

# Dove Management in Texas

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**D**ove hunting is the traditional opening of the fall hunting seasons in Texas and is an important cultural event to hundreds of thousands of Texas hunters. Each year, about 400,000 hunters head afield in Texas in pursuit of doves.

Dove hunting generates more hunting effort in the state than any other game species except deer. The accompanying tourism dollars from dove hunting are increasingly important to rural landowners and communities.

Because of the economic potential of dove hunting in Texas, increasing numbers of landowners and managers are working to improve or establish dove-hunting enterprises. Such enterprises will be more successful if the managers know the biology and habitat needs of doves, the strategies for making a property more attractive to doves, shooting field management techniques and dove hunting regulations in the state.

## Doves of Texas

Of the 10 species of doves and pigeons found in Texas, the two most numerous and economically important (Table 1) are mourning doves (*Zenaida macroura*; Fig. 1) and white-winged doves (*Z. asiatica*; Fig. 2). Although they are similar in some aspects, mourning doves and white-winged doves differ in distribution, appearance and behavior.



**Figure 1.** Mourning doves are the most numerous dove species found in Texas. (Photo courtesy Texas Parks and Wildlife Department)



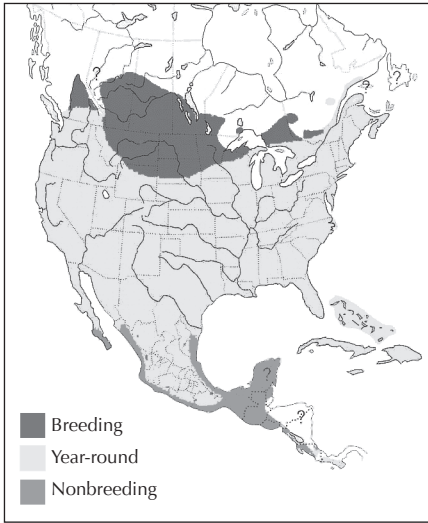
**Figure 2.** White-winged doves can be distinguished from mourning doves by their slightly larger size and white bands on the wings. (Photo courtesy of Bobby Buntyn)

**Table 1.** Native and introduced doves and pigeons found in Texas.

Common name	Scientific name	Residence status
Band-tailed pigeon	<i>Patagioenas fasciata</i>	Native
Common ground-dove	<i>Columbina passerina</i>	Native
Eurasian collared-dove	<i>Streptopelia decaocto</i>	Exotic
Inca dove	<i>Columbina inca</i>	Native
Mourning dove	<i>Zenaida macroura</i>	Native
Ruddy ground-dove	<i>Columbina talpacoti</i>	Native
White-tipped dove	<i>Leptotila verreauxi</i>	Native
White-winged dove	<i>Zenaida asiatica</i>	Native

## Distribution

Mourning doves occur over most of North America and breed in all 48 contiguous states as well as in southern Canada (Fig. 3). These doves winter in the southern United States, Mexico and Central America.

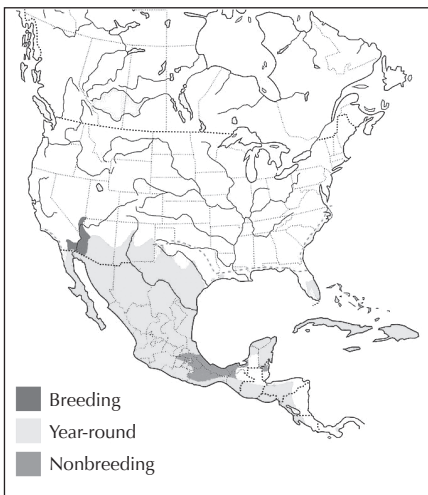


**Figure 3.** Mourning doves are one of the most widely distributed game birds. (From “The Birds of North America,” No. 117, by R.E. Mirarchi, and T.S. Baskett. 1994. Philadelphia, Pennsylvania)

