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A Northern Hawk Owl, *Surnia ulula*, Nest on a Man-made Structure in Alaska

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A Northern Hawk Owl nest was found in a metal cavity on the superstructure of the Trans-Alaska Pipeline. This may be the only record of Northern Hawk Owls nesting on a man-made structure in North America.

Key Words: Northern Hawk Owl, *Surnia ulula*, nesting, man-made substrate.

Northern Hawk Owls (*Surnia ulula*) nest at northern latitudes throughout the boreal forests of the world. Little is known about their nesting ecology when compared with other Strigiformes. The nests recorded in North America have all been in natural cavities in cliffs or trees, cavities in trees that have been excavated by other birds, in old stick nests constructed by other birds, or occasionally, on the limbs of conifers (Bent 1938; Terres 1980; Armstrong 1995; Duncan and Duncan 1998). In addition, Northern Hawk Owls sometimes nest among the dense branches of spruce (*Picea* spp.) that have been parasitized by mistletoe (*Arceuthobium campylopodum*) in northern Alaska (TC, personal observation). Although Northern Hawk Owls are known to nest in nest boxes in Scandinavia (Sonerud et al. 1987; Voous 1989), we have not found a record of this species nesting on man-made substrates in North America.

On 17 April 2000 Alaska Standard Time MLR visited a study plot close to the Trans-Alaska Pipeline via snow machine to collect data on Snowshoe Hare (*Lepus americanus*) foraging behavior. While working at the study site, she heard vocalizations in the nearby spruce forest. These calls continued for about

15 minutes, but she did not see the bird responsible for the sounds. Two days later she returned to the study plot and again heard the same vocalizations. When she had finished her work, she walked along the Pipeline and a Northern Hawk Owl flew from a cavity in part of the steel superstructure that supports the Pipeline. Later that day, she investigated the cavity and found a small nest made of twigs, weed stems, grass and owl feathers. Contained within the nest cup were four small white oval eggs. The nest was located 6 km northeast of Wiseman, Alaska, at 67° 27.68" north latitude and 150° 02.66" west longitude. During these observations snow depth was about 1 m and the temperature was about -2°C.

On 21 April MLR returned to the study plot again, and saw a hawk owl perched in a spruce tree 25 m from the nest cavity. The owl vocalized repeatedly in her presence, using the same call she had heard before. This vocalization was reminiscent of the "Territorial Call" described by Voous (1989) and the "Advertising Call" described by Duncan and Duncan (1998). When MLR drove a snow machine under the Pipeline support structure, a second owl flew from the cavity. She found six eggs in the nest cup. MLR and JLR visited the

nest area again on 24 April and found there were still six eggs in the nest.

On 18 May MLR and JLR visited the nesting area on foot after most of the snow had melted in the area. They observed two adult Northern Hawk Owls. One of the birds was perched in a tree top and vocalized when they approached the Pipeline, the other flushed from the nest cavity when MLR climbed onto JLR's shoulders to investigate the nest. Both adults vocalized and flew from tree-top to tree-top in an agitated manner and one of the adults dove within 1 m of MLR's head during this investigation. Two young and four unhatched eggs were in the nest. In addition, the fresh remains of a Snowshoe Hare lay on the ground beneath the nest. MLR videoed the adults and the nest site during this visit.

We later visited the area and took physical measurements at the nest site. The nest was 2.1 m above the ground, in a cavity that measured about 44 cm tall by 10 cm wide. The cavity was completely open on one side and was 20 cm deep. It was comprised of 1.3 cm thick steel. Near the nest the overstory vegetation has been removed on both sides of the Trans-Alaska Pipeline for a total width of around 20 m. Beyond this cleared area, the overstory vegetation in the vicinity of the nest site was dominated by short (< 7 m) White Spruce (*Picea glauca*). We estimated the canopy coverage of spruce to be < 20% in the vicinity of the nest. Bog Birch (*Betula glandulosa*), graminoids, and bryophytes covered the ground except near the pipeline. Seasonal and perennial wetlands occurred within 75 m of the nest and the nest site was about 400 m from the Middle Fork Koyukuk River.

In May 2001 and April 2002, we searched the Trans-Alaska Pipeline near the historic nest site but found no Northern Hawk Owls in the area. We located another

old nest made of grasses and twigs on a Pipeline support structure immediately next to the nest site. This nest contained a Northern Hawk Owl feather and the amount of bird defecation that coated the sides of the cavity led us to believe that it may have been used by owls in the recent past.

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