

# Town of Superior Raptor Monitoring 2023-24 Summary



*Fledgling Cooper's Hawk. Photo by Sandy Hardy Reigel*

Sponsored by the  
Open Space Advisory Committee

*All photos in this document were taken with high-magnification lenses to minimize disturbance to the raptors.*

## Introduction:

The sixth full session of the Town of Superior's raptor monitoring program saw enthusiastic volunteer participation, which provided detailed information about the timing of raptor activities throughout the entire Town. The program, sponsored by the Open Space Advisory Committee, has several goals: determining what species of birds of prey are present in Superior, learning what areas raptors use at different times of the year, monitoring any nesting activity, working to prevent unnecessary disturbance to raptors, identifying habitats to protect, and providing relevant education to the Town's residents.

In 2023-24, 40 volunteer observers, mostly Superior residents, monitored 14 general locations regularly between early winter and late summer. In over 740 observation reports representing 155 hours in the field, they identified 13 species of birds of prey, including eagles, falcons, hawks, and owls. Some of these species use open spaces in Superior only intermittently, for hunting or migration. However, monitors determined that five species nested in Superior in 2024; 12 nests were located, but not all of them produced fledglings. The nesting species were Great Horned Owl, Red-tailed Hawk, Swainson's Hawk, Cooper's Hawk, and American Kestrel. Most of these are known for being able to adapt to living near humans and to reproduce successfully in a suburban environment.

## Methods and Results:

Volunteer observers received orientation training, monitored open space and residential areas between early winter and late summer, and submitted observation reports to the project coordinator. If courtship activity or a nest was discovered, volunteers increased their observation frequency at that site. They identified the following species of raptors (with observed seasonal and area usage info in parentheses.)

**Northern Harrier** (winter visitor; hunts in open areas especially near wetlands)

**Osprey** (migrant and intermittent summer visitor to Hodgson-Harris Reservoir)

**Sharp-shinned Hawk** (winter visitor; found in areas with large or dense trees)

**Cooper's Hawk** (year-round resident and nester; found in areas with large or dense trees)

**Swainson's Hawk** (summer resident and nester; hunts in open areas)

**Red-tailed Hawk** (year-round resident and nester; found in areas with large trees bordering open space)

**Ferruginous Hawk** (winter visitor; hunts in open areas especially near prairie dog colonies)

**Bald Eagle** (year-round visitor; hunts in prairie dog colonies and large ponds)

**Golden Eagle** (winter visitor; hunts in open areas especially near prairie dog colonies)

**American Kestrel** (year-round resident and nester; found in open areas with patches of trees)

**Merlin** (winter visitor; hunts in open areas with patches of trees)

**Peregrine Falcon** (summer visitor; hunts in open areas)

**Great Horned Owl** (year-round resident and nester; nests and roosts in very large trees, hunts in open areas and residential neighborhoods)

Seen in one or more of 2018-2023, but not in 2024:

Broad-winged Hawk

Barn Owl

Burrowing Owl

Eastern Screech-Owl

Prairie Falcon

The following areas received regular monitoring:

**Rock Creek riparian corridor (Autrey Park)** – hunting Red-tailed Hawks, Bald Eagles, Golden Eagles, Great Horned Owls, and American Kestrels.

**Rock Creek riparian corridor (Community Park)** - nesting and hunting Red-tailed Hawks, Great Horned Owls, and American Kestrels; hunting Cooper’s Hawks, Red-tailed Hawks, Swainson’s Hawks, Bald Eagles, and Merlins.

**Eldorado Circle area** – nesting and hunting Cooper’s Hawks; hunting Bald Eagles, Swainson’s Hawks, Red-tailed Hawks, and Bald Eagles; roosting Great Horned Owls.

**Coalton trailhead area** - nesting and hunting Great Horned Owls; hunting Red-tailed Hawks, Bald Eagles, and American Kestrels.

**Downtown / Vista Corridor** – hunting Northern Harriers, Swainson’s Hawks, Red-tailed Hawks, Bald Eagles, Golden Eagles, Great Horned Owls, American Kestrels

**Coal Creek riparian corridor (Original Town)** – nesting and hunting Swainson’s Hawks and American Kestrels; hunting Cooper’s Hawks, Red-tailed Hawks, and Bald Eagles.

**Mayhoffer-Singletree / Oerman-Roche area including Ochsner open space** - nesting and hunting Great Horned Owls and American Kestrels; hunting Northern Harriers, Cooper’s Hawks, Red-tailed Hawks, Ferruginous Hawks, Bald Eagles, Golden Eagles, American Kestrels, and Peregrine Falcons.

