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## CONTENTS

STATUS OF THE CAVE SWALLOW (Hirundo fulva) IN NEW MEXICO. Steve West.

### NEWS AND ANNOUNCEMENTS:

- From the President
- Minutes of NMOS Board Meeting
- Appreciation
- 1989 Annual Dues Notice
- Editor's Note
- Annual Meeting Notice
- NMOS Officers for 1988

## STATUS OF THE CAVE SWALLOW (*Hirundo fulva*) IN NEW MEXICO

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The Cave Swallow *Hirundo fulva*) is a disjunctively distributed species that breeds in southeastern New Mexico and western and south-central Texas south into southern Mexico, the West Indies, and South America (A.O.U. 1983). The species is considered casual or accidental at Tucson, Arizona (A.O.U. 1983) and a few individuals were found nesting in south Florida in 1987 (Am. Birds 41:421, 1987). In New Mexico, the species has been known only from the immediate vicinity of Carlsbad Caverns National Park (Hubbard 1978). Since 1978, a considerable amount of work has been done with the species in Eddy County, New Mexico; this work has increased our understanding of the Cave Swallow in New Mexico.

The Cave Swallow was first collected in New Mexico on 23 July 1930, when a University of Kansas field party took two specimens from a nesting colony at Ogle Cave in Slaughter Canyon within Carlsbad Caverns National Park. However, the significance of that discovery was not realized at the time, as the birds were identified as Cliff Swallows (*Hirundo pyrrhonata*); it was not until after the rediscovery of the species in the park in 1952 that the error was discovered (Johnston 1960). In June 1952, Richard Prasil found Cave Swallows nesting in Goat Cave, which is also in Slaughter Canyon; on 21 July 1953, he and Edgar Kincaid documented 24 Cave Swallows and 11 nests and collected two specimens at Goat Cave (Kincaid and Prasil 1956). Ligon (1961) summarized the 1959 studies of Paul Spangle and James K. Baker which had concluded that the total population in the park (and therefore in the state) was approximately 200 birds at four sites: Goat, Ogle, Vandalized (now called Lake), and Rainbow caves.

During the 1966 nesting season, Bruce Anderson, Roger Reisch, and I surveyed Cave Swallow sites in Carlsbad Caverns National Park and estimated that the population occupied at least five caves and included 213 adults and 309 young plus 20 unhatched, but apparently viable, eggs in the nests (Audubon Field Notes 20:591, 1966). That year (1966) was the first in which the species occupied the main cave, Carlsbad Cavern (contra Hubbard 1978:50), where it has continued to nest annually.

Since the estimate of some 500 Cave Swallows in 1966, the population has increased to several thousand individuals, with the majority nesting at the main cave. Banding studies, begun in 1980, indicate a continuing increase in numbers to an estimated population of 4,000-4,400 birds at the main cave in 1987. Current estimates of the numbers of birds occupying other caves are not available as remoteness, as well as difficulty in relocating some caves, has made censusing all sites impractical.

Since the mid-1960s, Cave Swallows have spread from the Slaughter Canyon drainage into other caves in the region, such as Carlsbad Cavern. Some caves appear to be used by nesting swallows each year while others are used only marginally or not at all for several years at a time. Figure 1 illustrates the four breeding sites known prior to 1966 as well as the eleven additional sites discovered in 1966 and later years. While the majority of the more than 300 limestone caves known to occur in the Guadalupe Mountains area are not suitable for Cave Swallows, there remain many sites which may prove suitable for nesting. In addition to the nesting sites within Carlsbad Caverns National Park, the species has occupied sites on adjacent Lincoln National Forest and Bureau of Land Management lands. To date, Cave Swallows in the Carlsbad region have not occupied buildings or culverts as they are known to do in adjacent west Texas, but this

may occur if the species were to fully occupy all suitable caves. Current indications are that the Cave Swallow is still in a state of expansion, including numbers of individuals and nesting sites, within the Guadalupe Mountains.

In New Mexico, Cave Swallows are still known only from Eddy County. Searches conducted along the western escarpment of the Guadalupe Mountains (which continues into Otero County) thus far have failed to locate Cave Swallows. Also, regardless of the name, there is no record of the species from Cave Swallow Crevice, a cave in Otero County. Nevertheless, the species should be expected to occur in Dona Ana County and perhaps elsewhere in southern New Mexico, since observers in adjacent El Paso, Texas, have reported the species at several sites (bridges) east of that city (John Sproul, pers. comm.)

