

SOUTHWESTERN MONUMENTS

SPECIAL REPORT

NO. 25

BIRD BANDING
IN THE
SOUTHWESTERN
MONUMENTS
1939



BY
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DEPARTMENT OF THE INTERIOR
NATIONAL PARK
SERVICE

ROCK WRENS AT WUPATKI

By Courtney Jones

During the month of May, 1939, I observed a pair of Rock Wrens (*Salinctes obsoletus obsoletus*) that nested and raised a family in Room 7, Wupatki Pueblo. The observations were made on 14 different days, from May 6 to 31 inclusive. Periods of observation averaged $1\frac{1}{2}$ hours and occurred between 8:00 A.M. and noon, and 2:00 to 6:00 P.M.

The nest, in a niche in the masonry, in the back wall of the room, about $3\frac{1}{2}$ feet above the floor, was in approximately the same position as a nest occupied last July. First signs of rehabilitation were noticed about the first of May. The Rock Wren's unique habit of building up its nest site with stones aids the observer, for the neatly placed rock-work at the opening of a natural crevice is a distinguishing feature of a new nest. This dry masonry is disturbed during the period of occupation and is rebuilt each time the nest is used. Sometimes a small heap of discarded stones will draw attention to a previously unnoticed site and indicate recurrent habitation. In this particular dwelling, the dimensions of the pieces of sandstone were about $1\frac{1}{4}$ "x1"x $\frac{1}{8}$ ". The nest proper was back from the opening about two inches and on the left. On May 6, examination with a flashlight failed to reveal eggs. Two days later, with the aid of a folding mirror arrangement enabling more thorough inspection, the following information was obtained. The front of the crevice was filled in enough to form a flat surface, the little stones being so regularly placed as to mimic in miniature the prehistoric masonry, and the floor of the cavity was carefully paved. The nest was built of delicate dry twigs, and its cup lined neatly with hair and greyish wool. It contained five eggs, white, speckled on one end with tiny irregular brown dots.

It was possible, after the first hour of observation, to distinguish between the sexes, although this is unusual among Rock Wrens. The female was the lighter of the two adults, and seemed more grey. This same observation was made at this nest last July by Mrs. E. T. Nichols. The difference was most noticeable when the birds were in shadow. Also, after the first day, the observer became familiar with the characteristic habits of each individual, which furnished an additional check.

The female usually made a quick, seemingly fearless entrance and exit, flying directly to the nest or out of the room. She looked me over the first day, and henceforth, with a single exception, ignored me. The male always appeared conscious of my presence. His first observed entrance and exit were characteristic. He stopped on the front wall, jumped quietly to the floor, ran across the room to the wall under the nest. He was carrying an insect. Next he hopped up the wall to a crack at the left of the nest site and began a purring twitter, answered by the female on the eggs. He hopped to the nest, and leaned in, both birds twittering softly. He left as he had come, by dropping to the floor, running to the front wall, jumping up, and flying out.

Since a wren is a hopping bird, as opposed to the running type such as quail and blackbirds, the motion across the room is described as it appeared. If it was a series of hops it was so rapidly and smoothly done as to be indistinguishable from a run, and will be so designated when mentioned.

The male came seldom to the nest during incubation, while the female came and went comparatively often, spending an average of 18 consecutive minutes on the eggs, and leaving them alone an average of 15 minutes at a time. After two days of observation, the female was remaining on the nest undisturbed by the approach and departure of the observer. Two days later the female went to the nest while a stranger adjusted a camera at the center of the front wall, just inside the room.

These Wrens kept the nest and its crevice clean by removing droppings. The male was observed four or five times in what seemed to be an attempt to remove any signs of occupancy from the vicinity of the nest. The first time, he had called sharply as he appeared on the front wall with a large winged insect. At his mate's answer, he ran across the room as usual, fed her, and then dropped to the floor. Here he hopped around, scrutinizing the nest wall and the floor. Finally he picked up a stray twig and left. The next time he included the observer in his room inspection, halting within a distance of two feet.

