

Caywood

SOUTHWESTERN MONUMENTS

MONTHLY REPORT

FEBRUARY, 1936



DEPARTMENT OF THE INTERIOR
NATIONAL PARK
SERVICE

H10 H11

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SOUTHWESTERN MONUMENTS

FEBRUARY, 1936, REPORT

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SOUTHWESTERN MONUMENTS PERSONNEL

HEADQUARTERS, Southwestern Monuments, Coolidge, Arizona: Frank Pinkley, Superintendent. Hugh M. Miller, Acting Assistant Superintendent. John H. Diehl Associate Engineer. Robert H. Rose, Assistant Park Naturalist. Dale S. King and Louis R. Caywood, Junior Park Naturalists. A. T. Bicknell, Custodian on Special Detail. Robert L. Cole, RCW Clerk. Luis Castellum, Temporary Clerk-Stenographer.

GENERAL FIELD MEN: Charles A. Richey and Harry Langley, Resident Landscape Architects. J. B. Hamilton, Associate Engineer. J. M. Towrea, Chief Engineering Aide. Andrew Clark, Topographer. Carl Schmidt, Rodman.

FIELD STATIONS:

1. Archeo---Moab, Utah. J. M. Turnbow, Custodian.
2. Aztec Ruins---Aztec, New Mexico. Johnwill Faris, Custodian.
Robert W. Hart, Ranger-Archaeologist.
3. Bandelier---Box 669, Santa Fe, New Mexico. Earl Jackson, Custodian.
4. Canyon de Chelly---Chin Lee, Arizona. Robert R. Dudlong, Custodian.
5. Capulin Mountain---Capulin, New Mexico. Homer J. Farr, Custodian.
6. Casa Grande Ruins---Coolidge, Arizona. W. J. Winter, Custodian.
Charlie R. Steen, Park Ranger.
7. Chaco Canyon---Crowpoint, New Mexico. Thomas C. Miller, Custodian.
8. Chiricahua---Wilcox, Arizona.
9. El Morro---Ramah, New Mexico. E. Z. Vogt, Custodian.
10. Gila Cliff Dwellings---Cliff, New Mexico. No Custodian.
11. Gran Quivira---Gran Quivira, New Mexico. W. H. Smith, Custodian.
12. Hovenweep---Cortez, Colorado. No Custodian.
13. Montezuma Castle---Camp Verde, Arizona. Martin L. Jackson, Custodian.
Frank Fish, Ranger.
14. Natural Bridges---Blanding, Utah. Zeke Johnson, Custodian.
15. Navajo---Kayenta, Arizona. John Wetherill, Custodian.
16. Pipe Spring---Moccasin, Arizona. Leonard Heaton, Acting Custodian.
17. Rainbow Bridge---Rainbow Lodge, Arizona. No Custodian.
18. Saguaro---Tucson, Arizona. Paul Beaubien, Temporary Ranger.
19. Sunset Crater---Flagstaff, Arizona. J. W. Brewer, In Charge.
20. Tonto---Roosevelt, Arizona. Woodrow Spires, In Charge.
21. Tuzigoot---Box 2225, Tucson, Arizona. George Roundey, Custodian.
Martin Evenstad, Ranger.
22. Walnut Canyon---Flagstaff, Arizona. Donald Erskine, Ranger in charge.
23. White Sands---Alamogordo, New Mexico. Tom Charles, Custodian.
Barry Echan, Utility Man.
24. Wupatki---Flagstaff, Arizona. J. W. Brewer, In Charge.
25. Yucca House---Cortez, Colorado. No Custodian.

CONDENSED REPORT

Coolidge, Arizona
March 1, 1936

The Director
National Park Service
Washington, D. C.

Dear Mr. Director:

The Condensed Report for Southwestern Monuments for February, 1936:

TRAVEL:

	February, 1936	February, 1935	February, 1934
Aztec Ruins	297	278	374
Bandelier	252	254	65
Capulin Mountain	500	360	200
Casa Grande	3,043	2,923	2,571
Chaco Canyon	379	207	78
Canyon de Chelly	5	---	---
Chiricahua	300	---	---
El Morro	---	---	---
Gran Quivira	129	216	300
Montezuma Castle	436	1,167	1,035
Natural Bridges	---	---	---
Navajo	---	---	---
Pipe Spring	137	27	435
Saguaro	2,000	---	---
Sunset Canyon	74	---	---
Tonto	724	599	---
Tumacacori	1,512	2,116	1,146
Walnut Canyon	187	---	---
White Sands	3,794	---	---
Wupatki	70	50	50
Yucca House	30	---	---

Actual Reported

Registration	13,859	6,286	6,255
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The ten monuments which reported both in 1934 and 1936 showed an increase from 6,255 to 6,745 --- 490 visitors, or 7.3%, or about one-twelfth.

The twelve monuments which reported both in 1935 and 1936 showed a considerable decrease; from 8,228 to 7,474 --- 754 visitors, or 9.15%.

Thus it would appear that February, 1936, as a travel month was one-twelfth better than the same month of 1934; about 9.15%, or approximately one-tenth poorer than the same month in 1935. Poor travel weather has been general all over the Southwest.

CONDENSED REPORT (CONT.)

GENERAL

610 MATTERS OF UNUSUAL IMPORTANCE

TONTIC---Woodrow Spires, in charge, was able to stop a party of pot-hunters who were excavating on the shore of Roosevelt Lake. Arrangements now perfected with the Forest Service will prevent much vandalism in this area in the future. See page 109.

MUPATKI---Plans well under way for a small arts and crafts exhibit June 5 of the handicraft of the Navajos of Mupatki Basin. Mr. and Mrs. Brewer, in charge, doing excellent work. Museum of northern Arizona cooperating to full extent. It is hoped the exhibit will become an annual affair, and will aid in promoting a renaissance of old Navajo art in the region. See page 102.

620 WEATHER

The first half of February was relatively warm and conducive to travel, but weather became stormy during the latter portion. Snow made impassable roads to the following monuments: Canyon de Chelly, Yucca House, Heavenweep, and El Morro. So much precipitation argues well for spring range conditions, however. Tonto Basin and other southern cattlemen report the finest grass expectations in many years.

100 ADMINISTRATIVE

120 Monument inspections by

121 Superintendent Pinkley inspected the new residence at Canyon de Chelly February 6.

122 Special Field Representatives

V. W. Vandiver, regional ECW geologist, spent several days studying the old lake bed at White Sands.

A. E. Borell, regional ECW wildlife technician, spent several days at White Sands concerning work being done there under the Re-settlement Program.

Norman Smith, junior ECW geologist, spent most of the month at Bandelier working up popular interpretation of the region's geology for future guide and museum use.

123 National Park Officers

Acting Assistant Superintendent Hugh M. Miller inspected the Canyon de Chelly residence February 6 and 26.

Ansel F. Hall, chief, Field Division of Education, visited Aztec Ruins and Navajo during the month.

Resident Landscape Architect Charles Richey during the month made trips to Canyon de Chelly, White Sands, Chaco Canyon, Aztec Ruins, and Bandelier.

Resident Landscape Architect Harry Langley made inspections at

CONDENSED REPORT (CONT.)

Chiricahua and Tonto.

Associate Engineer Jack Diehl reached Chiricahua, Tonto, and Bandelier, on business trips.

Jr. Naturalist King made inspections at Tonto, Montezuma Castle, Bandelier, and Saguaro. He also visited Walnut Canyon and White Sands.

Jr. Naturalist Caywood visited Wupatki February 17.

180 PUBLICITY

WHITE SANDS---"Fortune" for February carried a picture of White Sands.

Southwestern Headquarters prepared 2,000 copies of a small informational folder for White Sands.

200 MAINTENANCE, IMPROVEMENTS, NEW CONSTRUCTION

210 MAINTENANCE, UNUSUAL

CASA GRANDE---Faulty sewer system has to be pumped out into open trench. An old engine and pump temporarily solve the difficulty, but the system needs repair urgently. See page 109.

Six feet of ruins wall fell recently. Stabilization funds needed badly. See page 109.

TONTO---Entrance road and trails in bad shape due to heavy rain. Trail foreman working on trails, but is unable to maintain entrance road.

220 IMPROVEMENTS

CHACO CANYON---Temporary cattleguard constructed near Fajada Butte.

SAGUARO---Facilitating building owned by University of Arizona remodeled by Temporary Ranger Beachien into convenient office.

WUPATKI---Two roofs of prehistoric rooms inspected and repaired. Final sand covering put on another roof.

Room 72 reconstructed to 4'6" height for drainage control.

Wupatki spring output increased about 400 gallons by new pipe and valve.

Set of stone steps replaced with better ones. See page 100.

230 NEW CONSTRUCTION

BANDELIER ECW---10,000-gallon storage tank formed and poured.

Laying of intake and return pipes in progress.

Additional underground power line cable from Headquarters Building to campground comfort station installed.

Planting and obliteration continued.

Museum Building to lintel height and portal connection with Headquarters Building placed. Timber crew shaped vigas, lintels and beams all month.

Quarters No. 1 walls at 8' average height.

Carving crew worked all month. Shipment of completed Wupatki signs were being crated at end of month.

CONDENSED REPORT (CONT.)

Quarry crew worked continuously all month.
Some maintenance on canyon floor and entrance roads.
---In general, progress was good, considering inclement weather and reduced company strength. See page 115.

CANYON DE CHELLY---New residence completed.
Some material has arrived for water and sewer systems. See page 88.

CHIRICAHUA ECW---Sara Deming Trail now completed for 5,400 feet.
300 feet completed on Massai Point-Balanced Rock Section.
800 Square yards of bank sloping on Bonita Canyon Highway. Excess material used to obliterate borrow pits. A total of 1,000 cu. yds. moved.

Headquarters Ranger Station 90% complete.

Bath House 70% complete.

Chiricahua-Portal telephone line now under construction for 3/4 mile.

See page 82 for detailed report.

GRAN QUIVIRA---Pipe, rods, and pumping equipment on hand in readiness for construction of pump house.

300 ACTIVITIES OF OTHER AGENCIES IN MONUMENTS

320 Cooperating Government Agencies

CHACO CANYON---Soil Conservation Service, with only 10 men on the crew, doing good work. 4,000 cu. yds. of dirt arranged in arroyo-preventing dikes on canyon floor. 1,200 cu. yds. of rock quarried for future revetments. 115 sausage dams completed in side arroyos. See page 94.

320 Cooperating Agencies Other Than Government

At the annual meeting, February 4, of the Northern Arizona Society for Science and Art an amendment to the constitution was passed providing one member of the Board of Trustees to be selected from the U. S. Indian Service, or the National Park Service. See page 102.

350 Donations and Accessions

CANYON DE CHELLY---Custodian Badlong was loaned two interesting stereoptican photos of Canyon de Chelly taken on the Lieut. Wheeler Expedition of 1873. These photos will be duplicated for National Park Service files, and new pictures will be taken from the same location to show deterioration in the White Lower Ruin. See page 88.

400 FLORA, FAUNA, NATURAL PHENOMENA

410 Ranger, naturalist, and guide service

SAGUARO---A convenient botanical trail has been laid out by Temporary Ranger Beaubien near the Ranger Station. Has no appearance of artificiality, and aids in contact procedure at this rather difficult

CONDENSED REPORT (CONT.)

SAGUARO FLORA (CONT.)

monument. See page 87.

430 Archeology, Prehistory, History

WUPATKI---Partial fossil footprint (Cheirotherium?) discovered by James Brewer in Moencopie Sandstone. See page 101.

Mr. Brewer also discovered two date seeds, apparently washing out of a prehistoric midden. See page 131.

440 Insect Control

CASA GRANDE---Dr. Donald DeLeon inspected mesquite infestation. Sample has been sent for study. See page 108.

460 Birds

GENERAL---348 new birds were banded this month in Southwestern Monument Banding Stations, bringing the fiscal year's total up to 1,023. Casa Grande, in the midst of its banding season, made a particularly good showing. See pages 125, 128.

BANDELIER---See page 139 for February list. Turkeys feeding in canyon.

CASA GRANDE---Gulls, wrens, phoebas, other species have started nesting.

GRAN QULVIRA---Hundreds of robins and bluebirds wintering at this monument. Feed on juniper berries.

SAGUARO---Two Curve-billed Thrasher nests within 75 yds. of Ranger Station.

WALNUT CANYON---Two hen turkeys seen in front of Ranger Station.

WUPATKI---See page 102 for February list.

470 Animals

BANDELIER---Beaver which are invading Frijoles Canyon have ceased upstream progress and may be starting colony. See page 113.

WALNUT CANYON---Ten deer seen on monument.

WUPATKI---Three antelope seen. Antelope Ground Squirrels coming out of hibernation.

Trapper between two sections of monument has shipped more than 100 coyote and bobcat skins this winter. Also four badger skins. See page 102.

500 USE OF MONUMENT FACILITIES BY PUBLIC

TRAVEL---See page 91.

CONDENSED REPORT (CONT.)

500 USE OF MONUMENT FACILITIES BY PUBLIC (Cont.)

530 Newsworthy visitors

BANDELIER---Clint Anderson, WPA representative for 11 western states; E. J. Johnson, International Rotary president; W. J. Jenks, vice-president of Norfolk and Western Railroad; Charles H. Lanke, mayor of Albuquerque.

CASA GRANDE---George Parker Winship, author of "The Coronado Expedition, 1540-1542" in the 14th Annual Report of the Bureau of American Ethnology; A. M. Hyde, former Secretary of Agriculture; former Senator David A. Reed of Pennsylvania.

TOMTO---Frank Lloyd Wright, noted architect, and a group of proteges.

WHITE SANDS---Mrs. Ruth Woodman, associated with radio program department of 20 Mule Team Borax Co.; Mr. and Mrs. Tom Cramer of U. S. Potash Co.; Mrs. Inez Sizer Cassidy of New Mexico Magazine; Mrs. Elizabeth Willis de Huff, Harvey lecturer; D. M. Wooten and I. C. Bruce of Rock Island Railroad regarding a detour including White Sands.

WUPATKI---J. E. Shirley, manager of transportation at Grand Canyon.

900 MISCELLANEOUS

Mail Count

Mail:


Incoming personal	654
Incoming Government	1,126
Total Incoming	1,780
Outgoing, Official only	1,413
Total Mail	3,193

Telegrams:

Incoming	38
Outgoing	47
Total telegrams	85

Grand Total, pieces handled	3,278
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Respectfully,


Hugh M. Miller,
Acting Superintendent.

REPORTS FROM MEN IN THE FIELD

SAGUARO

By Paul Beaubien, Ranger

Have been here two months now and still have some problems unsolved. With only one car reaching the ranger station for each four or five visiting the monument, this ranger isn't doing his duty. Junior Naturalist Dale King stopped a few minutes last Sunday. He saw about 100 people between the north gate and the ranger station but there was only one car at the latter place when he arrived. Then, some of the parties that do reach the station do not stop or only wait long enough to get road information. Of the estimated 2,000 people entering the monument this month, 803 reached the ranger station while only 382 can be listed as educational contacts.

Had quite a bit of rain this month, and Pantano wash, between here and Tucson, was unfordable on several occasions. Also, the rodeo at Tucson seemed to cut into the normal run of visitors.

Am beginning to feel proud of my knowledge of desert plants (there are more plants here than just the cacti) but also realize I'll be able to learn something more every day for some time to come. Alfred Whiting, an ethnobotanist from the University of Michigan, has already made three trips here to help me get educated. He is now doing some graduate work at the University of Arizona but spent last summer working in northern Arizona. He is largely responsible for the trail signs at Walnut Canyon.

With material furnished by the University of Arizona, I have finished working over one end of the facilitating building on the monument. So have respectable quarters, but do need a water supply.

Have a loop trail about 60 yards in length, which leads by some 40 species of the more interesting plants to be found here. These plants range from tobacco to saguaro. Many of them have been transplanted from short distances through the kindness of Mr. George Koller, a foreman from CCC Camp SP. 22-A. I understand that transplanting isn't something the Park Service always approves but it seems the thing to do here. After all, this is an outdoor museum and not a garden. (Ed. Note: The transplanting has been done well -- it has no appearance of artificiality.)

For nature notes, I'll add there are two Curve-billed Thrasher nests within 75 yards of the ranger station. One, containing two eggs, was noted February 16, while the other, with three eggs, was seen February 23.

CANYON DE CHELLY

By Robert R. Budlong, Custodian

We have very little to report this month. However, our records show a marked increase in visitor attendance for this month, compared with the same month last year. The increase is exactly 400%. Last February we had but one lone visitor. This month we had five. Of these, two were local residents. The remaining three were government officials on an inspection trip. Our two bona fide visitors were unable to get to the canyon rim, the roads being too muddy, so they were taken to the nearby sand dunes and immediate vicinity. Time devoted to this group, ninety minutes. These dunes constitute one of the many attractions at this national monument, and many of our visitors go to see them.

Weather for the month varied from miserable to worse. There were four days of very high winds. Precipitation occurred on ten days, with a total of .65 inch. Maximum temperature, 59 degrees, minimum 8. On the 16th we had snow, hail, sleet, rain, high winds, a sandstorm, and some lightning and thunder. Roads have been nearly impassable most of the month. The canyons are still well filled with flowing water, and no attempts to enter them have been made during the month.

