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Saving the Attwater's Prairie Chicken

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. . . lessons in managing, restoring and protecting an endangered species with the help of private landowners

It's just before dawn on the Texas Gulf Coast and the spring landscape is beginning to awaken. Repetitive, low "*whur-ru-rrr*" cooings made by a covey of Attwater's prairie chickens (APC) echo throughout the awakening landscape.

A few moments earlier, their courtship "booming" grounds seemed to echo from afar, but now the waxing curtain of light reveals the faint golden silhouettes of one female after the next meandering into the nearby open short-grass prairie to flirt with her anticipatory suitors. In response, all the males begin "booming," or inflating, their elastic-yellow vocal sacs. Pointing their decorative neck tuft feathers forward and broadly spreading their fan-like tail, a short run forward is often followed by vigorous feet stamping.

The annual spring mating rites of the Attwater's prairie chicken is in full force.

Witnessing this animated ritual is private landowner John Elick. His 1,800 acres of Gulf Coast prairie near Sealy, Texas hosts a few of the 50 last remaining APCs, a grouse-family member that is a subspecies of the more common and widespread greater prairie chicken.

Elick, aware that his land's small population of APCs represent a mere fraction of the one million that once lived throughout six million acres of coastal Texas and Louisiana prior to settlement, has joined forces with land managers concerned over the fate of the endangered APC.

Landowners are restoring native prairie to help APC populations

Land managers have enlisted Elick and more than a dozen other private landowners statewide to maintain and restore native prairie as part of the Coastal Prairie Conservation Initiative (CPCI). Designed by the United States Department of Agriculture and the U.S. Fish and Wildlife Service's (FWS) Texas Gulf Coast Ecosystem Team in 1995, the program aims to improve habitat conditions on private land in order to preserve remaining populations of APCs and other threatened Texas coastal prairie flora and fauna.

"We have to realize that the Attwater's prairie chickens' prime habitat is (largely) gone and it isn't coming back," said Dr. Markus Peterson, an assistant professor in the Department of Wildlife and Fisheries at Texas A & M University, who has been studying the bird in the field since 1992. Alluding to the APC's demise as a result of massive development, population changes and fragmentation within 97% of its native grassland habitat, he believes the urgency of the situation demands managers understand that "what's left of the coastal prairie provides us the opportunity to work with landowners."

In this regard, recruitment of additional private landowners to the CPCI is the cornerstone of a larger recovery plan land managers and wildlife experts have initiated to save the APC. Over the past 50 years, conservation tactics have included establishing wildlife refuges; supplementing wild populations with captive breeding stock; limiting the spread of disease; controlling predators; and using radio telemetry monitoring equipment to monitor released birds in the wild.

To date, managers can claim only partial success with these conservation measures, Dr. Peterson says. While purchase of APC refugia began in the mid-1960s (see sidebar article), much of this acreage is marginal coastal prairie habitat. These areas are also separated by urbanization, thereby preventing movement between parcels. In addition, annual introduction of captively-raised APC's is often a problem due to disease concerns and survival rates of individuals released into the wild have been low in recent years.

Overcoming challenges to attract landowners to join the CPCI

Recognizing that acquisition of additional native coastal prairie habitat is essential to the APCs long-term recovery, managers recruit landowners who voluntarily join the CPCI program to receive cost-share and other "safe harbor" incentives. As participants in the program, landowners agree to allow managers to initiate a 10-year prairie habitat conservation management plan that includes practices such as prescribed burning, brush control, and grazing management. These procedures encourage restoration, conservation or enhancement of landowners' habitat and, therefore, create more optimal conditions for successful APC survival.

The "safe harbor" benefits provide landowners protection from additional future liabilities under the Endangered Species Act in the event that habitat enhancement results in an increase in prairie chickens. Landowners are also excluded from the responsibility of maintaining populations of APCs on their land beyond the original baseline number for the species. That means if no birds are present when an agreement is made, then the landowner is not liable for any birds present at the end of an agreement period.

Guarantee of these safe harbor assurances are issued to landowners as a permit (called a "certificate of inclusion) by the Fish and Wildlife Service that authorizes the future incidental removal, alteration, or elimination of any habitat improvements that its staff carries out under the plan. A landowner is also free to sell his land and the buyer is provided the same "safe harbor" protection as long as the new owner continues to abide by the original agreement.

Despite these protective measures, managers find landowners are sometimes initially hesitant to enroll in the CPCI program. "Convincing private landowners they receive benefits by helping preserve and restore APC habitat is a major challenge, but it is only the first part of the process," says Terry Rossignol, manager for the US Fish and Wildlife Service's APCNWR where 20 APCs reside. "The other, often more difficult first task is to gain the landowner's confidence and trust."

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This crucial first step is sometimes easier wished for than accomplished. That's because there's a long tradition of mistrust between Texas private landowners and government agencies, says Tim Anderson, a wildlife biologist at the refuge and coordinator of the CPCI.

