

Wild Turkeys



Figure 1. Male (left) and female (right) wild turkey (*Meleagris gallapavo*).

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Overview of Damage Prevention and Control Methods

Habitat Modification

- Remove bird feeders and livestock feed
- Remove isolated roost trees
- Control insect populations

Exclusion

- Nets with 2-inch mesh over small garden plots, fruit trees, bushes, and vines
- Bird spikes or other ledge exclusion products to prevent turkeys from roosting

Frightening Devices

- Recordings of alarm or distress calls have not been effective

- Mylar® tape, scary-eyes, balloons, kites, and effigies
- Pyrotechnics
- Dogs tethered in an area

Repellents

- None registered

Toxicants

- None registered

Shooting

- 12-gauge shotgun with No. 6 shot during the hunting season or by permit

Trapping

- Live-trapping with funnel traps, rocket or cannon nets, drop nets, or net guns

Other Control Methods

- Immobilization and relocation by Wildlife Services personnel

Species Profile

Identification

The term wild turkey refers to members of a group of 5 subspecies of North American birds of the order Galliformes, family Meleagridae, and genus *Meleagris*. Currently wild turkeys are in the subfamily Meleagridinae within the family Phasianidae. The subspecies of wild turkey commonly recognized in North America are the Eastern (*Meleagris gallapavo silvestres*), Florida (*M. g. osceola*), Rio Grande (*M. g. intermedia*), Merriam's (*M. g. merriami*), and Goulds (*M. g. Mexicana*).

Physical Description

Wild turkeys express strong sexual dimorphism (Figure 1), with males being larger than females. Males have black iridescent feathers, fan-shaped tails, bare skin on the head that varies in color from red to blue to white during the breeding season, spurs on their lower legs, and a beard of coarse hair-like feathers. Females are smaller with dull brown to black feathers and lack the above features. Adult males, called toms or gobblers, may weigh from 15 to 35 pounds, with the average being 17 to 21 pounds. Hens average 8 to 11 pounds and usually do not exceed 13 pounds. Coloration varies within the different subspecies, each distinguished primarily by different colors on tips of tail feathers, rump patches, or barring on the wing feathers. Other distinguishing features include the length of leg bone. Where 2 or more subspecies exist in the same geographic area, some interbreeding occurs, making it difficult to recognize distinct subspecies.

Range

Populations of wild turkeys have become established and sustained in every US state except Alaska, through significant restoration efforts by state and federal wildlife agencies during the last half of the 20th century. They also inhabit southern portions of several Canadian provinces, and northern Mexico (Figure 2). Although originally thought to be birds habituated to large remote forested areas, wild turkeys have adapted to a variety of habitats, including farmland, parks, and urban settings. In fact, most conflicts between humans and wild turkeys occur in human-impacted landscapes.

Voice and Sounds

Turkeys have a variety of calls including yelps, putts, and purrs. Males gobble to attract females during the mating season.



Figure 2. Year-round range of wild turkeys.

Tracks and Signs

Tracks are large, about 4 inches in length, with 3 toes facing forward and 1 backward (Figure 3).



Figure 3. Adult turkey tracks in snow.

The feces or droppings of wild turkeys are distinctive, with those of adult males often having a "J" or "L" shape, while those of females are more globular or lumpy. Turkeys often scratch and dig the duff on the forest floor looking for acorns, seeds, and other food items, leaving the area looking like it has been raked.

General Biology

Wild turkeys have excellent vision and can detect variations in color. Their eyes are on the sides of their head, providing monocular, periscopic vision. By turning its head slightly, a turkey has a 360° field of vision. Their night vision is poor and they are active primarily during daylight hours. Even though wild turkeys do not have visible external ears that normally concentrate sound waves, they have excellent hearing. Turkeys hear lower frequency and more distant sounds than humans can hear.

Turkeys have a poor sense of taste and smell because they have few taste buds and very small olfactory lobes in the forepart of the brain. In food selection, color and shape of food items appear to be much more important than taste or smell. The shape of the bill enables turkeys to scratch through heavy soil and eat fairly large items, such as hickory nuts (0.5 to 2.5 inches).

