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Iowa Department of Natural Resources

Wild Turkeys and Crops:

Identifying Crop Depredation





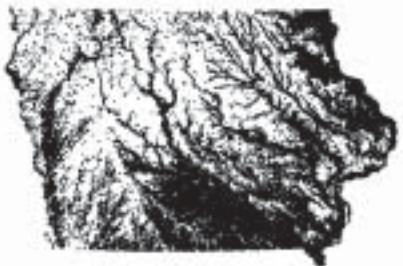
Maslowski/NWTF

Turkeys in Iowa

The restoration of wild turkeys to Iowa's landscape has raised concern on the impact turkeys may have on crops. Large flocks are often seen throughout Iowa during winter, and are occasionally viewed as a nuisance in agricultural areas.

This pamphlet was developed to address turkeys and crop depredation issues, and a key for identifying species responsible for crop depredation is included. Benefits of wild turkeys to farmers, hunters, and wildlife enthusiasts are discussed in the pamphlet.

*Turkey range in
Iowa, based on
forest cover
buffered by
1/4-mile.*



Iowans Views of Turkeys

Opinions of farmers, hunters, and the general public are crucial in effectively managing Iowa's wildlife populations. To evaluate the public's viewpoints, the DNR periodically conducts surveys on various issues. Over the past 15 years, the DNR has specifically focused on farm owners and operators concerning deer populations and crop

depredation. In addition to deer related questions, farmers were asked about damage to crops from other wildlife species, and their opinions

on population levels of wildlife. Based on a 2001 Iowa Agricultural Statistics Service survey, only 12% of farmers believed that their crops had sustained damage from turkeys, and only 16% believed that turkey populations in Iowa were too high.

Iowa State University and the Iowa DNR conducted a survey specifically addressing turkeys and crop depredation in Northeast Iowa in the early 1990s. The majority (52%) of these people reported no economic losses caused by turkeys, and only 5% believed they sustained damages exceeding \$500. The majority (56%) of all respondents believed turkeys provided some gain; either through eating insects, hunting, or wildlife viewing.

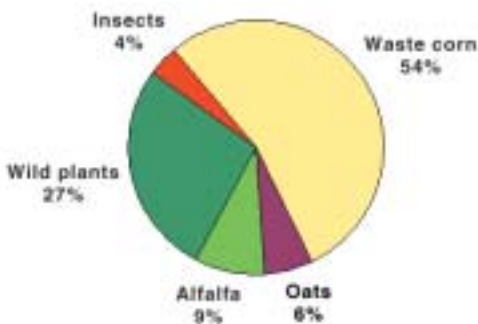


Turkeys being captured with a rocket net.

More than 3,500 turkeys have been trapped and released at 260 different sites across Iowa.

Diets of Wild Turkeys

Knowing what turkeys prefer to eat is essential to understanding their impacts on crops. Several Mid-western states, including Iowa, have examined diets of wild turkey in agricultural areas. A 1989 study in southwestern Wisconsin examined the contents of more than 100 crops (the pouch in the turkey's neck used to store food before digestion) taken from birds shot after feeding in crop fields. During the spring, turkey crops consisted primarily of waste grain (54%) and wild plants (27%). Waste grain was distinguishable because it was weathered and dirty compared to recently planted seed corn. The study also examined the diets of poults (young turkeys) and hens feeding in corn and soybean fields.



The poults consumed primarily insects (77% of diet), a high protein diet needed to support rapid growth. Crops examined from poults feeding in oat fields consisted of 87%

Spring diet of wild turkeys feeding in agricultural fields in SW Wisconsin

insects. During the fall, the study examined over 200 turkey crops and found similar results as the spring. The three major foods found in turkey crops were corn (39%), wild plant material (39%), and insects (12%). Over 90% of the grain consumed was waste grain.

Turkey Feeding Behavior

Iowa State University and the Iowa DNR conducted a study of wild turkey feeding habits by watching turkeys feed in fields from blinds during the spring in NE Iowa in the early 90s. In 419 hours of observation, turkeys never were observed scratching up crop seeds or seedlings. Turkeys also were not seen grazing on seedlings. The Iowa study also investigated crop damage in the fall. More than



7,000 ears of corn were examined within 5 days prior to harvest. Although 2.3% of ears were damaged by wildlife, the majority of the damage to ears was attributed to animals other than turkeys. Other animals would knock down the stalks and turkeys would feed off the waste grain. This damage primarily was found in the first five rows of the cornfield. This study concluded that turkeys were attracted to crop fields due to the abundant insects, not crop plants.

In Ohio, Kentucky and Tennessee; blackbirds, raccoons, deer, and squirrels damaged far more crops than turkeys. In Ohio, a farmer believed turkeys were eating

Turkeys feeding on insects in a freshly plowed field.

Wild turkeys feeding on waste grain during the winter months.

his soybean plants. A turkey feeding in the field was shot and the gizzard was examined as part of a larger study. The gizzard contained Japanese beetles, waste grain from previous year, and wild plant seeds.



Flocking and Spatial Movement

During the winter months, turkeys will flock together, occasionally concentrating into very large flocks (100+). This behavior is driven primarily by food abundance. In winter, flocks rely heavily on waste grain in crop fields, typically feeding in an area until the food resource is depleted. During winter, large turkey flocks frequently are seen in crops fields, leaving the perception that those turkeys are there year-round.

