

Wildlife Management with Birds of Prey: Raptor Abatement

Megan Martin

Bird song fills the air at dawn, a cacophonous mixture of hundreds of melodies, each fighting to be heard over the other. The entire consonant chorus abruptly quiets. Seconds pass and the characteristic “seer” of a red-tailed hawk is heard overhead. The bird of prey soars slowly over, scanning the ground for food. A few minutes pass after the hawk is gone before bird song is heard once again, tentatively, and then in full force. The effect of a raptor present over potential prey-birds is immediate and strong.



A falconry-trained red-tailed hawk fitted with jesses and bells leaves a nearby tree.

People have recently begun taking advantage of the extreme response of prey-birds to raptors as a new wildlife management and abatement technique. Trained falcons or hawks of different species are used to manage unavoidable conflicts with unwanted “pest” birds. This technique is called “raptor abatement” or “falconry abatement”. Captive-bred raptors including falcons and hawks are trained to complete repetitive sweeps across land and flush pest-birds. Through predator presence, these pest-birds are encouraged to find less dangerous foraging or nesting locations. Raptor abatement can be implemented in any situation where a pest prey bird (e.g. European starling, pigeon, house sparrow, American crow, Canada goose, or gull) is overpopulated or becoming an environmental hazard or problem. Trained captive-bred raptors are also habituated to people and are safe enough to be flown around neighborhoods and in cities.

How is it Done?

In general, raptor abatement involves directing a raptor to fly over, around, or land in an area with unwanted pest-birds.

Foraging birds are most active at dawn and dusk, and therefore the most common raptor abatement method involves lure-flying falcons during these times. Lure-flying involves swinging a bird-shaped lure garnished with food with a trained falcon flying multiple passes over the lure before catching it. Lure-flying falcons dive to the lure but do not catch it, fly a distance away, and then bank and return for another pass. Lure-flying is traditionally used in falconry as a bird exercise and strengthening technique

and mimics a falcon's natural behaviors when hunting; wild hunting falcons often make multiple repeated passes at prey-birds before making contact. Pest prey-birds perceive this lure-flying behavior as a hunting predator and flee the area.

Other alternate abatement methods with birds of prey include using laser-pointers to direct hawks to fly perch to perch, and walking fields with birds on T-shaped perches or on the falconer's fist. Alternate techniques may be used for roosting or loafing birds.



A falconry-trained red-tailed hawk flies low over an old field.

When is Raptor Abatement Necessary?

Fruit growers have been struggling with pest-bird management for millennia. Frugivorous and granivorous birds can consume a large percentage of a fruit or grain crop if they are not deterred. Without any management, fruit growers (especially blueberry and grape) may lose 40% or more of their crop to birds alone (OSU Extension 2004). Birds also damage fruit they don't eat, introducing fungal pathogens or easy routes for pest insect infection.

Cities also manage pest-birds. An over-abundance of bird feces can create a vector between humans and histoplasmosis, *E. coli* or other diseases in a highly populated area. Pigeons are a ubiquitous urban presence and have been managed for centuries. Crows form great congregations in cities during the winter, taking advantage of the "urban heat island" effect (urban areas with more blacktop and buildings absorb and hold more heat in the winter, making them relatively warmer than the country), and leave homes and cars covered in droppings. Aggressive nesting or loafing Canada geese are often unwanted around mowed grass-lined retention ponds near commercial or residential areas because of their tendency to attack passers-by and cover walkways, playgrounds, and fields with feces.

Pest-birds are a huge consideration for both airports and landfills as essential public services. Flocks of birds flying over airports change entire plane landing and take-off routes because both turbine and jet engines are severely damaged when birds are ingested into them. Managing birds is so important in these spaces that airports are required to complete Wildlife Hazard Assessments (WHA) to determine what current problems exist and what actions to take to reduce or eliminate birds and other pests from the area.

Landfills attract gulls, crows, and other garbage-scavenging birds. These birds gather in large numbers, presenting a hazard when they become aggressive toward landfill workers, spread garbage outside of the landfill into nearby fields, and can themselves be harmed when consuming toxic waste.

What About Other Techniques?

Fruit-growers, cities, airports, and landfills currently use other forms of pest-bird management. However, these management techniques have drawbacks that raptor abatement does not.

Netting is a common form of agricultural pest-bird management in the Midwest, especially for vineyards. While effective, netting has flaws. Netting requires a specialized spool attached to a tractor to place and may take many days to stretch across an entire field or vineyard. If pest-bird arrival is predicted incorrectly, birds may eat the fruit before netting can protect it. And, unless nets are raised a distance away from the fruit, birds can reach outer fruit touching the nets. Grapevines may grow through netting over time and must be meticulously pruned before netting can be removed. Netting can also fail or become inhumane if birds become entangled or tears and holes allow birds in, but not out. Without maintenance, netting can become a wildlife hazard if it degrades and blows free, snagging untargeted animals. Lastly, netting is not feasible when fruit crops are pick-your-own, often the case with blueberries and other low-growing berries.

Stationary deterrents, predator playback, noisemakers like cannons or flare guns, and spikes on building ledges are other common management techniques. Fake predators such as scarecrows, owls, and other plastic birds of prey as well as effigies (dead target birds) will deter pest-birds for a while, but unless these deterrents are frequently moved, birds eventually realize the ruse and return. Pest-birds also become desensitized to noisemakers and predator call playback over time. And while spikes do work along man-made ledges, they don't prevent clustering of birds in city trees.

Raptor Abatement is Reliable, Safe and Environmentally Friendly

Trained raptors can be targeted at specific problem areas and can be used without prior equipment setup and on a reliable, repeating schedule. Pest-birds never become desensitized to the presence of an actual predator. Raptor abatement is also safe and environmentally friendly: the raptor is trained only to flush and not kill, is used to being around people, and does not leave behind hazardous waste. Abatement with birds of prey is an efficient method at clearing fields of bird-pests and can reduce crop loss to less than one percent (Steensma 2016).

Introducing Orbis Raptor Abatement

Having a permitted falconer on staff, Orbis is interested in establishing raptor abatement as a pest-bird control option in Indiana and the Midwest. Raptor abatement has become common in California and along the west coast because it is an environmentally friendly, minimal-waste, and safe method of pest control. We want raptor abatement to become a local midwestern choice for environmentally conscious companies and organizations that have unavoidable conflicts with unwanted pest-birds. Additionally, as knowledgeable wildlife biologists, Orbis staff are able to provide information about pest-bird species type, abundance, and location on a day-by-day basis, and can suggest other forms of effective wildlife management based on what is encountered in the field.

Contact Us

If you or your organization is interested in raptor abatement, please contact Megan Martin at 317-800-1769 or mmartin@orbisec.com.

Literature Cited

[OSU Extension] The Ohio State University Extension. 2004. Midwest Small Fruit Pest Management Handbook. Eds M.A. Ellis, C. Welty, R.C. Funt, D. Doohan, R.H. Williams, M. Brown, and B. Bordelon. Ohio State University Extension Media Distribution, Columbus, Ohio. 243pp.

Steensma, K. C. Lindell, D. Leigh, C. Burrows, S. Wieferich, E. Zwamborn. 2016. Bird damage to fruit crops: a comparison of several deterrent techniques. Proceedings of the Vertebrate Pest Conference, 27(27) 196-203.

Copyright Megan Martin 2019. All rights reserved.