GROUSE PARTNERSHIP NEWS

20th Anniversary Edition – Fall 2019

GROUSE PARTNERSHIP NEWS

A publication of the North American Grouse Partnership

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Message from Jon Haufler, President NAGP

Dear Grouse Enthusiast,

You are receiving the Grouse Partnership News because you have had some engagement with our organization during the past seven years. We appreciate your involvement—more importantly, we want to have your continued support as we look to the future. NAGP is celebrating its 20th year, and our mission and activities have never been more important and needed. Populations of several species of grouse are at their lowest recorded levels with other populations on downward trajectories. As sentinels of landscape integrity, these species provide a forewarning of conservation concerns. The role of NAGP as an advocate for these species and the habitat that supports them continues to be a critical need.

NAGP has devoted considerable effort over the past couple years to conservation of lesser prairie-chickens (see article on page 22). This species has been a political football among the involved state agencies, the Western Association of Fish and Wildlife Agencies, U.S. Fish and Wildlife Service, and industry lobbyists. NAGP has been a key voice for the needs of the species without the entanglements of conflicts of interest or political pressures.

As part of our recent strategic direction, NAGP has concentrated its efforts on prairie grouse (lesser and greater prairie-chickens, sharp-tailed grouse, and sage-grouse) and the iconic western landscapes they call home. We are still concerned about all 12 species of North American grouse, but we can be most effective if we target our efforts where we have the best opportunity for influencing positive outcomes. In addition to our work on the lesser prairie-chicken, NAGP has helped initiate, coordinate, and facilitate the work of interstate working groups for sharp-tailed grouse and greater prairie-chickens (see article on page 36). We have also provided policy and management recommendations for sage grouse, as this species has garnered considerable attention since its consideration for listing under the Endangered Species Act. And, as reported by Terry Riley, our Policy Director, we have provided important input on the recent Farm Bill (see article on page 8).

Communicating information about grouse management and policy needs is an important part of NAGP. We recently recharged our council of scientists and our newly formed policy committee to help provide the best current information about grouse and threats to their futures to share with our members and the public. This publication is one example of our work on information outreach along with our periodic newsletters, website information, and email blasts.

We are always looking for new members and partners. At this critical time, we truly need your support. We want to hear from you about your ideas or concerns about grouse management and have you as a member. If you care about grouse and their futures (and who doesn't?), and aren't already a current member, we encourage you to become one. Raising funds to conduct our work on behalf of grouse is a continuing challenge and effort. Maintaining an active membership is one important source of support for the organization. Consider supporting us at the highest membership level you can afford through your tax-deductible contribution.

North American grouse are majestic species that play important ecological roles in the landscapes they inhabit. NAGP has been proud to be the organization that has focused for the past 20 years on all 12 of our grouse species. We look forward to continuing our efforts for the next 20 years and beyond.

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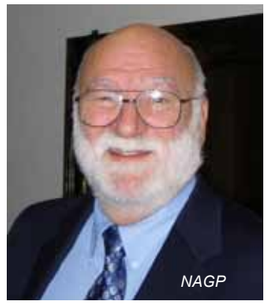
Studio picture of a male lesser prairie-chicken generously donated by Joel Sartore/National Geographic Photo Ark.

In Memoriam
Dr. John E. Toepfer
1948-2018

Adapted from Greg Septon's tribute


NAGP


NAGP

On October 9, 2018, grouse champion and NAGP Board of Directors member John E. Toepfer passed away after complications from hip surgery.

A native of Wisconsin, John E. Toepfer earned his B.S. and M.S. in 1972 and 1976 at the University of Wisconsin-Stevens Point where he developed a life-long interest in greater prairie-chickens and a special friendship with Drs. Frederick and Frances Hamerstrom. John then went on to earn a Ph.D. in biological sciences at Montana State University with his thesis on "The Ecology of the Greater Prairie-Chicken as Related to Reintroductions."

John worked as a professor at Little Hoop Community College at Fort Totten Indian Reservation in North Dakota, where he developed the first tribal college Native American wildlife program and was instrumental in the development of the Inter-Tribal Bison Cooperative.

In 1992, John implemented a translocation of prairie chickens into the Bry Wildlife Management Area and surrounding area of North Dakota. This project was the beginning of 25 consecutive years of research on prairie chickens in Minnesota which included the successful genetic rescue of prairie chickens in Illinois where a small, isolated, remnant population is now being maintained. From 1996 to 2015, he served as research consultant with the Society of Tympanuchus Cupido Pinnatus, Ltd. (STCP) in conducting field research on prairie chickens in Wisconsin and across their range. To address STCP's concerns regarding declining prairie chicken numbers and their future in Wisconsin, he developed and carried out their flagship field research project: "Prairie Chickens & Grasslands: 2000 and Beyond."

Dr. Toepfer proudly served on the Attwater's Prairie-Chicken Recovery Team and on the board of the North American Grouse Partnership. In 2003, he received The Hamerstrom Award from the Prairie Grouse Technical Council for outstanding contributions in the field of prairie grouse biology. In 2009, he was the recipient of the Minnesota Award by the Minnesota Chapter of the Wildlife Society, the highest award from this chapter.

Dr. Toepfer also served as the principal investigator on a prairie chicken research project in the Sandhills of Nebraska called, "The Sandhills of Nebraska: 2012-2015 – A Focus on the Future," which set out to study the year-round ecology of the greater prairie-chicken in the core of the range where large, healthy populations are associated with large expanses of native grassland habitat.

In 2015, STCP merged with the George Miksch Sutton Avian Research Center (Sutton Center) to benefit prairie grouse research and conservation efforts well into the future with $1 million of the proceeds being generously gifted to the Sutton Center. Under the agreement, Dr. Toepfer joined the Sutton Center as the first STCP/Hamerstrom Prairie Grouse Research Chair. There he continued his life's work of conducting and publishing scientific research on prairie grouse as well as assisting with captive production and subsequent release into the wild of greater prairie-chickens at the Sutton Center's new Attwater's prairie-chicken captive breeding facility.

For nearly 50 years, John studied and actively worked to conserve and fully understand grouse across the American prairie and published more than 60 scientific and popular press articles about this research. His lifelong commitment to understanding prairie grouse and greater prairie-chickens in particular was fueled by his incredible passion for the birds and his steadfast work ethic.

To honor John's life and help ensure his legacy, The G. M. Sutton Avian Research Center has set up a fund to create the John E. Toepfer Prairie Grouse Research Scholarship. This scholarship fund will complement the STCP/Hamerstrom Prairie Grouse Chair position at the Sutton Center and provide opportunities for continued work on the prairie grouse John committed his life to saving.

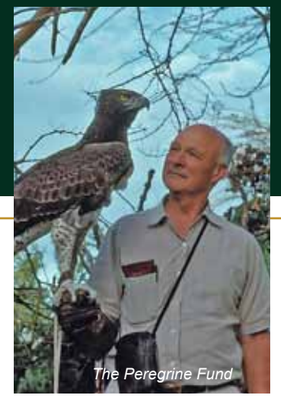
For additional information on John's research visit: prairiegrouse.org

For additional information on how to contribute to the John E. Toepfer Prairie Grouse Research Scholarship contact Lena Larsson, Executive Director at the G. M. Sutton Avian Research Center: llarsson@suttoncenter.org

Remembering Dr. Tom Cade
1928-2019

Doug Pineo


The Peregrine Fund


The Peregrine Fund

Dr. Tom Cade, a founding member of the North American Grouse Partnership and major figure in modern conservation biology, died on February 6, 2019, in Boise, Idaho. In 91 years, he had filled his life with successful conservation, enterprise, leadership, curiosity, mentoring, inspiration, rich family life, and friendship.

Born in San Angelo, Texas in 1928, Cade served in the United States Army in 1946-1947. He completed his bachelor's degree at the University of Alaska in 1951, and his master's and doctoral degrees in biology at UCLA. Tom married Renetta Bennewater in 1952, ultimately raising five children. Dr. Cade joined the faculty of Syracuse University in New York where he began his experiments in captive propagation of peregrine falcons and American kestrels. Offered a position at Cornell University, he took the job on condition the university would build a raptor breeding facility. Cade became director of the Cornell Laboratory of Ornithology in 1967, and the "Hawk Barn" was completed in 1970.

From a statement released by The Peregrine Fund at the time of Dr. Cade's passing: "Peregrine falcon populations had declined drastically in the 1950s and '60s due to the widespread use of DDT—a pesticide that interfered with calcium metabolism and caused birds to lay very thin-shelled eggs that would crack during incubation. By 1970, peregrine falcons were extinct in the eastern United States and fewer than 40 pairs were estimated to remain in the West. Dr. Cade, an ornithologist and lifelong falconer, was acutely aware of this decline and worked with others across the nation to ban the use of DDT and develop a recovery plan for our nation's fastest animal."

With a handful of fellow citizen conservationists and falconers, Dr. Cade founded The Peregrine Fund to coordinate funding donated by the public and the efforts of a wide array of individuals, institutions, and natural resource agencies to support peregrine falcon recovery.

Over three decades, more than 6,000 peregrines were propagated in captivity and released in both built and natural environments by The Peregrine Fund and partnering entities and individuals. This effort was unique and innovative, and succeeded despite early detractors who lacked the vision and tenacity of Dr. Cade and his collaborators. Peregrine falcon recovery was among the first sustained efforts to bring a species back from near extinction. It is a founding success of the modern interdisciplinary enterprises of conservation biology. Across the continent in the United States and Canada, collaborators and partners continuously discovered and implemented more effective and efficient ways to propagate and successfully release young falcons at natural and built environments. This is a prime example of adaptive management in conservation science.

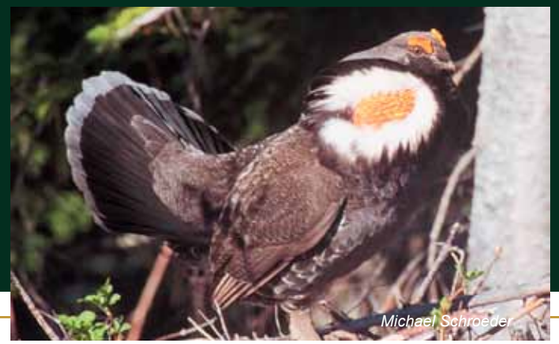
The recovery effort led to the first recorded wild breeding of peregrine falcons in the eastern U.S. after extirpation, at an artificial release site constructed at Brigantine National Wildlife Refuge in New Jersey. The parents were peregrines propagated at the Cornell facility. Wild peregrine populations increased 5 to 10% annually over the succeeding 19 years. At a large August 1999 ceremony at the World Center for Birds of Prey, Interior Secretary Bruce Babbitt announced the removal of the peregrine falcon from listing under the federal Endangered Species Act.

Near the end of that weekend, a cadre of peregrine recovery veterans gathered in the basement of the Cade's home near the World Center for Birds of Prey. Most were active falconers who hunted the grouse species of North America's grasslands and sage steppes. Their passion for these birds and their landscapes equaled their shared commitment to falcons and their wild presence in North American skies. Dr. Cade and his fellow veterans of peregrine recovery founded the North American Grouse Partnership on that afternoon in Boise. Several of those founders are active participants today.

We know the many challenges facing our grassland and sage steppe ecosystems today are even more complex and daunting than those faced at the beginning of the peregrine recovery effort. The prairie and sage grouse species require large intact habitats at the landscape scale. Yet the teamwork and tenacity that Tom Cade and his many partners embodied will continue to contribute to significant, positive outcomes in the futures of these species and their ecosystems.

