

Great Horned Owls and nesting seabirds.—During the breeding season many spruce-clad islands in Muscongus Bay, Maine, ranging in size from one-half to several hectares, are populated by nesting seabirds, the commonest being Double-crested Cormorants (*Phalacrocorax auritus*), Common Eiders (*Somateria mollissima*), Great Black-backed Gulls (*Larus marinus*), and Herring Gulls (*L. argentatus*). These islands have few predators of ground-nesting birds, but they apparently provide a rich hunting ground for Great Horned Owls (*Bubo virginianus*) that nest on the adjacent mainland or on large forested islands. During the seabirds' breeding season I have found recently-shed owl feathers and remains of their apparent prey several times, and I have seen individuals twice.

At 07:00 on 9 June 1969 I watched a Great Horned Owl being mobbed by 7-8 Common Crows (*Corvus brachyrhynchos*) on spruce-clad Thief Island, Bristol, Lincoln County, Maine, an island about 2 hectares in size. The crows harassed the owl for over 90 minutes, flushing it four times during this period. At 08:35 the owl suddenly flew to the nearest land, treeless Killick Stone Island, 0.4 km away. The crows attacked it as it left Thief Island, and two Great-backed Gulls also followed it closely, diving at it several times and twice almost driving it into the water. The owl remained in the rocks on Killick Stone Island for 30 minutes, mobbed constantly by the crows, and then left. Again crows attacked it, and gulls nearly drove it into the water as it crossed the 0.6 km channel and finally reached the extensive spruce forest of Loud's Island, from which it probably came originally. The gulls attacked so aggressively that it seems they might sometimes succeed in forcing an owl into the water.

This bird may have been detained on Thief Island after dawn by a sudden rain-storm that started around 03:30 and continued until just after light. Thus it either had to spend the day there or leave in broad daylight. I saw a second Great Horned Owl on another small spruce-clad island (Jim's Island, Bremen, Lincoln County, 0.3 km from the nearest forest), also on a morning (15 June 1968) after a storm had appeared suddenly near the end of the night. Crows mobbed this bird, too. Crows nest on most of these islands; thus an owl's presence by day usually would be advertised. While the gulls seemed largely responsible for nearly driving the owl into the water, the crows' role in making it conspicuous cannot be dismissed.

While I saw only these two owls on small wooded islands at this time of year, I found other signs several times. On 10 June 1969 I found a flight feather of a Great Horned Owl on Franklin Island, Friendship, Knox County (0.7 km from the nearest large spruce forest), under a large spruce tree. With it were many feathers and some skin of a Double-crested Cormorant that the owl apparently had eaten. More feathers and skin were lodged in limbs of the spruce immediately above the remains. On 16 June 1969 at Jim's Island I found the wings of a hen Common Eider lodged in branches of a balsam fir (*Abies balsamea*) 2 m above the ground; the surrounding ground and branches were strewn with eider feathers and bits of skin. On 11 June 1969 on Haddock Island, Bristol (1.3 km from the nearest large spruce forest), I found similar remains of a second-year Herring Gull under a dead spruce. While I found no owl feathers with remains on Jim's and Haddock islands, the similarity of all the remains and rarity of other large owls in the coastal forests makes it likely that Great Horned Owls were responsible. I have also found feathers of Great Horned Owls on Wreck Island, Bristol (0.8 km from the nearest large spruce forest), which has a colony of Great Blue Herons (*Ardea herodias*). Considering the distances between the islands discussed, mostly over open water, at least three owls probably were involved.

In addition to nesting seabirds during spring and early summer, some islands have dense populations of meadow voles (*Microtus pennsylvanicus*), which are doubtless an important potential source of owl food. I flushed a Great Horned Owl repeatedly from trees near the edge of a meadow on Thief Island during the last two weeks of July, 1969. As nesting birds had left the island by then, it perhaps fed principally upon the voles.

Information upon owl predation on coastal nesting islands is nearly nonexistent. Neither Bent (U. S. Natl. Mus., Bull. 170, 1938) nor Craighead and Craighead (Hawks, owls, and wildlife, Harrisburg, Pennsylvania, Stackpole Co., 1956) mention such activities. Austin (Bird-Banding, 17: 10, 1946) describes remains of several Common Terns (*Sterna hirundo*) found on Tern Island, Barnstable County, Massachusetts, that he presumed to be victims of owl predation, the species not named. Fisher and Lockley (Sea-birds, Boston, Houghton Mifflin Co., 1954, pp. 110, 162, 264) mention resident owls attacking seabirds on islands off the British coast, but give no information about nocturnal visits. The Eagle Owl (*Bubo bubo*) has been reported to eat gulls and auks (Witherby, Jourdain, Ticehurst, and Tucker, The handbook of British birds, vol. 2, H. F. & G. Witherby Ltd., 1946, p. 313).

Thus, while Great Horned Owls prey at times upon seabird colonies in Maine, this behavior either is unusual or has escaped mention. It could help prevent the establishment of seabird colonies close to the mainland or to large islands.

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Escape responses and swimming abilities of nestling Golden Eagles.—While studying the nesting ecology and breeding biology of the Golden Eagle (*Aquila chrysaetos canadensis*) in southwestern Idaho and southeastern Oregon, I banded 69 of 117 Golden Eaglets in 65 active nests during the nesting seasons of 1966 and 1967. Eaglets 9½ to 11 weeks old typically flew from the nest when I appeared. Depending upon the air convection currents and direction of flight (into or with air currents), the nestling's first flight usually ended abruptly in a cartwheeling, somersaulting landing through the sagebrush some 90 to 400 yards from the nest site.

After landing the eaglets normally walked uphill and hid. Though adult Golden Eagles responded to the food calls of their young and fed them on the ground, I returned all but two eaglets to the nests. Once replaced, they stayed put and exhibited only defensive responses.

On 25 May 1967 in the narrows of the Bruneau River in southwestern Idaho while I was rappelling down a 120-foot rock cliff to an active Golden Eagle nest, two 9½-week-old eaglets took flight into the rising convection currents of midday. The first eaglet's flight ended with a breast splash-down some 30 feet from shore; its sibling tried to make a 30° flight course correction around a bend in the channel, but dipped the lower wing tip into the water and cartwheeled to a landing 150 feet from the shore.

Both eaglets reacted to the water similarly. After floating motionless for about 5 minutes, they used their wings as paddles, much in the fashion of a wounded duck when pursued by a dog and, stopping to rest every 12 to 15 feet, swam to shore. They showed no adverse effects from their swim upon recapture.—GARY L. HICKMAN, *Division of River Basin Studies, Bureau of Sport Fisheries and Wildlife, 1031 Miracle Mile, Vero Beach, Florida 32960*. Accepted 9 Jul. 70.