The Red-shoulder had been reared by two penned Red-tailed Hawks (*Buteo jamaicensis*), one of which was removed when the Red-shoulder was put at hack. At the time of the attempted adoption the Red-shoulder was still returning to the pen to beg food from her Red-tail foster parent.

This immature female (later sexed internally) had never gone through courtship, never copulated, never laid eggs, and certainly never reared young. Scarcely able to hunt for herself, she tried (even if ineffectually) to feed and to build a nest for small young of a different species.— J. RANDOLPH ACKER, *College of Natural Resources, University of Wisconsin-Stevens Point, Stevens Point, Wisconsin 54481.* Accepted 7 Dec. 76. (This paper was subsidized by the author.)

Predation on gulls by Bald Eagles in Washington.—Studies on communication by the Glaucous-winged Gull (*Larus glaucescens*) were made between 15 June and 15 August 1971 to 1975 in a breeding colony on Colville Island, 11.7 km west of Rosario Beach, Skagit County, Washington. Colville Island is a part of the San Juan National Wildlife Refuge.

Frequently (up to six times in one day), we saw a Bald Eagle (*Haliaeetus leucocephalus*) fly close to the island in an apparent attempt to prey on the gulls. Each time this happened the responses by the gulls were spectacular. As soon as the gulls saw the eagle, the noise level of the colony dropped, the gulls oriented themselves toward the approaching predator, and the chicks ran for cover. Then the adult gulls nearest the eagle began to yelp, and this yelping spread in a wave to other parts of the island. If the eagle came no closer the gulls soon quieted down, but if it continued to approach large numbers of gulls flew up to mob the eagle, all the while emitting their yelp and alarm calls. The eagle responded by flying away from the island, sometimes trying to defend itself in midair with its talons. The mobbing gulls eventually drove the eagle back across the channel to Lopez Island where it probably nested.

The colony-wide response to the eagle was in striking contrast to responses made to a river otter (*Lutra canadensis*) that periodically preyed upon gull chicks during the summer of 1974 (Hayward et al. 1975, Murrelet 56: 9). Responses to the otter were quite local in nature. In fact, we could follow the otter's progress through the tall grass by watching where the gulls circled above it. Only gulls in territories within approximately 5 m of the otter flew up in response to its presence. These gulls circled low over the disturbed area emitting their alarm and yelp calls. Some gulls swept down and attacked the otter. The attacking gulls were usually those whose territories were being trespassed upon at the moment.

The difference between the responses of the gulls to the eagle and the otter may have been partially due to the fact that the eagle, flying above the colony, was visible to nearly all the island's inhabitants. Conversely the otter, slipping through the tall grass, was visible only to the few nearest gulls. This suggests that visibility may be an important factor in predator detection by gulls, and may explain why these birds prefer to nest in low vegetative cover (Hayward et al. MS). The more widespread response to the eagle may also have been due to a greater uncertainty on the part of the gulls as to where the eagle would strike. The course of the land-bound otter was perhaps more predictable to the gulls. Consequently only those gulls under direct threat of attack may have responded.

During July 1973 as we were landing our boat along the east coast of the island, an eagle was just making off with a gull chick in its talons, but while trying to ward off a barrage of air attacks by the swarming gulls, the eagle released the chick and it dropped to the water below. We retrieved the chick and found it had been decapitated. This was the only time we saw an eagle successfully take a chick. Usually the adult gulls were successful in chasing the eagle away before it could make a capture. We do not know if the eagle ever caught an adult gull.

Lien (1975, Auk 92: 584) watched several interactions (one at a breeding colony) between Great Black-backed Gulls (*Larus marinus*) and Bald Eagles over Placentia Bay, Newfoundland in 1973. He never saw an eagle catch a gull, and noted that the gulls were always able to chase the eagle away.

Fish make up the bulk of the annual diet of the Bald Eagle, but as Bent (1937, U. S. Natl. Mus. Bull. 167: 345) noted, other birds (including gulls) are commonly preyed upon when fish are not readily available. We presume that eagles frequently preyed upon gull chicks in the San Juan Islands, especially during the gull nesting season.

We express our appreciation to the staff of the Walla Walla College Biological Station who made their facilities available to us during our work with the gulls. We are also grateful to the U. S. Department of Interior, Fish and Wildlife Service for permission to work on Colville Island.—JAMES L. HAYWARD, JR., WM. HUMPHREY GILLETT, CHARLES J. AMLANER, JR., AND JOHN F. STOUT, *Biology Department, Andrews University, Berrien Springs, Michigan 49104.* Accepted 23 Dec. 75.