Policy Director's Message

Dr. Terry Z. Riley



Michael Schroeder

The 2018 Farm Bill was signed into law by President Trump in late 2018. Congress made many changes to the previous farm bill, but most of those changes have not been completely worked out yet into rules and regulations. The Natural Resources Conservation Service and the Farm Service Agency have spent most of 2019 drafting those new rules and regulations and most should be completed in 2019. Significant changes that could have benefits to grouse and grouse habitats are increases in the acreage cap on the Conservation Reserve Program (CRP) and funding for the Regional Conservation Partnership Program (RCPP). The regulations on these programs should be completed by the end of 2019.

NAGP collaborated with a broad array of conservation partners to work with Congress and the Administration for the benefit of several important conservation issues. Among those are letters communicating our positions on S.47, a bicameral and bipartisan public lands bill that was passed by the Senate by a vote of 92-8 and enacted into law in March 2019; a transportation-infrastructure bill, particularly as it relates to recreation access; the use of native vegetation over introduced plant species in farm bill conservation practices; and on five bipartisan bills—the Recovering America's Wildlife Act, the Restore Our Parks Act, the Land and Water Conservation Fund Permanent Funding Act, the North American Wetlands Conservation Extension Act, and the Modernizing the Pittman-Robertson Fund for Tomorrow's Needs Act. If these acts become law, they will address many conservation challenges, while bolstering our nation's $887 billion outdoor economy, which employs more than 7.6 million Americans.

Kent Christopher

Anthony Collerton

NAGP Supports Examination of Private Lands Wildlife Management

Steve Riley

The question is: Are we doing all we can to encourage private landowners to manage for wildlife? America's wildlife face mounting challenges in the modern world such as habitat and population fragmentation, climate change, agriculture impacts, energy and development pressures, new diseases, and increasing extinction risks. About 74% of the land in the continental U.S. is private land; in the East more than 90% is privately owned. The importance of private lands conservation cannot be overstated as state wildlife agencies work to maintain the public trust for wildlife.

As a result, a small group of experienced leaders in the private lands wildlife management arena decided that a thorough evaluation was needed and that a nationwide conversation should be stimulated. Out of that aspiration, a special issue of the *Wildlife Society Bulletin* (WSB)—focused on an appraisal of private lands wildlife management—was conceived. The ensuing effort led to the publication of nine related manuscripts in a full issue of the WSB. These manuscripts explore and critically evaluate private lands wildlife conservation efforts to date.

To foster a national conversation, the organizers sought the aid of partners to host a reception at the Association of Fish and Wildlife Agencies' 2019 Annual Meeting, including a motivational message of support from a sitting wildlife agency director and the participation of as many wildlife directors, partners, and key staff as possible. The North American Grouse Partnership was one of the 24 sponsors. The reception drew attention to the WSB special issue and invited participants to join an ongoing conversation. Abstracts were provided as well as full electronic versions of the manuscripts.

The effort will continue as a part of four regional meetings through AFWA and through a special session at the North American Wildlife and Natural Resources Conference in Omaha, Nebraska, in March 2020. At that meeting there will be further dialog and organizers will offer a look forward with new guidance for improving our vital wildlife conservation work with private landowners.

SPONSORS


Jodi Stemler

NAGP Partner Updates

The Mule Deer Foundation Implements Sagebrush Restoration

Miles Moretti, Mule Deer Foundation President/CEO

The Mule Deer Foundation is a proud partner with NAGP and over the past few years has worked on improving policy and on-the-ground management of habitats beneficial for both deer and grouse. Our partnership has focused on the sage grouse issue as mule deer and sage grouse have almost a 100% overlap of range. Recent successes include the planting of over 400,000 sagebrush seedlings in fire burned habitat in south-central Idaho. The project is a partnership with the Bureau of Land Management (BLM), Idaho Department of Fish and Game (IDFG), and Idaho Office of Species Conservation. Sites are selected based on the intersection of crucial mule deer winter range and core sage grouse habitat. BLM and IDFG provided the funding and MDF and NAGP implemented the project. Another success was the passage of the Mule Deer and Sage-Grouse Restoration Act in the


Ken Miracle

2018 Farm Bill. This will allow for categorical exclusions to the National Environmental Policy Act (NEPA) for actions directly aimed at the restoration or protection of important deer and grouse habitat. This is not an end run around NEPA but a way for proven actions to be completed in areas where federal agencies (BLM and U.S. Forest Service) deem that there will be no impact to important resources. Projects that could be implemented under this tool include fence modification, invasive species removal, juniper/conifer removal, and other habitat work. Like all action on federal lands, projects are planned and coordinated at the local level to ensure the best likelihood of success. MDF will continue to work with NAGP on policy and management issues where grouse and deer overlap and strengthen our partnership in the future.

The Recovering America's Wildlife Act (RAWA) Takes Critical Step Ahead Amidst Release of Declining Bird Populations Report

Bethany Erb, Pheasants Forever Government Affairs Representative

The Recovering America's Wildlife Act (RAWA, H.R. 3742), legislation that would create a much-needed permanent dedicated funding source for state wildlife agencies, has almost 150 bipartisan cosponsors thanks to the hard work of Pheasants Forever/Quail Forever and many other conservation organizations. That's good news as a high co-sponsor number is an important indicator for a bill's popularity.

H.R. 3742 would provide $1.4 billion in dedicated annual funding to state wildlife agencies and tribes for conservation efforts to recover wildlife species at risk. If passed, we would see large-scale habitat efforts implemented that benefit pheasants, quail, prairie grouse, and all wildlife.

This is particularly relevant considering a study published in *Science* referencing "The State of the Birds 2019" report finding that nearly 30% of all North American birds have disappeared in the last 50 years. The greatest decline was documented in grassland bird species, and we have certainly seen declines of pheasant, quail, and prairie grouse throughout their range during this time. The good news is, with additional funds we can increase populations by creating more high-quality grasslands and prairies, as well as other habitats for at-risk species.

The Recovering America's Wildlife Act is part of a solution to the species declines we are seeing and the shortfall in funding for national wildlife conservation efforts. RAWA is important to all hunter-conservationists and wildlife lovers!

Please check for updates on House and Senate efforts by following Pheasants Forever and Quail Forever on our social media accounts to stay abreast of this important legislation.

Ruffed Grouse Endangered Listing

Benjamin C. Jones, Ruffed Grouse Society/American Woodcock Society President and CEO

The message came at a time we are normally thankful and celebrating our natural world—the changing seasons, the flush of wild wings, time with friends. But in the waning days of October 2018, we were asked to comment on the potential listing of ruffed grouse as an Indiana state endangered species.

I had a knot in my stomach. An endangered listing—the last ditch effort to detour from the road to extinction—for our very own, beloved ruffed grouse? Certainly not good news, and an issue deserving of undivided attention. Our team combed through information to readily conclude the listing was warranted. Over 40 years, ruffed grouse declined to about 1% of prior abundance. Evidence suggests ruffed grouse are extirpated from 15 counties, and marginally viable populations persist in just a few of Indiana's 92 counties, though they historically inhabited all.

The problem isn't isolated to Indiana. Eighteen states across a wide geographic area (the upper Midwest, New England, Mid-Atlantic, Appalachians) list ruffed grouse as a species of greatest conservation need. Ruffed grouse are the bellwether of forest health. Declining forest health has been documented in lock step with several decades of ruffed grouse decline. In healthy forests, grouse and the forest wildlife community are resilient. In unhealthy forests, they succumb to disease, predation, and effects of a warming climate.

The greatest disappointment is the Indiana listing comes as no surprise. Concerned wildlife biologists sounded the alarm some 20 years ago. But actions were not taken. Now, at the tipping point, there's no time to spare.

Importantly, Ruffed Grouse Society and American Woodcock Society (RGS/AWS) staff reviewed Indiana's statutes to conclude listing adds no hurdles to advance the redoubled efforts needed to improve grouse habitat. In the past year, we petitioned the Indiana Natural Resources Commission to force action on the listing after attention languished, delivered testimony opposing several pieces of legislation aimed at constraining active forest management, cultivated additional engagement and coordination among partners with an interest in healthy forests and wildlife, and replicated similar efforts in the other 18 states where ruffed grouse are on the bubble. With the knowledge that further inaction will see ruffed grouse disappear from these states in less than a lifetime, the knot in my stomach has turned to a feeling of firm resolve.

20 YEARS OF GROUSE

The North American Grouse Partnership (NAGP) was founded on August 25th, 1999, in Tom Cade's basement in Boise, Idaho. The date is significant because it was the day Secretary of Interior Bruce Babbitt officially removed the peregrine falcon from the endangered species list. Thirteen conservationists who were on hand for the delisting ceremony felt the urgency to continue the conservation fight for North American grouse, hence the NAGP was formed. The founders knew that promoting grouse conservation would not be easy, but given the plight of some grouse species, primarily prairie grouse, they took the leap and the result has been 20 years of grouse conservation.

NAGP has taken many forms over the years but its core mission has remained the same—effective grouse conservation for North American grouse species. As Steve Sherrod, one of NAGP founders and president of the organization in 2000, stated in the 2000 edition of the Grouse Partnership News, "The Role of the NAGP is to raise the profile of grouse on a national and international level, to provide sound species management guidelines and recommendations or to support those already developed, to educate and give the public an avenue for involvement, and to raise funds to accomplish goals."

Based on those objectives, NAGP has been instrumental in bringing grouse conservation to the mainstream conservation movement and over 20 years has influenced grouse policy and management for the benefit of grouse. The following list is only a partial list of what NAGP has been able to accomplish in its 20 years.

Andrew Bogan

Policy (ensuring public policies at the federal and state level are beneficial to grouse)

- Farm Bills – 2002, 2008, 2014, 2018 – provided input into the legislation that would benefit grouse
- Made presentation to the Wildlife and Hunting Heritage and Conservation Council on the need and urgency for better coordination for prairie grouse species
- Presented at numerous special sessions at the North American Wildlife and Natural Resources Conference, including chairing a session on Movements and Migrations in 2019
- Developed policy for the proper use of captive rearing of sage grouse in Wyoming and other states
- Provided input into federal mitigation policy
- Testified in the U.S. Senate and House of Representatives on the needs of grouse
- Engaged in a memorandum of understanding with the Bureau of Land Management for grouse habitat on BLM lands
- Participant in the Hunting and Shooting Sports Roundtable Memorandum of Understanding
- Provided expert input into numerous grouse Endangered Species Act listing proposals
- Provided leadership and articles for The Wildlife Society's *Wildlife Monographs* on the importance of private land conservation for grouse

Partnerships (bringing groups and individuals together for grouse conservation)

- Organized and participated in meetings with energy companies and stakeholders to find common ground for grouse and wildlife during energy development
- Charter member of the American Wildlife Conservation Partners
- Active participant in the Western Association of Fish and Wildlife Agencies meetings and subcommittees including the Sage and Columbian Sharp-tailed Grouse Workshop
- Member of the Midwestern Association of Fish and Wildlife Agencies
- Participant in the Association of Fish and Wildlife Agencies meetings, including the Resident Game Bird, Bird Conservation, and Farm Bill Committees
- Former executive director was a member of the Sporting Conservation Council, an advisory group to the Secretaries of Agriculture and Interior
- Leader of the Prairie Grouse Partners – a coalition for the conservation of prairie grouse
- Participated in the New Mexico Lesser Prairie-Chicken Working Group
- Member of the Lake States Grouse Collaborators
- Member of the TRCP Policy Council
- Participated in the Cooperative Sagebrush Initiative
- Developed NAGP state chapters – CO, ID, MT, OK, NE, WY, NM, KS, SD, MN, IA, WA, TX, MO
- Participant and sponsor of The Wildlife Society annual meetings
- Participant in the LPC interstate working group
- Leader of the development of the Greater Prairie-Chicken and Sharp-tailed Grouse interstate working groups
- Participated in the Western Governors' Association meetings and the development of the Critical Habitat Assessment Tool

Science (ensuring the best available and up-to-date science is being used)

