RESULTS OF 1940 BIRD BANDING AT AVERY ISLAND, LOUISIANA, WITH SPECIAL ACCOUNT OF A NEW BANDING METHOD

By E. A. McILHENNY

FROM time to time since 1917, there have been published in various natural history journals detailed records of birds banded and the retakes of banded birds at my banding station at Avery Island, Louisiana. This station, now in its thirtieth year of continuous operation, is the oldest banding station in the United States, and has, during its thirty years of existence, placed recorded bands on 272,848 birds, mostly migratory wildfowl. From the 272,848 birds banded at Avery Island, return records have been made from all parts of North America either by re-traps or kills of more than 20,000 individuals who have made at least one migration after being banded.

During my thirty years of bird-banding, return records of bands put on at Avery Island have been received from northern South America north to the Arctic Ocean, and from the Atlantic Ocean on the east to the Pacific Ocean and Bering Sea on the west. I annually register more than 2,000 recovery records from birds that have made at least one migration.

During the year 1940, I placed bands on 33,274 birds—principally wildfowl. This is the greatest number I have ever banded in one year. During the past five years, I have banded 132,848 birds, an average of 26,569 a year, representing one hundred and thirty-eight species.

When one has a deep interest in bird banding and operates his banding traps every day in the year, a very close association is had with the birds of the vicinity, and many interesting and unusual data accumulate.

The banding year of 1940 was the most unusual I have ever recorded—not only did I band more birds that year than in any other, but there occurred in January, 1940 the coldest weather and the longest spell of cold weather ever recorded in southern Louisiana. On January 19th, the thermometer recorded 14° above zero. This temperature came with a mixed rain and snow, which, falling on the frozen earth, covered it with four or five inches of ice, which did not melt for eight days. This unprecedented cold drove myriads of birds that usually winter in the northern and central sections of the south to the Gulf Coast, where they remained, and, not having the habit of migrating across the Gulf, made no attempt to go further after reaching the big water. This protracted cold spell with the ground covered with ice, and a total lack of insects caused tremendous mortality among many of our smaller birds who depend

on insects for food. While not many dead birds were observed during the eight cold days, there was observed a great diminution in the number of our regular winter residents after the cold had passed. Both Ruby-crowned and Golden-Crowned Knights, Brown Creepers, Myrtle Warblers, etc. were far less numerous, while Killdeers and Martins were totally absent, and there was a woeful lack of these birds during the winter of 1940–1941.

Many years ago, I had built near my house a long, raised platform, twenty-six feet above the ground. On this platform was arranged housing accommodations for 128 pairs of Martins. Every nesting place has been occupied each spring for many years, the birds usually arriving during the last week of January from their winter home south of the Gulf of Mexico. During the Spring of 1940, not a pair of Martins came to their old haunts. Two male birds arrived, stayed a few days, and then disappeared. During the Spring of 1941, not a single Martin came to Martin Place, the name by which this Martin colony is known. Every individual belonging to this colony evidently perished during the cold of 1940. A careful investigation of the Martin colonies of Louisiana and East Texas during the Spring of 1940 and 1941, proved the nesting birds had almost been exterminated in the narrow strip lying between the Sabine River on the west and the Atchafalaya and Red Rivers on the East. On both sides of this area, the nesting Martins were much fewer in 1940, but almost up to their usual numbers in 1941.

I own quite an extensive cattle range on the prairie north of Avery Island. On this range there has always been a resident population of Killdeer. During the 1940 freeze, many Killdeer were found frozen or so weak from lack of food that they could not fly. In the Spring of 1940, not a single pair of Killdeers nested on my place, and not one was seen. In 1941, not a pair nested, and not one has been seen. A survey of the Killdeer population from the Mississippi River to the Sabine during the Springs of both 1940 and 1941, failed to locate a single nesting pair, and there was apparently a 95% reduction in the winter population in 1940–1941.

There was an unusual abundance of woodcock driven to the coast of Louisiana during this unprecedented cold spell, and as they could be seen running about the edges of the thickets at all times of the day, I thought I would try and catch some of them for banding with a dip net, but as the attempt was not made until the cold snap was almost over, it was not very successful. I then thought I would try catching woodcock at night with a light, and carrying out that thought has been the greatest thrill of all my bird banding experiences. The first time I tried the light, I saw plenty of birds and got close to them, but the net I was using was so small I was not successful in dropping it over the birds.

