORRO (CONT.)

high centers again, and little could be done to them with the continued high winds.

SIGNS

There seems to be little use in erecting new signs, since they are put up one day and disappear within the next day or two. Either that, or else they are found in fragments near the posts. During the month an order was placed for the conventional enamelled-metal signs, but if those who shoot and throw rocks at signs lose none of their accuracy, it is expected that the metal signs will suffer the usual fate of signs erected in the past.

EQUIPMENT

During the month inventory was held, and all government equipment checked with our equipment cards.

TRAILS

More work was done on the north trail during the month, but the work was not completed, due to the visitors, who invariably arrived as soon as the custodian had climbed to the top of the rock, carrying pick, shovel, and rake. Not much work remains to be done, however. Trails around the base of the rock past inscriptions, and from the cabin to the water pool, were kept raked and graded, though the high winds often undid the work soon after it had been completed. Pending the construction of a house, and of approved trails, no attempt is being made to make trails of a permanent nature. Low weeds are permitted to grow in the trails, so no permanent scar will result from the use of these temporary trails. Several detours from the trail around the rock base were made during days of high winds, to save visitors the annoyance of being hit on the head by large falling rocks. We have had no casualties to date, probably because of these detours. There have been the usual number of minor rock falls.

VISITORS

Last June we had 258 visitors to this national monument. This June we had 417. Of these, all were contacted but two, who arrived while Hugh and I were on top of the rock.

The highlight of the month was Hugh's visit. We tried to persuade him to remain overnight, but were unsuccessful.

Today, Mr. Yeager, of the Santa Fe office, paid us an all-too-brief visit, to inspect the monument for insect infestation. We were greatly relieved to find out that he had in mind insect infestation of trees. His visit was also greatly enjoyed by us, but a growing thunderstorm

EL MORRO (CONT.)

caused him to depart hurriedly. Come back soon, and stay longer!

Mr. Russell and Ranger Hill, of the Forest Service, were also visitors during the month. Mr. Russell had given a motion picture lecture on forest-fire prevention at La Tinaja, seven miles distant, with the Forest Service "show boat" and the day following we had the pleasure of a long visit with him.

The State Bankers' Convention held a picnic at the monument June 5th, 85 people being present. A pit was dug, oak wood burned in it to form a bed of coals, and 50 chickens were roasted. The custodian was very busy with other visitors, and had to refuse with deep regret an invitation to the picnic. Duty called, and in spite of a badly watering mouth, he managed to conduct visitors around the inscriptions as usual.

During the month the custodian went into a huddle with Ranger Hill of the Forest Service, relative to the grave danger of forest fires in the Zuni Range across the valley from the Monument. There is no nearby observation station, and as a result of extensive logging, most of the near side of the Zuni Range constitutes a great fire hazard. Having obtained some lumber from Gallup, the Custodian is constructing a small platform on which a map (Forest Service map) of the nearby country is to be mounted, with a sighting device on it, in order that any forest fire breaking out on the part of the Zuni Range that can be seen from the monument may be spotted with accuracy. Word will then be sent to the Forest Service either by radio from the nearby Department of Commerce emergency landing field, or from this station.

COMMUNICATION

And that last sentence brings us to a somewhat premature discussion of the problem of communication with outpost monuments. The nearest public telephone is fourteen miles from this monument. In time of emergency--especially during winter months when sometimes travel is impossible except on snowshoes or skis--the outlying monuments need some way of getting in touch with the outside. The kitten having emerged from the sack in some of your remarks in the last monthly report, Boss, I imagine some sort of explanation is in order.

While stationed at Canyon de Chelly several years ago the Custodian raised the point of radio communication, and wrote for estimates on an official installation. The resulting estimates were in four figures, with no decimal point. After being snowed in for months, winter before last at this station, it was decided that some way of communicating with the outside was needed, in the event of emergency. Accordingly, the custodian purchased a small light plant, giving the necessary 110-volt a.c. current, has dug up a short-wave receiver he constructed some eight years ago, has polished up on code, and a c.w. (code) trans-

EL MORRO (CONT.)

mitter has been constructed, and is all ready to go into operation. At present the transmitter is in the East, being checked and tested by some of the foremost short-wave experts in the country. It is a low-power set, with about 20 watts output, but tests indicate it will reach out consistently to considerable distances. It is to be put in service at this monument after our thunderstorms have passed, the lightning popping consistently around the rock during our summer thunderstorms. After proving its value, it is contemplated installing two-way voice radio between the custodian's car and this office. The idea was to prove that radio communication between headquarters and the outpost monuments is something that is bound to come in time. I only regret that we had to jump the gun this way before we could actually prove its value, and the fact that initial cost need not be in four figures.

And that seems to wind up the report for this month. We have been pretty busy, and are going to be even busier for some time in the future. If we get much rain this summer our visitor travel may fall below normal, but this past month's travel was good, in spite of adverse weather conditions.

*****SWM*****

We are very glad to hear of the cooperation with the Forest Service and hope that Bud's volunteer station will be of value to them.

Sorry we jumped the gun on the communication experiments, Bud, but anything that looks like communication with and intercommunication between these far-flung places of ours gets us all pepped up and we wanted to spread the good news.

Betty's letter about her local library service is taken up in another part of this report and we would like to have every one get interested and help her out with at least one book.--F. P.

*****SWM*****

HOVENWEEP

By Alfred Peterson, roving ranger,
Cortez, Colorado.

Visitors this month, 10; total since October 1, 140.

I left Headquarters on the morning of June 7, accompanied by my better-half, and stopped that night in Holbrook. A sparkplug wire jumped off just before reaching Holbrook and we only had five cylinders for a while. The next day we took in the Petrified Forest and the Painted Desert and went on to Gallup. On June 9, we went on to Aztec Ruins National Monument, as per instructions, encountering bad detours between Farmington and Aztec. Arriving at Aztec in the afternoon, I found Custodian Miller had gone to Chaco Canyon, but Ranger Jimmie

ROVING RANGER (CONT.)

Brewer was very much on the job. We saw the ruins with a party of visitors and talked over the problems facing the Roving Ranger. The next morning I had conference with Custodian Miller, from whom I received a shovel, some "Warning" signs and material to post them on when I can get around to the various ruin groups. Accompanied by Ranger Brewer (or rather, guided by him) we continued on to Cortez and Hovenweep National Monument. We visited the Hackberry, Horseshoe House, Holly House, and Hovenweep Castle groups of ruins - hurriedly. The Cajon group was omitted for lack of time that day, as Ranger Brewer wanted to get back to Aztec. Anyhow, it is anticipated that he will be back to check distances, etc., when and if we get that report of last year along with the proclamation, aerial photographs, etc., etc.

Camping conditions are not pleasant, millions of gnats making it a task to keep from being bitten all over by the poisonous little pests. After six days camping at Hovenweep Castle, Bernice was in such a swollen inflamed condition from gnat bites that a doctor was consulted in Cortez. The water in the "spring" at this place was a stagnant pool, full of filth and smelling so terrible that it was not fit to even wash your hands. We had some water with us, and later went to a spring and cement tank on the Navajo Extension, four miles distant, for water, as well as a trip in to Hackberry house where there is a flow, though small, of water, and it is cool and of good taste. Attempts to clean out the "spring" at Square Tower (Hovenweep Castle) were without results since there are only a few drops of water entering the pool and no apparent run-off. Another bad condition is the wind. It blows so much of the time and so hard that it is out of the question to do any camp cooking or keep the sand and dirt from blowing into one's bed. Except for insects, camping at the Hackberry group (I haven't tried it yet) should be very pleasant because of the shade and good water, but I consider it very undesirable to make a definite and easily followed road to this group, which would occur if used as a camp or regular water supply, until adequate protection is provided.

As an antidote for the unpleasant features is the pleasure of inspecting these unique and highly interesting ancient Indian ruins. I am not, of course, sufficiently familiar with these ruins to say to what extent they are deteriorating. Others can and have done that. With Jimmie Brewer, I can only say that as far as I have seen there are no signs of recent vandalism, but, like Jimmie, I would like to know who has sawed off some beams and removed ends of others from these ruins, and what, if any, dates were secured. I am considering trying to date one sawed end in situ on the south side of Ruin Canyon, but from my experience working on such material for Dr. Douglass, no satisfactory results are anticipated from one small specimen. The best protection from the usual vandal these ruins have is their inaccessibility, since there are no very visible roads leading to Hackberry, Horseshoe, or Holly, and there are so many trails around Square Tower group that the right one is hard to find--unless one is guided. Shepherders, stock-

ROVING RANGER (CONT.)

men, and a few local people are about the only ones who can go to these ruins. Also, the Division of Grazing people should be mentioned in this group. But these are probably guided by stockmen. Judging from reports from former Roving Rangers, there are a few local "pot-hunters" who know all the roads. The use of these ruins for winter sheep pasture is shown by sheep filth and tins around the water.

Mrs. Ismay, at the Ismay Trading Post, told Jimmie that one lone man in a car had been looking for Hovenweep after Jimmie's trip through here on May 20th. There have been none since, and she did not know whether he had found the ruins. Mrs. Ismay says that in the past, people have asked directions to the ruins and returned, terribly disappointed, without finding them. On two occasions I have, while driving these roads, followed a fresh car track that by its winding around and back-tracking appeared to be searching for something. On such occasions, I check up to see if anybody has found our ruins. So far none have.

On June 18th, a visit was made to Yucca House National Monument. I talked with Mrs. Ray Ismay, and she told how they had to repair and reenforce the gates in the fence around the monument grounds in order to keep sheep, hogs, etc., out of that area. The fence looked rather slack and needs tightening. I hope to make a more thorough inspection again tomorrow. I am sure we are fortunate in having such friends as the Ray Ismays at Yucca House and the John Ismays at Hovenweep.

*****SWM*****

WHITE SANDS

By Tom Charles, custodian,
Alamogordo, New Mexico.

Visitors this month, 10,039; total since October 1, 56,588.

Here I am at the old job of counting cars again. Jim and Margaret left on the evening of the 17th and Jim turned in 8,410 visitors for the month, up to that date. So this month's figures are Jim's except the last five days. On Sunday the 19th, Joe and I checked the Barry Mohun percentage of registration again and found it quite accurate. Barry's six month's count showed that 14 per cent of the visitors voluntarily registered; last Sunday we had 654 people at the Heart of the Sands in 12 hours and less than 13 per cent registered. The difference of one per cent from Mohun's count was probably due to the fact that it was terribly hot at the registration box in the heat of the day, and people refused to get out of the cars to sign their names. Accepting Jim's count and using the Mohun percentage for the entire month we had 10,392, which shows the two methods are not so far apart.

On the 19th of this month we had two visitors from Maine, four from New York, three from Maryland, four from New Jersey, two from Florida, four each from Michigan, Mississippi, and Louisiana. We had two car

WHITE SANDS (CONT.)

loads from Mexico City with several from California, Colorado, Missouri, and the usual percentage from Arizona, Texas, Oklahoma, Kansas, and adjoining states. It is interesting to note that the Doctor from Maine thought the Sands were beautiful, but we "should see the desert of Maine"; while the teacher from Galveston conceded that we are on a par with the Gulf of Mexico itself, while many of the visitors bemoaned the fact that we do not have "enough publicity". These always strike a popular chord with me. I regret every day that more people do not know about the great White Sands. Don't you believe, Boss, that it is about time for us to take it up with Miss Story or some one to see if we can not get a regular Park Service bulletin?

The real event at White Sands this month was the awarding of the contract for construction of .26 miles of finished Federal Highway through the monument and closing the last gap in the road to Las Cruces and on to California. The contract went to Peabody of Santa Fe for \$156,000 and should be finished for the winter travel.

It pleased me this week to get Dr. Charlie Gould and Gene Baird together for a half a day. When I first met Dr. Gould several years ago he told me that Eugene Manlove Rhodes, of Saturday Evening Post fame, was one of the best friends he ever had, though he had never seen him. Later I found that Dr. Gould had every book that Gene Rhodes had ever written, most of them autographed and they were really a part of his very life. So you can imagine Dr. Gould's pleasure to find that Gene Baird is living at the place where Rhodes' bank robber in Paso Por Aqui found the sick Mexican family and took a week's time to see that they were cured, forgetting that the sheriff was after him. And the sheriff, Pat Garrett, when he caught him, decided that a man who had saved the lives of a family on the desert had done more good than he had done wrong in robbing a bank. So he bought the robber a ticket and shipped him on to St. Louis. Dr. Gould took a picture of the dugout, at the home of the Mexican family with Gene Baird at the side of it. He also got a picture of the Wildy Well and corral where the robber's horse gave out and he roped a steer and rode him away. It was a gala day for Dr. Gould and Gene Baird and incidentally Gene broke down and guided Dr. Gould all over the west side of the lake and the surrounding country. You know it takes Gene Baird to show you that country. He has lived there 41 years.

We had a light rain on the White Sands road this week and Joe got on to it immediately with the drag and filled the wind-blown holes better than I expected. One more dragging after a rain should bring that road back to its old time condition.

I note that the men on the drainage ditch north of the buildings have the job about completed and Joe is putting some of the finishing touches on with the big Wehr grader and fresno.

WHITE SANDS (CONT.)

Last week we were honored with a short visit from Miss Louise Boillin, a teacher in the New Mexico Junior College at Portales and a niece of Miss Isabelle Story. During the month we had Carroll Miller and family, Natt Dodge and family, Lyle Bennett, Chuck Richey, Jack Diehl and wife, Hugh Miller and Christine, and Mrs. Folk, the only lady member of the Park Service Advisory Board.

During the summer months evening parties are always popular at the great White Sands and scarcely a night passes without some sort of a social function there. Saturday night, two weeks ago, I found 37 cars--almost 200 people--there at 9:00 p. m. with no unusual entertainment. And last Tuesday night the Alamogordo firemen gave their annual "chicken fry" with 165 pounds of fried chicken, 3 gallons of gizzards, 75 to 100 pounds of steak and all the trimmings. No, there wasn't a thing left except possibly a few necks and shin bones. I think they all accord it a very successful party. It was local, to be sure, but there was the District Judge and his District Attorneys, interpreters, and the rest of the crew, the Mayor of Alamogordo, newspaper men, bankers, merchants, and friends from all over the country. Personally, I like the friendly feeling which the local people have towards the great White Sands.

*****SWM*****

Before we ask for any special White Sands pamphlet, Tom, let's get straightened around and get somewhat prepared to take care of our visitors. This new road, glad as we are to see it come, is going to keep us torn up for several months and our museum plans are yet in the formative stage. Also, I am inclined to believe that the one man on duty there as ranger will be run almost to death with the rush of visitors we now have. I would like at least to get a second man on the job before we raise the number of visitors above the ten thousand for the present month.

Wish I could have been along with Doc and Gene that day, for I am a Rhodes fan myself and then they are both such fine fellows to be with. It looks a little like Gene Baird might settle down and stay a while doesn't it, after looking the country over for the first 41 years?--F.P.

*****SWM*****

AZTEC RUINS

By T. C. Miller, custodian,
Aztec, New Mexico.

Visitors this month, 1,873; total since October 1, 11,710.

GENERAL

June has been a fair month for travel and weather. Travel was light

AZTEC RUINS (CONT.)

the first part of the month but picked up in the latter part. Highway U. S. 550 from Aztec to Farmington is now being oiled. Also, the entrance road to this monument is receiving oil treatment. Main highways are mostly good. Construction work causes little delay to travel as traffic is maintained in most cases. However, much travel is going around us to the West and North while our road is under construction. Cars come in here splashed with oil, and some of them have remarked that the road is a mess, but a place that rates oil is worth looking into. When the road is finished it will greatly increase the travel to this monument. We are running all the visitors now that we can take care of efficiently and when one of us takes a day off the other one is swamped. Our heavy travel is just starting.

The custodian was absent from the monument on annual leave from May 25 to May 31. Had a very short but pleasant visit with Jim Felton at White Sands on May 30.

MONUMENT INSPECTIONS

I made a trip to Chaco Canyon on June 9th. Much improvement was noted at the sand bed at Escavada Wash. The sand has been shaled again and cars can probably cross there all summer, fall, and winter, but it will be bad again during the spring winds.

Ranger Peterson and Mrs. Peterson arrived en route to Hovenweep and Yucca House National Monuments. On June 10, Ranger Brewer was assigned as Pete's guide, in order that Pete see all the different groups of Hovenweep Ruins in the shortest length of time, also to pass on to Pete the information that it took Jimmie all last summer to learn. Jimmie returned on the 11th. And Pete was left wondering how he would keep the Hovenweep Mosquitos from eating them. Brewer reports that all groups were visited except Cajon.