On the 6th we were paid a very short visit by Superintendent Pinkley, Hugh Miller, and Chuck Richey. As usual, they didn't stay very long, departing the same day they arrived.

The Custodian's Residence is not yet finished. The contractors had hoped to ask for an acceptance on the 23rd, but the work has gone slowly.

Some of the material has arrived for the remaining work on the water and sewer systems, and it is hoped that before many more months have passed the house will be supplied with water. The water reservoir must be waterproofed, pipe must be laid from the new well to the reservoir, a pump house must be built and pumping machinery installed, and a supplementary septic tank must be constructed.

One of the officials of the Soil Conservation Service recently sent me two very interesting photographs of Canyon de Chelly. They are stereoscopic photographs taken by Lieutenant George M. Wheeler's Expedition of 1873. One is of White House Ruin, the other of the "Circle Wall" in Canyon de Chelly. In the former, the upper ruin at White House appears exactly as it does today, but the lower ruin is far larger. I am re-photographing these prints for the files of this national monument. When vegetation returns, with warmer weather, I shall take other stereoscopic photographs of these two subjects from exactly the same locations as these old ones, sending a set to the official who so kindly sent me these early photographs. The spelling of the name of the canyon on these early prints is very interesting. It is "Cañon de Chelle."

CHIRICAHUA

By Wm Stevenson

I herewith submit the following travel report for the month of February.

During the month 300 visitors arrived in 65 cars, the majority of the tourists arriving the last week of the month.

In view of the increasing travel, I am designating two enrollees to send as guides for the month of March.

CHIRICAHUA E.C.W.

By Wm Stevenson, Project Superintendent

I submit herewith the following report for the month of February.

Sara Deming Trail was completed to the old Balanced Rock Trail this month, making a total of 5400 feet. The crew started working on the Massai Point Balanced Rock section February 21. Echo Trail shows 300 feet completed this month.

Eight hundred square yards of bank have been sloped on Bonita Highway. The material has been used in the obliteration of borrow pits on the highway. One thousand cubic yards were moved.

The Ranger Station at Headquarters Area is 90% complete and the Bath House 70% complete. Work on the buildings was retarded this month by the illness of Carpenter Foreman French.

The Chiricahua-Portal Telephone Line has progressed well during the month. Three-fourths of a mile is now under construction.

We were visited this month by Harry Langley, Resident Landscape Architect and Jack Diehl, Park Engineer.

GRAN QUIVIRA

By Wm. H. Smith, Custodian

Travel is far below the regular mark for the month, but Mr. Boundey tells me that it has snowed every other night since I have been gone. So much snow has kept the roads in such a bad state that I have only 129 visitors entering the monument in 48 vehicles. This is the poorest month yet this year.

Delivery has been made on the pipe and rods and pumping equipment for the well here. Now all we need to have water here is to get the material installed, and we are looking for the foreman in to do the work some time in the next few days.

GRAN QUIVIRA (CONT.)

Taking the month here as a whole it has been an unusually quiet month before I left and Mr. Boundey says that there has been but little of interest since he came here. But perhaps I had better let him tell that part of the story as I am going to ask him to send in some material for the report and tell you what his impressions are of the "best monument in the southwestern group."

Mr. Boundey and I changed locations for the first few days of February, and I found the Tumacacori Mission very interesting and was surprised to find it in such a good state of preservation, although it is not as old by a goodly number of years as our mission here. On my way back from the Tumacacori National Monument I came by the Casa Grande Ruins and spent a short while there. That was my first visit to headquarters.

Mr. A. T. Bicknell conducted the group that I was in through the monument and let me here say that Mr. Bicknell can make it mighty interesting for his visitors. Every minute of the trip was interesting. The museum collection at the Casa Grande is so nicely arranged and is such a complete collection that if I was not afraid it would give the headquarters staff the big head over it I would have to say that it was more interesting than the New Mexico State Museum at Santa Fe.

Well, at any rate they are both very interesting monuments, but in the future years when Gran Quivira has been as well developed as they are and there are good roads by it, will naturally in my opinion be far superior to either of the monuments.

By George L. Boundey

Mr. Smith has asked me to add a few lines to his monthly report.

We reached Gran Quivira the night of February 4. The last 60 miles the roads were very bad. The first two weeks it snowed every other night with much wind to pile the drifts.

Our visitors, tho not great in number, were all pleased with their visit. One party of four from Albuquerque came the very worst day we had and remained two hours. I found that visitors who came in and warmed up before visiting the ruins seemed to get more from their visit than those who were chilled. Mr. Smith's idea of a warm office or museum where people could rest for a bit before making the tour is very good.

One of the most interesting features of this country to me is the immense number of birds, especially robins and blue birds, which winter here. Usually there are hundreds in a flock and they feed on the juniper berries which are so plentiful here in the forest.

GRAN QUIVIRA (CONT.)

Late one evening I had two Pueblo Indians from the vicinity of Santo Domingo Pueblo. They were much interested in the Pueblo ruins here, and I am sure I learned far more from their description of the kivas, plazas, etc., than I could have given them. Their idea of the water supply is that cracks or fissures have occurred in this lime stone formation and absorbed the springs on which these ancient inhabitants were so dependant.

A photographer, who is making a tour of all the missions in the United States and Mexico, made us quite a visit one day. Two artists spent part of a day sketching and photographing the church ruins for some advertising material the Chamber of Commerce of Mountainair is having placed along the highways.

Graveling of the first 13 miles of the highway between Gran Quivira and Mountainair is now under way, and Dr. Buer of Mountainair says work on the Mountainair end of the highway is to start soon. With good roads from the north and east, this monument will never lack for visitors.

WHITE SANDS

By Tom Charles, Custodian

Mr. Miller of Chaco must have been impressed with the crowds at the White Sands when he reported that we had 85 cars an hour, "on off days." I'm like the man with the wife who said his horse was "sixteen feet high" when she should have said sixteen hands high. If Miller says 85 cars an hour it is 85 cars an hour. I'm for him. "The more I see of Miller, the better I like Chaco."

I would dislike for any of the Park Service Fraternity to think that I am "tooting my own horn;" far be it, but surely it will not be amiss to call attention to the fact that for three consecutive Sundays, when blizzards and sub-zero weather were sweeping the rest of the country, children were playing barefooted in the Great White Sands.

The trek of eastward traffic has begun. Last Sunday I contacted a family from South Dakota and while the baby played barefooted on the warm hillside the father told me that he heard over the radio that morning that it was 48 degrees below zero in his home town. They had been in California and it was urgent that they get home but when they left the Monument they said, "This weather is hard to resist, we may be in no hurry to leave." Similar incidents occur each Sunday.

Possibly it is the weather which is increasing the percentage of visitors from the total traffic on the highway. Last year we calculated that 18% of the total traffic stopped and played in the Sand. The January count showed that about 23% stopped, but the February count shows 31.3%. Therefore, while the travel has dropped from 134 cars in 8 hours in

WHITE SANDS (CONT.)

December and 85 cars in 8 hours in January to 49 cars in the same time in February, our actual visitors have not decreased in proportion. We had an average of 43 cars stop each day in December, 35 cars each day in January, and 26 cars each day in February. Barry's count shows approximately four people to the car. At that rate we have had 2808 week day visitors from January 20 to February 20. In addition to these we had 986 Sunday visitors. The week day number is arrived at by figuring the percentages of three eight hour counts each week and multiplying the average per hour by 14 in order to get the 24 hour total. This gives us a total of 3794 visitors from January 20 to February 20.

It is disappointing that only a third of the visitors see the Heart of the Sands. Seeing the Sands from the highway is like trying to see the Carlsbad Caverns from the mouth of the cave. And the sad part of it is that it is our fault. There should be some display of the beauties and pleasures of the Heart of the White Sands brought up to the highway. The small folders which you have recently printed will help, but the goal is a museum and a continuous ranger. I feel that I owe the tourist the same sales talk and the same effort as though it were costing him \$2.50 to get in. When we properly "sell" this monument to the traveling public it should increase our visitors to 80% of the traffic.

Vincent W. Vandiver, geologist, spent three or four days at the monument this month studying the old lake bed. Apparently he found it very interesting. Watson Ritch's boys guided him to the place where they found the skeleton of a mammoth several years ago; he drove over the Sands and across the lake and came out, down toward the beds of bicarbonate of soda. In fact he took in the outline of the old lake bed quite thoroughly. He stated that the geology of that section is worth a few months' study.

Among other interesting visitors this month was Mrs. Ruth Woodman of New York City, in company with Mr. and Mrs. Tom Cramer of the U. S. Potash Company. Mrs. Woodman is out in the interest of radio programs for the Twenty Mule Team Borax Company.

Inez Sizer Cassidy, Editor of New Mexico Arts and Artists in "New Mexico" Magazine and head of the State Writers' Project, visited the Sands in company with Mrs. Elizabeth Willis De Huff who puts on illustrated lectures nightly at the La Fonda Hotel in Santa Fe, for the Santa Fe railroad. Their reaction to the Sands was shown in Mrs. Cassidy's exclamation "This is one place I'm satisfied - it is truly one of the wonders of the world." Mrs. De Huff asked for pictures of the Sands that she might use them in her lectures at the La Fonda.

D. M. Wooten, manager of Vacation travel of the Rock Island Railroad from Chicago, and I. C. Bruce, General Passenger Agent from El Paso, visited the Sands with the idea of eventually putting on bus accommodations from their passenger trains at Alamogordo to the White Sands.

WHITE SANDS (CONT.)

Chuck Richey was in for a few hours, enroute to California and Mr. and Mrs. Borrell have returned from Washington and are still here.

Eight or ten members of the Masonic Grand Lodge of Texas spent Sunday at the Sands. One of them suggested that he felt like Mark Twain when he saw the Pacific Ocean, he "Thought it was a success."

You may also be interested in the fact that Lieut. Bibb from the Reclamation Camp below Las Cruces brought 150 men over for a day in the White Sands. They occupied 7 trucks and the officer's car and drove approximately 80 miles each way.

That "Fortune" for February carried a picture of the White Sands under the caption, "The Fine White Sands of Alamogordo." And that we had a letter from Switzerland wanting pictures of the White Sands.

That two Alamogordo business men were in the Heidelberg restaurant in Chicago and found that all the ash jars in the elaborate lobby were filled with White Sand from Alamogordo.

That Jack Voyde and Wilmer Hamilton of this place almost started a riot in their old home towns in Texas when they took White Sand and poured it in piles in the grocery stores. The natives thought, of course, that it was sugar.

I was also interested in the fact that Mrs. Fred Kanson, a total stranger, of Elk Falls, Kansas, asked for help in preparing a White Sands program for her reading club.

But probably the best news of all is that we have had some dandy Southwest winds already and the hills are higher, whiter, cleaner, more beautifully rippled and more free from tracks and trash than they have been in weeks. We have had a most excellent job of house cleaning already this spring.

As we go to press, who should walk in but George and Mrs. Boundey, headed back to Tumacacori. You know, White Sands is George's old stamping ground, when he and Gene' Baird and Eugene Manlove Rhodes were boys together. I often wonder if those boys had anything to do with making the "giants tracks" or burying the mammoth or sowing any of the wild oats which we find out there.

CHACO CANYON

By Thomas C. Miller, Custodian

General:

Weather conditions were excellent for the first half of the month; visitors were coming in good and the roads were nice and dry. From the 15th of the month to the present date, the roads have been in the worse

CHACO CANYON (CONT.)

condition than they have been any other month this winter. At times the roads have been impassable, as they are today. If this report should be late you will know that I could not get to the railroad in time to mail it. Any way, I am planning to start in with it early tomorrow morning.

Weather Statistics:

Maximum for the month was 51 on the 21st. Minimum was 9 above on the 5th. Precipitation, 1 inch of rain and melted snow was recorded for the month.

Travel:

379 people entered the monument in 144 automobiles, coming from the following states: Arizona, California, Colorado, New Mexico, Oklahoma, Texas and South Dakota.

Special Visitors:

Custodian Faris was a visitor on the 4th. Mr. Faris made the trip to a good monument for a good cause. The 3/4-ton Dodge truck was returned to Aztec Ruins and Johnwill brought Mr. Williams home. We were very glad to return the truck in good shape to Aztec Ruins, and we surely appreciate the loan for the past several months.

Resident Landscape Architect Richey was here on the 10th. to inspect our Soil Conservation Camp.

Soil Conservation Service:

The work with this camp has proceeded in a satisfactory manner. Only a small crew of 10 men are employed. To date 4000 cubic yards of dirt have been moved and placed in dikes along the canyon floor, to turn water into the main wash at designated places. This will serve to prevent new arroyos being made. 1200 cubic yards of rock have been quarried and stacked for future use in the revetment work. 115 sausage dams have been made in the side arroyos. These dams are made by excavating the earth on both sides of the arroyo, then wire mesh is used to keep the rock in place.

Chaco Fence:

The Cook & Ransom Construction Company completed their contract and departed on January 27. The final estimate was made by Associate Engineer Hamilton.

During the month of February a temporary cattle guard was constructed near Fajada Butte. The material was purchased locally.

The Chaco Wash has been up for the most part of the month. On several occasions a little more than three feet of water was recorded on our water gauge at the bridge. The water gaps in the wash are no more, that is they were covered up with ice, snow, driftwood and sand, and are

CHACC CANYON (CONT.)

now under three feet of water, which means a new set of water gaps when the water goes down.

I think I know how to build a good water gap that will not have to be replaced every time it rains. Since I am the one that has to maintain the fence, with your permission I will build them my way, it might not be any better looking, but it will be much easier and cheaper to maintain.

TUMACACORI

By M. G. Evenstad, Park Ranger

Custodian Bourdey has just returned from Gran Quivira National Monument, and has delegated to me the task of getting out the monthly report for February. So here goes:

During the period of January 26 to February 25, 1936, we had 1,512 visitors. These people came from 35 of the states and the following foreign countries: Canada, China, France, Germany, and Mexico. Ten different parties represented Canada, and we had a like number from our neighbor from the south.

A high percentage of our visitors are now from out of the state, and a large number of these from the eastern and north central states where there is now so much sub-zero weather. They are either lucky in choosing this winter for a trip to our Sunny Southwest or else they had a tip from the weatherman. We also find a fair representation on the register from this state and the neighboring states of New Mexico and California. Quite a few of the visitors go into Mexico for a short trip, judging from their conversations.

On the whole, the visitors for the last month grade quite high in appreciation and interest. The four-day rodeo at Tucson, 20 to 23, did not result in any noticeable increase in the travel, as the corresponding days of the previous week proves to be slightly over the rodeo week in travel. Everything in Tucson was crowded to overflowing as far as accommodations for tourists were concerned, as several of our parties told me they had to drive to Nogales to find a place to sleep.

After supper on the 21st, the family and I bundled into the sedan and drove in to Tucson to hear the famous violinist, Jascha Heifetz, and we felt well repaid for the trip, even though we had to occupy stage seats, not other being available. I also found several of the Casa Grande Ruins bunch occupying similar seats at the recital. Really, didn't know that so many of them were musically inclined.

On the evening of the 7th, Dr. W. H. Smith, with Mrs. Smith, and his son, Elbert, with family arrived for a stay under the transfer plan recently inaugurated by headquarters. We were, indeed, glad to make their acquaintance and enjoyed their visit with us very much. They

TUMACACORI (CONT.)

had a little bad luck in getting here, as they had to be towed in for the last five miles. The doctor almost convinced me that he has a great monument at Gran Quivira, and if he gives as interesting a talk to his visitors on Gran Quivira as he gave us here, that monument only needs good roads to make it one of the show places of the Southwest. They left for Gran Quivira on the 19th to return via headquarters and Casa Grande Ruins.

The weather during the month has been quite moderate, with a good many partly cloudy days, and a couple of sprinkles of rain. The nights have been quite cool with frost a good share of the time. There has been enough wind to pump our water without any help from the gasoline engine. Many of the trees along the Santa Cruz River are bursting forth with foliage, and a little more rain should bring out some of the slower varieties. Various birds are busy feeding on the grass seeds on the monument, and there are many indications that spring is fast approaching.

The month has been taken up with the customary routines, with guide work getting the lion's share. Our need for some kind of a museum is becoming more apparent every day, judging from inquiries by the visitors. The installation of a museum, with suitable exhibits would very likely double the time of the tourists stay, and would also, no doubt, result in increased travel.

A conservative plan on some restoration of certain units would enhance the value of the monument, without a doubt. Personally, I think that Towrea's report on Tumacacori is a very good document, and serious consideration should be given his recommendations. I think he has drawn a good picture that is good food for thought. There may be administrative objections to his idea of a museum, but there is a lot of merit to it too. With this, I will close the report, hoping that you will overlook the fact that it is rather hurriedly written.

MONTEZUMA CASTLE

By Frank Fish, Ranger

I report the following as the February history:

Weather:

The first half of the month was ideal from the standpoint of the visitor, sunshiny days and cool, crisp nights. The last part of the month has been stormy, resulting in a sharp drop in visitors.

Roads:

During the month a section of the State Highway between Prescott and Jerome has been closed from 10 a.m. to 2 p.m. daily. This leaves the Cherry Creek road as the only means of travel to the Monument from Prescott. While the road by Cherry is not considered bad by local

MONTEZUMA CASTLE (CONT.)

people, visitors from the east in some cases return by Oak Creek, Flagstaff, or Ashfork to Prescott in order to escape it.