The ongoing tension traces its roots to the distant past, as far back as to the oil boom era at the turn of the last century. Then, and ever since, successive "immigrant entrepreneurs"—ranchers, cotton growers, and lumbermen—in Texas have struggled with periodic governmental interference that may clash with their private property rights. On these occasions, the collective voice of the private landowners has remained stern and resolute. After all, they are quick to remind, 97% of all the state's land is privately owned. Landowners are also not afraid to claim their rights as taxpayers include the constitutional freedom to control their land without undue governmental intervention.

Moreover, memories loom large for Texas landowners. One of the questions they often ask Anderson and other managers refers to "Whether the government will have any right to take over their land?" in the event the prairie chickens need more protection. Perhaps this response reflects how some landowners still have not forgot how the federal government wrestled control of Matagorda Island on the Gulf Coast to establish a military presence there during World War II, according to Nova Silvy in the Department of Wildlife and Fisheries Sciences at Texas A & M University. Although the landowners were paid, they sold their land under protest. Then, after the war's completion, the original landowners were barred from returning because the island became part of an expanding national wildlife refuge system.

A result of the prevailing animosity, admits Anderson, is that "many private landowners don't trust the intervention of the FWS because they perceive some service employees place a higher value on conserving wildlife than they do on private property rights."

In response, Anderson and other managers have learned the value of acting promptly when referred to a landowner interested in signing up for the CPCI. He emphasizes the importance of "knowing by name who is the neighbor of every landowner you meet, because successful recruitment of new ranchers into the program often depends on word of mouth from already-Conservation Biology in Practice 4 Edelstein/Not For Duplication 4

joined landowners." Ultimately, Anderson's recruitment experiences have taught him that "once a landowner sees another one in the program, it seems to help. It makes the recruitment process easier for us."

Burning as a management tool to improve landowners' habitat

The value of burning in APC management has been known for many years by managers. For this reason, it makes sense that prescribed burning is a typical feature of a landowner's 10-year prairie habitat conservation management plan within the CPCI.

During the establishment of a landowner's prairie, an annual prescribed burning is recommended, if there is enough fuel to carry a fire, to stimulate the prairie plants and control weeds. After this period, prescribed burning can be conducted every two or three years.

Managers, for example, have found the 16-inch-long ground nesting APCs thrive best when presented with post-burn habitat conditions where midgrass vegetation such as little bluestem (*Schizachyrium scoparium*), big bluestem (*Andropogon gerardii*), Indiangrass (*Sorghastrum nutans*), tall dropseed (*Sporobolus asper*), sumpweed (*Iva frutescens*), and broomweed (*Xanthocephalum texanum*) grows together in clumps. It is particularly important for the birds' survival that grass cover between these clumps be open enough to allow for movement by adults and young chicks.

Growing these kinds of native prairie bunchgrasses contrasts with Texas ranchers' traditional beliefs that introduced plantings improve foraging conditions for their livestock, according to Dr. Brent Ortego, a wildlife diversity biologist with the Texas Parks and Wildlife Department. Instead, contrary to the ranchers' notions, studies have shown livestock can be managed to co-exist well with native vegetation that also serves as a vital component of more optimal APC habitat.

Other hurdles for Ortego (and his department's other land managers) to overcome relate to his ability to expand landowners understanding of the ecology of their land. Unless informed otherwise, landowners typically attempt to improve their livestock pasture grazing areas by spraying herbicides and plowing without regard for the composition of plants that will follow. A homogenous monoculture of non-native grasses result, most commonly represented by coastal Bermuda grass, while ranchers also typically plant introduced grasses such as buffelgrass, kleingrass and a bermuda grass hybrid. Ortego has responded by teaching landowners in the CPCI program that it's often best to plant native grasses because "the presence of non-native European and Asian grasses provide APCs little benefit."

A few years later, landowners notice that native grasses usually adapt well to the changing climatic conditions characteristic of the Gulf Coast prairie area. Ortego adds that landowners are impressed with the cost savings involved with growing natives on smaller plots where livestock forage.

Brush control as a management tool to improve landowners' habitat

Implementing effective brush management on plots where APCs live usually involves employing a mix of methods. If not already aware, landowners in the CPCI program considering a brush control program are informed of an integrated systems approach that considers ecological and economic issues together. Issues relating to grazing, wildlife and economic components are analyzed before initiation of brush management begins.

During this process, managers remind landowners dense brush cover is a detriment to sustained positive trends in range condition because woody plants compete with rangeland herbaceous species for sunlight, water and nutrients. In addition, the use of prescribed fire to limit brush expansion or to reduce woody plant cover becomes more difficult as established woody plants persist and prevent grass and forb (wildflower) introduction even under light or no grazing.

Ortego's challenge includes cultivating patience in ranchers who must accept the efficacy and pay-off horizon for integrated brush control methods as ten years or more. Landowners, he adds, not fully aware of wildlife ecology and range management dynamics need to be reminded that "brush control creates more (optimum) habitat for the APCs and, concurrently, that this practice also provides grass for their livestock." In addition, Ortego tells landowners about research conducted by wildlife experts at the University of Texas A & M and the Texas Parks and Wildlife Department that shows decreasing the amount of brush on rangeland reduces the number of perches and coverts used by avian and mammalian predators, and thereby increases the size of the foraging area occupied by livestock and prairie chickens.