The large feet and powerful legs enable turkeys to run unalarmed at 12 to 18 miles per hour, and when alarmed at up to 25 miles per hour. Wild turkeys can spring into the air quickly and flight has been clocked at up to 55 miles per hour.

Reproduction

Breeding behavior is triggered primarily by the increase of daylight hours in the spring, although unseasonably warm or cold weather may advance or delay breeding activity. Toms have an elaborate and long courtship behavior that begins during late winter. They can breed and inseminate hens throughout the spring and early summer months. Hens lay 1 clutch of 10-14 eggs per year in a nest on the ground. A hen will renest if the nest is predated or destroyed, although renesting usually is less productive than first nesting attempts.

Nesting Cover

Hens scratch 1-inch depressions in the soil to form nests. They prefer nesting in vegetative cover between 1.5 to 6 feet tall, away from disturbances such as roads.

Mortality

Annual mortality in turkeys averages about 50%, but can vary widely with location and conditions. Turkeys die due to a wide variety of factors, including weather, predators, disease, accidents, and humans. Predation has accounted for up to 92% of nests lost and can have an impact on turkey productivity. Common nest predators include raccoons, skunks, crows, and snakes. In several studies, poult mortality has averaged from 56 to 73%. Predators of poults and adults include red fox, coyotes, bobcats, great horned owls, and others. Wild turkeys also are susceptible to several diseases, including avian pox, blackhead disease, mycoplasma, and salmonellosis. Humans, however, have had the greatest influence on turkey populations, due to habitat loss, vehicle collisions, disease transmission, and direct harvest.

Population Status

In the early 1900s, fewer than 40,000 wild turkeys remained in North America. Declines in populations were due to habitat loss and unregulated market hunting. Legal protection and trap and release programs by state wildlife agencies stemmed the tide and led to increases in populations across the country. In 1959, populations of wild turkey in the US were estimated at 250,000 birds. Today, because of successful restoration efforts and the adaptability of wild turkeys, they are commonly observed throughout most of North America, with an estimated population of 6.5 to 6.7 million birds.

Habitat

Turkeys prefer areas where crop fields are interspersed with streams and large stands of forests with mature pines, hardwoods, or other mast-producing trees.

Behavior

Turkeys typically feed soon after they leave their roosts in early morning and again in the mid to late afternoon before heading back to their roost site. Feeding periods are influenced, however, by weather and the amount of food available.

Flocks are somewhat segregated by sex during late summer, fall, and winter, with hens and young birds of the year flocking together. Separate bachelor flocks of old and young gobblers keep to themselves for the most part, except during the breeding season. At that time, dominant adult gobblers gather harems of young and old hens for anticipated breeding. This behavior is important in determining how to address damage issues in different seasons.

Food Habits

Feeding activity by wild turkeys is best described as opportunistic and nomadic, as they seem to wander aimlessly, yet are very purposeful in locating and obtaining various food items. They scratch and peck while searching for and obtaining different foods. Wild turkeys are omnivorous ground feeders that forage on both vegetation and animal matter. Examinations of crops and gizzards of wild turkeys revealed 354 species of plants and 313 species of animals consumed. Plant material includes acorns, forbs, grass, corn, barley, rye, wheat, soybeans, silage, peanuts, grapes, apples, tomatoes, and strawberries. Insects are an important source of protein.

The author, an avid wild turkey hunter and inquisitive biologist, has found some unusual crop and gizzard contents when harvesting wild turkeys. One large spring gobbler taken in the

late afternoon had a crop with 910 linden loopers (*Erannis tiliaria*), an insect larva that defoliates oak trees in early spring in southern regions of the US, plus several other insect species in lesser quantities. The author believes that the contents of this crop, containing only animal matter, was selected more by the plentiful availability of these larvae, rather than the absence of other food items.

Wild turkeys may cover several miles each day in their search for nourishment, depending on the season and availability of food and water. Hens and broods of poults usually feed as family units until late in fall and early winter. Hens and gobblers usually remain in distinct flocks until spring and may forage over large areas. A flock of turkeys can consume a large amount of food. Hens and young birds eat up to a half-pound of food per day and large adult gobblers consume a pound or more of food in a day.