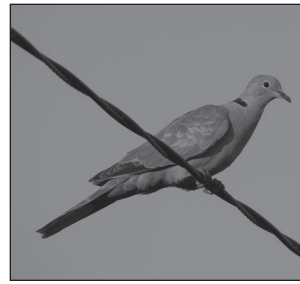
White-winged doves range from southern Texas and northeastern Mexico to the West Indies. Historically, they nested in northern Mexico, the Lower Rio Grande Valley and the Big Bend region of Texas, but in recent years their range has expanded northward (Fig. 4). White-winged doves are currently found throughout Texas except for the East Texas Pineywoods, and they are concentrated primarily in urban areas.

Although both species are gregarious (social), white-winged doves are more likely to be found in large flocks, sometimes exceeding 50 birds.

The Eurasian collared doves (*Streptopelia decaocto*; Fig. 5) are an exotic species first observed in Texas in 1995. They have since spread across the entire state. They are usually found in cities or in association with human habitations in rural areas.



**Figure 4.** White-winged dove distribution in Texas was historically limited to the Rio Grande Valley, but their range has been expanded northward in recent years. (From “The Birds of North America,” No. 710, by T.W. Schwertner, H. Mathewson, J. Roberson, M. Small and G. Waggener. 2002. Philadelphia, Pennsylvania)



**Figure 5.** The Eurasian collared dove is an exotic species that has expanded dramatically in recent years. It is larger than white-winged or mourning doves and has a distinct black collar on the back of its neck. (Photo courtesy of Dale Rollins, Texas Cooperative Extension)

Eurasian collared doves are more prolific than are the native species. These doves have been known to start a second nest before the first young have fledged. They are larger and more aggressive than are mourning doves and white-winged doves. Consequently, biologists are concerned about the possible effects the exotic dove will have on native doves.

## Appearance

Both mourning and white-winged doves are gray with white undersides and white on the tips of their tails. The two species have three obvious differences in appearance:

- ◆ White-winged doves have black wingtips and a distinctive white band across the top of the wings.
- ◆ White-winged doves are larger than mourning doves.
- ◆ In flight, the white-winged dove’s tail appears blunt, and the mourning dove’s tail is long and tapered.

## Population trends

Mourning doves are among the most widely distributed birds in North America. They have an estimated population of 400 million birds, but their breeding population index has declined at an estimated rate of 0.6 percent a year (0.4 percent decline in Texas) since 1967. Banding records indicate an annual survival of mourning doves of 40 to 45 percent, with about 25 percent of the total mortality attributed to hunting.

White-winged dove populations have rebounded from a low of 110,000 birds in 1951 to an estimated population of 2.2 million birds in 2002. More than half of the Texas population is believed to nest within the city limits of San Antonio. This increase is attributed to a range expansion in recent years.

It is difficult to estimate the population of white-winged doves because they nest in colonies and their population distribution tends to be clumped. Banding records for white-winged doves indicate that the survival rate of this bird has dropped from 71 percent in the 1960s to 55 percent in the 1970s.

## Behavior

Both species of dove can travel up to 7 miles a day for food and water, but they usually travel no more than 2 miles a day. A study in Arizona showed that some birds fly up to 50 miles a day to meet their needs.

Most white-winged dove populations outside the Rio Grande Valley are centered in towns and cities. These birds spend most of the day in their urban refuges and make feeding flights to nearby crop fields in the mornings and evenings. Unlike mourning doves, white-winged doves typically do not frequent farm ponds for water, but instead use standing water sources around towns to meet their water requirements.

### Mortality factors

**Predation:** Both dove species are susceptible to predation year-round, but especially during the nesting season. An array of animals prey on doves, including mammals, various snakes, great-horned owls (*Bubo virginianus*) and hawks such as Cooper’s hawk (*Accipiter cooperi*).

Great-tailed grackles (*Quiscalus mexicanus*) are considered to be serious nest predators on white-winged doves in South Texas.