That night I lay awake thinking about my failure to catch more

of the many birds I had seen and approached quite closely, and the idea came to me to make a larger net with a longer handle. The next day, I procured two dry bamboo poles eighteen feet long and tied their butts firmly together every six inches for six feet of their length. At the point where the highest tie was made, I forced between the poles a small block of wood. Two feet above this spreader, I inserted a second spreader one and one-quarter feet long. Two feet and four inches above the second spreader, a third spreader was put into place. This last spreader had a length of three feet. As each spreader was put into place, the poles were lashed tightly to each end. With the spreaders in place, the small ends of the poles were bent towards each other, and the tips overlapped for two feet were taped and lashed together for strength. This procedure produced a brail above the last spreader seven feet in length and three feet eight inches wide at the widest point, shaped exactly like an oval tennis racket. Over the spread portion I tied securely, stretched taut, a fine mesh of linen thread. This gave me a net with a total length from top to bottom of thirteen feet, and it proved most efficient for the use I intended it—the catching of birds at night on comparatively smooth and open ground.

I fitted two of my six-compartment carrying cages for small birds with cloth tops instead of the wire they are usually covered with, put new batteries in my six-cell electric headlight, and fresh batteries in a powerful flashlight, and, selecting as helpers two men who are agile and quiet walkers, I was ready for the big experiment of catching woodcock at night.

At seven-thirty the evening of January 27, I picked up my helpers and, loading all the paraphernalia into the back of my car, including my banding box, we proceeded to an open level cattle pasture at the foot of the hills, in the soft ground of which I knew woodcock were in the habit of feeding. It must be known that woodcock are nightfeeders, leaving the shade of the thickets, where they rest during the day, as soon as the sun sets, going to open damp pastures, preferably where cattle range, and probing in the soft earth for earthworms, which constitute their principal food.

We had hardly reached the pasture when several woodcock flushed in front of the car. We could see them clearly in the glare of the car's lights, so stopped and made ready for the hunt. Adjusting the headlight, and giving one of the men the hand flashlight, I took the net, while each of my companions picked up one of the carrying-cages, and with lights sweeping the ground a hundred feet or more in front, we were on our way. We had only proceeded a few feet when I saw a woodcock feeding a little way from us. Keeping the bird in the center of the beam from my headlight, I walked quietly to within about ten feet of it, and dropped the big net over it. The bird did not move until the net touched it, and then could

only flutter, as the webbing of the net pinned it down. One of the men hurried up and, placing his hand over the struggling bird from above, held it quiet while the other hand was slipped under the net. The capture was made, and the bird placed in the carrying-cage.

The catching of our first woodcock had been done so quickly and easily that I was highly elated, for I realized my line of reasoning for using the light and big net was working out in perfect sequence. Within twenty-five minutes from the time the first woodcock was captured, I had netted and placed in the carrying-cages twelve more. We then turned back to the car, so that the captured birds might be banded and liberated. Before we reached the car, three more birds were netted, and a number flushed because of our rapid and incautious haste. I feared the birds would injure themselves bumping up and down, in their efforts to escape, but my fears were groundless, as we found all fifteen strong and unhurt, as the aluminum bands were placed on them and they were liberated. We were soon on our way again, this time taking a different direction from the car, and spotting woodcock almost from the start.

Woodcock were not the only birds we saw, but at first I paid no attention to other species, as I was anxious to band as many woodcock as possible. As the evening wore on and unbanded woodcock became scarce, I began catching other birds: killdeer, meadowlarks, Savannah Sparrows, pipits and jack-snipe. All were netted, and four times the collecting boxes were filled and taken to the car, where the birds were banded, recorded and liberated. The excitement of the chase kept us going until a little past midnight, when I began to tire, and we called it a night. I did not realize until the next morning, when the evening's banding records were tabulated, just how many birds we had captured. Then I learned we had banded thirty woodcock, two jack-snipe, three killdeer, thirteen meadowlarks, forty-one Savannah Sparrows, and three pipits,—a total of ninety-two birds.

