

RELOCATING A BURROWING OWL NEST TO A NEST BOX

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The Burrowing Owl is found throughout the prairies of Saskatchewan. When nesting, it occupies the abandoned holes of Richardson's

Ground Squirrels and Badgers. The decline and current threatened status of the Burrowing Owl is attributed, in part, to the loss of prairie and pasture habitat

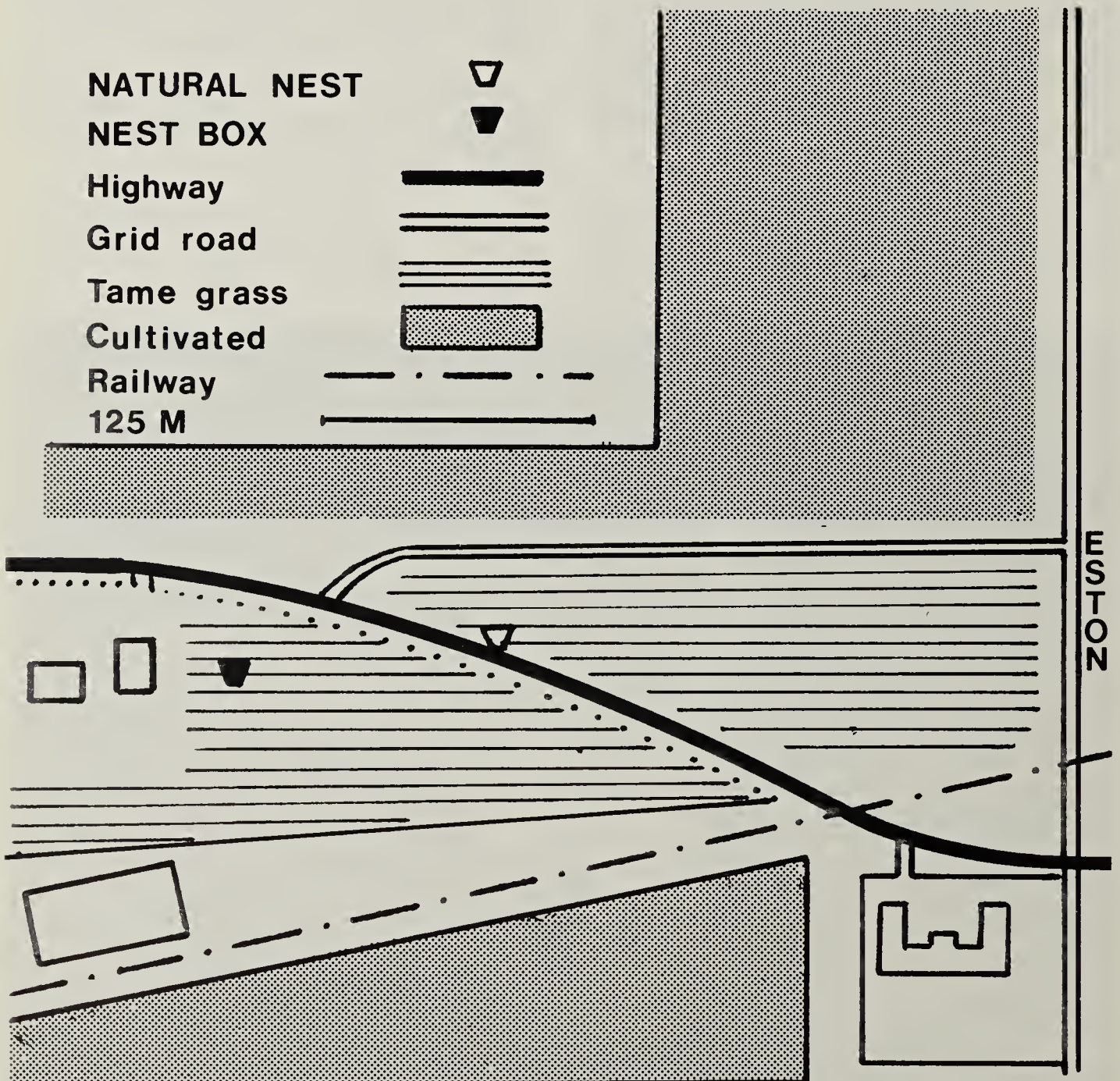


Figure 1. Map of Burrowing Owl nest relocation site

through cultivation. Cultivation destroys potential nesting holes, thus forcing the owls into marginal nesting sites such as road allowances. Nest sites along road allowances are poor due to the high mortality which owls experience from road kills.

"Operation Burrowing Owl" is a joint project sponsored by Saskatchewan Natural History Society, Saskatchewan Wildlife Federation, World Wildlife Fund, Wildlife Habitat Canada and Saskatchewan Parks, Recreation and Culture. The objectives of the project include surveying provincial Burrowing Owl populations, initiating landowner agreements for preserving owl habitat, increasing public awareness regarding the status of the Burrowing Owl and developing nest box schemes to enhance owl habitat and to learn about the behavior of Burrowing Owls.