Legal Status

Wild turkeys are a valuable game species, treasured by recreational hunters and wildlife enthusiasts. State, federal, and provincial wildlife management agencies, as well as private landowners across the nation, can take great pride in the fact that these populations have been restored and managed for many years with great success throughout much of North America.

Agencies carefully regulate the harvest of wild turkeys. A license and in some states, appropriate stamps or permits are required to harvest wild turkeys legally. Most states have spring and fall turkey seasons. Regulations including season dates, bag limits, and other restrictions vary greatly. In addition, regulations regarding the harassment, legal control methods, and take of wild turkeys causing damage or posing threats to people also vary from state to state. Check requirements in your state or province before initiating any management practices.

Human Wildlife Conflicts

Turkeys have responded positively to protection, population management, and habitat manipulation by state agencies and private landowners. In some areas, populations have increased beyond tolerance levels because of property damage or threats to the well-being of people. Turkeys often are observed in agricultural fields, pastures, vineyards, and orchards during the day, and have habituated to living in suitable habitat in urban and suburban neighborhoods. Due to frequenting such sites, they are likely to either cause occasional damage, or be blamed for damage caused by other species. Despite increases in turkey numbers and complaints of crop damage, most in-depth studies, surveys, and field damage assessments have revealed that most damage was caused by white-tailed deer, raccoons, rodents, starlings, or other wildlife.

Landscapes

Turkeys that roost in trees can foul the ground below with their excrement. Vocalizations can be disturbing to nearby residents. Turkeys may be responsible for minor damage to turf and gardens when they scratch and forage for food.

Crops

Reports of agricultural damage by wild turkeys have increased as populations have expanded. Complaints typically increase during the growing season as wild turkeys often are observed in corn, soybean, sorghum, peanut, melon, bean, and pea fields, as well as other small grain and vegetable crops. Studies have revealed, however, that gizzards and crops of wild turkeys taken from such fields typically have not contained agricultural crops, but rather weeds, weed seeds, insects, insect pests, and waste grain. Wild turkeys have caused damage while feeding in open silage pits, and scratching wheat, oat, or other hay bales during the winter. Turkeys may cause damage to fruit

orchards, grape vineyards, and specialty crops that are mulched or bedded.

Livestock and Pets

Turkeys do not pose significant threats to livestock or pets. Flocks may contaminate livestock feed with their droppings if feed is placed in sheltered but not closed feeders, especially during the winter.

Structures

Turkeys are not known to damage structures. Turkey roosts may result in soiling of structures or damage to roofing materials (Figure 4).



Figure 4. Wild turkeys on a roof in a residential neighborhood.

Human Health and Safety

Wild turkeys that have become adapted to urban or suburban communities, especially young and mature gobblers during the breeding season, can become quite aggressive around humans, especially children. Rarely do they cause serious injury, but such altercations can be very upsetting. Such behavior seldom is experienced in rural settings or near areas where wild turkeys are hunted.

Wild turkeys near roadways present a serious traffic hazard for motorists. In addition, they can present a significant threat to airplanes on or near runways at airports.

Nuisance Problems

The characterization of nuisance activity depends on the tolerance level of those reporting what they perceive to be a problem animal. The types of nuisance damage by wild turkeys that often are reported in rural, suburban, or even urban areas includes scratching around yards, flower beds, mulched areas, or gardens; attraction to bird feeders in the yards; leaving droppings in yards or on decks, porches, and sidewalks; and attacking reflections in glass or vehicles. Noise from roosting birds is an annoyance as well.

In nuisance situations around human-dominated landscapes, wild turkeys likely have become habituated to the location of food, an easy handout around bird feeders, or by food set out for other animals. They often lose their wariness of humans. Such birds occasionally become aggressive toward people, as do free-ranging domestic turkeys that imprint on humans. To resolve such wild turkey incidents, people may have to remove bird feeders, stop leaving pet food outdoors, and harass individual or flocks of wild turkeys that have become habituated to humans.

A habituated wild turkey may scratch or damage a vehicle when it sees its reflection on the side panels or side-view mirrors. As with other territorial birds, wild turkeys often perceive the reflection as an intruding bird and attack the reflective surface. In addition, vehicles parked under roosts be marred or damaged by droppings.