- Presentations and sponsorship of the Western States Greater Sage- and Columbian Sharp-tailed Grouse workshops
- Presentations and sponsorship of the Prairie Grouse Technical Council meetings
- Provided technical and expert advice to the BLM grouse plans and science teams
- Reviewed and provided comments to numerous state sage grouse plans and federal land use plans
- Reviewed the latest science for LPC, GPC, STG and SG and provided input into numerous grouse conservation plans

Management (ensuring that the management of grouse habitat and populations benefit grouse)

- Developed "A Grassland Plan for Grouse" a blueprint for the conservation of 60 million acres of grasslands for grouse
- Worked with the Wyoming Game and Fish and WY BLM through a grant from the Tom Thorne Sage-grouse Fund to identify important grouse habitats
- Completed an assessment of LPC conservation programs and provided recommendations for improved grouse conservation and mitigation
- Drafted a "North American Grouse Management Plan"
- Provided funding and expert advice on the Crooked Creek Ranch project in Idaho
- Provided comments and expert technical advice on numerous BLM and FS land use planning efforts
- Provided input into state level sage grouse plans
- Established the Grouse Habitat Restoration Fund in Idaho
- Attended the Sage Grouse Local Working Group conference in Reno 2005
- Developed a set of recommendations for grouse conservation during energy development including best management practices

Awareness (spreading the word about the need and urgency of grouse conservation to the public)

- Developed a grouse film with Grunko Films that highlights grouse conservation needs and the NAGP
- Participated in the Western Governors' Association Ranchers Conversation Meeting in Buffalo, OK (2000)
- Worked with National Geographic photographer Joel Sartore on his showcase – "A Chance to Survive" about the plight of Attwater's prairie-chicken
- Provided regular input into the *Grouse Point Almanac* (now *The Upland Almanac*) magazine
- Provided articles to *Shooting Sportsman, Pointing Dog Journal, Wing and Shot, Sports Afield*, and other magazines
- Guest on NW Outdoors and other outdoor-based podcasts
- Featured in *High Country News* articles
- Participated in USFS and BLM grasslands meetings
- Sponsored and helped hold the High Plains Prairie Chicken Festival in Milnesand, NM
- Chartered and sponsored the Dubois Grouse Days festival in Idaho
- Sponsored and participated in numerous International Grouse Symposiums
- Made presentation at the National Petroleum and Fluid Minerals Conference
- Participated in the White House Conference on Cooperative Conservation 2005
- Participated in the White House Conservation Congress 2008
- Participated in the Missouri Prairie Chicken Workshop
- Held a sporting clays shoot to benefit grouse
- Hosted a "Dream Hunt" for greater prairie chickens and sharp-tailed grouse in South Dakota
- Featured in the TV Show *Life in the Open* and *Focus Outdoors* for a grouse hunt on Valentine NWR

That's quite a list and most of that has been completed by volunteer board and staff. Grouse conservation is not easy but NAGP has rolled up their sleeves and worked hard for it. With your support and help we are a leading voice for grouse conservation whose focus is on ***the birds, the places*** they live, and ***the human connections*** to both. Here's to another 20 years of grouse!

Rick Baeston

PARAGONS OF THE PRAIRIE

How the North American Grouse Partnership is leading the conservation effort for prairie grouse, the iconic native birds of grassland habitat.

STORY BY ANDREW BOGAN

As we climbed out of the truck on the far end of a mile-long, grassy knob behind the Kenzy family's cattle ranch in Iona, South Dakota, the dogs were whining with anticipation. The air was cool and moist, and the skies overcast, but not threatening much rain. It was, in every way, perfect dog weather for hunting prairie grouse.

Prairie chickens and sharp-tailed grouse are among the most challenging upland gamebirds to hunt, since they spend most of their time spread out in small coveys across vast landscapes. Hunting them is always hard and usually requires walking 5 to 10 miles a day, with the dogs running 3 times that distance. If you are fortunate enough to have dogs that can find them at all, the grouse still flush at distances of 40 to 70 yards—and then they fly for miles. So, if you are lucky, you get one long shot for every few miles of walking. Needless to say, given these odds, it is not hunting that has pressured these native birds. It is the loss of their vast prairie habitat to human activity, agriculture, and development. We were here not just to hunt grouse, but also to fully experience and immerse ourselves in this shrinking ecosystem of endless grass, shrubs, and birds—the American prairie.

The North American Grouse Partnership (NAGP) organized this hunt to celebrate prairie grouse and to raise awareness around the severe challenges these birds face in most parts of their historic range. We were hunting private ranches that have been thoughtfully managed with the health of the native wildlife in mind since our host Mark Kenzy's great-great-grandfather Charles Kenzy homesteaded here, just west of the Missouri River in 1903. The family's successful stewardship of this land over six generations has left it as one of the last great sanctuaries for both sharp-tailed grouse and greater prairie chickens on this continent.

Prairie chickens are especially sensitive to tree invasion into their grassland habitat, since even small trees offer perches for raptors that prey on grouse. Pastures of native grasses that are grazed heavily enough to retard tree invasion, but not so heavily as to eliminate patches of tall grass cover, are ideal for prairie chickens. Similarly, any high perch or structure, such as phone poles, power lines, or wind turbines, can clear prairie chickens off a landscape for miles around. Even fences can be a problem for grouse, with unmarked barbed wire fences contributing to mortality of young birds that have not yet learned to avoid them in flight. Grouse can benefit from access

LOSS OF HABITAT

The prairie chicken range once sprawled from Minnesota to Texas and from Kentucky to Colorado. Today, only the Dakotas, Nebraska, and Kansas maintain large populations.

OPENING SPREAD: PHOTOGRAPH BY BRIAN GROSSENBACHER; PHOTOGRAPHY BY SCENIC APERTURE-FRANK COMISAR

to autumn grain crops like milo, millet, sorghum, wheat, and corn, but only if it is farmed with minimal disturbance and bordered by intact grasslands.

Sharp-tailed grouse are slightly less sensitive to tree invasion than chickens and prefer a bit brushier habitat. So they are more tolerant of junipers and other trees invading their range, but only if they can still access the berry bushes they so crave, including wild rose, buffaloberry, and snowberry, along with vast areas of continuous grasslands.

Our guide, Quenton McEntee, is the son-in-law of family patriarch Dennis Kenzy and is married to his daughter Toni, who was in the last class of students educated in the rural, two-room Iona School House before it closed a few decades ago. Today, the old schoolhouse serves as the community center and is the last vestige of the forgotten town of Iona, South Dakota.

Quenton, who spent much of his career as a pharmacist in Sioux Falls, is an avid sportsman. He has hunted around the globe: waterfowl in New Zealand, Cape buffalo in Zimbabwe, ibex in Mongolia, caribou in the Arctic, and perdiz in Argentina. But he grew up on the South Dakota prairie, and there are no birds he loves more than prairie grouse. His family's passion for this land and its wildlife, especially their prairie grouse, is evident even when talking with his 9- and 10-year-old daughters Alexis and Avery. The girls have grown up on the ranch as the family's sixth generation in Lyman County. They hope to keep it in the family for generations to come and to continue the stewardship of this land and its wildlife.

As our line of guns moved steadily across the crest of the knob through a sea of short green grass and scarlet rose hips, all eyes were on the dogs—Scout, a tall young Brittany, and my pudelpointer, Tacktor, whose tail wags at a frequency related directly to how much grouse scent is in his nose. Just as the tail twitching got intense, a covey of six prairie chickens rose in the distance more than 60 yards in front of us. No shots were fired, and we kept on walking—for miles. Eventually, Terry Riley, who has hunted grouse on the prairies since his childhood in Kansas 7 decades ago and has dedicated his life to grouse conservation, managed to shoot a few birds through a combination of will and skill. For the rest of us, our first day in Iona served as a reminder of how hard it is to hunt prairie grouse, yet how exhilarating it is to walk their vast grassland home behind good dogs.

However, the fear of not shooting enough birds before Saturday night's grouse dinner, to be cooked by renowned wild game chef Hank Shaw, started to weigh heavily on all of our spirits as the sun sank over the prairie.

With the arrival of the rest of our hunting party that night and a glorious sunrise over the Missouri Breaks the following morning, our spirits were lifted, and the need to shoot enough grouse for our dinner motivated everyone to start early. We split the group in half, since large numbers afield rarely yield more grouse in the bag. My half took two Labrador retrievers, my pudelpointer, and a Brittany, all experienced prairie grouse dogs. The other half hunted over two small Munsterlanders, which are legendary in these parts for their ability to hold skittish prairie chickens on point, and two chocolate Labs to flush and retrieve.

Like the dogs, the shotguns ranged the full gamut, too. We had highly versatile and reliable Remington waterfowl guns in 12-gauge and full camo, and several trusty Benelli autoloaders among the semiautomatics. Our over-and-unders came from Italy, Japan, and England: a Silver Pigeon, a light and quick Franchi Veloce, two Miroku-made Browning Citori field guns in 20-gauge—one of them sporting an auspicious grouse engraved on the receiver—and two lovely Purdey Sporters in 12- and 20-bore. Our only side-by-side was a handcrafted London best gun by Purdey in 20-bore with its exquisitely detailed, traditional English scroll engraving that runs six figures. Simon Rood from the Gun Room of James Purdey & Sons in London had flown in to support this gathering of North American grouse conservation leaders with these three fine English guns to illustrate that art and function can still coincide. By the end of the day, every gun had proven itself effective, but it was the first sharp-tailed grouse of the hunt that is seared in my memory.

After nearly an hour of driving through gates and across open pastures all the way to the remote western bank of the Missouri River, we had seen nothing but cows and coyotes.

> Needless to say, given these odds, it is not hunting that has pressured these native birds. It is the loss of their vast prairie habitat to human activity, agriculture, and development.

PRAIRIE GROUSE DYNAMIC

In South Dakota, there are two species of prairie grouse: sharp-tailed grouse (left) and greater prairie chickens (bottom right). Sharptails prefer shortgrass prairie with some brushy cover and love to eat berries, while prairie chickens prefer open, undisturbed tallgrass prairie.

CHIP LAUGHTON (TR); SCENIC APERTURE-FRANK COMISAR (TL, BR); BRIAN GROSSENBACHER (BL)

NORTH AMERICAN GROUSE PARTNERSHIP

For generations, humans have marveled at the elaborate courtship displays of North American grouse. Native tribes imitated their dances and wore their intricate feathers. Even today, there are few experiences in nature as remarkable as what one sees each spring on the lekking grounds of prairie grouse. The eerie sounds, spectacular plumage, dances, and colorful swollen air sacs of the male grouse on their leks are unforgettable.

Grouse have also been a treasured quarry of North American sportsmen for centuries. We hunted grouse at first for survival, later for the market, and today in the grand tradition of upland hunting over gun dogs—maintaining an age-old connection to the land and the seasons.

Sadly, the heath hen (*Tympanuchus cupido cupido*) so familiar to early American colonists was gone from the vast coastal barrens of the East Coast by 1840. It was the first American wildlife species to be recognized as being in dire need of conservation, as early as 1791. However, despite heroic efforts over a century to prevent this grouse's extinction, the last heath hen died on Martha's Vineyard in Massachusetts in 1932. Today, the Attwater's prairie chicken, which is the native greater prairie chicken of Texas, is critically endangered. And the lesser prairie chicken is undergoing a status review for potential listing throughout its shrunken range.

The major threat to the future of our native grouse is clear: damage to grouse habitats. Loss and degradation of grasslands, sagebrush steppes, and prairie are having devastating impacts on prairie grouse species, while declining early successional forest habitats are contributing to the decline of forest grouse populations. These threats will continue, and in many cases get worse, unless effective habitat conservation is implemented on a landscape scale, based on the best available science.