**Purple Park / Heartstrong Park area** - hunting Cooper’s Hawks, Red-tailed Hawks, Bald Eagles, and Great Horned Owls.

**Meadowbrook / Riverbend area** - hunting Northern Harriers, Cooper’s Hawks, Red-tailed Hawks, Bald Eagles, and Great Horned Owls.

**Bowes Pond Natural Area** – hunting and nesting Cooper’s Hawks; hunting Northern Harriers, Red-tailed Hawks, Bald Eagles, Great Horned Owls, and American Kestrels.

**Hodgson-Harris Reservoir** - hunting Cooper’s Hawks, Red-tailed Hawks, Bald Eagles, Osprey, and American Kestrels.

**Southwest Superior** – hunting Sharp-shinned Hawks, Cooper’s Hawks, Red-tailed Hawks, Bald Eagles, Merlins, and American Kestrels.

**Coyote Ridge** – hunting Northern Harriers, Cooper’s Hawks, Red-tailed Hawks, Great Horned Owls, and American Kestrels.

**76th St. / Sagamore** - nesting and hunting Red-tailed Hawks; hunting Cooper’s Hawks, Swainson’s Hawks, Golden Eagles, Great Horned Owls, American Kestrels, and Peregrine Falcons.

After recording an unusually low number of species in most areas last year, this year’s observations show a much broader diversity that is comparable to the results from 2022 and earlier.

Figure 1 shows the history of observed nesting attempts and fledgling production since the beginning of the monitoring program. While not all nests have been successful, every species that has attempted nesting has fledged at least one young bird each year.

Most of the nests referenced in Figure 1 were directly observed. In some cases, the presence of American Kestrel nests was inferred based on territorial and courtship behavior in the spring, followed by the appearance of fledglings in the same area about ten weeks later.