A faint, persistent "peeping" disclosed the presence of young on May 17, nine days after the eggs were seen. Careful examination revealed only four young, their gaping yellow beaks dwarfing the tiny heads were balanced on long, scrawny, practically naked necks. On the eventful day, the nervous attitude of the male reached its climax. After feeding his offspring, he sat on his threshold, staring directly at me. He dropped to the floor and came toward me as before, but slowly and deliberately. At a distance of $1\frac{1}{2}$ feet he seemed to crouch down and began to stamp his feet rapidly, the attitude, combined with a fixed stare, giving an impression of threatening fury almost incredible in so small a creature. Suddenly he darted forward, wings fluttering as he rose from the ground. The motion was so close and unexpected that I raised my hands involuntarily, and he flew up over my head, alighting on the front wall. Here he faced me, stamping, until I rose and left the room, when he went away. I went back at once and seated myself as before, and observed the female, who entered bearing an insect and remained on the nest. After eight minutes she called sharply three times and in a few minutes the male appeared with an insect. After visiting the nest he approached as before, stamping. When I rose he retreated a foot or two, when I sat he approached. When I finally went to the wall, he stood on it about a yard away until I left the room, then he hopped down the hill, paused for another look, and flew. I leaned on the wall, writing, and in five minutes noticed him running up-hill with an insect. He saw me and advanced cautiously from rock to rock, finally running behind a row of metates to the front wall, and thence to the nest. After leaving the nest he paused on the far end of the big boulder where he glanced at me, sang a few ringing notes, then glanced at me, and sang twice more.

For three hours of the following day, unsuccessful attempts were made to photograph the stamping and the intimidating attitude. The male did stamp, but from a distance of six feet or more. On this day the female entered the room by running across the floor, while the male was stamping. He subsequently entered the room twice with insects without attempting to stamp. The female appeared somewhat nervous, and made her exit over the back wall.

All five of the young were seen on May 21, 13 days after the first observance of the eggs. They lifted their gaping yellow beaks the instant my shadow fell across the crevice, but in a second the heads dropped, and the beaks rested on the front edge of the nest in a semi-circle, with the sparsely-clad grey bodies overlapping the center. At the slightest sound they emitted an unmusical "chirr". The following day this "chirr" had more tone, but most resembled the sound of the mechanical canaries sold at fairs. It started with one voice, became a chorus which swelled to a crescendo and diminished to occasional soft chirps. All were now quiet while the parents were absent.

By May 24, the young were covered with fluffy grey down, some of which was tipped with whitish. The heads had enlarged to balance the beaks and the five filled the nest cup to the brim. They were left alone an average of 11 consecutive minutes, brooded by the female an average of 25 minutes at a time. While she was on the nest, the male brought an insect occasionally, usually within two to five minutes after she went to the nest, again in about 15 to 20 minutes.

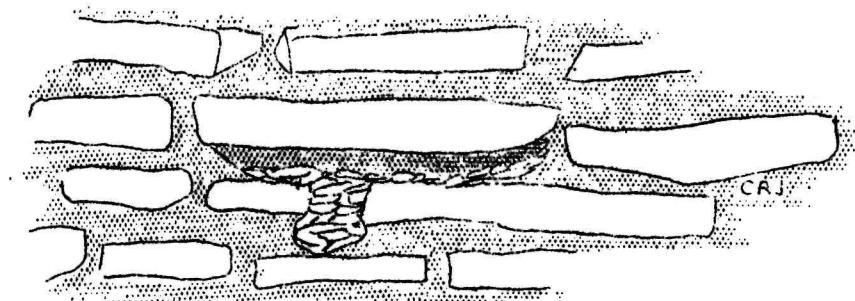
One of the young was found dead, in a little pit in the floor beneath the nest, on May 26.

Two days later the chirring sounded definitely wren-like and consisted of two or three syllables.

All four young were observed in the nest at 2:00 P.M., May 31. In three hours they were seen half-way down the hill, hopping up sloping stones and making short flights from the top to the ground. A bullsnake was lying on the front wall and his presence may have hastened the exodus. The young were then about 14 days old.