WEATHER STATISTICS

Maximum temp. (June 4)- - - - -	88	Clear days- - - - -	16
Minimum temp. (May 31)- - - - -	34	Cloudy days - - - - -	10
Precipitation - - - - -	-1.26 in.	Partly cloudy days- - - - -	5

NEW EQUIPMENT

A new typewriter was received June 1.

MAINTENANCE

The roof on the Custodian's residence was repaired and waterproofed during the month. Much has been accomplished on ground cleanup.

AZTEC RUINS (CONT.)

RANGER AND GUIDE SERVICE

Visitors register, Ranger's table, and bench were moved from the interior of the administration building to the front porch June 5. This places the Ranger in a position to greet the visitors immediately upon their arrival, register them, then open the door to the museum lobby. Museum time starts when the visitor enters the museum building. The starting and stopping time is clocked right on the dot. To date, this system works well except that the Ranger cannot hear the telephone ring from the museum porch. This handicap can probably be eliminated by installing an extension line and bell from the Custodian's office to the lobby, when additional funds are available.

NYA PROJECT

A little additional help has been received on grounds during the month through the cooperation of the National Youth Administration. Fifteen, two and one-half hour man days have been received to date. While this project may develop and prove to be worth while later on, this service has been unable to get boys between the ages of 18 and 25 years to work for the \$14.00 per month.

NATIONAL PARK SERVICE OFFICERS

We were honored by a visit from Drs. Bryant, Gould, and McDougall on May 26th. Custodian McKinney was here on June 17th and 20th. Ward Yeager, National Park Service forester, visited the monument June 22. Natt N. Dodge arrived on the 20th and departed at noon on the 21st.

USE OF MONUMENT FACILITIES BY THE PUBLIC

On the evening of June 19th an unsolicited wedding party took over the Great Kiva for their ceremony, after making special arrangements by telephone the day before.

Miss Margaret Virginia Goldsbury, Los Angeles, and Mr. Arthur H. Greer, Jr., of Durango, Colorado, were married by Rev. F. D. Painton, of Aztec.

Forty-nine friends and relatives witnessed the ceremony. Following the wedding ceremony a fine wedding supper was served on the porch of the administration building.

TRAVEL

1,873 visitors entered the Monument in 503 automobiles, coming from 39 states, the District of Columbia, and territory of Hawaii. Foreign countries represented were Canada, China, and Norway.

AZTEC RUINS (CONT.)

Total travel since October 1, 11,710 people; travel for the corresponding period of last year, 7,560--an increase of 4,150 people.

*****SWM*****

It is certainly good news to hear that the approach road from the highway up to the monument at Aztec is about completed. It was really a very dangerous little piece of road in the old days when it got wet and we always dreaded getting a report of a fatal accident on that short stretch.--F. P.

*****SWM*****

GRAN QUIVIRA

By George L. Boundey, custodian,
Gran Quivira, New Mexico.

Visitors this month, 553; total since October 1, 2,167.

The month has been dry, with high winds and much dust. Crops here are almost a complete failure. The beans, where there was enough moisture to bring them up, were all cut off by the blowing sand. Very few of the farmers have sufficient credit to purchase more seed for re-planting.

We have had a slight increase in number of visitors this month and have had some very interested people. Three scrapers are at work on the Carrizozo-Gran Quivira road and an increased number of visitors are already coming in over the new highway, although none of them are bragging much about road conditions.

Junior Park Naturalist Dodge and family from Casa Grande visited us the forepart of the month and we did enjoy their visit **very** much. On June 22, Geologist Gould from the Santa Fe office spent some time at the monument.

Our rain gauge is of little use unless we dump the sand out at least three times a day. By driving an iron post down on each side of it we have at last prevented it from blowing away.

We had three one-hundredths of an inch of rain last night and by getting out early with the scraper have put the approach road in pretty good shape.

We enjoy our herbarium case very much, one side takes care of the plants nicely and we are using the other half as a filing case.

We did a little repair work on the walls during the month and one especially bad place has been put in good repair.

GRAN QUIVIRA (CONT.)

Probably due to the exceedingly dry weather there are many more nests in the vicinity of the ruins than in past seasons. There are more than a dozen pairs of Black-Headed Grosbeak nesting in the vicinity. Night drinking from the watering places is much greater than last year.

We have had several campers during the month. When told of the many other ruins in the vicinity almost all parties are interested and if a guide were available almost all of them would like to camp. Owing to the many wood roads in the forest it is almost impossible to direct them without an experienced guide.

*****SWM*****

We got a kick out of George's diary this month where he spoke of that party coming in and asking him to guide them to the ruins which he thought he had found and that they had the same hallucination he had; they saw some ruins there too.

We didn't mean to doubt your judgment on whether or not you found ruins, and you may have found a church there, but before we give up the name "Gran Quivira" to it, we want to see two churches, an old and a new one. We continue to think that you have the old and new "Tabira" churches right there on your monument, George.--F. P.

*****SWM*****

TUMACACORI

By Louis R. Caywood, custodian,
Box 2225, Tucson, Arizona.

Visitors this month, 856; total since October 1, 12,140.

The visitor count for the month is 856. This figure is quite a drop from 1,429 of June, 1937. Perhaps the reason for such a slowing up in visitor travel is accounted for by unsettled business conditions. Many of the visitors are local people who come to see the new museum building.

The Boss and Dale King were here on June 9 to see how far the installation of the museum exhibits had progressed. Mr. and Mrs. G. G. Philp also came on that day.

On June 10, Mrs. R. E. Folk, Nashville, Tennessee, of the National Park Service Advisory Board, accompanied by Mr. J. H. Haile, of Phoenix, Arizona, who is CCC Inspector for the National Park Service in the state of Arizona, were monument visitors.

On June 21, the monument was visited by Mrs. Cora Everhart and her son, from Elgin, Arizona. Mrs. Everhart was the teacher of the local grade school fourteen years ago, and for several years prior to that

TUMACACORI (CONT.)

year. She reported that her family has a small bronze bell which she thinks may have come originally from the mission church at Tumacacori. The bell is about four inches high and approximately the same diameter; it bears a date which the son remembered as 1758, decorative designs, and words which they could not decipher. This bell was found sometime around 1910. Other similar bells are in the possession of Mrs. Henry Wood, of Elgin, and (probably) Mr. L. W. Klone, of Elgin.

During the month, a man and wife from New Mexico, visited the mission and told how their Uncle George came here looking for the "Padres' Mine" about 25 years ago. The map that Uncle George got from a Mexican led him to a great landslide, and that was the end of the search. However, according to the couple, Uncle George found the entrance to the tunnel which is alleged to lead from the church to the river. For reference, this man's name is G. W. Reynolds, Box 461, Willcox, Arizona. He is upwards of 80 years of age now. Ranger Cronyn contacted this party.

During the month several projects were completed. The cemetery wall was built up to its original height with adobes so that a brick capping can be laid over the top. The niches where once stations of the cross were placed by the venerable Franciscans were repaired and are ready to be plastered.

The adobe barrow pit was made smaller by dumping the remains of the old adobe pile into it.

The clothes line posts had rotted and were replaced with steel posts.

A ramada was built on the northwest section of the custodian's quarters. This helps considerably in maintaining a degree of coolness in the house.

Theodore Cronyn, formerly assistant engineer, ECW, of Region III, Santa Fe, New Mexico, has been appointed Park Ranger at Tumacacori National Monument. Mr. Cronyn has been here since April 30 as a per diem guide.

As reported in the March Monthly Report of this year, the water table has been greatly lowered because of the drilling and use of a number of large deep wells with pumping capacity ranging from 350 to over 1,000 gallons per minute. The old well on the monument is of no further use even if it were needed. The old mission irrigation canal that runs through the monument is dry because the Santa Cruz River has completely dried up. It would seem that the government and the people in the valley who are suffering because of this drop in the water table would have recourse by law to certain riparian rights, especially those living along the banks of the old mission irrigation canal.

TUMACACORI (CONT.)

Of the trees that were growing along the canal bank on the monument, fourteen peach trees and one weeping willow tree were replanted to locations where they could be watered. All are doing fine under the care of Ranger Ted Cronyn. In addition to this replanting, considerable new planting has been done this year. Eight black fig cuttings from Amado, Arizona, which are supposed to be descendants of the original mission figs, are in fine shape. Six mulberry trees and thirty-five pomegranates obtained from the Arizona State Highway Nursery near Glendale, Arizona, seem to be doing well. Ants have stripped the leaves from a few of the pomegranates, but they may live.

Of the year-old trees and shrubs brought down from Saguaro National Monument by Supervisor William Burnham, CCC Camp SP-11-A, twenty-six palo verdes, six acacias, and one mesquite have been planted at various places around the monument. They could no longer be kept in the cans in which they were received because of lack of root space and also the summer heat. All of these young trees are doing remarkably well under careful watering.

Mr. D. W. Egermayer, park ranger at Casa Grande National Monument, has offered his services for a planting plan for the museum patio. I have been looking forward to such a plan with very much interest, as the trees and shrubs planted here now are only temporary, due to the fact that they had to be planted to be kept alive. I missed Mr. Wirt, regional forester, and Mr. Yeager, assistant forester, on their visit here last month so I do not know what their plans are. As far as missions go I do know that some of the fathers are very proud of their gardens and have plots of flowers, cacti and vegetables besides the shrubs and trees. I don't see why the patio here at Tumacacori could not be laid out to have some of the more common flowers such as poppy, verbena, larkspur, and hollyhock. Then a section could be planted with vegetables and if room were left, a small cactus plot could be added. Thus a very interesting talk could be made to visitors along a pathway which circled the patio. The individual visitor interest would govern the length of time spent there.

MUSEUM INSTALLATION

On May 28 two truckloads of exhibits arrived from the Western Museum Division Laboratories at Berkeley, California. Al Bicknell, custodian of Casa Grande National Monument, and Bert Floyd brought one truck and Lorenzo Moffett drove the second. Mr. Floyd and Mr. Moffett came as museum technicians from the Berkeley office. Al Bicknell took one truck back to Coolidge as soon as the exhibits were unloaded and Moffett and Floyd remained here until June 8 on installation. Hours seemingly meant nothing to them, as they were often working from 7:00 a. m. until 7:00 p. m., including Sundays. Work on the installation would probably have been completed in that time had it not been for several unforeseen set-backs. The glass did not arrive until after

TUMACACORI (CONT.)

they had left, so none of it could be used. Each of the twelve niches in which the twenty seven cases were supposed to fit had been carefully plastered by the contractor so that the cases would not go in. In each niche the plaster had to be removed from one or both side walls and often the ceiling plaster also had to be removed. For one case, the Mass Diorama, No. 22, the wall behind the diorama had to be cut out for a space $3\frac{1}{2}$ ' wide by 6' high by 9" deep. In all, 482 square feet of plaster was removed. The openings for three air ducts in the exhibit rooms came out below the cases. Iron gratings had been supplied and installed by the contractor, but in order to keep the case bases uniform throughout the building, these iron gratings had to be removed and the air ducts cut back so that the wooden panel bases with gratings built in could be framed into the openings. These panel bases were made in Berkeley and are all of uniform design and workmanship.

The case bases and panel bases were fitted in each niche except for one. Three transparencies in lieu of completed dioramas were installed. These transparencies depict (1) The Storming of Hawikuh by Coronado and his soldiers (2) The Expulsion of the Jesuits, and (3) The Blessing of de Anza and his men before leaving for San Francisco in 1775. Dioramas installed include: (1) Kino on the Trail (2) The Siege of Tubutama (3) Mining, and (4) The Mass. Several panel cases are partially installed, but without either top or front glasses.

Bird banding has been at a standstill during the month because of nesting activities.

*****SWM*****

That is an interesting story about the small bells and it might pay to follow up and get photographs and further details. There is a possibility they might have been mounted on a wooden wheel similar to one yet to be seen at San Xavier and I believe this wheel was turned, thus chiming the bells, at a certain point when Mass was being said.

The story about the entrance to the tunnel is also rather interesting. One story has that tunnel going up toward the hills to the west of the Mission and this one has it going east to the river. This man has seen the river tunnel and Dr. Cummings found a Mexican woman who, as a child, had been in the one to the hills.

Busy men, these priests were, building tunnels around the country like that. Brick lined tunnels they were too, notwithstanding the fact that they did not have enough burned bricks to finish the bell tower of their church, they seem to have had time and bricks to run tunnels hither and yon.--F. P.

*****SWM*****

SUNSET CRATER

By David J. Jones, park ranger,
Flagstaff, Arizona.

Visitors this month, 885; total since October 1, 3,384.

Travel to this monument totaled 885 for this month, as compared to 491 in 1937, 459 in 1936, 563 in 1935. While I do not feel that these figures are accurate, they are the best we can get for the present time. It is difficult to estimate how many of the visitors do not register, but there must be a good many. A number of the people who come on down to Wupatki say that they did not register at the crater because they thought that the road to Wupatki ascended the crater, and that they could register on their way out.

Within the next month I am going to submit my ideas to remedy the situation at Sunset Crater.

*****SWM*****

CHIRICAHUA

By Frank Fish, custodian,
Douglas, Arizona.

Visitors this month, 1,292; total since October 1, 6,524.

GENERAL

A decided drop in visitors compared with last year is shown this month. Probably your business observations on last month's trip through this region accounts for the falling off. However, June, 1937, saw us with two large parties--250 Cochise County farmers and 46 CCC boys, compared with 46 Cochise County farmers and 23 Girl Scouts this June. Our total loss for the month was 209, so according to the figures, we have had an increase in the regular run and a loss in the extra. The farmers claimed the reason for their small turn-out is "too many talks and not enough entertainment."

Employment figures are not available for this area, but the smelter at Douglas closed one furnace during the month and I have not heard of any new work starting.

The range and forest areas have been dry during the month and in some locations shallow wells have about given out. Starting with June 21, scattered showers accompanied with an electrical disturbance have wet down some of the surrounding country for the past three days. In company with some Michigan visitors, the Echo Canyon Trail was found to be one wet spot on the 23rd.

The evening of June 21, our look-out men were the first to report a fire west of the saw mill on the National Forest Service land. With 23 enrollees from the local camp, Foreman Campbell was at the fire in

CHIRICAHUA (CONT.)

good time to hold it between two and three acres. The fire started in a slash area mixed with tall grass. I went along and had a good work-out. The only reason Steve, another "Old Fire Hoss", wasn't there is that he is recovering from an infected arm. It will probably interest the foresters to find our fire organization is clicking.

GOOD NEWS

According to radio and newspaper reports, the President signed the proclamation for the extension of the monument. Boundary signs are available and a project is being set up so they can be placed as soon as the papers are confirmed.

NEW CONSTRUCTION, APPROACH ROADS

Re-alignment and widening a stretch of the county road from Willcox was started this month. Starting about two miles this side of Dos Cabezas and working toward the monument for a distance of $1\frac{1}{2}$ miles, a former section of bad road is being improved, necessitating a detour of approximately two miles. Work is continuing on the Elfrieda-McNeal section of State 81 out of Douglas. All other approach roads have been maintained in fair condition.

MAINTENANCE OF WATER SYSTEM

Work in cleaning out around the monument spring has improved the water here both in quality and amount. For a few days while cleaning of the catch basin was under way, some of the mains were closed and opened at regular intervals so everyone could have a little.

NATIONAL PARK SERVICE OFFICIALS

Natt N. Dodge and family on the 26th and 27th. Luis Castellum and H. Clay Parker, project superintendent of the CCC camp at Mount Elden, on the 16th and 17th.

PUBLIC OPERATORS

Grading for the construction of a service station along Bonita Highway by Ed and Lillian Riggs on their property is about complete, and with the materials on the job, the Chiricahua visitor will be able to get gas, oil, and incidentals before long. A store and camp cabin area is contemplated in the near future. Horseback parties from Massai Point have not proven profitable of late.

*****SWM*****

While we have not yet received an official copy of the proclamation, we have verified by the Register, the proclamation on the addition to

CHIRICAHUA (CONT.)

Chiricahua. The addition is 6,407 acres and with the 4,480 acres we already had, the monument now contains 10,887 acres. We think we now have all the land we need within our boundaries; on the other hand, we need all we have for the proper administration of the monument.

