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TEXAS WILDLIFE CONSERVATION – HISTORICAL NOTES

by Rollin H. Baker

Since the early decades of the nineteenth century, the impressive biota of Texas has attracted both professional and amateur students of plants and animals. However, not until the beginning of the twentieth century did an organized program get underway to determine the kinds and distributions of the birds and mammals and also of reptiles, amphibians, crustaceans, mollusks, and plants inhabiting this ecologically-diverse region.

BIOLOGICAL SURVEY OF TEXAS

At that time Dr. C. Hart Merriam, then Chief of the Biological Survey of the U.S. Department of Agriculture dispatched at least ten field naturalists to the state. A major purpose of their visit was to learn the economic importance of wild plants and animals in relation to regional farming and ranching practices. In short, Dr. Merriam's field crew set out not only to inventory this array of wildlife resources but also to determine which species hindered and which species benefited man's ability to make a living on the land.

Tall, slender Harry C. Oberholser was assigned to prepare the part of the report about birds while short, wiry Vernon Bailey the part about mammals. As it turned out, the amount of information obtained was so voluminous that the two reports were published separately. Bailey's contribution in 1905 appeared on schedule. On the other hand, Oberholser's report (ultimately co-authored by E.B. Kincaid, Jr.) appeared many decades later in 1974.

Oberholser made his study of the bird life of Texas a life-long project. Since I had a personal interest in seeing this work published and available for reference, I recall confronting him diplomatically but unsuccessfully about it on two occasions.

Once I was in the audience when this distinguished ornithologist presented a paper about his report on Texas birds. This was at an annual meeting of the Texas Academy of Sciences in either 1940 or 1941. I enthusiastically contributed \$5.00 to a fund to aid in its publication. Still it did not appear.

In the spring of 1946, I visited with Oberholser when we were studying birds at Washington's Smithsonian Institution. He said that work on the Texas volume was near completion, yet it did not appear until after his death. Needless to say, my field work on Texas bird life late in the 1930s and early in the 1940s surely would have been enhanced if Oberholser's data had been published on schedule.

Vernon Bailey's masterful "Biological Survey of Texas" was the authority on the state's mammals for almost a half-century. Certainly as a reference for my field studies, his findings were invaluable. My several conversations with this sterling field naturalist about Texas mammals were also most stimulating.

Unfortunately, Bailey's important inventory actually appeared after resident mammals – beaver, grizzly bear, black bear, spotted cats (ocelot and jaguar), pronghorn, wapiti (elk), bighorn sheep, and bison – either had been extirpated or markedly reduced in distributions and/or in numbers.

TEXAS STATE GAME, FISH AND OYSTER COMMISSION

The early citizens of Texas did little to address the need for conserving the state's wildlife resources. The earliest pioneering settlers, much like the Native Americans before them, took only sufficient amounts of wildlife in order to sustain their families. Later intruders, some of them market hunters, cropped wildlife to such a degree that the first law protecting these resources was enacted in 1861.

It was not until 1907 that a specific agency, which was to become the State Game, Fish and Oyster Commission, became caretaker of Texas wildlife. This agency began recommending the passage of laws to conserve dwindling species and to have the means to enforce such laws. Beginning in 1909, citizens wanting to hunt were required to buy licenses. By this means the program was financed for more than three decades.

By 1915, predatory animal control became well established in Texas mostly by hunters and trappers trained by the U.S. Bureau of Biological Survey. Livestock raisers encouraged this program even though it destroyed a large number of non-targeted wildlife, innocent of depredations on cattle, horses, sheep, and goats. This activity completely eliminated the Texas gray wolf population and seriously reduced the number of spotted cats, mountain lion, black bear, and golden eagles. Meanwhile, the coyote, a major but highly elusive target, survived despite all of the attention it received.

The first six state game wardens were hired in 1919; by 1925, the number had increased to 100. Also in 1925, a new trespass law enhanced the right of landowners to close their land to hunters. With little public land available, hunters often were obliged to pay for hunting rights. This led to the "deer hunting lease" program. This movement brought out the concept that wildlife, like other products of the land, had a monetary value. With game populations worth money, land operators naturally became watchful that animal harvests did not exceed production rates.

In 1929, the dynamic William J. Tucker was named executive secretary of the Commission by the six governor-appointed commissioners. It was ten years later when my years of service with the Commission began.