**Weather and human disturbance:** Because dove nests tend to be fragile and poorly built, high winds and strong storms can destroy many nests, causing substantial losses during the nesting season. Also, human activities such as brush clearing and orchard maintenance can alter the habitat and reduce or destroy its usefulness to nesting doves.

**Diseases:** Doves are susceptible to several diseases, the most important of which is trichomoniasis. This disease is caused by a protozoan parasite (*Trichomonas gallinae*) that resides in the mouth, esophagus and crop of many dove species.

Virulent strains of this disease cause cheesy, yellowish growths in the mouth and crop. These growths prevent feeding and can eventually lead to death in mourning doves. Although trichomoniasis has been known to kill many mourning doves, mortality from this disease is rare in white-winged doves.

Common reservoirs of infection for trichomoniasis in Texas are bird feeders and deer feeders. To reduce transmission of trichomoniasis, clean and maintain these feeders regularly.

### Habitat

As might be expected for any bird that is widely distributed, the habitats for mourning doves can be quite diverse. But as for any species of wildlife, their basic requirements include four components: food, water, shelter and space.

### Foods and feeding

**Mourning doves:** Mourning doves prefer feeding areas featuring an abundance of hard-coated seeds (Table 2) similar to those used by quail. Doves have two characteristics that distinguish their foraging from that of quail:

- ◆ Doves eat almost exclusively seeds; insects are unimportant.

**Table 2.** Important seed-producing plants for doves in Texas.

Woody	Grasses	Forbs	Cultivated
Brazil	Blue panic	Annual sunflower	Corn
Hackberry	Colorado grass	Croton spp.	Grain sorghum
Pricklyash	Johnsongrass	Pigweed	Oats
Sumac spp.	Panic grasses	Pricklypoppy	Sunflowers
Wolfberry	Plains bristlegrass	Saw-leaf daisy	Wheat
	Sorghum alum	Snow-on-the-mountain	
		Spurges	
		Vetch	
		Western ragweed	

- ◆ Doves are “pickers” not “scratchers,” so it is essential to have seeds on bare ground.

The ideal food supply for mourning doves comes from an early successional plant community, which is the plants that grow in an open environment where the tree cover has been displaced temporarily by natural or human disturbance. These areas are dominated by seed-producing grasses and annual broad-leaved plants, known as forbs. Doves also prefer to feed on areas where there is bare ground.

Staples in the diet of mourning doves include the seeds of weedy native plants such as sunflower, doveweed and pigweed [the common and scientific names of all noncultivated plants mentioned in this fact sheet are listed in Appendix 1].

The seeds of woody plants are relatively unimportant, with some exceptions (such as lime pricklyash). Seasonally important foods include the seeds of cultivated grains, especially wheat and milo.

**White-winged doves:** Compared to mourning doves, white-winged doves feed more on fruit, or “mast,” but they also feed on seeds. In South Texas, white-winged doves feed on the fruit of granjeno, anacua, coma, colima, brasil, privet and pigeon berry.

White-winged doves are especially fond of cultivated crops, particularly milo and oilseed sunflowers. Unlike mourning doves, white-winged doves readily perch on trees, shrubs and standing crops when feeding.

### Nesting

Mourning doves nest in isolated pairs and are very discriminating about nest location. Nest site locations range from various trees in rural environment to streetlamps in urban areas. Mourning doves also nest on the ground if trees are lacking, as in the High Plains of Texas.

White-winged doves typically nest in colonies but can be found nesting in pairs. They usually choose native brush, cultivated orchards or residential shade trees. Many also nest in nonnative saltcedar brakes along the Rio Grande River drainage area.





**Figure 6.** Typical mourning dove nest constructed from twigs and consisting of 2 eggs. (Photo courtesy of Nova Silvy, Texas A&M University)

In both species, the female typically lays two eggs, each laid 1 day apart (Fig. 6), and incubates them for 14 days. The male and female share the nesting duties. The male is the caretaker for the nest from midmorning to early evening; the female takes over the nesting duties at night.