Our mission is to promote the conservation of grouse and the habitats necessary for their survival and reproduction. The North American Grouse Partnership advocates for all 12 species of grouse on this continent, from the ptarmigan of Alaska and the forest grouse of the mountain West to the ruffed grouse of the Northeast woods. NAGP's top conservation priority today is reversing the population decline of the various prairie grouse species: sage grouse, prairie chickens, and sharp-tailed grouse.

The NAGP focuses its efforts on influencing policy decisions and legislation that are relevant to grouse conservation and working with our many partners to implement on-the-ground habitat improvements that benefit grouse populations. Major activities today involve securing a federal Farm Bill that is beneficial to grouse habitat, leading the Interstate Working Groups of 14 state wildlife agencies to coordinate conservation of grassland habitats across the Great Plains for greater prairie chickens and sharp-tailed grouse, and supporting ongoing efforts to conserve the vulnerable lesser prairie chicken and sage grouse. We also continue to work closely with our scientific and conservation partners to secure a better future for forest grouse and ptarmigan as well.

PHOTOGRAPH BY BRIAN GROSSENBACHER

Walking miles across these vast landscapes in the Dakotas, it is impossible not to feel tiny as the sea of grass rolls over hills and plains to the horizon. It is landscapes like these that America was built on and that we all still dream about...

We shot three coyotes along the way, and I learned from Kelly Hepler of South Dakota Game, Fish & Parks of the importance of predator control to reduce pressure on grouse and pheasant.

Finally, we saw a single sharp-tailed grouse fly into a small, brushy draw not far from our vehicles. Simon, my friend Pascal, and I crept up to the top of the ridge above where the bird flew in and then put in the dog. Tacktor's tail went berserk, and a lone grouse flushed hard and fast across the valley of the draw toward the far ridge. The two Brownings and the Purdey Sporter all fired simultaneously, and despite another 60-yard flush, this bird fell dead on the opposite slope of the draw about 100 yards away. Tacktor sprinted to the downed bird and retrieved it to hand. The accuracy of the three guns was evident: Our grouse was shot in the back, the head, and the wing. Luckily, the breasts and legs were unscathed, and we had the first sharp-tailed grouse for Hank's dinner. When we returned to the lodge for lunch, we had nine sharp-tailed grouse in the bag, and we were quite sure that we had outshot the others, given what a good morning we had along the Missouri Breaks.

No such luck. With Hank shooting his first prairie chicken and ticking it off his bucket list, his excitement fueled the crowd. He soon had a mixed grouse limit of two chickens and a sharpie, and as a group, they had 11 prairie chickens and two sharp-tailed grouse among them, besting our bag by four birds! So, naturally, the lunchtime conversation dwelled on how many birds each coyote was worth.

Now that we finally had enough grouse to feed the group (this was a true field-to-table hunt; if we shot poorly there was no dinner), Hank and Toni began to prepare the grouse in the kitchen. Hank demonstrated that prairie grouse are among the finest gamebirds at the table. He slow-cooked the grouse legs in a German-style braise with beer, sauerkraut, lovage, and caraway. The deep-red grouse breasts were brined, then seared rare and served with a German spaetzle. This delectable meal began with grace said by Toni, who reminded us all that conservation is the wise use of wildlife resources. We must always keep in mind the challenges to overcome in order to ensure that the next generation still has a surplus of grouse to hunt and to serve on the table in the future.

Walking miles across these vast landscapes in the Dakotas, it is impossible not to feel tiny as the sea of grass rolls over hills and plains to the horizon. It is landscapes like these that America was built on and that we all still dream about; but in an increasingly urbanized society with industrialized agriculture, expanses like these are rare today. So it was a real joy to be hunting one of the few that remains with a dedicated group of grouse conservation leaders behind several excited gun dogs on our last day afield.

My dog suddenly froze, and two birds instantly flushed. I was so confused to see a snipe (a bird I associate with wetlands in California, not Midwestern pastures) and a prairie chicken fly simultaneously from just a few feet apart that I shot twice and missed both, sending the snipe spiraling safely behind our line and the chicken high and to my right over Pascal. It was just barely too high and too fast for him, and his two reports saluted the departing bird. Nearly free of all our guns, the lone grouse soared even higher above my father at the very end of our line. In his 77 years on the American prairie, he has seen many a high bird, and this one, like so many before, fell to his gun. We all watched in amazement as the bird tumbled slowly to the earth.

We finished the last day hidden in a corn strip, pass-shooting prairie grouse in the twilight. It was slow again, like our first day. Only Simon had managed a single chicken with his Purdey. Sunset was minutes away, and as I gazed over the hay bales in front of us and across the open prairie, I kept imagining one last flock of grouse coming over just before the auburn sun sank below the horizon behind me, but nobody is that lucky—except for me, Pascal, and Simon. I shouted: "Grouse from the right! Coming over. Wait. Wait. Take 'em!" Three guns fired, and three grouse fell.

Reflecting on three glorious days immersed in the American prairie hunting grouse and crafting a strategy for their conservation, it is clear that this will be a monumental task for our generation to secure a better future for grouse across our continent. But if we fail, future generations will never know the beauty of our native grouse flying over our grasslands, dancing among the sagebrush, fleeing from a gyrfalcon across the tundra, or flushing thunderously from our forest floors. That is a future that I will not accept, and only with your help can we avoid it. The time to act on behalf of grouse is now.

Lesser Prairie-Chicken Conservation: A NAGP Priority

Jon Haufler, North American Grouse Partnership and Ecosystem Management Research Institute

Lesser prairie-chickens require large blocks of high-quality habitat to support sustainable populations. To maintain high-quality habitat, targeted conservation areas should have minimal development including energy and croplands, and should have specific management plans that include such considerations as grazing practices consistent with the local environmental conditions and that can be maintained into the future.

Lesser prairie-chickens (LPC) have declined significantly over the past 40 years. Concerns about this led to environmental groups petitioning the U.S. Fish and Wildlife Service (Service) in 1995 to list the species as threatened. The Service determined in 1998 that the species was warranted but precluded from listing because of the Service's limited capacity to address a listing decision with other species having greater needs. Its population continued to decline. In 2012, the Service released a proposed rule to list LPC as a threatened species, and it was listed as such in 2014. However, based on a suit filed by the oil industry saying that their on-going mitigation efforts hadn't been adequately considered, the listing was overturned by a federal court. Since then, the bird has been in a precarious position, with a new decision on whether it deserves listing by the Service not being acted upon and mitigation and other management programs floundering.

Responding to a lawsuit from several environmental organizations, the Service has agreed to make a listing determination by May 2021. With an initial determination by that date, and with another year or more needed to enact listing criteria, the question of the sustainability of the species, particularly across parts of its current range, is placed further in doubt. The North American Grouse Partnership (NAGP) has been very concerned about LPC and the types and pace of management actions being directed toward the species. These concerns led NAGP to conduct an analysis of the status of the species in 2017, and we have been advocating for appropriate actions on the part of agencies and organizations as a result of our findings.

Our findings, based on information available in the public domain, showed how great the existing impacts to LPC have been and the hard challenges that we face to reverse habitat loss. Table 1 shows the output of an analysis of the level of impacts around known lek locations. Research has shown that LPC do best when leks are surrounded by high-quality grasslands and impacts from agriculture and development are less than 10%. Clearly the results of the lek analysis reveal that high levels of impacts are present across the entire current range of LPC. Further, our analysis showed that ongoing conservation actions, while well intended, were woefully inadequate to address the needs of the species. Our full analysis and findings are included in our report which is available on our website (www.grousepartners.org).

Based on our analysis, NAGP has developed a number of recommendations for LPC conservation. These include the following:

- Substantially more funding needs to be directed toward LPC conservation. The future of this species will depend on restoring enough large blocks of high-quality habitat across the range of the species to ensure sustainable populations into the future. To be effective, this will require an order-of-magnitude increase in funding directed toward the conservation of this species.
- Available funding needs to be directed into a strategically located system of LPC conservation areas. This needs to be a smaller, more refined system of conservation areas than the current system of CHAT 1 and 2 areas that comprise over 10 million acres. Identifying the best strategic locations for something like 20 blocks averaging 50,000 acres each in size for restoration of high-quality habitat could be an initial recovery goal.
- Payments to landowners within the strategically located conservation areas need to be increased. In order to gain high levels of landowner engagement in conservation actions within these areas, there needs to be true economic incentives for the landowners. Presently, most conservation programs expect landowners to share some of the financial responsibility, reducing the willingness of many landowners to engage in LPC conservation efforts.
- Available conservation programs need to be coordinated for joint delivery within the strategic conservation areas. With limited available funding, programs need to be able to supplement each other for maximum delivery of conservation benefits to produce the needed large blocks of high-quality habitat.
- Conservation actions from all agencies and organizations need to be coordinated through establishment of a coordinating group. This group should be open to all, transparent in its process and discussions, and cognizant of conflicts of interest.
- Conservation practices need to continue to be assessed. For example, what levels and types of prescribed grazing work best in different parts of LPC range? One-size-fits-all for a practice such as this is unlikely to produce consistent high-quality habitat across the range of the species. As new findings come out, they need to be efficiently incorporated into management programs, something that the coordinating group could help implement.

These are some of the more significant recommendations that were developed from our analysis. NAGP presented these findings to a LPC stakeholder meeting held in Oklahoma in January 2018 and offered to assist in moving conservation actions forward, but this offer has not been accepted to date by the agencies directly responsible for LPC conservation. In the meantime, the situation for LPC has only gotten worse. The mitigation framework developed under the "Lesser Prairie-Chicken Range-Wide Conservation Plan" and administered by the Western Association of Fish and Wildlife Agencies has run into substantial problems, with limited enrollment of industry to offset their impacts, such that it is now facing financial limitations. The Lesser Prairie-Chicken Incentive Program under the Working Lands for Wildlife of the Natural Resources Conservation Service has seen very limited recent enrollment. The U.S. Fish and Wildlife Service, as mentioned above, will not make a listing decision until May 2021, producing little incentive for additional conservation actions until this decision is made. In the meantime, additional developments from wind energy, oil and gas, agriculture, and other impacts continue to convert and fragment remaining habitat and add new stresses to the species.

Thus, NAGP remains very concerned about the future of LPC. We will continue to advocate for increased conservation actions and maintain our offer to help address conservation needs, such as by helping organize and facilitate the formation of a LPC coordinating group. Without additional attention, there is a very good probability that the range of this species will continue to contract, and we will lose this valuable species from even more of its historical range.

Percent Impacted Habitat	Shortgrass Prairie Ecoregion	Mixed Grass Prairie Ecoregion	Sand Sage Ecoregion	Shinnery Oak Ecoregion
	Percentage of Leks (# of Leks)			
0-10%	0.7 (1)	7.3 (28)	17.2 (5)	31 (92)
>10-20%	6.3 (9)	14.3 (55)	31 (9)	18.5 (55)
>20-30%	7.7 (11)	20.6 (79)	13.8 (4)	15.8 (47)
>30-40%	21.1 (30)	28.1 (108)	10.3 (3)	13.5 (40)
>40-50%	21.1 (30)	16.7 (64)	6.9 (2)	5.7 (17)
>50-60%	13.4 (19)	6.5 (25)	6.9 (2)	7.1 (21)
>60-70%	14.1 (20)	3.6 (14)	0 (0)	3.4 (10)
>70-80%	7 (10)	2.3 (9)	0 (0)	3.7 (11)
>80-90%	5.6 (8)	0.3 (1)	0 (0)	1.3 (4)
>90-100%	2.8 (4)	0.3 (1)	13.8 (4)	0 (0)
Mean	49.1 (142)	33.2 (384)	33.3 (29)	25.4 (297)

Table 1: The percentage impacted area within 3 miles of leks (sum of anthropogenic impacts within buffers as specified in the LPC Range-wide Plan added to cropland not already in an impact buffer) within each of the 4 LPC ecoregions identified in the LPC Range-wide Plan. Values in the columns are the percentage of leks impacted in each of the listed impact categories, while the numbers in parentheses are the number of leks meeting the designated impact level. Means are the overall level of impacted habitat from all leks in that ecoregion.