Visitors:

Guests at the monument number 436 for the month. Of this number 362 registered and 74 were locals, repeaters, or did not register. One party from Eaton's Ranch, Rimrock, has been down six times in the last 10 days, bringing someone different each time. One remark by a member of the above party, although in the nature of a bouquet, reflects more to the Park Service than to any individual, so will pass it on. "Some of us hard-boiled business men that are always kicking about taxes and the cost of government think that the money spent to preserve things of this type is worth while."

One party of CCC boys was in during the month from the Mayer Camp. It was of much interest to me to compare the actions of this group with any other group of young men, even from the schools of higher education. Instead of throwing candy wrappers, cigarette stubs, etc., around, I was repeatedly asked where to place them.

Official Visitors:

Dale King, junior naturalist, made an inspection of the monument on the 14th. We were very glad to have him and hope to see him back again some time in the near future.

Official Leave:

Custodian Jackson was called to San Antonio, Texas, on the 11th, due to his brother's illness. A recent letter to Mrs. Jackson tells of his brother's death. Mr. Jackson is expected home in a day or two.

General:

During the past month, spare time was spent in giving the monument from the parking area to and including around the ruins a thorough raking and cleaning.

Larger fallen limbs suitable for use have been gathered and added to the fuel supply.

The guest ranches report good business with all accommodations taken and a number of future reservations made.

New mines are being developed in the nearby territory, with the R.F.C. offering loans to those prospects showing required indications of good ore bodies.

Range conditions are excellent so, all in all, the present indications are good for this year.

EL MORRO

By Evon Z. Vogt, Jr.

Travel to El Morro for the month of February has been absolutely nil, unless I could be called a visitor. I spent a day at the monument on the 9th of the month. The roads were practically impassable at that time, but by leaving early in the morning when the ground was still frozen, I managed to drive the car to within a half a mile of the monument. Where the road is not blocked with snow it is a bottomless boghole. From Ramah north there was very little snow at that time, but from Ramah south the country was covered with a foot of hard crusted snow. This morning we found eight inches of wet heavy snow on the ground. When this melts the ruts that lead on down the middle of the El Morro Scenic Highway will be deep enough to stick even the cars with the highest clearance. If you get out of the ruts you slip into the ditch at the side, so it's just like jumping off a hot stove into a bed of cactus. You'll be a nervous wreck in either place.

One can make a check-up on the visitors by looking at the snow-blocked entrance road. Nobody has bucked those drifts yet, nor will they for a couple of weeks. The register is blank and a cold wind sings through the pines. Unless there is a let up in the current weather, I predict light travel for the month of March also.

The premises are in good shape. The ranger's cabin has not been bothered. The trails are bound to erode somewhat from the melting snow. The only thing that will have to be watched closely is the water cove. Another week of blizzards and enough snow will fall, melt, and run off the top of the rock to fill the pool, which will run over and wash an arroyo down through the reclaimed area. If it keeps on snowing, next week end will see me at the monument bailing water out of the pool and pouring it where it will run off and do the least damage.

AZTEC RUINS

By John Will Feris, Custodian

The month of February has rolled around so fast that it is time to write another report before we can get settled down to the fact that February is here at all. Our visitors total 287 which is slightly above that of last February. Mr. Hart has been complaining that the bad weather we have been having of late certainly cut in on our visitor run, but I find upon looking up this same month a year ago, that our work and the number of visitors were both affected by severe weather. So I guess that this is about the time of the year that we must expect some interference. Comparing our section with others around us, this has been a very mild month, and only a few days have been disagreeable.

The few days we were not able to work this month has made quite a lull in the work that is being done with our CCC boys. One day that they miss means actually many man days, and we are sincerely hoping that the Gods are on our side for the balance of the sixth enrollment period.

ARTS (CONT.)

since we have a mighty big program outlined, and we hope to finish before the first of April.

Regular monument activities have been no greater than usual. It was our pleasure to have with us this month a representative from both the Landscape and Educational Divisions. Mr. Richey was in and went over the E.C.W. work, and only a day or so ago, Ansel and Mrs. Hall stayed overnight with us. It was Mrs. Hall's first visit, so we know that the triplets will hear about a mighty interesting ruin. One feature I didn't like particularly was the fact that Mr. Hall called from Gallup and told us he was coming, and Bert Hart swept the museum three times that afternoon. You can see, Boss, that if we had many visitors like that and they all informed us they were coming in advance, that the cement floors could not stand up under the strain. Anyway, the lobby floor looked mighty nice, and we were mighty proud of it.

Am a little interested, Boss, in the remarks of Dale in his comments on visitors, and the inference that all personnel should be given a day a week off in order that they not become stale and thus lose the efficiency they might otherwise deliver. Will the facts prove that seven days a week make one stale and less efficient? What about yourself and some of the rest of us, that never thought of a day off for months at a time? Did we become stale and less efficient? Did service rendered suffer in the early days because we did not get a day a week off, and an hour for lunch? Is it not a little queer that seemingly today a man's efficiency must be so carefully guarded that he is in need of these rest sessions, days off, etc., and yet that same individual can play bridge, dance, until all hours of the night, and he never gives a thought to the efficiency he is always crying about. I certainly do not mean that such might be the case with any individual within our Service, but I want to differ a bit regarding a few of Dale's notes. A person to master the piano, blacksmithing, or any of the professions, does not get as far away from it as possible, forget all about it, etc., and feel that there are very few places in the Park Service that one is tied down to his work to the extent that he is mentally incompetent if not allowed a day a week off, but that we do not have about eight days in each week to get the things done that are needed in order that we might really give efficient service. Considering the things we had at our command a few years ago, and the things that aid us now, I can not see for the life of me, that the service was much less five or ten years ago, than it is right now, and we never even thought of a day off, nor did we spend much time bemoaning the fact that our efficiency would be materially decreased since we had swallowed our lunch in about ten minutes in order to get to a party of visitors that might be waiting. Think, Boss, how much more efficient we might have been, (if the party had waited at all) had we placed a nice printed label on the register stating that we were on the verge of fatigue, and that we were in the process at that very moment of a complete rejuvenation and that in exactly 22 minutes and 50 seconds we would be in tip top shape and at their very command. Well, well, enough

of that, Boss, I hadn't realized that I had worked myself up to such a state. The fact of the matter is, I think, that Dale is baiting some of these easy boys, because I have personally talked shop to Dale until all hours of the night, and I didn't notice any evidence of a complete break-down, and I know too, from your reports and letters, that Dale is hitting the ball many weeks without any time off, and yet he comes out in the report with something like that, and has all our rangers thinking they are terribly abused. (This is not intended for my ranger by any means). I make every attempt to warn him of the pitfalls of the printed page, and all the green pastures they seemingly contain.

The month has been one of vigorous action from the CCC angle. The boys are rushing things to completion and yet trying to do everything that we want done. We have added a sewer line and three cesspools to our program. This is to care for all our spare time. I think we can get it all done, and I know we could, Boss, were it not for the fact that we can only work five days a week. For goodness sake don't let Dale get a hold of the fact that the E.C.W. only work five days a week or he will want to throw all our rangers under the E.C.W. setup.

Any way it is a great life, we get a big kick out of playing the game, and so, Boss, without even a day off, we tackle another month.

WUPATKI

By J. W. Brewer, In Charge

500 Use of Monument Facilities by Public

56 guests registered at Wupatki Pueblo; at the Citadel Group, 22; seven names are duplicated, leaving a total of 70 registered visitors to this monument in February, 1936; 1935, 50; 1934, 50.

Largest single day was January 26 on which 19 visitors registered. With one exception, and that also on January 26, all parties at Wupatki Pueblo were contacted with field lectures. One party of two was contacted at both the Citadel (by me) and the Pueblo (by Sallie). "SNM Stencil No. 16 enclosed.)

States were represented as follows: Arizona, 12; California, 6; New York, Ohio, and Colorado, 2; Virginia, West Virginia, New Mexico, Iowa, Minnesota, Washington, Texas, and Pennsylvania, 1.

530 Newsworthy Visitors

Dr. Colton and Miss Katherine Bartlett were here on the first collecting measurements from lower rain gauges.

Mr. J. E. Shirley, Manager of Transportation at the Grand Canyon, and party came the 29th; Mr. Shirley visited these ruins fifteen years ago, coming in by horseback; he thought the appearance of Wupatki much
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WUPATKI (CONT.)

improved since its partial excavation.

020 Weather

January 25 to February 9 temperatures not recorded. February 10 to 25, high 61 degrees on the 20th; low 20 degrees on the 4th. Precipitation .014 inches. This is somewhat short of our February, 1935, precipitation which was 1.68 inches.

There were six sunny days, four partly cloudy, and 14 cloudy days.

200 Maintenance, Improvements, New Construction

210 MAINTENANCE

Roofs of Rooms 1 and 4 were inspected and minor repairs made.

Roof of Room 63 was covered with a final three inch layer of Moencopi. The material, shale and fine sand, was hauled from the vicinity of the tank.

230 NEW CONSTRUCTION

The north half of the west wall of Room 72 was reconstructed to an average height of four feet, six inches, on the inside of the room. This was done as a drainage control measure.

220 IMPROVEMENTS

After removing the gooseneck and lowering the pipe line at the tank I installed three lengths of $\frac{1}{2}$ " pipe and a shut off valve. The spring output jumped from 720 gallons per day, as reported in January, to 1122.07 gallons per day. Since none of the other neighborhood springs have had this sudden increase I attribute it to the change in the pipe line, although no leak was found in the old pipe.

The make-shift stone steps near Room 49 were torn out and will be replaced with new ones.

400 Flora, Fauna, Natural History

430 ARCHEOLOGY, PREHISTORY, HISTORY

While handling Moencopi Sandstone slabs reconstructing a wall of Room 72, I found one containing a partial foot print. Two of the toe tracks most clearly defined resemble in size and shape the Cheirotherium track cast described in the September Monthly Report, 1935, (page 231). While the track does not seem to be complete, I believe, when it is properly displayed in connection with the more perfect cast it will explain how a natural cast is formed.

460 BIRDS

Bird notes taken during February are as follows: (If specific dates not given the bird has been seen commonly during the past month). Golden Eagle (Clyde Peshlakai says the young have been in the nest since last full moon -- February 7th); Red Shafted Flicker, 14th, 16th, 19th, 21st; Horned Lark (*Ocotocoris alpestris* sp?); Rock Wren; Sage Thrasher; Western Robin (hundreds); Mountain Bluebird (hundreds); Townsend Solitaire (dozens); White Rumped Shrike, 16th; House Finch, 16th. Two Red Shafted Flickers have been several times frightened out of a hole in the east wall of Room 41.

470 ANIMALS

Three head of Antelope were observed between the Citadel and Highway 89 on the 17th by Winnie Caywood and the HA-CWP.

A few scattered Antelope Ground Squirrels have been seen.

The trapper at Arrowhead Tank reports having shipped a total of over a hundred skins; four of the pelts were badger and the balance coyote and bobcat.

900 MISCELLANEOUS

MUSEUM OF NORTHERN ARIZONA ANNUAL MEETING

At this meeting on February 4 there was passed an amendment to the constitution of the Northern Arizona Society for Science and Art providing that one member of the Board of Trustees be selected from the U. S. Indian Service or National Park Service.

Following the business meeting Dr. Colton gave an illustrated talk on Hawaiian Volcanic Eruptions, including the recent eruption of Mauna Loa, part of which activity Dr. and Mrs. Colton witnessed. The lecture was of especial interest to us because of the similarity of the Hawaiian and Flagstaff volcanic areas; in some of the slides the general aspect of the country might have been mistaken for scenes northeast of Flagstaff. Interesting, too, were pictures of the rough "cindery" type of lava known as "aa" and smooth billowy surfaced type of lava known as "pahoehoe;" the "aa" type is common in the San Francisco Mountain region, but Dr. Colton said that the only example of "pahoehoe" he has seen is at Sunset Crater.

Most surprising view, to me, was one showing people walking on the crust of the lava, under which was flowing molten lava.

NAVAJO ARTS AND CRAFTS EXHIBIT

Because the majority of our local Indians were gathered at the
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WUPATKI (CONT.)

hogan of Nescai Yazzie for a sing on the night of February 7, Sallie and I attended, thinking it a good opportunity to announce the exhibit.

February 7 was the night of the last full moon so the date was set for the fourth following full moon, June 5, (the exhibit to be on Saturday and Sunday the sixth and seventh).

After explaining the idea to Clyde we waited a long while as he translated and informed the gathering. Several times he repeated "non e shosha yazzie" and after they had discussed it at length I asked Clyde the meaning of the Navajo term -- to learn they were calling our exhibit "Little Gallup Ceremonial."

The show was met with great enthusiasm and some of the oldsters suggested a revival of early day crafts. Peshlacai Etsedie has promised to make a "Navajo saddle" and to encourage the women to employ vegetal dyes in their exhibit weaving.

After seeing the response given, I mentally shifted the exhibit from the amphitheatre to the open space opposite the cook shack.

Clyde, Emmett, and Hal want to build an exhibit hogan and brush shelter.

Encouraging cooperation has been received from Dr. and Mrs. Colton.

Sallie has been unanimously elected Field Representative and will contact the hogans.

CAYWOOD'S VISIT

On February 17 Louis and Winnie Caywood brought Don Erskine, Walnut Canyon's new temporary Custodian, to Wupatki. The visit was primarily for a discussion of place names, of which 50 odd were added to the list; secondarily, to acquaint Don with Wupatki and the Brewers with the Don.

WINDOMETER

This instrument, described in the January report, has been sent to the T.W.A. airport at Winslow for correlation with their accurate instruments.

SUNSET CRATER

By J. W. Brewer, In Charge

74 guests are registered at Sunset Crater between January 26 and February 12; none is registered after February 12. Unsettled weather and snow fall probably account for the sudden and complete drop in

SUNSET CRATER (CONT.)

traffic. (1934 and 1935 not recorded)

States were represented as follows: Arizona 13; California 12; Illinois and Oklahoma 2; Iowa, Alabama, Connecticut, West Virginia, Texas, Kansas, Michigan, and Indiana 1; Washington D. C. 1; Nome, Alaska 1; Toronto, Canada 1.

Another large yellow pine has blown across the Sunset Crater road, this time between the Crater and Highway 89. The road within the Monument boundaries remains clear.

PIPE SPRING

By Leonard Heaton, Acting Custodian

Again I have to stop and make an account of my doings and the happenings here at Pipe Spring. It seems like this monthly report gets around so often there has not been anything worth reporting until I get out my daily record and see just what I have recorded and I find that four weeks have gone by bringing many things to report.

The weather seems to be first as we have been having so much rain, wind, and cloudy weather that we are beginning to wonder when we will have some dry ground again. Starting February 2 with a light snow and rain, we have had storms every few days, getting harder each time, until yesterday there was a good spring rain making the water run down the roads and washes.

The storm has stopped the CCC boys from work five days this month and slowed up their work because of mud. But, due to the CCC boys, the road to Fredonia is practically all graveled, with the exception of the Cottonwood Wash and three or four small spots.

The road is in very good condition for so many storms. Four inches of rainfall reported at Kanab, Utah, a lot for this country. When the work, as planned by the camp is complete, we will have a good road to Highway 89. Coconino County road officials are planning to make a good road from Fredonia to the Indian Reservation, a road about one mile in length. So, if good roads have anything to do with travel, we ought to have an increase in visitors this summer.

The travel this month has been low due to the storms. Visitors were from Utah, Arizona, and Ohio, 11; local travel, 126; total for the month, 137.

I gave two lectures to the CCC boys this month: attendance 15 and 17. The boys are getting a better idea of what the national parks are trying to do for them, as there is hardly a day goes by but what someone has some question regarding the Service.

PIPE SPRING (CONT.)

The E. C. W. work has shown a marked improvement in the monument this month as the following projects are nearing completion:

E.C.W. 718 Walks. West walk complete. Walk in front of east cabin, complete. Excavation for the walk to fort, complete, but the laying of the rock I had stopped on account of the finding of what has proven to be an old dugout -- report later in this report.

E.C.W. 131 Boundary Fence. New posts cut, peeled and on the ground.

E.C.W. 710 Parking Area. The dirt moved from the diversion ditch above the road was used on this project which is now 75% filled and graded.

E.C.W. Superintendent Draper has planned to complete these four projects before this bunch of boys leave here about the 23rd of March, and I think they can if the weather does not hold them up any more.

As I reported in a letter to Al Kuehl, February 16 the boys found some stubs of juniper posts while they were excavating for the walk from the east cabin to the fort. These posts, I am satisfied, were the back of the dugout made by Whitmore and McTyre, 1863.

The dugout being in line of the walk, I had the boys stop work on it till something was decided about whether we would replace the dugout now or not.

Some time last fall I wrote you that I was trying to get a place at Moccasin to which I could move my family. I have finally got that place fixed up and we hope to be able to move into it next Wednesday.

I am going to fix the west upstairs room of the lowest house as an office and living quarters, so that the rest of the Fort will be open to the visitors, which they will enjoy.

In speaking of moving makes me think of the time I moved here ten years ago this month. Incidentally, we had a lot of storm in 1926. I came here with a horse, two dogs, table, no chairs, a few dishes, and bedding, - and what changes have taken place since then!

Once a place of activity for cattlemen and the watering of hundreds of cattle, now none are allowed to come here to water.