Both the male and female produce pigeon milk—a liquid secretion from their crop glands—to feed their young, which are called squabs. As the squabs mature, the milk is gradually replaced with regurgitated seed. Young doves can leave the nest after 10 to 14 days, but they remain nearby, where the male feeds them for several more days.

Mourning doves can nest throughout the year, depending on the weather, and can make two to five nesting attempts in a year. White-winged doves typically nest in April and attempt two nests per year, completing their nesting by July–August.

## Land management strategies

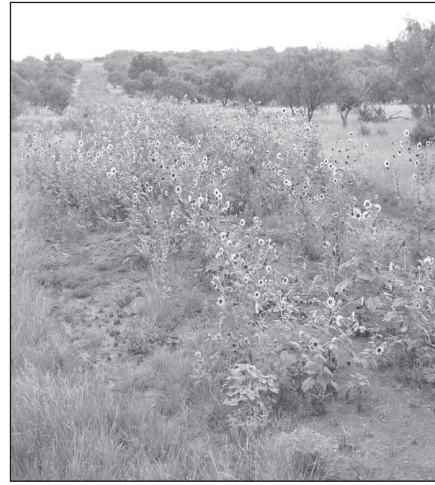
Until recently, landowners gave little management consideration to doves because they were migratory and historically common. Doves appeared in September almost regardless of how the land was managed.

Because dove populations have declined in some areas over the past decade and the economic worth of dove hunting has increased, more landowners are actively managing their properties for doves. Range and cropland can be managed to fit the doves' needs for food, cover and water, thus enabling a property to attract and hold more doves.

### Food management

**Rangeland:** The most important consideration in improving the availability of food for doves is to promote the growth of early successional plants such as annual sunflower, doveweed, buffalobur, snow-on-the-mountain and prickly poppy.

These plant species respond well to soil disturbance. Landowners can disc rangeland during the winter (December through February) to increase the number and variety of native forbs that benefit doves (Fig. 7). To maximize the benefits of this practice, disc 5 to 10 percent of the managed area.



**Figure 7.** Soil disturbance, such as discing, as evidenced in the preparation of this fire break, stimulates forbs that are desirable for doves. (Photo courtesy of Dale Rollins, Texas Cooperative Extension)

One strategy is to disc adjacent areas over a 3-year period, discing alternating strips annually. Disced strips need to be at least 10 to 15 feet wide. In Year 2, disc an adjacent 10- to 15-foot strip. In Year 3, disc another 10 to 15 foot strip adjacent to the second strip. The resulting area is a native food plot 30 to 45 feet wide.

By the fourth year, grasses may have become the dominant plant species in the first strip, making it necessary to disc it again. Continue this rotation every year to ensure that the early successional plants remain vigorous.

If sunflowers are not already present, broadcast 1 pound of native sunflower per acre in the strips to increase the species diversity in the strips (this increases the cost of the strips by about \$5.00 an acre).

**Cropland:** To manage cropland for doves, make sure that seeds are available on bare ground. Keep tillage of the soil to a minimum after grain harvesting to leave as many seeds on the ground as possible.

Do not disc small-grain fields after harvest, as it tends to bury the seeds. For standing crops of wheat or milo, shred the field in strips at 2-week intervals as the seedheads mature, as this will give doves a constant feed source. Delay preparing for the next year's wheat crop until late September to take advantage of early September hunts.

When selecting the kinds of seeds to plant in a food plot, consider the species of birds you are targeting. Mourning doves readily consume smaller seeds such as millet and sesame. White-winged doves prefer larger seeds such as whole corn, milo and oilseed sunflower.

### Food plots

A popular management strategy for doves is to use food plots. The problem with food plots is that during a drought when you need the benefits of a food plot, conditions either prevent germination or cause the plants to die soon after germination. In a good rainfall year, you probably do not need the food plot because there is enough native vegetation to provide adequate food and cover. Therefore, food plots

are most effective in areas that receive more than 25 inches of rainfall annually.