By 1938, the Texas Game, Fish and Oyster Commission (later a part of the Texas Parks and Wildlife Department) was a self-sustaining and certainly modest operation; none of its budget came from appropriations from the general tax fund. The Commission subsisted by means of fees paid for hunting, fishing, and trapping licenses and also from taxes paid on such natural resource extractions as sand, shell, and gravel.

Its initial mission, insofar as birds and mammals were concerned, was to obtain periodic – albeit “rudimentary” – inventories of wildlife populations in order to make decisions as to which species required total protection and which could withstand annual harvests. For the latter it was also necessary to determine when and for how long hunting and trapping seasons would be open and the sizes of bag and possession limits.

Lacking self-regulatory powers, the Commission was obliged to petition the legislature to recommend that appropriate laws be passed to legalize those proposed regulations. At the same time, the Commission cooperated with the U.S. Bureau of Biological Survey, now the U.S. Fish and Wildlife Service. This was to enforce federal laws regulating the hunting of migratory game birds (ducks, geese, snipe, rails, gallinules, doves, etc.), to enforce the Lacey Act, and to protect non-game songbirds.

The Commission, noting wildlife population declines, arranged for passage of laws granting full protection from hunting to the Attwater (greater) prairie chicken in the 1930s. One of the major tasks was to get laws passed to eliminate the popular and ancient sport of hunting white-tailed deer with dogs. This practice was thought to be a major factor in holding down populations of white-tailed deer in many parts of eastern Texas.

In some counties, game laws (except those concerned with migratory birds, violations of which could be prosecuted in more rigorous federal courts) were difficult to enforce. Justices of the peace, county attorneys, and county judges sometimes were reluctant to prosecute the local citizenry (or kinfolk) for such minor offenses as head-lighting deer.

Backwoods attitudes in the 1930s, in fact still prevalent today in many sectors, believed that the good Lord put wildlife on this earth for man to use as he saw fit – and no laws should be passed restricting its utilization. I personally heard nesters espouse this position on several occasions. In some areas the local folk even went so far as to declare a year-around “open season” on state game wardens.

Local animosity is illustrated by the following selected example. State Game Warden Cecil Crow, stationed in “deep” East Texas, made the tragic mistake of returning gunfire while trying to apprehend a belligerent poacher. The latter, a resident of Louisiana, was hunting squirrels illegally on the Texas side of the Sabine River bottom. Normally, it was open season on such “foreign” invaders, but when Crow’s bullet, meant to pass well above the intruder’s head, killed the trespasser – certainly an accidental happening – the local folk had an excellent excuse for throwing the book at an unwelcome warden.

They threatened to try Crow for causing the out-of-state poacher’s demise. To protect Crow, the Commission transferred him to Lake Dallas, but he still had legal trouble. As a departmental employee I donated along with other staff members to cover his legal fees. Since I was called to active naval duty about that time, I never did learn what happened to him.

Lawbreakers were brought to justice by a mere handful of state game wardens assisted occasionally by members of sheriff's departments. As late as the WWII era, wardens such as J.J. Dent, Ray Williams, Tom Redford, Gus Cochran, Herbert Ward, Fischer Osborn, Earl Sprout, and my father-in-law, Tom Waddell of Eagle Lake, often were assigned to patrol several counties all alone. In 1938, for example, Waddell patrolled all or most of Austin, Colorado, Lavaca, and Wharton counties. To say the least, law enforcement was a difficult task.

Fines were assessed to persons found guilty of violations of the game-and-fish codes by justices of the peace. The offenses were classed as misdemeanors, and as I recall, the fine monies, aside from court fees, went to the school fund. There were, however, two laws in the 1930s, violations of which were classed as felonies.

One had to do with highly destructive practice of dynamiting fishes; the other with transporting a "live wolf" across a county line. The latter, I suppose, was instigated at the request of the powerful ranching lobby. A person guilty of one of these two offenses might be sentenced to up to two years in jail.

Sometimes state legislators passed game regulations without complete approval of officials of the Commission. A newly-elected legislator could, for example, make himself known as a "law maker" by getting enacted a law to close the season in his "home" county to the hunting of bobwhite quail or the trapping of mink. Such actions were hard for the Commission to quell diplomatically.