In this connection we would like to mention the courteous and thoughtful treatment we have received all through this land trade from Fred Winn, of the Forest Service, who played ball with us so handsomely.
--F. P.

*****SWM*****

NAVAJO

By William F. V. Leicht, park ranger,
Kayenta, Arizona.

Visitors this month, 55; total since October 1, 1934.

From my tent house at Betata'kin the view is now most enticing. Directly in front is a thick grove of Gambel Oaks, the floor of which is carpeted with wild primroses, desert mallow, pentstemons, Indian paint brushes, columbines (not yet in bloom), and yellow mariposa lilies. Dense and jungly is the dark green thicket of black birches and aspens that border the clear cold little stream gurgling a short distance below. On the far side of the stream the ground sweeps abruptly upward, the lower slopes dotted with juniper, pinyon, and sage, and sprinkled with wildflowers; higher up, in protected shaded places, are majestic stands of Douglas fir. Still higher, is the great rampart of red cliffs.

Travelers seeking adventure in remote places have come to Navajo in greater numbers during the past month. Fifty-five persons visited the monument. Two went to Inscription House, five hiked with me to Keetseel, and forty-four have been at Betata'kin. Travel to Betata'kin was exactly double that of last month.

When improved roads have made most of the National Parks and Monuments easily accessible, Keetseel will always remain remote and lonely and difficult to reach. Nature is taking care of that. Nearly the entire lower trail is gone forever, and headward erosion in the side gullies and gorges is fast destroying the upper trail. One now clops through the streams most of the way, putting a foot down cautiously to test for treacherous quicksands; or he follows the dim sandy and rocky upper trail, up and down, and around the heads of precipitous gullies and gorges. For the ultimate in adventure I recommend a trip to spectacular Keetseel. But don't attempt it unless you are willing to endure the effort and hardship which that trip entails.

Weather conditions have improved somewhat during the past month. There were eleven days of wind--one unforgettable day, June the twelfth--when the region bared its fangs and the fiercest sandstorm of the season

NAVAJO (CONT.)

occurred. On three days, light showers fell. About half the month has been clear, warm, and calm. The nights are, as usual, "blanket" nights.

Once each month I make a trip to Flagstaff, one hundred forty miles away, to purchase fresh food supplies, to have the Government car serviced, and to take a look at the "outside world". This month I went twice to that distant city, the second time on an errand of mercy. Two tourists had the sickening experience of breaking the transmission in their auto on the Betata'kin "road". I took the owner of the car to Flagstaff, where transmission parts were ordered from Los Angeles by teletype.

It is no longer advisable or safe to drive the last mile of the Betata'kin road. Cars should be parked a mile from the head of the trail. The other end of the road, the long steep hill above Shonto, over which the Indians are continually taking their horses, sheep, and goats, is not easy to negotiate during this dry season just before the summer rains.

Last Thanksgiving Day an old prospector who wandered into the Kaibito region, adjacent to Navajo National Monument, was murdered by a bad Indian of that area. On May the twenty-sixth this Indian flayed one of his wives unmercifully with a rope. The avenging wife, who had kept secret her knowledge of the Thanksgiving Day murder, told the story of it at Tonalea. The following day the Indian was captured as he was galloping towards a hide-out. He subsequently confessed to the murder of the old prospector.

Another Indian of the Kaibito-Inscription House area, disgruntled over a recent order limiting the number of sheep a family may own, remarked to a trader that he was going to wreck the Government property nearby, meaning Inscription House Ruins. The trader warned him of the serious consequences he would bring upon himself should he attempt such an act. It was probably an idle threat; nevertheless, I was greatly relieved to find the beautiful little ruin still intact when I made my inspection trip to it.

Two insolent ravens have taken up their abode in the great cave; that is, they spend the nights in it. But from early dawn to late dusk they stay in the vicinity of my tent, filching the food that I set out for the song-birds and upsetting the jars of victuals that I keep partly submerged in the cold stream. Incredible as it may seem, they made off with a small can of condensed milk, first pulling out the waxed-paper plugs, which they left in the little rock cavity of my water cooler. Their song is a raucous cawing, followed by a sharp clicking of beaks and a regurgitating noise. It sounds as if their stomachs are in a continual state of revolt. At first, I felt a bit solicitous about the **state** of their health, but now I shouldn't care if it failed them completely, for in addition to their thieving propensities, I think they are keeping the song-birds away.

NAVAJO (CONT.)

Above my tent house, and on the back-wall of an incipient arched cave, is a row of nine paintings. Eight of them represent human figures or war gods and one is a five-foot snake. The ancient artist used a hematite paint and did a painstaking job. To-day, these paintings are in an excellent state of preservation, and are well worth a visit for anyone who can tarry long enough in Betata'kin Canyon to climb up to them.

*****SWM*****

Bill seems to have had a most interesting month up at Navajo and I might say that his diary makes even more interesting reading than his monthly report. These diaries, by the way, which we have required of the Custodians for the past few months, have proved in most cases to be very interesting indeed. The men seem to think that only one or two people are going to read their diary, and they are right in so thinking, and so they are willing to relax and give us a clearer insight into the day by day trials and tribulations of the job.--F. P.

*****SWM*****

ARCHES

By Harry Reed, custodian,
Moab, Utah.

Visitors this month, 114; total since October 1, 880.

This report is for the first twenty two days of June. There are no figures available for the last eight days of May, as I was too busy in Moab, getting everything in readiness to begin work at the Arches on June 1. Since June 1, I have been in the monument every day between the hours of 8:00 a. m. and 5:00 p. m. I have not established a camp in the monument, but plan to do so in a few days. I have been making the drive from Moab every day.

GENERAL

Perhaps the highlight of this month's activities in the monument was the making of a motion picture by the Denver and Rio Grande Western Railroad Company. This film will become a part of a full-length feature picture covering the industrial, agricultural, and scenic features of Utah. Made by a professional motion picture cameraman on standard theater size film, this picture will be reproduced in thirty copies which will be placed in the circulating library of the railroad and will be shown free of charge to the public throughout the eastern states.

The official party, headed by Mr. Carlton T. Sills, Assistant Director of Public Relations, with offices in Denver, Colorado, and Mr. Richard A. Hart, Assistant Director of Public Relations with offices

ARCHES (CONT.)

in Salt Lake City, Utah, arrived in a special car which was placed on a siding at Thompsons, Utah, where they were met early the following morning (Monday, June 13) by L. L. Taylor, C. S. Thompson, and myself. We were joined near the monument by L. N. Meador and Dr. J. W. Williams. We arrived at the monument about 9:00 a. m., where we were met by Bert Newell and Von Taylor (Moab stockmen) with saddle horses and pack mules. As the party had only one day to spend in the area, only the windows section was photographed. Mr. Sills and Mr. Hart were loud in their praise of the unusual beauty of the region and the splendid cooperation given them by the citizens of Moab. Mr. Sills stated that plans were already progressing to establish circle tours from Thompsons through the Moab area and that in all probability they would be a reality by next year. The tours will eventually be extended to include the Natural Bridges and Monument Valley.

VISITORS

For the first time it has been possible this month to get an accurate check on the number of visitors to the Arches. As expected, they run considerably higher than past estimates.

WEATHER AND ROADS

Light showers fell in the monument on June 5, 6, and 22. The first fourteen days of the month were cool and delightful. Beginning June 15th, we have had high winds which at times were of almost hurricane caliber. No great amount of damage has resulted from wind, although a considerable amount of sand has been blown into the road leading from U.S. Highway 160 into the monument.

I found a drag at the point where a new spur road leads off from the temporary monument road and upon investigating found it to be the property of the Division of Grazing CCC Camp located at Dalton Wells, near the monument. With their permission I have been using this drag with good results. Although new sand comes in every day, with the drag and a shovel I have been able to keep the road in fair condition.

I have constructed three new signs along the temporary road. The first one (coming into the Arches) is at the intersection of the CCC spur road which leads to a dam now being constructed. This sign consists of a three-foot arrow on which is painted in plain letters the word ARCHES. The second sign is located at the east side of Willow Flats. The road over the flats is very good and most motorists drive twenty five or thirty miles per hour over this part of the road. On leaving the flats, one comes very unexpectedly onto a very rough piece of road. Some passengers have been pretty badly shaken up before the driver could bring the car under control. This sign, as well as the third, is marked SLOW. I feel sure these signs will be a real benefit to motorists coming into the Arches.

ARCHES (CONT.)

I have also renewed some of the signs which were brought up and installed by Jimmie Brewer last year. The desert sun and wind had damaged the paint considerably. They are now as good as new.

MISCELLANEOUS

I have had a little spare time which I have used in exploring some of the nearby places which I had not seen before. On one of these trips I climbed up the rocks just east of Adam and Eve which are near the northwest corner of the Windows Section. In a small cave at the head of a wash I found a dripping spring. There are nine seeps within a space of twenty feet. The largest of these drips at the rate of eight drops of water per minute. The ground is moist for about six feet from the base of the cliff. I believe if this was developed, a sufficient flow for drinking purposes might result.

At the same time that I was checking up on the seeps, my brother climbed the cliff and for the first time was successful in getting on top of the large formation just north and west of Double Arch. He reports a large basin on the top and immediately over the seeps described above. This basin is approximately 75 feet wide, 100 feet long and 200 feet deep. In the bottom is damp sand in which willows are growing. I feel sure this is the source of the water which I found. We plan to construct a ladder which will make accessible much of the area on top of this group which has never been seen. I hope to have complete information on this by time for my next report.

*****SWM*****

It looks like Harry had a pretty busy month at the Arches and has been doing some good work in getting his signs repaired and repainted. He speaks elsewhere of some further discoveries which he may be able to release next month, so, apparently, we don't know all about the Arches National Monument yet.

The problem of the addition to the Arches is now up to the Washington Office and I hope we can speed up action on it, as we have other plans waiting upon this expansion which is so greatly needed.--F. P.

*****SWM*****

MONTEZUMA CASTLE By Earl Jackson, custodian,
Camp Verde, Arizona.

Visitors this month, 1,121; total since October 1, 6,304.

SPECIAL VISITORS

Park Service: June 3 - Assistant Superintendent Hugh Miller was in

MONTEZUMA CASTLE (CONT.)

For several hours. Much was discussed, and an enjoyable as well as effective visit was had.

H. A. Montgomery, Assistant Engineer in the Regional Office, was in for inspection and recommendations.

June 6 - J. H. Tovrea, Assistant Engineer, was in for an inspection.

June 14 - J. H. Tovrea was in again, on road inspection.

WEATHER AND ROADS

Precipitation-----	0	Minimum temperature-----	49
Days cloudy-----	2	Mean maximum-----	97.12
Days partly cloudy-----	6	Mean minimum-----	53.38
Maximum temperature-----	105		

With no rain, roads continue very dusty and corrugated. Every incoming road which is not oiled brings complaints from visitors. The road from Highway 79 via Cornville is still under construction, and while not as bad as last month, is still discouraging to many people. During the early part of the month our three quarters of a mile of entrance road was so rough as to cause some people to refrain from coming in. Since the fifth of the month, however, the entrance road, with its fresh coat of oil, has been excellent.

MAINTENANCE, IMPROVEMENTS, AND NEW CONSTRUCTION

The entrance road into Montezuma Castle was completed, also the cleaning up.

Maintenance has included dusting a few blisters on the entrance road, where over-rich spots exuded oil.

A Flamo hot plate was installed in the Ranger tent-house quarters.

A temporary installation was made of a gasoline pump and underground storage tank.

A new museum case (received as a gift some time ago) was installed in the museum, and now houses the mummy.

A formicary (exhibition ant nest) was constructed by the custodian and installed in the museum.

An aquarium was installed in the museum in a large south window.

Approximately 20 yards of rocks, waste from the entrance road construction, were dumped into a cut made last winter by the creek in the

MONTEZUMA CASTLE (CONT.)

river terrace in front of the museum.

ACCESSIONS

A new 16-gallon aquarium was received from headquarters during the month.

We received instructions and photographs from headquarters during the month for the use of demonstration ant nests. We made one out of moulding plaster and some old glass on hand, at a total cost of about fifty cents. It is quite satisfactory, but is one of the flat type, (horizontal type). It was equipped with ants, and they are now busily at work carrying on the normal processes of life.

We are not satisfied with a horizontal nest, however, and plan to make a vertical one, of a little different type. If anyone in the field reads this and would like to have the nest we have on hand, let me know and I will send it to you. It works all right, but I don't think it shows as much of the inner workings of a nest as a vertical type would.

I find that installing an aquarium with all the different types of fish native to these waters is not as simple as it looks. We have the perch, mud catfish, two varieties of suckers, carp, and the Bonytail. Of course, these are not all native to the West, but were, in some cases, introduced long ago and have taken over the streams. We find that a perch, one of the most beautiful of fish and one of those best adapted for aquaria, is a confirmed cannibal and trouble maker. We have a perch in the aquarium which kills all the small suckers we put there, and either the perch or the catfish at night eats the insides from these fish. This, in spite of plenty of food. So it is necessary to carefully select our fish, using quite small perch and much larger suckers, so the suckers are large enough to stay alive. It will be another week or two before this year's crop of creek minnows has grown large enough for us to secure all the size variations we need. And we may not be able to keep Bonytails at all. They require so much fresh water that it would be rather expensive for us to keep a jet of it running into their tank all the time. But we are doing a lot of experimenting, and if we learn anything we will let you know.

GENERAL

The General Land Office field party, which arrived last month, completed the survey of Montezuma Castle's boundary, and they were considerate enough to lead us back over the ground for a patrol of the entire boundary. One must commend the excellent spirit of cooperation shown by Mr. Horace M. Muscott, the head of the party, and his assistants in this work.

MONTEZUMA CASTLE (CONT.)

We were disappointed at something the boundary showed. A long and lovely pool in Beaver Creek, a quarter mile upstream above the parking area, and just a hundred yards above the eastern limit of the proposed camp ground, is mostly on private land, whereas we had thought we owned it.

Where have those leisurely vacationers gone who used to camp at Montezuma Castle? We have not had a single camper in well over a month. That is unprecedented for summer time. We wonder what that signifies. Perhaps your office will be able to boil down a few similar situations this summer into a trend. It would be interesting.

Our contacts are way off this month. I am not surprised, however, for there have been far more cases than usual this month where the custodian was not on hand to do his part in contact work, being involved in extra office work on the road job, running more errands than usual on that account, and being sick for two days. Ranger Alberts has been right on the job, and believe me, there's plenty of climbing to do now into the Castle. A very high percentage of visitors are climbing into the Castle. Perhaps this is because we have had a comparatively cool month for summer.

Museum contacts here always run low when there is only one man on contact duty, for then we let the museum go, except when there is free time from Castle trips.

What was, in some ways, our gravest administrative problem arose this month when we found the fish in the aquarium needed boiled egg. It would have been simple enough to write a purchase order for one boiled egg, but we wondered what reaction it would cause at headquarters or in Washington on some book audit to see the price of "one boiled egg" obligated. However, we could have certified as to domestic growth and production of this egg, and its producer could have made a scratch, or "x", in the presence of witnesses, for a signature on the certificate of genuineness. We at length decided, however, that since the egg had to be boiled, and if my wife charged extra for boiling the egg over what she had paid for it, the charge would have been above the going rate. So we decided to make an outright gift to the Government of the egg.

*****SWM*****

Earl asks a very pertinent question about that leisurely vacationist. Where has he gone? My own guess is that more and more people are getting away from camping and going into the cabin camps of the towns.

Incidentally, I have noticed a number of references in the last few months to the passing of the house trailer, and I am wondering what is becoming of that fellow. Suggestions will be welcomed. In part I know he has taken more to parking his trailer at a good central ground and

MONTEZUMA CASTLE (CONT.)

covering the surrounding country in his car, he returns to his trailer at night. This doesn't explain it all, however, because the figures seem to show that trailer production is on the down grade and they are beginning to go off the roads. I suppose those people will go back to the cabin grounds.--F. P.

*****SWM*****

CANYON DE CHELLY

By Johnwill Paris, custodian,
Chin Lee, Arizona.

Visitors this month, 178; total since October 1, 720.