Sharing the Dance

A New Mexico Rancher's Perspective on Lesser Prairie-Chicken

Story and photos by Betty Williamson

Guests view displaying lesser prairie-chickens from a converted trailer blind (and humorously unaware of the close encounter happening above them) during one of the 11 High Plains Prairie Chicken Festivals that were held from 2002-2012 in Milnesand, New Mexico.

Eastern New Mexico rancher Jim Williamson's annual springtime prairie chicken viewing events included a breakfast he prepared afterward over a mesquite campfire, like this one in April of 1962.

The better part of a century ago—before ecotourism was a word, or even a concept—my father would invite his friends out to our sandhill ranch in the south part of Roosevelt County, New Mexico. In the hushed dark of pre-dawn spring mornings his guests would witness something he treasured all of his life: the springtime mating ritual of our native lesser prairie-chickens.

The invitation included a chauffeur (my dad), a tour guide (my dad), a self-taught naturalist (my dad), and a cook in a battered black felt cowboy hat (my dad), because after a couple of hours of early morning adventuring, our visitors were ushered home to our yard where a mesquite-fed campfire provided the cooking heat for eggs, bacon, and coffee so thick that a spoon could stand up in it.

I remember countless mornings watching for headlights coming up our road. Our visitors, armed with cameras, binoculars, and thermoses of coffee, left their vehicles in our driveway, and piled into one of our ranch trucks for the 15- to 20-minute ride on bumpy two-track roads to our most reliable "lek."

We didn't know or use the word "lek" back then. We called it a "booming ground." We parked—still in the pitch-black dark—on the northeast side so the sun wouldn't rise straight into our eyes, but also so we wouldn't miss a moment of a new day beginning.

And then we waited.

Even after 57 springs on the High Plains, there is still a thrill as the stars fade, the barest glow creeps into the eastern sky, and the hushed and sacred silence is broken by the sound of wings when the first birds coast in to stake out territories and begin their joyous, raucous ritual.

What caused a crusty old rancher to fall in love with a bird? I can't answer that for certain, but I do know that it was a deep passion and one he passed on to his children and shared with generations of hearty souls willing to set early alarm clocks and make the trek.

This ever-so-predictable spectacle never grows old. In my book, it ranks right up there with August's Perseids meteor showers, lunar and solar eclipses, and the return of the swallows to San Juan Capistrano.

The last remaining viable territory for the lesser prairie-chickens occupies a much-too-small spot on the map in my worn copy of *The Sibley Guide to Birds*. I know I have neighbors who have never seen these shy and reclusive grouse, and I know I have neighbors who consider their existence more of a nuisance than a blessing.

There is no record in my family of my homesteading grandparents being saved from starvation by the vast numbers of LPC that historically blackened the sky in eastern New Mexico. We never sold hunting rights back in the day when that season still happened. Our early morning tours and the breakfasts that followed were never offered for a price.

Ours is merely a relationship based on love and respect and admiration for a creature that was here long before we humans were, and one that is struggling to keep a fragile claw-hold in an ever-shrinking habitat.

My father used to talk of riding horseback for miles to help neighbors in this country, and how in the spring that entire ride was a stereo concert of prairie chickens drumming and cackling in every direction. In my childhood, we could reliably hear leks in five directions. Our visitors watched dozens of dancing chickens as the sun rose.

The leks are much fewer and farther between now; the bird counts rarely hit double digits. One spring, during a multi-year crippling drought, we were met with only silence. It's heartbreaking to watch a species struggling for its very existence.

These iconic birds are as much a part of the tapestry of our world as the shinnery oak and the sand and the endless skies and the buffalo grass. I hope somehow, some way, we find room for our shy feathered neighbors to continue the dance they have danced here since time began—the dance that means another spring has arrived.

Breakfast at the April 2006 High Plains Prairie Chicken Festival, an event that expanded on Jim Williamson's early tours, attracting 100 guests each of the 11 years it was held as a community fundraiser in Milnesand, New Mexico.

Whatever Became of the Attwater's Prairie-Chicken?

Michael E. Morrow, Wildlife Biologist, Attwater Prairie Chicken National Wildlife Refuge

Wildlife Biologist Brandon Melton and intern Marissa Macha preparing to band a 3-month old Attwater's prairie-chicken juvenile on the Attwater Prairie Chicken National Wildlife Refuge in late July 2019.

The Attwater's prairie-chicken was once very numerous in grasslands of coastal Texas and Louisiana. Val Lehmann related several anecdotes in his 1941 monograph on the Attwater's prairie-chicken that illustrate how plentiful the Attwater's once were:

"Many old cattleman of the coastal prairie have told the writer [Lehmann] that in the early days the prairie chickens were relied upon to furnish fresh meat for the cattle camps. The task of killing 40 or 50 prairie chickens was menial, the cook of the outfit usually attending to it."

"During the summer of 1893 or 1894, in Matagorda County, near Bay City, V. L. LeTulle reports that 71 Attwater's prairie chickens were shot in 2 hours…."

"Mendell Burrell of the Ray Pipkin ranch…told the writer [Lehmann] that as late as 1920 his domestic chickens were fed under the ranch house in winter to prevent prairie chickens from consuming the grain."

Unfortunately, populations of this iconic prairie species are a faint shadow of the times referenced in these anecdotes. Indeed, for the past 30 years, despite the best efforts of conservationists, they have teetered as close to the edge of extinction as possible without going over. Gone are the lively assemblages of males on communal display grounds known as booming grounds that were once scattered across the prairie from southwest Louisiana to at least Corpus Christi in Texas. These assemblages filled the prairies with the antics of dancing males that gave it their all to defend portions of the booming grounds against other males working to attract seemingly indifferent females. For those who were fortunate enough to have experienced this annual ritual of nature, such bustling activity that was once so vibrant and ubiquitous, is now all but gone, leaving the springtime prairie empty—an emptiness that can no longer be appreciated by most people currently occupying the landscape where this drama once played out every year for eons.

But hold on. The Attwater's prairie-chicken is not gone yet. While some have long since written the Attwater's off as a lost cause, others are not yet willing to add them to the casualty list of species unable to cope with the changes humans have wrought on this planet. In fact, there is a diverse group of individuals and landowners along with non-governmental and governmental organizations that are still pulling hard for the Attwater's. And many of these groups and individuals are doing much more than providing hope and moral support. They are investing their own funding, facilities, space, and time to put the Attwater's on a new trajectory toward recovery rather than extinction. These groups include the usual players in this sort of situation—the U.S. Fish and Wildlife Service, Texas Parks and Wildlife Department, and The Nature Conservancy of Texas. But other groups including national and international conservationists that are critical to the Attwater's recovery may be less obvious. Fossil Rim Wildlife Center, the Houston Zoo, the Caldwell Zoo, and the Sutton Avian Research Center are all involved in rearing Attwater's prairie-chickens for release back into the wild. You may be thinking to yourself about now, "Wait a minute—captive rearing almost never works for reestablishing populations…." And you would be right. But we had no choice. The Attwater's population made its final plunge toward extinction in the early 1990's so quickly and rangewide that there was no opportunity to move wild stock around to buoy failing populations. Were it not for the captive breeding programs, there is no question that the Attwater's would be extinct by now.

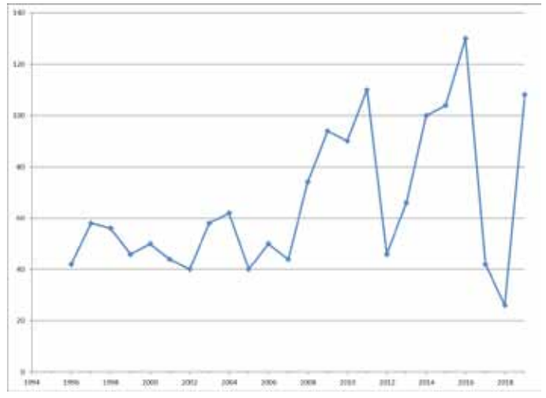
So back to the question at hand—how are the Attwater's doing now? The short answer is numbers are still critically low in the wild. But the longer answer is that we have learned a tremendous amount through the years about introducing captive-reared prairie chickens into the wild. Do released birds survive as well as wild birds? No. Recognizing that this was probably an unreasonable expectation, the Attwater's Prairie-Chicken Recovery Team suggested a target survival for released pen-reared birds of half that of wild birds, or an annual survival of around 25%. Annual post-release survival currently averages 17%, but is highly variable from year to year. Some years survival is close to or exceeds the 25% target. Some years survival falls far short. Early in the program, the focus was primarily on survival of released birds: "If we could just get enough to survive, the rest would take care of itself…" Wrong! After several years, it became apparent that we had a chick survival problem. In fact, we were losing almost all chicks without exception during the first two weeks after hatch. Many thought it was because captive-reared hens were behaviorally maladapted, making them unable to rear chicks.

But the late Dr. John Toepfer, who devoted his life to all things prairie grouse, used to say, "Perception is reality until you check the facts…" And when we checked the facts, we found that arthropod abundance, required by chicks as food during the first weeks of life, was critically low within the historic range of the Attwater's during the time that chicks were hatching, resulting in the near total loss of chicks we were seeing. Further, we found that these low arthropod numbers were due to invasive, non-native red fire ants that arrived in Attwater's range during the 1960's and 1970's. When fire ants are suppressed so that insects can increase, pen-reared Attwater's in the wild rear chicks with approximately the same success as their wild greater prairie-chicken cousin. In retrospect, this indirect effect of fire ants on insects is likely why the Attwater's population tanked so dramatically in the early 1990's.

So, we thought we had our answer. If we could suppress fire ants on enough prairie grasslands, the Attwater's would be well on its way to a positive population trajectory. But Mother Nature had other ideas. Expanded fire ant treatment beginning in 2013 was followed by four years of near catastrophic rainfall during the nesting seasons of 2014–2016, culminating in the once in 1,000 years flooding caused by Hurricane Harvey in 2017. Despite these disappointments, invertebrate data suggested that fire ant suppression was achieving the intended response of increased invertebrates for Attwater's broods. These data suggested that were it not for the catastrophic weather directly impacting reproduction or resulting in few adults to reproduce, chick survival should have been good. Well, this year we had near perfect weather conditions, the habitat was in good shape, and we had enough adult birds on the ground to make a difference. The Attwater's did their part just as expected, proving that they can produce and rear young if habitat and weather conditions allow them. Several large broods of 7+ chicks were seen at both locations where wild Attwater's currently occur: the Attwater Prairie Chicken National Wildlife Refuge and private ranch lands in Goliad County, Texas.

Attwater's populations have started to grow out of the classic lag phase of population growth twice in the last decade (see Figure 2), only to be knocked back by extreme weather. Hopefully, the third time will be the proverbial charm, and the population will grow to the point where it can withstand the uncertainties of living in coastal Texas grasslands. We will have to expand fire ant treatments to make the estimated 60,000+ acres of available grass fully suitable for the Attwater's. And more prairie will need to be restored if we are to fully recover their populations from the threat of extinction. But we are much closer now than we were 10 years ago in making real progress toward eventual recovery. The first good year in a long time is under our belts. Now to string several of these years together….

Attwater's prairie-chicken on the Attwater Prairie Chicken National Wildlife Refuge.



Attwater's prairie-chicken population trend. The decrease in 2012 resulted from historic drought conditions in 2011, while those in 2017 and 2018 were from catastrophic flooding, including that caused by Hurricane Harvey.