At first the Commission had no official public-relations or educational program. Articles about hunting seasons, the need to enforce game laws, and the importance of wildlife as a state natural resource occasionally appeared in the press.

A short, hard-working, and jolly fellow named W.J. Burr wrote some of the first Commission wildlife bulletins in the 1930s. By 1940, a more professional educational and public relations program got underway when publicist Roger Busfield was hired. Jay Vessels, Everett T. Dawson, and others followed. A *Monthly Bulletin* was inaugurated late in the 1930s. The slick and better-illustrated *Texas Game and Fish Magazine* was first published in 1943.

Wildlife pamphlets and technical bulletins also appeared. Valgene W. Lehmann wrote one of the first in 1937 – on bobwhite quail. I authored a bulletin on the same subject in 1940 and another on bullfrogs in 1942.

I was encouraged (or at least was not discouraged) to publish summaries of research findings in national scientific journals about the ecology of nine-banded armadillos and white-tailed deer in 1943, gray and fox squirrels in 1944, and raccoons in 1945. However, when my note on small rodents in eastern Texas appeared in the *Journal of Mammalogy* in 1942, I received a stern letter from Tucker suggesting that I should author only papers dealing with harvestable wildlife.

I also received another rebuke when a widely-published news photograph issued in 1941 showed me sporting a partial beard while ear-tagging an East Texas gray squirrel. Tucker wanted no beards in his outfit in those days.

Newspapers in larger communities hired outdoor writers. Most were hunter- or fisherman-scribes with little background in ecology or details about modern wildlife management. Bill Walker of the Houston Press, a typical outdoor columnist, liked to laud and then to criticize Commission programs, sometimes whether he had good reason or not.

Hunting and fishing clubs, usually dedicated to the wise and sustained use of wildlife, often had Commission personnel as advisors. One of the best in East Texas was the Beaumont Rod & Gun Club. Deer/turkey hunting leases in western Texas paved the way as demonstrations that wildlife had a monetary value as a renewable product of the land. However, such arrangements in eastern Texas were largely a post-WWII activity.

The Commission allowed employees unlimited "official" travel within the boundaries of Texas, but in pre-WWII days, vacation time had to be used for job-related, out-of-state trips. Consequently, my trips to attend such annual scientific meetings as those of the American Society of Mammalogists in 1940 and 1941, and of the North American Wildlife Conference in the same years, were on my own time and expense.

During this entire formative period the executive secretary was William J. Tucker. He was paid about \$3,600 per year. I finally made either \$1,800 or \$2,000 in 1943, the year I departed for duty with the U.S. Navy.

Tucker, wiry and slight in build, was truly a remarkable person. He had been a captain in the famed Rainbow Division. His book, *Not All Ashes*, about his WWI experiences in France, appeared in 1941. As a "loyal" employee I purchased a copy.

Tucker had a booming and commanding voice. His orations about the needs of Texas wildlife at sportsmen's meetings were impressive, attracting friends and foes alike. He was always "Mr. Wil" to me and to other employees. I was not particularly uneasy in his presence – just most respectful and careful not to say any more than necessary.

Even though administrative positions such as his always have built-in hazards and are challenged constantly by self-appointed "hate-the-Commission" groups, "Mr. Wil" did a remarkable job of appeasing both hunters and fishermen and the Austin political crowd. He served at the pleasure of the governor-appointed Commissioners for at least fifteen years.

TEXAS COOPERATIVE WILDLIFE RESEARCH UNIT

In 1935, an event took place which set the stage for the modern wildlife conservation and game management program in Texas. In that year the federal government, perhaps at the urging of such national wildlife authorities as Ding

Darling, Aldo Leopold, Herbert Stoddard, Seth Gordon, and Ned Dearborn, established a number of Cooperative Wildlife Research Units.

Ph.D. biologists employed by the U.S. Bureau of Biological Survey, now part of the U.S. Fish & Wildlife Service, were assigned as adjunct professors at selected land-grant institutions and became leaders of these units. Among the schools first involved were Pennsylvania State, Oregon State, Connecticut, Idaho, Iowa State, Ohio State, and Texas A&M.

