

Mourning Dove Biology & Management in Alabama

► Mourning doves are an important game species in Alabama. Learn about the life history and habitat needs of mourning doves and habitat management techniques that can be used to increase local dove populations.

The mourning dove (*Zenaida macroura*) is arguably the most popular game bird in North America with hunters harvesting more than 16 million doves annually from a continental population estimated at more than 308 million birds.

Alabama dove hunters spend more than 100,000 days afield each year and harvest more than 1 million doves. No other game bird matches the mourning dove's widespread distribution.

Populations of mourning doves occur from southern Canada all the way into Central America, and they occupy almost all portions of the United States. Dove hunting contributes millions of dollars of revenue annually to Alabama's economy. Many landowners in Alabama, particularly farmers, use dove hunting as an additional source of income through commercial, pay-to-shoot dove fields. Dove hunting also generates dollars for wildlife management and research through excise taxes placed on the sale of firearms and ammunition.

Life History

Northern populations of mourning doves must move south every winter to avoid harsh weather and to find food. Doves usually leave northern portions of their range by October and return during early spring. Migratory movements of 150 to 200 miles per day are common. Some doves stay in Alabama throughout the year (resident breeding population), but a much larger concentration of doves will migrate here each winter. Cold weather in Alabama may push doves toward the Gulf Coast. From there, they move west along the coastline, often traveling into Central America. Even daily movements of nonmigrating mourning doves may be extensive. Doves have flown as far as 12 miles (one way) to reach feeding fields. Flights of 2 to 3 miles from roosts to feeding areas are common.

In Alabama, doves begin pairing and nesting by February. Once paired, doves remain faithful to a single mate (monogamous) for at least one entire breeding season.



Figure 1. Mourning doves are one of the most widely distributed bird species in North America.

The nesting season extends from mid-February to October in most of Alabama, but nesting may occur during all months of the year in extreme southern counties of the state. Nests are typically located about 15 feet above the ground in trees or tall shrubs. Ground-level nests are extremely rare. Two eggs are typically laid in each nest. Incubation of eggs begins immediately after the first egg is laid and continues for 14 days after the last egg is laid.

The young birds, known as squabs, are unable to feed themselves and must be kept warm (brooded) continuously until they are 10 days old. The female feeds them pigeon milk for the first nine days after hatching. Pigeon milk is a substance produced in the female dove's crop (seed storage pocket of the throat). After these first nine days, the female begins preparing for the next set of eggs and young doves. At this time, the male assumes sole responsibility for feeding the young until they are about 3 weeks old. By 15 days of age, the young are fed only seeds. At this time, they leave the nest or fledge but continue to be fed by the male. The fledglings are completely independent by 20 days of age.

With this assembly line production of young, mourning dove pairs are capable of raising six to seven broods during a single breeding season; however, most pairs only produce three to four broods annually. In addition, young fledged during the spring become reproductively mature at 90 to 100 days old and may reproduce during that same year. This tremendous reproductive potential allows mourning doves to overcome a 70 percent annual mortality rate. Hunting accounts for a small percentage of overall mortality. Natural causes account for the vast majority of dove mortality. This is why the hunting season for mourning doves can last so long.

Habitat Preferences

Adult mourning doves eat seeds and plants almost exclusively, but they also eat small traces of animal matter—primarily insects. Seeds of agricultural grain crops, native grasses, and weeds are used heavily. Doves are poor scratchers and will not scratch for seeds buried under crop residue. Only rarely will they perch on seed heads to feed; therefore, seeds must be available on relatively clean, open ground. The birds need small particles of gravel or grit to grind their food and to digest hard-coated seeds. Sufficient amounts of grit are usually ingested incidentally while doves are feeding in agricultural fields. Doves also need sources of drinking water almost daily. They use puddles, ponds, and streams with clear edges to obtain water.