Besides the excitement of finding and capturing these birds, I learned a number of things I had not before known. First, I learned woodcock's eyes would reflect the light (shine), but only when at a distance of more than 200 feet from the light. The fact that the eye of bird or animal reflects light at night is in direct ratio to their ability to see in the dark. The eyes of all mammals (except humans and monkeys), many reptiles, and all night-flying insects shine at night, if a concentrated light is projected towards them, and these eyes can be seen by anyone carrying a light above their line of vision. If the light is below the line of vision, only eyes reflecting light most brilliantly are visible. The eyes of birds who feed at night reflect light also, and woodcock belong to this category. From the eyes of the other birds taken that first night, not a flicker of light was seen.

I learned an interesting thing about Savannah Sparrows that night, which is — they sleep in small, compact groups on the ground in short grass. When one of these little birds was flushed, if the light was held on the spot from which it arose, often the group could be seen, and several times from four to eight were taken at one drop of the net.

The experience of this first night's banding was a new and interesting game to me, and I eagerly waited for an opportunity of trying it again.

This came a few nights later, and we were again successful, capturing about the same type of birds we had banded on the first night, but it was necessary to examine every bird caught, as many of them wore bands put on during the first night. As the weather moderated, woodcock moved north, and my last banding of these interesting birds was on the night of February 17, when twenty were captured. By that time, however, I had succeeded in banding one hundred fifty-four of these uncommon birds, and had learned much of their feeding and night habits.

After the woodcock left on their northern migration, I concentrated my night efforts on Jack (Wilson) Snipe. These attractive birds are much harder to capture than woodcock, for their eyes do not reflect light, nor do they feed at night. There were plenty of them in the pastures along the edges of the marshes, where the high land and wet lands join, but it was almost impossible to see them, as they lay close on the ground and their plumage blended exactly with the foliage of the winter marshes. I soon learned that the best way to get them was to flush one, then follow its flight with the beam of light. This seemed to confuse the bird, and it would, instead of flying a considerable distance, come to earth comparatively near the point from which it had been flushed. By marking closely the spot at which it came down and walking very quietly, it was almost always possible to locate the bird, and then its capture was easy, for the big net was so light and could be moved so quickly that it was rare for a bird seen on the ground to escape capture.

After the first few evenings of netting and banding birds with the aid of my headlight, I became so fascinated with the sport that I was out two or three times a week, except when the moon was shining brightly. In moonlight it was much harder to see and get close to the birds, because the natural light dims the artificial one.

On the night of March 2, I saw on a level piece of pasture-land, where the grass was very short, a considerable flock of small birds, sitting rather close together. There must have been over a hundred of them on a space not more than fifty feet square. They sat quite still, in small groups, each bird heading towards the center of what appeared to be a rough circle. A closer approach showed the birds to be American Pipits. By keeping on the outside of the flock and

working around it, I succeeded in capturing thirty-eight of the little fellows, and could have captured more, but I had already a number of birds in my carrying cages, and was afraid of crowding them too closely, so went to the car and banded the catch.

Again, on the evening of March 9, I found the same flock of pipits and captured thirty-eight more of them, besides a number of those I had banded on March 2. These were the first pipits I had ever banded in numbers, and I was highly elated over my success.

I continued my night-hunting through the month of March, capturing a good many of the same species I had before taken, including jack-snipe, killdeer, meadowlarks, and Savannah Sparrows, and, keeping a sharp lookout towards the end of the month (when working the wet lands bordering the marshes), for sandpipers, which I knew were due to arrive from South America during the last days of March or early April. On the night of March 30, my sandpiper search was rewarded by the capture of one Stilt Sandpiper, one Solitary Sandpiper, four Pectoral Sandpipers, four Red-backed Sandpipers and one Spotted Sandpiper, besides thirty-five jack-snipe. I had been getting but few snipe before that date, except birds I had previously banded, and this sudden catch of new birds proved that a fresh supply had come in from across the Gulf, with the first migration of sandpipers. Of course, I was greatly excited at capturing this number of species all in one night, none of which I had ever banded before, excepting, of course, the snipe, and went out the next night fully expecting to make a great catch. Unfortunately, a norther had swept down on the South, with a sudden drop in temperature to the frost point, and it was not until some days later that I was rewarded by finding the marshes filled with migrating shore birds.