Federal funds also provided for office staff, field studies, and graduate-student fellowships. The idea was to encourage these schools to develop their own academic programs in wildlife research and game management to help meet the expected need for graduate wildlife biologists. Once the units got the programs underway, they were supposed to be phased out. Of course, like many self-perpetuating programs, they are still going strong at some institutions more than fifty years later.

Dr. Walter P. Taylor, then a Senior Biologist with the U.S. Bureau of Biological Survey, was dispatched from Arizona to College Station to become the leader of the unit established at Texas A&M. He was a forever-optimistic, "banty-rooster" type of person – a hard worker, a good promoter, and despite being perhaps a little too altruistic, an excellent public relations person.

Taylor had amassed a solid ecological background and distinguished research publication record. His Ph.D. was in Zoology from The University of California at Berkeley, and he was internationally known as a spokesman for environmental programs. He had been elected president of such national scientific organizations as The Ecological Society of America, The Wildlife Society, and The American Society of Mammalogists. He was highly suited for his mission in Texas.

To get the on-campus academic program going, Taylor helped establish the Texas A&M Department of Fish and Game (now Wildlife and Fisheries Sciences). In September 1937, the first staff member arrived. He was Dr. William B. Davis of Idaho, a specialist in mammals and birds. In 1938, Dr. Kelshaw Bonham of Seattle became instructor in fisheries biology. Bonham ultimately departed, but Davis stayed to become the leading authority on Texas mammals.

As in most academic situations, unit secretary Mrs. Dubois, perhaps a head taller than Dr. Taylor, had a lot to do with running the show. Field employees, like myself, soon learned that it was a good idea to keep her friendship.

Both Davis and I arrived on the campus of Texas A&M at the same time for the fall semester in 1937. We met on the stairs as we climbed up to the third floor of the Animal Industries Building to meet Taylor, Davis to begin his long professorial tenure and I to inquire about graduate studies.

That first school year (1937-1938) with the Taylor-Davis team was a memorable one. Daniel W. Lay was appointed as the Department's first

graduate assistant in September 1937, and helped Davis with the newly-established courses in mammalogy and ornithology. I was appointed president of the advanced seminar. It would have been a rather routine and lackluster chore had it not been for the parade of department-visiting dignitaries, all leaders in the field of environmental sciences.

They visited Taylor, but he always persuaded them to address the seminar. Taylor insisted that I introduce each of them, which I did nervously. Perhaps my greatest thrill was to introduce the celebrated founder of plant ecology, Dr. Frederick Clements.

Besides being busy completing the requirements for the Master of Science, Lay and I found time to carry out modest studies about mammals. We surveyed small mammal populations on Galveston and Mustang islands and gathered data on the ecology of Florida wood rats (*Neotoma floridanus*) living in a wooded sector on the Texas A&M campus. Summaries of the findings from these studies appeared in 1938 in the *Journal of Mammalogy*.

For the Texas Cooperative Wildlife Research Unit to get an active field program underway, "Walter P." (as we used to call Dr. Taylor – but not to his face) brought in Valgene W. Lehmann, a native of Brenham, who held a degree in botany from The University of Texas at Austin. Lehmann was then on assignment as a waterfowl biologist for the U.S. Bureau of Biological Survey at Utah's famed Bear River Waterfowl Marshes.

Lehmann worked first on a wildlife survey of Walker County. His work was augmented when on February 1, 1936, Taylor hired Texas A&M student Daniel W. Lay as field assistant. Lay joined Taylor on week-end field trips in the Huntsville area. Together they sampled the biota by collecting museum specimens of birds, mammals, and plants. Dr. S.R. Warner, then the authority on the Big Thicket flora and a professor at Sam Houston State College, cooperated by identifying the plants.

One evening, according to Lay, while he and Taylor were busily preparing bird specimens for the Texas A&M research collection at Huntsville's Boone's Motel, Warner stopped by to introduce ex-school teacher Phil D. Goodrum. This marked the beginning of Goodrum's noteworthy career as a Texas wildlife specialist and administrator. Ultimately, both Lay and Goodrum conducted research in this area as a part of the requirements for their graduate degrees at Texas A&M.

Beaumont-born Lay's studies about bobwhite quail explained why bobwhite quail were more abundant in some successional stages of cut-over pine growth than in others. Crockett-born Goodrum studied the ecology of gray and fox squirrels and developed highly-regarded and widely-used census methods for these tree dwellers.

