

## HAWKS



Figure 1. Red-tailed hawk. Photo courtesy of USFWS.

### OBJECTIVES

1. Explain key elements about hawk biology important for their control.
2. Understand the Federal laws and regulations restricting the control of hawks.
3. Explain hawk control options to clients.

### SUMMARY OF DAMAGE PREVENTION AND CONTROL METHODS

#### HABITAT MODIFICATION

Eliminate perch sites near areas of potential damage by removing large, isolated trees and snags

Install utility lines underground and remove telephone poles near poultry-rearing sites

Cap poles with sheet metal cones or bird spikes

Condition poultry and fowl to move into coops or houses by feeding and watering them indoors at dusk

#### EXCLUSION

Livestock confinement is the most effective control method, but it must be practical and economical

Confine free-roaming fowl in enclosures covered with netting or woven wire

Install bird spikes on potential perches

#### FRIGHTENING

Use scarecrows and pyrotechnics.

Erect electric pole shockers when hawks are observed around areas of potential damage

#### REPELLENTS

None are registered

#### TOXICANTS

None are registered

#### SHOOTING

State and federal permits are required to shoot hawks. They may be issued only where there is a serious public health or depredation problem and where nonlethal control methods fail or are impractical

Shotguns

Rifles .17 or greater caliber

#### TRAPPING

State and federal permits are required to trap and relocate hawks. If possible, experienced bird banders or trappers should do the trapping to prevent injuries to birds and handlers

Swedish Goshawk trap, spring-net trap, pole trap, and Bal-chatri trap.

## SPECIES PROFILE

Hawks are birds of prey and frequently referred to as raptors—a term that includes the falcons, eagles, owls, vultures, kites, ospreys, northern harriers, and crested caracaras. Some are responsible for the loss of poultry or small game. In the past, raptors were persecuted through indiscriminate shooting, poisoning, and pole trapping. The derogatory term “chicken hawk” was used generically to identify raptors, especially hawks, but has fallen out of usage during the past two decades. Recently, many people have developed a more informed attitude toward raptors, their place in the environment, and benefits to humans.

## IDENTIFICATION

Hawks are divided into two main groups: buteos and accipiters. The buteos are known as the broad-winged or soaring hawks. They are the most commonly observed raptors in North America. Alabama species include the red-tailed hawk (*Buteo jamaicensis*, Figure 1), red-shouldered hawk (*Buteo lineatus*), and broad-winged hawk (*Buteo platypterus*). All buteos have long, broad wings and relatively short, fan-like tails. These features enable them to soar over open country during their daily travels and seasonal migrations.

Accipiters are the forest-dwelling hawks. North American species include the northern goshawk (*Accipiter gentilis*), Cooper’s hawk (*Accipiter cooperii*), and sharp-shinned hawk (*Accipiter striatus*). Northern goshawk is rarely encountered in Alabama and usually confined to the northern portion of the state. Accipiters have relatively short, rounded wings and a long rudder-like tail. Their flight pattern consists of several rapid wing beats, then a short period of gliding flight, followed by more rapid wing beats. Accipiters rarely are seen except during migration because they inhabit forested areas and are more secretive than many of the buteos.

The largest accipiter is the goshawk (Figure 2) and the Cooper’s hawk (Figure 3) is not far behind. They are bold predators that primarily feed on forest-dwelling rodents, rabbits, and birds. Occasionally, they are attracted by free-ranging poultry or large concentrations of game birds and can cause depredation problems.



Figure 2. Northern goshawk. Photo by USFWS.



Figure 3. Immature Cooper’s hawk. Photo by USFWS.

### PHYSICAL DESCRIPTION

Red-tailed hawks are 18 to 25 inches tall with a 48-inch wingspan.

Cooper's hawks are 14 to 20 inches tall with a 28-inch wingspan.

Sharp-shinned hawks are 9 to 13 inches in length with a 20 to 26 inch wingspan.

### SPECIES RANGE

The red-tailed hawk (Figure 4) is among the most common and widely distributed raptor. Though Cooper's hawks (Figure 5) are widely distributed, redtails can be found over the entire North American continent south of the treeless tundra and in much of Central America.