Migration and the Greater Sage-Grouse

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Jeffrey L. Beck, Ecosystem Science and Management, University of Wyoming.

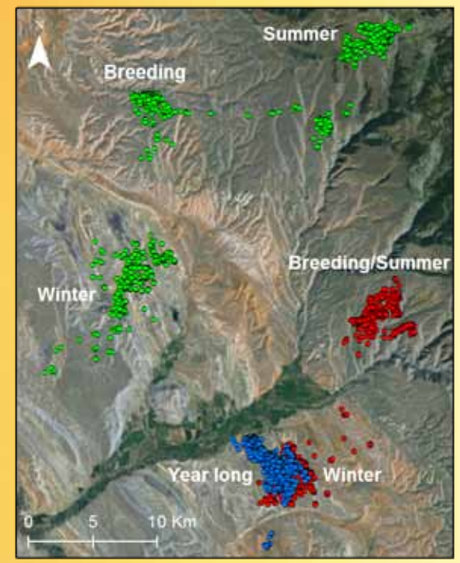
Migration is a common behavior found in all major taxa from insects to crustaceans to reptiles to mammals and so on. A fifth of the world's species of birds are considered long-distance migrants. There is beauty and wonder associated with natural phenomena such as migration. Migration evokes images of vast herds of wildebeest moving across the Serengeti. It can also be a familiar reminder of the changing of the seasons, like how a harmonious flock of geese pointed south can create a previously unnoticed chill in the air. Greater understanding results in greater appreciation of natural phenomena. Until it was discovered, we could not marvel at the bar-tailed godwit, which flies over open ocean without stopping for 7,000 miles from Alaska to New Zealand; or, the bar-headed goose which climbs 25,000 feet in one flight to ascend the Himalayas. Grouse do not arouse these same images, at least relative to interseasonal movements, because they are not readily observable, nor do they necessarily demonstrate such phenomenal physical feats. However, their behavior still contributes to the diversity of movement found on our planet when animals react to their changing environment.

The oldest acknowledgments to seasonal movements by animals are documented in the Old Testament, with references in the books of Job (Job 39:26) and Jeremiah (Jeremiah 8:7; circa 600 BC). The next references were from Aristotle (circa 350 BC) when he recorded the times of departure for species in his area. Much more recently, advances in technology (first via banding, then by the radio-transmitter) assisted in studying movement at the individual level instead of only documenting the redistribution of populations. These first marking techniques showed where animals started and ended but did not provide much detailed information on the routes taken. This information was made more readily available with the advent of satellite and GPS transmitters with high location fix rates. Continued technological advancements have led to individually marking smaller and smaller species with higher and higher performing transmitters resulting in more questions being answered. For example, one can now use data obtained from high fix rates with GPS transmitters to estimate individual movement paths at high resolution allowing for investigations of the factors influencing an animal's decision on when and where to move. This has been the case for the greater sage-grouse.

Locations obtained by GPS transmitters depicting the routes taken by three greater sage-grouse from winter range to breeding range during spring 2019 in southern Wyoming. The green individual traveled between seasonal ranges that were 14 miles apart over 11 days, the blue individual traveled between ranges 33 miles apart over 10 days, and the yellow individual traveled between ranges 23 miles apart over 14 days.

Migration, like many ecological phenomena, is difficult to define. But the pragmatic definition describes an animal as migratory if it demonstrates the use of seasonally dependent non-overlapping ranges. Non-overlapping ranges represent infrequent movements on a greater spatial scale connecting distinct areas of frequent, smaller scale movements termed 'station-keeping' activities. In addition, the use of these ranges corresponds with the periodicity of seasonal habitat use on the annual cycle. In this context, the majority of sage grouse would likely be classified as migratory individuals. We conducted sage grouse studies in the Bighorn Basin of Montana and Wyoming and in central Wyoming where 74% of our GPS-equipped sage grouse were classified as migratory. Using this perhaps more liberal definition, many grouse species would show some form of migratory behavior, if they must consistently travel farther than their normal daily movements between different seasonal habitat requirements. A familiar example is dusky grouse traveling from mountain sagebrush plant communities where they nest to higher elevation conifer forests where they winter. A less familiar example are greater prairie-chickens in the Nebraska Sandhills that travel from grass-dominated rangeland where they nest to areas with more cropland where they winter. We propose sage grouse as an excellent example of how migratory and resident behavior for a species, or population, falls along a continuous gradient. Sage grouse can have two seasonal ranges that are 0, 1, 2, …, 10, 11, 12, …, 20, 21, 22, …, 100, 101, 102, … miles apart, with any amount of overlap of ranges and any distance along a continuum between ranges. Thus, it would be difficult to derive an objective, crystal-clear cut-off between resident and migratory behavior in sage grouse. It has also been simply described that many grouse have large home ranges. The largest documented grouse migration is about 100 miles connecting sage grouse breeding habitat in Saskatchewan and winter habitat in Montana.

Partial migration is where some, but not all, individuals in a population are migratory. Partial migration has been argued to be the most widespread form of migration found in all major taxa, including sage grouse. Most people are familiar with annual to-and-fro migrations, where animals travel between a breeding and non-breeding season. Sage grouse can behave like this. However, sage grouse can also demonstrate round-trip migration among three different seasonal ranges. Sage grouse generally have three distinct seasonal habitat requirements (breeding, summer, and winter) with any combination of one to three seasonal ranges for individuals to meet those requirements



Locations over one year for three greater sage-grouse that exemplify different types of migration behavior where grouse use one (blue), two (red), or three (green) unique seasonal ranges to meet breeding, summer, and winter habitat requirements.

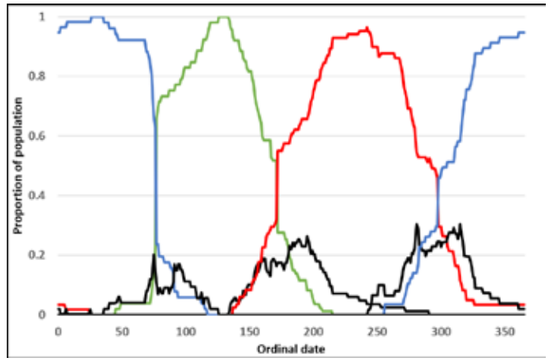
It is possible for residents and migrants to share any of the three seasonal ranges. In our sage grouse studies, 26% of grouse were residents with just one annual range meeting all three habitat requirements; 1% of grouse moved between breeding range and a separate area used for both summer and winter; 16% of grouse moved between summer range and a separate area used for both breeding and winter; 18% of grouse moved between winter range and a separate area used for both breeding and summer; and 39% of grouse used three distinct areas to meet their three habitat requirements.

Sage grouse breeding habitat generally includes large areas of sagebrush-dominated plant communities in the vicinity of strutting grounds that also include an herbaceous layer. Summer habitat can include a wide-variety of plant communities within sagebrush-dominated landscapes with a greater source of moisture that keeps plants from desiccating (e.g., riparian, montane sagebrush, wet meadows, and irrigated hayfields or pastures). Winter habitat occurs in mostly sagebrush-dominated plant communities, where sagebrush plants provide food and

Noppadol Paothong/www.npnaturephotography.com


Jodi Stemler

cover, particularly in areas where tall sagebrush or topography permit sagebrush to extend above snow. Seasonal movements for sage grouse are presumed to be tied to forage quality and availability. Sage grouse appear to depart their breeding range because of decreased forage quality when plants desiccate, depart their summer range because of decreased forage quantity when snow limits availability, and depart their winter range to return to breeding range under favorable conditions (i.e., spring green-up). One can argue that there is also an autumn habitat requirement while transitioning from green forbs on summer range to sagebrush on winter range. However, our observations suggest that in most cases this does not create a fourth seasonal range. Instead grouse start using sagebrush after forbs desiccate while still on summer range, at stopover locations while migrating between summer and winter range, or they arrive on winter range early well before the arrival of snow. There were a few exceptions when grouse left summer range and went out of their way to spend a little time, usually back on their breeding range, before finally leaving for winter range. Sage grouse use a combination of temperature and precipitation to properly time their movements between seasonal ranges. In general, migratory grouse avoid more rapid plant desiccation in warmer breeding ranges and avoid higher snow accumulation in colder summer ranges with more precipitation than residents in the same population. Our study populations showed that the seasonal transition with the most (75%) individuals exhibiting migratory behavior was between summer habitat and winter habitat, closely followed by individuals (73%) transitioning between breeding habitat and summer habitat, and the lowest proportion (55%) of the population migrating between winter habitat and breeding habitat. Our observations also revealed that sage grouse spent more time on winter range than any other seasonal range.



Proportion of the GPS-equipped greater sage-grouse population in breeding (green), summer (red), winter (blue), and interseasonal periods (black) in Bighorn Basin, Montana and Wyoming.

Elevational gradients in the western U.S. create conditions conducive for the consistent change of resources needed for migratory behavior to develop. Altitudinal migration is when animals move up and down in elevation. This is common with sage grouse that move up in elevation to access more mesic sagebrush communities during the dry summer and then retreat to the valleys and basins to avoid deep snow during winter. Sage grouse also demonstrate another type of migration behavior that does not neatly fit into the classic forms of altitudinal and latitudinal movements because they are not directly tied to elevational changes or oriented north–south. This is common for sage grouse that do not use mountain summer habitat but instead go to irrigated hayfields and pastures. Irrigation, or natural riparian habitat in some locales, can also provide the added moisture to keep plants green during the dry summer months. Grouse that summer in these areas must leave for winter range during autumn if there is not enough quality sagebrush nearby.

It is important for sage grouse conservation to protect all seasonal habitat requirements including habitat used along migration routes. In our studies we observed that grouse were frequently migrating through breeding habitat, so conservation actions focused on breeding habitat are also partially protecting migration habitat. However, there also appears to be much variation in behavior among populations, such as the proportion of the population that is migratory and the distances of migrations, so better understanding local variation in behavior may be necessary for conservation actions to be successful in protecting all seasonal requirements. Obtaining this detailed basic life history information requires the use of more advanced GPS and radio-tracking technology.

We believe we all have a duty to conserve migratory behavior and migratory populations because of their intrinsic value. We all have more to learn about our beloved grouse and hope you have obtained a little more appreciation for sage grouse now that you have greater understanding. We also hope the next time you experience the changing of the seasons and think about animals changing their behavior to acclimate to the changing environment, you will spend some time pondering migration and the greater sage-grouse.


Ken Miracle

Bugs and Birds

Declines in insect populations are affecting populations of birds, game and nongame, in farm country

Chris Madson

We were in the middle of a long, hot drive across South Dakota, and the dogs were in need of a break. I pulled off the interstate at Kennebec and headed out toward Lake Byre, a city park a couple of miles north of town. As I crunched along the gravel, my younger Brittany took a sudden interest in the road ahead and came on point. I slowed in time to see a hen pheasant with a brood of four youngsters, picking gravel along the shoulder. The hen jumped into the thick canary grass in the ditch and her four offspring, each one the size of a meadowlark, flew 30 or 40 feet into the cover and were gone.

It was June 23.

As I continued up the road, I pondered the young family. The book says that the peak of pheasant hatch in South Dakota is somewhere between June 16 and June 30. Clearly, this hen was ahead of schedule, but it was unlikely that these chicks were more than three weeks old. In that time, they had tripled their hatching weight, molted into new feathers, and started to fly. In the next three months, they would replace their feathers again and grow to more than 40 times their initial weight.

They don't do that on a diet of Wheaties, I thought. It takes some heavy-duty protein. And, in the last 50 years, protein in the form of insects has been increasingly difficult to find in farm country.