The entire family was observed together for over a week after they left the nest. The young were still being fed by the adults, although they appeared full-grown except for the tails which were noticeably shorter than those of the parent birds. At sundown the young were herded into a hole in a sandstone boulder, different holes being used on different nights. On June 18 the family was seen, but it was impossible to determine whether its numbers were unimpaired.

NEST IN WALL OF ROOM 7



Among the little stones filling the front crack and lining the cavity, were some potsherds.

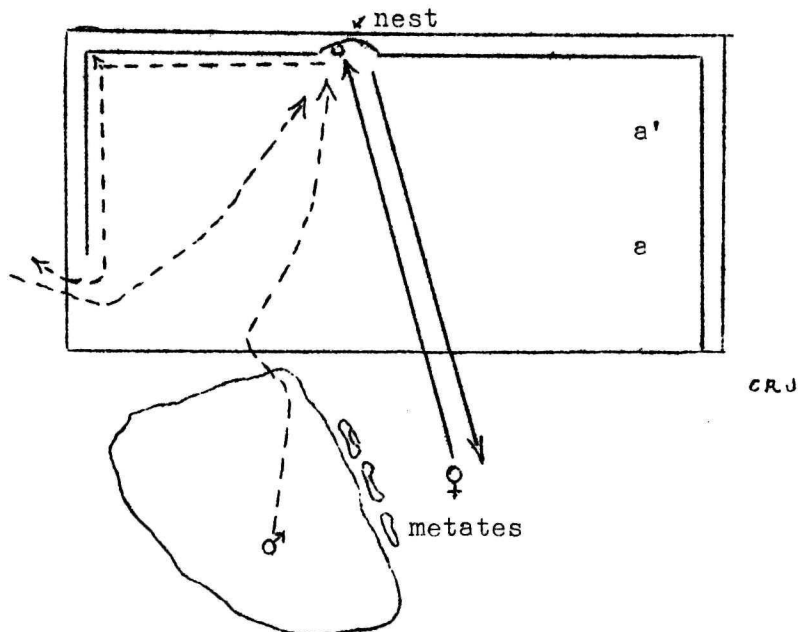


DIAGRAM SHOWING OBSERVATIONS, ROOM 7

Straight lines indicate the usual path followed by the female Rock Wren. Dotted lines indicate approach and departure routes of the male. On the plan, double lines indicate high walls, single lines are walls three to four feet high. The observer sat at a and a'. The large irregular object in front of the room is a sandstone boulder.

****SUM****

BOUCUET

Superintendent Pinkley:

I was about to write you requesting that you change my address on your mailing list for "Southwestern National Monuments Monthly Report" when notice came that I would have to request its continuance. I would like to be continued on your list since the Reports help me to keep track of what is going on in the Southwest.

Will you, however, have my address changed from Yale University to P.O.Box 880, Santa Cruz, California?

I think that you know that the University of New Mexico has an open invitation to professional anthropologists to attend the conference at Chaco Canyon at the end of August. As Director this year, I extend hearty invitation to you and Dale King, and personally hope that you both will be able to be present.

Sincerely,

Leslie Spier.

1939 BIRD BANDING IN THE SOUTHWESTERN NATIONAL MONUMENTS

July 1, 1939

The Chief,
Bureau of the Biological Survey,
U. S. Department of the Interior,
Washington, D. C.

Dear Sir:

During the fiscal year 1939, bird banding projects in cooperation with your Bureau were carried on in nine of the 26 national monuments which are administered by this office. A tenth station established in 1938 was not operated due to the transfer of the operator. A total of 1,614 new birds of 62 species were banded during the year, making a total of 6,183 birds of 101 species banded by stations under the jurisdiction of the Southwestern National Monuments since bird banding was started in 1936.

With permission granted by your Bureau to operate the various stations under the centralized supervision of this office, our efforts during the year have been concentrated on standardizing procedure and record keeping throughout the various stations. This is of the utmost importance as shifts in personnel are frequent and nothing is more conducive to discouragement than for a man who has been operating one of the stations to be transferred to another monument and find a different and puzzling system of record keeping in use. With independent operators each devising system of records based upon his own particular interests, considerable confusion resulted with the shifting of personnel.