Once a stopping place on the main highway between Zion and Grand Canyon National Parks with a yearly travel of 26,000; now only a few hundred.

Once means of irrigation of 15 or 20 acres, now only the meadow and shade trees to beautify the monument.

PIPE SPRING (CONT.)

Once buildings in a ruined state, now practically restored to the condition when built.

Once rooms barren of all furniture of pioneer life, now a few pieces of prehistoric Indian and pioneer relics are placed to break the barrenness of them.

Once a poor place for campers, now the beginning of an ideal camp ground.

Once a poor road which took hours to get over; now it takes only minutes.

Once the wind blew and the stoves and fireplaces smoked with every breeze, and IT IS THE SAME TODAY AND IT WILL ALWAYS BE SO IN THE FORT.

All in all, I have enjoyed my life here at the monument very much and hope that I will be able to continue my services for some time to come.

I am mailing you the last two copies of the Pipe Post published by the CCC Camp here; they have put out some very fine publications.

WALNUT CANYON

By Louis R. Caywood Jr. Naturalist

Following is the report for Walnut Canyon National Monument from January 25 to February 19, 1936:

Weather conditions were very bad during all of February causing muddy roads and consequently resulting in comparatively little visitor travel. From January 25 through February 1, the weather was good and over 100 visitors came to view the Canyon. Visitors numbered 167 during my stay. Of this total 132 personal contacts were made either at the Lookout Point or the Ranger Cabin.

February 2 a snow storm raged all day with the result that roads were almost impassable. The snow remained on the ground only a short time, but the roads continued to be muddy for quite a time. A number of fallen pine trees, blown down by the terrific wind, were observed both on and off the monument; none, however, fell across the roads. A tree, which had blown across a main road near Flagstaff, caused quite a serious accident to residents of Flagstaff. Starting Tuesday night, February 11, to the present a snowfall of from one to four inches fell every night. This ceased to be a joke after the third night as the walks had to be cleaned off each morning.

During the period of my stay bird banding was successful. 24 new

WALNUT CANYON (CONT.)

bands were used in banding the following:

1	Piggy Nuthatch
2	Shufeldt Juncos
21	Redback Juncos

On Friday morning, February 14, Donald Erskine arrived to relieve me at this monument and that evening Dale King of the headquarters staff paid us a visit en route to Bandelier National Monument. We were very glad to see these boys, and are sure Donald Erskine will thoroughly enjoy his stay here as we have.

On Monday, February 17, I took Don to Wupatki National Monument to meet the Brewers and visit the monument. He was very much impressed and said he was anxious that his wife see the Pueblo there.

We have not seen any deer in the vicinity this month and are wondering if they have a special stomping ground during snow storms. Several Abert squirrels have been noted on the monument, and on February 18 a Goshawk was seen flying through the pine trees.

Now on February 19 I am turning the monument over to Donald Erskine who I am sure will take splendid care of the place. He will give the total visitor travel at the end of the month and add his remarks.

By Donald Erskine, Ranger

As Louis stated in his part of the report, travel has been very poor due to the terrible condition of the roads. Since he left last Wednesday I have had only 20 visitors, and have contacted 17 of them, making the total for the month up to and including the 25th, 187 visitors with 149 contacts.

Most of the time since I've been here there has been very stormy weather with snow every day except three days, and the roads have been getting steadily worse. The only time they are passable without chains is in the early morning when they are frozen. Sunday I had to pull a new Buick from Wisconsin out of the mud, and today I furnished hot water, soap, etc., to a man from Washington who had been forced to put on his chains while stuck in the mud. Incidentally he also had to change his shirt. It has been over a week since an Arizona car has been on the monument. I guess the home folks know better than to try the mud.

I have continued bird banding where Louis left off, and most of the Juncos should be banded by now. Adding my efforts to Louis's gives the following:

1	Piggy Nuthatch
---	-------	----------------

WALNUT CANYON (CONT.)

5 Shufelt Juncos
25 Redback Juncos

Over the past week-end I had a most welcome visit from my wife. She stayed with me from Friday until Monday, and I now feel very much alone in the world since she left. After pulling the Buick out of the mud Sunday it took the combined efforts of my wife and myself to convince the (in my wife's words) lovely old lady, that we could not accept the \$5.00 she was trying to force on us. (Yes, it was really \$5.00.)

Last Saturday the H.R.W.P. and myself saw about ten deer just off the monument on the east road. Several had beautiful sets of antlers. Shouldn't they be shedding them pretty soon? I wouldn't mind finding a nice set. Also this afternoon I came within 100 yards of two hen turkeys in the picnic grounds in front of the Ranger Station.

After being here less than two weeks I still feel free to think that Walnut Canyon is very much all right.

CASA GRANDE

By W. J. Winter, Custodian

This report is rather hastily dashed off in small bits, as we are meeting visitors in great numbers and, with Charlie detailed off to Tonto, Al and I are kept on the jump.

Travel this month was 2,540. This included two groups of CCC boys, 21 on February 9 from SP-6, near Tucson, and 50 on February 23 from the camp at Windelman. A few newsworthy visitors were noticed. February 2 we met George Parkery Winship of Dover, Massachusetts. Mr. Winship is the author of "The Coronado Expedition, 1540-1542," in the 14th Annual Report of the Bureau of American Ethnology. Since this work deals with our part of the country it is particularly interesting to us. February 1616 the ruins were visited by Mr. Arthur M. Hyde, former Secretary of Agriculture. February 18 we were interested to meet Colonel G. D. Pope of Detroit. We had often seen the name of "Dr. Pope, U. S. Army," on the south wall of the north room of the Casa Grande. Colonel Pope informed me that Dr. Pope was his father, and had been in Arizona as an Army surgeon in the 70's, at which time he had left his name on the wall. Colonel Pope also said that the name of his Grandfather, Charles D. Poston (now buried at Poston's Butte) was supposed to be somewhere on the wall. We looked for it for a few minutes but did not find it. You may possibly have seen it. February 23 we greeted former Senator David A. Reed of Pennsylvania.

NPS visitors were few this month. February 18 we were glad to meet Dr. Donald DeLeon of the Branch of Forestry in Berkeley, accompanied by C. R. Willette of Yosemite. Dr. DeLeon was kind enough to inspect

CASA GRANDE (CONT.)

the mesquite infestation reported last month and said that if we sent him a sample he would get us the dope on it. The sample has been sent.

Weather this month hasn't been bad, though a bit wet at times. Minimum temperature was 25 on the 7th, Maximum 79 on the 22nd, which being a holiday encouraged quite a number of visitors to come. Precipitation was 1.63.

I am glad to report that we finally got our sewer pump working, thanks mostly to the services of Al Hicknell, who got our old motor into running order and set up the pump. Now the usual couple of hours daily pumping is done by the motor in about twenty minutes. Of course, this is only a make-shift, as the water is pumped out into an open ditch, which is bad enough now but will be worse when the weather gets hot. So, we are still praying for the funds for a new sewer system.

Speaking of funds, I regret very much to report that about five cubic feet of the top of the east wall of Compound A fell off the other day. When will we get the appropriations to properly preserve these ruins?

Signs of spring have appeared in quantities in the last few weeks. Ground squirrels and lizards are running around. The owls who own the Casa Grande have a nest on top of the east wall of the center room. Phoebe are also noticed nesting in the ruins. Ocotillo leaves are coming out. The Custodian and Ranger show signs of Spring fever -- or do they show that all the year around?

Ranger Charlie Steen was borrowed by the Naturalist Division a couple of weeks ago and accompanied Park Naturalist Rose to Winkelman where he gave a talk to the CCC camp. He returned alive and unharmed so I gather that the talk must have been a success. In fact a number of the boys came down to see the ruins the following Sunday, so apparently Bob and Charlie are good salesmen.

One of the better wisocracks this month seems to have come from the H.C.W.P. We made a trip to Phoenix February 14, which as you know is the State holiday called Admission Day, being the date upon which Arizona was admitted to the Union. The banks are closed on that day and this was noticed by the H.C.W.P., who queried "Why do they put up a sign saying 'Admission Day' when they won't let you in?" Not an unreasonable question, when you stop to think about it!

TONTO

By Woodrow Spires, In Charge

February will probably go down in history as the most phenomenal month ever witnessed here. Just think, eight days of rain and to cap the climax, the engineers arrived to lay out the proposed new road.

TOMTO (CONT.)

During the last month we have encountered weather which has been unheard of in this country since 1919. Precipitation for the last month totaled five inches. It was recorded on eight of the 14 cloudy days and four part cloudy days. The temperature has been very mild, without a freeze. 62 degrees was the maximum and 33 degrees the minimum.

The cattlemen of this region are looking forward to one of the best years in the history of Arizona's cattle industry. One cowboy told me he would get a 95% calf crop with sufficient feed to carry through the summer.

The visitor count for the month shows a decrease of 33 persons or 4% which can easily be accounted for by the weather report. The following figures are derived from SWM Stencil No. 16:

Total visitors at the monument.....	724
Total guiding time.....	7020 minutes
Total visitors taking field or ruin trips.....	82
Total time spent in field and ruin trips.....	5420 minutes
Average time of field or ruin trips.....	66 "
Average group for field or ruin trip.....	6.32 Persons
Total visitors for museum trips.....	452
Total number of museum trips.....	81
Total time for museum trips	1600 Minutes
Average time of museum trips.....	19.76 "
Average size of museum groups.....	5.58 Persons

Special trips to the upper ruins were so few that I counted them as regular field and ruin trips.

Checking last year's travel count for the same period (January 25 to February 25) I find 599 persons visited the monument against 724 for the same period this year. This is an increase of 125 persons or 20%.

This month's special visitors report looks as though I was copying the Southwestern Monuments personnel. Leading off with Dale S. King, Don Erskine and Charlie Steen on February 10, with King and Erskine repeating on February 13, King spending the night. February 18 Watson Smith of Cincinnati, Ohio, who spent last summer with Ansel F. Hall's Rainbow Expedition and who at present is studying "Ho-Ho-Kam" at Gila Pueblo. February 19 the engineering crew, consisting of Mr. Andrew Clark and the new Mrs. Clark, Venia, and Mr. and Mrs. Carl Schmidt (Boss you sure have to give these engineers credit for being able to corral good cooks) arrived for about two weeks of road location work. February 20 Mr. Jack Diehl, Associate Engineer for the Southwestern Monuments, and Harry Langley, Landscape Architect, arrived. (This is what Amos and Andy would call check and double check.) Mr. Diehl to check on Andy and Carl and Mr. Langley to check on Mr. Diehl. February 22 Frank Lloyd Wright, world famous architect, and a group

TORONTO (CONT.)

of 21 protege camped on the north slope of the monument and spent a couple of hours viewing the style of architecture of the upper ruins. February 23 Mr. Diehl and Charlie Steen returned, Mr. Diehl for a stay of a couple of days and Charlie for a week. During Charlie's stay he will attempt a little ruins stabilization and catalog the Museum collection.

February 13. The first systematic inspection under the new rules was carried on by Dale S. King.

February 22. While hauling wood I accosted a party of pot hunters on the lake shore. These men were obviously semi-professional, as they know the difference between our local types of pottery. After telling them I represented the Federal Government, they began to tell me how they were out of work and had wives and families they had to support. So, upon a very conscientious promise that they would never again be guilty of the same offence, I let them go. The water users and Forest Service have thrashed out the matter of controlling the lake bed and the Forest Service won out so now we can curb all pot hunting in this vicinity.

The rains in the last month have certainly played havoc with the trail and road.

Boss, I guess I'd better close this before my secretary (Beth) gets Writers' cramp, and you have to try deciphering some of my hieroglyphics.

BANDELIER

By Earl Jackson, Custodian

Visitors:

Visitors numbered 252, arriving in 79 cars, from 25 states, Washington, D. C., Dutch East Indies, and Montreal, Canada. Only 11 states and Washington, D. C., represented by cars.

The six highest states by visitors were: New Mexico, 189; Iowa, 12; California, 11; Texas, 8; Maryland, 7; Colorado, 6.

Visitor attendance shows a decrease of 42 under February of 1935. In view of very bad weather conditions, I am surprised attendance was not much lower.

Weather and Roads:

Days partly cloudy: 7.	Minimum temp..... 8. Jan. 29.
Days cloudy.....16.	Mean Maximum..... 41.4
Days clear 8.	Mean Minimum..... 22.6
Maximum temp.....54.	February 23. Precipitation..... .35

BANDELIER (CONT.)

Snowfall..... 4.95 inches. Jan. 29, Feb. 13,16,18,19.
Rainfall..... February 11, 14.
Icestorm..... February 3.

Weather has been severe. While we have escaped the dust storms of a year ago, we have had much more consistently stormy weather, about a quarter inch more precipitation, and only eight clear days. Instead of having two or three good storms, there have been several small ones scattered through the period, and the high percentage of cloudy days has prevented the soil drying on the surface.

Roads have been in the worst condition I have seen them yet. For several periods of a few hours at a stretch they were impassable without chains, and sometimes even then with difficulty. They have been so wet that a road grader could do very little good.

Visitor Trip Chart:

Twenty five parties of visitors were taken through the ruins, numbering 125 people. Average time per trip was 59.28 minutes. Eight parties, numbering 31 people, were talked to without ruins trips, averaging 16.67 minutes per party. All visitors to the monument were contacted and registered. A great many of those who did not take guided trips did not go through the ruins, but took in the view from a distance and left.

Special Visitors:

January 25 - A Mrs. Harley, of Baltimore, Maryland, made her second return visit to the monument, accompanied by Mrs. J. W. Myler and sons, of Denver, Colorado, Mrs. Harley is one of our best boosters.

January 26 - George J. Hoffman and Worth D. Ross, of the U. S. Bureau of Public Roads, were interested visitors.

February 1 - Superintendent A. L. Brown, of the Colorado School for the Deaf and Blind, was in with a party of 14, 12 of whom were deaf. The party included members of the basketball team of the school, who had come to Santa Fe to play the team of New Mexico's Deaf and Dumb School. Mr. Brown relayed practically my entire lecture to them by talking with his fingers. I advise any man who read this to carefully refrain from mentioning to their wives possibilities for rapid finger speech to supplement tongue action.

February 12 - Clint Anderson, W.P.A. Field Representative for 11 Western states, brought in a party of distinguished Rotarians. Mr. E. J. Johnson, president, International Rotarians, and wife, were in the party. Accompanying them were Mr. W. J. Jonks, vice-president of the Norfolk Western Railway, of Roanoke, Va., and wife. Charles H.

BANDELIER (CONT.)

Larabke, Mayor of Albuquerque, was with the party.

Charles A. Richey arrived for landscape and building inspection, to depart on February 14.

February 13 - Jack Diehl was in and out after a brief inspection.

Norman Smith, junior geologist, E.C.W., arrived, and has been had at in getting material for a geologic report on Bandelier National Monument.

February 17 - Dale King, Junior Park Naturalist from Headquarters, arrived for a four day stay.

Nature Notes:

The beaver which was reported to be coming up the canyon appears to have decided to settle down for a while. For some time now no more progress has been noted upstream. A. B. Groce, Landscape Foreman here, says there must be two beavers. He has seen one, in its hole under a rock ledge.

Patrol up Frijoles Canyon to the Upper Crossing, six miles from headquarters, reveals over a foot of snow on the shady side of the canyon. Turkey tracks were not in evidence at the Crossing, but a great many were seen from about a mile below that point to as far as the custodian's residence, in places where the snow was melting and showing only in spots.

Betty's bird banding report will be found in the Supplement.

General:

Visitors to Bandelier must be really interested. One day it snowed continuously all afternoon. A party from Albuquerque came in, spent two hours having a picnic lunch in the open snow storm, then took the guided trip through the ruins and extended their hike until nearly dark. It takes real interest to do that in snowy and freezing weather.

We are going to have a real museum yet. The walls of the building are half finished, and going ahead in good shape. Dale King's visit was much appreciated. While he was here we worked and re-worked museum charts and maps until they haunted me in my dreams. We have had excellent cooperation in preparation of charts from the staff of the Laboratory of Anthropology in Santa Fe. Dr. Mera, staff archeologist, has been especially generous in time and labor devoted to our pottery and culture charts. Dr. Chapman, acting director of the Laboratory, gave valuable suggestions on the color scheme for the museum. Sid Stallings, tree ring specialist, has promised us material for an exhibit layout in dendrochronology. The State Museum has promised us considerable artifact

BANDELIER (CONT.)

material when we get ready to display it. This material was uncovered by the School of American Research, under the direction of Dr. E. L. Hewett, director. He has promised us all possible aid in museum development, and Paul Reiter, curator of the State Museum, has pledged assistance.

If all the museum plans work out as we fondly imagine they will, I will feel a bit sorry for the rest of you fellows, for your museum will have to take a second instead of a first place.

BANDELIER FORESTRY

By James Fulton

Current Project:

This month I have had the job of hewing lintels and dressing vigas for the museum and residence which are now in process of construction. The lintels were made by first scoring the log with an axe and removing the bulk wood. Then an adze is used for putting the finishing touches on the lintel.

Suggested Projects:

For some time I have felt the need for two lookout tree ladders on this monument. One should be on Corral Hill and the other should be near the Upper Crossing. These locations are indicated on an accompanying map. Such ladders would constitute fast, safe methods for fire crews to locate fires.