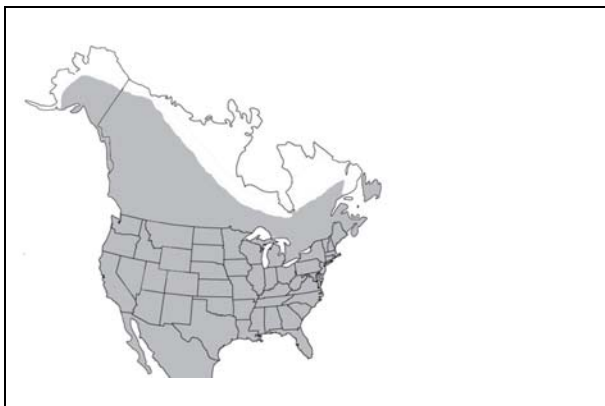


Figure 4. Range of red-tailed hawk. Image by Stephen M. Vantassel.



Figure 5. Range of Cooper's hawk in North America. Image by Stephen M. Vantassel.

The goshawk's breeding range is limited to Canada, the northern United States, and the montane forests of the western United States (Figure 6).



Figure 6. Range of Goshawk in North America. Note that Goshawks have also been sighted in other areas throughout the south. Image by Stephen M. Vantassel.

## VOICE AND SOUND

Red-tailed hawks have a high-pitched scream that declines to a raspy cry. Cooper's hawks emit an intense "kack, kack, kack, kack" as well as a scream.

## TRACKS AND SIGNS

Raptors often defecate at perch and kill sites. Accipiters such as the Cooper's hawk leave a splash or streak of whitewash that radiates out from the feather pile, whereas owls leave small heaps of chalky whitewash on the ground.

Tracks of hawks rarely are found but will look similar to that of the red-tailed hawk (Figure 7).

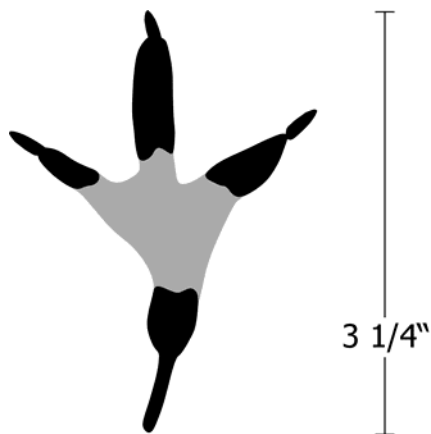


Figure 7. Track of red-tailed hawk. Image by Dee Ebbeka.

## GENERAL BIOLOGY

### REPRODUCTION

Red-tailed hawks have two to three eggs per clutch. Cooper's hawks have four eggs per clutch.

### NESTING COVER

Red-tailed hawks demonstrate a remarkably wide ecological tolerance for nesting and hunting sites throughout their extensive range. Typical eastern redtails nest in mature forests and woodlots, while

in the Southwest they often nest on cliffs or in trees and cacti.

Cooper's hawks typically nest in a tree approximately 20 feet off the ground.

### BEHAVIOR

Red-tailed, sharp-shinned, and Cooper's hawks are year-round residents in Alabama and most of the lower 48 states. They also nest in the state. Northern birds may migrate to and winter in Alabama.

### HABITAT

Red-tailed hawks thrive in a wide variety of habitats but access to open land is favored. Cooper's and sharp-shinned hawks are more woodland species but can also occur in a wide variety of habitats—even urban and suburban areas.

### FOOD HABITS

Food habits vary greatly among the raptors. Hawks are highly specialized predators that take their place at the top of the food chain. Their diet, although extremely varied, usually contains many rodents and other small mammals. Hawks occasionally take poultry but their presence near larger livestock is evidence of scavenging, not predation. The benefits they provide in aesthetics, as well as in the killing of rodents may outweigh depredation costs in poultry.

### LEGAL STATUS

All hawks are protected under the federal Migratory Bird Treaty Act (16 USC, 703-711). These laws strictly prohibit the capture, killing, or possession of hawks without special permit.