Next Lehmann studied the distribution and ecology of the fast-disappearing Atwater prairie chicken. He examined present and former

habitats of this bird along the coastal plain from western Louisiana to Corpus Christi.

Lehmann devised a method of censusing prairie chickens by means of a rope count. A long rope or steel cable was attached by swivels to the back bumpers of two field cars. Then the cars drove parallel with each other back and forth through open chicken country counting the birds they flushed when the taut rope or cable came their way. I recall that the back bumper on my 1930 Model A Ford was torn away when the stout and ungiving cable struck a post hidden in prairie grass.

In 1938, Lehmann was stationed in Eagle Lake because Colorado County had a large and representative population of prairie chickens and was somewhat central in the species' distribution along the vast upper Texas Gulf Coastal Plain. Ultimately, Lehmann summarized his findings about the ecology and fragile status of the Altwater subspecies of the greater prairie chicken. His report, the first major study of a Texas wildlife species, was published as a government monograph in 1941.

Taylor also assigned Lehmann to conduct a biological survey of Colorado County. His colleagues on this project were Hilbert R. "Bandy" Siegler (a native of Wisconsin with a M.S. under Aldo Leopold) and, beginning in September 1938, myself.

Besides gathering field data on the local populations of prairie chickens, this team of workers, aided and abetted by the brilliant field-savvy of State Game Warden Tom Waddell of Eagle Lake, studied the ecology of other important species of the Gulf Coastal Plain. These included white-tailed deer, fur-bearing mammals, bobwhite quail, nesting upland and wetland bird life, and the economic importance of wintering populations of migratory waterfowl.

Before a major report on the biological survey of Colorado County had been completed, Lehmann and I were transferred to Waller in March 1939 and worked briefly on prairie chicken flocks in the Waller/Harris county area. By mid-1939, both Lehmann and I ended our field studies for the unit and were hired as wildlife biologists under the newly-enacted Pitman-Robertson Program of the Texas Game, Fish and Oyster Commission.

By 1940, Taylor was making great strides in educating Texans about the value of natural resource conservation. He spoke widely to varied audiences, including service clubs, sportsmen's groups, and farm-and-ranch organizations. He emphasized the value of scientific research and game management as a means of restoring and sustaining wildlife and habitat.

Taylor stressed the concept that wildlife, as a renewable product of the land, could produce a harvestable surplus. In short, his message was that effective enforcement of the game laws was certainly necessary but was not sufficient to sustain wildlife. The environmental needs of each species had to

be ascertained through scientific field studies. Then these wildlife habitats had to be safeguarded and managed by interested land operators.

Taylor emphasized that wildlife and its living places had a value. He also said that as a practical matter, wildlife had to co-exist compatibly with other farm and ranching programs through which land operators gained their major livelihood.

Taylor's persuasive actions gained support from agribusiness groups as well as from the Texas Academy of Sciences, the Texas Wildlife Federation, the Texas A&M Cooperative Extension Service, and the State Game, Fish and Oyster Commission.

With the Cooperative Extension Service he worked closely with wildlife specialist R.E. Callender, then successfully involved in persuading landowners to designate their properties as cooperative wildlife management areas. Signs bearing this information appeared on fence lines of properties in all sectors of the state.

In June 1938, the Department of Fish and Game awarded their first M.S. diplomas to Phil D. Goodrum and Daniel W. Lay. My own M.S. diploma, received at the same commencement, was for a major in Entomology and a minor in Fish and Game. My thesis concerned the ecology of insect life in the Big Bend region. Data for this was obtained in the summer of 1937 when I was employed as a student wildlife technician by the U.S. National Park Service and stationed in the CCC Camp in the then proposed Big Bend National Park.

The undergraduate program also produced such beginning wildlife biologists as Henry Hahn, John Carlisle, Randolph Peterson, Ben Ludemann, Bill Ramsey, and Willie Parker. Some of these became employees of the State Game, Fish and Oyster Commission and/or eventually entered the armed forces.

The late Randolph "Pete" Peterson did especially well. He was a WWII bomber pilot, married Elizabeth Taylor (the boss's daughter), became Curator of Mammals at the Toronto's Royal Ontario Museum, and achieved fame for his classic volume on the moose and as an authority on bats.