Since I have been here, I have used Corral Hill several times as a lookout hill for locating reported fires. This hill affords a good view of most of the South Mesa and of some of the country south of Alamo Canyon. Also, it is in a central location making it handy to routes of travel. In addition to being a good secondary lookout hill, I have found it to be satisfactory for making topographical reconnaissance of beetle infestations.

The Upper Crossing lookout tree is close to the trail and would serve the purpose of locating fires in the country along the west boundary between Frijoles Canyon and Alamo Canyon. It is best to approach a fire in this part of the country by driving to the Upper Crossing and then taking the trail across Frijoles Canyon. (This agrees with the idea carried out in the Bandelier Fire Atlas Hour Control Map.) If a crew were to meet with this situation, a lookout tree would be a big help at the point indicated.

In my opinion, no other ladders are needed. On other parts of the Monument, the trails hit high points which afford suitable views of the country.

BANDELIER FORESTRY (CONT.)

According to specifications used by Grand Canyon National Park, these ladders are constructed of angle iron in suitable lengths, with a rise of 13", and in width 13". They are fastened to the tree with lag screws allowing 6" between the tree and ladder for foot tread. The ladder is then wired for lightning protection. Dark green paint on the ladder and no unnecessary limbing of the tree causes the completed job to present a natural appearance.

In all, these two ladders would require no more than forty dollars for material and they could be fabricated in the blacksmith shop.

BANDELIER E.C.W.

By H. B. Chase, Project Superintendent

The 10,000 gallon concrete water storage tank was formed and poured this month, the laying of the intake and return supply line is now in progress. About the 10th of March the concrete will have its final set at which time inside forms will be removed and the tank put into operation.

Additional underground power line cable from Headquarters building to the camp ground comfort station has been installed.

Tree and scrub planting has been in progress all month together with some road obliteration work along the road leading to the former utility area.

The museum building is now constructed to lintel height and portal connection has been placed between the headquarters office building and museum. A timber crew has worked all month on shaping vigas, lintels and beams for this building.

Quarters No. 1 has gotten well under way this month with all wall construction an average of two feet above floor grade.

The carving crew has continued to work all month on signs. The signs ordered for Wupatki are now complete and this date being crated for shipment. We hope they will prove satisfactory.

And still our quarry crew is a continuous operation, this project probably being the nucleus of a large percent of our work.

Some maintenance on the entrance road and canyon floor road has been done during the month with considerable more coming as the frost and snow leaves the ground.

Our progress this month has been very good considering two principle conditions, weather and company strength. A number of days work have been lost due to bad weather but mainly progress is hampered by shortage of men. At present our company strength is 142 which means
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approximately 115 men to the work projects and when these are divided it means each foreman is asking for another crew.

CAPULIN MOUNTAIN

By Homer J. Farr, Custodian

Reporting happenings from Capulin Mountain National Monument for February, 1936:

Only about 500 visitors to the old Volcano this month, however, mostly out of state visitors. The road is getting in such poor conditions that many visitors have refused to drive up and have walked the two miles to the top via the road.

Weather conditions have been ideal for the stockman, and the traveler. Several light snows and some moisture all during the winter, but roads have been open and good all over the country near here all winter. In general, have had a mild winter. The thermometer. The thermometer reached 11 below in the forepart of the month, and this week it reached a high of 45 and a low of 15 regularly, daily.

NATURAL BRIDGES

By Zeke Johnson, Custodian

I am glad to report that all is well with me as another month comes to a close. February has been a very wet month in this country. I have stayed at home more than usual and haven't contacted as many people as I would like to have done. It looks like spring is just around the corner and I am sure itching to get back on the job.

It looks like I will have a busy season this year for I am getting many letters asking about Natural Bridges and the scenic San Juan. And won't I be glad to get back! I don't like the city life. I am just like the long-horned cow longing for dry summer range.

I was horrified to learn of the tragic death of Roger W. Toll and his companion. Superintendent Toll was the last one to write in my book at the monument last fall, and we had a short trip planned together for this season. I surely mourn his loss. It's just too bad. I have sent a card of sympathy to his wife at Denver.

NAVAJO

By John Wetherill, Custodian

I am sending you a list of guests who were unable to visit the monument on account of the bad roads. The road is not bad on account of the weather, as there is no mud or snow to bother. They are washed out from last summer rains. We have never had a road that anyone would want to put a good car over, and a bad car cannot get through when the roads are at their best.

Some 15 years ago a missionary wanted to get members for his congregation. He started in by giving them meat, bread, beans and coffee. It was only a short time until he had his church filled. He found it was costing him more than he could afford and he cut off the meat; a few members dropped out. The expense was still more than he could stand and he cut out the bread. He still couldn't stand the gaff, and he cut out the beans. There was only one old cripple left. The Missionary asked the old man what was the matter. The old man told him, "No beans, no Jesus." I think that is the matter with my report "No beans, no report." (Or a darn poor excuse of a report.)

HEADQUARTERS STUFF

DIVISION OF EDUCATION

By Robert H. Rose, Park Naturalist

The staff of the Division of Education during the month has consisted of junior park naturalists King and Caywood, and the writer. Caywood's relief service in the field which began in the latter part of December, 1935, continued through January and until February 20, when he was relieved at Walnut Canyon National Monument by Ranger Don Erskine. Caywood has been on museum planning work in the office since his return. Mr. King made one field trip during the month between the 13th and 22nd inclusive. Further reference will be made to the activities of Messrs. King and Caywood. Except for a short field trip of two days the writer has been in the office for the entire month.

Educational Contacts Records:

In the January Monthly Report it was announced that a revision of the January Statistical Summary on Educational Contacts would be necessary. This condition arose out of the fact that a great deal of study of all of the Form 16 reports was required in order to classify the various contacts at all of the monuments. Accordingly, there will be found at the close of this report a revised "Statistical Summary for January 1936." The total of contacts has not been changed; only sub-totals under the different headings show revision. It is believed that further revisions will be unnecessary and that the system is now workable.

Late in December, 1935, the field men were asked to submit figures on educational contacts for October, November, and December according to the best estimates and records available. These data have been organized and I am pleased to include at the close of this report the contacts records for the last quarter of 1935. This makes a total of five months of these records included in this February 1936 report bringing the tabulations up to date for the travel year.

BRANCH OF EDUCATION (CONT.)

I wish to emphasize Superintendent Pinkley's observation of last month to the effect that these figures are yielding interesting results. He remarked concerning the visitor records for Walnut Canyon. It was quite a surprise, now that we have had Park Service representative there in mid-winter, to find a pretty constant flow of visitors into that monument. The reason this was practically unknown heretofore is because of the fact we have not been able to staff that monument during the winter months.

Another surprise that turns up is the actual record of the man-sized job at Tonto National Monument. We have known that Tonto had fair travel during the winter. However, observation of the records of visitors, group by group, is impressive.

Some of the field men have doubtless been wondering just why we attach importance to the "Minutes Devoted to Group" column on the daily report Form 16. The entry is provided for both field trips and museum lectures. This is done for the purpose of evaluating the whole educational contacts problem at each monument. Remember, in the January report, page 40-5, a distinction was clearly drawn between TRAVEL REPORTS and EDUCATIONAL CONTACTS. I further emphasized that in certain monuments a ranger may be so busy handling checking duty and in doing general informational and protectional service as to be unable to perform educational contacts service. Thus, let us at once recognize that these educational contacts records are solely for the purpose of evaluating the educational program at each monument. Your activities in checking traffic, policing campgrounds and general premises, giving general informational services, supervising construction, and in other work connected with the administration of your monument should be carefully reported under other headings. In some monuments these duties are so heavy as to require practically all of the time of the man in charge while in other monuments the whole time of all personnel is taken in educational contacts. It is squarely up to field men in preparing their monthly reports to itemize their other activities quantitatively and under their proper headings since the educational contacts reports were not designed to cover the whole field of activity. I think rereading Page 40-5 of the January Monthly Report will make these points clear.

Clerical Work and Personnel:

A great deal of general correspondence has been handled during the month by naturalist staff members. Museum planning has occasioned considerable correspondence with the Museum Division, Field Division of Education and the various monuments concerned. Added to this there has been an increased number of requests for general information reaching this office from prospective visitors. An informational leaflet on White Sands National Monument was mimeographed. Only 3,000 copies were made since improvement in content and arrangement will probably be desired as we see how they are received. Assistance in editing and publishing the

BRANCH OF EDUCATION (CONT.)

Monthly Report, keeping books catalogued to date and maintaining the bird banding records are among other routine office work accomplished.

Museum Plans:

1. Museum planning for Bandelier, Montezuma Castle, Tumacacori, Aztec and Casa Grande has received the attention of the staff during the month. Junior Naturalist King has completed detailed specifications for some of the Bandelier Museum case layouts and these have been forwarded to the Chief of the Museum Division for clearance. After this clearance is secured they will be ready for the preparators at the Field Division of Education.
2. Within the past five years general reports covering the proposed museum at Montezuma Castle have been prepared by the writer, Custodian Earl Jackson, and others. No detailed case layouts had as yet been designed. Accordingly, Jr. Naturalist Caywood has been working on the exhibits layouts. A part of the total appropriation estimated for exhibits and museum equipment is now available at Field Division of Education and upon completion of this plan work can begin.
3. An earlier report on the Tumacacori Museum prepared by Dr C.F. Russell has been re-studied. A number of the exhibits proposed by Dr. Russell were listed as early projects under the program for Tumacacori now set up at Field Division of Education. The writer has given personal attention to the Tumacacori exhibits program.
4. The museum project for Casa Grande has been discussed with Custodian Winter and some general conclusions have been arrived at. Only museum equipment is provided for in the Casa Grande setup. The project for Aztec Ruins National Monument Museum will consist in completing the whole project for Aztec prepared by Louis Schellbach of the Berkeley office.

Field Trips:

Jr. Naturalist Louis Caywood returned to Headquarters on the evening of February 20 after relief detail through February, to that date, at Walnut Canyon National Monument. Please consult the monthly report for Walnut Canyon prepared by Mr. Caywood, and his brief report contained in this general report, for a more detailed account of his activities.

Jr. Naturalist Dale King left Headquarters February 13 and returned on February 22. During this field trip he inspected the Bandelier Museum now under construction and gathered material at the Laboratory of Anthropology for the preparation of exhibits.

On February 24 the writer made a short field trip to Doming, New

BRANCH OF EDUCATION (CONT.)

Mexico, returning the evening of the 26th. Word was received about six P.M. of the accident near Deming, resulting in the death of several persons including Superintendent Roger W. Toll and George Wright, chief of the Wildlife Division. Details were lacking and accordingly the writer left on short notice for Deming to render any possible assistance.

Special Lectures:

A total of 520 outside lecture contacts were made from Headquarters during the month. These include the 100 attendance at the lecture given by Ranger Charlie Steen at Winkelman CCC Camp. These are detailed as follows:

1. The report of a lecture before the Eloy CCC Camp by the writer was reported for January although it more properly belongs to this month since the date was January 31. The talk was centered around Arizona's National Monuments. This camp is located about 20 miles east of Casa Grande National Monument. The attendance was 200.
2. On the evening of February 11 the writer gave an illustrated lecture before the boys of Walkerville Canyon CCC Camp located about 10 miles west of the Tumacacori to Nogales Highway. The subject was "Cliff Dwellings and Pueblos of Arizona." Attendance was 200.
3. On the afternoon of February 17 the writer talked to a group of 20 members of the Conservation Club of the Phoenix Union High School. The subject was "Conservation in the National Parks and Monuments." The group seemed to be vitally interested in the type of conservation exemplified in the national parks and monuments. It is complimentary to the school to have a club interesting itself in problems pertaining to conservation.
4. For the evening of February 19 an illustrated lecture was scheduled for the CCC Camp at Winkelman, Arizona, some 80 miles northeast of Casa Grande National Monument. Ranger Charlie R. Steen gave the program with the writer as operator of the slide machine. "Every-day Life Among the Prehistoric Indians" was the subject chosen by Mr. Steen. These boys are quite isolated from larger towns and cities and judging by their reaction and splendid attention, Mr. Steen's talk was a real treat to them. Attendance was 100.

Report of Junior Naturalist King:

Approximately ten days were spent on the January Monthly Report:

From February 6 to 12, my time was occupied with routine naturalist and office matters. Leaving Headquarters February 13, I made inspections at Tonto, Montezuma Castle, Bandelier, and Saguaro National Monuments. Four days were spent at the Laboratory of Anthropology at Santa Fe and at

BRANCH OF EDUCATION (CONT.)

Bandelier National Monument on museum exhibit matters. During the time, plans for three cases were practically finished, and many details worked out for several others. Acknowledgements of the cooperation received from other agencies have been mentioned in the report of Custodian Jackson.

A museum storage case was delivered to White Sands National Monument and then I returned to Headquarters February 23 to be occupied with further Bandelier museum work and routine duties for the remainder of the month.

Report of Junior Naturalist Caywood:

The greater part of the month was spent at Walnut Canyon National Monument which monument was turned over to Ranger Donald Erskine on February 19. At that time I returned to Headquarters, Coolidge, Arizona. For the full report covering my activities at Walnut Canyon during that period see the monthly report.

Since funds are now available for the preparation of several museum exhibits for Montezuma Castle National Monument, I was given the project of picking up a proposed museum exhibits plan with the hope that final plans for museum exhibits will soon be decided on by the Naturalist Division, Southwestern Monuments, and actual work will be started on the exhibits. Four of the remaining five days of the month were spent working on this plan and one day was devoted to helping the personnel of Casa Grande National Monument with visitor duty.

DISCUSSION OF CONTACTS

By Park Naturalist R.H. Rose

Following are educational contacts tabulations for October, November, and December, 1935, and January and February, 1936. Tabulations for the last three months of 1935 are based upon the best estimates and records available. Those for the first two months of the new year are compiled upon actual records kept by field men on Form 16. Now that the records are current for the travel year it will not be difficult to keep them current each month.

October 1935:

Following are some observations from the October tabulations:

Field Trip Contacts-----	1,045	groups----	6,766	attendance
Museum Lectures-----	389		2,805	
Museum Unattended-----	175		1,481	
Lectures Outside-----	1		115	
Miscellaneous-----	313		1,157	

1,923 groups----12,319 Educational contacts.

BRANCH OF EDUCATION (CONT.)

November 1935:

Following are observations from the November tabulations:

Field Trip Contacts-----	1,072 groups-----	6,354 attendance
Museum Lectures-----	295 groups-----	1,859
Museum Unattended-----	171	1,365
Lectures Outside-----	7	485
Miscellaneous-----	156	584
	<u>1,701 groups</u>	<u>10,647 Educational Contacts.</u>

December 1935:

Following are observations from the December tabulations:

Field Trip Contacts-----	926 groups-----	4,769 attendance
Museum Lectures-----	284	1,508
Museum Unattended-----	30	1,793
Lectures Outside-----	1	20
Miscellaneous-----	70	402
	<u>1,311 groups</u>	<u>8,492 Educational contacts.</u>

January 1936:

Following are observations from the January tabulations:

Field Trip Contacts-----	964 groups-----	6,566 attendance
Museum Lectures-----	461	3,008
Museum Unattended-----	126	1,072
Lectures Outside-----	20	2,263
Miscellaneous-----	12	1,156
	<u>1,585 groups</u>	<u>14,047 Educational Contacts.</u>

February 1936:

Following are observations from the February tabulations:

Field Trip Contacts-----	1,141 groups-----	7,200 attendance
Museum Lectures-----	474	3,369
Museum Unattended-----	81	701
Lectures Outside-----	11	1,084
Miscellaneous-----	26	460
	<u>1,803 groups</u>	<u>12,824 Educational Contacts.</u>

STATISTICAL SUMMARY ON EDUCATIONAL CONTACTS FOR NOVEMBER 1955

MONUMENT	EMPLOYEES	GUIDED TRIPS	MUSEUM LECTURES	MUSEUM ATT'D.	LECTURES OUTSIDE	MISC.	TOTAL EDUC. CONTACT	TOTAL TRAVEL
	PERM	TEMP	NO	ATT	TIME	AV ATT	AV ATT TIME	
ADAMS	2/165							(NO REPORT)
AZTEC	2		74	403	2542	5.2	33	313
BARBERS	1		50	308	3000	6.5	60	528
BARRETT	1		3	23	355			23
C. PHILIP	1/165							0
CHAS. SPRING	2		309	2165	19315	7.35	100	4,330
CHAS. SPRING	1		54	178	4880	3.330		275
CHILICAGO	0							0
EL MONTE	0		12	45	206	3.580		49
EL MONTE	0							(NO REPORT)
GRAN CANY.	1		40	200	1400	5	35	200
HOUGHTON	0							(NO REPORT)
MONTEZUMA	2		61	330	2400	5	40	175
N. T. SPRING	0							0
N. T. SPRING	1/165							0
PIRA SPRING	1-Lab		35	343	1060	10	37	349
PIRA SPRING	0							(NO REPORT)
SAQUO	0							(NO REPORT)
SENDER	0							(NO REPORT)
TORONTO	1		50	248	3500	5	70	523
TULAC CORN	2		285	1141	15650	4	55	1,141
WILSON C.	1		16	35	940	5.5	60	105
WILSON SPRING	1/5		67	800	4020	12	30	1,100
WILSON SPRING	1		11	65	440	3.5	40	85
WILSON	0							0
WILSON								485
TOTALS	13.2	4	1072	6354	52362			10,447
								11,309

*12 permanent custodians and rangers, full time; no ranger naturalists; no temporary rangers.

