Two Red-shoulder nests on the study area failed as a result of Great Horned Owl predation. Two partially eaten Red-shouldered Hawk nestlings were found at one nest along with signs of predation by a Horned Owl. Another Red-shoulder nest with two 19-day old nestlings was destroyed and Horned Owl signs were found nearby. When a nearby (450 m from the hawk nest) Horned Owl nest was checked, remains of one of the 19-day-old Red-shouldered Hawk nestlings were found.

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JAMES W. WILEY, *Department of Natural Resources, P.O. Box 5887, Puerta de Tierra, Puerto Rico 00906.* Accepted 14 Jan. 74.

California Gulls attack waterfowl broods in Alberta.—California Gulls, *Larus californicus*, are known to prey on the eggs and young of waterfowl (Odin 1957, Auk 74: 185; Vermeer 1968, Wilson Bull. 80: 78). Vermeer (1970, Canadian Wildl. Serv. Rept. Ser. No. 12) and Dwernychuk and Boag (1972, Canadian J. Zool. 50: 559) reported large numbers of gulls attacking waterfowl broods near island colonies of gulls at Miquelon Lake in Alberta. This paper reports losses of entire broods of Lesser Scaup, *Aythya affinis*, and American Wigeon, *Anas americana*, in 1969 in the vicinity of an island larid colony at Chip Lake, Alberta, 120 km west of Edmonton (53° 41′ N, 115° 24′ W). All observations were made from a blind built 3 m above the ground on the island before the previous year's breeding season.

When a duck brood left the island, groups of up to 50 gulls quickly circled it. Single gulls dove down on the broods and grabbed ducklings with their bills. Broods usually bunched together until attacked at close quarters when they usually dove and became separated. Some female ducks did not respond to the attack, others feinted or flew up at the attackers. Occasionally the female returned to the island with two or three ducklings, but these were destroyed on later attempts to leave. Broods could not hide from the attackers while on the water as the nearest emergent aquatic vegetation was 0.8 km away.

Gulls did not bother waterfowl broods on land, though they often perched only 3 m away. Dwernychuk and Boag (ibid.) noted that gulls on a Miquelon Lake

colony would not attack ducklings on the ground, but moved aside to allow them to pass. Gulls never attacked ducklings swimming near a Common Tern, *Sterna hirundo*, nesting area. Gulls avoided walking, swimming, or flying low into tern nesting territory. Terns attacked intruding gulls vigorously but ignored waterfowl or waterfowl broods.

Of 14 duck broods totaling 77 ducklings seen leaving in 1969, the only brood that escaped destruction left in mid-August after the gulls had finished nesting and departed. This suggests that late nesting or renesting ducks may suffer little brood mortality from gulls.

We saw mass attacks only on broods of very young ducklings and only close to the active gull colony. We noted four other cases of gull predation on ducklings elsewhere on Chip Lake, but at no time were entire broods affected, nor were large numbers of gulls involved in an attack. A single gull attacked a young brood in a part of the lake away from the gull colony. The gull took two ducklings, but could catch no more when the female moved the brood into the cover of dense bulrushes, *Scirpus acutus*. We saw older broods attacked by single gulls, but the ducklings survived by diving repeatedly. In one case the attack ceased when the brood moved into heavy emergent cover. In two cases the gulls gave up their attack after about 5 min of trying.—GERRY M. LYNCH, *Alberta Fish and Wildlife Division, P.O. Box 1390, Edson, Alberta, TOE OPO, Canada,* and JOHN E. TOEPFER, *University of Wisconsin, Stevens Point, Wisconsin 54481.* Accepted 21 Jan. 74.

Association of Red-breasted Nuthatches with chickadees in a hemlock cone year.—This note describes the behavior of Red-breasted Nuthatches (*Sitta canadensis*) as they associated with Black-capped Chickadees (*Parus atricapillus*) in feeding on the seeds of hemlock (*Tsuga canadensis*) in the winter of 1972–73, a maximum cone year in Lyme, New Hampshire. The feeding of these species was strikingly affected by weather conditions because (Hough 1960) hemlock cones are hydroscopic, opening in dry, cold, and windy periods, and closing on warmer and more humid days.

Nearly all observations were made in three places, two on hillsides and one in a swamp, all of which contained good stands of hemlocks with varying mixtures of hardwoods. Each of these sites was visited once or twice on weekdays, and all of them more extensively on weekends from late September 1972 through February 1973 when the supply of hemlock seeds was exhausted. The total number of flocks seen was 82, but actually the same individual nuthatches and chickadees were doubtless encountered many times over on different days. The numbers of chickadees averaged from about four to eight with a range of from one to 25, but I never found more than one pair of Red-breasted Nuthatches with them.

Hemlock cones mature in October (Hough 1960) and it was not until 18 October that I found nuthatches associated with chickadees. The two species differed in methods of storing the seeds. It might take a nuthatch 2–12 sec to extract a seed from a cone, then 12–15 sec to store it in some hardwood close to the hemlock, or sometimes in the rough bark of the trunk or larger limbs of the hemlock itself.

When storing seeds a Red-breasted Nuthatch might hold its head flat and low while poking a seed under a flake of bark, then work with it for a few moments. Hemlock seeds are so small that it was difficult to see exactly what was happening. An occasional nuthatch made several quick jabs to the side, then back to the storage place. Only once was I able to see clearly that the bird was covering its stores with a small fragment of bark, a process seen more clearly under other conditions in a previous year (Kilham 1974).