Mourning doves usually build nests in flat-angled branches of trees or shrubs. Nests are usually located in areas with scattered trees or in small stands of trees. Dove nests are seldom found within dense woodlands. Nest sites must offer good protection from bad weather and from nest predators. Late winter nests are almost always built in conifers, such as pines and cedars, where they are hidden from view and better protected from the elements.

Legal Management Jurisdiction

Mourning doves are migratory birds and often traverse hundreds, sometimes thousands of miles and several states throughout the year. For this reason, the United States Fish and Wildlife Service (USFWS) is responsible for the management of this bird (e.g., setting limits and season length). The USFWS allows for hunting of mourning doves over or around normal agricultural operations. Because agricultural practices vary considerably among states, the USFWS defers to individual state Cooperative Extension Systems as the experts for establishing standards to define normal



Figure 2. Dove hunting is a great way to introduce children to the sport of hunting.

agricultural operations within the state. However, both state and federal law enforcement officers are tasked with ensuring compliance with hunting regulations and proper dove field management.

Managing Dove Fields

The objective of mourning dove field management is to attract large numbers of birds to shooting areas during the hunting season. This can be done by ensuring that some mature grain is available to doves at all times of the year. Fields may be planted and the mature crop manipulated specifically for doves, or commercial agricultural fields may be managed to attract doves.

Planting and Managing Dove Fields

By far the best dove fields are those planted in spring or summer, well ahead of the hunting season. Often, it will be necessary to apply herbicides to the field before planting to reduce competition with other plants. It is always wise to conduct a soil test to determine the pH of the soil and whether or not soil amendments may be necessary.

Browntop millet, dove proso millet, grain sorghum, corn, sesame, or sunflowers are recognized crops beneficial to mourning doves. Planting portions of large fields in different grains and varying the planting dates will help attract doves early and hold them throughout much of the hunting season. If needed, contact your county Extension agent for assistance in selecting varieties that are suited to your area and for information on planting dates and rates, maturation periods, and planting methods.

Browntop millet or other early maturing grains may be planted as soon as the danger of frost is past to provide seed during summer for fledglings and nesting adults. Later plantings may be made to ensure that plenty of seed is available during the hunting season. Additionally, combinations of multiple preferred food plants (e.g., browntop millet and sunflowers) may be planted in strips within the same field to add further food diversity.

Once plants are mature and just prior to the hunting season, common practices such as mowing, raking, light disking, or prescribed burning should be used to “knock down” these plants, thereby making seeds accessible to doves on the ground. Remember that doves are not strong scratchers and prefer seeds that can be easily found on open, bare ground with very little ground debris (i.e., old dead vegetation). Depending on your objectives, it may be beneficial to only manipulate portions of the standing plants (e.g., 25 percent of the field) within each field at one time, allowing the balance of the field to be managed just before hunts conducted later in the season.

Managing Agricultural Fields and Food Plots

Doves are frequently attracted to commercial agricultural fields and wildlife food plots planted in corn, soybean, peanuts, and other small grains. If practical, harvest such fields at least 2 weeks before planned hunts. This will allow doves enough time to locate available food before the hunt begins.

Any crop or native vegetation grown on site can be manipulated at maturity to enhance the field's attractiveness to doves. Practices such as mowing (i.e., bushhogging), raking, disking, and prescribed burning can be used to enhance the availability of seeds for doves and also ensure the availability of a constant food supply to attract doves throughout the hunting season. Shooting opportunities may be extended by leaving small portions of large fields unharvested and by harvesting or mowing those portions periodically throughout the hunting season. Again, because doves



Figure 3. Doves need relatively open bare ground to find seeds.

have short, delicate legs, seeds must be available on top of bare soil surfaces. If crop residue or litter is heavy, you may have to rake or prescribe burn the area to expose seeds. Much of the interest in managing for mourning doves involves hunting the birds during early fall and winter. Despite the longstanding tradition of dove hunting in Alabama, there remains a common fear of the various laws that govern how doves may be hunted. Foremost among these fears are the laws prohibiting the use of baited areas. Admittedly, these laws can be daunting. According to the USFWS, seeds freshly planted solely for the purpose of luring, attracting, or enticing doves within gun range will be considered baiting, and hunting doves in these areas is illegal.