Another major effort exercised by this office during the year has been to impress upon operators the desirability of concentrating upon one or two definite species of birds or upon some definite problem. Many operators of long experience, and practically all new enthusiasts, band birds for the pleasure derived from the work and set as a goal only a record number of birds banded, or an imposing list of species handled. It is the desire of this office that the various operators, wherever possible, make use of the opportunities afforded by their banding work to obtain data which will add to the knowledge regarding the activities and habits of species and contribute to the solution of definite problems, some of which may prove to be of economic value. It is the object of this office to encourage such concentration of effort with the publication of worthwhile contributions to ornithological knowledge as a goal.

Following is a brief resume of the work carried on at the various stations during the fiscal year:

1939 BIRD BANDING (CONT.)

CASA GRANDE NATIONAL MONUMENT

Lower Sonoran Zone. Two miles north west of Coolidge, Arizona. Altitude 1,420 feet. Bird banding at this monument has been carried on under the supervision of the Headquarters Branch of Research and Information with a double purpose in view. First, to maintain close touch with the detailed operation of a banding station and the record keeping involved as a basis for aiding, advising, and supervising the activities of operators in the various monuments; second, a study of bird life in the creosote bush-salt bush - mesquite cover type of the Lower Sonoran Desert with studies, for the present, concentrated on the habits and activities of House Finches, Gambel Sparrows, and Pallid Horned Owls. In addition to banding, an observation record file has been maintained. The station is operated under the permit of Dale S. King.

TUMACACORI NATIONAL MONUMENT

This station is located in the Santa Cruz Valley, 19 miles north of Nogales, in the Lower Sonoran Life Zone at an elevation of 3,250 feet. Following is the report of Louis R. Caywood, operator of the station:

A total of 223 birds of 22 species was banded. This record is just five below that of 228 birds of 15 species banded last year.

Again this year the number of Gambel Sparrows banded leads the list. Since banding has been carried on at this station, 379 Gambel Sparrows have been banded. Compared with Casa Grande National Monument where returns on these birds are numerous, it would seem that returns should be recorded here. However, of this number there has been only one return.

White-crowned Sparrows closely followed the Gambel Sparrows this year. The last Gambel was banded on March 20 and the first White-crown was banded on April 3. There were White-crowns here until about June 1.

Only one casualty occurred during the year and this was caused by a Roadrunner. The Roadrunner killed a Gambel Sparrow in a government sparrow trap. It, in turn, was caught and banded by using the dead Gambel for bait and raising the front of the trap so it could enter the second compartment where the dead bird was.

A great number of Black-headed Grosbeaks were observed this year as long as the mulberry trees had fruit on them. Only one of this species was taken and that one by hand after it had bathed until it could no longer fly.

WALNUT CANYON NATIONAL MONUMENT

Ten miles east-southeast of Flagstaff, Arizona, in the Transition Life Zone, at an elevation of 6,700 feet.

This station offers a valuable opportunity for the study of migrating birds in addition to nesting species. Because of the lack of water sources in the immediate vicinity of the station, great success has been obtained through the use of a water trap except during the rainy season when operations have been suspended. Operator Paul Beaubien has obtained considerable interesting data much of which pertains to seasonal differences in migratory habits and is now concentrating on a study of this phenomenon to determine the cause.

1939 BIRD BANDING (CONT.)

PIPE SPRING NATIONAL MONUMENT

Fifteen miles west of Fredonia, Arizona, in the Upper Sonoran Life Zone, at an altitude of 4,960 feet.

Although hampered by a severe winter and the closing of the station for several weeks due to predatory activities of hawks, operator Leonard Heaton banded 361 birds, 272 of which were Gambel Sparrows. Local movement of these birds, as noted in individual trap records, showed a definite trend which Mr. Heaton has taken as a basis for study. In December, 63 Gambel Quail were banded prior to release in the vicinity of the small monument in an effort to restock the area.

SAGUARO NATIONAL MONUMENT

Located 19 miles east of Tucson, Arizona, in the Lower Sonoran Life Zone, 3,400 feet above sea level at the foot of the Tanque Verde Mountains.

