Your Side of the Fence

Vol. 3, #3 • Fall 2003

Deer Season Changes

"These are Not the Same Old Regulations"

Oklahoma landowners can expect several new changes in the deer season for the fall of 2003. Just in case you have been under a rock for the past few months, here's a little advice. You might want to pick up a copy of the recently released *2003 Oklahoma Hunting Guide*. There have been a myriad of changes to the hunting regulations designed to increase hunter opportunity and help better manage the state's fantastic natural resources. Here are a few of the highlights:

• The statewide deer gun season will begin on the Saturday before Thanksgiving and run 16 consecutive days (Nov. 22-Dec. 7). However, on many of the Department's wildlife management areas, the season will remain nine days.

2003-2004 Oklahoma Hunting Guide

• A special three-day antlerless deer gun season for those under 18 years of age has also been added. The season will be held during the third weekend in October (Oct. 17- 19).

• Once again hunters will be able to participate in the special antlerless deer season for the weekends before and after Christmas. Hunters in western and southwestern Oklahoma will have an additional three days to head to the woods during the special antlerless deer season.

• Hunters in southern and southwestern Oklahoma will have additional chances to harvest an antlerless deer during the statewide deer gun season and special antlerless deer season.

• Deer archery season will run continuously from October 1 through January 15. (Jan. 1-15 is antlerless only.)

• Deer muzzleloader season will run from October 25 through November 2.

Additionally, for the first time in nearly 10 years, many hunting and fishing license fees have risen. For complete information about license costs, season dates, zones and other details regarding hunting season information, you may log on to the Department's web site www..wildlifedepartment.com, or consult the "2003 Oklahoma Hunting Guide," available at hunting license vendors across the state.

What's Inside

Oklahoma Department of Wildlife Conservation Mission Statement:

Managing Oklahoma's wildlife resources and habitat to provide scientific, educational, aesthetic, economic and recreational benefits for present and future generations of hunters, anglers and others who appreciate wildlife.

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Dang 'Dillos

By Grant Huggins, Noble Foundation

We receive numerous calls every year from homeowners and other turf managers regarding armadillo damage to their landscape. Before discussing damage management methods, I want to discuss some basic biology of this curious animal.

Although generally considered a recent invader, armadillos were found as far north as Rogers County, Oklahoma, in the 1930s. They reach a mature weight of eight to 17 pounds. Tracks indicate four toes on each front foot and five on the hind feet. Females produce a litter, most commonly four, of same sex siblings in March or April. Young are weaned in three months.

Armadillos forage by probing leaf litter and the soil surface with their snout to locate prey. The majority of their diet includes invertebrates (beetles, ants, termites, millipedes, roaches, crickets, grasshoppers, earthworms, snails, slugs, larvae, etc.) that live in soil, leaf litter, and rotten wood. Minor food items include lizards, small snakes, salamanders, eggs, mushrooms and other fungi, and fruits (grape, mulberry, plum, persimmon, juniper, etc.). The distribution of armadillos in southern Kansas and Missouri probably represents their northern limit because of their difficulty in foraging on frozen ground.

Home ranges for adults vary from eight to 27 acres. 'Dillos usually dig several dens, up to 15 feet long, within their home range. At least one den has a nest chamber, usually lined with vegetation. Entrances to adults' tunnels are about seven inches in diameter. Armadillos are generally nocturnal during hot weather but diurnal (active during the day) in cold weather.

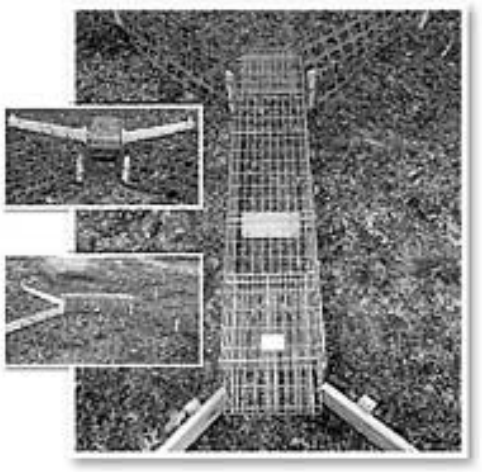
Predators include dogs, coyotes, and bobcats, but automobiles kill many armadillos. Their ability to harbor the human leprosy bacterium has made them important biomedical research animals.