June has been a most interesting month in many ways for de Chelly and I hate to see it pass into history. Our staff has been increased by two, officially at least, and three actually. Woodrow Spires entered on duty June 1, and William Lippincott June 16. Sally dropped in with Bill and now with the three extra we are all set and going strong. The sad part of the story being that the visitor record shows that we do not have as many visitors this June as in June as in June a year ago. But even at that, 178 visitors, with all the other work that has been going on, has kept the boys and myself plenty busy. Woody started out the first thing on the fence work at both the White House and Antelope House. That work was completed and is a most important piece of work in ruins protection. It is possible to get over the fence at many points if a person is so inclined, but it will keep out stock and that was the main purpose of the project. Woody did an excellent job, too, of getting the initials off the walls. Some of the cliffs near the ruins were marked up with dates and names, but that is reasonably clean now and does look much better.

One of the main projects this month has been the completion of the inner and outer plaster on the residence. The outside received two coats of the plaster and I believe is going to solve our problem of the wall's sluffing away. No doubt there will be minor repairs necessary, but nothing like the wear that we have experienced in the past. The inner plaster in the big room will be painted a cream color and will improve it a lot. It will make the room so much lighter. We did have a little trouble with the paint. Poor Woody and Bill did such a nice job of painting and got so much accomplished and the next morning it all cracked and peeled off. We were told that the oil in the plaster was the cause of the cracking. Well, I do not know what caused it to crack, but I do know that it was next to impossible to get the paint off, so after trying every possible suggestion even from the paint company we found that it would be easier to take off the plaster and re-plaster, which we did. The paint company tells me they have a primer coat that we can cover the wall with and then paint so that will follow after the first of our new fiscal year.

The tool and implement shed received its plaster coat and also a

CANYON DE CHELLY (CONT.)

cement floor. Both of these features add to the unit and it is one of the most complete units we have now. Bill and Woody have carefully checked in the tools and we are proud as can be of the entire set-up. Some little work with a rake and shovel will make the grading complete and then our de Chelly unit will be one that need not take a back seat for any other monument.

Among the visitors we did have this month, the Park Service was well represented. Hugh Miller was in on the first and Natt Dodge, also from Coolidge, was in last week. A few days before, Homer and Mary Hastings were in for a couple of days. Fortunately, Homer and Natt both got to see the extreme in both of the Canyons.

The Canyons have been extremely dry and going in them has been hard. It is approaching our rainy season so that we might expect some relief soon. Several trips to town this month in connection with regular and special duties were made. On one of my return trips from Gallup I stopped in at the dedication of the new Indian Hospital at Fort Defiance. It is a wonderful hospital and the program was grand. A very large crowd attended.

*****SWM*****

We were quite amused by some figures submitted with SWM 16. John-will's office force evidently wanted to show a heavy visitor contact figure and so, taking nine stations or points of contact, they figured 349 contacts on 130 visitors and called it 193 per cent contact.

That sounds fine until you stop to figure that with nine places of contact, he is shooting at a 900 per cent contact as his prize and the 193 per cent he actually got is pretty small.

Then we had a further chuckle when we found that one of the nine places of contact was the office, where had counted 100 per cent of his visitors as contacted when they registered.

By throwing out seven of his places of contact and allowing him a field trip and a lecture contact in the office on six parties on which he actually averaged 42.5 minutes, we got him somewhat below 100 per cent contact on a 200 per cent basis, which is much better than his 193 per cent contact on a 900 per cent basis.

The lecture contact as it is used at El Morro and Canyon de Chelly is a proper educational contact and we would like to have them reported and counted. But remember, we are shooting at a 200 per cent target when we add this unit of service.--F. P.

*****SWM*****

NATURAL BRIDGES

By Zeke Johnson, custodian,
Blanding, Utah.

Visitors this month, 67; total since October 1, 234.

This has surely been a freakish month; five cloudless days and every other day cloudy with nine of them black and cold. But there was no rain. We have had eight days of the worst wind I have ever seen in San Juan County. Each of those days it seemed as though the wind would blow the bridges down, but they are still standing. The country is very dry and the roads very good.

The flowers around my camp are about all gone, but in the canyons they are still beautiful--I have never seen such a lot of grass and other vegetation here. On June 3, I saw the first rattlesnake in seven years, it was on the trail to Sipapu Bridge.

On the 10th, Joseph Reuts and Louis J. Miller, two young men from Notre Dame University, came to my camp with 60# packs on their backs and stayed around the bridges for three days and then left for a two weeks trip down White Canyon. They went down the Box Canyon instead of the old Pioneer Road that leads to Hite Crossing. I made a map for them and they will try to cross the country from lower Red Canyon over Mite Mokey (?) Canyon then south to Carlisle Wash, then back through Red House and Cow Tanks to my camp. I asked them what they wanted in that country and they said experience. I told them that they would surely get it. I look for them back tomorrow.

I must tell you of my experience on June 9. At 11:00 a. m., thirteen people drove up and said that they wanted to hike to all the Bridges, so I told them to eat their lunch before starting. As they were preparing to eat, one lady asked if she could use my tent house to feed and put her baby to sleep and I told her she could and the baby was soon asleep. After lunch, we all went down to the Owachomo Bridge and climbed all over it and then when the crowd was ready to leave for the Sipapu, the mother thought that the baby would sleep until she returned. I had had a long hike the day before and there were two Blanding people along who knew the trail, so I volunteered to stay in camp and watch the baby. Off they went--mother to be back in three hours. At the end of three hours the wind began to blow and I thought that surely the tent would blow down. The baby woke and when she saw her attendant she cried long and continuously for thirty-five minutes. I did all in my power to quiet her, but she kept on crying. At last I decided to sing a few Indian songs and for twenty-five minutes I sang Bear Dances and Navajo chants until she fell asleep. I gently laid her back on the pillow and at 4:30 her mother returned and said, "I am so glad she is still asleep. After seeing that wonderful bridge, the Sipapu, I just had to see the Katchina, feeling sure that the little darling would not wake up. I'm glad that she did sleep all the time". The only way that that mother will ever know of my hour of anguish will be when little Karen grows up and re-

NATURAL BRIDGES (CONT.)

members those beautiful melodies I sang to her and tells her mother about it.

On the 22nd, 28 Boy Scouts, 2 Scout masters, a cook, and a driver came to the Bridges for two days. I have never seen such a hurricane as blew while they were here. We all piled into my two tents and thought that surely the tents would be ripped to pieces. But they still stand.

I am in town today. At 10:00 a. m., two ladies from Illinois drove up and I sent them out to the Bridges and I'll soon be on my way to camp. We will make the thirteen mile hike to all the bridges and the ancient ladder above the Sipapu tomorrow, as they say they are good hikers and want to see everything. I have word from lots of people that intend to spend the fourth at the monument.

*****SWM*****

CAPULIN MOUNTAIN

By Homer J. Farr, custodian,
Capulin, New Mexico.

Visitors this month, 2,000; total since October 1, 8,200.

I am happy to report two thousand visitors this month to the old Volcano. Mr. and Mrs. Natt Dodge were our welcome visitors on the last day of May and, of course, are included in this report. I note on the register that there has been only about three per cent registered. Of course, you understand the register is kept down town, about three miles from the monument and only a few filter into the custodian's office and register. Those registered are from thirteen states and are as shown: Colorado, 2; Illinois, 3; Arizona, 5; Oklahoma, 27; New Mexico, 12; Texas, 34; Louisiana, 5; Ohio, 3; Kentucky, 2; Pennsylvania, 6; Wyoming, 1; Colorado, 2; Kansas, 3. A total of one hundred registered.

Weather has been very good to us this month, with possibly two or more inches of rain. Grass and all vegetation are looking grand. The array of beautiful flowers on the monument is the most beautiful we have ever had.

The road on the monument is in fine condition except those places directly below sloughing portions above the road. These are continually filling with rock.

*****SWM*****

CHIRICAHUA CCC

By William Stevenson, project superintendent,
Douglas, Arizona.

One hundred square yards of rock banks were sloped on Boni Highway, three miles north of the Sugar Loaf truck trail intersection.

CHIRICAHUA CCC (CONT.)

Materials were used to widen fill slopes. Work was discontinued on this project July 15th.

A crew has been working the entire month on maintenance of the water system. The entire spring area has been excavated and filled with coarse rock and an adequate drain provided for the storage reservoir.

Work has been suspended on the Administration Building, awaiting materials for the exhibit cases.

Bridge No. 2 has been completed this month and forms are now in place for Bridge No. 1. This project will be complete by July 1.

Echo Parking Area is 100 per cent complete.

The Stone Wall in connection with the Utility Area Extension and the roof cellar for Residence No. 2 are 100 per cent complete.

Twenty-seven man days were used in fighting two fires which occurred on the Coronado National Forest this month.

Three hundred ten man days and thirty five truck days were released to the Army this month to aid in their camp rehabilitation program.

*****SWM*****

PIPE SPRING

By Leonard Heaton, acting custodian,
Moccasin, Arizona.

Visitors this month, 388; total since October 1, 1,429.

Back on the job after 14 days of leave, in which I had a very enjoyable time in the high mountains where there were banks of snow two feet deep and the nights were cold enough to almost freeze one. I attended a Scout camp of 275 boys and a grand time was had by all who were there.

For my report this month, I have very little to report, and as the time is past when this should be in your office, I will try to make it short and to the point.

ROADS

The roads are getting in pretty bad condition, full of ruts and dust, as there has been no rain this month and some grading was done that just added to the dust and rough roads. All the washes between the monument and Fredonia have bridges but one, Sand (or Reavel) Wash, that does not run much water, as it is only about one mile long. Some travel is going over the old Zion road by way of Short Creek. This road

PIPE SPRING (CONT.)

is in fair condition.

CCC ACTIVITIES

The forepart of the month I had four boys working at hauling dirt and building the two pit toilets. The carpenter work is all done but placing of the seats, which had not arrived when I took my leave.

On the 10th I turned the truck and three boys back to the Camp Superintendent and kept Mr. Brown Knight to take my place as guide and to look after the fort for the 14 days I was away. Mr. Knight seems to have done a good job while I was away, as I can find nothing to kick about. He is a rather quiet fellow, but dependable.

WEATHER

The weather has for the most part been very dry and hot, too hot for comfort, as the plant life is beginning to curl and burn. Though there have been several cloudy days and the last two days cloudy, no rain has fallen here. This month I have recorded 10 clear days; 7 partly cloudy days, and 3 cloudy days.

GENERAL

A new water tank was installed by the Army for their water storage and it is fixed so that it shuts itself off by gravity. As this tank is of metal, with no leaks, we will save water there. But I am doubtful if they will keep the water shut off that drains into their swimming pool. Anyway, I hope they do, now that it is getting so hot.

In closing, will say that I have a lot of work piled up that will keep me busy for several days, both in the fort and on the grounds outside. Then I am expecting Al Kuehl back sometime in the forepart of July. If I am to get things caught up as they should be, I will have to step on it.

*****SWM*****

MOBILE UNIT

By Gordon Vivian, foreman,
Chaco Canyon, New Mexico.

I see by your notation at the end of our last month's report that there is some question as to the permanency of the work that is being done by the Mobile Unit. We have, to date, no technicians reports or correspondence criticising individual items of the work, but I take it that it is our use of Bitumuls stabilizer in capping walls that is under fire at present. Believing this to be the case, we have stopped all capping and have built a series of test walls using different stabilized mixtures. On these we intend to run controlled tests for their resistance

MOBILE UNIT (CONT.)

to falling water. Naturally, we should have run these before, but we were handicapped by poor pumping facilities. This month we have installed a larger pump, loaned by the Indian Service, and now have an ample supply of water. Just how good a system for testing we have devised is probably questionable, but we have a large shower head which we are going to turn on the test blocks from a height. By computing the amount of water this delivers, we ought to be able to correlate it with the annual rainfall here. If this arrangement suits everyone all around we should be able to go ahead and subject the test walls to the same amount of falling water that the ruins would receive over a long period of years.

On Job 113, Pit Toilets, 55 man days have been spent on the two units since they were started the first of the month. One unit is almost complete; on the other the framing is finished and the siding is now being laid.

Ten man days were spent on drainage. Under this the seal coating was applied to the east side of the subterranean room 110 and the trench there was refilled.

The remaining 276 man days this month were expended under 1016-4, Wall Support. Twelve rooms have been completed. Of these twelve, five numbers, 106, 333, 334, 335, and 336, had repairs made to the lower portions of the walls at ground level and below. Here missing areas of veneer and patches of decayed stone were replaced. New lintels were also supplied in doorways in 106, 335, and 334.

In room 239 the east wall in the second story was originally built with a pronounced bow in it overhanging the first story. The north end of this bow had cracked away from the north cross wall of the room. This was repaired by taking down part of the wall and pouring a concrete core through the center and tying in to the north cross wall. With the core in place, the wall has been rebuilt in its original outline. In room 116, a fragment of a second story wall has been leaning far out of plumb due to the rotting of poles on which the second wall level was based. Here the poles have been replaced and the wall wedged up on the veneer so that little weight falls on the poles. The area above the repair has been respalled.

Also, on the west side of the ruin debris from an unexcavated room has pushed out a portion of the east wall on room 122. Part of this fallen wall has been replaced and the foundations to that remaining have been strengthened. The small keyhole-shaped kiva No. 59 has been repaired by inserting a reinforced concrete core through part of the wall in the southeast corner which had separated from the rest of the wall and was some fourteen inches out of plumb.

*****SWM*****

CASA GRANDE

By A. T. Bicknell, custodian,
Coolidge, Arizona.

Visitors this month, 1,794; total since October 1, 28,415.

WEATHER

Days clear- - - - -	-25	Maximum temperature- - - - -	-114
Days partly cloudy- - - - -	5	Minimum temperature- - - - -	52
Days cloudy - - - - -	1	Mean maximum temperature - - -	-105
Precipitation - - - - -	T.	Mean minimum temperature - - - -	60

The only kind of weather here at Casa Grande this month was hot weather; on only two days, the 12th and 13th, did the daily maximum fall below 100 degrees. The highest temperature reached during the month was 114, on the 5th. On the 12th, three light showers occurred in the afternoon, but all three together failed to produce enough rainfall to show in the gauge. The prevailing direction of the wind was from the southwest.

GENERAL

Visitor travel to Casa Grande dropped off considerably this month, both as compared with May, which is to be expected, and as compared with June of the last few years, which is not to be expected. Total visitor traffic this month amounted to 1,794 people, a decrease of 895 from last June. Undoubtedly a good deal of this decrease is due to the hot weather, but the main cause is the general condition of business throughout the country.

Custodian Bicknell has had another busy month. At the time of the last report, he was still in Berkeley, having taken a trip to the Western Museum Laboratories there for the purpose of bringing back the remainder of the dioramas for the Tumacacori museum. Returned to headquarters the evening of May 27, then took the dioramas on down to Tumacacori the following day, returning to Casa Grande the evening of May 28. Made a trip to Phoenix on June 2, for motor parts needed to put the "Paving Ranger" car on the road for this year. Also made a trip to Tucson on the 5th, for more motor parts. Then, on June 8, he left again, to take three trucks to the new CCC Camp, NM-5-A, at Flagstaff, and bring back three more trucks for general overhauling. Returned to Casa Grande on June 10. On the 13th, a trip to SP-6-A, on business connected with the side camp here at Casa Grande, was made. Again, on the 16th, a trip was made to SP-11-A, on CCC business. Made a trip to SP-6-A again on the 23rd.

Miss Espinosa was forced to drop her work, washing and cataloging of pottery, the latter part of last month, due to lack of supplies. Then, as she had meanwhile returned to her former position with the county, when the work was resumed, Gustave Brady carried on until a shortage of funds forced its abandonment for the remainder of the fiscal year.

CASA GRANDE (CONT.)

It was also necessary to stop the work Mrs. Gipe has been doing, the repair and restoration of pottery. Until the time that lack of funds caused the cessation of all such work, Mrs. Gipe had completed the restoration of a total of 45 pieces; 24 of them this month. Ten more pieces were partially completed, some being finished except for painting, other only cemented.

Gerald Bryant, who has been working on building maintenance, completed work as follows: removed old ceiling plaster in Custodian's office and residence, replastered both rooms, painted the residence kitchen and kalsomined the walls and ceilings of the Custodian's office, museum, and headquarters offices. Painted walls and metal work in both comfort stations. Also painted Miller's kitchen, and kalsomined the walls of the bedroom and living room. Kalsomined three rooms in Soule's residence, and painted the bathroom. He also spent one day painting the cupboards in King's residence.

VISITORS

National Park Service visitors during the month include: Mr. John H. Haile, Jr., Regional Inspector of CCC work; Project Superintendent Stevenson from NM-2-A; Project Superintendent Parker of NM-5-A; Louis Caywood, custodian from Tumacacori; and Mr. and Mrs. Lippincott, the new ranger at Canyon de Chelly and his wife, who spent four days at Casa Grande before reporting for duty.