STATISTICAL SUMMARY ON EDUCATIONAL CONTACTS FOR DECEMBER 1935

SOUTHWESTERN NATIONAL MONUMENTS

MONUMENT	EMPLOYEES		GUIDED TRIPS				MUSEUM LECTURES				MUSEUM ATT'D		LECTURES OUTSIDE		TOTAL EDUC. CONTACTS	TOTAL TRAVEL (NO REPORT)
	PERM	TEMP NO	ATT	TIME	AV ATT TIME	AV ATT TIME	ATT	TIME	AV ATT TIME	AV ATT TIME	NO	ATT	NO	ATT		
ARCHES	1/165															
ATZEC	2	55	791	1240	5.532	55	831	1130	6.630						782	331
BADELINER	1	12	65	720	5.500										130	130
DECELY	1	7	23	610	3.500										27	23
CAPULIN	1/165														0	500
C. S. GRUND	2	243	1340	7681	5.532	60	345	1200	5.7	20	30	1793			3,525	2,135
CHICO	1	25	92	2375	3.535										157	530
CHIRICAHUA	0														1	120
EL MORRO	0	5	14	375	3.75										27	NO REPORT
GILA CLIFF	0														(NO REPORT)	
GRAN QUILA	1	30	150	1200	5.40										150	200
HOVENWEEPE	0														(NO REPORT)	
MONTAZUELA	2	75	375	6000	5.40	112	475	2380	4.20						350	508
NATL BRIDGE	0														(NO REPORT)	
NAVJO	0														(NO REPORT)	
PIPE SPR.	1-Lab	21	94	420	3.20										64	214
R. LEBOT	0														(NO REPORT)	
SAGUARO	0														(NO REPORT)	
SUNSET CR.	0														0	55
TORITO	1	56	270	3220	5.70	50	300	1000	5.20						573	302
TUCACACORI	2	328	1311	18690	4.52										1,311	1,311
VALLETT G.M.	1	13	71	780	5.560										145	233
WATER SPS	1/5	50	500	1500	10.50										20180	1,840
YUATKI	1	8	55	240	3.540										55	53
YUCCA HOUSE	0														(NO REPORT)	
YUCCAS													1	20	20	
TOTALS	13.2	4	926	4759	46277		284	15085	580		30	1793	1	20	8,492	8,525

*12 permanent custodians and rangers; no ranger naturalists; No temporary rangers.

STATISTICAL SUMMARY ON EDUCATIONAL CONTACTS FOR JANUARY 1956

MONUMENT	SOUTHWESTERN NAT'L. MONUMENTS														
	EMPLOYEES			GUIDED TRIPS			MUSEUM LECTURES			MUSEUM ATT'D			LECTURES OUTSIDE		TOTAL EDUC. CONTACTS
	PERM	TEMP	NO	ATT.	TIME	AV. ATT.	AV. ATT.	AV. ATT.	AV. ATT.	NO.	ATT.	NO.	NO.	ATT.	
ARCHES	1/165														(NO REPORT)
AZTEC	2		45	172	1422	3.8	32	18	1	3	1	183			535
BANDOLIER	1		17	51	1315	3.0	50						2	4.3	35
DE CHILLY	1		2	5	120	3.5	50					550			355
CAPILEN	1/165		3	53	260	1.7	37								33
CASA GRANDE	2	1	337	2938	12336	6.7	56	19	127	1369					5276
CHACO	1		3	10	370	3.3	25	20							12
CHIRICAHUA															3
EL MUÑO	1/5		1	3		3.0									3
GILA CLIFF	0	0													0
GRAN CULVERA	1		12	88	425	7.3	36	18							130
HOVENWEEP	0														0
MONTICLOCA	2		73	376	2940	5.2	41	22							0
NAT. BRIDGES	0												12	1368	527
NAVAJO	1/165														1,008
PIPE SPRING	1-Lab		16	79	465	5.2	29								(NO REPORT)
RAINBOW	0	0													73
SAN JUAN	0	1											1	200	200
SANJET	0												3	20	20
TOPITO	1		93	536	6256	6.0	67	20							343
TUMACACORI	2		274	1679	9876	8.0	57								1,373
WALNUT	1		24	97	1455	4.2	50								116
WHITE SANDS	1/5		156	735	2700	4.8	16					2	* 400	574	2,009
WUPATKI		1	9	26	350	3.8	33					1	35	2	83
YUCCA HOUSE	0	0													0
ZIA HOUSE												3	250		250
TOTALS	13.5	5	364	6,563	39,975				461	5008	322	128	1072	20	1159
															14,347
															14,044

* Includes 400 at two showings of White Sands moving picture reels.

STATISTICAL SUMMARY ON EDUCATIONAL CONTACTS FOR JANUARY 1936

SOUTHWESTERN NAT'L. MONUMENTS

MONUMENT	EMPLOYEES		GUIDED TRIPS			MUSEUM LECT. RES.				MUSEUM ATT'D		LECTURES OUTSIDE		MISC.		TOTAL EDUC. CONTACTS	TOTAL TRAVEL
	PERM	TEMP	NO	ATT.	TIME	AV. ATT	AV. ATT	TIME	ATT.	NO.	ATT.	NO.	ATT.	NO.	ATT.	(NO REPORT)	
ARCHES	1/165																
AZTEC	2		45	172	1428	3.8	32			1	3	1	163			533	225
BANDOLIER	1		17	51	1015	3.0	60							2	4.0	55	254
DE CHILLY	1		2	5	120	2.5	50					1	350			355	10
CAPULIN	1/165		3	33	269	11.	97									33	350
CASA GRANDE	2	1	337	2939	12336	8.7	36	43943.4	19.	127	1059					5376	3370
CHACO	1		3	10	370	3.5	25	20	20							12	260
CHIRICAHUA																0	350
EL MORRO	1/5		1	3		3.0										3	4
GIJA CLIFF	0	0														0	0
GRAN QUIVIRA	1		12	36	425	7.3	36	35	21							130	287
HOVENWEEP	0															0	0
KOOTENAI	2		73	376	2940	5.2	41	2203	5.1	103	510	12	1068	4	31	927	636
NAT. BRIDGES	0	0														1,068	No REP'T
NAVAJO	1/165															(NO REPORT)	
PIPE SPRING	1-Lab		16	73	465	5.0	29									73	307
RAINBOW	0	0														0	0
SAGUARO		1												1	200	200	800
SUNSET	0													9	26	25	80
TONTON		1	93	530	6235	6.0	67	1713	5	94	407					343	751
TUMACACORI	2		174	1379	9876	8.0	57									1,379	1,607
WALNUT		2	24	97	1455	4.0	61							10	10	115	285
WHITE SANDS	1/5		135	735	2700	4.8	18					2	400	274	2,009	4,402	
TUPATAI		1	9	26	350	3.0	39					1	35	1	2	53	106
YUCCA HOUSE	0	0														0	0
GRAND RIVERS												3	250			250	
TOTALS	13.5	5	964	6,568	19,375			9223		461	3008	20	2,283	12	1156	14,047	14,044

* Includes 400 at two showings of White Sands moving picture reels.

STATISTICAL SUMMARY ON EDUCATIONAL CONT. CTs FOR FEBRUARY 1936

SOUTHWESTERN NATIONAL MUSEUMS

MONTENT	EMPLOYEES		GUIDED TRIPS			MUSEUM LECTURES				Lectures			TOTAL EDUC. CONT. CTs	TOTAL TRAVEL
	PERM.	TEMP.	NO	ATT	TIME	A.V. ATT	A.V. TIME	NO	ATT	NO	ATT	NO		
ARCHES	1/168												(NO REPORT)	
AZULE	2		57	243	1780	4.3	31	51	244	1055	4.9	21	907	287
B. MELLER	1	1	25	135	1482	5.4	60					8	156	252
DE CHALLY	1		1	2	90	2	90						2	5
C. PUTIN	1/168		2	9	150	4.5	75						9	500
CASA GRANDE	2	1	334	3043	14497	7.9	38	256	2332	5330	3	21	5,196	3,043
CHACO CANY	1		3	22	935	2.5	104	2	6	135	3	68	28	379
CHARICAHUE	0												2	320
DE MORRO	0												0	0
GILA CLIFF	0												(NO REPORT)	
GRAN QUIV.	1		48	129	1743	2.7	56	11	35	130	3.3	18	155	129
HOVENHUT	0												(NO REPORT)	
MONTAZUE	2		69	305	2503	4.5	36	73	293	1370	4.1	13.8	607	436
MATL. BRIO	0												3	112
NAVALJO	1/168												142	0
PIPE SPR	1-Lab		7	13	190	2	27					2	35	0
RAINBOW	0												45	137
SAGUARO	1		106	383	3538	3.5	33						(NO REPORT)	
SUNSET CR.	0												383	2,000
TORON	1		32	512	5420	3.3	60	51	452	1020	5.5	20	35	74
TULACORRI	2		254	2432	8215	5.6	32						971	724
WALNUT	1		29	144	1512	5	52						1,432	1,512
WHITE SANDS	1/5		56	781	4445	14	80						9	187
WUPATKI	1		12	37	455	3	38						43	3,794
YUCCA HOUSE	2												9	70
HOQUERS												3	0	30
TOTALS	13.2	6	1141	7200	46955			474	3363	9580			12,824	13,859

*12 Permanent Custodians and Rangers; no ranger naturalists; and 1 temporary ranger.

** 1-radio broadcaster on subject of Aztec; Station KJUP, Durango, Colo; Feb. 15/36

WILDLIFE REPORT

By Regional Technician Adrey Borell

(Extracts from Mr. Borell's report for the period Dec. 19, 1935, to January 14, 1936):

SAGUARO NATIONAL MONUMENT. Dec. 19, 26, 27, and 30.

(1) Weather: mild and sunny most of the time; a little rain and some cloudy weather.

(2) Scientific studies: Work here was the at request of Supt. Pinkley and the Washington Office, and involved the study of possible boundary changes and the report that mountain lions were killing a large percentage of the calf crop. There is agitation to have a large area of grazing land now in the monument returned to its former National Forest status. I have requested maps of the area, and when they have been received, will make a special report on suggested boundary changes as soon as the maps are received.

Two cattlemen said that the cows which range in the foothills come out with the usual number of calves, but those which range higher up on the mountain come out with very few calves. One permittee claimed the mountain lions get between 30 and 50 calves each year from 500 cows. He claims to have found several freshly killed calves about which were lion tracks. The cattlemen of that area have offered a bounty of \$20 or \$35 for each lion killed. The cattlemen agreed that if control is to be carried on it should be done by a Federal lion hunter. They also agreed that private lion hunting parties should not be permitted on the monument even if control is authorized. Most of the time there is no Custodian or Ranger there to enforce any park regulations.

Mr. Gorsuch, Mr. Winn, and Dr. Vorhies said the Rincon Mountains (part of which are in the monument) were formerly well populated with lions. They seemed to think that since deer and peccaries are present but not numerous, and since grazing is permitted, some control of lions is justified.

Mr. Williams of the Biological Survey in Phoenix told me he has three lion hunters in the southern part of Arizona, and expected to send a hunter into the Rincon Mountains in the near future. Said he had no instructions relative to hunting on the portion of the Rincos lying within the monument. Unfortunately, I was unable to discuss the subject with Mr. Frank Colcord, biological survey hunter, who has hunted lions in the Rincon Mountains.

The upper portion of the monument is extremely steep and rough, and I think the lions can pretty well take care of themselves. All reports indicate that lions are relatively numerous in the Rincon and adjacent Catalina Mountains. I suggest that Mr. Williams be asked for a report on all recent lion hunts in the Rincon Mountains, and recommendations regarding control of lions be based on the results of these hunts.

Some interesting information on birds and mammals was obtained. This

WILDLIFE REPORT (CONT.)

will be included in my report on suggested boundary changes as the wildlife is important in that connection.

(3) ECW Supervision: Practically all of the present work consists of obliterating old roads among the giant cactus.

CASA GRANDE NATIONAL MONUMENT. December 21, 22, 23, and part 31.

With Supt. Pinkley, Park Naturalist Rose, and Engineer Diehl went over wildlife work and boundary problems of Saguaro, White Sands, Tumacacori, Wupatki, and other southwestern monuments. Considerable time was given to plans for the development of White Sands extension, and the museum at Bendelier.

Prepared six bird skins during evenings as demonstrations for naturalist force.

Twenty four species of birds were recorded. Three of those were new records for the monument:

1. Lincoln Sparrow, one, Dec. 21, prepared as specimen.
2. Virdin, one Dec. 23, one Dec. 31.
3. Burrowing Owl, one Dec. 22.

TUMACACORI NATIONAL MONUMENT. December 29.

Work here was the result of a report that hawks were over-abundant and were taking toll of song birds, that pocket gophers were destroying the cactus, and ground squirrels were damaging the mission ruins.

Hawks: This monument contains only 10 acres and is located in the edge of a wash which is overgrown with willow, cottonwood, and brush. Hills and valleys border the creek. This makes ideal habitats for small birds and several species of hawks. I saw one marsh hawk, one prairie falcon, one sparrow hawk, and one sharp-shinned hawk. The latter two had been shot recently.

Custodian Boudney said that sparrow hawks and sharp-shinned hawks are the chief offenders and frequently catch birds about the mission. He feels that control is desirable. Undoubtedly, sparrow hawks do take some birds at Tumacacori, but I believe that a careful study would show their food to consist mainly of insects and mice. So that as it may, sparrow hawks are interesting birds and worthy of complete protection.

It is generally recognized that sharp-shinned hawks feed primarily on small birds. Since the area is ideal for sharp-shinned hawks they probably do kill a good many birds on the monument. There are several factors involved in any control campaign and I do not think control of hawks should be authorized in any park or monument unless some species upon which they prey is in danger of extermination. A great many small birds, especially

WILDLIFE REPORT (CONT.)

members of the sparrow family, winter at Tumacacori, and I don't think their numbers will be noticeably affected by the hawks.

It has been the practice to clean up the monument about four times a year. Most of the weeds, grass, and lower dead branches from the mesquite are removed and burned. This cleanup destroys much valuable shelter for small birds, and undoubtedly increased the kill by hawks. Cleanup should be confined to the area immediately around the mission and residences.

Pocket Gophers: A number of cacti and agave plants have been killed by pocket gophers which eat the roots and pulpy bases. Gophers are numerous and widely distributed over the area. I believe that control of gophers about the buildings where they are destroying cacti is justifiable.

Ground Squirrels: Mr. Boundey showed me several places where squirrels have dug burrows into the walls of the ruins. Since the ruins are the principal feature of the monument I think that rodents which burrow into the walls should be controlled.

There are a good many exotic plants growing about the mission and residences. Some of these or their ancestors were planted by the Spanish padres, but others have been planted recently. Study should be made to determine which species were planted by the padres and which have been planted recently. Those planted by the padres should be preserved for their historical significance, but the recently planted ones should be replaced by native species as rapidly as opportunity offers.

Eighteen species of birds were recorded; of special interest were three Inca doves.

ENGINEERING

By Associate Engineer J. H. Diehl

On the 8th of February a trip was made to White Sands National Monument, where engineering matters and points of construction were discussed with John A. Happer, project manager for the Resettlement Administration Project adjacent to the monument. Returned to Carlsbad that same night.

On February 12 I left Carlsbad for Bandelier National Monument where on the 13th the various projects under ECW construction were gone over with Project Superintendent Chase and Landscape Architect Richey. Returned to Carlsbad on February 14.

The afternoon of February 17 I left Carlsbad Caverns for Casa Grande National Monument, arriving the afternoon of the 18th. Superintendent Pinkley was absent on official business in Washington.

ENGINEERING REPORT (CONT.)

On the 19th, with Acting Superintendent Miller, and Landscape Architects Langley and Richey, various monument matters were discussed.

Leaving Casa Grande National Monument the morning of the 20th with Architect Langley we drove to Tonto National Monument, where with A. E. Clark of the survey crew a route was flagged on a maximum grade of 8% for the survey of a proposed entrance road. Langley and myself returned to Casa Grande that same evening.

Leaving Casa Grande with Mr. Langley the morning of the 21st, we met R. D. Sias, ECW inspector for State Parks, and together the three of us went out to Saguaro National Monument and looked over suggested changes on the approved plan for a road project to be constructed by the State Park CCC Camp in that vicinity. Leaving Mr. Sias in Tucson on our return about 1:00 PM, Mr. Langley and myself went on to Chiricahua National Monument that evening where we covered the various ECW projects with Project Superintendent Stevenson on February 22.

On February 23 we left Chiricahua in the morning. Dropping Mr. Langley in Tucson, I stopped at Casa Grande for a couple of hours and then drove on to Tonto National Monument that night.

February 24 and 25 assisting Clark and Schmidt (my survey crew), with the help of Ranger Steen, the preliminary road alignment was staked, 7200 feet in length from the parking area to a connection with the Apache Trail Highway.

The afternoon of the 25th I visited the cliff dwellings at Tonto with Ranger Steen and offered some suggestions as to stabilization, leaving about four o'clock and returned to Casa Grande National Monument.

The 26th and 27th were spent on office work at Coolidge.

