

Texas Bobwhite Roundup

Overview of “Operation Idiopathic Decline” and Related Developments April 5, 2012

Dr. Thomas V. Dailey
NBCI Science Coordinator

When quail are not doing well in one of the last remaining strongholds for their populations, everyone pays attention. Many a quail hunter from the East has sustained his/her interest in quail by traveling hundreds of miles to the Southern Great Plains states of Texas, Oklahoma and Kansas. And you know people are paying attention when an article about the lack of quail in West Texas makes the Wall Street Journal (*Texas Hunters Hope to Save the Quail*, Mar 11, 2012 – by Ann Zimmerman; [WSJ.com](http://www.wsj.com)).

In the big picture, bobwhite populations in Texas have suffered from both long-term negative trends in habitat suitability and short-term effects of drought: “For all of us who care about the future of this prized game bird and the habitats it occupies around the state, complacency is not an option,” said Carter Smith, TPWD Executive Director. “We need hunters, landowners, government agencies and non-profit groups all making this a priority in order to advance the recovery of this species. Rest assured, the department will do its part.” ([TPWD 1.state](http://www.tpwd.state.tx.us); [TPWD 2.state](http://www.tpwd.state.tx.us))

Quail have a long history of capturing the hearts and pocketbooks of Texans. Most bobwhite states have published something special about the species in the past decade, brochures, pamphlets, online information, etc. But in 2007, Texas A&M University Press published the 512-page hard cover tome, *Texas Quails: Ecology and Management* ([TAMUPRESS.com](http://www.tamupress.com)). Much of the book deals with management opportunities and research challenges in the 10 ecoregions of the state, with the dominant theme being habitat management. It’s clear from this book, and recent efforts, that Texas quail hunters are taking steps to make sure the tradition remains strong. The purpose here is to review the exponential increase in Texas wild bobwhite research and conservation efforts over the past year, and what it means to all quail enthusiasts.

Eyeworms, Toxins and Genetics

In 2011, the fire was lit by Dr. Dale Rollins, director of the Rolling Plains Quail Research Ranch (RPQRR) ([RPQRR.org](http://www.rpqrr.org)), entrepreneurial supporters from Dallas-based Park Cities Quail ([PCQ.org](http://www.pcq.org)), and the statewide Quail Coalition organization ([QC.org](http://www.qc.org)). Although quail enthusiasts have long held that habitat is the foundation on which quail populations are built, and that within normal limits weather is *the* key factor in how many quail there are to hunt each fall, there are still many mysteries about the rise and fall of western bobwhite numbers. Faced with a perceived breakdown in this paradigm, Dr. Rollins and others concluded that something other than habitat and drought could be causing low quail numbers in west Texas. Dr. Rollins’ view of

quail management is to “leave no stone unturned” in the search for answers, and he used the term *idiopathic* (the doctors don’t know) to launch Operation Idiopathic Decline (OID).

Dr. Rollins and associates from Texas A&M University, Caesar Kleberg Wildlife Research Institute ([CKWRI TAMUK 1.edu](http://CKWRI.TAMUK.1.edu)), and The Institute of Environmental and Human Health at Texas Tech University ([TIEHH TTU.edu](http://TIEHH.TTU.edu)) hypothesized the cause of the quail decline might be factors “beyond the prevailing habitat X rainfall paradigm,” including disease, parasites and toxins (lead, mercury, pesticides, etc.). This launched the multimillion dollar OID project on 19 sites in Texas and 10 in Oklahoma, with 100% private funding, mostly from Park Cities Quail ([RPQRR OID.org.pdf](http://RPQRR.OID.org.pdf)). The initial news on parasites, eyeworms and cecal worms ([RPQRR PCQ.org.pdf](http://RPQRR.PCQ.org.pdf)) has been widely reported by the media. Additionally, the Texas research team is interested in the bobwhite genetics project conducted by Dr. Chris Seabury at Texas A&M University’s Department of Veterinary Pathobiology. Dr. Seabury’s team has mapped the genome of wild Texas bobwhites ([RPQRR BGP.org.pdf](http://RPQRR.BGP.org.pdf)), with support from PCQ and its leader, Joe Crafton (LSONEWS.com).