The program of the Texas Cooperative Wildlife Research Unit was an outstanding success under the campus direction of Taylor and the field leadership of Lehmann. It was Lehmann, however, who can be credited as the real instigator of modern wildlife management programs in Texas.

Using bobwhite quail as his study species, he ably demonstrated how populations of these birds would respond favorably to planted food patches and to additions of appropriately-placed winter cover, whether it consisted of planted wild plum thickets, prickly pear thickets, stacked brush piles, or felled huisache trees kept alive in prone positions by being only half-cut. Lehmann took pride in demonstrating such habitat manipulations to groups of hunters. In fact, his talent at promoting wildlife programs to the public rivalled his abilities as a research scientist.

Some time during WWII the Cooperative Wildlife Research Unit and Taylor were transferred to Oklahoma State University. Dr. Taylor, bless him, had been the right person, in the right place, at the right time. Thanks to him, the Texas A&M program was established.

FEDERAL AID TO WILDLIFE

In 1937, the Depression was still on, dust storms had not abated, and the start of WWII was a couple of years away. The Congress, wisely, enacted a law co-authored by Senator Key Pitman and Congressman Willis Robertson to earmark federal taxes collected on the sale of arms and ammunition to a special fund. Monies from the fund, called the P-R Federal Aid to Wildlife Fund, could be distributed to qualifying states on a 75/25 basis for use in wildlife research and game management, but not specifically for law enforcement.

“Wildlifers” – mostly field-oriented graduates in botany, forestry, and zoology – could quit working as attendants in service stations or as fry-cooks and apply for state “P-R” jobs in their professional field.

Executive Secretary William J. Tucker of the State Game, Fish and Oyster Commission responded favorably in 1938 to hiring academically-trained wildlife biologists under this cooperative program. However, perhaps the true value of these workers was not brought home to Tucker effectively until one late summer day in 1939 when he was enticed out of his Austin office in the Walton State Building and down to a curb-parked truck. In it were cages containing live beaver.

These beaver had been trapped in the Llano River drainage by Texas A&M graduate student Arthur H. Cook. These fur-bearers were to be freed along a stream in eastern Texas where they had once been abundant but had been totally extirpated. After Cook explained his mission to Tucker, the latter decided that “greenhorn college kids” had some use in the wildlife business.

I must admit that earlier Taylor and Davis of Texas A&M and Tucker’s staff member Goodrum, and especially Lehmann, had convinced him that wildlife restoration and habitat management were important parts of a state game program.

As soon as funds were allocated in 1938, Phil Goodrum, the tree squirrel specialist, was hired as director of Wildlife Restoration. This was indeed an excellent choice. Goodrum was not only a well-grounded field biologist but had that easy-going East Texas diplomatic charm, a sense of humor, and some practical horse sense. He was equally effective at dealing with politicians, wary and suspicious sportsmen, the business community, and all those “unreconstructed” country folk.

During his tenure, the state was divided into several regions – more or less along ecological lines. Offices staffed with wildlife biologists were established in each region. Lay became Regional Biologist for southeastern Texas with headquarters at Beaumont. In June 1939, I joined him there as an associate.

Meanwhile, in mid-1938, Siegler left his position with the Texas Cooperative Wildlife Research Unit to become regional biologist in northeastern Texas, with headquarters at Mt. Pleasant. Later the entire eastern sector of Texas would be combined with headquarters at Lufkin, where both Lay and Siegler were stationed. Ultimately Siegler departed for New Hampshire to become chief of that state's wildlife program.

Most other regional positions were, by necessity, filled by newly-arrived "Yankees" – graduates from such institutions as Iowa State, Michigan State, Michigan, and Wisconsin. This was because there were few qualified applicants from Texas. Some of these well-trained men were Pete Henika from Wisconsin, Lee Fisher, Charles Friley, and Arnold J. Nicholson from Michigan, and William Green and Earl Saunders from Iowa.

By 1944, most had departed for either the military or for wildlife positions at home. Their places were filled by Texas A&M graduates and then, as time went on, by those from other Texas institutions.

To get the Pitman-Robertson Federal Aid to Wildlife Program underway at the grass-roots level, the Commission arranged for the governor to appoint leading citizens to County Wildlife Planning Boards. Getting acquainted with and educating Board members occupied a lot of time for these newly-appointed regional biologists.