Total Travel: 1938, 1,794; 1937, 2,689; 1936, 2,274.

A total of 322 visitors, composed of 44 separate groups and organizations, made use of the picnic grounds during the month.

CASA GRANDE CCC

The shop, Job No. 50, is well on the road to completion. Only the cement floor, the interior woodwork and cupboards, and the doors, are needed to finish this project. The overhead track and chain hoist have arrived, but have not as yet been installed. Man-days expended this month, 87.

Guide and Contact Work, Job No. 55, used 111 man-days this month. Rodgers, Coyle, and Holt are still guiding visitors to the ruin and through the museum. Frank Morales left for Camp NM-2-A, at Chiricahua National Monument, for relief duty as technical service clerk; McLaughlin replaced him in the headquarters office on June 21.

Work was begun on the Oil House, Job No. 52, this month. So far, the foundations have been poured, also the foundation for the wall between the building and the shop. Some adobes have been laid. Man-days expended this month, 107.

CASA GRANDE CCC (CONT.)

Cleanup, Job No. 54, Drew 47 man-days this month. A large part of this time was spent in gathering the excess gravel from the entrance road, and storing it for future use. Also, some time was spent in general clean-up of the monument grounds and around the camp.

Making of Adobes, Job No. 55, used 18 man-days this month. A total of 820 adobes were made during the month, and were all used in the walls of the Utility Area.

Camp Maintenance - A cooler was installed in the dining room of the camp building. It is a great help to the boys during the hot weather we have been having. The camp sewer line had to be repaired again during the month, and is now working satisfactorily. The grounds around the camp have been pretty well cleaned up, and walks and roads outlined with rock and white posts, which aids materially in improving the general appearance of the area.

Personnel - Enrollees Aaron and Palmer were returned to the main camp on June 12. McLaughlin in the hospital from the 17th to the 21st of the month, and Teddy Savage was taken to SP-6-A's hospital on the 24th for treatment of an infected foot. Vic Scholz finally was able to get his long-awaited leave, and left for Los Angeles on the 18th.

Safety meetings were held each Thursday evening during the month. Attendance is required of all camp personnel.

The camp was inspected as follows:

- May 25. Captain Harvey, Commanding Officer, SP-6-A.
- May 26. Chaplain Probert, who held services.
- May 28. Mr. Beatty, Educational Advisor from NM-2-A.
- May 29. Mr. Beatty.
- May 30. Chaplains O'Gann and Lenain. Mr. Lenain will replace Chaplain Probert in the future.
- June 1. Lt. Willson, Commanding Officer, NM-2-A, and Captain Harvey.
- June 8. Mr. Stevenson, Project Superintendent, Camp NM-2-A.
- June 10. Mr. Beatty.
- June 12. Mr. Beatty.
- June 13. Mr. Beatty.
- June 14. Mr. Beatty.
- June 21. Captain Tway, Sub-district Commander, from Phoenix.
- June 23. Mr. Beatty.

*****SWM*****

HEADQUARTERS

ACTIVITIES OF THE GENERAL MECHANIC

Gene Stonehocker, the general mechanic, reports the following jobs begun or completed during the month:

- Painted entrance gate, and repaired the broken signs.
- Cleaned truck #8116, getting it ready for a paint job.
- Dismantled Cletrac brought up from SP-11-A, and found the cost of repairs to be out of all reason, so concluded to condemn it.
- Built and installed cooler in CCC camp building.
- Installed the cooler, rebuilt last month, in the custodian's office.
- Repaired pump for water system, and put in new parts.
- New battery charger assembled and installed in shop.
- Put up new metal clothesline posts in quarters area.
- Made a lead-lined vat for washing of pottery.
- Made a tin foot-bath for the CCC camp.
- Repaired electric ironer.
- Loaded out equipment for Mt. Elden CCC camp; aided Mr. Chase in repairs to CCC motor equipment for NM-5-A.
- Regular repair and servicing of motor equipment at Headquarters.
- Made one trip to Phoenix, on June 17th, for motor parts needed at once.

NEW EQUIPMENT RECEIVED

- One Blue Point open-end wrench set.
- Two warehouse style hand-trucks.
- Meters and rheostat for battery charger.
- Souix electric polisher and grinder.
- Transformers and conduit for new Utility Area.
- One-ton differential geared chain hoist; also overhead tracks to be used in new shop.

*****SWM*****

BRANCH OF EDUCATION

By Dale S. King, park naturalist,
Coolidge, Arizona.

Park Naturalist King was on duty at headquarters during the entire month, except for a one-day inspection trip June 9 to Tumacacori museum, and one day's sick leave, June 6. Junior Archeologist Steen spent May 28 and 29 on a trip to Tonto National Monument to check equipment so that Ranger Onstott could leave the monument for duty at Bandelier National Monument. Steen accompanied Temporary Ranger Roland Richert to Tonto on June 1, introduced him to the archeology and natural history of the area, and returned the evening of June 2.

BRANCH OF EDUCATION (CONT.)

Junior Naturalist Natt N. Dodge spent the whole month on a field trip which included visits to several national monuments, as well as 17 days of museum preparation work at Bandelier National Monument.

Temporary Ranger-Historian Gertrude Hill assumed duty status June 2, 1938, and started work on the headquarters loan library, and associated projects.

Following is a resume of the time devoted by members of the staff to various projects:

	King	Steen	Dodge	Hill	CCC
	Days				
<u>General Office Overhead</u>					
Correspondence (179 letters)	9	--	--	--	
Conferences and discussion		--	--	--	
With headquarters staff	1-1/2	--	--	--	
With visiting scientists	1/4	1/4	--		
With NPS personnel	1/2	--	--		
Library (Catalog, file issue publi- cations, etc.):	1/4	--	--	18	
<u>Reports</u>					
Compiling and processing Monthly					
Reports	1-1/4	6	--	--	
To Washington or Region III.	1/2	--	--	--	
Miscellaneous		3	--	--	
<u>Publicity</u>					
Prepare info. and publ. material	3/4	--	--	--	
Check Region III Publ. releases.	--	--	--	--	
<u>Miscellaneous</u>					
Construction (Painting, etc.)	--	--	--	--	
Wrap and ship requested material	--	--	--	--	
Clean-up and maintenance	--	1/2	--	--	
<u>Research and Education</u>					
<u>Public contact</u>					
Prepare and deliver outside talks.	1/4	1/2	--	--	
Relief guide duty at monuments	--	--	--	--	
Office visitors (informational).	--	--	--	--	
<u>Museum and Nature Trails</u>					
Collection and preparation	1/3	2	17	--	
Acquire equipment and supplies	1/4	--	--	--	
Planning	1	8	--	--	
Arboretum planning, planting, and maintenance.	1/4	--	--	--	
<u>Visual Education</u>					
Slide and motion picture library					
work	--	1/2	--	--	
Filing prints and negatives.	--	1-1/2	--	--	

BRANCH OF EDUCATION (CONT.)

	King	Steen	Dodge	Hill	CCC
	Days				
Taking and processing photographs.	--	--	2	--	
Miscellaneous					
Bird banding and observation recording.	1-1/2	--	--	2-1/2	
CCC side camp educational program.	1	--	--	--	
Ruins stabilization project administration	1/2	--	--	--	
Mobile Unit.	1/2	--	--	--	
Southwestern Monuments Association .	4-1/2	--1/4	--	--	
<u>Field Work</u>					
Field trips.	1	3	8	--	
Organ Pipe Patrol.	--	--	--	--	
<u>Leave</u>					
Annual	--	1/2	--	--	
Sick	1	--	--	--	
TOTAL (For the 26-working-day month)	26-1/4	26	27	20-1/2	

VISITORS

Lorenzo Moffett and Bert Floyd, of the Western Museum Laboratories; William Lippincott, temporary ranger at Canyon de Chelly; Custodian Louis R. Caywood, of Tumacacori; Gilbert Philp, temporary ranger, Chiricahua for the coming summer season; Dr. John Cooper, anthropologist of the Catholic University at Washington, D. C.; Father Bonaventure, Papago missionary priest; Ranger Edwin Alberts, of Montezuma Castle National Monument.

SOUTHWESTERN MONUMENTS LOAN LIBRARY

A set of lantern slide duplicates were collected and transferred to Tumacacori National Monument.

Custodian Caywood of Tumacacori National Monument was furnished with an outline of the educational pamphlet and reprint file system used in the headquarters educational offices.

An attempt was made to standardize the procedure of gift and loan acceptances in the various monument museums.

Some arrangements were accomplished concerning the project to catalog the headquarters photograph library. It is hoped that this will be accomplished at White Sands National Monument under the recreational demonstration projects this summer.

During the month, 450 feet of colored motion picture film were

BRANCH OF EDUCATION (CONT.)

exposed. When completed, this will be used to build up a reel entitled, "Glimpses of Southwestern National Monuments."

Nine dozen $3\frac{1}{4}$ x $4\frac{1}{4}$ photographs were taken. These will be available for a great variety of purposes, mainly educational.

Report of the Headquarters Loan Library, by Gertrude F. Hill, Temporary Ranger-Historian.

On June 2, 1938, Ranger-Historian Hill resumed her duties in the Headquarters Loan Library. The first day was spent in discussing library problems with Park Naturalist Dale King, checking the shelves for mis-filed books, and sorting the new publications which had accumulated over a period of nine months. From the collection of 224 books, pamphlets, and periodicals accessioned during March, material for which there was pressing need was selected for immediate classification and cataloging.

Several new projects have been undertaken this month, outstanding among which is "Books Wanted"--a card file of interesting and informational publications, popular as well as scientific, ancient Indians, the Southwest, museum techniques, natural history, and other subjects needed in the work of the Branch of Education. An attempt is also being made to bring the bibliographical file on the Southwestern Monuments up to date.

Once more it was found necessary to shift the library shelves in order to make room for the newly cataloged material. At present, there are 22 cases of books, pamphlets, periodicals, and reprints in use, with five additional shelves, all full, awaiting cataloging.

Summary of activities from June 2 through June 28, 1938:

Books cataloged:-	- - - - -	-230
Cards made:		
Author:-	- - - - -	-232
Subject:-	- - - - -	-535
Title:-	- - - - -	98
Joint author and cross reference:-	- - - - -	27
Shelf list and accession record:-	- - - - -	-473
Bibliography:-	- - - - -	8
Books wanted:-	- - - - -	3
TOTAL-	- - - - -	-1,376
Books mended:-	- - - - -	7
Incoming publications:		
Periodicals:-	- - - - -	61
Pamphlets:-	- - - - -	21
Books:-	- - - - -	5

BRANCH OF EDUCATION (CONT.)

GENERAL OFFICE WORK

Library:

Sorting accessions, checking and arranging shelves, moving library: - - - - - 1 day.
Classifying and cataloging: - - - - - 12½ days.
Revising cards, mending, and marking books: - - - - - 3 days.
Reports and filing cards: - - - - - 1 day.
Office filing: - - - - - ½ day.

RESEARCH AND EDUCATION

Bird banding records: - - - - - -2½ days.
Total- - - - - -20½ days.

PUBLICITY

Additional informational sheets issued by the Washington Office were ordered to ease somewhat the burden of preparing such informational material, which is growing quite heavy.

Junior Archeologist Steen gave a talk to a local meeting of Pima Indians at Blackwater, Arizona, June 10. Attendance, 60. Time, 30 minutes. Subject: "Pima Indian Pottery Making".

MUSEUM PLANNING

Junior Archeologist Steen during the month finished the rough draft of the White Sands working plan, which will be issued within a couple of weeks, it is hoped. The publication of this plan, and its approval, will allow work to go ahead at that monument on the museum.

A preliminary case arrangement was sent to the Branch of Plans and Designs for use in the preparation of the lighting plan for White Sands museum.

Junior Naturalist Dodge completed the planning of two biology cases for Bandelier, including the writing of all label copy. He also finished the planning of three geology cases, including the writing of all label copy except the technical specimen labels to be placed with various rock types.

Park Naturalist King submitted a memorandum to the Superintendent concerning the general layout proposed for public rooms at Walnut Canyon National Monument, and cooperated with administrative staff members in some discussion of visitor circulation at Tumacacori.

MUSEUM PREPARATION AND INSTALLATION

BRANCH OF EDUCATION (CONT.)

Dodge at Bandelier carried well toward completion two biology cases, work which included:

- Three plaster casts made and painted.
- Two backgrounds painted.
- One key label mounted.
- Two frames and background completed.
- Two photographs taken.
- Two specimens collected and installed.

He also started three geology cases, including the making and painting of four plaster casts, the collecting of eight specimens, and the taking of five photographs.

Steen completed the preparation of a mounted **Tricolor** Ground Snake for the headquarters collection.

Arrangements were made to obtain insurance on several items of Spanish arms and armor which are to be loaned by the M. H. deYoung Memorial Museum of San Francisco to the Tumacacori museum.

In accordance with a request from Dr. Thomas Barbour, Museum of Vertebrate Zoology, Harvard University, Cambridge, Massachusetts, a collection of bats from the Casa Grande ruins was made, and shipped to him for identification.

The annual bird banding report to the Biological Survey was partially prepared, and all schedules shipped off to Washington.

Arrangements were initiated to attempt to clear up the somewhat heterogeneous system of bird banding permits now being used in the Southwestern Monuments. It is hoped that the Biological Survey will allow all stations to be operated under the name of Frank Pinkley, or if this is not possible, all station operators will be issued individual permits.

ACCESSIONS FOR JUNE

- 12 Photostatic enlargements.
- 65 Negatives.
- 588 Prints
- 25 Lantern slides.
- 100 Mimeograph stencil filing boxes.
- 1 Repair job on book binder.

CASA GRANDE SIDE CAMP EDUCATIONAL PROGRAM

The usual classes were held: Indians, Past and Present; Photography, Shorthand; Conversational Spanish; Conservation; Typing; Building Construction; and Auto Mechanics.

BRANCH OF EDUCATION (CONT.)

A softball team has been outfitted and is playing in the Coolidge Commercial League. The team has won two and lost two games as of June 28. Fourteen of the twenty-three boys in camp play ball on this team.

RUINS STABILIZATION

Some time was given to the study of methods used by the Indian CCC Mobile Unit in Chaco Canyon in ruins stabilization. Steps were undertaken to institute work projects in ruins stabilization at Aztec Ruins, Wupatki, Gran Quivira, and Tonto.

An attempt also was made to start the compilation of data which will lead to the successful casting of inscriptions at El Morro, it is hoped.

SOUTHWESTERN MONUMENTS ASSOCIATION

The formal organization of the Association was placed before the Secretary of the Interior for approval, but his action has not yet been ascertained.

The first booklet to be published by the Association received quite a little attention, and is approximately 60 per cent complete as of June 25.

FIELD TRIPS

The short trips of King to Tumacacori and Steen to Tonto have already been mentioned in the introduction to this report.

Dodge had the opportunity to visit several national monuments for the first time and get acquainted with the areas with which he has been working for the past three quarters of a year. He visited and inspected the educational work at Chiricahua, White Sands, Gran Quivira, Capulin Mountain, Bandelier, Canyon de Chelly, Wupatki, Walnut Canyon, Sunset Crater, and Montezuma Castle.