Oklahoma Department of Wildlife Conservation: The Oklahoma Department of Wildlife Conservation (ODWC) is involved in OID, sending biological samples to the Texas university researchers. In addition, ODWC is stepping up their quail game in general with increased emphasis on quail population ecology research, quail abundance monitoring, and outreach to landowners to improve habitat ([ODWC 1.com](http://ODWC.1.com); [ODWC 2.com.pdf](http://ODWC.2.com.pdf); [ODWC 3.com.pdf](http://ODWC.3.com.pdf)). ODWC has dedicated funds for a 6-year research project with Oklahoma State University on 2 of the state’s most popular Wildlife Management Areas for quail hunting.

Quail-Tech Alliance--Texas Tech: The Quail-Tech Alliance Program (QTA) at Texas Tech University is a partnership between Texas Tech and Quail First, a non-profit organization, and is led by Dr. Brad Dabbert. QTA works with landowners, called “Anchor Ranches,” in a 38-county area in west central and northwest Texas (QTA.org). QTA has projects covering habitat, drought, predation, feeding, disease, etc. QTA has partnered with Tall Timbers Research Station (TTRS.org; Tallahassee, Florida) to adopt new management approaches, and will be releasing wild-strain parent-reared bobwhite chicks on Anchor Ranches this summer (<http://www.quail-tech.org/Newsletter.htm>).

University of North Texas-Quail: Dr. Kelly Reyna is leading UNT-Quail, a quail research and landowner extension program (UNT-QUAIL.edu). The primary mission is habitat, “North Texas Quail Corridor Initiative,” with a base of diverse research. Dr. Reyna is an OID partner teaming with Dr. Marcus Peterson, Texas A&M University, to evaluate the response of quail populations to OID-studied factors (infectious agents and contaminants, weather, etc.).

Diversity of Views

Quail enthusiasts recognize the OID, wild-strain parent-reared bobwhite and genome projects as bold and innovative actions, advancing science and management. Both Dr. Rollins and Dr. Dabbert are still supporters of the concepts that habitat and drought influence Texas quail, and they have cautioned against expectations that the new research is going to reveal a “smoking gun” (RPQRR.org/LSONEWS.pdf). Both researchers contributed to *Texas Quails: Ecology and Management*, and emphasize habitat management in their programs, as do all the other experts on Texas quail. During the past year some of these experts have responded to OID by emphasizing what is known about habitat and drought, and what is unknown about quail populations. Some of these responses are reviewed below.

Bollenbach Chair--Oklahoma State University: Soon after the Idiopathic study was launched, Dr. Fred Guthery, Bollenbach Chair, Oklahoma State University (BOLLENBACH.edu), issued a special edition of the Bollenbach newsletter, [*Quail News, No. 28*](#). Guthery provided a fairly comprehensive description of the general causes of quail declines. A few of Dr. Guthery’s points: “This research (OID) is welcome because the role of diseases and parasites in the lives of bobwhites is largely unknown. It will be a few years before any firm results are forthcoming.” Regarding management implications, “If disease is responsible for population lows in parts of bobwhite range, not much can be done because of the scale of the problem.” Regarding drought, Guthery points out that analysis of decades of quail and rainfall data reveals that rainfall explains 60--80% of year-to-year quail abundance in Rolling Plains and South Texas. Finally, Guthery speculates that “To some degree, perceptions of good production weather seem to have raised expectations above the population ability of bobwhites. In the Rolling Plains of Texas the 2009 counts by Texas Parks and Wildlife were the lowest in 32 years of record beginning in 1978. Had the population multiplied itself by 1.65, as did South Texas bobs, the 2010 count would have been the 5th lowest in 33 years of record.”

Dr. Guthery followed in October 2011 with another special edition of [*Quail News, No. 29*](#), on quail and weather patterns in the Southern Plains. It is clear from extensive analyses by Guthery and other researchers that drought and heat are dominating factors in the life of bobwhites in this part of the species range. Thus, the common expression for bobwhites in Texas, “add water and you have bobwhites.”

