

Monk Parakeet. Photo/O.S. Pettingill, Jr., from Photo Researchers, Inc.

# The Monk Parakeet in the United States, 1970–75

"the organized retrieval programs . . . have been successful in reducing their spread in the United States."

by William J. Neidermyer and Joseph J. Hickey<sup>1</sup>

#### Introduction

THIS ARTICLE DESCRIBES the recent population increase and subsequent decline of the Monk Parakeet (Myiopsitta monachus) in the United States. During the period 1968–70, 34,602 Monk Parakeets were imported legally into the United States. Monk Parakeets were first reported flying free in the New York metropolitan area in 1967, and by 1970 as many as eight nests were found. By 1972, nests had been reported as far west as

Columbus, Ohio, Owosso, Michigan, Norman, Oklahoma, Omaha, Nebraska, and California. These "wild" birds were most likely the result of multiple introductions including (1) accidental escapes during shipment to pet dealers or from pet owners and (2) deliberate releases by pet owners. Neidermyer personally interviewed several former owners

Volume 31 Number 3 273

<sup>&</sup>lt;sup>1</sup> Dept. of Wildlife Ecology, Univ. of Wisconsin, Madison, Wisc. 53706.

who deliberately released their birds to the wild The reason most often given was that the birds were far too noisy to make satisfactory pets

The Monk Parakeet is native to South America, breeding from Bolivia, Paraguay, and Brazil (states of Mato Grosso and Rio Grande do Sul) through Uruguay south to the Rio Negro of Argentina (Meyer de Schauensee 1966). It is primarily a lowland bird and is found in low rainfall areas in open forest, riparian habitats, savanna woodland, dry *Acacia* scrubland, palm groves, farmlands and orchards.

The Monk Parakeet is the only known stick-nesting parrot. The nests are communal; several pairs participate in building a single large structure in which each pair has its own nest cavity. The birds use sticks they clip from live trees. The nest is occupied throughout the year, the parakeets raising young in it during the breeding season and using it as a dormitory at other seasons. The nests are maintained and repaired continuously, and the structure is enlarged whenever additional birds take up residence.

In Argentina the species is considered a major agricultural pest. It is reported that the birds strip grain fields and destroy sunflowers, corn, sorghum, and millet. The damage to the crops runs from 2 to 15 per cent generally, although in some areas it may reach 45 per cent The birds are also said to visit rice and wheat fields and to eat a variety of fruits. According to Bump (1971), control of this species in Argentina has not been successful. Between 1958 and 1960 in one province alone, bounties were paid on 427,206 pairs of feet. Fire, shooting, netting, and poisons have been equally ineffectual in this campaign (Godoy 1963).

By 1973, reports in the popular press estimated the nationwide Monk Parakeet population in the United States to be between 4000 and 5000. In view of this presumed expanding population, interest in this exotic species increased with emphasis on its potential threat to fruit and grain crops, the danger of possible transmission of disease (psittacosis), and interspecific competition with native wildlife. With these fears as background, a meeting was held in February 1973 that was attended by representatives of conservation agencies from 13 northeastern states. The

outcome was an agreement by the participants that a "retrieval" (eradication) program would be attempted. The U.S. Fish and Wildlife Service agreed to act as a coordinator for this program.

Our study was initiated in July 1973, with the purpose of monitoring the fluctuations of the population of Monk Parakeets in the United States from that year onward.

#### Methods

TO OBTAIN INFORMATION on the status of Monk Parakeet populations and the success of the "retrieval" program, an observation sheet was developed and distributed through the Fish and Wildlife Service to the appropriate state agencies in the 48 contiguous states. Additional forms were sent to other interested observers. Further information was obtained from American Birds (Regional Reports and Christmas Bird Counts) and various state ornithological publications. Personal observations were recorded on field trips to the Northeast, Midwest, Florida, and Puerto Rico. But owing to the success of the retrieval program, the reproductive studies originally planned were eliminated.

#### Results and Discussion

Population, distribution, retrievals

A total of 367 birds have been recorded as confirmed sightings in 1970-75 (Table 1). This may well represent an underestimate of the numbers actually present nationwide during those years. But it is clear that the popular press had highly overestimated the nationwide population. The parakeets exhibited a general population increase from 1970 to the summer of 1973. The major increase occurred in metropolitan New York and northern New Jersey. After the initiation of active retrieval programs in the spring of 1973, the population of Monk Parakeets exhibited a concomitant decrease. An independent confirmation of this population trend is given by the Audubon Christmas Bird Counts (Table 2).