Limited information on the arrival and departure of Cave Swallows within the Guadalupe Mountains is available for the Carlsbad Cavern colony. Extreme dates are 22 January and 10 November, respectively, and bracket those of all other swallow species in Eddy County. Based upon 15 years of record keeping beginning in 1970, "spring" arrival dates ranged from 22 January to 10 March, with a mean first arrival date of 17 February. Fall departure dates are less well documented, ranging from 28 October to 10 November over five years of record keeping since 1981, with a mean last departure date of 4 November.

Information on the movements of New Mexico Cave Swallows dispersing from their nesting sites has been difficult to obtain. Although it is generally believed the birds are to be found only in the immediate vicinity of the park (Hubbard 1978), there are records indicating that Cave Swallows are found some distance from the park both before and after the nesting season. Figure 2 illustrates the approximate range during the nesting season, here defined as 15 May-31 July. Figure 3 illustrates the broader range before and after the nesting season. As a rule, most Cave Swallows feed over the areas adjacent to their nesting caves or in nearby canyons. Rattlesnake Springs, about 6 km from the nearest nesting site, is used daily by foraging swallows during the nesting season.

## SUMMARY

Cave Swallows occur in the southern Guadalupe Mountains region of Eddy County, New Mexico, from late January/early February to early November, nesting in caves in and around Carlsbad Caverns National Park. The species was first found in New Mexico in 1930 in Slaughter Canyon; since the mid-1960s it has undergone rapid range and population expansion. The species is common to abundant in the immediate vicinity of nesting caves, but uncommon elsewhere. The largest population, consisting of at least 4,000 individuals, is found at the main cave, i.e., Carlsbad Cavern. Breeding takes place from 15 May to 31 July. Small numbers range into the lowlands east of the mountains before and after the

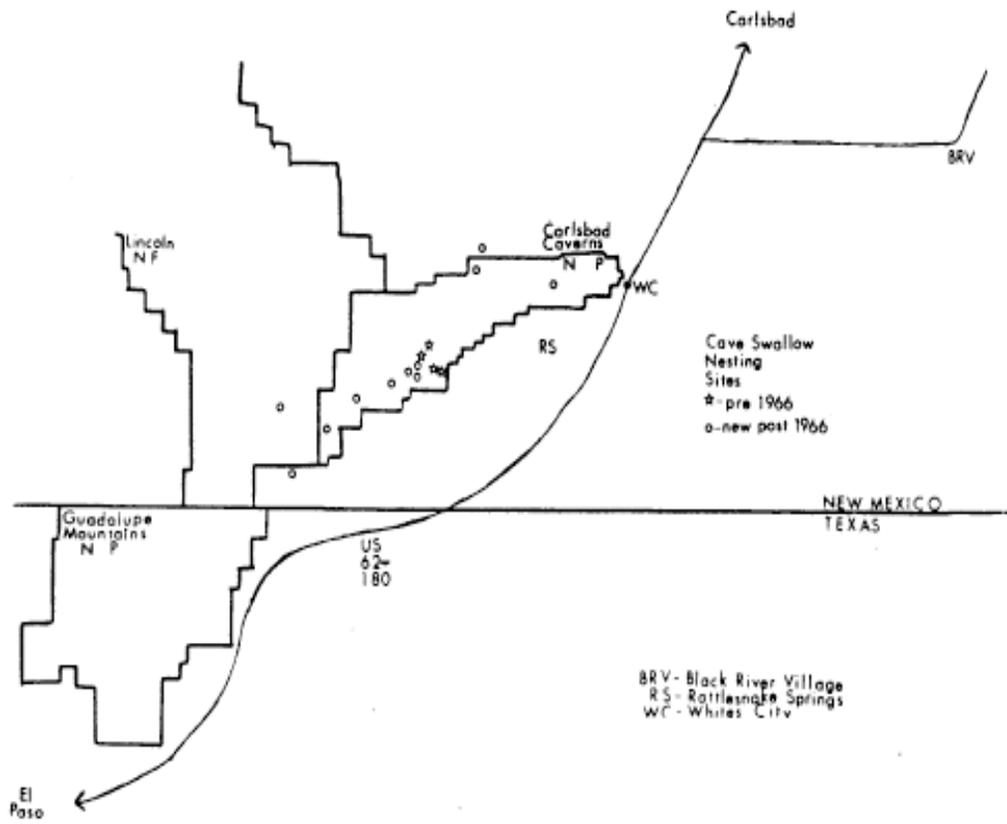


Figure 1. Known Cave Swallow nesting sites (n=15) in the vicinity of Carlsbad Caverns National Park, 1930-1987.