These boards proved their worth on many occasions. They helped acquaint the regional biologists with an array of local "cooperative" sportsmen, political figures, landowners, old-timers whose recollections provided data on early-day wildlife, dog trainers, sporting goods dealers, and bird watchers. Board members helped develop goodwill for the Commission and its staff.

The boards also supplied data on local wildlife populations. Cooperating citizens contributed notable assistance to the Commission in making much needed inventories of important wildlife species in each sector of the state. These data helped form the basis for the important reference book entitled "Principal Game Birds and Mammals of Texas" which appeared in 1945. Goodrum and Lay did most of the final preparation but unfortunately did not receive authorship.

Wildlife studies were carried out on lands of cooperating farmers and ranchers because there were no state-owned areas for that purpose. As a result of these cooperative programs, employees of the Commission in those days were much more closely attuned to the public pulse than at any other time. Today, many wildlife biologists conduct many of their intensive studies in state-owned wildlife areas. Many seem to take on the role of specialists rather than being assigned as generalists, as were most of us in my day.

Personnel problems occasionally developed within the Commission as a result of the P-R Federal Aid to Wildlife program. The usually non-collegiate but highly practical and worldly-wise state game wardens were apprehensive of the newly-hired, green-horn, college-trained biologists.

The latter had the “book learning” and were aware of the ecological principles involved in making field biological studies but lacked the applied part. They also had their share of public relation problems – and still do – in dealing with farmers, ranchers, sportsmen, journalists, anti-hunters, politicians, and, of course, with the state game wardens themselves, who often viewed them as youngsters and strangers.

One can imagine how ineffective those regional biologists, with “Yankee” backgrounds, might have been when trying to carry on a conversation with a closed-mouth, suspicious, and opinionated nester down at the forks of some East Texas creek. Naturally, such residents looked to the state game wardens for advice and guidance instead of to “alien” biologists. These comments certainly are not meant to be derogatory, but successful public relations about wildlife matters in rural sectors was tough no matter what!

The state game wardens often decided they were underpaid compared to the college boys and on occasion could make life in the field difficult for the latter. The wardens sometimes even spoke against the new and often untested Commission programs to local bigwigs. Perhaps hoping to counteract this, Tucker commissioned all of his wildlife biologists as state game wardens.

As a result, wildlife biologists often met state game wardens socially as well as officially when they worked together on “joint” projects. In my case, for example, I took the time on several occasions to ride shotgun or sit all night at the edge of grain fields to assist wardens in apprehending “headlighters” who hunted white-tailed deer illegally along roads or in grain fields.

From a personal standpoint, I suppose my greatest contribution to the Texas wildlife program during my four-year tenure as a P-R wildlife biologist was in 1939 when I was assigned, with colleague Paul Jones, to evaluate the Mexican bobwhite quail liberation program.

It was apparently legal in Mexico for dealers to obtain live-trapped quail, package them in boxes, and export them to Texas for release under the auspices of the Game, Fish and Oyster Commission. A Texan could, for example, buy twenty-four such birds for \$12.00 with the Commission paying another \$12.00.

The box of birds would then be shipped directly to the buyer for release. It was a lot of “fun” for sportsmen to buy and release the birds with fanfare and the like. Office-seekers during election years found the practice of buying boxes of quail as “gifts” for important voters had political value. It was actually a most unscientific program, but it was also valuable as a public relations gimmick for the Commission and was perhaps “unscientifically” worth the expenditure of the money.

Jones and I travelled to most sectors of Texas and visited numerous liberation sites for Mexican birds obtained the previous autumn. In almost every case, there already was breeding stock of native bobwhites present. In

short, we found absolutely no scientific justification for the program. Very honestly but a bit warily, we recommended that the Commission abandon the program.

Not only did Tucker accept our report with thanks but immediately issued an order to abolish the practice. For a year or two pronounced grumbling at both local and state levels occurred, but Tucker held his ground. It was a win for science. I enjoyed that challenge.

In looking back, I suppose that my most enjoyable projects had to do with studies of bullfrogs, raccoons, and armadillos. I became concerned about the plight of East Texas bullfrogs. Market hunters and others would catch them in early and mid-spring – usually prior to the time when the eggs were laid and fertilized. First I needed data on the commercialization of this wildlife resource.