Although a bird-banding station was established at this monument in 1936, removal of all personnel from the area terminated banding activities until the fall of 1938 when Ranger Carleton Wilder re-established the station which continued in operation until the termination of his tour of duty in April, 1939. Although very few birds were banded, a great many repeats were recorded and some data accumulated. The majority of the birds of the locality are apparently year-around residents indicating that the potentialities of this station deal with intimate studies of a few permanent residents rather than with seasonal or migratory numbers. With the establishment of permanent personnel at this monument during the coming fiscal year, it is hoped that this station will be operated continuously in the future.

TONTO NATIONAL MONUMENT

Four miles southeast of Roosevelt, Arizona, at an elevation of 2,800 feet, with both Lower and Upper Sonoran Life Zone conditions in the immediate vicinity.

Following efforts by Ranger Thomas Onstott to establish a banding station in the spring of 1938, Ranger G. G. Philp placed traps in the fall of 1938 and maintained the station until his tour of duty terminated in April, 1939. Although only 51 birds were banded, the establishment of this new station greatly stimulated the interest in birds at this monument and resulted in the compilation of a check list of 52 species, seven of which were recorded nesting. With the establishment of a permanent custodian for this monument during the 1940 fiscal year, it is anticipated that banding activities will be placed on a continuous basis.

BANDELIER NATIONAL MONUMENT

Location 46 miles northwest of Santa Fe, New Mexico, the banding station is in Frijoles Canyon at an elevation of 5,600 feet with both Transition and Upper Sonoran Life Zone conditions present.

Due to the transfer of Operator C.G. Harkins, all activities of the monument were placed on the shoulders of Grader Operator George Sholly who was forced to curtail bird-banding activities in consequence. Nevertheless 85 new birds were banded and a number of repeats and returns were recorded. Also due

1939 BIRD BANDING (CONT.)

to pressure of guiding duties, it has been impossible to operate this station during the summer months, hence the majority of birds captured have been winter residents, especially juncos. With the appointment of Junior Archeologist Thomas effective June 1, 1939, the seriously undermanned situation at this monument has been remedied and bird banding should be placed on a more secure basis for the future.

CHACO CANYON NATIONAL MONUMENT

Located 64 miles south of Aztec, New Mexico, at an elevation of 6,500 feet in the Upper Sonoran Life Zone.

Continuing the work started just before the beginning of the 1939 fiscal year, Operator Carolie McKinney banded 127 new birds. Although the station is too new to have accumulated much data, Mrs. McKinney has the distinction of having banded two unusual species, a Loon and a White-throated Swift. Through the banding operations, bird study has progressed in this area where the avifauna is little known and where a wealth of prehistoric ruins yields numerous bird and mammal bones. It is possible that an accurate knowledge of the present bird resources of the area may furnish a check as to changes in climatic conditions, or the absence of those changes, since prehistoric times through a comparison with excavated animal remains.

WHITE SANDS NATIONAL MONUMENT

This station is located eighteen miles southwest of Alamogordo, New Mexico, at an elevation of 4,500 feet in the Upper Sonoran Life Zone.

Shortly after establishing this station, its operator, Ranger James Felton, was transferred to the Southeast and prior to the end of the fiscal year, no one was available to operate the station, hence no work was done. However, prospects are very bright for the coming fiscal year for Ranger George Sholly, who operated the Bandelier Station following the transfer of Custodian Harkins, has been moved to White Sands. Mr. Sholly has had considerable experience in bird banding at Bandelier and is much interested in this activity. He has applied to your Bureau for a banding permit, following receipt of which he will immediately re-open banding activities at White Sands. This station offers interesting possibilities especially with ducks and wading birds as there is a large pond on the monument resulting from the flow of an artesian well. This water, in an otherwise arid region, attracts great numbers of birds.

WUPATKI NATIONAL MONUMENT

Located 49 miles northeast of Flagstaff, Arizona, in the Upper Sonoran Life Zone at an elevation of 5,000 feet.

