

Your Side of the fence



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ODWC invests in bobwhite quail research

By Jena Donnell, quail habitat biologist



Even with the luxury of managing a species researched for over 80 years—Herbert Stoddard

wrote the book on bobwhite quail in 1931—biologists still face some uncertainty when accounting for the fickleness of quail populations. Ultimately, assessments are based on scientific research and hard-earned experiences. However, successful management is based on equal parts skill, weather and luck.

Though some aspects of quail management are well-known — populations change annually and are influenced by weather events, predation and widespread, often subtle, habitat changes—the scale at which these factors impact the population and how they relate to the range-wide decline are unclear. In an effort to better understand what drives quail populations, the Oklahoma Department of Wildlife Conservation (ODWC) teamed up with several partners and has committed to two long-term research projects in western Oklahoma.

Project 1: Evaluation of Northern Bobwhites in Western Oklahoma

ODWC has partnered with Oklahoma State University's Department of Natural Resource Ecology and Management and the



Donnell removing a bobwhite quail from a trap at Hackberry Flat WMA. Photo by Matt Fullerton.

Oklahoma Cooperative Fish and Wildlife Research Unit to conduct a long term study on Beaver River and Packsaddle WMA's. Research will focus on the unaccounted disappearance of birds during the fall shuffle period, how to manage early successional habitat to boost chick survival, and how weather influences reproductive success and bobwhite survival in western Oklahoma. The multi-part study will revolve around four primary approaches:

Habitat and Population Dynamics:

Adult quail and chicks will be fitted

with transmitters to determine which factors affect habitat use, production/recruitment and survival of bobwhites during the year. In addition to telemetry work, habitat work will be monitored for changes in the plant community and biological information will be collected from hunter-harvested birds. Researchers hope to predict quail population responses to drought and evaluate the role of temperature in nest initiation and bobwhite survival.

Arthropod Availability and Preference:

Telemetry work from the above-mentioned studies will be used along with arthropod sampling to determine how nest location and chick survival are linked

to insect abundance. Invertebrate samples will be taken from areas quail frequent, known nesting sites and areas where foraging is not occurring.



Juvenile bobwhite quail being released at Black Kettle WMA after being processed for weight, gender, age and parasites. OSU will study their diet. Photo by Jena Donnell.

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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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Researchers will also attempt to identify how diets change with respect to chick development.

A model will be developed at the end of this study to predict how nest selection and chick survival will be influenced by invertebrate abundance.

Aerial/Terrestrial Predator Influence on Usable Space: The impact of both avian and mammalian predators will be evaluated through surveys and perching site assessments. A model will be developed using these surveys, predicting how potential raptor perch sites (including human structures) and areas frequented by mammals (riparian areas, food plots, etc.) may effect quail predation.

Aflatoxicosis: To better understand the potential effects of aflatoxins on quail, seed sources (including both native and commercially-obtained seed) will be evaluated for below-lethal concentrations. Additionally, researchers hope to learn how feeders and supplemental feeding strategies influence quail and quail predation.

The six-year study is anticipated to begin in 2012 and will continue until summer 2017.

Project 2: Operation Idiopathic Decline

ODWC is also participating with the Rolling Plains Quail Research Ranch in a second study, "Operation Idiopathic Decline." The primary goal of this project is to identify types and occurrences of infectious diseases and parasites in western populations of bobwhite quail. Disease research with respect to quail has been limited and little is known about the prevalence or importance of specific diseases on the population.

To assist with the operation, ODWC biologists will take biological samples from ten Wildlife Management Areas (WMA) in western Oklahoma. Samples will be analyzed for assorted diseases including quail fever, pox and bronchitis, avian influenza virus and West Nile virus. Other associated studies will look at quail parasites and bacterial and fungal pathogens. Each WMA will be sampled twice a year for three years.

By participating in each of these studies, ODWC hopes to identify which management practices will benefit bobwhite quail and quail hunters in western Oklahoma.



Doug Schoeling, ODWC biologist, ages a bobwhite quail and examines for parasites.

Landowner Spotlight

Passionate about natives: Landowners improve wildlife

habitat By RosaLee Walker, farm bill technician



Phil and Penny Colbaugh have great memories of growing up in Bartlesville, Oklahoma. Phil is a retired plant pathologist professor and researcher from Texas A&M, and Penny is a retired molecular biology lecturer and researcher from University of Texas, Dallas. Phil and Penny own a 680-acre

tract of land in Hughes County, and with their passions of botany and biology, they have accomplished many significant wildlife habitat enhancements on their land in eleven years of ownership.

