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Predation By Great Black-backed Gulls On Banded Waterfowl

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During the winter waterfowl banding seasons in 1980, 1982, 1983, 1985, and 1986 on Seneca Lake in central New York State, two Great Black-backed Gulls (*Larus marinus*) have attacked and killed newly banded and released waterfowl. Their predatory behavior is systematic and largely unvarying.

The Great Black-backed Gull has extended its winter range in the last few decades to include the eastern Great Lakes where their numbers have been steadily increasing (Peakall 1967, Bull 1974). During this period, a small number of individuals has regularly appeared during the winter at the northern end of Seneca Lake, one of the large Finger Lakes in central New York State, 46 km south of Lake Ontario (Peakall 1967).

The Great Black-backed Gull has been described by Audubon as "...the tyrant of sea-fowl...", and by Nuttall as "...a particular enemy of the graceful eider, pouncing upon and devouring its young on every occasion, and often kills considerable-sized ducks" (Nuttall 1834: 309). Studies of the food habits of the Great Black-backed Gull have been done by Harris (1965) on islands off the coast of Wales, Hunt and Hunt (1973) in Maine and Northwestern Europe, Threlfall (1968) in Newfoundland, Koch (1974) in Helgoland in the North Sea, and Ingolfsson (1976) in Iceland. They clearly demonstrated that this species is a generalized forager, an opportunistic omnivore like other large gulls, but a greater scavenger and predator.

Several observers have published accounts of Great Black-backed Gulls attacking and killing adult birds including waterfowl (Kuerzi 1937, Addy 1945, Gross 1945, Cobb 1957, Mansueti 1961, Presnall 1968, Andersson and Fridzen 1970, Svensson 1971, Halliday 1977); other Great Black-backed Gulls (Corkhill 1971); migrating passerines (MacDonald and Mason 1973); Atlantic Puffins (*Fratrula arctica*) and Manx Shearwaters (*Puffinus puffinus*) (Robinson 1930, Harris 1965); and a Horned Grebe (*Podiceps auritus*) (Walravens 1985).

METHODS

Every winter for over thirty years I have operated a waterfowl banding station during the months of January, February and March at Kashong Bay on the west shore of Seneca Lake, 11 km south of the city of Geneva which is at the northern end

of the lake. When the observations reported here were made, two waterfowl traps were used: an off-shore trap and an on-shore trap. Both dabbling and diving ducks were taken in the off-shore trap; but, with rare exceptions, only dabblers were trapped in the on-shore unit. Traps were tended twice a day. Ducks were netted from the traps, placed in empty grain bags and carried to the banding table placed within 1 m of the lake shore and approximately 25 m from the traps. The birds, removed individually from the bags, were identified as to species, age, and sex, some were weighed, then banded and released. The time between removal from the trap and their release seldom was more than 15 minutes. If Great Black-backed Gulls were present, released ducks were watched carefully and any interactions with the gulls were noted in writing. Observations were made with unaided eye, with binoculars, and with a 20X spotting scope.

RESULTS AND DISCUSSION

While I have seen Great Black-backed Gulls at the northern end of Seneca Lake over the years, the first time I ever noticed a Great Black-backed Gull in Kashong Bay was on 17 February 1980. The gull attacked and killed an adult male Am. Black Duck (*Anas rubripes*) that had just been released after banding. On 16 March 1980, I observed an attack on an adult male Redhead (*Aythya americana*) and walked up the beach to the point closest to the struggling bird, some 100 m offshore. The gull abandoned its victim on my approach, and the Redhead made its way to shore where I was able to retrieve it. It died within minutes from a wound penetrating the abdominal cavity just lateral to the caudal vertebrae. This duck had been banded and released 3 February 1980 in good health, weighing 1,270 gms.

I have no records of Great Black-backed Gull predation in 1981, but witnessed the killing of an adult female Mallard (*Anas platyrhynchos*) on 8 March 1982. The bird had been banded and released on 7 March 1982 and I recovered the carcass on 9 March. A large hole had been opened in the abdominal cavity between the caudal vertebrae and the ilium, the viscera were gone, and the breast musculature had been cleaned from the sternum. In 1983, five adult Mallards (four males and a female) were killed after they were banded and released, and two Mallards escaped after being pursued by Great Black-backed Gulls.