As soon as I reached the edge of the marsh on the night of April 14, I knew the shore birds had arrived in quantity. A strong southeast wind had been blowing for several days, backing the tide inland to an unusual height. This high tide, and a hard rain, had flooded the marshes, and covered the low lands adjoining them with a couple of inches of water, producing an ideal condition for the concentration of the many shore birds lately arrived on their spring migration from South America to their nesting grounds on the Arctic tundras. Almost at once, after leaving my car, I spotted a large plover-like bird alone on a dry part of the pasture, and although it was some distance away, I was sure it was an Upland Plover. Telling my two companions to stay where they were, I approached the bird so quietly that it did not know danger was near until the net descended over it and it was pinned to the ground. I was so delighted with this capture that we at once returned to the car, banded and liberated the first Upland Plover I had ever seen at night, and the first I had ever banded.

Naturally, after this first capture, so soon after leaving the car, I expected and searched for more plover, but no such luck, for it was not until some days later that others were taken.

When I reached the edge of the shallow water, shore birds of several species were in sight in every direction. I began operation on a mixed flock of Greater and Lesser Yellow-legs. Other species were in evidence, but the yellow-legs stood up so high and looked so large that I went after them and paid no attention to the smaller species. These birds were standing in water one or two inches deep, and a certain amount of splashing was unavoidable while approaching them. At first, I suppose they thought some of the cattle that used the pasture were making the noise in the water, and paid no attention to my approach, as of course the light on my head hid me completely, but after I had caught four of them and put up the flock that number of times, it was harder to get near enough to them to drop the net over one of them. Finally, the flock scattered, and I later found them by ones and twos, and had less trouble in getting them than when they were in flock.

The banding done during the night of April 14 will always be one of my finest experiences in this interesting work, not only for the considerable number of unusual birds banded, but because I banded a number of species I had never before taken. I worked until past midnight and the result was 127 individuals captured. This number included killdeer, meadowlark, Pectoral Sandpiper, Spotted Sandpiper, White-rumped Sandpiper, Greater Yellow-legs, Lesser Yellow-legs, Upland Plover, and Wilson Snipe—the greatest assortment of unusual and rare birds I had ever taken in so short a time.

By now, I was a confirmed night-hunter, and although I continued my daylight banding, I found getting the birds from my traps did not have anything like the exciting appeal that the night-banding gave me, and each day I looked forward to the excitement and mystery of traveling the open pastures in the dark, expecting every minute to see and capture some bird I had not before taken.

Nothing new was taken until the night of April 27, when there showed up in the light beam as I crossed one of the dry pastures, which I hunted nightly, several pairs of dull-red eyes. These, at first, I thought must belong to a family of skunks, as the eyes of these little animals were frequently seen, shining dully as my searchlight swept the countryside, cutting a path of light through the darkness. If, however, the eyes had belonged to skunks, they would have been moving about, as these little animals pay no attention to the light beam, but go about their business of searching for insects as if the light were not in evidence. Walking towards the group of eyes, I was surprised to find they belonged to nighthawks sitting stolidly on the prairie. I captured fifteen of them in a space not more than fifty feet square.

On May 4, I saw a large bird rise ahead of the car and light a little distance in front of us. Stopping the car and adjusting my headlight was the work of a few seconds, then I turned my headlight down the road and was rewarded by seeing two ruby-red eyes that looked as large as dimes shining in the darkness. Quietly walking to the bird, I recognized it as a Chuck-wills-widow. It did not move until the net pinned it to the ground; then it gave out a series of frightened hisses and dull grunts, which continued until it was captured and banded. I later captured three more Chuck-wills-widows and one Whip-poor-will. Neither of these species had been banded at my station before.

I closed my night banding on the night of May 11th, after having hunted birds at night with a headlight twice or three times a week for almost three and a half months. During that time, my records show I banded 1,139 individuals, including:

American Woodcock (*Philohela minor*)	154
Wilson's Snipe (*Capella delicata*)	207
Upland Plover (*Bartramia longicauda*)	5
Killdeer (*Oxyechus vociferus vociferus*)	18
Greater Yellow-legs (*Totanus melanoleucus*)	11
Lesser Yellow-legs (*Totanus flavipes*)	25
White-rumped Sandpiper (*Pisobia fuscicollis*)	12
Pectoral Sandpiper (*Pisobia melanotos*)	46
Red-backed Sandpiper (*Pelidna alpina sakhalina*)	7
Spotted Sandpiper (*Actitis macularia*)	9
Eastern Solitary Sandpiper (*Tringa solitaria solitaria*)	3
Stilt Sandpiper (*Micropalama himantopus*)	4
Eastern Nighthawk (*Chordeiles minor minor*)	62
Eastern Whip-poor-will (*Antrostomus vociferus vociferus*)	1
Chuck-wills-widow (*Antrostomus carolinensis*)	4
American Pipit (*Anthus spinoletta rubescens*)	83
Eastern Savannah Sparrow (*Passerculus sandwichensis savanna*)	264
Southern Meadowlark (*Sturnella magna argutula*)	224

During this same period, I was operating my traps, and daily banded a considerable number of birds, but the daylight work is now a matter of routine, not to be compared in interest or excitement with night-banding.

A phase of hunting at night with a headlight which adds much to its fascination is the number of animals located by the shine of their eyes. Almost every night I would see the eyes of deer, 'coons, 'possums, skunks, minks, rabbits, frogs and alligators. By close observation, one soon learns to identify the species and its sex by the light of the eyes, without ever seeing the body.

The species and total number of birds banded at my Avery Island station during the year 1940, follows:

Pied Bill Grebe (*Podilymbus podiceps podiceps*)	2
Man-o'-war Bird (*Fregata magnificens*)	1
Snowy Egret (*Egretta thula thula*)	2
Louisiana Heron (*Hydranassa tricolor ruficollis*)	2

Lesser Snow Goose (*Chen hyperborea hyperborea*)	4
Blue Goose (*Chen caerulescens*)	165
Fulvus Tree Duck (*Dendrocygna bicolor helva*)	10
Mallard (♂) (*Anas platyrhynchos platyrhynchos*)	1,831
" (♀) (" " ")	1,652
Common Northern Black Duck (♂) (*Anas rubripes tristis*)	2
" " " " (♀) (" " ")	1
Mottled Duck (♂) (*Anas fulvigula maculosa*)	52
" " (♀) " " ")	25
Gadwall (♂) (*Chaulelasmus streperus*)	23
" (♀) (" ")	10
Baldpate (♂) (*Mareca americana*)	22
" (♀) (" ")	7
American Pintail (♂) (*Dafila acuta tzitzihoa*)	4,233
" " (♀) (" " ")	1,474
Green-winged Teal (♂) (*Nettion carolinense*)	212
" " " (♀) (" ")	86
Blue-winged Teal (♂) (*Querquedula discors*)	1,375
" " " (♀) (" ")	578
Cinnamon Teal (♂) (*Quequedula cyanoptera*)	5
Shoveller (♂) (*Spatula clypeata*)	32
" (♀) (" ")	13
Wood Duck (♂) (*Aix sponsa*)	54
" " (♀) (" ")	38
Redhead (♂) (*Nyroca americana*)	26
" (♀) (" ")	15
Ring Neck (♂) (*Nyroca collaris*)	2,018
" " (♀) (" ")	701
Canvasback (♂) (*Nyroca valisineria*)	573
" (♀) (" ")	282
Greater Scaup (♂) (*Nyroca marila*)	13
" " (♀) (" ")	5
Lesser Scaup (♂) (*Nyroca affinis*)	3,831
" " (♀) (" ")	1,500
Buffle Head (♂) (*Charitonetta albeola*)	2
Ruddy Duck (♂) (*Erismatura jamaicensis rubida*)	10
" " (♀) (" " ")	8
Hooded Merganser (♂) (*Lophodytes cucullatus*)	3
" " (♀) (" ")	2
Turkey Vulture (*Cathartes aura septentrionalis*)	3
Black Vulture (*Coragyps atratus atratus*)	3,505
Cooper's Hawk (♂) (*Accipiter cooperi*)	2
" (♀) (" ")	1
Eastern Pigeon Hawk (*Falco columbarius columbarius*)	1
Eastern Sparrow Hawk (*Falco sparverius sparverius*)	1
Eastern Bob-white (♀) (*Colinus virginianus virginianus*)	3
Purple Gallinule (*Ionornis martinica*)	1
Florida Gallinula (*Gallinula chloropus cachinnans*)	99
American Coot (*Fulica americana americana*)	1,742
Killdeer (*Oxyechus vociferus vociferus*)	23
American Woodcock (*Philohela minor*)	186
Wilson Snipe (*Capella delicata*)	207
Upland Plover (*Bartramia longicauda*)	5
Spotted Sandpiper (*Actitis macularia*)	9
Eastern Solitary Sandpiper (*Tringa solitaria solitaria*)	3
Greater Yellow Legs (*Totanus melanoleucus*)	14
Lesser Yellow Legs (*Totanus flavipes*)	30