Although a few birds were banded prior to the beginning of the 1939 fiscal year, operation of this station started by Ranger David Jones, who was stationed at Wupatki only a portion of the year, is now on a year-round basis and will be in a much better position to obtain useful data. Bird banding activities have stimulated observation and study at Wupatki with the result that a paper covering observations on the nesting activities of Rock Wrens has been completed. (See page 69, Supplement to July, 1939, SWNM Report)

BIRD BANDING TOTALS FISCAL YEAR 1939 *New Species This Listing Species Banded											Total 1939	Total S.W.N.M. 1936-1939 incl.	Total Banded in U.S., 1938
	A Casa Grande	B Tumacacori	C Walnut Canyon	D Pipe Spring	E Saguaro	F Tonto	G Bandelier	H Chaco Canyon	I White Sands	J Wupatki			
1.Blackbird, Red-wg.	0	0	0	0	0	0	0	0	0	0	0	34	4880
2.Blackbird, Ycl.Hd.	0	0	0	0	0	0	0	0	0	0	0	1	788
3.Bluebird, Ches-Bk.	0	0	38	0	0	0	0	0	0	0	38	569	14
4.Bluebird, Mountain	0	0	0	0	0	0	0	0	0	0	0	1	50
5.Bunting, Lazuli	0	0	0	0	0	0	0	0	0	0	0	1	40
6.Cardinal, Arizona	0	6	0	0	1	1	0	0	0	0	8	45	#1700
7.Chat, Long-tailed	0	1	0	0	0	0	0	0	0	0	1	4	57
8.Chickadee, Mountn.	0	0	0	0	0	0	0	1	0	0	1	6	52
9.Cowbird	0	0	0	0	0	0	0	0	0	0	1	1	#232
10.Cowbird, Red-eyed	0	0	0	0	0	0	0	0	0	0	0	3	none
11.Crossbill, Bendire	0	0	73	0	0	0	0	0	0	0	73	114	# 12
12.Creoper, Rky. Mt.	0	0	0	0	0	0	0	0	0	0	0	2	291
13.Dove, Inca	0	0	0	0	0	0	0	0	0	0	0	17	286
14.*Dove, Mex.Ground	0	1	0	0	0	0	0	0	0	0	1	0	# 164
15.Dove, West, Mourn	4	0	0	2	0	0	0	0	0	0	6	37	#5539
16.Dove, White-wingd.	0	0	0	0	0	0	0	0	0	0	0	3	9
17.*Finch, Cassin ppl.	0	0	2	0	0	0	0	0	0	0	2	0	36
18.Finch, House	235	1	0	0	0	0	0	0	0	0	236	350	4020
19.Flicker, Gilded	0	0	0	0	1	0	0	0	0	0	1	0	none
20.Flicker, Red-shaft.	0	0	0	1	0	0	0	0	0	0	1	4	32
21.Flycatcher, Ariz.cr	0	0	0	0	0	0	0	0	0	0	0	11	5
22.Flycatcher, Ash-thr.	0	0	0	0	0	0	0	0	0	0	0	1	9
23.Flycatcher, Vermil.	0	3	0	0	0	0	0	0	0	0	3	6	4
24.Goldfinch, Gr.-back.	0	0	0	0	0	0	0	0	0	0	0	4	# 13
25.Grosbeak, Ariz.blue	0	0	0	0	0	0	0	0	0	0	0	2	2
26.Grosbeak, Blk-head.	0	1	0	0	0	0	0	0	0	0	1	3	269
27.Grosbeak, Rky.Mt.Ev.	0	0	8	0	0	0	0	0	0	0	8	5	#1212
28.Hawk, Des.Sparrow	0	3	0	0	0	0	0	0	0	0	3	5	# 154
29.Hawk, W.Red-tailed	0	0	0	0	0	0	0	0	0	0	0	1	# 110
30.Jay, Arizona	0	0	0	0	0	0	0	0	0	0	0	1	none
31.Jay, Long-crested	0	0	0	0	0	0	3	0	0	0	3	4	# 28
32.Jay, Woodhouse	0	0	0	0	0	0	1	0	0	0	1	9	none
33.Junco, Grey-headed	0	0	4	0	0	0	19	0	0	0	23	225	none
34.Junco, Montana	0	0	0	0	0	0	0	0	0	0	0	19	(Ore)
35.Junco, Oregon	0	0	3	10	0	0	0	0	0	0	13	31	14701
36.Junco, Pink-sided	0	0	1	0	0	0	0	0	0	0	1	33	none
37.Junco, Red-backed	0	0	1	0	0	0	0	0	0	0	1	83	316
38.Junco, Shufeldt	0	0	0	0	0	0	0	0	0	0	0	159	(Ore)
39.Junco, Slate-Colored	0	0	0	0	0	0	0	1	0	0	1	1	(R.P.)
40.Kingbird, Arkansas	0	0	0	0	0	0	0	0	0	0	0	8	12
41.*Loon	0	0	0	0	0	0	0	1	0	0	1	0	7
42.Mockingbird, Wstn.	0	0	0	0	0	0	0	1	0	0	1	73	100