Armadillos damage peanut, corn, and cantaloupe crops, but mostly lawns, golf courses, flower beds, and gardens by rooting in them. They characteristically dig small, shallow holes to search for food, sometimes uprooting ornamental plants. Skunks occasionally cause similar damage, which can be mistaken for that of 'dillos. Damage is most intense to landscapes irrigated during drought: the relatively soft, moist soil harbors more food than the surrounding sun-baked land.

The most direct control method is shooting, since they are not a protected species. This option may not be legal, safe, or socially acceptable in some suburban locations. During summer, nocturnal activity patterns are unpredictable, which may require all-night vigils. Various mesh-wire fencing designs can be effective, especially if they include a buried-wire portion. However, the aesthetics and cost of a fence must be weighed against the damage incurred.

Armadillos can be trapped in well-constructed box or cage traps. Those that open at both ends (double-door) work best. The use of "wings" to funnel armadillos to the trap opening is the key to success (see photo below). Wings can be made of whatever is handy, including lumber (e.g., 1" x 6"), mesh wire, and plastic fencing material. Take advantage of existing barriers such as fencing, house walls, or curbing as well. Wing length is not critical, but the more travel routes excluded, the better. Traps set in this manner do not need bait. Conibear 220 traps are an effective killing trap but are illegal to use in Oklahoma. Even where their use is legal, only very experienced personnel should use them in suburban settings because of the danger to pets or small children.

If you have problems with armadillos, contact a wildlife specialist.



Fish Grubs

What exactly are they and where did they come from?

By John Davenport, Holdenville State Fish Hatchery manager

The Department of Wildlife receives many inquiries each year from people who have seen or caught fish which have yellowish bumps or black spots on their fins or in their flesh. So what are these bumps or spots? And is the fish safe to eat? The answer to the first question is these spots or bumps are caused by the yellow and/or black grubs.

Fish most often infested with grubs are in the sunfish family which includes bluegill, largemouth bass and green sunfish, but grubs can infest all fish species. The yellow grub (*Clinostomum complanatum*) is the larval stage of a parasitic fluke which must be eaten by fish eating birds, such as herons, egrets and bitterns. The grub matures in the throat of the bird, and eggs wash into the water from the bird's mouth when feeding. The eggs hatch and the first larval stage, called miracidia, swim by means of fine hair like cilia until they find a snail of genus (*Helisoma)*. Unless they find this snail they die within a few hours.

While living and growing in their snail host, the parasite goes through several developmental stages during which they multiply, finally leaving the snail as a free swimming cercariae. Unless the cercariae find a fish within a few hours, they also die. Should the cercariae attach themselves to a fish, they burrow through the skin and encyst where they develop into metacercariae, which are the yellow grubs. There they remain until eaten by the bird host, thus completing the life cycle.

The grubs may live for several years in the fish. It is possible that yellow grub may kill fish under some circumstances, but normally a fish is not adversely affected by the parasite.

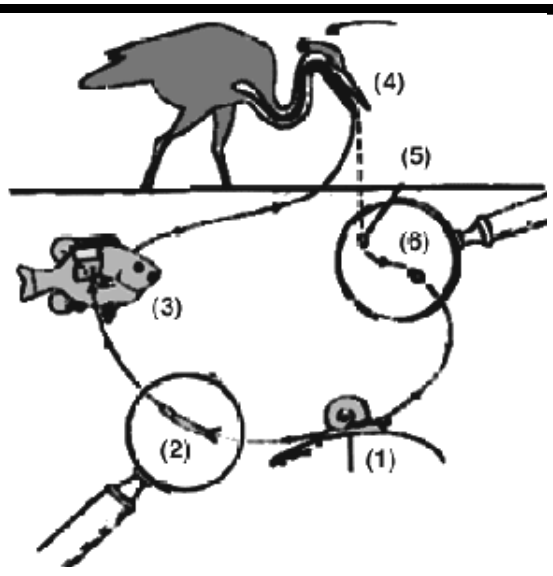
The life cycle of the black grub (*Climostomum neascus*) is basically the same except the grub embeds in the bird's intestines and eggs are passed out in waste. Some people find the thought of eating fish with grubs offensive but grubs are not harmful to humans.