Pectoral Sandpiper (*Pisobia melanotos*)	46
White-rumped Sandpiper (*Pisobia fuscicollis*)	12
Red-backed Sandpiper (*Pelidna alpina sakhalina*)	7
Stilt Sandpiper (*Micropalama himantopus*)	4
Semipalmated Sandpiper (*Ereunetes pusillus*)	11
Southern Screech Owl (*Otus asio asio*)	1
Chuck-will's-widow (*Antrostomus carolinensis*)	4
Eastern Whip-poor-will (*Antrostomus vociferus vociferus*)	1
Eastern Night Hawk (♂) (*Chordeiles minor minor*)	32
" " " (♀) (" " ")	32
Chimney Swift (*Chaetura pelagica*)	178
Red-bellied Woodpecker (♂) (*Centurus carolinus*)	18
" " " (♀) (" ")	11
Eastern Kingbird (*Tyrannus tyrannus*)	1
Tree Swallow (*Iridoprocne bicolor*)	57
Bank Swallow (*Riparia riparia riparia*)	17
Barn Swallow (*Hirundo erythrogaster*)	29
Florida Blue Jay (*Cyanocitta cristata florincola*)	116
Eastern Winter Wren (*Nannus hiemalis hiemalis*)	1
Carolina Wren (*Thryothorus ludovicianus ludovicianus*)	1
Eastern Mockingbird (*Mimus polyglottos polyglottos*)	127
Brown Thrasher (*Toxostoma rufum*)	46
Eastern Robin (*Turdus migratorius migratorius*)	2
Eastern Golden-crowned Kinglet (*Regulus satrapa satrapa*)	3
Eastern Ruby-crowned Kinglet (*Corthylio calendula calendula*)	1
American Pipit (*Anthus spinoletta rubescens*)	83
Loggerhead Shrike (*Lanius ludovicianus ludovicianus*)	17
Starling (*Sturnus vulgaris vulgaris*)	188
Myrtle Warbler (*Dendroica coronata*)	42
Eastern Meadowlark (*Sturnella magna magna*)	268
Gulf Coast Red-wing (♂) (*Agelaius phoeniceus littoralis*)	2,120
" " " (♀) (" " ")	311
Rusty Blackbird (♂) (*Euphagus carolinus*)	14
" " (♀) (" ")	5
Brewer's Blackbird (♂) (*Euphagus cyanocephalus*)	3
Boat Tailed Grackle (♂) (*Cassidix mexicanus major*)	349
" " " (♀) (" " ")	820
Purple Grackle (♂) (*Quiscalus quiscula quiscula*)	378
" " (♀) (" " ")	70
Florida Grackle (♂) (*Quiscalus quiscula aglaeus*)	2
Bronzed Grackle (♂) (*Quiscalus quiscala aeneus*)	39
" " (♀) (" " ")	18
Eastern Cowbird (♂) (*Molothrus ater ater*)	409
" " (♀) (" " ")	160
Louisiana Cardinal (♂) (*Richmondena cardinalis magnirostris*)	87
" " (♀) (" " ")	43
Eastern Savannah Sparrow (*Passerculus sandwichensis savanna*)	294
Slate-colored Junco (♂) (*Junco hyemalis hyemalis*)	4
" " " (♀) (" " ")	2
White-throated Sparrow (*Zonotrichia albicollis*)	42
Eastern Fox Sparrow (*Passerella iliaca iliaca*)	4
Swamp Sparrow (*Melospiza georgiana*)	15
Ring-neck × Scaup, (*Hybrid*) (♂)	1
Pintail × Gadwall (*Hybrid*) (♂)	1
Mallard × Black Duck (*Hybrid*) (♀)	1
	33,274

Avery Island, Louisiana.