Hawks can create public health and safety hazards and can seriously affect a person's livelihood. Contact your local USDA-APHIS-Wildlife Services first if you are interested in obtaining a permit to shoot or trap hawks. The USFWS and state wildlife

agencies may issue shooting permits for problem hawks if nonlethal methods of controlling damage have failed or are impractical and if it is determined that killing the offending birds will alleviate the problem.

Permittees may kill hawks only as described by the permit. All hawks that are killed must be turned over to USFWS personnel or their representatives for disposal.

In addition, most states have regulations regarding hawks. Some species may be common in one state but may be on a state endangered species list in another. Consult your local USDA-APHIS-Wildlife Services, US Fish and Wildlife Service (USFWS), and state wildlife department representatives for permit requirements and information.

No permits are required to scare depredating migratory birds except for endangered or threatened species, including bald and golden eagles which are protected under the federal Bald and Golden Eagle Protection Act.

## DAMAGE IDENTIFICATION

### DAMAGE TO STRUCTURES

On occasion, hawks become trapped inside of structures. Reduce the hawk's flight area and darken all light sources except for the light to the outside. Frightening may help move the hawk to an open area. As long as the hawk is not harmed or directly handled, these efforts do not require a federal permit.

Occasionally, hawks cause electrical outages.

### DAMAGE TO LIVESTOCK AND PETS

Poultry and other livestock are vulnerable to a wide range of predators. Frequent sightings of hawks near the carcass of sheep, cattle, and adult geese suggest

scavenging, not depredation. Hawks are too small to kill these large animals.

The most troublesome raptors are the larger, more aggressive species, such as the red-tailed hawk, goshawk, and Cooper's hawk. Confined fowl that are chased by raptors often pile up in a corner, resulting in the suffocation of some birds. Reproduction may also be impaired in some fowl if harassment persists.

When a partially eaten carcass is found, it is often difficult to determine the cause of death. In all cases, the remains must be carefully examined. Raptors usually kill only one bird per day. Raptor kills usually have bloody puncture wounds in the back and breast from the bird's talons. Great-horned owls often remove and eat the head and sometimes the neck of their prey. In contrast, mammalian predators such as skunks or raccoons often kill several animals during a night. They will usually tear skin and muscle tissue from the carcass and cut through the feathers of birds with their sharp teeth.

Hawks pluck birds, leaving piles of feathers on the ground. Beak marks can sometimes be seen on the shafts of these plucked feathers. Many raptors (especially red-tailed hawks and other buteos) feed on carrion. The plucked feathers can often determine whether a raptor actually killed an animal or was simply "caught in the act" of feeding on a bird that had died of other causes. If the feathers have small amounts of tissue clinging to their bases, they were plucked from a cold bird that died of another cause. If the base of a feather is smooth and clean, the bird was plucked shortly after it was killed.

Hawks regurgitate pellets that are accumulations of bones, teeth, hair, and other undigested materials. These are not usually found at the kill site, but instead accumulate along with whitewash beneath a nearby perch or nest site. Fresh pellets, especially of owls, are covered with a moist iridescent sheen. Pellets can be carefully teased apart and examined to learn what the hawk had been eating. Owls gulp their food and swallow many bones along with the flesh. These bones are only slightly digested and

persist in the pellets. A pellet that contains large bones, such as those from the leg of a rabbit, is undoubtedly from a great horned owl. Hawks feed more daintily and have stronger digestive juices than owls. Thus, hawk pellets contain fewer bones.

For years, game farms have dealt with raptor depredation problems. Large concentrations of game farm animals are strong attractants to predators. Operators should consider the prevention of predation as part of their cost of operation. Other depredation problems include the loss of rabbits at beagle clubs, the loss of homing and racing pigeons, and occasionally the loss of farm or household pets. Cooper's and sharp-shinned hawks occasionally prey on songbirds that are attracted to feeding stations. This should be viewed as a natural event, however, and control of the raptors is not legally warranted.

The majority of depredation problems occur with free-ranging farmyard poultry and game farm fowl. The young of chickens, turkeys, ducks, geese, and pigeons are vulnerable because they are very conspicuous, small, unwary, and usually concentrated in areas that lack escape cover.