Turkeys move several miles to join winter flocks, with flocks drifting up to 5 miles. During this time, the area used by turkeys will range from 1500 acres down to 100 acres depending on food availability and social interactions. During spring, turkey flocks will break up, and turkeys will move back to their normal home ranges. Food resources are abundant during the summer (primarily insects), and turkeys don't need to form large flocks to focus on the limited food resources as in the winter.

Identifying Crop Damage

Wild turkeys are very conspicuous while feeding in crop fields during daylight hours. They are often blamed for damage done to crops, especially when seen in large groups. Other species, such as raccoons and deer are active during the night, feeding in fields when they cannot be seen. Smaller animals, such as squirrels and rodents are not very visible due to their size. Turkeys rarely damage crops, with the majority of crop damage due to other wildlife. Identifying the correct species causing damage to crops is essential in controlling further damage.

Small mammals (mice, ground squirrels, tree squirrels) do most damage to crops during the germination stage. Evidence of such damage is characterized by small holes (1-2 inches in diameter) dug where the seed was planted or next to the seedling, many times leaving the plant intact.

Birds: Crows and blackbirds are the most common bird species responsible for crop damage. Crows and blackbirds will also eat the germinating seed. They will dig around the seedling, often pulling the seedling out of the ground in an attempt to get at the seed. Pheasants (indicated by

Crop Damage in Spring



tracks in the picture) will also exhibit this behavior.



Larry Stone

Deer occasionally will graze on sprouting plants, sometimes pulling them from the ground. Typically, deer will eat the new growth portions of corn and soybean plants. The

result is stunted plants that do not produce an ear or bean pod.

Wild turkeys usually scratch for food, leaving a V-shaped marks. They do not dig or poke holes in the ground. Turkeys may occasionally eat newly planted seeds if found when scratching and eat shoots or leaves, but this is minimal. Typically, turkeys feeding in newly planted fields are consuming beetles and other crawling insects or last year's waste grain.

Crop Damage in Summer



Birds: During the milk stage of corn, birds will pull away strips of the husk and eat the pulp out of the

kernels, leaving a hollow shell. A shredded husk with hollowed out kernels still on the stalk is typical of bird damage.

Deer prefer to eat the corn ears. They bite the tips and kernels off emerging ears, thus stunting development. Cobs with the ends bitten off are characteristic of deer damage.

Raccoons typically climb corn stalks during the milk stage and after maturity, usually knocking down the entire stalk. Once the cobs are accessible, raccoons will shred the husk, taking a few bites from several cobs. Raccoon damage can be very destructive, pushing entire stalks over, leaving the majority of the crop as waste.

Several other wildlife species including turkeys will take advantage of the knocked down corn.



Wild turkeys seen in hay and small grain fields are feeding almost exclusively on insects. In corn and soybean fields, they feed on insects and weed seeds.

Squirrels will feed on mature corn, eating the germ (seed bud) from each kernel, leaving the rest of the kernel as waste. Cobs and scattered kernels below standing corn stocks or in nearby timber indicate squirrel damage. The fallen kernels and cobs are often what other wildlife species, such as turkeys, will feed on.

Deer: On mature ears, deer also will bite off the ends of the ears, leaving the stalks intact. Tracks usually are apparent around the area of damage.

Crop Damage in Fall



Beaver can cause substantial damage to fields along streams. They will cut corn stalks to use in building dams or dens. Areas devoid of stalks indicate beaver damage.

Turkeys: During the fall, turkeys will feed on fallen corn knocked down by other wildlife or by wind, hail, and insects. They can not reach ears taller than 4 feet above the ground.

If corn or soybeans are left standing late into the fall they will be fed on by many types of wildlife. Harvesting as soon as practical will reduce this problem.

During the winter, turkeys can cause substantial damage to silage pits or corn bins. This can be remedied by fencing to keep turkeys out of storage areas.

Benefits of Wild Turkeys

The successful reintroduction of the wild turkey to Iowa's landscape has been one more step in restoring nature's balance.

However, wild turkey population restorations have produced mixed emotions from residents in the state. Some enjoy watching wild turkeys on their property, while others may not share this appreciation. Large flocks of turkeys are often perceived to be "up to no good", especially in crop fields. Studies have demonstrated that turkeys are an important insect consumer, thus benefiting crop fields and farmers more than most realize. Grass-



D'U'Urso/NWTF



Roger A. Hill

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hoppers are a favorite food of young and adult turkeys.

In addition to insect control, turkey hunting provides recreation for Iowa residents and produces revenue for private and public entities. Since the first season in 1974, turkey hunter numbers have grown from 300 to more than 55,000 today. Iowa turkey hunters spent 4 million dollars in expenses incurred for turkey hunting during 2001 alone, most of which is trip related expenses (gas, food, lodging), which helps local economies.

Next time you see a flock of turkeys or a hen with several young, enjoy the view of free insect control. Wild turkeys may not have been the choice for the National symbol (as Benjamin Franklin wanted), but are undoubtedly a valuable resource for Iowa residents to enjoy for generations to come.

Contacts:

The Iowa DNR investigates crop depredation, helping residents to prevent further damage. If you suspect crop damage in excess of \$500, contact one of the DNR's depredation biologists listed below.

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