Damage Identification

Wild turkeys observed in crop fields, orchards, or vineyards during the growing season likely are feeding on other foods such as insects, weeds, or waste grain or seeds from previous crops. A trained individual should assess the situation to ensure turkeys are causing damage before management actions are implemented.

In crop fields, look for scratching around the edges of fields in line with rows of planted seeds and the actual absence of seeds. In vineyards, damage by turkeys also tends to occur around the perimeter. Wild turkeys tend to pluck several grapes from a cluster, whereas other birds usually just puncture grapes or only take individual grapes before moving on to another cluster. Install remote still or video (trail) cameras to document damage around the perimeter of crop fields, orchards, or vineyards. Consider obtaining a permit to collect birds using agricultural areas and inspect the gizzards and crops to determine their food habits.

Wildlife Damage Prevention and Control Methods

Integrated Wildlife Management

An integrated program that uses several methods and techniques for reducing the severity, impact, and financial losses of conflicts with wild turkeys will be most effective. Knowing and understanding the biology and behavior of wild turkeys is essential for successful management. When complaints about damage to crops and personal property are received, agencies should have a uniform statewide assessment approach in place to determine if damage indeed is occurring, if it is being caused by turkeys or by other wildlife, and recommendations for prevention or control of further damage.

Wild turkeys are large and beautiful birds that people like to observe. The more habituated birds or flocks become to a yard or community, the greater the likelihood of nuisance problems and damage. Collaboration with neighbors and community leaders may be necessary to resolve the problem, especially if birds have become habituated to the area and to humans.

Habitat Modification

Although cultural changes in urban and suburban situations may simply include making food unavailable by eliminating bird feeders or animal food left outside, they also may include covering mulched areas and excluding turkeys from flower beds, vegetable gardens, orchards, and vineyards if relatively small in size. Avoid planting vegetation that is desirable to turkeys, such as legumes or grasses that produce large seed heads, in highway medians, road-side ditches, or rights-of-way. Remove individual trees that turkeys repeatedly use for night roosts if other dispersal techniques fail. Control insect populations to reduce the availability of this important source of protein.

Exclusion

Install nets with 2-inch mesh to prevent access to sensitive areas by wild turkeys. Nets must stop entry from all sides, making exclusion quite expensive and cumbersome to use. Use bird spikes or other ledge exclusion products to prevent turkeys from roosting in unwanted locations. In some cases temporary fences and other exclusion devices may dissuade wild turkey activity and cause them to quit visiting the sensitive area.

Frightening Devices

The use of frightening devices may provide short-term relief. Typically, they are effective only for a short time, as birds quickly become habituated to them. For best results, use a variety of devices and move them regularly.

Auditory Techniques

Although wild turkeys do vocalize distress and alarm calls, playbacks of such calls have not deterred wild turkeys for any length of time. Propane cannon blasts, firearm blasts, and pyrotechnics may be effective in rural areas if allowed. Before use, inform neighbors of these activities.

Visual Techniques

Visual frightening devices such as Mylar[®] tape, eyed balloons attached to stakes, scarecrows, or other implements may deter wild turkeys. Motion-activated water sprayers and high volume water hoses may be useful in deterring turkeys from sensitive areas. Radio-controlled small aircraft can deter flocks from using an area. Red lasers, when shined on turkeys in roosts, have been reported to cause turkeys to fly away from the area.

Biological Techniques

During daylight hours, tether a dog near an area that turkeys frequent. Threatening actions with a broom or rake often will help deter wild turkeys from visiting a home site. Ensure that turkeys are not harmed when confronting them.

Repellents

Currently there are no known chemical repellents registered by EPA for use on wild turkeys to prevent or control damage.

Toxicants

None are registered.

Trapping

Where turkeys pose imminent threats to public safety (i.e. airports or highways), the responsible state or federal agency personnel should address such hazards promptly and remove individuals or flocks by trapping or lethal control when practical. Capture and removal likely will stimulate a policy debate if others in the community take issue with removal. Education and public relations is an important component of trapping.