One of the first researchers to take note of the situation was the English ecologist, G.R. Potts. In the late 1960s, Potts began studying the gray partridge in Europe and North America, and in 1986, he reported his findings in "The Partridge: Pesticides, Predation and Conservation." The trends he found were troubling. "An overwhelming decline in numbers has been documented in most countries in which the partridge is found," he wrote. "Indeed, it is possible that the species has declined in all of the thirty-one countries in which it is found!" In his feeding trials, he discovered that the chicks of gray and red partridge simply didn't grow on a diet of seeds and greens alone. They needed insects. Chicks fed on an insect diet withstood cold better, gained weight faster, and could fly at a younger age. Not surprisingly, he found that, as use of pesticides and herbicides on the farms in his study area increased, more gray partridge chicks died.

As the years have gone by, Potts' findings have haunted me. Like many wildlifers with a particular interest in upland birds, I expected

the revolutionary conservation provisions of the 1985 Farm Bill to yield huge benefits for grassland natives like the sharptail, prairie chicken, and bobwhite, as well as the exotic pheasant and gray partridge. After the experience with Soil Bank cover in the late 1950s and early 1960s, I expected 45 million acres of permanent cover to set off an explosion in wildlife populations, game and nongame.

It did help. Pheasant and greater prairie-chicken populations rose a little along with numbers of prairie ducks. Sharptail populations stabilized. But troubling declines in other populations continued. Bobwhite quail populations declined by an average of 4% per year between 1966 and 2013. Numbers of eastern meadowlarks declined by a little over 3% per year over the same span; lark buntings, by more than 4%.

Every year, we prayed for a mild winter; a warm, dry spring; a gentle summer, but it seemed that, even when the weather was nearly perfect, the response of game birds was less than spectacular. As I followed my Brittanies across huge swaths of CRP, hoping for a point, I had to wonder whether other, more subtle forces were restraining upland populations.

In the last decade, a growing body of research in North America suggests that the problems Potts and others had reported in the Old World are at work in the New World as well. A new class of pesticides, the neonicotinoids, emerged in the early 1990s. They were generally less toxic to mammals and even more toxic to insects than earlier pesticides. They were first used on cotton, then wheat, soybeans, corn, and, finally, alfalfa. By 2011, they were being applied to more than 300 million acres of American cropland.

The impact of these new chemicals, along with recently developed herbicides, has been monitored from farm to farm, but the overall ecological effect is only now beginning to emerge. The decline of the monarch butterfly and the ongoing loss of honeybees have made the newspapers in the last five years. The loss of native bees has attracted much less attention. Declines in populations and diversity of stoneflies, and caddisflies have gone largely unreported, and there is, as yet, no research on population trends of such important insect families as the beetles, ants, flies, true bugs, and grasshoppers in North America.

What we do have is troubling indirect evidence of a subtle problem limiting populations of birds. As a group, populations of bird species that nest on the Great Plains and winter on Mexican grasslands have declined by more than 70% since 1970. Numbers of other grassland species have dropped by almost a third. Farmland birds as a group are also in steep decline. Populations of birds like swallows and flycatchers that subsist entirely on flying insects have also dropped steadily since the 1970s.

And harvest of upland game birds in farm country has declined, in spite of the cover established under provisions of the federal farm bill. Take Nebraska. In the decade from 1955 to 1964—the heyday of the Soil Bank land retirement program—pheasant harvest averaged a little over one million birds a year. In the decade from 2005 to 2014—with CRP firmly established—average annual pheasant harvest was just over 260,000 birds. The acreage being farmed increased only slightly over that time, from 18 million acres of harvested cropland in 1959 to 18.8 million acres in 2012. But something has clearly changed for pheasants—and not for the better.

Recent research suggests that the new generation of pesticides is at least partially to blame. They're more poisonous to birds than previously thought, and they affect a bird's ability to metabolize food and accumulate fat in addition to threatening to kill a bird that has ingested too much. The indirect effects of these insecticides may be even more serious. It is becoming clear that they are purging entire landscapes of their insect life, and, in the process, depriving most birds of critically important food sources during their nesting and brood-rearing.

Modern herbicides can have even more subtle impacts. Many insects depend on specific plants—the monarch butterfly's focus on common milkweed is the best-known example, but there are others. Widespread herbicide use can reduce the variety of plants, as well as their abundance, over wide areas. That loss can, in turn, affect the variety and abundance of insects, which has a predictable effect on birds.

In Nebraska, recent research has shown that CRP fields that are interseeded with legumes produce far more pheasants than CRP without the interseeding. The researchers concluded that the increased diversity of vegetation supported more than twice as many of the insects pheasants eat, which allowed hens and their broods to eat their fill in a relatively small area. Less movement meant less exposure to predators and a doubling of nest success and brood survival.

Federal guidelines for CRP recognize the importance of more diverse cover. They require some sort of "mid-contract management" halfway through the contract. The farmer may burn, disk, or use a herbicide on CRP cover to clear the way for new plant growth, particularly broad-leafed plants. He may reseed the area after it has been treated to get more diversity in the cover. There is also federal funding for the establishment of wildflowers and legumes for pollinators.

These management efforts definitely help insects, game birds, and a host of nongame birds on the Great Plains, but a growing body of information suggests that they aren't enough to balance losses to increasingly intensive farming.

When I started in wildlife ecology, game bird managers focused on providing cover for the species they wanted to produce. The term suggested shelter from the elements, hiding places from a host of predators, secure bedrooms and nurseries. Food was generally an afterthought because the mosaic of weedy cropland, forbs, grass, and shrubs that constituted good cover also produced abundant food—lots of insects in the summer and bushels of waste grain after harvest.

But times have changed. Providing shelter is only part of the challenge managers face. These days, they need to provide more food as well.

Chris Madson

The Plight of Prairie Grouse and Other Grassland Birds

Leah Lowe, Steve Riley, Anna Matthews, and Jim Giocomo

Historically, the Great Plains—from southern Texas northward to Montana and the Dakotas and well into Canada—consisted of mostly open tall-, mid-, and short-grass prairie, and scattered trees and shrubs. The temperate to arid climate and diverse landscapes from scrubland/shrubland, to open prairie, to savannah grasslands provided virtually endless opportunity for those plant and animal species that evolved within such an expansive ecological zone. Today, due to several human-induced factors like row-crop farming, conversion to introduced monocultures, and fire suppression (resulting in issues like woody encroachment), approximately 53% of the historical area of the Great Plains remain in native grasslands, and even those remaining acres are challenged by overgrazing and fragmentation.

Of the wildlife species that rely on healthy, intact native grasslands, one of the most visible and hard hit groups is grassland birds. Analysis of the national citizen science annual bird count—Breeding Bird Survey (BBS) data—shows significant population declines in most grassland bird species since the mid-1960s. Of the estimated 2.9 billion birds (1 in 4 birds) lost since 1970, a full quarter of the estimated birds lost were grassland birds (720 million).

This decline is painfully evident in populations that are more habitat specific. On a roughly linear spectrum from habitat-specific to habitat-generalist, avian species like greater prairie-chicken (GPC), which requires massive, intact grasslands, would be found near the habitat-specific side, while a species like northern mockingbird, an opportunistic feeder that can inhabit essentially any urban building, rural home, barn, or gas station, would be nearest the habitat-generalist end.

In the attempt to bring awareness to this decline in sensitive grassland bird populations, often the message focuses on charismatic species like prairie grouse or northern bobwhite, but in fact, many grassland songbird species are also experiencing serious population decline. This is especially true for grassland songbirds that are short-distance migrants. These birds typically breed in Canada and the northern U.S. yet tend to winter in the southern U.S. Using BBS data, both western and eastern species trend downward in population numbers, while the sharp-tailed grouse in the west and GPC in the east decline in numbers, but begin a slightly upward trend (likely related to the Conservation Reserve Program).

While these two prairie grouse species are extremely susceptible to loss of habitat and fragmentation by nature of their behavior and habitat needs, these BBS data indicate at least a hint of current population stability. They are able to utilize agricultural areas like croplands for food or heavily grazed areas for lekking, but they do require several square miles of intact native habitat, which can make effective, long-term sustainability for these birds so difficult.

However, the Attwater's prairie-chicken (AWPC), a subspecies of GPC, is unique to the gulf coastal prairies of Texas and Louisiana and is arguably the most endangered bird in North America. The rapid expansion of urban development and, therefore, loss of contiguous habitat in these areas has resulted in a dismal AWPC population of approximately 8,700 individuals remaining, a 99% decline since 1919.

Comparatively, several grassland passerines that have overlapping habitats, breeding or non-breeding, within the ranges of prairie grouse are experiencing similar population declines. The very secretive LeConte's sparrow, found in wet grasslands, has experienced a 73% cumulative decline from 1966 to 2015. McCown's longspur, which may be found in areas like lekking sites with short, sparse vegetation, has endured a cumulative population decline of 88% from 1966 to 2015 and is on the 2017 State of the Birds Watch List. Being on that list means that the bird is at risk of being threatened or endangered if no conservation action is taken.

Sprague's pipit, a short-distance migrant that mostly stays within the historical Great Plains zone throughout its life, has declined by 79% during this same time period and will lose another 50% of its population by 2043 if no conservation action is taken. Woody encroachment has been a primary limiting factor for Henslow's sparrow as they select large fields with tall, dense vegetation and no woody plants. It is listed as Near Threatened on the IUCN Red List and listed as Endangered in Canada and seven U.S. states.

Collectively, prairie grouse and these declining grassland songbirds require a range of habitats that should be (and still are to a reduced degree) occurring within the Great Plains. But more and more, these birds find that they have nowhere to be. It is evident that habitat loss, degradation, and fragmentation are the largest contributors for the decline of each of these species, and several of which will reach their half-life within the next 20 years. This means that an additional half of their population will disappear by 2040.

Federal and state agencies and non-governmental organizations, like NAGP, are committed to conserving prairie grouse. In addition, large partnerships, like the Migratory Bird Joint Ventures across North America, recognize that the general plan of attack should be to reclaim habitat by encouraging and supporting large-scale native grassland restoration and management on public and private lands. For example, Partners in Flight and USDA-NRCS have taken steps to promote establishment or preservation of large grassland areas for the Henslow's sparrow, which seems to have enjoyed increased populations in local, isolated instances.

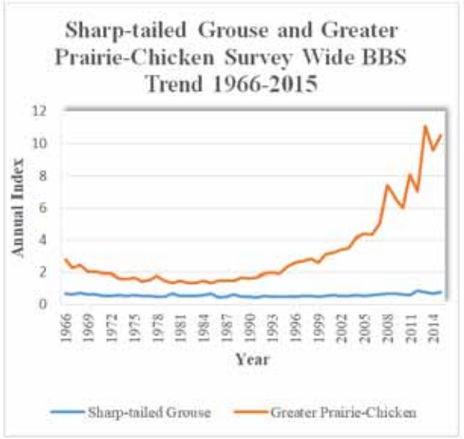
The goal is to communicate, far and wide, the serious issues facing all of these species, provide sound solutions, and assist in on-the-ground management whenever and wherever it is possible and practical. We know what needs to be done, and while the concept is simple enough, it will take a sustained and coordinated effort from the public and private sectors, working largely with private landowners, to see the end result of increased and sustaining grassland bird populations. Cooperative conservation partnership efforts and the evolved resilience of many of our grassland bird species does allow for rapid positive population responses to targeted land management.

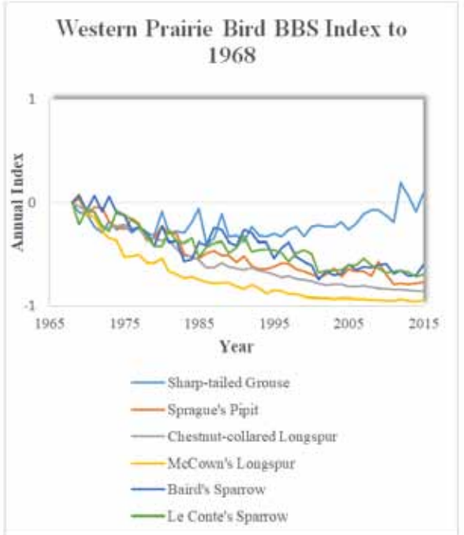
Adult Henslow's sparrow.