My records show no predation on waterfowl nor the pres-

ence of the gulls in Kashong Bay during the 1984 banding season. In 1985, however, five banded ducks were killed: two adult male Canvasbacks (*Aythya valisineria*), a Black Duck, a Mallard, and a Redhead. An adult male Mallard x Black hybrid was attacked but successfully escaped in flight.

During the 1986 banding season, 35 attacks by gulls were observed in which either the ducks escaped in flight, the attack was abandoned, or the result of the attack was not determined. Twelve ducks were attacked and killed by gulls. Of those, six were birds just banded and released. The status of four was unknown because the carcasses were not recovered. Those recovered included four adult Black Ducks, three Redheads, and one adult male Mallard.

All the attacks and kills I noted from 1980 through the 1986 season involved either a single adult Great Black-backed Gull or a pair of adult gulls and, infrequently, an immature Great Black-backed Gull either with one or both adults or alone. These were the only Great Black-backed Gulls in Kashong Bay which is 1.6 km in length and indents the shore line approximately 500 m at the banding site. Frequently the pair of gulls was seen sitting about 400 m off shore when we arrived at both morning and late afternoon banding sessions or they appeared shortly after we arrived.

Ducks released after banding usually flew out on the lake and settled on the water within 200 to 600 m of shore opposite our banding site, or would disappear in flight. The most vulnerable birds were those who landed more than 400 m from shore. A Great Black-backed Gull or the pair would lift off the water, fly to the sitting duck, and stoop on it forcing the duck to dive. Constant harassment from above kept the duck continually diving and surfacing. This phase of the attack never lasted more than a few minutes. The duck, whether a diver or a dabbler, quickly became exhausted and was no longer able to escape the gulls either in flight or by diving. One of the gulls would then land and swim to the exhausted bird striking it from behind, grasping and tearing at the base of the tail. Of the eight ducks I recovered after they were killed, all had a hole in the body wall just lateral to the caudal vertebrae between the tail and the ilium. All were missing the entire intestinal tract from gizzard to cloaca. On a number of occasions, I was able to watch the attack and the kill with a 20X spotting scope and witnessed the intestines being drawn from the living bird which soon thereafter turned belly up.

If two gulls were present, the one that did the killing would feed on the exposed breast, and with characteristic posturing between the two gulls (head and neck stretched up and forward, mouth agape), would permit the second gull to join in feeding after some time. The time was surprisingly short from the commencement of an attack until the duck was dead, signaled by its floating breast up. Of eleven successful

attacks that I observed and timed, seven resulted in the death of the duck in 10 to 14 minutes and the longest was 20 minutes.

On only two occasions, 23 February 1983 and 9 February 1985, were ducks caught on the wing. The first was an adult male Mallard who, upon release after banding, flew with vigor toward the center of the lake, passing close to the two Great Black-backed Gulls on the water. The two gulls pursued; one struck the Mallard twice in the air, and the second blow was given with enough force to drive the duck into the lake. The characteristic harassment followed and the bird was killed. On 9 February 1985, I watched with binoculars a Black Duck caught in flight, ridden by the gull to the water, and killed in the usual fashion. On 11 March 1986, an immature Great Black-backed Gull, the last of the gulls seen in the bay during the 1986 banding season, snatched a banded adult male Ring-necked Duck (*Aythya collaris*) off the water, dropped it, and repeated the performance twice more before the duck was able to get close enough to shore to discourage further attack. I recovered the Ring-necked Duck uninjured but exhausted. It appeared perfectly healthy when I released it again a few hours later.

I presume from what I observed over four winter banding seasons that the two Great Black-backed Gulls are the same birds year by year and day by day. They are the only individuals of this species in Kashong Bay, except for an occasional appearance of an immature Great Black-backed Gull, and their behavior is remarkably similar in pattern from one season to the next and from one day to the next. They have found a ready source of available food and have exploited it with considerable efficiency. I know of no other published report of this kind of regular, systematic predation by Great Black-backed Gulls on waterfowl.

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