Wild turkeys can be captured using several tools and techniques, including: funnel traps, rocket or cannon nets, drop nets, and net guns. Effective trapping requires proper location of traps and pre-baiting with whole kernel corn to

ensure turkeys habituate to the site. Funnel traps include a cage that is 4 x 8 x 10 feet in size and made with 4- x 4-inch mesh. Six-gauge welded galvanized livestock panels work well. Construct a funnel at one end that is 20 inches high, 16 inches wide, and 32 inches long. The funnel should narrow down towards the cage to a size of 11 x 11 inches for southern turkeys. Increase the size for larger northern turkeys. Check traps often during hot weather to prevent turkeys from experiencing heat stress.

Permits from local state wildlife agencies must be secured before capturing and handling wild turkeys. Live capture and removal is an option if the respective state agency is trying to establish flocks in suitable habitats that are unoccupied. Once a pattern of flock removal in response to complaints is established, calls for repeat efforts may be difficult to deter.

Shooting

The use of shooting to control wild turkeys that are causing damage should be carefully considered and appropriately justified. In areas with confirmed damage, local numbers of turkeys can be reduced by expanding hunting seasons. Typical approaches include increasing the bag limit, implementing a fall season where only a spring season previously was permitted, or lengthening the spring or fall seasons to increase harvest. These may reduce damage and associated complaints.

In most states where turkeys have been proven to cause significant damage or exceed the tolerance level of landowners, respective state agencies have developed uniform guidelines and regulations that include the issuance of shooting permits. Such permits and removal of valuable game birds should be issued only after damage by turkeys has been confirmed and prevention methods have been implemented. A 12-gauge shotgun with No. 6 or heavier shot is effective for taking turkeys within 30 yards. Shooters are advised to test various loads and chokes to determine the best combination for

their needs. Follow all safety and legal requirements before shooting. Agencies should monitor damage permits carefully.

Economics of Wildlife Damage Management and Control

Wild turkeys are treasured game birds that are avidly sought by recreational users including hunters and other wildlife enthusiasts. According to the USFWS, "Wild turkey hunters spent on average, \$298 per hunter on trip expenses and \$316 per hunter on equipment purchases in 2006. Total wild turkey hunting expenditures in 2006 were \$1.6 billion, which generated \$4.1 billion in economic output. Turkey hunting supported over 37,000 jobs and generated \$272 million and \$313 million in state and federal tax revenue, respectively." Cleary, wild turkeys have a significant positive economic impact in North America.

Wild turkeys may cause damage in certain situations. However, most scientific studies of the extent and significance of turkey damage in the past 15 years have shown that most damage, particularly in agricultural crops, is minor or caused by other wildlife species.

When selecting the methods to manage damage, consider the timing of such events, how cost-effective potential actions might be, whether the damage can be tolerated, and how to evaluate and monitor the success of actions taken. Some methods will be fairly easy to use and achieve the desired outcome, while others will be too costly or impractical to implement.

Handling

Relocation

Due to their mobility, relocation of wild turkeys only is practical when turkeys need to be rescued from life-threatening hazards.

Translocation

Many states prohibit the translocation of wildlife, including wild turkeys, for humane and public health reasons. If translocation is legal, move turkeys to suitable habitat at least 15 miles away, preferably across major barriers such as rivers or mountain ranges to reduce the likelihood of their return. Wild turkeys must be handled with care because they are large and powerful birds that can cause injury with the whack of a wing or jab with a spur.

Disposal

Some options are listed in the Disposal chapter of this handbook. Check your local and state regulations regarding carcass disposal.

Acknowledgements:

Figure 1. Photo by Robert Burton, US Fish and Wildlife Service (USFWS).

Figure 2. Range map from Birds of North America online, Cornell Lab of Ornithology.

Figure 3. Photo by J. Hygnstrom.

Figure 4. Photo by Stephen M. Vantassel.

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Key Words

Damage, *Meleagris gallapavo*, Property damage, Roost, Wild turkey

Glossary

Poult: Young turkey.

Sexual dimorphism: The male and female of a species have different forms, such as a difference in size or coloration.

Disclaimer

Implementation of wildlife damage management involves risks. Readers are advised to implement the safety information contained in the Manual of the National Wildlife Control Training Program. Some control methods mentioned in this document may not be legal in your location. Always use repellents and toxicants in accordance with EPA-approved labels and your local regulations. Wildlife control operators must consult relevant authorities before instituting any wildlife control action.

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