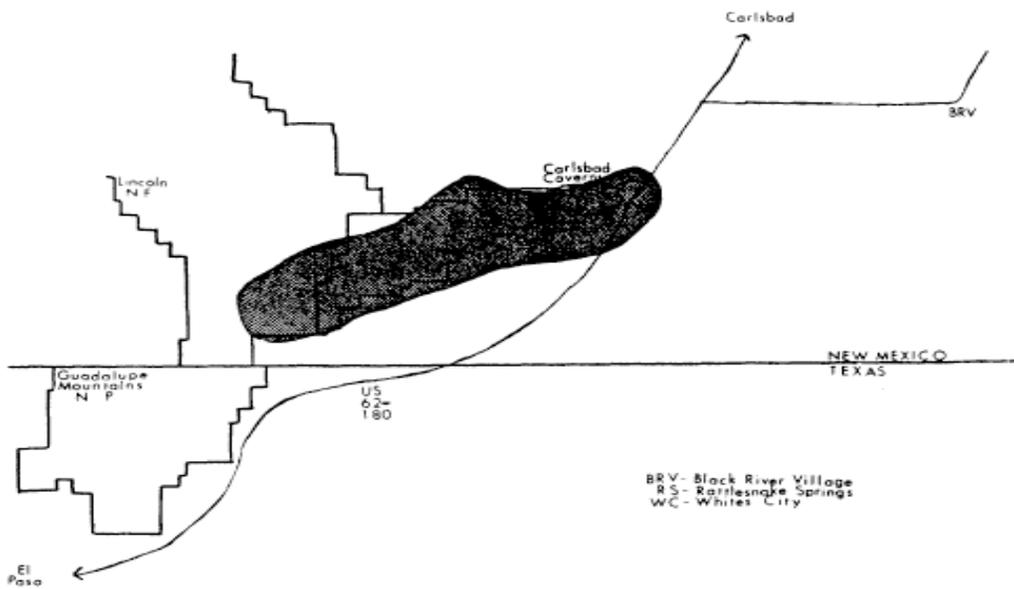


Figure 2. Normal nesting season range of Cave Swallows in the vicinity of Carlsbad Caverns National Park.

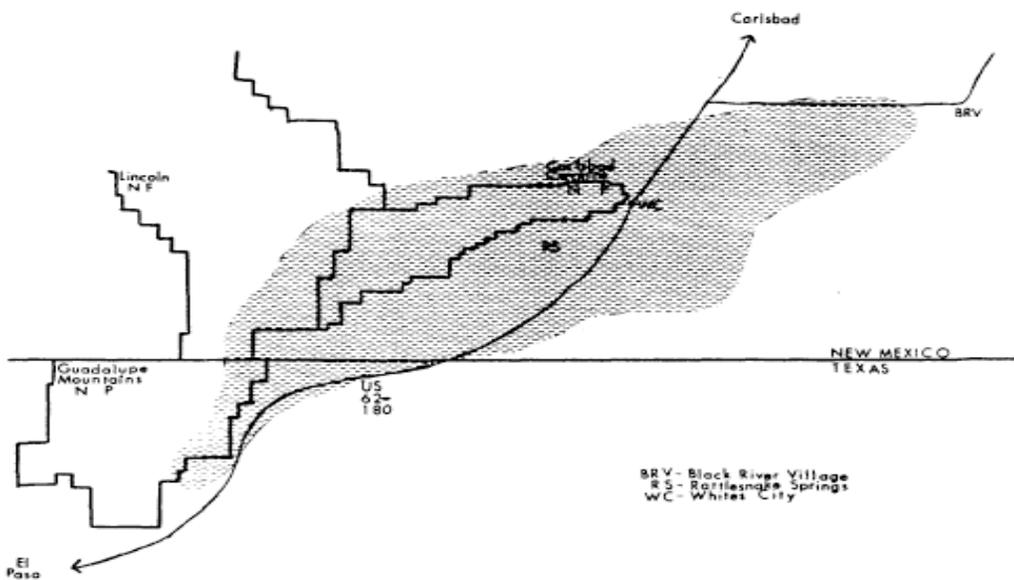


Figure 3. Normal pre- and post-nesting season range of Cave Swallows in the vicinity of Carlsbad Caverns National Park.

nesting season. The species is readily seen at Rattlesnake Springs, some 6 km from the nearest nesting cave. Cave Swallows are presently known in New Mexico only from Eddy County, but should be expected in southern Dona Ana County and perhaps elsewhere in southern New Mexico.

#### ACKNOWLEDGEMENTS

I thank Jim Walters and S. O. Williams III for comments on an earlier draft of this paper.

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#### FROM THE PRESIDENT

I first became aware of the NMOS in 1964, when R. C. Brummett hauled John Phillips and myself to the annual meeting in Albuquerque. I felt honored when I became President almost two years ago. I've always believed that it was important for any group that calls itself a state organization to be represented state-wide and, if nothing else, I thought it was good to have some representation from outside the Albuquerque - Santa Fe - Los Alamos corridor.

