Red-throated Loon nests were destroyed by predators. In one summer when foxes were rare, only 20% (n = 5) of the loon nests were destroyed by predators.

We have few data on the fate of replacement clutches. We left the study area before the induced replacement clutches hatched. At that time, all 3 nests were still active after 2 weeks of incubation (half way to hatching). In previous years we observed 3 suspected replacement clutches. Two were destroyed by predators before hatching; the third was still active after 3 weeks of incubation, at which time we left the study area. We suspect that the fate of replacement clutches will vary with temporal aspects of hunting pressure by predators (principally foxes) and the availability of alternate foods for these predators, as suggested by Petersen (1976).

Given the length of the season, it is conceivable that an early-nesting loon could produce an original and 2 replacement clutches at our study area. Although Bundy (1976) assumed that numerous clutches produced by loons during his study were replacements, he stated that "no third clutches are known." Whether this actually occurs must await future investigations. Studies of hatching and fledging success of replacement clutches would further clarify the reproductive strategies of these birds.

The ability of Red-throated Loons to produce replacement clutches can be important for estimating production at a population level. It is likely that populations of this species can salvage a successful reproductive year despite an episode of heavy predation. Important considerations for production would then include such factors as timing of predation on eggs.

Some data on loon nesting success came from A. Seguin. D. Matkin, S. Long, and K. Oakley assisted with field work. We thank the NANA Corporation, F. Goodhope, Jr., and the National Park Service for permission to work at Cape Espenberg. Funding was provided by the Outer Continental Shelf Environmental Assessment Program (NOAA) and the Frank M. Chapman Memorial Fund. E. Murphy, D. Norton, R. Pierotti, and J. McIntyre kindly reviewed the manuscript.

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Brood Defense by Female Ring-necked Pheasants Against Northern Harriers.— While conducting Ring-necked Pheasant (*Phasianus colchicus*) research, I twice observed hen pheasants successfully defend their broods against Northern Harrier (*Circus cyaneus*) attack. Both observations were made on Mallard Island, McLean County, North Dakota. The 10 km² island is intensively managed for pheasants. Five nesting pairs of Northern Harriers were observed regularly on the island April through August 1983.

On 5 August 1983 at 1445, while driving adjacent to a field of native prairie, I saw a harrier of unknown sex fly from the ground approximately 30 m away. The harrier circled quickly and as it descended on the area from which it had flown, a hen pheasant flew vertically about 3 m directly at the harrier, possibly contacting the harrier with its feet and wings. The pheasant dropped to the ground, as the harrier veered away and

circled about 20 m. Again, the harrier descended on the spot and the pheasant repeated the same aggressive behavior. The harrier veered off and flew out of view. I went to the site and flushed three 2-week-old pheasant chicks. The chicks flew into an area of small shrubs and trees 4 m to the west, and several moments later, I heard chicks and the hen calling from the area.

On 14 August 1983 at 0915, I watched a harrier hunting along a shelterbelt between a grass field and a sunflower field. When the harrier was about 50 m from me, it dove to ground level in the grass field. Several half-grown pheasant chicks flushed into the shelterbelt. The harrier flew up, circled, and dove on the same location. A hen pheasant flew at the harrier in a manner similar to the first observation and apparently forced the harrier to veer off. Several more chicks flushed into the shelterbelt as the harrier circled again before flying out of view.

I saw no successful predation of adult pheasants in several attempts by female harriers. However, I have observed predation by harriers on pheasant chicks as have Breckenridge (Condor 37:268–276, 1935) and Errington and Breckenridge (Am. Midl. Nat. 17:831–848, 1936). Aggressive behavior by male pheasants towards a Northern Harrier was reported by Weigand (Auk 84:114, 1967). He observed a female harrier feeding on an immature hen pheasant. The harrier was pursued by 3 male pheasants and forced to drag its prey into a grass field.

It appears that the threat by harriers to adult pheasants is small enough to make active defense of the chicks a viable alternative to other types of escape behavior.

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Habitat Selection by Roof-nesting Killdeer.—Roof-nesting by Killdeer (*Charadrius vociferus*) was first reported by Pickwell (1925), and since 1937 has been reported from areas throughout the Killdeer's range (Fisk 1978).

Killdeer chicks must leave the roof within 2 days to obtain food (Davis 1943); they normally jump from the roof while being called to by their parents on the ground (Demaree 1975). There are, however, 2 potential hazards associated with this behavior: (1) chicks that hatch on roofs that have parapet walls on all sides are unable to leave the roof and subsequently starve (Wass 1974, Fisk 1978, Dexter 1978; see Dexter 1979 for a supposed exception), and (2) chicks can be killed by the fall (Demaree 1975). Thus, there is selection against Killdeer that nest on parapet-walled roofs, and on roofs that are too high.

We undertook this research to determine if nesting Killdeer (1) avoid roofs with parapet walls, (2) choose roofs that are lower, on average, than a random sample of roofs, and (3) prefer flat roofs or a particular type of roof substrate.

Methods.—In February, 1980, Hopkins, a representative of a company that sells roofing materials, enlisted the support of management personnel of his company (Tremco, Ltd.). That being obtained, Hopkins presented our proposal to other Tremco representatives at their annual convention. We mailed a synopsis of the proposed research, an information sheet about Killdeer, and data cards to 39 Tremco representatives in April; there was at least one representative in each Canadian province. We asked each to fill out a data card for each nest that he found during the course of roof inspections. The data cards required the following information: (1) Date nest found; (2) height of roof above ground in meters; (3) bitumen type—tar (a coal derivative) or asphalt (a petroleum derivative); (4) roof surface—aggregate (e.g., pea gravel, crushed rock) or other (e.g., smooth, mineral, slag); (5) perimeter detail—gravel stop, raised eave, or parapet wall; (6) drainage—flat to slight pitch (<3°) or moderate to steep pitch.

We contacted representatives who returned data cards and asked them about the characteristics of all roofs visited during May and June, 1980 (the period when 94% of