So are your fish fillets with grubs in them safe to eat? If fish are properly cleaned and cooked thoroughly, this will kill any parasite or bacteria and the flavor of the fish is unaffected.

So how can you get rid of fish grubs? Well, unfortunately, the total elimination of these parasites can prove to be very difficult. Snails and fish-eating birds cannot be kept out of ponds at certain times, but any measure taken to disturb the life cycle of the grub will lower the number of grubs found in fish. Several steps can be taken to reduce the number of snails in a pond. Because snails feed on aquatic plants, the reduction of plants in ponds will reduce their food source and lower the number of snails. Mowing the sides of the pond will allow the sun and wind to dry vegetation and decrease egg masses laid by snails.

Some people find the thought of eating fish grubs offensive but grubs are not harmful to humans.

The stocking of red-eared sunfish, often known by the nickname, "shell crackers" can sometimes be used because these fish are known to eat snails. A combination of these techniques can be used to further reduce the snail population. There are many varieties of bird scare devices on the market today to frighten birds away. Varying the times and varieties of techniques used will help keep birds from becoming accustomed to the methods being used. Shooting birds may not be an option because many birds are protected by federal law.



Life History of Yellow Grub Parasite

1 Snail, first intermediate host. Larval grub makes several changes of form while in snail.

2 Free-swimming fork-tailed larva.

3 Fish, second intermediate host. Grubs encysted under skin.

4 Fish-eating bird, primary host. Adult grub lives in mouth and throat.

5 Mature egg.

6 Free-swimming larva.

Managing Quail Hunting on Your Place

By Mike Sams, upland game biologist

"Hey Joe, this place must be shot out, we haven't turned a covey in three hours!"
"Yeah Jim, let's go try a different spot!"

This conversation among quail hunters has probably happened more than once on the Oklahoma range, but can a quality quail hunting spot be over-hunted?

While the high reproductive potential of quail provides a safeguard against "over-harvest," there are a few scenarios where harvest management should be considered. Statewide regulations are broad and allow landowners an opportunity to develop harvest management strategies specific to their needs and the need of quail on their property. By most accounts, quail harvest does not exceed the levels considered detrimental to the population. However, areas prone to high levels of hunting pressure should consider regulating harvest to ensure local quail populations are not put at risk.

Studies of quail population ecology in southern Illinois by John Roseberry, renowned quail researcher at Southern Illinois University, determined that 16 – 28 gun hours/100 acres of quail habitat was acceptable hunting pressure over a variety of densities (density=average amount of quail per acre on a parcel of property). One gun hour is synonymous with one hunter hunting one hour (two hunters hunting four hours = eight gun hours). This formula is easily applied to any ranch but take care to include only acres of quail habitat. For example:

Under this example quail hunting pressure should be between 320 - 560 gun hours. Assigning a specific limit depends on your general observations of quail abundance. If quail seem "few" this year compared to others, limit hunting pressure to no more than 320 gun hours. Conversely if quail are "thick," setting a limit of 560 gun hours would be acceptable.

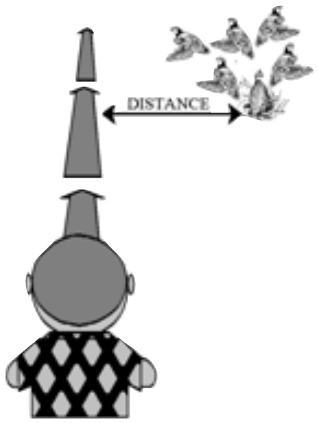
1,500 ac of brushy prairie + 500 ac of post oak savannah = 2,000 ac of quail habitat.
2,000 ac of quail habitat / 100 ac =20
20 x 16 gun hours = 320
20 x 28 gun hours = 560

Although simple, setting limits on hunting pressure does not take into consideration the styles and effectiveness of different hunters. The above estimates on pressure limits are not recommended for hunters using motorized vehicles, horses or on areas where quail feeders have been placed which tend to concentrate both quail and hunting pressure. For these hunting styles that occur on areas of heavy hunting pressure, a harvest quota that sets a maximum number of birds harvested per year would be more appropriate.