Caesar Kleberg Wildlife Research Institute: Caesar Kleberg Wildlife Research Institute (CKWRI), a south Texas-based arm of Texas A&M University, has continued to focus on habitat management as the key to abundant bobwhite populations. Dr. Fidel Hernández updated Dr. Fred Guthery’s *Beef, Brush and Bobwhites: Quail Management in Cattle Country* ([CKWRI TAMUK 2.edu](http://CKWRI.TAMUK.2.edu)), a practical, habitat-based guide to bobwhite management. Similarly, Dr. Hernandez joined Dr. Leonard Brennan and Dr. Fred Bryant in a special edition of the CKWRI quail newsletter, entitled *Quail Hunting Seasons, Bag Limits, Drought, and Habitat in Texas* ([VP CKWRI.edu](http://VPCKWRI.edu)). This edition was timed partly in response to the 2012 review of quail hunting regulations by the Texas Parks and Wildlife Commission (below), but CKWRI, like OSU’s Fred Guthery, addressed drought, habitat suitability and expectations by hunters. In a key section of

this article, “North versus South” (Texas), CKWRI scientists attribute quail problems in north Texas to habitat suitability: “The quail habitat situation in South Texas is considerably different from the Rolling Plains. Most importantly, there is no cotton farming or other production agriculture operating in the heart of South Texas quail country.”

One CKWRI scientist on the OID ‘team,’ Dr. Alan Fedynich, shares his perspectives on, and the unknowns about, diseases, parasites and active management of quail in Texas (CKWRI_TAMUK_3.edu). Dr. Fedynich covers fundamental questions: Can disease regulate quail populations? If so, can Texans use the disease management practiced for grouse and pheasants in Europe? How widely? Are drought-stressed quail more susceptible to disease?

Texas Parks and Wildlife Department: At the January 2012 meeting of the Texas Parks and Wildlife Department (TPWD) Regulations Committee, Wildlife Division staff presented a range of potential changes to quail regulations, from the staff recommendation to other scenarios developed outside the agency. At that time, the Committee elected to defer any potential action until later in the summer and directed staff to convene, by invitation only, a select group of leading researchers and scientists to assess current data, data-collection methodology, and evaluation processes. NBCI participated in this assessment. At the March 28, 2012 Texas Parks and Wildlife Commission meeting, Commissioners accepted the general recommendation presented by Robert Perez, TPWD staff member and liaison to the National Bobwhite Technical Committee, to focus on habitat management and not on changes in hunting regulations (TPWD.state and see *Regulations Committee* under Agenda and Archived Audio TPWD.COMMISSION.state).

NBCI

The NBCI and parent organization National Bobwhite Technical Committee (NBTC) base their conservation strategies on science (BBB_1.org). The NBTC “purposes” include:

- Identifying factors responsible for population declines of Bobwhites and other associated early successional wildlife species.
- Identifying gaps in knowledge about the Bobwhite population dynamics and ecology.
- Providing sound scientifically based information to stakeholders, administrators, and policy makers.

Current scientific consensus from Texas to Virginia is that habitat is the root-cause of the long-term decline in bobwhite abundance, and thus, the strategy of state agencies and NBCI is habitat-based restoration. The NBTC Research Subcommittee leads development of policy and positions relative to science, and is tracking all new developments. As part of the annual NBTC meeting in 2011 in Tallahassee the group discussed the OID project with Dr. Rollins. The subcommittee expressed support of all research that seeks to better understand the biology, ecology and management of wild bobwhites.

NBTC/NBCI relies on the science-based peer review process to identify validated research results that potentially could be adopted as conservation solutions. Peer-review is provided by

numerous professional organizations, including the National Quail Symposium Series, The Wildlife Society, Wildlife Disease Association, etc. Toward that end, the Quail Symposium Series is now under the auspices of the NBTC/NBCI, and in 2012 the proceedings of the Seventh National Quail Symposium will be published.

NBCI Director Don McKenzie provided a perspective on new research in a recent blog ([BBB 2.org](#)). McKenzie recognized the innovative Texas research and stated: “I, the NBCI and the states certainly are supportive of the scientific process and new knowledge gained thereby. Some of the new knowledge may illuminate non-habitat factors that could limit certain populations in certain places, and perhaps even offer innovative means to increase bobwhite populations on a limited scale.”