*****SWM*****

VISITOR STATISTICS

By The Boss

As nearly as we can gather the figures, the Southwestern Monuments had 28,178 visitors last month. This compares with 25,342 in June, 1937, and 23,471 in June, 1936. It looks, on the face of it, like a normal increase of visitors, but, as I study the tabulation, I am inclined to

VISITOR STATISTICS FOR JUNE, 1938
SOUTHWESTERN MONUMENTS

MONUMENT	Employees		FIELD TRIPS				MUSEUM TALKS				Unattended	Total Informational Contact	Total Travel	Per cent Contact
	Per. Temp.	No.	Att'd. Time	AV. Att'd. Time	No.	Att'd. Time	AV. Att'd. Time	No.	Att'd. Time	AV. Att'd. Time				
Arches	1	10	114	161.5	11.4	151.5	--	--	--	--	114	114	168	
Aztec	2	240	1639	8185	6.8	34.1	230	1519	5695	6.6	24.7	1873	168	
Bandelier	2	228	957	12367	4.2	65.7	145	523	2067	3.5	16.2	1718		
Canyon de Chelly	1	47	153	6973	3.2	143.0	6	14	255	2.3	42.5	178		
Capulin Mountain	1	--	--	--	--	--	--	--	--	--	--	2000		
Casa Grande	2	3000	1404	9154	5.4	35.7	207	1171	4456	5.6	21.7	1794	143	
Chaco Canyon	1	1	530	7330	3.2	38.5	92	468	2025	5.0	22.0	903		
El Morro	1	62	332	4455	5.55	71.8	13	48	2350	3.7	99.2	417		
Gila Cliff	--	--	--	--	--	--	--	--	--	--	--	10		
Gran Quivira	1	145	553	5075	3.8	35.0	--	--	--	--	553	553		
Hovenweep	--	1	--	--	--	--	--	--	--	--	25	25		
Montezuma Castle	2	270	783	11352	2.92	41.5	167	549	2527	3.2	15.1	1121	118	
Natural Bridges	1	--	--	--	--	--	--	--	--	--	--	67		
Navajo	2	15	51	4130	3.4	275.0	--	--	--	--	4	55		
Organ Pipe	--	--	--	--	--	--	--	--	--	--	150	150		
Pipe Spring	1	43	138	1367	3.5	31.7	--	--	--	--	250	388		
Rainbow Bridge	--	--	--	--	--	--	--	--	--	--	35	35		
Saguaro	--	--	--	--	--	--	--	--	--	--	900	900		
Sunset Crater	--	--	--	--	--	--	--	--	--	--	885	885		
Tonto	--	1	54	239	2875	4.4	53.2	67	249	1305	3.7	19.4	301	
Tumacacori	2	190	785	5700	4.1	30.0	--	--	--	--	74	856	91	
Walnut Canyon	1	77	326	1000	4.2	13.7	299	1005	6325	3.3	21.1	2138		
White Sands	2	51	408	1989	8.0	39.0	--	--	--	--	9631	10039		
Wupatki	1	50	156	2405	3.1	48.1	--	--	--	--	200	356		
Yucca House	--	--	--	--	--	--	--	--	--	--	10	10		
Chiricahua	1	3000	116	646	5375	5.5	46.3	--	--	--	646	1292		
TOTAL	25	16	1965	9267	9260	4.7	47.1	1226	5546	27015	4.5	22.0	14813	52
Last Month	24	11	1519	7680	70293	5.0	46.2	804	4751	19253	5.9	23.9	16032	70.7
Last Year			1589	8696	77892	5.4	49.0	1055	5564	20806	5.2	19.7	14260	56

VISITOR STATISTICS AND EDUCATIONAL CONTACTS (CONT.)

doubt. Nearly half the increase over last year is shown at the White Sands, where our figures for last month were none too safe and the other half of the increase comes from some monuments which are reporting this year but did not report last year.

Examining individual monuments where we feel safer on our figures, we find Aztec holding its own, Bandelier gaining, Chiricahua, Gran Quivira, Montezuma Castle, Tonto, and Tumacacori have lost, some of them sharply. A peculiar exception is the Flagstaff group of monuments--Walnut Canyon, Wupatki, and Sunset Crater. These three show sharp gains. We are inclined to attribute at least part of these gains to the Flagstaff Chamber of Commerce hostesses who are directing tourists to near-by points of interest, a new project which has just been started this year.

The travel year, beginning October 1, now shows a total of 187,879 visitors, an increase to date of 27,823 over the previous year, but this gain was made last fall and winter.

Out of our 28,173 visitors last month, we made 14,813 educational contacts which is a fairly poor record. The reason for this is that nearly 12,000 of them went to the wrong monuments where we either had no personnel or where we had an entirely inadequate force to handle them. Fortunately, the worst cases of this occurred at Capulin and White Sands where the unguided and uninformed visitor can at least do little harm.

We are glad to see that Navajo, Canyon de Chelly, and El Morro have not had too much of an increase. Several of these monuments should not develop a too heavy traffic. We were afraid for the Rainbow Bridge when the Saturday Evening Post article was published in June, but it looks like it will not start a run on that monument. We do want more traffic there so that the Lodge might at least get out of the red, but, beyond that, it would be easy to have too many.

We gave 1,965 field trips to 9,267 visitors, the average party being 4.7 persons and the average trip lasting 47.1 minutes. We also gave 1,266 museum talks to 5,546 visitors, the average party being 4.5 and the average talk being 22.0 minutes. These figures hold up well with those of last month and last year.

*****SWM*****

CASA GRANDE VISTOR RECORDS

By the Boss

The Casa Grande average trip time is down again. This makes it up in March, down in April, up in May, and down in June, and we are wondering if it is going to see-saw this way all summer.

Some time about the middle of the month I found a couple of the boys

SOME CASA GRANDE VISITOR RECORDS (CONT.)

adding up their time and finding their average. They were rather thunder-struck to find they were off several minutes, but when we looked over the figures a little, we decided it was the visitor who was off and not the guides. In 110 degree weather we just can't expect the visitor to walk and stand around as long as when it is pleasant, so we can look for a drop in his staying power. We are talking of air-cooling the museum and studying the change, if any, in the museum trip time. More about this next month.

Bicknell, who has been swamped with outside duties during the month, handled only two parties and his average trip time shown in Table 1 is, therefore, of no value.

Egermayer, who, amongst many other duties, handled 42 field and 35 museum parties, ran the high average of 51.7 in the field and 25.6 in the museum. It looks like Don is a 'natural' on this sort of work and it will be interesting to find just what his normal figures are. It looks like he will run close to 25 minutes in the museum but his field trip figures do not seem to be settled yet.

Holt, who is the newest of the CCC boys, is a little behind the other two, both in the ruins and the museum trips, but it will be noted in Table 2 that he is carrying his end of the lead with six half trips per working day, leading the list as he did last month.

Rodgers and Coyle are again running close with Rodgers still a little in the lead. He leads in the ruins by two minutes, but Coyle leads by 1.1 in the museum, leaving Rodgers with a net .9 minute lead.

Table 3 shows the traffic pressure during the month and makes a comparison with the two preceeding months. In June, Tuesday proved to be the poorest day of the week for visitors. Sunday, of course, was the peak day of the week.

	AVERAGE TRIP TIME		RUINS				MUSEUM				TOTAL	
	JUNE	MAY	APRIL	JUNE	MAY	APRIL	JUNE	MAY	APRIL	JUNE	APRIL	
Rodgers-----	34.2	36.5	35.8	20.5	24.5	22.9	54.7	61.0	58.7			
Coyle-----	32.2	36.0	34.7	21.6	24.7	22.7	53.8	60.7	57.4			
Holt-----	31.8	34.1	32.6	20.1	19.2	20.2	51.9	53.3	52.8			
Egermayer---	51.7	44.8	----	25.6	25.0	----	77.3	69.8	----			
Savage-----	----	31.1	29.3	----	17.7	15.4	----	48.8	44.7			
Bicknell----	18.0	40.9	54.9	39.0	33.2	30.6	57.0	74.1	85.5			
Jones-----	----	37.3	41.4	----	17.0	23.3	----	54.3	64.7			
Average---	35.7	36.8	35.4	21.6	23.1	21.4	57.3	59.9	56.8			

Table I

SOME CASA GRANDE VISITOR RECORDS (CONT.)

	Days Worked	No. Parties		Minutes		No. Visitors		Half trips per day
		Ruins	Museum	Ru.	Mu.	Ru.	Mu.	
Rodgers----	23	73	48	2494	985	337	279	5.2
Coyle-----	24	73	61	2351	1317	452	362	5.5
Holt-----	21	67	62	2130	1248	398	354	6.0
Egermayer--	24	42	35	2161	897	214	158	3.2
Bicknell---	2	1	1	18	39	3	18	---
TOTALS----	94	256	207	9154	4486	1404	1171	4.9
May-----	100	319	232	11757	5353	2232	1983	5.5
April----	113	357	242	12638	5201	3168	2716	5.3
March----	94	335	199	12159	4202	2955	2330	5.6
February-	102	462	338	15573	6826	3953	3004	7.8

Table II

	Average number of half trips per day for days of week.		
	JUNE	MAY	APRIL
	Sunday- - - - -	23.0	35.8
Monday- - - - -	17.6	14.0	18.5
Tuesday - - - - -	11.0	16.6	19.5
Wednesday - - - - -	11.2	17.0	18.0
Thursday- - - - -	17.0	12.8	18.5
Friday- - - - -	12.0	17.3	14.0
Saturday- - - - -	17.6	16.8	18.4

Table III

*****SWM*****

PERSONNEL

By the office force.

Mr. J. L. L. Baehr was away most of the month on vacation. He reports a pleasant visit in St. Louis and eastern Missouri.

Harry Reed has made some further discoveries of new formations in the Arches National Monument which he promises to report with photographs by next month.

Carroll Miller and Jimmie Brewer have had a busy month at Aztec and have made some rearrangement of the registration desk in order to facilitate the handling of the peak load they are expecting this summer.

Cy Harkins had an interesting trip piloting the National Geographic Society photographer to the headwaters of the Rio Grande.

While attending to his other duties on his recent field trip, Natt Dodge picked up about 450 feet of mighty fine color film covering several

PERSONNEL NOTES (CONT.)

of the Southwestern Monuments. He is well on his way to a film which we want to call, "Glimpses of Our Southwestern Monuments".

We had a couple of very pleasant days with Bill and Sallie Lippincott at headquarters as they were preparing for the summer in the field at Canyon de Chelly.

Woody Spires is the other temporary at Canyon de Chelly and from the fine things Johnwill says of him in this report, it looks as if he is working into the program there very nicely.

Frank Morales, CCC clerk, spent part of the month at Chiricahua and during July will probably move up to Elden Camp near Flagstaff.

Don and Ruth Egermayer spent a week end at a Prescott rifle meet, and between them brought home seven medals.

Al Bicknell has been very busy on headquarters assignments during June. At the end of the month he was delivering a couple of tricks to NM-5-A, near Flagstaff.

A good letter from Courtney Jones says they are getting the refrigerator fixed up and ready for action and gives assurance that we had not overestimated the beauty of the view from their quarters. It sounds so luxurious to speak of the "refrigerator room," doesn't it?

Which reminds us that at headquarters, Charlie Steen put a couple of snakes in the water cooler and hung a sign on the door to leave the machine on over night so his snakes would keep. Next morning the drinking fountain was frozen up and it took Strimple Coyle about two hours to get drinking water for his first visitors. That, at least, is one trouble we didn't have 25 years ago on the desert in June.

We want to thank Betty Budlong for a very good letter this month (about which, more later), and an invitation, seeing that the Boss made the trip to White Sands so well last month, to come on up to El Morro. The Boss says, "Sorry, Betty, but El Morro is a lot nearer Heaven than White Sands, and Doc seems to think that if I get that far up They may take me in. So Hugh will have to do the visiting at El Morro (Doc. not seeming to have any fear of their taking him in) while I stay in the lower country".

Vic. Scholz, our CCC mimeograph operator, took a short vacation and went to the coast, getting back in time to put this report through his mill.

Alfred and Bernice Peterson, who are on the Roving Ranger job for the summer, report a plague of biting gnats giving them a lot of trouble at Hovenweep where they have headquarters.

PERSONNEL NOTES (CONT.)

Teddy Savage, who is helper to Machinist Stonehocker, is up with Al in the cool around Flagstaff at NM-5-A today, but they will both get warmed up tomorrow when they come back.

We were sorry to see in George Boundey's diary that his oldest boy is ill and hope he comes around all right rapidly.

Jim and Margaret Felton left White Sands for their new assignment at Fort Jefferson on June 16. We all wish them good luck on the new job.

Roland Richert is closing his first month as a temporary ranger at Tonto and seems to be having a good time and doing good work.

Ed. Alberts, from the Montezuma Castle, was in for a short time one day this month on a rush trip to headquarters. It was a pleasure to tell him that he also was doing good work according to several of his visitors who afterward turned up at Casa Grande.

At this writing, Tov. and Polly are cooling off in the pines at NM-5-A, near Flagstaff, though we expect them home in the next few days.

By some sacrifices on the part of many of you, Earl Jackson is going to be able to get power and lights at Montezuma Castle. You may be sure that Earl and Betty are thankful to you for letting us clean up the loose ends of funds and throw them into this contract. It may surprise you to know that with only ten dollars lying in each account, we would have over two thousand dollars on the books.

Louis Caywood also owes the outfit thanks for a heating plant for his new building. Some of the others will benefit next year, we hope, for having so willingly helped out these boys this year.

Gilbert and Jane Philp will be at Chiricahua after the first of July. Gil. is appointed to a temporary ranger position which begins with the new fiscal year.

We are looking forward to a visit with Assistant Director A. E. Demaray, of the Washington office, at several of the monuments toward the latter part of July and the first of August.

Vic. Cahalane, head of the Wildlifers, is at Arches as we write, and we hope to have him at Navajo and several of the other monuments before he gets out of the district.

Jim Spuhler, our new seasonal ranger at Bandelier, will devote much of his time this summer to completing the museum installations at that monument. On Sundays and rush periods, he will aid in the guiding which

PERSONNEL NOTES (CONT.)

is being carried on by the boys from Tonto, Tommy Onstott and Irving McNeil.

Homer Hastings, back at his old job at Chaco Canyon, is utilizing any spare time he finds in adding to the monument's herbarium collection.

As we go to press, enthusiastic reports are flooding in about an evening "Automobile School" party given by Gene and Esther Stonehocker on their lawn. About forty persons were present, many of them from the headquarters and Casa Grande personnel. Huge quantities of doughnuts and lemonade are reported to have been consumed.

*****SWM*****

A CALL FROM THE WILDERNESS

One of the nicest things about being the boss of this outfit of ours is the two or three letters that come to me every month from some of the Honorary Custodians and Rangers Without Pay; the better halves of the Service. One of these letters this month deals with something of general importance and asks for a very little help from all of us, and so I am breaking my usual rule and speaking of it and quoting from it here.

Betty Budlong tells me that a Woman's Club of El Morro has been organized and membership is growing at every meeting so it bids fair to be successful. At the last meeting she suggested starting a library for the reading needs of the community and they not only greeted the idea with enthusiasm but promptly elected her custodian of the books. She says she is tickled pink to have the job, only as yet there are no books! She says: "For the most part I had in mind novels which are light, but not trashey, - children's books, like "Bobbsey Twins" - and books which boys of 16, 18, and 20 could enjoy. My idea was that through the Monthly Report, the members and friends of the Park Service might be apprised of our desire for the beginnings of a library here in the El Morro community and perhaps some of them might be kind enough to donate a few books. I realize that postage is high on such things and therefore I wouldn't dream of having any one individual sending more than one book. ***I just thought I would write and tell you about it all and then abide by your decision in the matter."

Well, my decision is that it is a corking fine idea and my contribution is going forward to Betty, who I am sure has been the number one contributor to the El Morro library, and there will be plenty of shelf room made somehow in that little sardine can we are calling the Custodian's residence for all the books you want to send. If you knew how isolated those folks are out through the El Morro country, and what fine folks they are, I am sure you would be prompt with your contribution.--F.P.

RUMORS

We understand that Superintendent Kahler and his boys over among the Southeastern Monuments are figuring on a type of monthly report laid somewhat along the lines of ours and does that make us proud!

We want to be the first name on that mailing list and our whole outfit will want to string along with us. We feel sure the Southeastern Monuments are going places because they already have four good Southwesterners to show them the way--Jesse and Jane Jennin's went over first and Jim and Margaret Felton more recently.

To tell the truth, we would like to go over and put our feet under the table for a while and tell them about sixty nine different ways of how not to run a monthly report, for it seems to us we have tried at least that many wrong ones. Then we would like to keep quiet the rest of the time and listen to a lot of new ideas.

We are still of the opinion that the ideal monument and the ideal park are two different things; that the people come to them with different ideas and handle differently after they arrive. At least it has been our experience with western monuments that as soon as visitors get out of their cars, they want a guide and they want to be told all about the monument right now. Then they want to go through our museum if we have one and get the information there that cannot otherwise be given them. To men from the educational forces in the parks who have come over to our work, this eagerness of the visitor for information is absolutely astounding, for in the parks he wants to do his own scenery absorbing and to a large extent doesn't want to be bothered by explanations.

All of which means that the monuments must have more personnel per thousand visitors than the parks and that this personnel must be an extra picked body of men. We don't have protection rangers in the sense of policemen, fire guards, game patrol rangers, etc. Our whole force is an educational force. It may surprise you, for instance, to know that the men who run our two road graders have to be able to stop and answer visitor's questions and take their share of the visitor load on heavy days.