Establishing harvest quotas requires substantially more effort because estimates of quail density prior to the hunting season are needed. While some simple techniques have been used to determine density most are inconsistent. Transect counts are viewed as one of the better measures of density but they require considerable effort to conduct.

Transect counts involve:

- Establishing transects crossing the pasture/area in question.
- Measuring the length of transects.
- Traveling the transects either by walking, riding a horse (preferably calm) or driving (at minimum, run 12 miles of transects for every 640 acres i.e. 4 one-mile transects run 3 miles).
- Upon flushing quail, counting the number and estimating the distance from the transect they were flushed.



After determining the number of quail on your hunting area, the next step is to determine your population size.

Transect Count Data Sheet

DATE *10/20/03*	**PASTURE** *Brushy*	**TRANSECT** *10 miles*
Covey	Birds/Covey	Distance flushed from transect (ft)
1	19	90
2	6	3
3	12	37
Total	37	130

For example:
This data sheet depicts data collected while traveling 10 miles of transects on a 2,000 acre commercial hunting area. Note that data collection should be just prior to the start of the hunting season to ensure the most accurate preseason estimate of density.

Population Calculations:

1) **Width of surveyed transect line** = Average flushing distance in feet (x) (130/3) x 2 = 87 feet.

2) **Survey area** = Transect length in feet (x) Width of surveyed transect line
52,800 feet x 87 feet = 4,593,600 square feet
4,593,600 (43,560 square feet/acre) = 105 acres

3) **Density (Acres/Quail)** = Survey area (/) Total number of birds recorded
105 acres / 37 birds = 2.9 acres/quail

4) **Population size** = Acres of hunting area (/) Density
2,000 acres / (2.9 acres/quail) = 690 quail

mine the number of birds to be harvested. As a rule of thumb, quail harvest of 25 – 45% of the fall (preseason) population is acceptable in fair to good production years. Similar to the range of hunting pressure, whether to use the low value of 25%, 45% or somewhere in-between is dependant on quail abundance. If your property typically has 10 coveys on it and this year you count seven coveys, be conservative. However if you count 10 or more coveys a quota of 45% is acceptable. When quail populations are vulnerable because of habitat fragmentation or extreme lows in population, harvest should not exceed 10% of the preseason population to facilitate population recovery.

Following the example below, 311 birds could be removed from the population without harm if the value (45%) was used in your calculation. Hunters should deduct downed-but-not-found birds and cripples from the available harvest since these birds are lost from the population.

As you can see, estimating population size can be a tedious process. However, if your property hosts moderate to heavy hunting pressure, you may want to invest the time required to estimate your quail population size. With your estimate completed, you are then able to not only "fine tune" your harvest goals, but it's also a great way to monitor and evaluate any habitat enhancement projects you undertake to boost your bird population.

Calculate the number of quail to be harvested by

Available harvest = Population size (x) selected harvest rate (ex. 45%)
690 x 0.45 = 311 quail available to be harvested.

The Bobwhite Quail is one of Oklahoma's most popular game birds and nearly 60,000 hunters pursue quail each year in Oklahoma. Although harvest rates haven't been considered detrimental to the population, there are a few scenerios where harvest management should be considered to ensure plenty of memorable quail hunts on your land.

2003 August Quail Roadside Survey Summary

By Mike Sams, upland game biologist

The Oklahoma Department of Wildlife Conservation has conducted annual roadside surveys in August and October since 1990 to index quail populations across Oklahoma. Currently, Department employees run 83, 20 mile routes in all counties except Oklahoma and Tulsa; some larger counties have two routes. Observers count the number of quail seen to provide an index of quail abundance (number seen/20 mile route) and reproductive success. The survey provides a crude index of annual population fluctuations. Due to inherent biases associated with the survey results are not meant to be predictive, however, the August survey has shown a positive correlation to quail harvest.