On the 28th I drove to Mountainair, New Mexico, and on the 29th went out to Gran Quivira National Monument to attend to engineering duties pertaining to the pump installation, and drove on to Alamogordo, New Mexico, that night.

The remnants of my survey crew, Clark and Schmidt, were at Carlsbad Caverns on topography until February 18, when they left for Tonto National Monument, where they will be busy for the balance of February.

Chief Engineering Aide J. H. Tovrea has been busy the entire month on maps and plans at Headquarters, Southwestern Monuments, Coolidge, Ariz.

CAPULIN GEOLOGY

By Regional Geologist Wegermann

On the evening of July 13, Mr. Evison and I drive from Estes Park to Denver. Here I leave him about 11:00 P.M. to take the train East and

REPORT ON CAPULIN MOUNTAIN (CONT.)

after a few hours' sleep start at daylight for Raton and Santa Fe. I reach the latter place about three o'clock on Sunday afternoon and leave at 7:30 the next morning for Capulin National Monument.

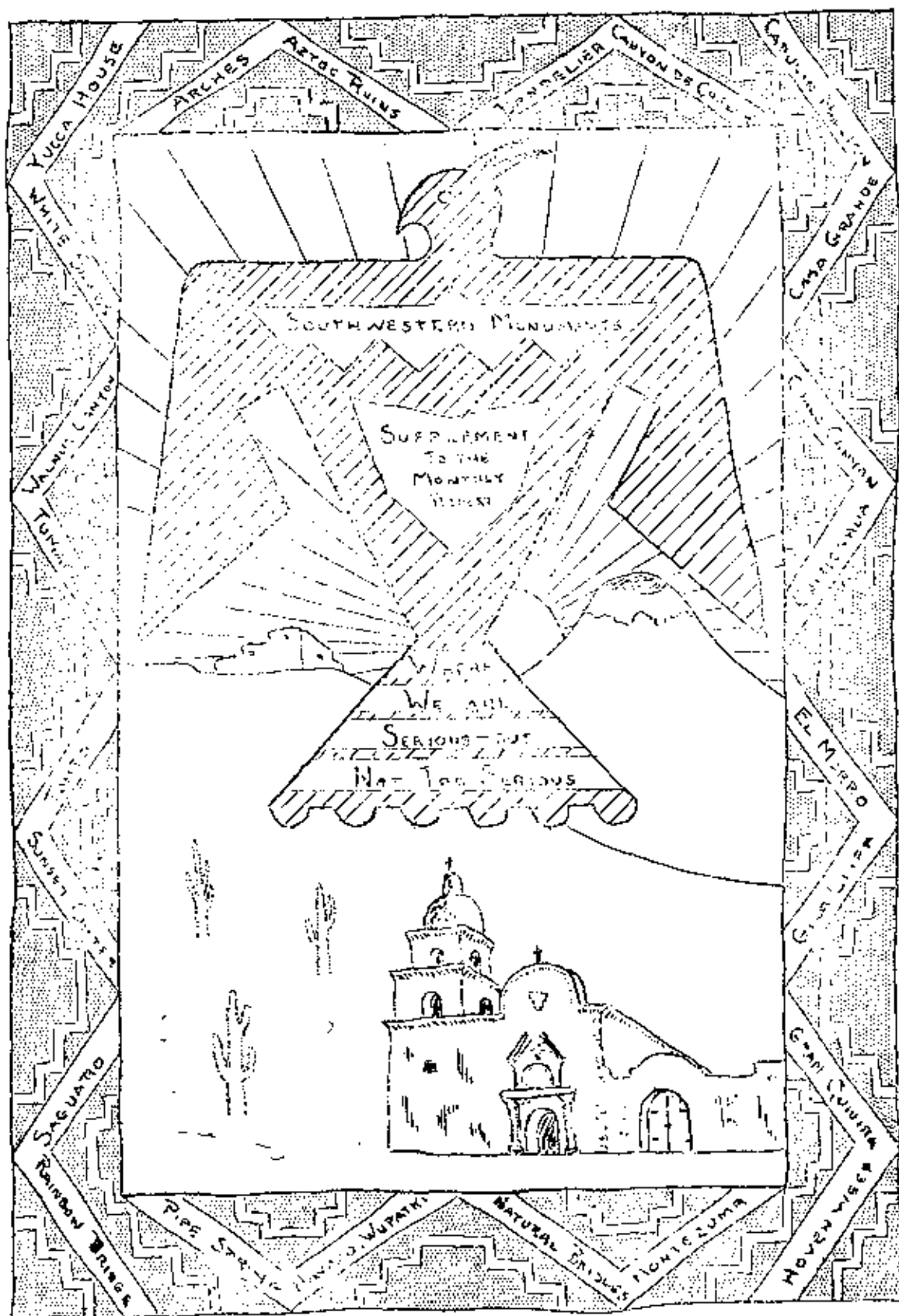
As I drive up the excellent graded road which leads to the top of the extinct volcano, I note peculiar smooth plains in the layers of lapilli which form the side of the mountain. It occurs to me first that these plains may be slip plains between successive layers of lapilli, but Mr. Farr, the custodian, tells me that other geologists have suggested that these plains are former surfaces on which vegetation grew and that they white deposit along them which I took for Alkali, may in reality be wood ashes.

There are three colors of lapilli, black, red and buff, and I note also that there are two colors of lava, black and red, the red being the more recent. These are represented in the flows at the base of the volcano. The crater, with its lowest side toward the west, is very typical.

At the end of the road I leave the car and climb the rim to one of the high points from which I obtain an excellent view. There must be some fifteen volcanic vents in sight from this one crater, and a very interesting study could be made of this entire region. The number of volcanoes should be determined and their locations mapped. The number of the eruptions represented by the lava flows should be determined, and the relation of these flows to the flows capping the mesas near Raton. Low dip is apparent in some of these lava flows and this may be due to the angle of flow at which the lava solidified, although it may be due also to recent movement. On one of the flows in the plain I note crescent shaped flow lines developed where the lava cooled near its edges and flowed forward in the middle.

After visiting the volcano I called upon Homer J. Farr, the custodian in Capulin, and had an interesting talk with him. He cannot be at the volcano all of the time, and there is great need of descriptive signs calling the traveler's attention to the phenomena which are easily observed but which he does not understand. I have seldom seen an area which exhibits so well the phenomena of volcanic eruptions and I feel that it is well worthy of intensive study and that some arrangement should be made for signs on the ground and possibly for the printing of a booklet descriptive of the geology.





NAVAJO STUDY PROJECT

By Betty Budlong

Canyon de Chelly National Monument is situated, as all familiar with the Southwest know, in the heart of the Navajo country. Primarily, the 83,000 acres of land which comprise this area were set aside for the preservation of things prehistoric and of an archeological value, as well as for the scenic grandeur and beauty of the two canyons, del Muerto and de Chelly, and their numerous tributaries.

We have here, however, a most unique situation. From the rim of the canyon the interested visitor, looking across to the opposite side, beholds a pueblo cliff dwelling, silent and inscrutable, fading agelessly into its hiding place on the ledge of a sandstone wall. Looking next to the floor of the canyon, he discovers a Navajo hogan, teeming with life, a trim little peach orchard vivid behind it, a square of dark earth near by which will yield food to a people living and vital.

The story of the folk who inhabited the cliff-dwelling is a fascinating legend to our visitors. The people of the hogan are a tangible reality and, as such, arouse an immediate interest in the person to whom this country and knowledge of its inhabitants, past and present, may be either familiar or quite new.

For this reason, ethnology will play an important part as archeology in the development of the monument if we are to glean from it the richest and finest possibilities that it has.

One of the projects upon which we are working will ultimately cover all phases in the life of the Navajo Indian; his mode of dress, his means of transportation, his food, the various types of homes he builds, his arts and crafts, etc. A great deal of this material will, of course, be assembled in photographic form, thus incorporating the so-important visual side of museum exhibits and education. That which can be had in specimen form will be displayed in a simple and lucid fashion and more detailed material filed away for the use of the student and those who wish to explore the subject more thoroughly.

With the cooperation of the Home Economics Department of the Indian School at Chin Lee, we have been working on the art of native weaving of rugs and blankets. Last fall and early winter, a Navajo girl conducted a class one day a week, and the children, under her supervision, carried the wool through all its stages from "sheep to loom." This included, briefly: washing the wool in suds obtained from yucca (or soapweed) roots; the use of a white clay found on the hills around Chin Lee which, when rubbed into the wool, renders it very white; carding (black and white wool are carded together to produce gray); spinning of the warp, woof and marginal threads (the warp thread is spun many times until it is about the consistency of heavy string; the marginal thread consists of two strands of second spinning, or woof, thread which are spun together

on the short end of the spindle. This thread is used to edge the rug; dyeing with all native dyes and, finally, the weaving of a small rug. I attended many of the classes and Bob came as often as he could with his camera and took photographs. Several times during the fall we made trips to the canyon rim to gather dye plants, but are waiting now for spring to bring the majority of these. I have obtained a most comprehensive paper on Navajo dye plants which will aid us greatly in making a fine collection at that time when, armed with plant presses, we start out to comb nearby areas of the reservation.

Among those that we have obtained, with representative skeins of dyed wool and the formulae used, are: juniper, sagebrush and mistletoe which, when combined, give a mustard yellow color to the wool; Mormon tea, which produces a delicate mauve; mountain mahogany root bark, which gives a reddish brown, and the leaves from the wide-leaf yucca, which give a light tan. In addition to these, we have 30 or more formulae for native dyes, but we will be unable to obtain specimens of the plants and skeins of wool dyed according to these formulae until the coming summer.

The plant or plants are boiled in water for an hour or so before the spun wool is added. The two are then boiled together for a time varying anywhere from one to three hours depending upon the depth of color desired. Often a mordant, such as alum or juniper ashes, is used in this dye water to "set" the dye, but the use of this varies with individual preference and is not always considered necessary. A plant boiled in an iron vessel will sometimes give a very different shade from the same plant boiled in a container of some other metal. Black and brown wool are usually intensified, seldom being left in their natural state. Navajo women jealously guard formulae that they concoct from the rarer plants and it is often very difficult to obtain information readily. However, as time goes on and we become better acquainted with them, we are in a position not only to help keep alive the, at present, have for Canyon de Chelly and the Southwest as a whole, access to invaluable records for future generations.

This project has given us an excellent introduction to the art of weaving and dyeing, but we are prone to consider it more in the nature of a preliminary step. This summer, we plan to have one of the best rug weavers in the community make a rug for us in an old, unbordered pattern, using native dyes throughout. Every step in the preparation of the wool and dyes, the setting up of the loom, and the process of weaving will be photographed in detail. Specimens of dye plants will be photographed, pressed, and labelled with common, Navajo and scientific names. When the rug is finished, we shall buy it and use it as the nucleus of a major exhibit in the future museum. This exhibit, as we now visualize it, will be arranged in panels containing specimens, photographs and other pertinent data, these, in turn, arranged with the completed rug in a natural order of sequence. Thus, when the "rug-minded"

visitor steps into the museum he may obtain, in a short space of time, a comprehensive idea, not only of how the Navajo woman weaves her rug, but through what preliminaries she must go before the actual weaving begins.

So it is that the life of the living Indian will be presented to our visitors along with geology, botany, zoology, archeology, and the many other related sciences, a study of all of which is a part of our work here at Canyon de Chelly National Monument.

BIRD BANDING NOTES

By John E. Fast

(Ed. Note: One of the Southwestern Monuments' finest friends is John E. Fast, Chicago manufacturer, who, with his gracious wife, has been spending the winter season near Casa Grande National Monument for several years. Becoming interested in archeology, he last winter made a rather thorough survey of anthropomorphic and zoomorphic forms on Hohokam pottery. This project is still under way, and Mr. Fast's interest has led him to continue his archeological studies at the University of Chicago.

Through the medium of the Southwestern Monuments' Monthly Report and Supplement, he developed an interest in bird banding. The following notes tell of his experiences during the month of February.

During February, Mr. Fast banded almost as many birds as the Casa Grande station had banded during six months. His scrupulous carefulness makes him an invaluable collaborator, and the members of the Naturalist Staff wish to take this opportunity of expressing their thanks for his fine work.)

At the suggestion of Junior Park Naturalists King and Caywood I am putting down on paper for your files my experiences in bird banding during the month of February. As a good friend of your Service of some years standing, and a regular winter visitor to your pleasant locality, the boys suggested that I take a couple of bird traps that were not in use and see what I could do as a cooperative bird bander at my own quarters, Vah-Ki Inn. For the sake of the record I should explain that this adjoins the Monument property, is separated only by an irrigation ditch, and is covered with the same type of vegetation, mostly mesquite and creosote bush. As far as the birds are concerned it is one continuous piece of land. From headquarters to my temporary home is very nearly half a mile.

The first two days of my bird trapping resulted in 19 Gambel sparrows, perky little fellows, with black and white stripes on the head, in the adults, and brown and buff stripes in the immatures. These

BIRD BANDING NOTES (CONT.)

were promptly taken over to headquarters, banded, held safely overnight and released there the next morning. One of these concluded that there was no danger in traps, so promptly got caught over there at 11:30 A.M., and then returned home for his evening meal, to be caught again, here, at 4:30 P.M. No other of these 19 birds has been caught again, at your traps ("repeated," is the bird banders term), yet 15 have repeated over here. They evidently have a limited area they call home, and return to it promptly when taken away.

This was astonishing to me, and I thought it would be interesting to test still further their homing instinct. I began to collect birds in lots of five in small transfer cages, taking as many full lots of five as I could gather each day before noon. I then released them, five at a time along the road to Phoenix, five the first mile, five the second mile, five the third mile, etc., up to ten miles. Newly banded birds, repeats, adults, immatures were all the same to me except that a bird sent on this mission and again caught was excused from further service. I released them all before noon to give them the best chance possible. The Phoenix road is toward the northwest. The bird book states that Gambel Sparrows migrate northwest and spend the summer in the territory from Montana to Oregon, and north through Western Canada and as far as Alaska, so that the sparrows might be expected to say to themselves, "Well, we thumbed a ride this far anyway," but - no - back they came, and are still coming. The record of birds which flew back to Vah-Ki is as follows:

One mile -----	five	six miles -----	one
two miles -----	one	seven miles -----	one
three miles -----	two	eight miles -----	none
four miles -----	one	nine miles -----	one
five miles -----	none	ten miles -----	one

It may be expected that more are back, but are too smart to enter traps again. Migration takes place in about six or eight weeks, and it will be interesting to note after that time how many additional ones have returned and been caught. All of these returning birds practically have to fly over the traps at Headquarters, yet none have been taken there.

A White-rumped Shrike caused the next excitement. A shrike is also known as a Butcher Bird. It subsists on small birds, grasshoppers and other insects, and occasionally impales them on thorns for its future food supply, much as a butcher hangs meat on hooks (or used to, at least). It is a dresy bird, with black and white contrasts, and a black band extending around its head, similar to the popular idea of a bandit. It is a villain, all right. One was noticed one morning walking around a sparrow trap, doing its best to get at the birds inside. A small, two-compartment trap, without bait, was placed near the sparrow trap in the hope that the shrike would walk into it, since it was so absorbed in its

BIRD BANDING NOTES (CONT.)

nefarious intentions. This was repeated several mornings, as there were a half dozen or so sparrows in the trap each morning. The fourth morning it was caught in this way and is now proudly (?) wearing band No. 36-101404. Mr. King released it at Florence, nine miles east of here the next morning. I wish I could have sent it many more miles away, because two new shrikes showed up the next morning, to take its place, and a week later, Mr. Caywood saw a shrike near here with a shiny new band on its leg. One morning I found a dead Gambel Sparrow in a trap and a shrike sitting in a nearby tree. Later that day the same two-compartment trap contained a small, frightened, exhausted but otherwise unharmed Gambel Sparrow in one side and a shrike in the other. The shrike was banded, securely boxed and given to a party of tourists who agreed to release it at Tucson, 66 miles southeast.

The second fatality occurred several days ago, when another dead Gambel Sparrow was found in a trap, with a pathetic lot of tiny feathers around. Shrikes are one of the two kinds of birds that the Biological Survey at Washington permits bird banders to shoot, and then only when they become a serious menace to trapped birds and when they cannot be caught and transported far away. Drastic action is now contemplated by Messrs. King and Caywood, but for the present we hope to capture the others. The other bird that can be killed is the English Sparrow, which is noisy and dirty, but whose principle fault is that it chases other birds away.

Three Cactus Wrens have been banded. They seem to enjoy human society. There are several around the house all the time. One sits up on the chimney every morning and gives its characteristic call or line of chatter. A pair are transporting nesting material to a mesquite tree quite near the house. They appear to be full of curiosity. One was caught in a two-compartment trap without bait, but near a larger trap containing Gambels. It repeated the next morning in the sparrow trap. I am going to try nesting materials, cotton, string, etc., as a bait for them and other nesting birds.

On February 6 I caught a male Arizona Cardinal. "*Cardinalis cardinalis superbus*" is the technical name, and *superbus* is certainly a fitting term, with his bright scarlet coat tastefully trimmed with a little black. He was an upstanding bird that fought every second of the time he was being banded, but did not appear to be frightened at any time. He was released and showed up again in two days, and walked into the trap again. That time I did not subject him to the indignity of handling him, but simply opened the trap, taking one chance in a million that he was not my bird but one that someone else had banded.