Cooper's hawks occasionally cause problems with poultry; sharp-shinned hawks are rarely a problem because of their small size.

#### DAMAGE TO LANDSCAPES

Hawks do not damage gardens and landscapes. The feces and prey remains of hawks moreover, can become a nuisance for homeowners.

Occasionally, raptors cause human safety and health hazards. For example, concentrations of raptors at airports increase the risk of bird-aircraft collisions and loss of human life. The vast majority of aircraft strikes involve gulls, starlings, and blackbirds, but a few raptor strikes have been documented. It is interesting to note that falconers with trained hawks have been used to clear airport runways of other birds so that airplanes can land. Although raptors usually are secretive and choose to avoid human

contact, they occasionally nest or roost in close association with humans. At such times, noise, property damage, and aggressive behavior at nest sites can cause problems.

The risk of disease transmission from hawks to humans and livestock is extremely low.

#### DAMAGE PREVENTION AND CONTROL METHODS

##### INTEGRATED PEST MANAGEMENT

People who experience raptor damage problems should immediately seek information and/or assistance. "Frustration killings" occur far too often because landowners are unfamiliar with or unable to control damage with nonlethal control techniques. These killings result in the needless loss of raptors, and they may lead to undesirable legal actions. If trapping or shooting is necessary, permits should be requested and processed as quickly as possible. Always consider the benefits that raptors provide before removing them from an area; their ability to control rodent and insect pests, aesthetic value, and contributions as indicators of environmental health may outweigh the economic damage they cause.

##### TIMING, ECONOMICS AND METHODS

Conflicts with hawks can occur throughout the year but may be heightened during fall to winter migration and during nesting season.

In 1985, we conducted a national survey of US Fish and Wildlife Service and Cooperative Extension personnel. Nearly all noted that the economic damage caused by raptors is minimal on a national scale, but can be locally severe if depredation occurs on fowl that are relatively valuable and vulnerable.

Cost estimates of damage ranged from \$10 to \$5,000 per report and from \$70 to \$94,000 per year. The severity of raptor problems is influenced by several factors, including prey and carrion

abundance, weather, time of year, husbandry methods, vegetative cover, topography as well as density and local distribution of raptors.

### HABITAT MODIFICATION

Habitat modification can make an area less attractive to raptors. Hawks often survey an area from a perch prior to making an attack. Eliminate perch sites within 100 yards of the threatened area by removing large, isolated trees and other perching surfaces. Install utility lines underground and remove telephone poles near poultry-rearing sites.

Improve escape cover for game at shooting ranges and at beagle clubs by planting and constructing brush piles and cutting large trees to increase the density of shrubs and ground cover. An abundance of game birds and rabbits often will attract raptors. Release only as many game birds and birds as are needed for an outing.

Hawks that roost in buildings can be frightened away, or live trapped and removed. Close off all entryways after the birds are out of the building.

The ultimate solution to raptor depredation is prevention. Free-roaming farmyard chickens, ducks, and pigeons attract hawks and are highly susceptible to predation. Many problems can be eliminated by simply housing poultry at night. They can be conditioned to move into coops or houses by feeding or watering them indoors at dusk.

Rodent control around airfields (esp. zinc phosphide treated baits) has helped reduce the prey base and thus activity of hawks in the area.

### EXCLUSION

If depredation persists, durable fenced enclosures can be constructed by securing poultry wire to a wooden framework and covering the enclosure with poultry wire, nylon netting, or overhead wires (Figure 8).

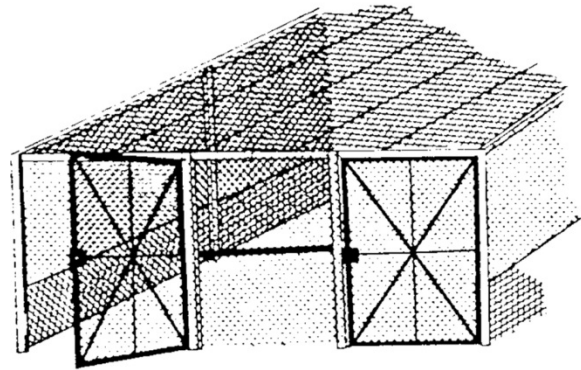


Figure 8. Screened enclosures will protect domestic fowl from hawk predation. Image by PCWD.