The ideal food plot is a 10- to 30-acre field that is located within a natural flyway and that has trees along each border, a water source near one of the sides and a graveled rock road next to one side. Although this ideal situation may not be possible for every field, many of the attributes of an ideal food plot can be provided through proper construction and careful site selection.

Some areas are unsuitable for planting, such as rocky hillsides or shallow soils. In those cases, you can provide an adequate substitute by planting a field near a water source. Also desirable is loafing cover around the border of the field in the form of power lines, old trees, fence lines, etc.

See Table 3 for species and planting recommendations for food plots. In North Texas, popular choices include milo

and various millets (for example, browntop, German foxtail, dove proso). In South Texas, species often planted include common oilseed sunflowers, sesame and milo.

## Water

Managing water can help increase dove abundance and improve shooting opportunities. Water sources suitable for doves include farm ponds, lakes, livestock water troughs and irrigation canals. The water source likely to attract the most doves is one located between a feeding area and roost site.

In some cases, existing water sources may make it unnecessary to add new permanent water sources for doves. However, if the existing permanent water sources are more than 4 miles apart, adding new permanent water sources could attract more doves.

**Table 3.** Planting recommendations for dove food plots in Texas.

Plant	Seeding rate		Planting dates	Planting depth (in)	Minimum rainfall <sup>3</sup> (in)
	Drilled <sup>1</sup>	Planted in rows <sup>2</sup>			
<b>Perennials</b>					
Bundlflower, BeeWild	3	–	12/1–4/15	¼–½	18
Bundlflower, Illinois <sup>6</sup>	13.6	4.5	12/1–4/15	¼–½	20
Johnsongrass <sup>4</sup>	10	3	12/1–5/31	¼–½	16
Plains bristlegrass	3	1	12/1–4/15	¼–½	12
Sorghum alum	6	2	12/1–5/31	¼–½	16
Sunflower, Maximilian	3	1	12/1–4/15	¼–½	20
Western ragweed	7.5	2.5	12/1–4/15	¼–½	20
<b>Annuals, warm season</b>					
Cowpea <sup>6</sup>	15	5	4/1–5/31	1–2	20
Kenaf	1.5	–	4/1–5/31	¼–½	18
Millet, browntop <sup>4</sup>	6	2	4/1–5/31	½–1	24
Millet, dove proso	10	3	4/1–5/31	½–1	24
Millet, foxtail	4	1.5	4/1–5/31	½–1	24
Millet, pearl	10	3	4/1–5/31	½–1	20
Partridgepea <sup>6</sup>	13.4	4.5	4/1–5/31	½–1	24
Pigweed	1.5	–	4/1–5/31	¼–½	18
Sunflower, annual <sup>4</sup>	7.5	2.5	9/1–2/28	¼–½	20
Sunflower, black oil	15	5	4/1–5/31	1–2	24
Sorghum, grain <sup>5</sup>	12	4	4/1–5/31	1–2	18
Texas panicum <sup>4</sup>	6	2	4/1–5/31	½–1	24
<b>Annuals, cool season</b>					
Rye	30	10	9/1–11/30	1–2	20
Triticale	30	10	9/1–11/30	1–2	18
Wheat	30	10	9/1–11/30	1–2	18

<sup>1</sup>Seeding rates based on the use of PLS (pure live seed) when available; otherwise, use good-quality commercial seed.

<sup>2</sup>Row planting (20- to 40-inch rows) can be used to allow native food plants to establish between rows and to allow better movement of doves.

<sup>3</sup>Approximate annual rainfall zone recommended for successful establishment. Irrigation is recommended if rainfall is below the minimum required level for successful establishment.

<sup>4</sup>Because these species are also important agricultural weeds, they should not be used in farming areas.

<sup>5</sup>Includes many types of grain sorghum such as Egyptian wheat, African millet, Hegari, etc.

<sup>6</sup>For best results, all legumes should be inoculated with the proper strain of *Rhizobium*.

