

6:30. The flashlight scheme needs further tests, but I believe it will prove useful.

Profiting by the experience gained in 1924, I had added to my equipment a net, seventy-five feet long and three feet wide, to be used at the Caspian Tern colony on Little Hat Island. Work was carried on at that point on July 19, the net being set in a wide V with the converging sides terminating in a corral or pocket. The entire party then proceeded by boat to the opposite end of the island and four drivers landed, the two small boats following slowly down the shores abreast the drivers. The young terns scuttled ahead and soon the ground was literally alive with them, much like the movements of the swarms of fiddler crabs on the South Atlantic coast. More than 600 were secured in this one drive. I had three assistants to help band while two others remained inside the corral to prevent the birds from crowding. This precaution is very important as it is easy for a large number of birds to be smothered. The pocket or corral should always be as large as possible and *never* have any corners into which the birds can gather. The dust from the feather sheaths is apparently a factor which can cause injury to closely packed birds, and operations of this character should not be undertaken except when sufficient help is available. As fast as the young were banded they were released headed toward the nesting ground, toward which they made with all speed. Less than two hours were occupied with the banding.

A trap for adult gulls was built also about a mile from St. James. It was baited with offal from the fish dock and while partially successful, did not capture as many birds as was desired. Altogether 1,753 of these birds were banded during the season.

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## BANDING GULLS AND TERNS ON UPPER LAKE MICHIGAN

BY WM. I. LYON

In 1924, the Inland Bird Banding Association had secured volunteers for a number of good gull and tern colonies; but no one had volunteered to take Green Bay and Lake Michigan's northwest shore, so the writer and his son decided to work in this territory.

On arriving on the islands, July 25, we found the Herring Gulls all hatched and most of them already in the water; but by steady searching, we were able to band 383. H. C. Wilson was with us and banded a few more, bringing his total to 150, and making the total for the district 533 Herring Gulls banded. There was much high wind and very rough water, and it was so rough we could make little headway in ordinary boats. Some kind person suggested that we appeal to the Coast Guards for help; the Plum Island Guards responded quickly, and pleasantly, and took us to Gravelly Island, Michigan, where we banded our first Caspian Terns, getting 126. It was a new thrill and an eventful ride in the life boat.

We returned to our headquarters at Ephraim where we tried the church for Chimney Swifts, and were successful in banding eighty. The first bird out of the chimney was a "return," one that had gotten into a neighboring house and was banded by H. C. Wilson in 1923. Three weeks later, this same swift was caught at Sturgeon Bay, Wisconsin. The band was removed and sent to Washington, D. C., and the bird released, we hope.

In 1925 we had hoped to be much earlier but were delayed until July 20. There had been a much earlier and warmer season, and we found the Herring Gulls all in the water. While sitting on the porch of the Plum Island Coast Guard Station in the evening of July 20, 1925, a Caspian Tern was observed hovering around the docks, watching for fish. He came to the same spot several times; then a Herring Gull came and alighted on the dock close by, which seemed to anger the tern very much, and he made several dives at the gull, forcing it to fly away. As soon as the gull was at a safe distance, the tern returned, hovered over his favorite fishing spot again, and immediately dived. At the instant the tern started down the gull started back and struck the water just a few feet from the spot where the tern had disappeared; and as the tern rose to the surface the gull seized the fish and wrested it away from the tern and flew about one hundred feet away and alighted on the water. As soon as the tern had recovered from the shock he made a wild dive after the gull and gave a loud cry as he almost struck the gull. This was repeated but the tern never actually touched the gull. In the meantime the gull had succeeded in swallowing the fish and flew away. The tern took one more dive, apparently got another fish, and he also flew away, but in the opposite direction. The gulls have been observed to rob the merganser ducks in the same manner.

On July 21, the Plum Island Coast Guards cheerfully responded and took Dr. Lewy, his son, and the writer to Gravelly Island, Michigan. As we approached the island, we could see with our glasses that the young Caspian Terns were assembled in a large flock on the higher part of the island. We landed as quietly as possible and set up a roll of poultry netting in a U-shaped corral. One man remained at each side of the opening and the rest went around very cautiously to the opposite side of the island, then started our drive. It worked perfectly except that the birds would stampeed like sheep and even after they got into the corral they would rush for one side and knock our netting over and each time many would escape. We started with about 300 young birds in the corral and banded about 100. Then, by searching them out of their hiding places in the weeds and under rocks, we banded 52 more before a storm arose which compelled us to start on our twenty-five mile trip back to Plum Island.