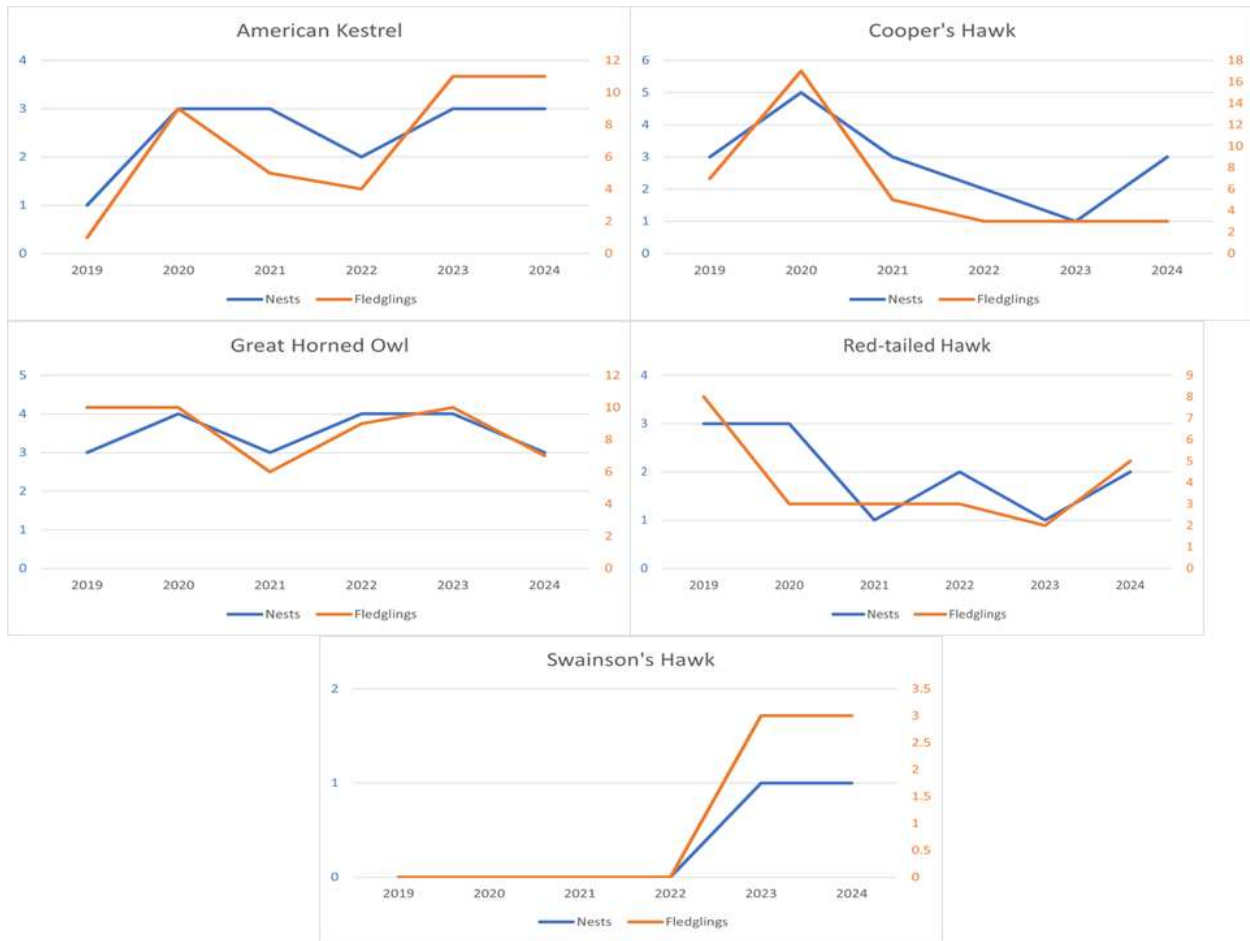


Figure 1 - Nesting attempts and fledgling production

Note that differences in the number of observed nests per year may be due to changes in monitoring coverage and frequency in some areas. Since 2022, however, volunteers have been able to visit all known historical nesting sites each year, providing better consistency in year-to-year results.

Highly Pathogenic Avian Influenza (HPAI) continued to circulate among wild birds in Colorado during the winter of 2023-24 [1]. While volunteer monitors observed several sick and dead birds of prey in Superior, none of these birds was tested for HPAI so we cannot be certain whether it caused their mortality. Fledgling production for some raptor species in Superior increased in 2023 and 2024 while others declined so effects of HPAI on reproductive success are not clear.

### Adaptation to suburban habitats:

Wildlife habitats in Superior have changed dramatically since the 1980s when residential and commercial development began replacing open grasslands. At the same time, our riparian corridors, which had been cleared of many trees during the coal mining era, regrew with cottonwoods and shrubs, augmenting the “urban forest” that appeared in new residential areas. As a result, the mix of raptor species appears to have shifted along with the alteration in habitat. Raptor surveys in the early 1990s showed high densities of grassland species such as Ferruginous Hawks in the Rock Creek area [2]. While a few open country raptors still occur in and around Superior, our most common species are now suburban adapted species like Cooper’s Hawks,

Red-tailed Hawks, and Great Horned Owls. Some of these birds have modified their hunting and nesting behavior to match their new environments.

Cooper's Hawks, which prey primarily on smaller birds, historically lived in forested areas away from humans. In Colorado they preferred foothills and subalpine locations. More recently, they seem to have discovered that maturing trees in suburban neighborhoods provide favorable nesting conditions and that backyard bird feeders attract the songbirds that they like to eat. In fact, Cooper's Hawks have become one of the most common nesting species in Superior.



*Figure 2 - Great Horned Owl shelters and feeds two of its four nestlings. Photo by Jeff Krause*

Great Horned Owls will catch and eat nearly anything that moves, from insects to reptiles to rodents and even other raptors. Their non-fussy diet allows them to adapt to a wide variety of habitats. They find an attractive density of small rodents, squirrels, and rabbits in lush suburban parks and yards. Their nesting success is often correlated with prey availability. In Superior, Great Horned Owl nests frequently fledge three or four young, suggesting that they are taking advantage of the plentiful food sources here.

In natural habitats, some birds of prey rely on large mature trees for nesting. Red-tailed Hawks prefer a nest site that is

higher than the surrounding landscape and also build fairly large and heavy nests. In the Front Range, the strong, tall branches of mature Plains Cottonwoods provide for both of these needs. In Superior, large cottonwoods are disappearing and thus Redtails have had to improvise when “house hunting.” One pair found a large ledge on a tall building in nearby Broomfield after their longtime nest cottonwood was cut down. In 2024, a pair built a nest on a tall communications tower in Community Park and raised four fledglings.

American Kestrels, which are small falcons about the size of a dove, nest in cavities such as the hollow branches of very mature cottonwoods. They also have had to look elsewhere for nest sites and increasingly choose holes or crevices in houses or commercial buildings. A common choice for them is a hole created by a Northern Flicker (a species of woodpecker) in the stucco façade of a retail building. Their young then make their first flights over a parking lot and may be heard squawking loudly for food from a light pole.

