

# FERRUGINOUS HAWK NEST PLATFORMS — PROGRESS REPORT

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A previous article described how six Ferruginous Hawk platforms were placed in the less treed northern end of the Kindersley-Elna Community Pasture late in 1972.<sup>1</sup> The first of these platforms was successful in 1976, and subsequently up to three Ferruginous pairs and one Swainson's Hawk pair used one to four poles per year until 1982. That year, on the same pasture, eight of eight pairs of Ferruginous Hawks nesting in trees were successful and two of five pairs of Swainson's Hawks were successful. One of the Swainson's Hawk nests was on a platform; it produced only one addled egg. In 1983, 1984 and 1985, in spite of adding a shade board at one of the platforms in 1984, not one of these platforms has been used again. Perhaps they are not ideally located, since they compete with available trees at 15 separate sites on this 24.5 mi.<sup>2</sup> pasture, and even without the platforms this pasture carries the highest density of Ferruginous Hawks ever reported.

On 12 September 1982 three poles were placed at 1-mi. intervals in the western unit of the Oakdale Community Pasture near "Buffalo Coulee," three poles at 1-mi. intervals in the main or "Beaufield" unit of the Oakdale Community Pasture, and two poles in the western unit of the Eagle Lake Community Pasture. The crew consisted of Keith and Jean Harris, Kelly Wylie, Cathy Tomlinson, Alan Smith, Nigel Caulkett and the author (Fig. 1).

As in the Kindersley-Elna Community Pasture success was negligible the first year. In 1983 one Swainson's Hawk began incubating on the only pole that contained shade slats at Beaufield and another used an open platform on the Eagle Lake Pasture. Both failed. In 1984 a Ferruginous Hawk used the southeasternmost pole at Beaufield and had two young in the nest on 12 June. The nest was empty and had failed by 24 June, most likely due to Great Horned Owl predation. The Swainson's Hawk on the



Figure 1. Platform building crew, Oakdale Community Pasture, 12 September 1982

Jean Harris

northernmost pole at Buffalo Coulee failed, but the one at the shaded northwest platform at Beaufield was our first success from this group of eight platforms; two young were banded 21 July.

Since the first six nesting platforms had ceased to be used and since the only one of the eight new poles used was the only shaded platform, it was decided to add a shade structure to the other seven new platforms. A work crew consisting of Keith Harris, Kelly Wylie, Ron Jensen and the author did the job 30 September 1984. First the platforms were moved from the original position at the very top of the pole and replaced on support arms about 3 ft. below the top, on the north side of the pole. This allowed the pole itself to provide some shade. Various types of additional shade were provided, chiefly by sheets of plywood up to 3 ft. wide.

In 1985, after this modification, all three poles in the Beaufield Pasture were oc-



*Young Ferruginous Hawk on platform*  
Jean Harris

cupied. The modified middle pole fledged three young Ferruginous Hawks, which were banded on 1 July. On 20 July the southernmost pole contained a Swainson's Hawk still incubating a single addled egg, while the original shaded north pole contained one downy young Swainson's Hawk and an addled egg. The northernmost Buffalo Coulee pole, which had a Swainson's Hawk incubating 1 July, had failed and was empty on 21 July.

### Discussion

There is a great potential for the use of nesting platforms for Ferruginous Hawks in Saskatchewan. In our experience they require one or preferably two mi.<sup>2</sup> of pasture containing numerous Richardson's Ground Squirrels. They also need a nesting site. In open pasture country since 1940 their commonest choice has been a tree within the shelter belt of a deserted farmstead; such trees, if they have not been bulldozed are now deteriorating with age.

Unlike in northwestern South Dakota, Ferruginous Hawks here have not been found nesting on flat areas of ground, though they sometimes nest on steep hillsides along river valleys. In Saskatchewan they have not been recorded nesting on a haystack since 1917, on telephone pole crossarms since the 1930s and only twice have they been recorded nesting on rock piles.<sup>2</sup> Further, many choose to nest in dead or dying trees, which are frequently blown over by the wind. A quarter ton or more of nesting material provides a lot of leverage at the top of a dead tree once it begins to lean. Woffinden and Powers found that 17% and 15%, respectively, of all Ferruginous Hawk nests in their study areas in Utah and Idaho were blown down by strong winds each year.<sup>8 5</sup> A stable platform should provide a higher prospect of success.

There is conflicting evidence as to whether or not Ferruginous and Swainson's hawk nestlings need shade. We have frequently encountered both species nesting at the very top of a tree with no shade what-



*Stuart Houston banding nestling Ferruginous Hawk at nest platform*

*Jean Harris*



*Kelly Wylie banding nestling Swainson's Hawk at nest platform. Oakdale Community Pasture, 20 July 1985*

*Stuart Houston*

soever. Those Ferruginous Hawks using steep hillsides also have no shade.