One of their main goals is to “preserve the many interesting native wildlife species on their property.” The property itself is fairly diverse and provides land elevation changes, rivers, lakes and wooded timber. The diverse habitat accommodates an array of wildlife species including: whitetail deer, northern bobwhite quail, eastern wild turkey, songbirds, waterfowl and more.

To assist in achieving their main goal, the Colbaugh’s were awarded a contract with federal Wildlife Habitat Incentive Program (WHIP). The couple is currently working on their second contract with the program; and



Landowners Phil and Penny Colbaugh on their property in Hughes County. Photo by Phil and Penny Colbaugh.

have already observed benefits to their wildlife population. Population numbers on their property have notably increased due to the management activities that were derived from their first WHIP plan. Some



Deer feeding on the Colbaugh's property. Photo by Phil and Penny Colbaugh.

of the habitat improvement projects they have incorporated include: installation of firebreaks, prescribed burn rotations, native tree planting and native range planting. Future habitat projects they plan to accomplish are: more extensive native rangeland establishment, enlarging lakes to improve water availability and eradication of invasive weeds and non-native grasses.

Phil has taken special interest in live oak (*Quercus virginiana*) introduction on their property because it is a “low tannin” acorn producer. Live oak is part of the white oak group and white oaks tend to produce acorns with a lower amount of tannin than red oaks. Since tannins make acorns taste bitter, it is believed that wildlife prefer the white oak acorns to the red oak acorns. Phil has also planted many other native white oak and red oak species on his property to help maintain diversity in wildlife forage. He has had notable success with his native range plantings and the stands are now several years old and have survived some of the harshest Oklahoma weather. Most native range species are adapted to fire and tend to flourish following a burn, which is why prescribed burning is one of the most important management tools for landowners.

Phil and Penny were chosen as this issues outstanding landowners due to their hard work, dedication and belief in the need for wildlife habitat management and preservation of native flora and fauna.

Water Matters

Protecting your pond: Cattails take over

By Keith Thomas, fisheries biologist, central region



Oklahoma is home to three cattail species that hybridize with each other: the broad-leaved, the narrow-leaved and the Southern cattail. The broad-leaved is the most common cattail species. These perennial herbs have always been here and probably always will. They are tough, hardy plants that stand up to many control methods and withstand harsh drought conditions. Landowners should take special care to prevent them from overrunning a favorite pond or lake. Once they're in, you've got them for good.

There are good things and bad things about this plant. Let's start out discussing the good things. Insects and spiders depend on them for cover and feeding. Several bird species nest amongst their tall leaves. Beavers, nutria and muskrats feed on them and use them for constructing their dens. Certain minnow and sunfish species use them for spawning cover. Several mollusks live within their leaves and roots. Turtles and snakes hide within the dense foliage. The pond itself benefits from cattails when a stand, or group, of plants cover the shoreline and act as wave break, lessening erosion. Cattails also absorb excess phosphorus and nitrogen from the soil and water. If you're Bear Grylls from the show "Man vs. Wild," you can always eat them because the plant shoots, young seed and rhizomes are edible. The list could go on!

Although there are a plethora of positive aspects, there are also negatives to having cattails.

They can severely reduce access to a body of water, especially if you are trying to fish, swim or launch a boat. The seeds from the flower make quite a mess in and around the pond during the fall. Cattails will overcrowd other, more beneficial plant species. If your pond is shallow, they will engulf the entire pond.

Cattails spread by seed and by rhizome. It has been observed that a single plant can spread to cover a 10-foot circle in a single season. And finally, snakes, snakes and more snakes! Need I say more?

To keep cattails out of your water sources or maintain control of existing plants, try the following tips:

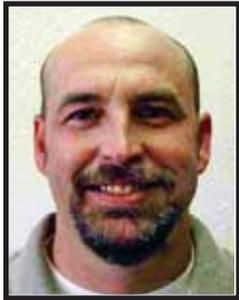
- Deepen pond shorelines. For every 3 feet out, the depth should be at least 1 foot. This creates approximately a 30 to 40 degree slope.
- Pull the leaves and tubers, or root, up by hand when plants appear.
- Provide shade to limit sunlight by planting shade trees near the pond.
- Once cattails appear in the pond, attack them quickly. Don't let them get a foothold.
- Apply an aquatic herbicide with the active ingredient of glyphosate. Use a surfactant to make sure the chemical sticks to the leaves. Spray them before the brown "sausages" appear.



New cattail stems rise up at the nodes along rhizome. Muskrat and geese eat the rhizomes. Photo by Mike Sams.