The continental distribution of observations (Figure 1) clearly indicates that the free-flying Monk Parakeets resulted from multiple releases. This widespread distribution could not have resulted from natural range expan-

Table 1. Observations and retrievals of Monk Parakeets, 1970-75.

	19	1970	1971	7.1	1972	72	1973	73	19	1974	19	1975	Totals	als	Re-
State	OBS	RET	OBS	RET	OBS	RET	OBS	RET	OBS	RET	OBS	RET	OBS	RET	Rate
					 	 	-				1	I	-	ľ	1
Vermont		١	l		-		•	ı	ļ	ļ	J	1	_	1	1
New Hampshire		1	1	1	- ;	-	٦					İ	4	_	7
Massachusetts	I	1	1,	1	71	-	7				i		7 4	۱ ۱	1
Connecticut	l		7	1	7	1	?	5	۱ ;				- 2	00	G
New York	10	1	4+1	1	10+	-	£ '	\& \&	57				143+	90	70 50 50
New Jersev	17	1	+	1	+	l	۷,	۷,		ļ	i	l	+07 13	۲ ۷	. Y
Pennsylvania	1	İ	7	1	9	_	^	n	I	l	-		51	>	₽
Maryland	İ	I	ì	l	<b>7</b> 1	۱ ۹	=	١ ٦	-	-	-		ر <del>ج</del>	=	139
Virginia	I	ļ	١	1	٠ .	<b>.</b> 0		o -	-	-			ુ ∝	- F	2
North Carolina	l	I	1		<b>-</b>	l	٠,	-	ŀ	l			· "	۱ ا	;
Georgia	1	1			١;	l	ი (	l	-	ļ	-		2.12		١
Florida	Ì	1	ł	l	24	Ì	7 -	۱ -	-	ļ	+	Ì	1	۱ -	001
Minnesota	1	i	1	İ	1	l	- ,	<b>-</b> -	ļ	l		'	٠, ٠	-	33
Wisconsin	1		1	Ì	I	1	•	-		l		1	י ר	·	;
Michigan	7	I	1	ļ			۱ -	1	ŀ	ļ	l		7 -		١
Iowa		ŀ	1	i	۱ ،		<b>→</b>	١٬	6	1	72		70	,	10
Illinois	1	1	l	1	7	I	Ξ ς	4 C	_		-		3 (	1 6	200
Indiana	l	ļ	l	1	۱ ،	l	7 [	4 C	l				10	ا د	22
Ohio	ì	I	l	ļ	7	l	\ <del>-</del>	7	İ				\ <del>-</del>	<b>'</b>	۱ ا
Missouri	1	l	1	I	۱,	l	-		İ	1		1	, (	I	İ
Tennessee	l	I	١	l	7	l	ı <del>-</del>	-				١	ı —	_	100
Arkansas	}	1	1	l	l	l	-	1					-	' I	1
North Dakota	Ì	١	_	ļ	۱,	l	- ا	1	- ا				4	1	l
Nebraska	I				71 (	1	٦		٦		C	١		١	1
Oklahoma	l	1	l	1	ç	ļ	۶ ا	ŀ	3		ع ر م	l	) <b>C</b>	l	ł
Texas				1	۱ ب	;	, <u>,</u>	•	1 4	4	1 [	7	47	35	75
California		1	l		2	13	<u>.</u>	ν (	0	9	,	,	È C	3 C	100
Nevada		I	1	I	İ	I	7 -	<b>7</b> -	l	i			1 -	ı	<u> </u>
Arizona		l			1		٠,			1	l	Ì		-	901
New Mexico	1	1		I	1	,	-   	-	,   	,		1	-	.	
Totals	56	1	+6		87+	19	189	130	41	7	21	7	367	163	44%

1 + = several uncounted colonies
2 These are the same seven brrds
3 These are the same two brrds

Table 2. Number of Monk Parakeets recorded on Audubon Christmas Bird Counts (Arbib and Heilbrun, 1973, 1974, 1975).

1972-73	3	1973–74		1974-75	
State	Number	State	Number	State	Number
Massachusetts	1				
		Connecticut	1	Connecticut	3
New York	49	New York	20	New York	9
New Jersey	10	New Jersey	10		
Pennsylvania	5	•		Pennsylvania	3
Washington, D.C.	1	Washington, D.C.	1	•	
Vırginia	2	<b>3.</b> ,			
	_	Florida	6	Florida	5
Georgia	1	1101144	, ,	- 101100	
O CO A SAG	•	Ohio	3		
		G-122	-	Illinois	1
Nebraska	2			11111015	•
14CO1d3Kd	2	Texas	$2^1$	Texas	21
		Texas		10/43	
Totals	71		43		23

<sup>&</sup>lt;sup>1</sup> Same two birds.