In a portion of the Snake River Birds of Prey Natural Area in Idaho, where no Ferruginous Hawks had nested previously, Howard placed 12 pairs of artificial nest platforms, one with a sunshade and one without. The distance between the two poles in each case was 150 yards. Seven nestings by Ferruginous Hawks occurred during 4 years, five of which were successful, all on the *unshaded* structures.<sup>3</sup>

However, in southern Alberta Josef Schmutz has noted that a single nestling will align itself with the shade from an overlapping pole, when the platform is below the top of the pole.<sup>6</sup> Schmutz found that shaded nests were occupied statistically more often than unshaded nests, corroborating the observation of Olendorff.<sup>7</sup> <sup>4</sup>

Since platforms are expensive in time and materials, costing upwards of \$100. per installation, even with volunteer labour, it is suggested that in future they be placed only in pastures without trees. The Buffalo Coulee and Beaufield sites are treeless except for a few willow clumps near the south end and one aspen clump in a coulee at the north end of the former, and some scattered trees around the outside of the latter.

In future we shall place poles only when no other nesting sites are available within 1.5 mi. and would then place them at 1-mi. intervals across the centre of the pastures. We still do not know what factors may have changed at Kindersley, although some of the poles are only 0.5 mi. from occupied trees. The only pole that has not yet been used is within 0.25 mi. of the solitary tree that has been occupied and successful for 26 consecutive years, perhaps a world

record. This tree was illustrated in Figure 1 of a 1982 article.<sup>1</sup> Its roots are exposed, it is continually rubbed by cattle, and yet it continues upright, whereas the nearby pole was the first to fall down (in 1985). Meanwhile, Pasture Manager Jim Hoffman plans to place a protective fence around the tree.

It is still difficult to know how much shading to provide. Any future poles will be on the south side of the platform and will extend for several feet above the platform. Probably one additional slab of plywood, 2-3 ft. wide, alongside the pole is a reasonable compromise. This should provide sufficient shade, yet not inhibit the view of the incubating hawk to a disturbing degree. Further modification of the four remaining unshaded Kindersley platforms were completed on 13 October 1985.

### Acknowledgements

Jean and Keith Harris, the key participants in this project, have donated their time, enthusiasm and equipment for both platform-building expeditions. Further, since 1972 they have devoted unusual amounts of time and gasoline, locating about 300 Swainson's Hawk nests, of which 193 have been successful with 371 young banded. In 1985, the peak year, 67 young Swainson's Hawks were banded in 32 successful nests. The annual search is a continuing process since the rate of reuse of nests by Swainson's Hawks is low. Jean and Keith have also introduced me to a number of Ferruginous Hawk sites, many of which have been used in consecutive years.

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Hubert Solverson and Jim Hoffman, successive managers of the Kindersley-Elna P.F.R.A. Pasture and Ed Melchior, manager of the Oakdale P.F.R.A. Pasture, have been most cooperative.

- <sup>1</sup> HOUSTON, C.S. 1982 Artificial nesting platforms for Ferruginous Hawks. *Blue Jay* 40(4):208-213.
- <sup>2</sup> HOUSTON, C.S. and M.J. BECHARD 1984 Decline of the Ferruginous Hawk in Saskatchewan. *American Birds* 38:166-170.
- <sup>3</sup> HOWARD, R.P. and M. HILLIARD 1980 Artificial nest structures and grassland raptors. *Raptor Research* 14:41-45.
- <sup>4</sup> OLENDORFF, R.R. 1973 Ecology of the nesting birds of prey of northeastern Colorado. United States International Biological Program, Grassland Biome, Fort Collins, Colorado. Technical Report #211. 233 pp.
- <sup>5</sup> POWERS, L.R. 1981 Nesting behaviour of the Ferruginous Hawk, *Buteo regalis*. Ph.D. Dissertation. Idaho State Univ., Pocatello. 312 pp.
- <sup>6</sup> SCHMUTZ, J.K. 1983 Artificial nests for Ferruginous Hawks in southeastern Alberta. Unpublished report, Arctic Institute of North America, University of Calgary, Calgary, Alberta. 31 pp.
- <sup>7</sup> SCHMUTZ, J.K., R.W. FYFE, D.A. MOORE and A.R. SMITH 1984 Artificial nests for Ferruginous and Swainson's Hawks. *J. Wildlife Management* 48:1009-1013.
- <sup>8</sup> WOFFINDEN, N.D. 1975 Ecology of the Ferruginous Hawks, *Buteo regalis* in central Utah: population dynamics and nest site selection. Master's Thesis. Brigham Young University, Provo, Utah. 102 pp.