Changes aim to increase State WHIP opportunities

By Mike Sams, private lands biologist



The Oklahoma Department of Wildlife Conservation's (ODWC) State Wildlife Habitat Improvement Program (sWHIP) has become quite popular in the past several years. Demand has been so high that last year's application period was cancelled because backlogged request

exceeded the annual budget for sWHIP. ODWC budgets \$50,000 each year in state money to go toward sWHIP. Additional matching funds are typically provided by the U.S. Fish and Wildlife Service's Partners Program. However, funding requests for approved projects over the previous two application periods have averaged nearly \$248,000 annually.

One reason sWHIP has become so popular is the cost-share rate for cedar control. The sWHIP has been the best game in town when it comes to cost-share for cutting cedar offering 75 percent cost-share of the estimated cost. Other programs that provide cost assistance for cedar control offer only 50 percent cost-share of the estimated cost. As a consequence, sWHIP inquiries have begun asking for the 'cedar control program,' and cedar control has consumed

more than 75 percent of the financial request.

Cedar control is certainly a management practice heavily prescribed by our biologists to improve wildlife habitat; however, at its current cost-share rate and frequency of request cedar control is limiting the amount of landowners to which sWHIP is able to provide assistance. In an effort to better meet demand with supply, sWHIP will reduce the allowable rate for cedar control to 50 percent cost-share of the estimated cost during the 2012 contract period. By reducing the rate of cost-share for cedar control, ODWC hopes to provide more opportunities for more landowners to participate in the sWHIP.

Other cost-shareable practices allowed under sWHIP will remain at a 75 percent cost-share rate. It is important to note the cost-share rate is based off of the estimated cost reported on the plan, not the actual landowner expenditures.

An additional change for sWHIP is a reduced cost-share cap to \$4,500 per landowner, per year. While the reason for the cap reduction was primarily administrative, it too will increase landowner opportunities.

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Free Subscription to Your Side of the Fence

Your Side of the Fence is a FREE publication produced three times a year by the Oklahoma Department of Wildlife Conservation for Oklahoma landowners. It is our mission to provide practical information for managing wildlife on your property and address issues that affect you, the landowner. This is your opportunity to tell us what you think. What would you like to learn more about? Do you have any questions for any of our ODWC professionals? Are we doing a good job of providing useful, practical information? Please let us know. If you would like, send your advice to the editor.

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Landowner News Cont.

Also for administrative purposes, applications must now have an original signature. As such, we are no longer able to accept faxed or copied applications. If you have and specific questions regarding the changes to sWHIP you may contact me, Mike Sams, at mgsams@brightok.net or (405) 590-2584.



Wildlife Habitat Improvement Program

Overview

The Wildlife Habitat Improvement Program (WHIP) offered by the Oklahoma Department of Wildlife Conservation (ODWC) is designed to help private landowners develop, preserve, restore, enhance and/or manage wildlife habitat on their land. Through WHIP, landowners receive technical and financial assistance to develop and maintain wildlife habitat.

Benefits

The primary wildlife species targeted by WHIP are deer, turkey, quail, pheasant, prairie chickens, dove and waterfowl.

Although game species are the primary beneficiaries of WHIP, many other species, including Threatened and Endangered species and Species of Special Concern, benefit from WHIP activities.

Eligible Objectives

Types of acceptable objectives include:

- **Habitat Protection:** primarily excludes or controls activities which can damage or destroy existing wildlife habitat. May include fencing to limit grazing and/or other habitat damaging activities.
- **Habitat Development (Vegetation):** involves planting permanent native vegetation (trees, shrubs, grass, etc.) that is needed to establish new habitat or bolster existing habitat.
- **Habitat Development (Watering):** involves water development (pit ponds, windmills, solar pumps, guzzlers, etc.) that is primarily designed to benefit wildlife in areas where permanent sources of water are limited (> 1 mile away) or habitat protection limits livestock water.
- **Timber Management:** involves timber management practices (creating small openings, thinning timber, etc.) that improve wildlife habitat.
- **Wetland Enhancement:** involves protecting, enhancing, restoring and/or developing wetland habitat by constructing dikes, installing water control structures, etc. For program eligibility wetlands are defined as having $\geq 75\%$ of the body of water not more than 18 inches deep.

How WHIP Works

Persons interested in entering into a cost-share agreement with ODWC must submit an application by mail only from January 1 – May 1. Applications may be obtained online at www.wildlifedepartment.com or by calling ODWC at (405) 521-2739.