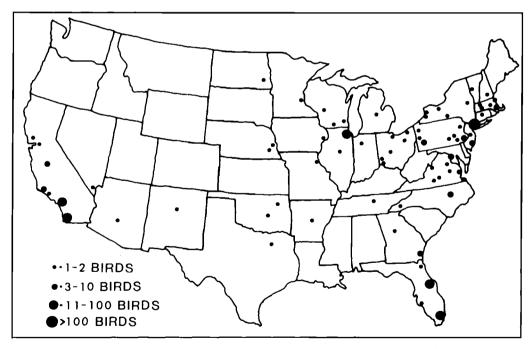


Figure 1. Reported distribution of Monk Parakeets in the United States, 1970-75.

sion from metropolitan New York in such a short time span.

The "retrieval" program appears to have been fairly effective. New York, California, Virginia, and New Jersey carried out the most active and successful programs. New York assigned one state and one federal wildlife biologist and four state technicians to the program on a part-time basis. In Virginia and New Jersey the program involved biologists from the Fish and Game and Agriculture departments. In California the Department of Food and Agriculture handled the responsibility of the retrieval program. These four states accounted for 87 per cent of the 163 parakeets retrieved (Table 1). The overall retrieval rate of 44 per cent (of total estimated population) appears low; however, many of the observations were of one or two birds which eventually disappeared without assistance from man. Presumably these birds succumbed to natural causes.

Of 28 retrieval attempts in which sufficient details were reported, 93 per cent were successful. Because the parakeets exhibit a strong nest-site tenacity, the greatest success was with nesting or roosting birds. The nest serves as a congregation point, and the birds can be collected here over a period of time. The most successful retrieval method was shooting. Of the 28 retrievals reported above, 18 were by shooting and 7 by trapping. Shotguns, pellet guns and .22-caliber CB caps were used. Mist nets, drop nets, fish-landing nets, bal-chatri traps, and box traps were the trapping methods used.

Forty-two persons responded to our questionnaire; viewpoints towards the birds varied. One-third of the respondents considered the birds desirable, one-half undesirable, and one-sixth professed mixed reactions. When control people explained the possible detrimental role of the parakeet, opposition to retrieval waned.

# Reproduction, feeding, nesting

The New York metropolitan area was the only region that exhibited a naturally expanding population. The first successful reproduction occurred at Valley Stream, New York, in 1971. This nest produced two birds. Out of a sample of 55 parakeets collected in New York in 1973, 34, or 62 per cent, were juveniles.

Successful reproduction was subsequently reported or observed in Pennsylvania and Illinois, but there was no dramatic increase in population there as occurred in the New York area. Successful reproduction was suspected in Florida and Puerto Rico. Neidermyer observed a flock of 36–40 birds in San Juan, Puerto Rico during late summer 1974.

Little is known of the reproductive potential of Monk Parakeets. Neidermyer documented a case of double brooding in Illinois in 1973. In this case one pair raised two broods of three birds each. The first brood was fledged in July 1973. No data on eggs and nestling period were noted. Four eggs of the second clutch were laid between September 1 and 5, 1973. The four eggs hatched by October 2, 1973. On October 24, 1973, the nestlings were not fully feathered. Two young fledged on November 6, 1973, and a third young fledged on November 9, 1973. The incubation period for this second brood was 27 to 32 days, and the nestling period was 36 to 39 days. Forshaw (1973) reports an incubation period of 31 days. There are data that indicate that in this species several pairs in the same colony do not necessarily breed in synchrony and that Monk Parakeets begin incubation with the first egg laid.

During this study, 77 per cent of 367 observations occurred in urban-suburban areas, with the remaining 23 per cent in rural areas. This preponderance of urban-suburban observations is probably owing to the availability of parakeets in the pet shops of the cities and their suburbs and the feeding stations which are widespread in these areas Sixty-three per cent of 38 feeding observations were of birds feeding on sunflower seeds and "wild bird seed" at feeders. The prevalence of feeding stations, indeed, may have been an important factor in the survival of the parakeets through the winter months in the northern United States.

We received no reports of major agricultural damage. There were some complaints from home gardeners near nest locations Damage to ornamental trees and shrubs occurred during nest construction. Our respondents reported the following food items: commercial "wild bird seed," sunflower seed, apples, corn, tomatoes, Eucalyptus buds, passion vine fruit, citrus (hulling and consuming seeds), puncture vine seeds, figs,

apricots, persimmons, loquats, grass seeds, weed seeds, raisins, pears, mulberries, peaches, cherries, grapes, bread, and suet.