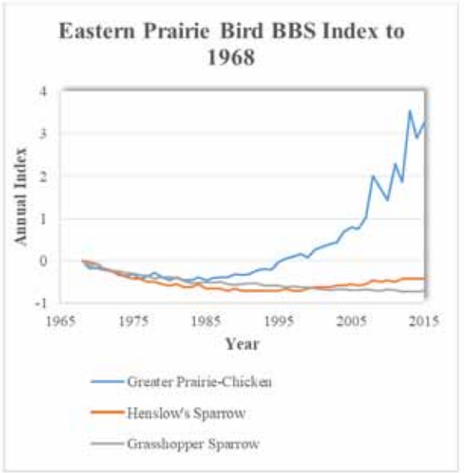
Luke Sietz

Ron Howard

Breeding male McCown's longspur with black breast and chestnut wing patch.







Greater Prairie-Chickens and Sharp-tailed Grouse as Flagship Species for Grassland Conservation: Report on the Interstate Working Groups

Jon Haufler, North American Grouse Partnership and Ecosystem Management Research Institute

America's grasslands, particularly in the Great Plains, have been identified as some of the most endangered ecosystems in North America. They support a wide diversity of species, notable among these are two species of grouse. The greater prairie-chicken (GPC) relies on tall grass and eastern mixed grass prairies, while sharp-tailed grouse (STG) inhabit northern mixed grass prairies. Both species require large blocks of high-quality grasslands to sustain populations. As such, both species are excellent flagship species for grassland conservation.

NAGP recognized the role these species could play over 10 years ago when it developed its "Grassland Conservation Plan for Prairie Grouse." In 2014, we saw an opportunity to apply what was being learned about management of lesser prairie-chickens to management of GPC and STG, and sent a letter to Keith Sexson, Secretary of Operations for Kansas Department of Wildlife, Parks, and Tourism and an officer in the Western Association of Fish Wildlife Agencies suggesting that interstate working groups (IWGs) be established to develop and implement plans for both species. With Keith's help, the directors of state wildlife departments recognized that maintaining these two species would not only be important for their well-being but doing so should help provide for a wide diversity of other grassland dependent species. In 2015, the directors of 14 states (OK, KS, MO, IA, IL, MI, WI, MN, ND, SD, NE, CO, WY, MT) endorsed the creation of IWGs for GPC and STG. The working groups were set up under the Western Association of Fish and Wildlife Agencies' Western Grasslands Initiative, with the groups also endorsed by the Midwest Association of Fish and Wildlife Agencies. The IWGs have included representatives from the state agencies as well as the U.S. Fish and Wildlife Service. A science committee of experts on various aspects of landscape planning for grouse was established to provide additional input.

Initial work compiled information on known distributions and numbers of each species. Survey methods differ among the states making range-wide tallies difficult. While it was determined that developing a consistent sampling methodology for monitoring populations was desirable, funding and staffing limitations make implementation of such monitoring difficult. Existing information on lek distributions as well as ebird data were used to help map known distributions.

It was quickly evident that two different but linked conservation strategies would be needed. In eastern portions of the ranges of both species, populations are small and highly fragmented. Eastern states (MI, IL, WI, MN, IA, MO) have fairly good knowledge on the locations and sizes of their remaining populations. Conservation is being focused on maintaining and improving the status of these populations through habitat improvements and expansion where the birds are located and linking populations through either allowing movements among population areas or through translocations. In western parts of the ranges of the two species, populations are larger and better distributed. The IWGs have been working to better identify key conservation areas where habitat maintenance and/or improvements will provide the best responses.

The IWGs are preparing management plans that will identify needed habitat conditions, key conservation areas, and needed conservation actions. A goal is to develop integrated maps of areas of greatest grassland conservation opportunity so that available conservation funding can be directed toward these areas. This is needed to avoid the "random acts of conservation" that is much too prevalent today—where conservation dollars are spent wherever an opportunity arises, providing benefits to local parcels of land, but failing to produce the large blocks of connected high-quality habitat that are needed to support prairie grouse and other grassland dependent species.

As draft plans are prepared, the IWGs will be reaching out to other grassland conservation initiatives. A hope is that the limited amount of funding available for grassland conservation can be jointly focused on key conservation areas to achieve the greatest benefits. NAGP has identified prairie grouse as a priority for our efforts as we think we can be very effective in moving conservation efforts on these species forward. Helping the IWGs for GPC and STG is an important part of that work.

Birds of a Feather

Sometimes grouse hunting leads to something unexpected

Story and Photos by Jodi Stemler

Family time means different things to different people. For the last eight years or so, my best family time has come as we tally up the miles together in the grasslands and sagebrush fields where we hunt grouse. It started when our daughter and our dog were both young.

Our first pursuit of mountain sharp-tailed grouse or "sharpies" in western Colorado was adventurous as we kicked up a family group of sage grouse (in a sharpies-only hunting area). We found sharpies for our game bag that year, and vowed we'd come back again. Over the years and many miles of walking, we shot sharpies, sage grouse, and dusky grouse. In more recent years we've expanded our hunting areas by heading east to the sandhills of Nebraska pursuing prairie sharpies and greater prairie-chickens, along with pheasants and turkey.

We have had the opportunity to hunt a good variety of species all of which are fantastic table fare. We've enjoyed long walks in some of the most beautiful natural areas, reveling in the diversity of plant and animal life that shared those days with us. We have built many experiences that still ramble in technicolor through my brain, permanently etching the family memory file folder. We've watched our daughter and our dog grow up from adolescence to young adults and become accomplished hunters and lovers of the natural world. But perhaps the most unique thing that we have taken home from our fall grouse adventures is a new business opportunity.

From those first hunts where she walked with us at just 6 or 7 years old, our daughter was fascinated with the feathers of the birds we harvested. She'd carry the birds for us and stare in awe at their beauty and stunningly unique natural camouflage. We began to save the feathers as a token of our hunts and she looked at ways to use these beautiful feathers in one more tribute to the life of the birds. After a few years and much experimentation, we found a way to memorialize the beauty of these birds by creating jewelry that highlights individual feathers in stunning earring designs that she sold at the county fair Youth Market through her 4-H Outdoor Skills project. This has provided us with another incentive for heading grouse hunting each fall as all the feathers she uses come from wild birds harvested by our family. (Note: It is legal to sell products made from legally harvested non-migratory birds, regulations vary by state).

Her creative design and jewelry crafting skills improved and as the diversity of birds from our upland hunting pursuits increased, the variety of earrings she designed expanded. In 2018, after donating pairs to several conservation auction events, we learned that these beautiful pieces of art appealed to the many women who appreciate hunting, the great outdoors, and the celebration of the pursuit of wild game bird species—they also provided a unique alternative to the usual items up for sale at these charity events. That recognition led to the launch of Field to Feather Designs, our leap into online sales.

What better way to honor these remarkable birds and the long days spent hunting them? For a teenage girl, Field to Feather Designs has been a way to appreciate her hunting experience, learn some business skills, and earn some spending money. It's created a desire to roam farther afield to hunt different species as well as return trips to our favorite nearby grouse fields. It's spawned the desire to head to the highest elevations to pursue the grouse at the top of the world, the ptarmigan, as well as a Southwest quail hunt scheduled for this hunting season.

It's not about the business—though each unique bird brings new remarkable feather patterns—the truth is that it is just one more motivation for us to spend time in the field together as a family. Sometimes there is more to hunting excursions than a full game bag, good exercise, and family time.

What's up with Masked Bobwhite?

Don Wolfe

Of course masked bobwhite are not grouse, but many grouse enthusiasts are also quail enthusiasts. Masked bobwhite historically occurred from about 40 miles north of the Arizona/Sonora border to about 150 miles south of the border in the grasslands area of the Sonoran Desert. Since the discovery of the species in the late 19th century, the species has never been abundant, and was thought to be totally extinct on more than one occasion.

While aside from the broad assessment that habitat loss has been the primary factor in their decline and near disappearance, the most common assumption is that large cattle drives through the Sonoran grasslands were likely the greatest cause of the habitat destruction. These cattle drives, primarily to the railroads in Tucson, resulted in near complete loss of most herbaceous vegetation, along with the expansion of mesquite and severe erosion of the topsoil. As fenced ranches became established, some of the grasslands probably improved, but rangeland management in the early 1900s was not as refined or understood as today so recovery was extremely slow.

By the 1970s, however, some of the grasslands on the Arizona portions of their range were thought to be suitable to support bobwhite again. Small relict populations of masked bobwhite were discovered in 1965 in Sonora and some birds were captured to start a captive breeding population at Patuxent, Maryland; reintroductions began in Arizona in 1977. After the first few years, there were 300-500 birds surviving year-round and the outlook for a self-sustaining population in Arizona was good. Then the 1980s happened. After a couple of years of drought and a change of ownership and management of the largest ranch in the release area, the population in Arizona again declined and release efforts were less successful. In 1985, the U.S. Fish and Wildlife Service purchased the Buenos Aires Ranch and established a national wildlife refuge for the primary purpose of preventing the complete extinction of masked bobwhite. Even after acquisition of the refuge, some of the management practices were questionable and habitat recovery in any desert system is extremely slow.

By the early 2000s, a decision was made to delay any additional releases until larger areas of suitable habitat could be restored. Meanwhile, additional birds were captured in 1999 to provide fresh genetics, and the breeding facility was relocated from Maryland to an isolated parcel of the Buenos Aires NWR. Still,

Dan Reinking

breeding efforts were focused mostly on maintaining a captive population rather than providing large numbers of birds for release.

In 2017, the USFWS provided funding to the Sutton Avian Research Center to repurpose an existing Sutton structure to start a masked bobwhite breeding facility. In addition, eggs were transported to Oklahoma that were hatched and became new breeding stock. In most quail, the males do a considerable amount of brood care, and adult males will usually readily take young chicks and care for them as their own. By fostering 2- to 7-day old chicks with an adult male and releasing as a family group, the young birds have a good chance to survive. In our first year of production, around 500 young masked bobwhite were transferred to Arizona. After being fostered with vasectomized northern bobwhite males captured earlier in the year, just under 400 chicks were released as broods when three weeks old. Over 80 birds survived into April 2019, which is comparable to first year survivorship of wild quail.

A grant from the Lyon Foundation in 2018 provided funding to expand our breeding capacity. Releases in 2019 are underway now, and it is expected that over 1,000 masked bobwhite chicks will be released this year, about half with the aforementioned wild-caught northern bobwhite foster dads, and half with pen-reared masked bobwhite foster dads. While the northern bobwhite males have learned to evade predators and forage in the wild, they do not add to the wild masked bobwhite breeding population, or in some cases, might even mate with a masked bobwhite hen resulting in infertile eggs. So, if pen-reared masked bobwhite males instinctively have or can develop necessary survivorship skills, they may ultimately prove to be the better fosters. Survivorship of chicks from both fostering methods are currently being evaluated but until it becomes clear which is best, both methods will continue. It has been encouraging that the pen-reared males so readily adopt the young chicks, a process that usually takes 5-10 minutes, but always less than an hour. The accompanying photograph shows 2-day-old chicks with their foster dad.

While a harvestable population of masked bobwhite may be decades into the future, if ever, the first steps toward recovery are underway. Even now, with a little patience, visitors to Buenos Aires National Wildlife Refuge can possibly hear the beautiful and iconic "bob-whiiiiite" call so familiar to and appreciated by hunters and birders in the eastern half of the U.S.

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