A biologist will contact applicants to discuss objectives and to schedule an onsite evaluation. Then, if the site is suitable, the biologist will work with the applicant to develop a habitat improvement plan. The plan will specify the project(s) to be completed along with cost estimates.

A panel of ODWC biologists reviews plans in June to determine if the project meets acceptable objectives and approves or denies projects accordingly. Available funds will be allocated to acceptable applications on a first approved basis, subject to timely completion of the project.

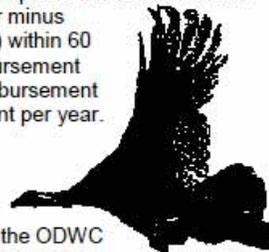
Applicants will be notified on July 1 or shortly thereafter if they are approved to participate in WHIP. A signed and notarized contract along with the habitat improvement plan must be submitted to ODWC within 30 days of notice of approval. Approval does not guarantee funding.

Only a limited amount of funds are available to WHIP each fiscal year, therefore participants must complete all work scheduled on the habitat improvement plan by June 30 of the same fiscal year of approval to qualify for reimbursement.

Following completion the participant will schedule an inspection with their assigned biologist and present receipts of work done. Participants will be reimbursed the contracted costs (plus or minus 10%, based on actual costs) within 60 days of receipt of the reimbursement form. In no event shall reimbursement exceed \$4,500 per participant per year.

For More Information

If you need more information about WHIP please contact the ODWC at (405) 521-2739.



This bulletin expires 7/1/2012

Strip disking: Setting back succession

By Jena Donnell, quail habitat biologist



While the advantages of prescribed fire are well known, other management tools can serve as short-term substitutes when faced with narrow burn windows. One short-term alternative for prescribed fire, strip disking, can mimic fire by stimulating wildlife friendly forbs in the seed bank and gradually reducing the thatch layer.

Benefits of Disking

Strip disking is a great way to set back succession or reduce the dominance of grasses. While native grass is an important habitat component of wildlife habitat — especially for ground nesting birds—mature stands often have a limited amount of forbs and little bare ground. Grass stands unmanaged for three or more years are the best candidates for strip disking.

In addition to reducing the thatch layer, disking can improve screening cover and brood rearing habitat. Once forbs are six to eight inches tall, the canopy provides chicks cover from aerial predators and shade. Recently disked areas also serve as prime brood-rearing habitat; the day after bobwhite quail chicks hatch, they are moved to areas with high amounts of forbs, and as a general rule, insects. Newly disturbed areas typically have increased insect abundance and diversity when compared to dense stands of grass.

Timing is Key

A variety of factors influence how plants respond to disking; including season of disturbance and the existing seed bank. Disturbing the soil at different times of the year changes the plant community. To encourage “wildlife friendly” plants (plants that produce large quantities of hard-coated seeds that slowly deteriorate), plan on disking between October and March. Disking after March can promote undesirable annual grasses, such as Johnson grass and foxtail. Find out how your property responds to

disking by experimenting; disk one “test strip” every month from October to March and record the outcome. If none of the test strips produce desirable forbs or legumes, consider over-seeding.

Disking Strategies

Before disking, create a plan. On your property map, mark sensitive areas where disking should be avoided. Avoid areas with Bermuda grass and areas adjacent to invasive species. Indicate which stands of native grasses are most dense, and focus disking efforts there. In especially rank stands, consider mowing the strip one to two weeks prior to disking. To get the most out of your disking efforts, consider the following:

- **Disk lightly:** When disking in wildlife habitat, remember the goal is to incorporate no more than half of the existing vegetation into the soil. Because many forbs favorably respond to a soil disturbance as little as three inches deep, a few light passes with a tandem disk will suffice.
- **Disk small strips:** Individual strips range from 15 to 30 feet wide and should be separated by a minimum of 100 feet of un-disked habitat. Plan to disk on a three-year cycle—disking alternate strips each year. Rotating disked strips will create a patch-work arrangement with sufficient nesting cover, brood rearing habitat and bare ground. Disking should be limited to areas where native grasses are most dense.
- **Location, Location:** Use disking to complement existing wildlife habitat for your species of interest. For example, when disking for bobwhite quail, locate dense woody cover and plan to disk within 50 feet of coverts.
- **Avoid disking in straight lines;** follow the natural contour of the land to limit erosion.

Include these four strategies in your disking plan. Disking light strips is a great way to improve brood-rearing habitat and set back succession on your property while waiting on a burn opportunity.



Landowner strip disking his land. Photo by Missouri Dept. of Conservation.



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