Cap poles with sheet metal cones or bird spikes.

### FRIGHTENING DEVICES

Many techniques can be used to scare hawks from an area where they are causing damage. Some are inexpensive and easy to use, while others are not. The effectiveness of frightening devices depends greatly on the bird, area, season, and method of application. Generally, if birds are hungry, they quickly get used to and ignore frightening devices. Frightening devices usually are a means of reducing losses rather than totally eliminating them. Landowners who use them must be willing to tolerate occasional losses.

Increasing human activity in the threatened area will keep most raptors at a distance. The most common and easily implemented frightening device is a shotgun fired into the air in the direction of (not at) the raptor. Scare-crows are effective at repelling raptors when they are moved regularly and used in conjunction with shotgun fire or pyrotechnics.

Pyrotechnics include a variety of exploding or noise-making devices. The most commonly used are shell crackers, which are 12-gauge shotgun shells containing a firecracker that is projected 50 to 100 yards before it explodes. Fire shell crackers in the direction of hawks that are found within the threatened area. An inexpensive open-choke shotgun is recommended. Check the gun barrel after

each shot and remove any wadding from the shells that may become lodged in the barrel. Noise, whistle, and bird bombs also are commercially available. They are fired from pistols and are less expensive to use than shell crackers, but their range is limited to 25 to 75 yards. Your local fire warden can provide information on local or state permits that are required to possess and use pyrotechnics.

The electric pole shocker is a device used to protect game farms and poultry operations. It has proven very effective in several different settings in Wisconsin. Each unit consists of a section of Bird Shock Tape installed on top of a pole with a jumper wire running the length of the pole and connected to an electric fence charger. Install Bird Shock Tape on top of 14- to 16-foot poles and erect the poles around the threatened area at 50- to 100-foot intervals. When a hawk lands on a pole, it receives an electric shock and is repelled from the immediate area. Other perching sites in the area should be removed or made unattractive. Energize the shocking unit only during daylight hours for hawks.

The electric pole shocker keeps hawks from perching within a threatened area but does not exclude them from nesting in or using a nearby area. Most hawks are highly territorial. A pair that is allowed to remain will aggressively defend the area and usually exclude other hawks. Thus, farmers may actually find it beneficial to coexist with a pair of hawks that have learned to avoid an area protected by pole shockers.

#### REPELLENTS

No repellents or toxicants are registered or recommended for controlling damage by hawks.

#### TOXICANTS

None are registered. In years past, raptors were killed by putting out carcasses laced with poison. This practice led to the indiscriminate killing of many nontarget animals. Concerns for human safety also

prompted the banning of toxicants for raptor control.

#### SHOOTING

State and federal permits are required to shoot hawks. They may be issued only when there is a serious public health or depredation problem and when nonlethal control methods fail or are impractical. Shotguns or any caliber rifle at least .17 or .22 caliber is sufficient for dispatching hawks.

#### TRAPPING

A landowner must obtain a permit from the US Fish and Wildlife Service and usually from the local state wildlife agency. Most permits require that traps be checked every 2 hours during daylight and once at night. Due to the risk of injury to target and non-target animals, experienced bird banders or trappers should do the trapping.

#### CAGE

The Swedish goshawk trap is a relatively large, semi-permanent trap that can be used to capture all species of hawks (Figure 9). It consists of two parts: a 3 x 3 x 1-foot bait cage made of 1-inch mesh welded wire. A trap mechanism consisting of a wooden "A" frame, nylon netting, and a trigger mechanism is mounted on the bait cage. A hawk dropping into the trap will trip the trigger mechanism and be safely trapped inside. Pigeons make very good lures because they are hardy, easily obtained, and move enough to attract hawks. Other good lures include starlings, rats, and mice. For detailed information on the construction and use of Swedish goshawk traps, see Meng (1971) and Kenward and Marcstrom (1983).