The real educational field of the Park Service lies in the monuments. Educational work should and always will be a secondary matter in the ideal park and it should and always will be a primary matter in the ideal monument.

Knowing all this, we are more than happy to welcome another group of monuments into the fold and talk over our manifold troubles and our many failures and few successes with others who have identical problems.

*****SWM*****

THE S Supplement



S-M MONTHLY REPORT

OCMULGEE ARCHEOLOGY

By Jesse D. Jennings

In preparing and discussing this first monthly report on archeological work here at the Ocmulgee National Monument in Macon, Georgia, we feel that some mention should be made of the excavations and operations carried on for the past four and a half years on the Monument property or under the auspices of the Ocmulgee staff. These have been very ably directed for that long period by Dr. A. R. Kelly who has seen the development of the Macon site from the earliest beginnings to the present status. Although no longer directly and officially connected with Ocmulgee, as a monument, Dr. Kelly, in his new position as Associate Archeologist for the National Park Service, still makes his headquarters here and actually conducts exploration on one of the mound groups. The present archeological staff of Ocmulgee, Jesse D. Jennings, Acting Superintendent of the Monument, and Gordon R. Willey feel secure in the knowledge that Dr. Kelly will continue to keep Ocmulgee as his favorite among all prehistoric sites under his jurisdiction.

In December of 1933, with Smithsonian sponsorship and CWA funds, large scale excavation was begun at the Mound group that is now Ocmulgee National Monument. Dr. Kelly was appointed by the former institution as Director in Charge with Mr. J. A. Ford as Assistant Archeologist. Fortunately for the future of the entire project the city of Macon gave more than the primary impetus to the idea of development, and a local civic group led by Gen. W. A. Harris, Dr. C. C. Harrold, and Mr. L. M. Solomon continued their active support. For the next four years, until May, 1937, successive government relief agencies, principally WPA, continued to finance archeological exploration on the Macon group proper and subsidiary and related sites in Bibb county.

During this time Mound C was explored and the famous multicolored profile on the north side was exposed for public view. Crosssectionally this was a structure representing several distinct building intervals capped by colored clays. Each structure was of a truncated pyramidal shape, probably serving as a base for a temple or some important ceremonial edifice. Most surprising was a stairway leading to the top of one of the mound or pyramidal platforms. At the interior base a log tomb burial was a center of interest both to the archeologist and the passing observer.

On the North Plateau division Mound D and the Council Chamber were centers of interest for over two years. The Council Chamber, so-called, was a remarkably well preserved circular building with fifty seats placed in annular fashion about the walls, a central fire-pit, and an eagle effigy clay platform facing the entrance-way. The superstructure was of wood covered with clay. This had burned in prehistoric times and fallen in. Work of restoration was started here in 1937 through co-operation of the National Park Service and WPA. This was complete in November of the same year. Mr. James T. Swanson, Jr., architect with the Park Service,

OCMULGEE ARCHEOLOGY (CONT.)

supervised the difficult restoration. Archeologist James Ford returned from Louisiana to supervise the interior restoration for the summer of 1937.

Work on the Middle Plateau division showed an historic enclosure, a trading post of the late 17th and early 18th centuries. Documentary evidence on this is not complete, but artifacts found in relation to the fort or post indicated that it was an early English-Carolinian settlement. Several indian burials, with accompanying artifacts of definite European manufacture, are now temporarily housed and on display as a part of this unit.

At the A and B Plateau work has been carried on for the past two or three years. Most of this has been confined to an examination of the relatively small area between the two mounds, although some exploratory work has been done on the mounds proper. Between the large mound A and the smaller mound B, both mounds of the super-imposed structure type, are as many as five different occupation levels clearly and visibly defined by house levels. It is here that an ERA project is working at the present writing, actually supervised by Dr. Kelly, who is assisted by James Jackson, artist and technician.

At the detached Monument area, Lamar, a forty-acre tract two miles down the river from the Monument proper, Mr. Ford worked the first six months of 1934. Lamar A, the larger of two mounds, was partially excavated and portions of a rich village site were sampled. This yielded, as did the Council Chamber of Ocmulgee, valuable charcoal specimens which we hope may eventually be useful in dendrochronological dating. Since then both Dr. Kelly and Gordon Willey have directed work in the Lamar village.

Theoretically, Ocmulgee became a National Monument late in 1935. Actually, the Park Service did not take over, except for planning and mapping, before the advent of the CCC Camp, Ga. NM-4, on monument property, in May of 1937. Dr. Kelly and Gordon Willey were, at that time, transferred to Park Service ECW. While WPA excavation suffered a shutdown of some months, a survey of Central Georgia archeological sites was planned and executed with a mobile CCC unit of some 20 men directed by Gordon Willey. From August 1, 1937, to April 1, 1938, eighteen village and mound sites were explored. Work consisted solely of village site stratigraphic tests and recorded area surface collections. Primary purpose was to test and amplify the ceramic chronology as established at the Macon site. The results of this survey have been important and successful in the establishment of, at least, a temporary chronology of pottery type for the Georgia area.

In connection with the stratigraphic survey a pottery laboratory was set up at the monument for immediate examination and study of the material from field. In this way laboratory results were kept abreast of the field work, and in many cases were instrumental in directing

OCMULGEE ARCHEOLOGY (CONT.)

excavation policy and procedures. This laboratory was worked in conjunction with the WPA laboratory, now located in the Macon City Auditorium, and long under the care of technician John West.

Most important results, aside from those of scientific note, coming from this increased interest in laboratory study of ceramics were the beginnings of a unified nomenclature for Southeastern pottery types. Starting out from a small nuclear group of James Ford, Preston Holder, A. R. Kelly, and Gordon Willey the idea was received handsomely by many other workers in the Southeast, and finally culminated in a "pottery type" meeting in Ann Arbor, Michigan, on May 16, 1938. Agreement was made to circulate sherds and technical data among seven different research groups. Another meeting was planned for the fall of 1938; and a group of supervisors composed of Griffin, of the Ceramic Repository, Ann Arbor, Michigan; Ford, of Louisiana State University; and Willey, of Ocmulgee National Monument were selected to act as a type judging board. The seven institutions now represented as bona fide research groups working under the unified nomenclature scheme are: University of Kentucky; University of Tennessee; Louisiana State University; Ceramic Repository; University of Michigan; University of North Carolina; University of Alabama, and Ocmulgee National Monument.

Cooperating with Ocmulgee, Regional Director Russell, Dr. Porter, and Mr. Kahler, and all other personnel of the branch of Historic Sites and Buildings have been especially helpful in sending in surface collections of potsherds taken from Park Service property throughout Region One. Respectively, on January 4, 15, February 28, and March 29, sherd collections were mailed to Dr. Kelly from the Regional Offices in Richmond for examination. These were turned over to Gordon Willey who mailed back brief archeological reports on the collections.

In Savannah, both Preston Holder and his successor Dr. V. J. Fewks have done much to aid us at Ocmulgee in the solution of ceramic problems. Dr. Fewks has engaged, on our behalf, Dr. Donald Horton of the University of Pennsylvania Ceramic Laboratory who will prepare technological and chemical reports on some of our Southeastern material.

In the past year it has been the aim of the staff to make known to scientific colleagues our work at Macon. On this account Dr. Kelly and Gordon Willey traveled to New Haven, Connecticut, late in December, 1937, to present papers at the Eastern Section meeting of the Society for American Archeology. Dr. Kelly read a brief summary of Lamar and Related Site Exploration in Georgia while Willey's paper was concerned with Preliminary Dendrochronological Studies in Central Georgia. It should be mentioned that as early as November, 1936, Willey has been engaged in some dendrochronological work on native pine. This work has been jointly financed by the Macon Chamber of Commerce, Dr. C. C. Harrold, and Mr. L. M. Solomon, the WPA, and the National Park Service.

OCMULGEE ARCHEOLOGY (CONT.)

On May 6, 1938, Dr. Kelly and Gordon Willey again read papers before the Society for Georgia Archeology at an annual meeting held in Savannah. Particularly pertinent was the topic chosen by Kelly, A Museum for Southeastern Archeology at Macon. Later, on May 14, Dr. Kelly gave a discussion on the Southeast as an Archeological Area before the Central Section meeting of the Society for American Archeology, held in Milwaukee. At the Ann Arbor pottery type conference Ocmulgee was represented by Kelly personally and by written reports by Willey.

Within the last month, the work at Mounds A and B Plateau has been continued with ERA labor. Extremely complicated and difficult superimposition of house floors and other structural remnants has slowed down the work.

With the close of the stratigraphic survey, Gordon Willey has had the first three weeks of May to catch up on notes and loose ends. But with the approval of a small project in Columbus, Georgia, on the Fort Benning Reservation, he and the field foreman, Paul Myers, have been busy again keeping 20 CCC boys at work on a late period Creek village site, probably the documented Kasita. The Park Service is extremely grateful to Mrs. Wayne Patterson of Columbus whose personal efforts have made this side project possible and to General Singleton and Staff of the military post who have done so much to facilitate our work there. Excavations should be completed by June 11 of this year.

Consolidation of our present gains from a scientific standpoint is one of the most urgent necessities at Ocmulgee. In the near future Dr. Kelly and Mr. Jennings have publications going to press with the Bureau of American Ethnology and the National Museum. Dr. Kelly's work is a general summary of the four years of excavations at Macon and related sites. Before coming to Ocmulgee Jesse Jennings spent a season at Peachtree, North Carolina, digging an historic Cherokee site. His report embodying the information garnered there is obviously related to our pre-historic cultural problems at Ocmulgee. Gordon Willey has published a short summary of dendrochronological work in this area in the Tree Ring Bulletin, V. I, No. 2, official publication of dendrochronological research.

For the future it is hoped that Dr. Kelly will be able to get out a series of manuscripts each dealing with a particular division or unit of the vast Macon site. At least four of these could be prepared from amassed data. Mr. Jennings hopes he will have time to carry on explorations at Lamar and write the wind-up report for this important type village. Mr. Willey is anxious to publish his report on pottery studies and ceramic chronology as worked out from the Stratigraphic Survey.

Perhaps most important for the whole picture of Southeastern archeology is the building and establishment of a great display and research museum at Ocmulgee. Before this report will be distributed, operations

will have begun on the basement for this structure which, if our aspirations are realized, will be a center for continued scientific investigation in anthropology in the Southeastern United States.

*****SWM*****

GEOLOGY OF ORGAN PIPE CACTUS NATIONAL MONUMENT

By Charles N. Gould.

INTRODUCTION

Organ Pipe Cactus National Monument, established by Presidential proclamation April 13, 1937, contains 330,687 acres. It is the largest national monument in the Third Region. The monument is in southwestern Pima County, Arizona. The mining town of Ajo, from which entrance is made to the monument, is 120 miles southwest of Phoenix, 140 miles west of Tucson, and 160 miles east of Yuma.

On my inspection of the monument January 31 and February 1, 1938, I was accompanied by Wildlife Technician McDougall of the Regional Office, and by Junior Park Naturalist Natt N. Dodge of Southwestern Monuments. The purpose of my inspection was two-fold; namely, to report on the general geology of the monument, and, more especially, to make a preliminary study of the water resources, with particular reference to the location of an ample supply of potable water to supply a proposed headquarters area.

Organ Pipe Cactus National Monument is located "at the end of the trail," in one of the most inaccessible parts of Arizona. Its southern boundary marches with the northern boundary of the State of Sonora, Republic of Mexico, for a distance of approximately 32 miles, extending from near boundary post 161 to post 173. One graded road crosses the monument. This road leaves the Tucson-Ajo road 13 miles southeast of the latter town, and leads south across the desert to the Mexican border, and to the hamlet of Sonoita, which consists of half a dozen adobe houses and a custom house. From Sonoita this road is marked as it continues southeast to Hermosillo, the capitol of Sonora. A few other ungraded roads lead to the various wells and abandoned mines throughout the area, but these roads are little traveled and often washed out and impassable for cars. Of these, the road from Ajo to Bates Well is most traveled.

Some years ago the U. S. Geological Survey erected a number of directional signs in this area. Some of these signs are still standing, but many of them have suffered from the more or less accurate marksmanship of passing hunters.

GEOLOGICAL REPORT ON ORGAN PIPE CACTUS NATIONAL MONUMENT (CONT.)

There are no fences either in the monument or along the international boundary and no houses except an occasional shack, or adobe house, near a well, used by cattlemen. For a number of years a rancher named Gray, and his sons, have run a few hundred head of cattle on land now included in the monument.

TOPOGRAPHY

The general topographic effect of Organ Pipe Cactus National Monument is that of a flat, level plain, interrupted by many ranges and groups of low mountains, the ranges trending north and south. In this regard the area follows the general pattern for all of this region, including northern Sonora, southeastern California, southern Arizona, and southern New Mexico. The traveler appears to be constantly in a basin, surrounded at a greater or lesser distance by mountains.

Within the monument there are two prominent mountain ranges, and several smaller groups, interspersed with three valleys; namely, Ajo, Sonoita, and Growler.

The eastern boundary of the monument runs for about 25 miles along the crest of the Ajo Mountains. The southern end of the Growler Mountains occur near the western part of the monument. Between these two ranges, which trend northwest-southeast, lies the valley of the Ajo, which is the largest topographic unit in the monument. South of the Valley of the Ajo are the Dripping Springs, or Puerto Blanco, Mountains, and the Sonoita Mountains. East of Sonoita Mountains and between this mountain and the southern end of the Ajo Mountains lies Sonoita Valley. Near the southwest corner of the monument occur the eastern end of Aqua Dulce Mountains. East of the Aqua Dulce and south of the Growler Mountains are the Quitobaquito Hills. In the northwest corner of the monument and west of the Growler Mountains is the southern end of Growler Valley.

The chief reason for setting aside this area as a national monument was the fact that here are found great numbers of an unusual species of cactus known as Organ Pipe Cactus. This form of cactus appears to be more abundant in this part of Arizona than in any other place in the United States, although occasional specimens have been reported as far distant as Tucson. This plant grows best on rocky slopes, attaining its maximum size on the south side and near the base of the mountains. Other prominent cacti are Saguaro and Cholla. Mesquite, Palo Verde, together with Ocotillo, and Desert Willow are very prominent plants also.

Another reason for setting aside this area as a national monument is the presence here of a rare species of wild sheep, allied to the Rocky Mountain Sheep, now in danger of extermination, which inhabit the mountains of southern Arizona and northern Sonora. It is reported that only a few of these sheep remain alive, and that during the past few years many have been killed by hunters.

GEOLOGICAL REPORT ON ORGAN PIPE CACTUS NATIONAL MONUMENT (CONT.)

GEOLOGY

Practically all the rocks in the Organ Pipe Cactus National Monument are of three general kinds; namely, first, very old pre-Cambrian schist, gneiss, and granite; second, Tertiary volcanic lava and tuff; and, third, recent alluvium and valley wash.

There are also a few exposures of sedimentary rocks, chiefly limestone, sandstone and quartzite, probably of Paleozoic age. Usually these sedimentary rocks are blocks or fragments occurring near fault lines which appear to have been mashed or fractured. The presence of small patches of limestone and sandstone in many localities in southwestern Arizona would seem to indicate that sedimentary rocks were once deposited over a wide area but that they have been removed by erosion.

The pre-Cambrian rocks, seen in the monument, are chiefly gray and red granite and schist. Red granite was noted both north and south of Gunsight Pass, near the northeast corner of the monument. Gray granite occurs at Growler Pass, east of Bates Well, and at a point a mile north-east of Walls Well. The Aqua Dulce Mountains, in the southwest corner of the monument, are composed almost wholly of coarse-grained granite rocks. Sonoita Mountains are also made up largely of granite, gneiss and schist.

But the greater part of the rocks which form the various mountains in this monument, and in other parts of southern Arizona and northern Sonora, are of volcanic origin. During a late geologic period, known as the Tertiary, southern Arizona and New Mexico, and adjacent areas in northern Sonora, contained many volcanoes. Vast amounts of molten lava, ashes, cinders, and rock fragments were ejected from numerous craters and crevices throughout this region.