Employing a grazing system to improve landowner's habitat

In the Gulf Coast coastal prairie, two basic principles of good grazing management are proper stocking rates (intensity of use by livestock) and adequate rest periods (controlled frequency of use) so that rangeland does not get overgrazed. For this reason, Ortego encourages landowners in the CPCI program to convert their grazing regime from a continuous system to a rotational system. In so doing, he says, the landowner "improves the productivity of the native grasslands (that he owns), which, in turn, improves conditions for the co-existence of both livestock and prairie chickens."

Anderson adds that "landowners react favorably upon learning that a well-planned rotational grazing system gives them more control over the timing, distribution, and intensity of grazing. If properly executed, the system will result in improved forage quality and a more ideal ground cover structure preferred by prairie chickens and other ground-nesting birds." In the absence of drought, this means landowners typically prefer to alternate livestock among parcels that are allowed to rest and regenerate for 60-120 days during non-drought years.

Cost savings for landowners who join the CPCI

. Most of the landowners that participate receive cost-share for the practices that they install. That is to say that if a participating ranch were to install a practice like a cross fence across a pasture that would enable the rancher to better control his grazing animals or to enable him to install a rotational grazing system then he is compensated for usually half or nearly half of

the cost of the fence. Most of the practices needed are cost-shared at 50 percent of the cost not to exceed an amount established by local committees for other USDA cost-share programs.

Besides improving the integrity of their habitat, an added benefit for participating landowners relates to the modest costs they incur in most cases. Landowners typically split the cost of management procedures that involve burning, brush control and grazing. So, for example, a rancher would pay half the cost of installing a fence across a pasture that would better control grazing animals.

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Noting that fire exclusion is not in the long-range interest of prairie chickens nor the survival of a healthy coastal prairie ecosystem, Anderson says "Prescribed burning is the cheapest way to control brush, and (concurrently) stimulates the growth of forbs eaten by chickens and the insects eaten by chickens, and gives more palatable grasses like little bluestem and indiangrass a competitive advantage over less palatable grasses like non-natives such as smutgrass and bahia."

(Note: Additional information about cost savings for landowners will be added here.)

Recruiting additional landowners into the CPCI program

A recent impressive effort to secure additional APC habitat was recently evident in the habitat preservation campaign engineered by one local Texas independent soil conservation district called the Sam Houston Resource Conservation and Development Area (SHRCDA). The SHRCDA initiated a successful landowner recruitment campaign based on its mission to help communities develop and conserve their local environment. Toward this aim, the non-profit organization has signed seven new landowners to the CPCI program. In so doing, more than 15,000 additional acres is being restored to attract APC populations.

That acreage, combined with other private land holdings operating within the guidelines of the Safe Harbor Agreement, means 60,000 acres of coastal prairie habitat is currently being maintained and restored in the CPCI program by wildlife managers, according to Michael Bean, chairman of the wildlife program operated by the Environmental Defense (formerly the Environmental Defense Fund), a Washington, DC-based environmental group that has helped initiate several habitat preservation programs with private landowners nationwide.

What does the future hold for attracting the participation of even more landowners? In meeting the CPCI's habitat conservation objectives for the APC, Anderson is careful to point out that "the number of owners who are recruited is less important than the quantity and quality of the habitat acreage brought to the initiative." His enthusiasm for his mission becomes obvious when he says: "[We've probably got all we can handle for 2001](#)" in terms of the number of new participants brought into the plan's fold.

Equally important, Anderson revealed, is that restored habitat from five large ranches near existing chicken populations is likely to be secured in the next couple of years. If and when that happens, the Fish and Wildlife Service would like to establish a third APC population beyond the extant populations living at the APCNWR and at the Galveston Bay Prairie Reserve in Galveston County north of Corpus Christi. (Candidate areas in Texas for future APC reintroductions include Brazoria County on the Brazoria National Wildlife Refuge, Aransas County on the Aransas National Wildlife Refuge and Matagorda County on the Nature Conservancy's Mad Island Preserve.)

Other approaches that may benefit the APC in the long-term include providing local communities with skills and knowledge that promote dialogue and the building of their own visions for the future, including the landscapes they share with native Texas wildlife. Toward this end, an annual "Attwater's Prairie Chicken Festival" invites the public in early April to the APCNWR and Eagle Lake to celebrate what some local residents call "their adopted mascot." Tours of the Refuge provide 1,500 visitors opportunities to view nearly 100 other bird species, in addition to learning more about the endangered status of the APC.

Noting the increased appreciation for the APC and the momentum that is beginning to gain force on its behalf with the help of private landowners, the FWS's Southwest regional director Nancy Kaufman recently said: "It is extremely encouraging to see partnerships like these sprouting up from what once was a soil of distrust and animosity. I'm optimistic that these kinds of (landowner) partnerships will have a lot to do with conserving our natural heritage."