On the west side of Green Bay on a small shoal near Bark River, Michigan, we found another small colony of Caspian Terns and banded eight. There was a small colony of Common Terns on the opposite end of the island and we banded twenty-eight of them.

Our next work was done at Goose Island in the Straits of Mackinac on July 25, with the assistance of the Mackinac Island Coast Guards. Here we banded 134 Common Terns and two Herring Gulls.

On July 27 we found a small colony of Common Terns on the islands just north of Thunder Bay, in Lake Huron. There were a good many nests with eggs, but we found only four young birds large enough to band.

Late in the afternoon of July 27 we went to Black River Island and banded over 100 Common Terns and thirty-one Spotted Sandpipers. Young Common Terns do not assemble in flocks, but hide away singly and should be banded and left in same spot where found.

Our next stop was at Michigan State College to inspect Professor J. W. Stack's trapping station. This was the first trapping station established in a

college. The campus has many excellent places for traps, which accounts for Professor Stack's unusual results.

The 1926 party consisted of C. C. Miller, H. C. Wilson, J. Gundlach, H. Anderson, G. R. Lyon and Wm. I. Lyon. Our first trip was made on July 8 to Hat Island, where we found plenty of young Herring Gulls, and banded 492. While waiting for our boat at Egg Harbor, we banded four young Killdeers and four Spotted Sandpipers, making a 500 banding record for the day. The next day at Sister Islands we almost equaled the same record.

On July 11 we visited Jack Island, Jack Shoal and Little Strawberry Island. These islands have been cleared and houses built which reduced our record to



FIGURE 4. Caspian Terns in corral on Gravelly Island, Michigan.  
Photographed by Wm. I. Lyon.

only 200 gulls. The owners stated they hoped to be able to drive the gulls away from the islands next year.

By July 12 there was a high wind which made Green Bay very rough, so we tried the Lake Michigan side. Finding no boats available we telephoned to the Plum Island Coast Guard, and Capt. Solman responded cheerfully and took us to Gravel Island, Wis., where we banded eighty Herring Gulls. Then we went to the Spider Islands, which are connected now so there is but one island. After banding a few gulls, we all started for the Great Blue Herons. By much climbing and tree shaking we managed to band seventeen young great blues.

July 13. This was our lucky day, as we were off for Gravelly Island, Michigan, to our Caspian Tern Colony and had an early start. As we approached the island our binoculars revealed plenty of young birds to band. This time we tried driving them up on the center of the island into the weeds and low bushes with fair success. It was a cloudy day and poor for photographs, but was much cooler to work. We found a few dead young on the dividing line that had been

scalped by the old birds for intruding. The Caspian Terns have held the southeastern end of the island as their private grounds, while the gulls covered most of the rest of the island; but the northwest end was their real headquarters, although there were many more of the gulls in the tern's territory than in the two previous years. Our total banded for the day was 198 Herring Gulls, 310 Caspian Terns, six Red-winged Blackbirds, and two Killdeers, making a total of 516 for the record day.

On July 14 we stopped at Hog Island and banded seventy-four Herring Gulls and four Great Blue Herons. We passed Fish Island and Fisherman's Shoal, as we could see with the binoculars that there were not enough young in sight to warrant a stop, and continued to Little Gull Island where we banded 341 Herring Gulls and one Black Duck. The Coast Guards helped us in every way they could to make our stay pleasant and to assist in getting our fine record, and finally landed us at Gills Rock that night; we were soon back at our headquarters, Hotel Anderson, Ephraim, Wisconsin. Most of the 15th was spent in traveling. We stopped late in the afternoon to try the Dry Shoal in Misery Bay, but found that parties had been out on the shoal on July 4 and had disturbed the birds so the Common Terns had left. We managed, however, to band twelve Herring Gulls, one Red-winged Blackbird, three Killdeers, five Spotted Sandpipers, and two Mallards. We stopped at Escanaba, Michigan, for the night. July 16 was spent on the road, arriving at St. Ignace, Michigan, for the night.