Because doves prefer to water at ground level, it is recommended that you create an overflow situation around watering troughs by adjusting the water level in the trough so that a small amount of water flows over the side.

Also, doves prefer to drink along exposed shorelines of farm ponds, so landowners would benefit by reducing the vegetation along at least one edge of a pond. Ideally, there would be very little vegetation along the entire edge of the water to a distance of 10 yards.

The easiest way to thin out the vegetation along the water's edge is to concentrate livestock in that area for awhile. If using livestock is not an option, place a concrete slab or gravel bar extending into the water to provide a vegetation-free area.

The presence of a perch (a tall tree or power line) overlooking the water source increases an area's attractiveness to doves. You can modify an open-top water trough for doves by installing a floating platform or ramp in the water to allow the birds to drink. The addition will also provide a means of escape to prevent drowning.

Hunting for mourning doves can be very productive at these permanent water sources. For design information on building a farm pond to provide water for doves, contact the Natural Resource Conservation Service.

### **Brush management**

Any brush management strategy to improve habitat for doves should address their nesting and roosting requirements. The area should include isolated clumps, or mottes, of mixed brush species in addition to mature trees with lateral limbs and dense, rounded canopies. To retain and improve the nesting habitat, leave prickly pear and small, multi-stem mesquites in some areas.

Prescribed fire can also improve the nesting habitat for doves, as it opens up the canopy and reduces accumulations of ground litter. Fire also stimulates the growth of high successional bunch grasses (large, robust grass species with a base about the size of a basketball hoop).

### **Shooting field management**

When planning for a successful dove hunt, choosing a good hunting site is as important as managing for food, water and brush. Not only should the sites be attractive for doves, but they also should give the hunter a clear field of view to spot the doves as they approach and be open enough for the hunter to find downed birds.

An excellent way to provide good dove hunting locations is to place food plots strategically. Before hunting season, shred strips in the food plot to disperse seeds and open up the ground cover where the birds can feed.

Because doves often use linear features such as fences, streams and power lines as flyways, plant a field with small

grain close to such a feature. Power lines offer the additional benefit of providing a place for doves to perch before feeding. A single wire (to simulate a highline) can be strung to provide a staging area for doves.

When hunting near power lines, take care that the lines are not damaged by gunfire, and do not shoot doves that are perched on a line.

Although it is important to place hunters in good areas, put safety first by spacing hunters properly. Always make sure that they are at least four football field lengths (1,200 feet) apart from each other to minimize the risk of one hunter "salting" an adjacent hunter with pellets.

One placement strategy is to leave large round hay bales in the center of a field. This provides a convenient blind, allows hunters to hunt in the center of a food plot and increases hunter safety. On the other hand, some outfitters suggest allowing hunters only on the perimeter of the field, to provide birds a safe feeding zone in the center of the field and to prevent doves from quickly abandoning the field because of hunting pressure.

Regulations passed in 2005 make it illegal (a Class C misdemeanor) to discharge a firearm if the bullet or shot crosses a property line unless permission is obtained from the other landowner.

Over most of northern Texas, the ideal shooting area is a fallow wheat field (or "graze-out" wheat) that has gone to seed and that has volunteer sunflowers and doveweed growing there. Beginning in mid-August, shred down about one-fourth of the field; shred another one-fourth 2 weeks later; and shred the third quarter about mid-September. Leave the remaining quarter for hiding cover (for hunters) and for use by doves.

Leaving strips of unharvested grain and sunflowers throughout the field will also increase the attractiveness to doves. Shredding a strip about 40 yards wide around the edge of the field will enable the hunter to find downed birds, assuming most hunters are located on the perimeter of the field.

If brush such as mesquite surrounds a shooting field, use an appropriate herbicide to kill one tree about every 200 yards around the field. The dead trees will provide snags or perches that attract doves and serve as good places to position hunters. For a list of appropriate herbicides, consult your local county Extension agent.