The authors, while employed in the "Operation Burrowing Owl" program, relocated a roadside nest at Eston, Saskatchewan, that would have been

destroyed by road construction (Fig. 1). We believe this is Saskatchewan's first successful transfer of a Burrowing Owl family and provides a technique which could be used in similar situations in the future.

Methods

The nest at Eston was located on Highway #44, within the western town limits. The burrow was an abandoned Richardson's Ground Squirrel hole located about 10 cm from the asphalt surface (Fig. 2).

This was at least the 2nd year this hole was occupied by owls and town residents reported finding up to four dead owls along the highway in 1987. The authors were informed by the Department of Highways on 15 June that this nest would likely be destroyed when they resurfaced the highway. Plans were made immediately to relocate the nest to a grassy area south of the highway owned by the Department of Highways, using a nest box for their new burrow. The new site was part of the owls' hunting range, about 130 m from



Figure 2. Removing eggs from nest at roadside. John Pollock, left, Craig Palmer, right
Greg Plewis

their old burrow and away from the highway traffic. The relocation took place at 11:00 a.m. on 16 June 1988.

The nest box was installed in some loose fill dumped in the middle of the grassy area (Fig. 3). This provided the owls with a raised burrow about 20 cm above the surrounding area. The fill was a welcome addition, making for easy digging, however, the fill is not a prerequisite for establishing nest boxes. (Nest box plans are available from the Saskatchewan Natural History Society, or Saskatchewan Parks, Recreation and Culture, 3211 Albert Street, Regina, Saskatchewan. S4S 2J6)

Digging out the original nest and transferring the owls to the nest box was completed within an hour. The nest was dug out when the female was in the burrow to ensure her capture. A rag was

stuffed down the hole so she would not fly out as the digging took place. The tunnel was about 0.5 m deep and about 1 m long. The nest had seven eggs and one newly-hatched owlet. The female, the owlet and eggs were placed in a cardboard box and transferred to the nest box. A cage was placed over the nest box entrance for 2 hours to ensure that the female remained in the nest box until she was accustomed to the new location. The old hole was filled to ensure that they would not return to it.

Results

When we visited the site 6 hours later at 8:00 p.m. the female emerged from the nest box and joined the male at the original nest site. The pair spent 1.5 hours looking at and flying around the former nest site. The female then returned to the nest box and the male followed her into the box shortly after.



Figure 3. *Installing the nest box. Left to right, Brian Janzen, Craig Palmer, John Pollock*
Greg Plewis

The next morning the male was observed sitting at the entrance to the nest box. At this time it seemed the owls had taken over the nest box as their new nest.

On 12 July, C. Stuart Houston of Saskatoon banded seven young at this nest box, confirming that the transfer and subsequent hatch was successful (one young was lost from the original eight — cause unknown).

Discussion

Success of this transfer was influenced by five factors as follows:

Time

The shorter the disturbance period during transfer, the less stress there is for the owls. This procedure took under one hour. To keep transfer time to a minimum, the new nest box should be dug in and ready before the old nest is excavated.

Relocation site

The owls were relocated within their original range. The nest box was placed about 130 m from the original nest site, well within the species' average feeding territory of approximately 2.41 square km (1.5 square mi.).¹ This ensured that the male would find the box. As well, when the female emerged she could orient herself quite easily. When the female came out of the nest box, she circled the dirt mound and then flew directly to the old nest site.

Developmental Stage of the Young

An owlet was taken from the nest along with the eggs. The eggs were in the late stages of incubation with one owlet already hatched. At this stage most birds are much less likely to desert than during early nest stages. Relocating newly laid eggs may not have been successful.

Adult Relocation

Relocating at least one of the adult birds with the brood was probably the single most important aspect of the relocation. This ensured that at least one of the parent birds knew where the box was, and that the young and eggs were inside this new nest. This also ensured that incubation and care of the young underwent minimal interruption. The female may have been instrumental in helping the male find the nest so quickly.

Filling in the Old Burrow

The original hole was filled in after the relocation to keep the birds from returning to the original nest.

Conclusion

The success of this transfer suggests that the technique should be used again when nests are threatened with immediate destruction. However, the risk of nest desertion, especially in earlier nest stages, urges that moving of nests is undertaken only in situations where the nest is already in jeopardy. As more experience is gained with this type of transfer it will be possible to decide whether, for example, the risk of transferring a pair away from a road exceeds the risk of the owls being struck by cars.

Acknowledgements

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¹ HAUG, E.A. 1985. Observations on the breeding ecology of Burrowing Owls in Saskatchewan. M. Sc. Thesis, Univ. of Sask., Saskatoon.