BIRD BANDING TOTALS FISCAL YEAR 1939 * New Species This Listing	Casa Grande	Tumacacori	Walnut Canyon	Pipe Spring	Saguaro	Tonto	Bandelier	Chaco Canyon	White Sands	Wupatki	Total 1939	Total S.W.N.M. 1936-1938 incl.	Total Banded in S.W.N.M., 1938
	A	B	C	D	E	F	G	H	I	J			
43. Nuthatch, Pigmy	0	0	65	0	0	0	0	0	0	0	65	156	30
44. Nuthatch, Rky. Mt.	0	0	5	0	0	0	0	0	0	0	5	18	# 490
45. Oriole, Bullock's	0	0	0	0	0	0	0	0	0	0	0	3	41
46. Oriole, Ariz. Hooded	0	0	0	0	0	0	0	0	0	0	0	4	64
47. Owl, Great Horned	3	0	0	1	0	0	0	3	0	0	7	7	# 41
48. Owl, Mex. Screech	0	0	0	0	0	0	0	0	0	0	0	1	# 119
49. Phainopepla	0	0	0	0	0	0	0	0	0	0	0	6	7
50. Phoebe, Say	11	1	0	1	0	0	0	0	0	2	15	64	35
51. Pyrrhuloxia	0	1	0	0	0	0	0	0	0	0	1	38	38
52. Quail, Gambel	13	11	29	63	0	1	0	0	0	0	117	249	395
53. Quail, Scaled	0	0	0	0	0	0	56	9	0	0	65	9	0
54. Roadrunner	0	1	0	0	0	1	0	0	0	0	2	9	12
55. Robin, Western	0	0	5	0	0	0	6	0	0	0	11	29	# 8023
56. Sapsucker, Red-nape	0	0	1	0	0	0	0	0	0	0	1	11	55
57. Sapsucker, Rky Mt.	0	0	0	0	0	0	0	0	0	0	0	2	none
58. Shrike, Northern	0	0	0	0	0	0	0	0	0	6	0	1	7
59. Shrike, White-rump	1	0	0	0	0	0	0	8	0	0	9	22	# 148
60. Siskin, Pine	0	0	1	0	0	0	0	0	1	0	1	44	449
61. Solitaire, Townsend	0	0	3	0	0	0	0	0	0	0	3	67	22
62. Sparrow, Ariz. Chip	0	0	0	0	0	0	0	0	0	0	0	1	none
63. *Sparrow, Baird	0	0	0	2	0	0	0	0	0	0	2	0	none
64. Sparrow, Brewer	0	0	0	0	0	0	0	0	0	0	0	1	3
65. Sparrow, Desert	0	0	0	0	1	2	0	6	0	6	15	2	none
66. Sparrow, Gambel	190	116	0	272	0	24	0	77	0	0	679	1588	Wh. Cr.
67. Sparrow, Lincoln	0	0	0	0	0	1	0	0	0	0	1	15	2097
68. *Sparrow, Nor. Sage	1	0	0	0	0	0	0	0	0	4	5	0	none
69. Sparrow, West, Chip	0	0	0	0	0	0	0	0	0	0	0	9	2781
70. Sparrow, West. Lark	0	0	0	0	0	0	0	0	0	0	0	6	none
71. *Sparrow, Westn. Troc	0	0	0	0	1	0	0	0	0	0	1	0	# 3418
72. Sparrow, Nev. Savan	0	0	0	0	0	0	0	0	0	0	0	1	# 907
73. Sparrow, Song	0	0	0	2	0	0	0	2	0	0	4	58	# 7028
74. Sparrow, West Vesper	0	0	0	0	0	0	0	0	0	0	0	2	# 389
75. Sparrow, Wh-Crowned	1	41	0	0	0	0	0	0	0	0	42	10	# 5869
76. Swallow, Rough-winged	3	0	0	0	0	0	0	0	0	0	3	7	76
77. *Swift, Wh-Throated	0	0	0	0	0	0	0	1	0	0	1	0	none
78. Tanager, Western	0	0	1	0	0	0	0	0	0	0	1	1	95
79. Thrasher, Bendire	3	2	0	0	0	0	0	1	0	0	6	19	14
80. Thrasher, Crissal	8	2	0	0	0	0	0	0	0	0	10	20	5
81. Thrasher, Palmer	0	2	0	0	7	2	0	0	0	0	11	15	none
82. Thrasher, Sage	0	0	0	0	0	0	0	0	0	0	0	2	none
83. Titmouse, Gray	0	0	0	0	0	0	0	0	0	0	0	2	33
84. Towhee, Canyon	0	17	0	0	1	7	0	11	0	0	36	58	215