This is the 14th year of this survey and the statewide quail index is up 37% from the previous 13 year average (Table 1). All regions reported increases in quail over last year with the exception of the southeast region. The statewide index is up 21% over the 2002 august survey. The largest increases were observed in the southcentral, southwest and southeast regional indices. Quail sighted in the southwestern, southcentral, northwestern and northcentral regions exceeded their previous 13 year averages. Conversely, the southeastern and northeastern regional indices remain well below their 13 year averages.

Despite drought conditions throughout much of the early nesting season, June rains appear to have negated any effects on early production. Fifty-seven broods were observed during the survey most of which were full grown. Results of the August survey generally don't include quail produced from the second hatch which occurs in late August but a few landowners and sportsmen have reported seeing young broods in late August. Since a successful second hatch often determines the difference between an average and good quail season the October counts should provide important information about this fall's quail population and season outlook.

Table 1 Quail seen/20 mile route during the August roadside surveys.

Region	Previous 13 yr. average	2002	2003
Statewide	7.1	8.0	9.7
Northwest	8.9	9.8	12.6
Northcentral	4.2	4.1	4.5
Northeast	5.6	2.3	2.9
Southwest	14.7	24.0	32.2
Southcentral	3.4	0.9	4.4
Southeast	6.8	9.2	2.1

How to get Channel Catfish to Spawn in a Farm Pond

By Gordon Schomer, Durant State Fish Hatchery manager

Most Oklahoma fishermen have probably enjoyed fishing in one of Oklahoma's more than 250,000 farm ponds. Besides bluegill or bass, channel catfish are one of the most sought after species by farm pond anglers. Not only are channel catfish relatively easy to catch, but once they're given a "cornmeal and hot oil bath" they can keep anglers coming back time and again. Yep, fresh-fried catfish fillets complete with hushpuppies and cole slaw is a true Oklahoma delicacy.

For the farm pond owner, raising channel cats can be almost as fun as catching and eating them. With just a little basic knowledge of channel catfish biology, some general pond management skills and a few common items, you can easily raise a self-sustaining population of channel cats even in small ponds.

One factor to consider before raising catfish is will there be other species of fish in your farm pond. If bass, bluegill, crappie or other sunfish species are present, your level of success may be limited. Largemouth bass, bluegill and others will readily prey upon channel catfish eggs, fry and fingerlings, particularly when other food sources are less abundant. For this article, however, we will assume that channel catfish are the only species of fish in your farm pond. Spawning and rearing channel cats can still be attempted in ponds with other species present, however predation may inhibit your overall success.

Selecting the proper number, age, body condition and sex ratio of channel catfish brood stock to spawn in your pond is very important. Ideally, the farm pond owner would select a ratio of two females to one male or three females to two males of fish in good body condition, and at least three to four years old.

For recreational fishing purposes, farm pond owners should begin conservatively. Begin your operation with no more than 20 to 30 total brood fish (males and females combined) per surface acre of water. Due to the reproductive capabilities of channel cats, the pond owner needs to be able to harvest an adequate number of fish (either through angling or seining) each year to prevent overpopulation. A pond overpopulated with channel catfish is usually indicated by poor body condition; and if allowed to continue, will deter spawning and survival of juvenile fish. Proper harvest will take out an amount of adult fish equal to the amount of juveniles spawned each year.

Some of you may say, "how can you tell a male channel catfish from a female?" Generally the male has a much wider head than the female. This clue can be tough to judge for the beginner without comparing several same-sized fish. Also, the time of year has a lot to do with being able to visually look at them to tell "which is which." Channel catfish spawn in water temperatures between 72F and 82F. In Oklahoma this usually occurs in late May, June, and early July. When temperatures approach 72F, males will develop pronounced muscles on their heads. The underside of the male's chin will also turn darker and his lips will thicken. Overall, the male is darker than the female during the spawning season.

Female channel cats will be lighter in color, have a slender head without pronounced head muscles, the underside of her chin will not be dark and her belly will be well pronounced. Another helpful tip in determining the sex of channels is when you hold them for a visual inspection. Males will typically have a broader tail than females, making them easier to hold.

