

# A hawk-eyed look at a Threatened prairie predator

BY DR. JANET NG

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Ferruginous Hawks are the largest soaring hawk species in North America, with wingspans reaching up to 5 feet. Most are light brown on the back with a pale breast, but a small proportion are mostly dark brown on both sides. To give you a sense of just how big they really are, I can tell you I once mistook a female “dark morph” Ferruginous Hawk for a Golden Eagle!

Its size makes the Ferruginous Hawk an iconic species in the Prairies, but I think its real claim to fame is a voracious appetite for Richardson’s Ground Squirrels, a.k.a, gophers. A family of Ferruginous Hawks can eat approximately 500 gophers in a single breeding season. In my field research, I once visited a nest that had no fewer than 13 gophers stacked up beneath the three nestlings. The young birds were fat, healthy – and stinky.

My research on Ferruginous Hawks was prompted by their listing as a Threatened species in the federal *Species at Risk Act*.



Photos: Janet Ng



Dr. Janet Ng Photo: Jillion Johnston

This occurred after the size of their population and extent of their range had both shrunk by about 50% since the 1990s. Now their population seems to be slowly increasing, but they still face challenges in their Canadian range. Identifying these threats and understanding how they influence Ferruginous Hawks in Canada formed the basis of my doctoral research.



I found a key pattern in Ferruginous Hawk ecology: These birds thrive in mixed landscapes composed of both grassland and cropland. This discovery emerged after spending five years surveying and monitoring nests in a variety of landscapes, some composed mostly of cropland, some including a mix of both cropland and grassland, and some composed mostly of grassland. By comparing Ferruginous Hawk ecology across these landscapes, I found that habitat selection and nest success were higher in mixed landscapes compared to landscapes dominated by either cropland or grassland. Before me, Dr. Joseph Schmutz had found a similar pattern in the 1980s.

These findings have implications for conservation of prairie fragments. Prairie conservation is often focused on big, uninterrupted tracts of grassland. This approach benefits species that need lots of grassland, but may miss species that need patchy landscapes, such as Ferruginous Hawks. These fragments are some of the most endangered pieces of grassland remaining because of their proximity to cropland and their potential value as crop. When grassland fragments are converted to crop, the landscape becomes less varied. Conserving these remaining fragments conserves habitat for nesting Ferruginous Hawks, increases or maintains connections between grassland patches, and promotes biodiversity across landscapes.

My research also showed that climate change is potentially a major threat to Ferruginous Hawks. In my first few weeks of field work, we found a Ferruginous Hawk nest that was blown out of its tree during a rain storm. The entire



nest was flipped upside down on the ground and broken eggs were scattered. I was surprised because Ferruginous Hawk nests look very sturdy, but over several years of nest monitoring, I found that over 8% of all nests each year were blown out of their nesting structures. As climate change progresses, we expect to see more frequent storms and for those storms to be more severe. For nesting Ferruginous Hawks, more nests might be destroyed by storms each year.

Ferruginous Hawks face a lot of different threats, but they have allies that some might find surprising. Ranchers in southern Alberta and Saskatchewan are great champions of Ferruginous Hawk conservation. They advocate grassland conservation for biodiversity, their livelihoods, and future generations,

but Ferruginous Hawks also provide ranchers with the undeniable advantage of having natural pest exterminators working their land. The most common question I get asked is: “How do I get more hawks?” Protecting nest trees from cattle with fencing and installing artificial nest platforms are common methods ranchers use to support this Species at Risk on their ranches. Supporting ranchers and their working landscapes then supports Ferruginous Hawk conservation.

*Dr. Janet Ng completed her Ph.D. at the University of Alberta, where she studied Ferruginous Hawk ecology in the Canadian Prairies. Prior to that, Janet studied the ecology and migration of Common Nighthawks. Outside of science, she enjoys making pottery and spending time outdoors.*