### **Species Spotlight – Swainson’s Hawk:**

The elegant Swainson’s Hawk is closely associated with open prairies. During our summer they can be found throughout the Great Plains and Intermountain West including along the Colorado Front Range. As the seasons change, they follow the warm weather southward to spend the southern hemisphere summer on the grasslands of Argentina – a round-trip journey of as much as 14,000 miles.

The adult Swainson’s can be told from their relatives the Red-tailed Hawks by their longer, narrower wings. Their bellies may be dark or light, but they always show a solid brown bib and



Figure 3 - Adult Swainson's Hawk showing dark bib and trailing edges of wings. Photo by Peter Ruprecht

dark flight feathers on their wings. Immatures are tan with chocolate brown streaks and splotches.

Swainson's Hawks can often be seen soaring over the large swathes of open country adjacent to Superior. They usually nest in tall trees adjacent to these hunting grounds. Until the early 2010s a pair regularly raised their young near the intersection of Coalton and McCaslin, but as new houses sprouted nearby the birds moved elsewhere. Since these hawks prefer to avoid human

disturbance, Superior raptor monitors were surprised to learn of an active nest in Original Town in the summer of 2023. The hawks returned in 2024 and built a new nest on an open space parcel along Coal Creek, again fledging three young. We will be interested to see whether they continue to feel welcome in Original Town as rebuilding continues.

In September, the adult hawks wait for a warm day with north winds to begin their long migration. They circle in rising air, calling to their fledglings. After some encouragement, the young birds take off to join their parents. Often several family groups will join together into large "kettles," sharing rising thermals to save energy. At some points in eastern Mexico and Panama, these kettles coalesce into a river of raptors, flowing nearly unbroken through the sky for weeks on end.

During nesting season, Swainson's Hawks mainly feed on small mammals. At other times of the year, their diet switches to insects, especially grasshoppers and large dragonflies. Their reliance on bugs led to a major conservation crisis in the 1990s, when pesticides used to control grasshoppers in Argentina poisoned tens of thousands of hawks. Fortunately, these pesticides are now banned and Swainson's Hawk populations have rebounded.



Figure 4 - Immature Swainson's Hawk. Photo by Peter Ruprecht

## Recommendations:

Based on monitors' observations, we make several recommendations to help ensure that raptors can continue to survive in Superior.

- *Preserve large trees, especially Plains Cottonwoods.* Since 2019, 11 out of 12 observed Red-tailed Hawk nests and 20 of 21 Great Horned Owl nests were in mature Plains Cottonwood trees, which have strong horizontal branches near their tops that can support the substantial nests needed by large raptors. American Kestrels also frequently nest in hollow knotholes in mature cottonwoods. Since so many mature trees have been removed due to construction projects or damaged by fire, it is especially important to conserve those that remain. Ideally, new Plains Cottonwoods should be planted as replacements for lost or removed older trees.
- *Retain dead and dying trees, especially in natural open spaces.* Many raptor species preferentially use bare branches as hunting perches and for territorial and courtship displays. Hollow limbs and trunks are also important for cavity-nesting species.
- *Evaluate existing artificial nest boxes and platforms and relocate if necessary.* Several nest boxes and platforms have been installed in parks and open spaces. Not all of these structures have attracted nesting raptors. If a box or platform is not used for three years, it may need to be moved to a better spot.
- *Develop a vigorous public education campaign to discourage the use of all rodenticides outdoors.* Many of the parent raptors were observed delivering small rodents to their nestlings. A rodent that has ingested poison but not yet died can pass the toxins on to a raptor that eats it. These secondary poisonings are a significant cause of death among many raptor species [3].
- *Provide education to residents prior to courtship and nesting season.* Some raptors may become aggressive toward any perceived intruder in their territory, including humans and pets. Sensitive human behavior can help to minimize aggressive interactions.

## Acknowledgements:

We are grateful for the diligent observational work, careful data reporting, and sensitive photography by the 2023-24 raptor monitor volunteers:

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For more information about the raptor monitoring program, or to volunteer as a monitor, please email [OSAC@superiorcolorado.gov](mailto:OSAC@superiorcolorado.gov).

## References:

- [1] <https://ag.colorado.gov/animals/reportable-diseases/avian-influenza/colorado-hpai-response>
- [2] <https://bcna.org/wp-content/uploads/2021/07/1990-2011RaptorPopBySurveyRoute.pdf>
- [3] <https://www.allaboutbirds.org/news/raptors-and-rat-poison/>



Figure 5 - Photo credits (clockwise): Peter Ruprecht, Sandy Hardy Reigel, Mary Smith, Kara Neuse, Cheri Atkinson, Jeff Krause