Once you select your brood stock and release them to your pond, you will need to put out spawning containers. Spawning containers can be anything from old metal milk cans or kegs, earthen/ceramic chimney pipe, fiberglass or plastic crocks or barrels. Even old water heaters can be used. Never use containers that have held PCB's or other potentially harmful chemicals. The main thing is to pick something that both the male and female channel catfish can comfortably swim into at the same time to spawn and be able to get back out of easily. It helps to have one side of the container sealed off, allowing for one way in and one way out. One spawning container for every two to five spawning pairs of fish should be spaced out around the perimeter of the pond in about two to five feet of water. Face the open side of the container away from the bank towards deeper water. This helps to keep wave action from forcing mud or silt into the container. Get all the air out of the container before sinking it and to help you locate the container attach a small buoy to mark its location.

To see if your fish are spawning successfully, check the containers carefully every few days after placing them in the pond. Slowly lift the spawning container to the surface and visibly check for eggs or newly hatched fry. Depending on the water temperature the eggs will take anywhere from three to eight days to hatch. The male will typically stay near the eggs protecting them and keeping fresh circulated water to them until they hatch. Female channel catfish weighing about three to four pounds will typically lay about 4,000 eggs per pound of body weight and larger females about 3,000-3,500 eggs per pound of body weight.

Depending on how many brood fish spawn and how successful the hatch rate is, a tremendous amount of fry can be produced in a season. The farm pond owner must keep this in mind because in order to maintain a healthy pond with catchable sized fish, the pond cannot be allowed to get overpopulated.

January

Habitat Management Practices

- Collect deer harvest data as required by DMAP program.
- Install wood duck nest boxes.
- Strip disk to encourage native food resources.
- Develop fireguards for pre scribed burn program.
- Prepare ground for tree/shrub establishment for wildlife cover.
- Replace nesting materials in Canada goose nesting struc tures.
- Evaluate and recod food resources for wildlife.
- Mow to remove brush encroachment as needed.
- Half cut trees for loafing cover as needed for small game secies.

Pond Management Practices

- Cut cedar trees and stock-pile for fish habitat.
- Trap muskrat and beaver as need ed.
- Catch and remove crappie.

February

Habitat Management Practices

- Strip disk to encourage native food resources.
- Develop fireguards for pre scribed burn program.
- Monitor turkey flocks.
- Plant trees and shrubs as needed for wildlife cover.
- Clean out nesting structures/boxes.
- Set out your bluebird nest-boxes.
- Conduct prescribed burns as need ed.
- Mow to remove brush encroach ment as needed.
- Conduct prescribed burns as need ed.
- Mow to remove brush encroach ment as needed.
- Half cut trees for loafing cover as needed for small game species.

Pond Management Practices

- Catch and remove crappie.
- Cut cedar trees and stock-pile for fish.

March

Habitat Management Practices

- Prepare ground for summer food plots if needed.
- Plant native grasses / forbes / legumes.
- Monitor / fluctuate water levels in wetland areas.
- Plan a grazing management system.

Pond Management Practices

- Catch and remove beaver.

April

Habitat Management Practices

- Plant native grasses / forbes / legumes.
- Apply for Deer Management Assistance Program (DMAP). (405) 521-2739
- Clean and store prescribed burn equipment.
- Disk wetland areas to encourage moinst soil plants as needed.
- Implement a planned grazing sys tem.

Pond Management Practices

- Install cedar brush piles.

Management Measures

<u>October</u>
Wildlife Habitat
• Begin to flood wetland areas
• Flood greentree resevoirs only after frost
• Collect deer harvest data as required by the DMAP program
• Construct brush piles for winter cover
• Plant wildflower seeds
• Prepare bird feeders for wintertime feeding
Ponds
• Stock new ponds with fingerling catfish and bluegill

<u>November</u>
Wildlife Habitat
• Flood greentree resevoirs only after frost
• Collect deer harvest data as required by the DMAP program
• Construct brush piles for winter cover
• Evaluate areas needing prescribed fire treatment
• Evaluate forage resources and plan dor-mant season phase grazing
Ponds
• Catch and remove crappie

<u>December</u>
Wildlife Habitat
• Collect deer harvest data as required by the DMAP program
• Evaluate and record food resources for wildlife
• Strip disk to encourage native food growth
• Evaluate areas needing prescribed fire treatment
• Get prescribed burn equipment ready for use
Ponds
• Remove crappie
• Trap beaver and muskrat