### **Baiting regulations**

Doves are migratory game birds, and dove hunting is governed by both state and federal laws. Although baiting is legal for resident birds such as quail and wild turkey, shooting migratory birds (including doves) over bait is strictly prohibited.

In 1999, regulatory changes adopted by the U.S. Fish and Wildlife Service defined key terms relative to baiting in order to clarify the conditions to legally hunt migratory game birds. Those definitions are listed at [http://www.le.fws.gov/pdf/Files/Dove\\_hunting\\_baiting.pdf](http://www.le.fws.gov/pdf/Files/Dove_hunting_baiting.pdf).

A baited area is defined as any area where salt, grains or other feeds have been placed, exposed, deposited, distributed or scattered if they could serve as a lure or attraction for migratory game birds. A baited area cannot be hunted until at least 10 days after all bait is removed.

The distance a person can hunt from a baited area (including deer or quail feeders) is not absolute. Court rulings vary, depending on factors such as weather, topography and flight patterns of the birds. The definition of a baited area does not make an exception for deer and quail feeders, so avoid hunting in areas where these feeders are located.

Hunting over a field or food plot that has been manipulated by shredding, burning or windrowing is legal for dove hunting but not for waterfowl. For doves, you can do anything to the crop except harvest and redistribute it onto the same field.

An exception to this rule is the practice of “top-sowing,” which is broadcasting seed of wheat or rice with a fertilizer spreader or from an airplane. Doves cannot be hunted in such fields unless this practice is considered a normal agricultural practice for that area. Normal agricultural practices are defined by Texas Cooperative Extension. Before hunting, check with a local game warden to make sure you are in compliance with hunting regulations.

## Economic impacts of dove hunting

In the past decade, Texans have seen a dramatic increase in the economic impact of hunters on local and statewide economies. Dove hunting accounts for one-third of the money spent annually by Texas hunters.

The U.S. Fish and Wildlife Service estimates the number of active dove hunters in the United States at 1.2 million to 1.6 million. Of those, Texas fields about 25 percent. Put another way, one of every four dove hunters in the nation hunts doves in Texas. About 460,000 dove hunters spend a total of about 3.6 million days in the field each year in Texas.

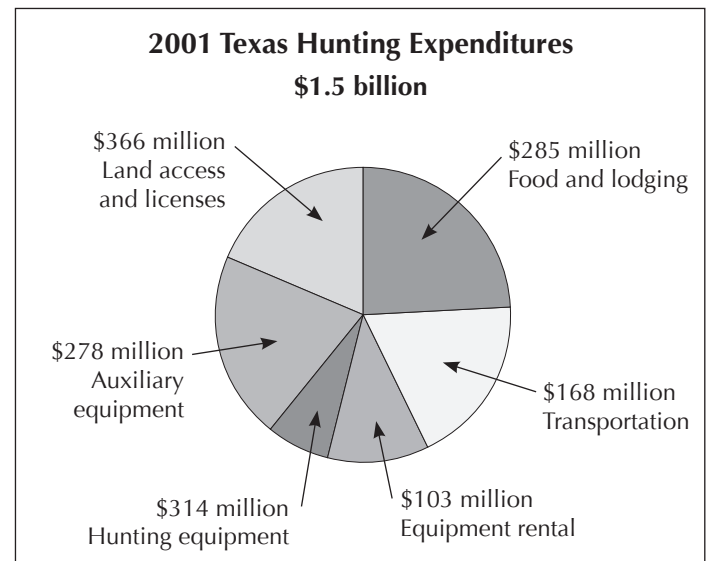
Expenditures for dove hunters total about \$200 million in a relatively short period, about 6 weeks in September and October. Dove hunters account for 74 percent of the shotgun shells sold in the United States.

In Texas, hunters (migratory, small-game and big-game hunters) spent more than \$300 million in 2001 on land access and licenses and

an estimated \$285 million on food and lodging (Fig. 8). That money was most likely to have been spent in rural communities. In 2001, Texas migratory bird hunters (including dove hunters) spent more than \$90 million on equipment and \$59 million on food and lodging (Table 4). Overall that year, Texas migratory game bird hunters spent more than \$219 million in pursuit of their game, averaging about \$400 per hunter.