BIRD BANDING TOTALS FISCAL YEAR 1939 *New Species This Listing	A Casa Grande	B Tumacacori	C Walnut Canyon	D Pipe Spring	E Saguaro	F Tonto	G Bandelier	H Chaco Canyon	I White Sands	J Wupatki	Total 1939	Total S.W.N.M. 1936-1939 incl.	Total Banded in U.S., 1938
Species Banded													
85. Towhee, Green-tailed	2	8	0	4	0	2	0	5	0	0	21	35	27
86. Towhee, Spurred	0	0	0	1	0	0	0	0	0	0	1	6	#186
87. Verdin, Arizona	3	0	0	0	0	0	0	0	0	0	3	9	11
88. Warbler, Lucy	0	0	0	0	0	0	0	0	0	0	0	1	1
89. Warbler, Pileolated	0	0	0	0	0	0	0	0	0	0	1	1	none
90. Waxwing, Cedar	0	0	0	0	0	0	0	0	0	0	0	1	1566
91. Woodpecker, Cactus	0	0	0	0	0	0	0	0	0	0	0	2	none
92. Woodpecker, Gila	2	1	0	0	6	2	0	0	0	0	11	16	13
93. Woodpecker, Lewis	0	0	0	0	0	0	0	0	0	0	0	7	none
94. Woodpecker, Mearns	0	0	4	0	0	0	0	0	0	0	4	13	none
95. Woodpecker, Wh-brst.	0	0	1	0	0	0	0	0	0	0	1	1	# 98
96. Woodpecker, R.Mt. Hy	0	0	0	0	0	0	0	0	0	0	0	1	# 98
97. Wren, Baird	0	1	0	0	0	0	0	0	0	0	1	3	157
98. Wren, Cactus	5	2	0	0	0	7	0	0	0	0	14	65	45
99. Wren, Canyon	0	0	0	2	0	0	0	0	0	0	2	22	9
100. Wren, House	0	0	0	0	0	0	0	0	0	0	0	1	#2792
101. Wren, Rock	2	1	0	0	0	1	0	0	0	5	9	4	5
TOTALS	487	223	245	361	18	51	85	127	0	17	1614	4569	
GRAND TOTAL NEW BIRDS BANDED 1936-1939 inclusive 6183													

*New Species This Listing

#Groups, several species or races.

SUMMARY OF BIRD BANDING IN SOUTHWESTERN NATIONAL MONUMENTS

Year	New Birds Banded	Species Banded
1936	1,273	63
1937	1,547	63
1938	1,749	57
1939	1,614	62
Total to date . .	6,183	101

Respectfully submitted,

Frank Pinkley,
Superintendent

By Dale S. King
Dale S. King, Park Naturalist