Of 367 observations 144 had accompanying nest and/or roost structures. Data are available for 29 nests. Of these, 15 were constructed in trees while 14 were constructed on buildings, utility poles, and other man-made foundations. Twenty-five nests ranged in height from 12 to 50 feet. The average height was 28.5 feet. The size of the nests varied depending on the number of birds present. The largest nest was 6 feet long by 4 feet deep and contained seven compartments housing 13 birds. The parakeets exhibit a predilection for constructing their private entry-ways from thorny twigs. Forshaw also observed this trait in South America and concluded that thorny twigs knit together more securely as well as providing better protection from predators.

### **Summary and Conclusions**

Free-flying Monk Parakeets were first reported in the United States in 1967. The parakeets exhibited a progressive increase in numbers through 1973 when an effective control program was initiated by the U.S. Fish and Wildlife Service and various state governments. A total of 367 birds was confirmed and 163 were eliminated from 1970-75. Successful reproduction occurred principally in the New York metropolitan area but also in Pennsylvania and Illinois. The parakeets occurred primarily in urban-suburban situations. The birds fed on a variety of grains and fruits. Commercial bird seed appeared to be a major source of food. The conspicuous stick nests were placed in trees, buildings, utility poles, and other man-made foundations.

It is apparent that the organized retrieval programs in the various states have been successful in reducing the growth and spread of feral Monk Parakeets in the United States. This species' unique communal nesting and roosting habits were of great benefit in the retrieval program. There are still free-flying Monk Parakeets in the United States. These birds have demonstrated their ability to survive and reproduce in the Northern Hemisphere. However, if the states remain vigilant, this species should not become the next Starling (Sturnus vulgaris) in the United States.

## Acknowledgments

This project was funded through contract number 14-16-0008-1113 with the U.S. Fish and Wildlife Service. We are especially grateful to Wesley R. Jones for his initial support and arranging for the distribution of observation forms. Thanks are extended to everyone who took the time to fill out and return observation forms. For assistance in the field we are grateful to Herbert Raeffaele and Gary Hampton.

## **Bibliography**

- Arbib, R. S., Jr., and L. H. Heilbrun. 1973. The seventy-third Christmas Bird Count. Amer. Birds 27(2):135-538.
- Banks, R. C. 1970. Birds imported into the United States in 1968. U.S. Dept. Interior, Fish and Wildlife Service, Special Scientific Report-Wildlife No. 136.
- Banks, R. C., and R. B. Clapp. 1972. Birds imported into the United States in 1969. U.S. Dept Interior, Fish and Wildlife Service, Special Scientific Report-Wildlife No. 148.
- Bull, J. 1971. Monk parakeets in the New York City region. The Linnaean News-Letter (Linnaean Soc. N.Y.) 25(1):1-3.
- Bump, G. 1971. The South American monk, Quaker, or gray-headed parakeet. U.S. Fish and Wildlife Service, Wildl. Leaflet 496.
- Clapp, R. B., and R. C. Banks. 1973. Birds imported into the United States in 1970. U.S. Dept Interior, Fish and Wildlife Service, Special Scientific Report-Wildlife No. 164.
- Forbes, J. E., and L. P. Brown. 1974. The New York monk parakeet retrieval program. Paper presented at the Northeast Fish and Wildlife Conference, February 25–28, 1974. 8 pp.
- Forshaw, J. M. 1973. Parrots of the World. Double-day and Company, New York. 584 pp.
- Godoy, J. C. 1963. Fauna Silvestre. Consigo Federal de Inversiones Buenos Aires, Argentina p. 220-225.
- Heilbrun, L. H., and R. S. Arbib, Jr. 1974. The seventy-fourth Christmas Bird Count. Amer Birds 28(2):145-555.
- Meyer de Schauensee, R. 1966. The species of birds of South America and their distribution. Livingston, Narberth, Pennsylvania. p. 127.
- Naumberg, E. M. B. 1930. The birds of Mato Grosso, Brazil. Bull. Amer. Mus. Nat. Hist 60:126-129.
- Roscoe, D. R., J. B. Zeh, W. B. Stone, L. P. Brown, and J. L. Renkavinsky. 1973. Observations on the monk parakeet in New York state. New York Fish and Game Journal 20(2):170-173.
- Williams, F. C. 1973. The changing seasons Southern Great Plains. Amer. Birds 27(1):80.