The Austin office helped by mailing my questionnaire about utilization to an array of selected Texas restaurants and wholesale and retail fish and seafood dealers. The response showed that Texas bullfrogs were used commercially and were in demand. My bulletin, published in 1942, paved the way for a law prohibiting the taking of bullfrogs before June of each year.

Late in the 1930s and early in the 1940s, raccoon field studies were popular nationwide. To get into the act, Coleman Newman and I obtained monthly samples of raccoon fecal droppings at several of this mammal's customary "latrines" on felled logs, in the forks of trees, and elsewhere along the Piney Creek flood plain near Camden in Polk County.

The remains of the various animal and plant foods in these large accumulations of feces were identified by Ford Wilke of the Food Habits Laboratory of the U.S. Fish and Wildlife Service. Wilke, Newman, and I published a paper in the *Journal of Wildlife Management* in 1945 summarizing findings about the seasonal diets of raccoons in East Texas river bottoms. In short, raccoons in our study area subsisted mostly on acorns in autumn and winter and mostly on crayfish in spring and summer.

Sportsmen seem to want to have some kind of critter to hate. The lowly nine-banded armadillo was a prime candidate for this dubious honor in eastern Texas in the 1930s. Hunters were often convinced, but could not prove, that armadillos, newcomers at that time in many sectors, ate the eggs and destroyed the nests of the hunters' favorite game bird, the bobwhite quail.

There already had been some inconclusive field work on the subject by E.R. Kalmbach in 1943. Even Lehmann set out "dummy" nests in armadillo country – without obtaining any evidence of nest molestation. I decided to collect a sampling of armadillos in the Lufkin area in May-June – the time of the quail nesting season.

Armadillo hunting was not as easy as supposed; nevertheless, I did collect a fair number and examined the contents of their digestive tracts for evidence of quail eggs. I found none but did publish a paper on armadillo food

habits in 1943 in *The American Midland Naturalist*. Perhaps the best part of this project was that I sent several frozen armadillo carcasses to parasitologist Asa Chandler of Rice Institute in Houston. Dr. Chandler discovered and described new species of parasitic worms living in armadillo viscera.

Another highlight of this adventuresome period was the opportunity to hobnob with the scientific leadership of the times. More than a bit starstruck, I made a point of getting to know, obtain scientific reprints from, or at least shake the hands of such luminaries as naturalist and author Ernest Thompson Seton, bobwhite quail specialist Herbert Stoddard, government ornithologist Harry C. Oberholser, Mexican mammal specialist Maj. E.A. Goldman, Harvard ornithologist James Peters, Wisconsin wildlife ecologist Aldo Leopold, Chicago museum mammalogist Wilfred H. Osgood, New York museum mammalogist Harold C. Anthony, wildlife editor W.T. McAtee, ornithologist Ira Gabrielson, mammalogist Vernon Bailey, and others. Perhaps the most cherished letter in my files, now in the archives at Michigan State University, is a brief note from Aldo Leopold, the father of American wildlife management, asking me for a reprint of one of my publications.

I want to mention just one more point about "Mr. Wil" Tucker. He was one of the few bosses whom I have had who gave me a straight "yes" or "no" answer. I doubt if Tucker ever was acquainted with the word "maybe." Unfortunately for me, most of my subsequent bosses knew the word and used it much too often!

I have been a member and have attended meetings of such organizations as The Wildlife Society (joined 1937), The American Society of Mammalogists (joined 1937), The Wilson Ornithological Society (joined 1938), The American Ornithologists' Union (joined 1940), The Ecological Society of America (joined 1946), and have attended and presented papers at numerous state, regional, and national/international meetings having to do with wildlife. I have been acquainted with most of the pioneer leaders in our field. During my career I have witnessed the maturation of the fledgling science of wildlife biology and the practical art of game management.

Certainly, the task ahead is not only to preserve and manage wildlife and its habitat but, equally important, to manage the people who are ever encroaching on wildlife and its environments. In my opinion, these politico-environmental approaches have yet to develop a solid philosophic base. Aldo Leopold and perhaps Rachel Carson made a start. So did the late C.H.D. Clark, that inimitable Canadian wildlife biologist. No such philosophic individuals are on the scene today. We need a few!