However, fall or winter plantings of wheat for agricultural purposes, wildlife food plots (for deer, turkey, or other species, but not doves), or as soil cover crops often provide excellent dove hunting opportunities and are legal to hunt. The timing, rate, and method of planting wheat will vary depending on the objectives for its establishment. Generally, the periods for planting fall and winter wheat range from August 1 to November 30 but often depend on soil and moisture conditions. When wheat is planted as a wildlife food plot, cover crop, agricultural crop, or to supplement livestock grazing, it may be used as follows:

1. Planted into a seedbed that has not been tilled. Recommended practices for planting into an unprepared seedbed include using a no-till drill, broadcasting seeds into cotton stubble that remains

after harvest followed by mowing the cotton stubble, and aerial seeding into standing crops, such as cotton or soybeans, prior to defoliation or leaf drop.

2. Planted into a prepared seedbed by drilling or broadcasting followed by cultipacking, disking, raking, etc., to cover the seed. Some incidental seed will remain on the surface when these methods are used to plant wheat.
3. Top sown to establish a cover crop in low-input management systems. Growers should be aware that the risks associated with this practice are higher than the risks associated with drilling or other methods that cover the seed. This planting practice requires a well-prepared seedbed. A well-prepared seedbed involves adequate tilling of the soil so when the seeds are planted there will be good soil-to-seed contact and the soil will not be excessively hard (i.e., it can easily be penetrated by the developing root of the germinating seed). No more than 200 pounds per acre should be used when top sowing of wheat is done to establish a cover crop to prevent soil erosion.

Occasionally, narrow strips of wheat are planted as fire breaks, for erosion control on contours and drainage areas, and as wildlife food plots. Staggered planting dates of wheat strips in wildlife food plots may increase germination, palatability, survival, and additional benefits to wildlife species that utilize these habitats as part of their life cycle. When planted in a manner consistent with normal agricultural practices, this approach can provide excellent results for their intended purposes of erosion control and wildlife habitat. Hunting in areas prepared in the manner outlined in this paragraph is legal.

However, it is generally NOT a normal agricultural practice when planting wheat to do the following:

1. Sow seeds several times in succession on the same ground unless there is a valid reason, such as drought or flooding, to do so.

2. Pile, clump, or concentrate wheat seed on the ground. Wheat seed must be spread evenly across the entire planting area.

Areas where the above have occurred may very likely be illegal to hunt doves. Keep in mind that other types of seed such as millets, sunflower, milo, and corn are normally covered with soil after planting and, therefore, should not be top sown. Moreover, these seeds are normally planted in the spring or summer, not in the fall when dove season occurs.

Managing Dove Hunts

Sufficient numbers of hunters are needed to keep doves flying and to prevent them from landing in fields during shooting. The number of hunters anticipated should dictate the upper limits of field size. Depending on the shape of the field and the lay of the land, about one acre is usually needed for each hunter, or about one hunter per 100 yards of linear field edge can be used as a general rule. Frequent shooting over fields often discourages doves from feeding in those fields. In most cases, to ensure a quality hunting experience, dove fields should not be hunted more than once a week. Restrict hunting to morning hours, where legal, and early afternoon. Avoid shooting during the last couple of hours before sunset. By allowing doves to feed undisturbed late each afternoon, shooting opportunities may be extended over the entire season.

Enjoy the Outdoors

For many, the opening day of dove season marks the beginning of fall and the start of another hunting season. Proper planning and land management will ensure abundant dove hunting opportunities throughout the season. If in doubt as to the legality of any dove field management practice, contact the appropriate District Wildlife and Freshwater Fisheries office before the dove hunting season begins. Contact information for each office can be found on the hunting page of www.outdooralabama.com.



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