

Fatal entanglements of Herring Gulls (*Larus argentatus*) and Common Terns (*Sterna hirundo*).—On 4 July 1962 I found two dead male Herring Gulls in a colony of about 500 pairs at Calcite, near Rogers City, Michigan. These birds had become entangled in a large hound's-tongue weed (*Cynoglossum officinale*). This weed was in seed at the time and was covered with a number of large, strong, and hooked seed cases. The covering of these seed cases was extremely sticky and clung tenaciously to my fingers when I removed the birds for examination.

In their efforts to escape, the birds had bent the two-foot-high weed down from the top into a loop and had twisted the two parts together until they resembled a $\frac{3}{4}$ -inch-diameter rope (Figure 1). A reconstruction of the situation indicated either



Figure 1. Two adult male Herring Gulls entangled in hound's-tongue weed, Rogers City, Michigan (photographed 4 July 1962).

that one or the other of these birds had been entangled and had been attacked by the other, or that the birds began their struggle nearby and that they both had become entangled at the same time. How long the struggle had continued after entanglement is not known. Both birds were just beginning to decay at the time of discovery.

When I separated and sexed these birds, I found that one was an old male and one a three-year-old bird which I had banded as a downy young in the same colony on 13 June 1959. Judging from the internal appearance of the birds, the older bird apparently died first.

On 13 July 1963, at Belle Isle, Wayne County, Michigan, I found 10 Common Terns entangled and dead in one six-foot-long leader of a fish line (Figure 2). Six of these birds were adult and four were about one-month-old young. The adult which carried the line into the colony had been caught in a most unusual place. A very small hook was thoroughly embedded in the tough skin at the bend of the knee. Apparently when the bird landed in the colony the long line had become entangled



Figure 2. Remains of 10 Common Terns entangled in fish line at Belle Isle, Wayne County, Michigan (photographed 13 July 1963).

in some foot-high weeds and grass, and the bird undoubtedly attracted the other adults by its efforts to escape. Within a few feet were several empty nests, from which the entangled young had evidently come. One of the adults had been banded by me (band no. 623-41380) as a downy young at this same colony on 9 June 1959. The band showed signs of wear on the inner portion.

In the last 15 years I have many times found dead adult terns entangled in fish lines but all the others had been hooked in the mouth or deep in the throat. In every other instance only the bird carrying the line had become entangled.—WALTER P. NICKELL, *Cranbrook Institute of Science, Bloomfield Hills, Michigan*.

Diving times of wintering water birds.—Between 20 October 1962 and 27 January 1963, I timed the durations of the dives of 7 species of waterfowl near Vancouver, British Columbia, Canada (Table 1). All dives were made in salt water with the exception of those of the American Coot, which were made in a brackish lagoon. During the periods of observation, air temperatures ranged from -1°C to 17°C and averaged 8.4°C ; salt water temperatures ranged from 4°C to 11°C and averaged 8.1°C . Water temperatures in the lagoon ranged from 7°C to 10°C and averaged 8.3°C . Dives and pauses (the intervals between successive dives in a series) were measured with a stopwatch.

Only feeding dives were used in the calculations. Escape dives and "pelagic dives" were rejected, and it can be assumed reasonably that those used were all "bottom dives" as defined by Dewar (J. M. Dewar. *The bird as a diver*. London, Witherby, 1924.). Only series containing five or more dives were used, and the dive/pause ratio was calculated from the mean values of all dives and pauses for each species regardless of sex. Because of the small scale of available nautical charts and the rockiness of the sea bed, water depths could not be calculated accurately. The approximate depths in