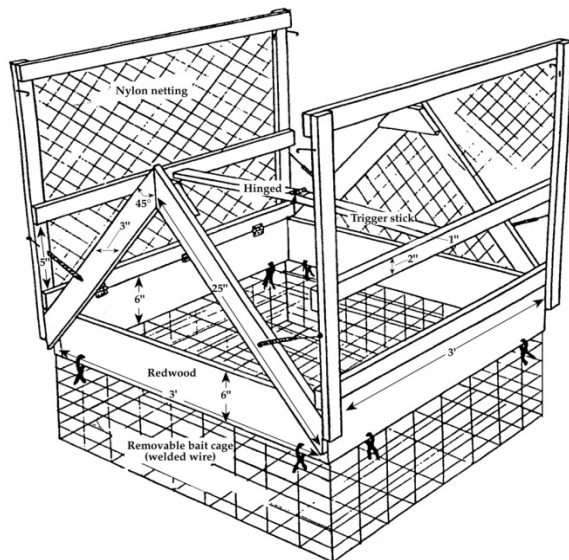


Figure 9. The redesigned, modified, and improved Swedish goshawk trap developed by Meng (1971). Image by PCWD.

Spring-net traps are useful for catching particular hawks that are creating a damage problem (Figure 10). Square spring nets, hoop nets, and the German “butterfly trap” have all been used successfully. A trap is baited by attaching the partially eaten carcass of a fresh kill or a stuffed bird to the trigger bar. The trap should be camouflaged by covering the frame and folded net with leaves and feathers from the kill. For detailed information on spring-net traps see Kenward and Marcstrom (1983).

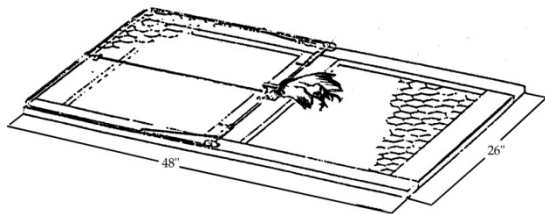


Figure 10. Spring-net trap is 48 inches long and 36 inches wide. Image by PCWD.

## SPECIES SPECIFIC TRAPS

None available.

## SNARES

Not applicable.

## OTHER

The bal-chatri trap is a relatively small, versatile trap that can be modified to trap specific hawks (Figure 11). Live mice are used to lure raptors into landing on the traps. Nylon nooses entangle their feet and hold the birds until they are released. The quonsethut type bal-chatri was designed for trapping large hawks (Berger and Hamerstrom 1962). The trap is made of 1-inch chicken wire, formed into a cage that is 18 inches long, 10 inches wide, and 7 inches high at the middle. The floor consists of 1-inch mesh welded wire with a lure entrance door and steel rod edging for ballast. Camouflage the cage with paint before installing the loops. The top is covered with about 80 nooses of 40-pound test monofilament fishing line (Figure 8). Pigeons, starlings, house mice, and other small rodents can be used as lures. The trap should be tied to a flexible branch or bush to keep a trapped bird from dragging the trap too far and breaking the nylon nooses.

An alternative method is to drive near a perched hawk and toss a baited bal-chatri trap out the window beneath the hawk. Drive away but stop at a distance where you can still see the hawk. Often hawks will stoop on the trap within minutes. Return and remove the trapped hawk immediately.

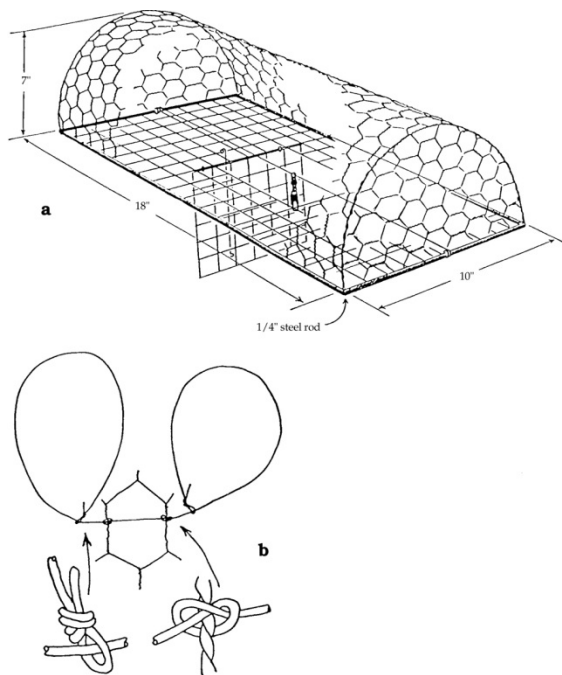


Figure 11. (a) Big bal-chatri trap ready for nooses (door is open). (b) Method of attaching nooses. Image by PCWD.