When the molten lava cooled, it usually formed black basalt now exposed on the tops of the mountains. The light-colored volcanic ash was compacted and hardened, forming tuff. These various materials and others were piled up, one layer upon another, until in some cases a thickness of 2,000 feet of volcanic rocks was attained as, for example, in the Ajo Mountains. Dripping Spring Mountain consists largely of lava and tuff beds. Growler Mountain is made up of 1,200 to 1,500 feet of Tertiary lava, chiefly black basalt and tuff, resting on a base of pre-Cambrian, granite and schist.

In addition to the rocks already described, namely, the crystalline, granite, gneiss, and schist, which underlie all the other rocks, and the Tertiary lavas and tuffs, which occupy the greater part of the mountains, there are in the monument large deposits of alluvium, which occupy the valleys. Alluvium is a name given by geologists to rock debris or material washed out of the mountains and spread out by the action of water on the valleys and plains.

GEOLOGICAL REPORT ON ORGAN PIPE CACTUS NATIONAL MONUMENT (CONT.)

Alluvium consists chiefly of broken rock fragments. Near the mountains the boulders may be large and angular, farther away they are smaller, smooth, and water-worn. Still farther toward the valley, sand predominates, and near the stream or drainage channel the greater part of the material is silt, mud, and clay. This alluvium is sometimes cemented by lime or other minerals, forming conglomerate, but often it is loose and unconsolidated.

All the valleys between the different mountains in Organ Pipe Cactus National Monument have been filled with alluvium washed from the mountains. The thickness varies up to several hundred feet. Records of such wells as I was able to secure show the average thickness to be less than 100 feet.

WATER SUPPLY

In an arid region, such as Organ Pipe Cactus National Monument, water is of prime importance. One of the principal objects of my inspection was to investigate the water situation and make suggestions regarding the same.

From such studies as I was able to make on the ground, augmented by data secured from other sources, chiefly from Water Supply Paper 499, U. S. Geological Survey, entitled "The Papago Country, Arizona", by Kirk Bryan, it is my judgment that by using ordinary precaution it should be possible to secure an ample supply of water for the monument. As springs are very rare this water will probably be obtained from wells.

There are three known springs on the monument, namely,

Bullpasture Spring, on the west slope of the Ajo Mountains 20 miles north of the border. It is reported to be a small but permanent spring.

Dripping Spring, on the northeast side of Dripping Spring Mountain. "The amount of water is sufficient to supply a few men only."

Quitobaquito, Hot Spring, is the largest spring on the monument, located less than 200 feet north of the Mexican boundary. The temperature is 80 degrees Fahrenheit, and the flow 43 gallons per minute. The water is highly charged with mineral salts, and is scarcely suitable for domestic use.

There are six wells on the monument, the water from which is used for stock, and one hears rumors of other wells drilled many years ago which were dry. The approximate location of these wells is as follows:

Miller Well, near the northwest corner of the monument.

Walls Well is near this, but off the monument.

GEOLOGICAL REPORT ON ORGAN PIPE CACTUS NATIONAL MONUMENT (CONT.)

Alamo Well, near the base of Ajo Mountains.

Bates Well, in Growler Pass.

Powers Well, west of Growler Pass.

Cipriano Well, west of Growler Mountains, five miles north of Quitobaquito.

Blankenship Well, near Mexican line north of Sonoita.

Such data as I have been able to secure regarding these wells follows:

<u>NAME</u>	<u>DEPTH</u>	<u>DEPTH TO WATER</u>	<u>AMOUNT OF WATER</u>	<u>QUALITY OF WATER</u>
Miller	38	26	79 gal. per min.	Fair
Walls	48	19	Never dry	?
Powers	135	?	Dry	?
Cipriano	57	55	Sometimes dry	Fair
Blankenship	65	54	?	Fair
Bates	64	40	Never dry	Good
Alamo	?	?	Water most of year	?

Experience has shown that in a desert region such as this water is found most frequently in a drainage channel. I quote from page 103, U. S. Geological Survey Water Supply 499: referred to above:

"The residue of the floods from the mountains that is not absorbed or evaporated on the alluvial slopes is carried off by the main or axial streams of the valleys. It is probable that there are years when the residue is insufficient to cause the water to flow out of the valley into some other valley, but when there is sufficient water it flows from valley to valley and finally into the sea."

And from page 104 of the same report:

"A long drainage line begins with a stream that heads in granite hills east of Barajita Valley and flows about 3 miles northwestward to a narrow gap south of Walls Well. In this part of its course there is a small sandy channel which gives way in places to smooth areas of clay. From the gap and thence through Walls Well and westward for a mile or more there is a well-defined arroyo about 50 feet wide with banks 2 to 4 feet high. This channel disappears in the alluvial slopes of the Valley of the Ajo and is replaced by numerous smaller channels which lead westward toward Growler Pass. Just east of the pass is an extensive flat with clayey soils and a forest of mesquite trees, and

GEOLOGICAL REPORT ON ORGAN PIPE CACTUS NATIONAL MONUMENT (CONT.)

here here the small channels fade out. Two fairly definite channels flow into this flat from the southeast and northeast. By rather vague and indefinite channels in the flat the waters unite into a single channel with a gravelly bed which is about 50 feet wide and has banks from 3 to 4 feet high. This arroyo persists through Growler Pass and extends to a point about 3 miles southwest of Bates Well where it fades out into minor channels. These channels in turn join the main wash of Growler Valley, which pursues a northwesterly course for about 30 miles to the Mesquital, an adobe flat that is similar to the one east of Growler Pass and lies southeast of the southern point of the Aguila Mountains. From the Mesquital, a channel leads to the axial stream of San Cristobal Valley and finally reaches the flood plain of Gila River".

The two best wells within the boundaries of the monument, the Miller Well and the Bates Well, are located along this drainage line. It appears reasonable to believe that other wells so located would have similar results, and furnish plenty of water.

With regard to the supply of water for the headquarters area, my best suggestion would be that this supply be definitely determined before the headquarters have been located. In too many national parks and monuments the matter of the location of a permanent water supply appears to have been a secondary consideration.

As I now view the problem in Organ Pipe Cactus National Monument, it would appear that the best chances for a permanent water supply are from a well, or wells, located along the drainage line described previously in this report. This unnamed wash or drainage line originates in the area around the Gunsight Hills, and passes west near the north end of the Ajo Mountains where are located the Walls Well and the Miller Well. It spreads out and crosses the Valley of the Ajo in a network of rather indefinite channels, to Growler Pass. Before entering the pass, this wash is joined by others from the northeast and southeast. Bates Well, the best well on the monument, from the standpoint of both quality and quantity of water, is located along this wash in Growler Pass. From Growler Pass the drainage line finds its way northwest across Growler Valley toward Gila River.

CONCLUSION

If matters of policy and administration did not enter into the problem, I would strongly recommend that the headquarters area be located near the east end of Growler Pass. This for two reasons: First, the chances for finding an abundant supply of potable water are perhaps better here than at any other point on the monument; and, Second, near this place there are abundant examples of Organ Pipe Cactus, for which plant the monument was named, and which will doubtless prove to be one

of the chief attractions for tourists.

A road from Ajo past this point to Sonoita would be much more scenic and only a few miles longer than the existing graded road to Sonoita. The only merit of this road is that it is a straight line, otherwise the shortest distance between the points. This road was constructed for practically its entire length across a flat featureless plain. It should be remembered that road building in a region like this is relatively inexpensive. All that is needed for the greater part of the way is the clearing away of the desert vegetation and the use of an ordinary road grader.

However, if it is deemed good administration policy to locate the headquarters area along the existing straight-line road, I would recommend that a series of test wells be drilled near this road at the point where one of the various channels of the drainage line, described above, crosses the graded road. It is possible that more detailed field work at this place may show the existence of a major drainage channel, near which the well should be located.

*****SWM*****

MUSEUM PLANS

By Park Naturalist George Ruhle, Glacier National Park

It has been estimated that, with good presentation, it is possible to reach the general park visitor by means of a museum for an average of twenty minutes. In planning each museum, each exhibit, and each trail-side shrine for the park, this short average time is given full thought. People cannot return repeatedly to park museums, like city folk can to their local museums. The purpose of the museum within a national park, moreover, differs from that of its city-bred relative, in that it aims solely to tell a story that pertains entirely to its environment. The story must be told in an effective manner devoid of all complications. All exhibits are planned with consideration of the general visitor. By providing study room and laboratory space, study collections, and technical literature, apart from the exhibit room, the student, scientist, and specialist is reached beyond the popular displays. In this manner all will be served efficiently, without a cramming of knowledge down the throats of the unreceptive.

Glacier's museum program is spread over several park centers. It is planned to treat geology at Many Glacier, ethnology at Two Medicine, and biology at Sun Camp. In addition, a history museum and trailside shrines are planned for key localities in the park where they can serve most effectively in interpreting exhibits in place. The different units will not be disconnected entities, but each will contain certain features

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that will tie them together so as to disclose a comprehensive story of natural history in the park. For example, the life of the Plains Indian is the subject to be treated in detail in the Two Medicine Unit, but the role of the Indian in park history, his use of native plants and animals, and the influence of geological phenomena in shaping his life and character will be pointed out in the history, biology, and geology structures, respectively.

The reasons for having several small units rather than one large museum housed in a single building springs from several considerations:

1. If there were but one structure, only a portion of the park travel would be reached, since only a small fraction of visitors visit every important center and spend a little time at each. By distributing three museums among Many Glacier, a site on the Going-to-the-Sun Highway, and Two Medicine, educational contact with 95 per cent of the park travel is possible.

2. Since the average time limit of reaching the visitor in one museum is short, by having several located at different centers, the probability of reaching the visitor is multiplied almost by the number of museums, and the average time of visit in park museums will increase proportionately with that number. For while a certain park visitor might not return for a second visit to a certain park museum, there will be a great urge to visit another museum located at another center, separated by travel requiring several hours at least.

3. Because of the great simplicity gained, it is more effective to limit each building to a single story. The museum at Many Glacier discloses the story of the origin of the park's features. Attention is not diverted by other topics, so one is not bewildered, assimilates the story better, and is not so easily apt to forget. Elsewhere in the park one learns about Indians or about the history of the place.

4. A museum devoted to a single subject can be located at the site where that story can be told most effectively and naturally. Geology can be best explained at Many Glacier, because of the nearness and diversity of geological features, but the story of Indians should not be given here because the Indian had little use of the Many Glacier region.

5. Each structure is to serve as a base for naturalist operations. Lectures will be held in them. Trail trips will start from them. Information shall be dispensed from them. The naturalists office, laboratory, and study requirements will be served by them. Because naturalists carry on work at all of the important park centers, it is necessary that each

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should have a base for such activities.

In planning exhibits for the museums, several features are being constantly kept in mind. First of all, Glacier's museums, following the procedure recommended as best for National Park purposes, are planned not only for the display of specimens and interesting objects. They are to present ideas and stories which will assist in interpreting and appreciating the park. They shall not endeavor to impress the casual visitor with the large amount of material available for display. Instead of trying to offer as many as possible of the interesting educational features that can be drawn upon, ~~kee~~ discrimination is shown to stress only the most important stories as they pertain to a better understanding of the park. Each must be carefully weighed as to its effectiveness in furthering this aim. No attempt shall be made to include exhibits of all branches of science and learning. Nor is it assumed that the museums are to compete with or replace a scientific course in a University. The museum shall augment rather than replace or supercede the lectures and field trips given by the naturalists, and be an incentive for delving further into the subjects by individual personal study. The exhibits should be a mechanism in aiding the educational staff in their personal relations with the public, yet at the same time the exhibits should be self-explanatory and the museum self-operating without guiding in the event of pressure of work upon the part of the attendant and staff, or pressure of numbers of visitors at any given time.

Each museum shall present a single connected story. Each case within the museum shall be a complete sub-story in itself, a chapter in the general story which is being told, and which, taken together with other such stories, makes for a complete picture. The title of this sub-story will be announced within the key label. Every feature within the case must carry out the story as announced, or have no place within the exhibit. The features of an exhibit include pictures, drawings, maps, pertinent objects, replicas, models, and concise, carefully-worded labels.

Within Glacier Park museums there will be no place for public display of collections of specimens or relics of interest to the specialist only. Only those shall be used in exhibits that are documents in the story given. The rest shall be relegated to study collections where they will be kept, carefully identified, catalogued, and synoptically arranged in cabinets of trays and drawers for easy access to those wishing to obtain information beyond the average public exhibits. They will be made available to scientists, students, and other interested persons.

The whole treatment of the museum in Glacier Park is based on clear and simple presentation without hair-splitting arguments. It strives for unity and continuity of interpretation, attractiveness of appearance, professional finish, and ease of assimilation. The environment and atmosphere must be one of ease and quiet. The effect to be achieved must be stimulating and durable, and any added ornamentation not necessary to

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the exhibit story must be excluded. For, after all, the justification of the entire housing of such exhibits is to feature the stories they have to tell, and any added attractions will detract just that much from the aims and justifications of the exhibits.

*****SWM*****

THE MONTEZUMA CASTLE SONG

(Tune: "Home on the Range")

By Betty Jackson

Oh, give me a home where there's some chance to roam,
Where the lizards and rock squirrels play
Where often is heard the song of a bird,
And the dust is not cloudy all day.

CHORUS

Home, home by the road, where the trucks and graders all day
Go roaring around to tear up the ground, and spread dust and dirty wide
by the way.

Where the air is so dusty, the zephyrs so few,
Where the doorstep is coated with oil,
Where each truck with its load makes this home by the road
Quite a nice fertile portion of soil.
chorus

How often at night when the heavens are bright
By the light of the flickering stars
Have I stood there amazed, and asked as I gazed,
"Can this silence and clear air be ours?"
chorus

But then, I'll "be blowed" if I'll leave this abode
Where the work is soon going to be done,
Where seldom is heard a discouraging word,
And we'll soon get a look at the sun.

*****SWM*****

RUMINATIONS

On naming classes of people.
By the Boss.

I lay no claim to being a purist and I am free to admit that I am no expert on the English language, but we are going to take one word out of the dictionary as far as the Southwestern Monuments are concerned.

That word is "Dude".

I find that the late Mr. Webster, in his interesting little book, says that a dude is a kind of a dandy or exquisite, especially one characterized by an ultrafastidious dress and manner and other affectations; loosely, a fop.

This is not the meaning of the word as used by the Park Service.

Originally, as I understand its development in our Service, the people at Yellowstone felt the need for some technical terms which would describe certain types of people within the park. The company driver of the big bus was known as a "Gear Jammer". The temporary ranger was named a "Ninety-Day Wonder". The visitor who came in his own car, Pa, Ma, four kids and the goat, along with the camping outfit, easily fitted into the name "Sagebrusher". And the visitor who came by train, put up at the hotels, and used the company transportation, was a "Dude".

Thus used, the word carried no derogatory idea but was simply a technical term to designate a class of visitor. As it has come to be used among us in the Southwestern Monuments, however, it does have a derogatory sense and if you listen closely you can almost catch the inference of "Damned Dude". This will not do and, since we cannot now clear the term of this pitch with which it has become defiled, we will just quit using it altogether.

So the word "Dude" is taboo from now on among Southwestern Monuments folk.

And while I peck this out on old 1,104,068, Al comes in and I refer the Yellowstone terms to him for approval and then we talk over Yellowstone times and bear episodes and so on, it being between five and six o'clock and we being officially off duty. And some place in the talk, Al says: "Boss, we ought to put that term 'Cottonpicker' on the list too, for it is beginning to get that same stain on it". I believe Al is right, as he usually is.

We have no cause whatever to look down on any class of visitors. If there seems to be a dumb class among them now and then, I am willing to bet you two to one the fault lies with the man who is talking to them; at least that was the way cold logic worked it out in those cases when the speaker couldn't reach his party and I happened to be the speaker. If, with some of the most interesting stories in the Southwest to tell, we

RUMINATIONS (CONT.)

can't talk well enough to carry the unflagging interest of a fourteen-year-old boy, and that is about the mental age of the class we speak of; then we are pretty blamed dumb ourselves and instead of using a derogatory word for that class of visitor we had better invent one for that class of guide.

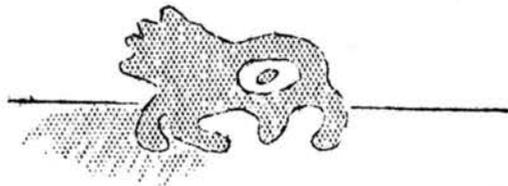
So the term, "Cottonpicker", as a technical term, goes overboard also.

We will just have visitors at the Southwestern Monuments from now on.

Cordially,

Frank Pickley

*****SWM*****



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*****SWM*****