This is not to criticize the activity from that important area. Most of our members live in that region, so naturally most of our volunteer hours have come from that group. Those of us out in the hinterlands have felt isolated but I don't feel it has been due to any purposeful exclusion by anyone else.

All of this leads to our upcoming elections. All of our officer positions, as well as two director positions, are available. To date, I know of only two certain vacancies. One of these is Secretary, where Pat Stein is currently serving. Pat has told me she would prefer to step aside and give someone else a shot at it. All volunteer jobs seem to take a lot of time, and we owe Pat and the others our thanks for their contributions.

I also think it would be best if I stepped aside and let someone else handle the job of President for a couple of years. I have enjoyed the position tremendously but the duties involved with it plus my work with the NM Audubon Council (including trips for both), work on the NMOS Field Notes Committee, as well as finishing up my Masters at NM Tech, leading bird tours out of the country, my job, and, hopefully, some time for writing and birding have all added up to a very busy schedule. Surely there is someone out there who would be interested in taking on the

responsibilities of President.

If you are interested in one of these positions or would like to recommend someone else, please let me or one of the other officers know so that names can be passed along to the Nominating Committee (which will be named at the February board meeting). These names, plus other nominations that may come from the floor, will be voted on at our spring meeting in May 1989.

One more item before I close. Many of us in the NMOS have often been content to report on the events in the bird world around us and let it stop there. Others, however, have been involved with other groups in the state which have taken a more activist role in state environmental concerns.

One item is coming to the forefront in which I would urge all of you to become involved. There is a possibility that the Gray Ranch (which includes the Animas Mountains) in southwestern New Mexico may be added to the National Wildlife Refuge System. This is perhaps the single most important natural site left in the state and possesses an extremely good representation of the state's vertebrate fauna. Many of the species which barely occur in the state are limited to this range of mountains and, essentially, are found nowhere else in New Mexico (e.g., Mexican Chickadee, Yellow-eyed Junco, etc.).

There is increasing pressure from the environmental community for the federal government to purchase this area, which hosts a large number of threatened, endangered, or restricted species. Letters to your Congressman, both Senators, and to the Governor explaining your thoughts on this matter would greatly help in the protection of a unique part of the heritage of our great state.

-Steve West

## **MINUTES OF THE NMOS BOARD MEETING**

A meeting of the NMOS Board was held in the conference room at Bosque del Apache National Wildlife Refuge at 1 pm on 4 February 1989. Present were Steve West, Pat Stein, Ross Teuber, Burt Lewis, Mary Alice Root, Jim Karo, Paul Steel, Roland Goodman, and Bo West.

The first order of business taken up was the annual meeting. Mary Alice Root suggested that we explore the possibility of a joint meeting with the Oklahoma Ornithological Society, which is scheduled to meet 12-14 May 1989 at Black Mesa State Park, which is near Clayton. The suggestion will be acted upon. Mary Alice Root will prepare a notice for papers to be given at the meeting. Bo West will assist with the annual meeting.

Bo West will be Chair of the Nominating Committee. The officers of the society and one director (the position now held by Burt Lewis) are up for election.

The Treasurer's report was submitted by Ross Teuber. The report shows a balance on hand of \$4,525.66 as of 31 December 1988.

There are 500 copies of the New Mexico Bird Finding Guide remaining from the last printing of 2,000. This book is a major source of income, and could be sold more widely if it was promoted more. It was decided to order another printing of 2,000. There was discussion on the need to eventually update the guide, and for asking in the Bulletin for people to submit information on particular areas for inclusion in future editions.

Roly Goodman expressed concern about the lack of interest in ornithology at the Natural History Museum. It was noted that some efforts are being made at the museum, such as putting the Field

Notes on computer, but the major emphasis remains geology and paleontology. A letter to the museum will be written expressing our interest in more ornithology.

Roly Goodman reported on the status of the Field Notes. Three issues are almost ready and the committee is close to being up to date.

Jim Karo asked about our willingness to help finance an updated “Birds of New Mexico Field Checklist” by Paul Steel, which has been prepared. The New Mexico Audubon Council will pay for half of the costs. Jim has investigated the printing charges. A motion was made and passed that the NMOS lend up to \$700 to the Audubon Council for the printing. We ask that our name be put on the checklist along with Audubon’s.

A suggestion was made that a letter go to the National Geographic Society asking it to put field guides into schools in New Mexico.

-Pat Stein

### **APPRECIATION**

To the New Mexico Ornithological Society: I wish to express my deep appreciation for the memorial sent to the Western Foundation for Raptor Conservation in memory of my husband, Leland R. Stein. Thank you.

-Patricia C. Stein