The Big Picture: “Old to New”

Dr. Guthery, nearing the end of his career, offers some pertinent advice, “Accordingly, the sage quailologist considers the full panoply, old to new, of research results on an issue.” (No. 29 referenced above). I like that, and although my limited experience might not cover the “full panoply,” I have first-hand experience pertinent to this Texas Quail Roundup. As the NBCI Science Coordinator, I participated in March in the Texas Parks and Wildlife Department quail science meeting referenced above. I began my ‘quail career’ working on bobwhite physiological response to drought in 1985 in Texas, at CKWRI. The research was driven by the desire for a management solution to a 1980s hard winter and drought (see Guthery No. 29 and “The fizzle of ’84”), and a popular idea then was whether or not to provide artificial water, with miles of water line feeding water tanks. I left Texas in 1987 for a quail research position I ended up holding for more than 20 years with the Missouri Department of Conservation (MDC). This was poor timing in one respect; Texas bobwhites had rebounded by 1987 from the fizzle of 1984 and were very abundant. Coincidentally, I studied deer on a South Texas ranch that yielded 3 quail per acre one year after I departed. I left totally impressed by the ‘quail passion’ of Texans, and with the understanding that quail can come roaring back under the right weather conditions, and *if* suitable habitat is available.

Toward the end of my career with MDC I dealt with a major disease issue with wild turkeys. In 2008 Missourians faced an outbreak of avian pox in the nation’s, and this state’s, ‘breadbasket’ of wild turkey hunting, northeast Missouri. Wild turkey hunting in Missouri has a similar status, economically and culturally, as bobwhites do in Texas. Turkey enthusiasts were seeing blinded and wart-covered birds, that were dying, and they asked the agency, “What are you going to do to fix the problem?” The answer was effectively, “nothing.” Common sense, experience and biological knowledge all led to the conclusion that wildlife disease, like predation, is a natural phenomenon that under most circumstances cannot be managed on a large scale, and with time, will correct itself. The researcher within me was disappointed, however, because I did not have direct evidence of the prevalence of avian pox, among other things. Ironically, the ultimate cause of pox was likely weather, record high rainfall in 2008: mosquitos transmit avian pox to wild turkeys. The rain resulted in a double whammy, high mortality and near-record low poult production. Fast forward to the 2012 MDC turkey hunting regulation pamphlet: “... relatively dry conditions ... helped Missouri’s turkey population experience its best hatch

in nearly a decade. Brood-survey results indicated that 2011's hatch was 42 percent above the previous five-year average. An especially notable improvement occurred in **northeast** Missouri where production was more than double the five-year average." Disease and weather in this case, were short-term problems.

State wildlife agencies *in general* have learned to "weather the storm," whether it be drought, flood or extreme winter weather. Wildlife populations usually bounce back, *if* there is suitable habitat. This is also likely the general situation in Texas, as indicated in the March 28th meeting of the Texas Parks and Wildlife Commission referenced above. Habitat management, under current understanding of the effects on quail populations of hunting, disease, weather, etc., is the best long-term solution for quail conservation. This is line with the mission of the NBCI.

But so is adopting new scientific findings. So we wait for the results of work by the Texas research community. Public and private land managers alike need the best science, and from the ongoing quail research work in Texas and Oklahoma we will have a better understanding of disease and quail biology, and new management options may be discovered. I admire the fierce Texas dedication to bobwhites, and in a review I did in 2007 of *Texas Quails for The Condor*, a bird science journal, I extol the benefits of the "Texas system" to conservation. I argued that because of inadequate public funding for conservation, "...bird conservationists need to embrace something that is central to quail conservation in Texas—capitalism as a way to fund habitat conservation." Good for the entrepreneurs of Texas for leaving no stone unturned.

The NBTC and NBCI will be closely following the Texas and Oklahoma research. Stay tuned this summer as most of the scientists and institutions referenced above will be meeting in Abilene Texas in August for the annual NBTC meeting.