Mr. Caywood and I put in a few active minutes one dark evening trying to catch a Say Phoebe with a net in the large porch of the Inn. We finally succeeded after much ridicule and almost hysterics from our wives. They said we looked so silly prancing around with flash lights

SOUTHWESTERN BIRD BANDING TOTALS

Species	Bandelier Prior Feb.	Casa Grande Feb.	Chaco Prior Feb.	Montezuma Prior Feb.	Navajo Prior Feb.	Pipe Spr. Prior Feb.	Walnut Prior Feb.	Gupatki Prior Feb.	Total
Bluebird, Ch-b.							215		215
Cardinal, Ariz.		1							1
Crowsbill, Bond.							17		17
Chickadee, Mtn.					6		3		9
Greener, R.M.	2								2
Dove, W. Mour.		2							2
Finch, House		76	53						129
Flicker, Red-sh.	1								1
Flicker, Ariz.		2							2
Grainch, Gr-bkd							2		2
Jay, Long-crstd	2								2
Jay, Woodhouse	3				6				9
Junco, Gr-hded	33	16			8				57
Junco, Montana					9				9
Junco, Pnk-sded	5	2							7
Junco, Rd-beked	3	1			2		13	25	49
Junco, Shufeldt	6	1			13		5	5	30
Melkgbird, W.									2
Muthatch, Pyg.	12	9					24	1	46
Muthatch, R.M.	1	1					6		8
Owl, W. Horned			1						1

Species	Bendelir	Casa Grande	Chaco	Montezuma	Navajo	Pipe Spg.	Malnut	Tipatki	Total
Phoebe, Say		17	1						18
Quail, Gambel		21	1	5					27
Roadrunner		3							3
Robin, Western							7		7
Spocker, R-nap.							4		4
Spocker, R.M.							2		2
Shrike, W-rum.			2						2
Siskin, Pine							1		1
Solitaire, Twn.							7		7
Sparrow, Gambel		57	217						274
Sparrow, W-cr.					6				6
Swallow, H-wing		3							3
Thrasher, Bend.		3	1						4
Thrasher, Criss.		7							7
Thrasher, Sage								2	2
Titmouse, Gray									1
Towhee, Gr-tail.			2					1	3
Towhee, Spurred	1								1
Woodpeckr, Gile		6	1						7
Wpckr, RM Hairy	1								1
Wpckr, Mearns		28	6						34
Wren, Cactus									9
SUB-TOTAL	73	32	229	285	0	0	316	31	0
TOTAL	105		513		5	0	347		3 1023

BIRD BANDING NOTES (CONT.)

and small nets like some weird sort of ballet. Anyway, Mr. (or Mrs.) Say Phoebe is wearing band No. 36-21800.

House Finches are tiny little birds. The male is tinged around the head and shoulders with red, a beautiful little bird with a cheerful song. They appear in flocks at my drinking pool every afternoon. The ramada or shelter at the Monument picnic grounds is their favorite roosting place. Messrs. King and Caywood and I repaired to this ramada with nets one night (wives remaining at home, by request). We caught and banded that evening 31 house finches, with a smaller number of repeats.

On the 24th I trapped and banded a Bendire Thrasher. This is a handsome grayish brown bird a little larger than a robin. Its mate sat in the tree above the trap and kept up a constant singing all the while the bird was there, and when I took it to headquarters to be banded, since I did not have a #2 band, the mate stayed in the tree, calling until the bird was brought back. The song resembles that of the Mockingbird, but does not have its range of variation or quality of mimicry. After it was banded I brought it back to where it was caught so as not to disturb too violently its routine. Its mate flew down to it, but presto! out of a nearby tree came another one not noticed before. The three of them scrambled, hopped and fluttered around for a few seconds and when the dust had cleared away I had lost track of which was which, but one was sitting in a nearby mosquito tree and two were hopping up and down and fighting precisely like two young roosters. This continues intermittently around the place for about half an hour.

I have been fortunate to be able to band during the month of February 212 birds composed of the following:

- 1 Arizona Cardinal
- 1 Bendire Thrasher
- 1 Say Phoebe
- 2 White-rumped Shrikes
- 3 Cactus Wrens
- 204 Gambel Sparrows

Two of the Gambel Sparrows were banded as immature birds a year ago at the Monument, and returned to the same home grounds as adults after their long journey to the far north last summer.

Working with these birds has been an extremely pleasant experience, and I am grateful to your people for the opportunity of doing it.

BANDELIER BIRDS

By Betty Jackson

There has been so much warm weather this month that the birds were often able to find their own food, but the total new banded birds got up

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BANDELIER BIRD BANDING (CONT.)

32, of eight species. These are:

Grey-headed Junco, 16; Red-backed Junco, 1; Pink-sided Junco, 2; Shufeldt Junco, 1; Rocky Mountain Nuthatch, 1; Pygmy Nuthatch, 9; Spurred Towhee, 1; Red-shafted Flicker, 1.

Two of the formerly banded Pygmy Nuthatches died, apparently of exhaustion when I didn't visit a trap for four hours. One I practiced on, the other is a bird skin. It's not too handsome, but my fingers had difficulty maneuvering around a bird so small.

The birds seen around the canyon are about the same as last month. Besides those banded there are Robins, Solitaires, Long-crested and Woodhouse Jays, Rocky Mt. Hairy Woodpeckers, Chickadees, Chestnut-backed Bluebirds, Canyon Wrens, and a Sharp-shinned Hawk.

We nearly ran into a big Red-Tail on the Ramon Vigil Grant the other day. He swooped right in front of the car, and we could see every feather.

Turkey tracks can be seen in the mud almost down to the Chases' house. They are probably hunting the new sprouts that are coming up everywhere among the grass and weeds.

DATE SEEDS

(A premature report)

By J. W. Brewer

In Dale's Bandelier Museum Comments (December, 1935) on page 479, Plate A, there is an illustration on the upper left, first above the boxed P. V similar to a midden to which I refer (which I call an "over the back fence" type of midden).

Part of such a midden occurs at the base of the low westernmost wall of Wupatki Pueblo; the southern part was removed by GWA and left a vertical face to slough off with every rain.

Having found some interesting sherds washing and falling out of this exposed face I have kept my eye on the spot for whatever might come to light. Late in January I was very surprised to see clinging to the face of the mound, about 6 inches below the surface, what appeared to be a date seed. Picking it up I noticed another almost buried one (the second seed was certainly in situ).

Never having heard of date seeds associated with a prehistoric ruin, I started investigating. At the Museum of Northern Arizona prehistoric dates were unknown. However Mr. A. F. Whiting, Curator of Biology, took the seeds to Mr. D. W. Albert of the University Date Farm who made the following statement:

1. The seeds are definitely date seeds.

DATE SEEDS (CONT.)

2. Their condition indicates that they are old.
3. Assuming them to be typical (i.e. not extreme variations) they are not the imported Dromedary Date of today.
4. Possibly they are the Khadrowi variety which at one time was imported by the same firm.
5. So far as he knows, there is no other evidence to indicate the presence of date culture in prehistoric times.
6. Date seeds, from Europe, were distributed by the Spanish priests during the 16th century.

My theory is not, of course, that the seeds were the product of local palms, but that they are the products of trade--whether prehistoric or historic remains to be settled.

Mr. Watson Smith, Associate in Research Archeology with M.N.A. contributed the following interesting reference: (Bandelier in "Contributions to the History of the Southwestern Portion of the United States," Papers of the Archaeological Institute of America, American Series, V., 1890, speaking of Cabeza de Vaca's wanderings through Sonora, just previous to his reaching the Yaqui River)

"It was only when they ascended the foothills of the Sierra Madre and penetrated into the deep gorges and valleys of that extensive mountain area, that a fertile land met their eyes, and at last they found Indians settled in small but more permanent villages--Indians who cultivated maize, who owned turquoises, although in small quantities, and who traded parrot's feathers for green stones, far in the north. The houses of these Indians were made of palm leaves tressed and plaited, and some of the buildings had earthen walls and a dirt roof.

"All this is significant and enables us to identify the region, though not the exact locality.

"A species of large green parrot inhabits the pine forests of the Sierra Madre as far north as latitude 30 ---
---North of the Sierra Madre no species of the parrot tribe is permanent-----

"Palms are found in the Sierra Madre and its tributary chains. They are especially fan-palms, and the houses of the aborigines of Sonora were often made of that material". (to which Bandelier puts the following foot-note) "At Arizpe, in the valley of Sonora, there is one specimen of the so-called date-palm----I have seen----small specimens of the

DATE SEEDS (CONT.)

date-palm on the crest of Bacatehac, between Granados, on the upper Yaqui River, and the village of Bacadehuachi, on the outskirts of the Sierra Madre----

Dr. Colton suggests a stratigraphic survey of the mound in which the date seeds were found, and we may be lucky enough to get Mr. L. L. Hargrave out here to do it when their excavation permit is granted for 1936. More later.....

SEVENTEEN YEARS AGO-

Blackwater, Arizona
March 8, 1919.

Dear Mr. Mather:

I submit the following report on the conditions at the Casa Grande Ruin National Monument for the month of February, 1919:

During the month 387 visitors and 135 automobiles have entered the reservation. The weather has been very pleasant and the roads have been in good condition throughout the month.

We have had no income and have made no disbursements during the month. We have left \$141.81 from our allotment made by Service Letter of September 9, 1918.

During the month I made a trip, under your instructions, to the Grand Canyon and the Petrified Forest. This took me away from this reservation from February 21 to the end of the month. I have been so busy that I have had no time for research work and that is a matter to be regretted. I like to keep a little new work under way all the time, for I find that it doubles the interest of visitors to see something in the act of being opened. I wish in another year we could arrange to spend about \$300 in experiments with test pits and trenches. My test pits on the elliptical mound have interested hundreds of visitors since I have opened them.

I have installed a telephone which is connected with the local switchboard in the town of Florence ten miles to the east of us. This has already saved several trips to town and will give me telegraph and telephone connections out over the state. You might change my telegraph address from Casa Grande to Florence, Arizona. The operator in Florence can send a message out to me at once over the telephone while from Casa Grande it has to wait over until the next day and come up on the stage to Blackwater by mail.

Cordially yours,

Frank Pinkley, Custodian
Casa Grande Ruin.

Blackwater, Arizona.

April 7, 1919.

Dear Mr. Mather:

I have the following report to make on the administration of the Casa Grande Ruin National Monument for the month ending March 31, 1919.

TRAVEL AND TRAVEL CONDITIONS

368 visitors and 173 automobiles have entered the reservation during the month. I think this represents a normal month of travel for this season of the year. The 31st of March closes my first year of service for the National Park Service, and during that year I have had 2962 visitors. I did not get instructions to check the number of automobiles until last fall so I am unable to give the actual number of machines.

In my report for September, 1918, submitted under date of October 1, I had the following paragraph on roads:

"In my monthly report for July, under date of August 3, I spoke of a prospective issue of road bonds which our neighboring county on the south, (Pima), would vote upon September 10. I am now able to report that the bonds carried, the vote being nearly two to one in favor of them. It now remains for the proper Federal authorities to approve the issue. The plan contemplates the expenditure of about \$40,000 on the road between Tucson and Casa Grande, (the town). Working in with this bond issue, the reclamation part of the Indian Bureau is to open bids on a combined diversion dam and bridge to be located just above Sacaton on the Gila River. If this bridge goes in it will make a through road along the line to be covered by the bonds above mentioned, from Tucson to Phoenix. This will put the Casa Grande Ruin between two good highways running from Tucson to Phoenix."

All bids failed on the diversion dam and bridge mentioned here, and, although the road money was to be expended, I had little hope of our Monument gaining much benefit. The bridge project is now being revived and there seems to be a very good prospect for the road to go through from Tucson to Phoenix. In that case I shall expect an increase in our number of visitors as soon as this bridge is built.

FINANCES

There has been no income during the month, and the disbursements have been \$11.62 for reference books for office use, and \$18.36 for material for repairs for the Custodian's house. This brings our total

SEVENTEEN YEARS AGO (CONT.)

expenditures from our allotment of \$500 up to \$388.16.

WEATHER:

The weather has been beautiful all month. The country generally has had good winter rains and range conditions are still good, but the grass is now drying up. More rain will be needed in the next week or two if the range stays good. All roads from Phoenix south to the border are in good condition and the usual heavy winter traffic seems to be using them, both the state travel and the through traffic to the coast.

GENERAL:

I was absent from the reservation on official business on March 17-18-19-20 and March 24-25. The first trip was to the Tumacacori Mission and Nogales and is detailed in my monthly report on the Tumacacori Mission. The second trip was to Tucson to attend a meeting of the Arizona Archeological and Historical Society, devoted to the Tumacacori Mission.

Cordially yours,

Frank Pinkley,
Custodian, Casa Grande Ruin.

**

Blackwater, Arizona.
May 7, 1919.

Dear Mr. Mather:

I have the following report to make concerning the administration of the Casa Grande National Monument during the month of April, 1919.

VISITORS:

During the month 443 visitors and 194 automobiles entered the Reservation. This compares with 480 for the same month last year and so must represent about the normal number of visitors for the month of April.

FINANCES:

There was no income during the month and no disbursements. We have \$111.64 of our allotment of \$500 made September 8, 1918, on hand, but have some bids out for signs which will use up \$50 or more of it in May.

ROADS AND ROAD CONDITIONS:

We had very little rain during the month and the roads in Southern
SOUTHWESTERN MONUMENTS

SEVENTEEN YEARS AGO (CONT.)

Arizona are drying out and breaking up under the traffic. If we have no rain in May, and under normal conditions we expect very little during that month, the roads will get in bad condition and automobile traffic is liable to fall off.

Under a new state law passed at the recent session of the legislature, the board of supervisors have appointed a road commission of five members who are now studying road conditions with a view to submitting a comprehensive plan of improvement and asking the people to vote the bonds to carry out the plan. This bond election will probably be held next fall and a part of the plan is to surface twenty odd miles of the road running from Casa Grande on the Southern Pacific out nearly to the Ruins.

RESEARCH WORK:

My time has been so taken up during the month with the routine work, the handling of visitors and attending to the work going on at the Tumacacori Monument, that I have found no time for research work.

For some time I have had in mind an idea of trying some restoration studies of the ruins as they must have looked when they were inhabited. So far as I know this has never been tried with this group of ruins. I think it will prove interesting.

GENERAL CONDITIONS:

Water is getting scarce on the desert and range stock is drifting in on the desert near here and getting in on the reservation. They bother considerably around the well and around the various compounds looking for water. Nothing can be done toward keeping them out until the reservation is fenced.

Cordially yours,

FRANK PINKLEY
Custodian, Casa Grande Ruin.

WOOLLCOT AT WUPATKI

[Reprinted from the "Cocconino Sun," Flagstaff, Ariz.]

Alexander Woolcott, celebrated author, critic and radio broadcaster, was guest of custodian and Mrs. Jimmie Brewer Saturday to Monday at Wupatki National Monument, northeast of here.

Several weeks ago Mr. and Mrs. Brewer in their snug apartment in the second story of the main pueblo at Wupatki listening to a Woolcott broadcast, heard him say he wished he could get away from New York to some place where there was no telephone and he couldn't be disturbed by someone calling up to say his maiden aunt had got into a jam and needed

WOOLLCOTT AT WUPATKI (CONT.)

his help. Jimmie wrote Mr. Woollicott that Wupatki, 14 miles away from the nearest phone, and as far from the nearest neighbor, was the ideal sanctuary.

He soon received a cordial reply in which Woollicott said his next cross-country itinerary would not include Flagstaff; then, while he and Mrs. Brewer were at Carlsbad, New Mexico, a few weeks ago, another letter came announcing that he would come through here.

Ismie met the Woollicott Cadillac east of town Saturday afternoon and piloted it to Wupatki. With Woollicott was Joseph Hennessy, also of New York, who, though he had nothing to say about himself or his work, is believed to be a prominent Columbia professor and author.

The guests had a fine time at Wupatki, easy to understand by anyone who knows their delightful host and hostess. Sunday they visited and explored dozens of the ancient Indian ruins in that region, Woollicott evincing great interest, though he did say that such a strenuous day outdoors was something unusual for him, as for years since the World War in which he enlisted as a private and saw service in France, he has been notorious among his intimates as unalterably opposed to exercise of any kind and lovingly partial to soft couches and deep easy chairs. He told Jimmy that a big easy chair was his idea of the nearest earthly approach to heaven.

Mr. Woollicott left convinced he had slept in the oldest inhabited house in the United States. It was started in 1874, tree ring research shows, and the Brewer living quarters were built in 1135.

The guests came here from Los Angeles and left Monday morning to spend that night in Gallup. On their way here they spent Friday night at Kingman.

Woollicott known throughout the world in the last few years through his radio talks and his books, among the latter the big seller, "While Rome Burns," has for a much longer time been about the best known and liked New York theatrical first-nighter and critic. His celebrated book on Mrs. Fiske and her views on acting, actors and the problems of the stage, in 1917, and "The command is forward," in 1919, are among his most successful earlier works. He has been on the editorial staff of the New York Times since 1909, dramatic critic since 1914, was member editorial staff Stars and Stripes at the American front and with the American army of occupation. He is a bachelor, born in Phalan, N. J., 48 years ago this month.