## HANDLING

Hawks must be handled carefully. Training in the handling of hawks is encouraged to avoid injuries to oneself and the captured birds. The key to successful raptor handling is to control the bird's feet. The talons can easily grasp a careless hand and inflict a painful injury. There is significantly less chance of injury from the wings and beak. The safest approach, regardless of the type of trap, is to toss an old blanket or coat over both the bird and trap. The darkness will calm most birds and make them less able to defend themselves. Reach in carefully with your bare hands and grasp the bird's lower legs. Control the feet to avoid getting "footed." Pull the bird out of the trap so that it is clear of any object on which it could injure itself. Fold the wings down against the body and hold them securely. Check the bird for any signs of external injury, such as cut feet or legs, excessively battered feathers, or scalping (the splitting of the skin over the forehead). If the bird is injured, have a local veterinarian examine it,

or in extreme cases, transport it to the nearest raptor rehabilitation center.

Raptors should be restrained before they are transported to reduce the chances of injury to both the bird and handler. The best transport container is a stout, covered cardboard box.

Select a box that is large enough for the bird to stand upright. Holes should be punched near the bottom of the box to supply fresh air and keep the raptor from struggling toward any cracks of light coming from the top of the box. Carry only one bird per box. Tape an old rag or towel to the floor to provide a good gripping surface to keep the bird from slipping. If possible, ask a local bird bander to attach a leg band. Banding information can be very useful to the research and management of raptors. Transport the bird as quickly and comfortably as possible. Minimize excess handling, and above all, keep the bird calm and cool. More birds die of overheating during shipment than of any other cause.

## RELOCATION

Hawks may be rescued from buildings and released outdoors without a permit provided the animal is not injured. Hawks trapped in buildings can be rescued by a) reducing the available flying area, b) darkening the room, c) have light enter the structure leading to the way out for the bird, d) frighten the bird in the right direction.

## TRANSLOCATION

Translocation is not very effective. Federal permits, however, may require translocation. Transport the bird as far away from the trapping site as possible. Some biologists believe that 20 miles is sufficient, but raptors have been known to travel up to 200 miles km after release. If a hawk is trapped in the fall, help it along its way by transporting it southward and northward in the Spring.

## EUTHANASIA

Carbon-dioxide in a closed container can be used to euthanize hawks.

All hawks that are killed must be turned over to USFWS personnel or their representatives for disposal.

## ACKNOWLEDGMENTS

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Material is updated and adapted from the book,  
PREVENTION AND CONTROL OF WILDLIFE DAMAGE  
— 1994

Published by the University of Nebraska–Lincoln-  
Extension and the US Department of Agriculture-  
Animal and Plant Health Inspection Service-Wildlife  
Services

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Stephen M. Vantassel, Paul D. Curtis, Scott E.  
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## RESOURCES

### KEY WORDS

Wildlife, wildlife control, damage management,  
Armadillo

### ON-LINE RESOURCES

<http://www.outdooralabama.com/watchable-wildlife/what/birds/>

<http://wildlifecontroltraining.com>

<http://icwdm.org/>

<http://wildlifecontrol.info>

<http://raptors.hancockwildlife.org/staticpages/index.php?page=RRMT-Book>

<http://www.virtualbirder.com/vbirder/onLoc/onLocDirs/HAWK/gallery/bkwheeler/>

## DISCLAIMER

Implementation of wildlife damage management involves risks. Readers are advised to implement the safety information contained in Volume 1 of the National Wildlife Control Training Program.

Some control methods mentioned in this document may not be legal in your location. Wildlife control providers must consult relevant authorities before instituting any wildlife control action. Always use repellents and toxicants in accordance with the EPA-approved label and your local regulations.

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