On July 17 we crossed on the ferry to Mackinac Island and the Coast Guard Station; from here Capt. Eckoff took us to Goose Island. The Common Terns were all gone except one lone young bird. Here we banded one Mallard and twenty-four Herring Gulls. From appearances this island seemed to have been raided for eggs; and we afterwards heard rumors to that effect. Capt. Eckoff seeing our disappointment suggested that we try some nearby shoals. The first proved to have a fine Common Tern Colony; and we banded 174 young birds. There were many so small that they could not be banded, and there were twice as many nests with eggs so we were a little too early. There was another shoal not far away, and on landing we got a Red-breasted Merganser to band. There were apparently plenty of Herring Gulls to band and we started to work. About half way up the island some of those in advance noticed there was a difference in some of the young gulls, and that the new ones were smaller. It was then that we found that we were in the midst of a mixed colony of Herring and Ring-billed Gulls, and the baby chicks were so much alike that it was almost impossible to be sure of identification. Sixty-seven that were banded we were sure were Ring-billed Gulls. This brought our total up to 429 for the day. The 18th was spent on the road, arriving at Detour at night. Here we had a very pleasant evening with Rev. Geo. W. Luther and his wife.

On the 19th Rev. Luther took us in his boat up the Detour Channel to little Cass Island, and we banded 174 Common Terns and seven Herring Gulls. We drove to Sault Ste. Marie that evening, and had a very enjoyable evening with M. J. Magee and Dr. Christofferson. On the 20th we made a trip with Mr. Magee to Sand Island in the St. Mary's River; but the island had grown up to

brush so thick that the Common Terns had left; we saw many flying and were sure that the colony was not far away. We found an American Bittern, which we banded, making the trip total 2847. We had another very pleasant evening and motored for home.

WAUKEGAN, ILLINOIS.

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**Work with the Gulls on the Sister Islands in Lake Michigan.—**

While the study of the Herring Gull (*Larus argentatus*) has always interested me greatly, the number of gulls I have banded would hardly stand as proof for my interest. My total number banded is but 259.

In 1923 I received my permit too late to do any work with the gulls, but in 1924 I ventured to order 150 bands. Because of a rising wind my first trip to the Sister Islands on June 25 was limited to two hours, in which time I placed eighty-two bands with the aid of three friends. Most of the gulls were full grown at this time. Although the spring of 1924 was late and cold, fishermen informed me that over one-half of the eggs were pipped the last of May.

July 3 I placed seventy-three bands, all I had left. Of all the birds handled at this time only one gull carried one of my bands. I did find one dead gull, banded on the preceding trip, which had been eaten by some gull or animal. We encircled the island and counted several dozen dead gulls, mostly young, but none of these wore bands.

Last year I was prepared to band a great number of gulls, but found little time to carry out my plans. I visited the Sister Islands July 7 and found a great harvest awaiting me. After about three hours amongst the nettles and tangled weeds I had banded 102 gulls. I again walked around the island in hope of finding bands on some of the dead birds, but there were only two dead adults of the one hundred dead gulls. Many of these had been killed by other birds, as indicated by their lacerated heads.

It was the 18th of July before I could again visit the islands. Upon landing I discovered that the young could all fly, and quite well, too. After a diligent search of over two hours I found three gulls hidden under wild grape-vines where quick escape was impossible. Upon releasing them, they flew away as well as adults. My consolation on this trip was that of banding a few Red-winged Blackbirds and a Spotted Sandpiper. But I solemnly vowed all the way back to Ephraim that after the first week in July, 1926, there would not be an unbanded gull to be found on the Sisters.

My returns have been few. Of the two returns from 1924, one was found frozen in the ice at Venice, Ill., December 31, 1924. The other was caught by Ed. H. Bean at the Zoo, Milwaukee, Wis., and "interned" at the Zoological Garden January 13, 1925. One gull banded in 1925 was found dead in a fish net at Two Rivers, Wis., September 30 of the same year.—HAROLD C. WILSON, *Ephraim, Wis.*