Landowners are the largest beneficiaries of this hunting revenue, as 95 percent of Texas is privately owned. To gain access to that land, hunters typically pay trespass fees (that is, hunting leases). Texas Cooperative Extension estimates that landowners in Texas received about \$370 million in 2003 from hunting-related revenue; dove hunting accounted for one-third, or about \$122 million.

In addition to the benefits to landowners, dove hunting is vital for rural businesses and communities, which benefit from the influx of money spent on food, lodging and equipment.



**Figure 8.** Hunting expenditures in Texas distributed to state and local economy by category. (J. Johnson and W. Polk, Texas Cooperative Extension)

**Table 4.** Hunting trip and equipment expenditures in Texas by U.S. residents by type of hunting in 2001.

Expenditure category	Big game	Small game	Migratory bird
Food and lodging	\$194,712,000	\$29,454,000	\$59,441,000
Transportation	\$112,226,000	\$ 8,398,000	\$44,737,000
Other trip costs	\$ 76,017,000	\$ 6,697,000	\$20,358,000
Equipment	\$393,107,000	\$34,625,000	\$94,605,000
<b>Total</b>	<b>\$776,062,000</b>	<b>\$79,714,000</b>	<b>\$219,141,000</b>
<b>Average per hunter</b>	<b>\$873.94</b>	<b>\$214.86</b>	<b>\$438.28</b>

Source: U.S. Department of the Interior, 2001.



**Appendix 1.** Common and scientific names of noncultivated plants mentioned in this fact sheet.

Common name	Scientific name
Anacua	<i>Ehretia anacua</i>
Brazil	<i>Condalia hookeri</i>
Bristlegrass, plains	<i>Setaria vulpseta</i>
Buffalobur	<i>Solanum rostratum</i>
Bundleflower, BeeWild	<i>Desmanthus bicornutus</i>
Bundleflower, Illinois	<i>Desmanthus illioensis</i>
Coloradograss	<i>Brachiaria texana</i>
Coma	<i>Bumelia cleasterina</i>
Cowpea	<i>Vigna anguiculata</i>
Croton	<i>Croton</i> spp.
Daisy, saw-leaf	<i>Prionopsis ciliate</i>
Granjeno	<i>Celtis pallida</i>
Hackberry, netleaf	<i>Celtis reticulata</i>
Johnsongrass	<i>Sorghum halepense</i>
Kenaf	<i>Hibiscus cannabinus</i>
Millet, browntop	<i>Panicum miliaceum</i>
Millet, dove proso	<i>Panicum</i> spp.
Millet, foxtail	<i>Panicum ramosum</i>
Millet, pearl	<i>Pennisetum americanum</i>

Common name	Scientific name
Panic grass	<i>Panicum</i> spp.
Partridgepea	<i>Cassia fasciculata</i>
Pigeon berry	<i>Rivina humilis</i>
Pigweed	<i>Amaranthus palmeri</i>
Pricklyash	<i>Zanthoxylum clava-herculis</i>
Prickly poppy	<i>Argemone canadensis</i>
Privet	<i>Ligustrum sinense</i>
Ragweed, western	<i>Ambrosia psilostachya</i>
Sesame	<i>Sesamum</i> spp.
Snow-on-the-mountain	<i>Euphorbia marginata</i>
Sorghum alum	<i>Sorghum alum</i>
Spurges	<i>Euphorbia</i> spp.
Sumac	<i>Rhus</i> spp.
Sunflower, annual	<i>Helianthus annus</i>
Sunflower, blackoil	<i>Helianthus</i> spp.
Sunflower, Maximilian	<i>Helianthus maximiliani</i>
Texas panicum	<i>Panicum texanum</i>
Vetch	<i>Vicia</i> spp.
Wolfberry	<i>Lycium pallidum</i>

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