The Audubon Conservation Ranching Initiative: Development of Self-Sustaining Markets for Bird-Friendly Beef to Incentivize Grassland Conservation on Private Lands Across the Great Plains

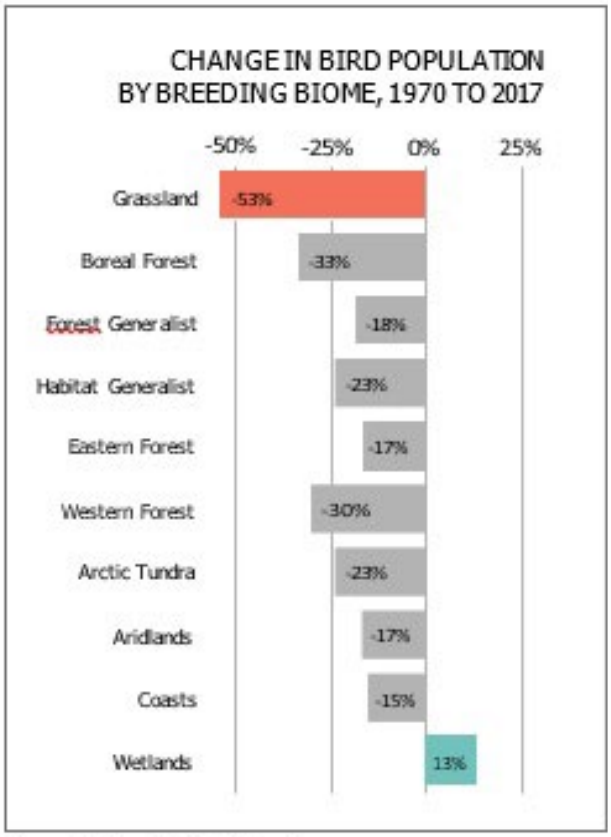
SUMMARY OF PROJECT

In 2017, the Natural Resources Conservation Service (NRCS) awarded the National Audubon Society a $1.5 million Conservation Innovation Grant to expand a pilot program to develop self-sustaining markets for beef raised on bird-friendly ranches, to incentivize grassland conservation in seven states across the Great Plains (Colorado, Missouri, New Mexico, North Dakota, South Dakota, Texas, and Wyoming). In the course of the three-year grant period, Audubon successfully established markets to incentivize participation in the Audubon Conservation Ranching (ACR) program, and, in partnership with ranchers, NRCS, state agencies, and NGOs, enrolled 96 ranches (initial onboarding to fully certified) encompassing more than 2.3 million acres across 13 states. These results far exceed project's goals of 600,000 acres across seven states.

The tremendous support of NRCS and other funding partners has created a solid foundation for the ACR program. We're positioned to expand the program to bring five million acres under bird-friendly management by 2024. We're grateful for NRCS's early support and endorsement of this transformational market-based approach to grassland conservation and rancher profitability.

PROJECT BACKGROUND

Grasslands once stretched uninterrupted from the northern Rockies to south Texas, supporting one of the planet's most diverse and productive ecosystems and defining a way of life for generations of Americans. But more than 60 percent of our native grasslands and rangelands have been lost and the remainder is disappearing at an alarming rate from conversion to cropland or other development. The grasslands that remain have been degraded by poor grazing practices, invasive and woody plant encroachment, and an increasing dependence on chemical fertilizers, pesticides, and insecticides. Narrow profit margins and increasing costs have forced many ranchers to adopt management practices that are incompatible with the habitat needs for birds and other wildlife. The resulting landscape-level changes are having far-reaching economic, social, and environmental impacts, as these ecosystems are needed not only to support birds and other wildlife, but ranchers and their families, local communities, and regional agricultural economies. Grassland bird conservation is inextricably linked to management practices on millions of acres of rangelands where cattle ranching is the principle land use.



Source: *Decline of the North American Avifauna*. Rosenberg et al. (2019).

Jay Butler, operator of the Audubon-certified 18,000-acre Pronghorn Ranch, near Douglas, Wyoming. Photo: Evan Barrientos/National Audubon Society

The need for scalable rangeland conservation solutions underpinned by conservation economics is urgent. A 2019 report by the Cornell Laboratory of Ornithology found that North America has lost nearly three billion birds since 1970, and that grassland bird populations have decreased by over 50 percent—more than any other suite of bird species. The National Fish and Wildlife Foundation Business Plan for the Northern Great Plains states, "To implement a successful [conservation] program, community engagement and ensuring the economic viability of local ranching is critical." The Partners in Flight 2016 Landbird Conservation Plan concurs, noting, "Reversing steep declines in grassland and aridland birds—which also make up 30% of all Watch List species—will require shifts in farming and grazing policies and practices that are compatible with economically viable and sustainable working landscapes."

Further, any successful grassland conservation strategy must take into account that the Great Plains and the West are a predominately privately owned landscape managed for generations with cattle ranching, which has shaped the culture and supports many local communities. In researching and conducting focus group sessions in 2013-2014, Audubon learned that significant grassland habitat enhancement can be achieved only through cooperative approaches that include the producers who live and work on these lands. Effective landscape-scale conservation needs to be both ecologically beneficial and also economically sustainable.

Studies have shown that demand for premium meat products certified as environmentally sustainable is growing, but there has been no clear way for consumers to recognize the conservation attributes of beef products in the marketplace. In 2013, Audubon enlisted industry experts to conduct a study on the potential success of a market-based "bird-friendly beef" program. The authors reported that trusted "eco-label" certifications were expected to grow significantly over the next decade as consumers increasingly make choices aligned with their values. They noted strong concerns among potential consumers about the use of hormones and antibiotics, environmental sustainability, and proper treatment of cattle. The study concluded that Audubon-certified "bird-friendly" products could be successfully marketed in restaurants and retail stores across the Great Plains (Wellspring, 2013).

SUMMARY OF METHODS AND ACTIVITIES

ACR uses an innovative, market-based approach to connect conservation-conscious consumers to ranchers who employ bird-friendly management practices to raise livestock.

Enlisting and Onboarding Producers

Prior to the start of the CIG project, Audubon had enlisted several farms and ranches to participate in an ACR pilot, adopting habitat management plans designed to improve grassland health and increase biodiversity and bird populations. An early partner in this effort, the Missouri Department of Conservation provided agency staff to work directly with farmers to adopt bird-friendly practices, as well as to assist in the development of program protocols. Several grassfed cattle ranchers in the Rockies and Dakotas joined the program with hopes of selling into premium markets that might recognize the conservation attributes of the animals raised on their ranches. The initial cohort of ranchers tended to be grassfed producers who were early adopters of holistic practices, including regenerative grazing and less reliance on outside inputs, such as chemical fertilizers, herbicides, and pesticides. These ranchers almost universally joined the program with shared values for conservation and environmental sustainability.

Upon initiation of the CIG project, Audubon staff sought to engage additional program participants through various local and national events. Rather than hold specific workshops for recruitment, we found it more effective to deliver a brief presentation or set up an informational booth at conferences and producer workshops, including national conferences like the Grassfed Exchange, National Grazing Lands Conference, and Quivira Coalition Conference. Regional producer group meetings were an especially good place for state-based staff to meet ranchers and explain and answer questions about the ACR program. Interested ranchers would typically follow up with the Audubon range ecologist to schedule a ranch visit and initiate onboarding.

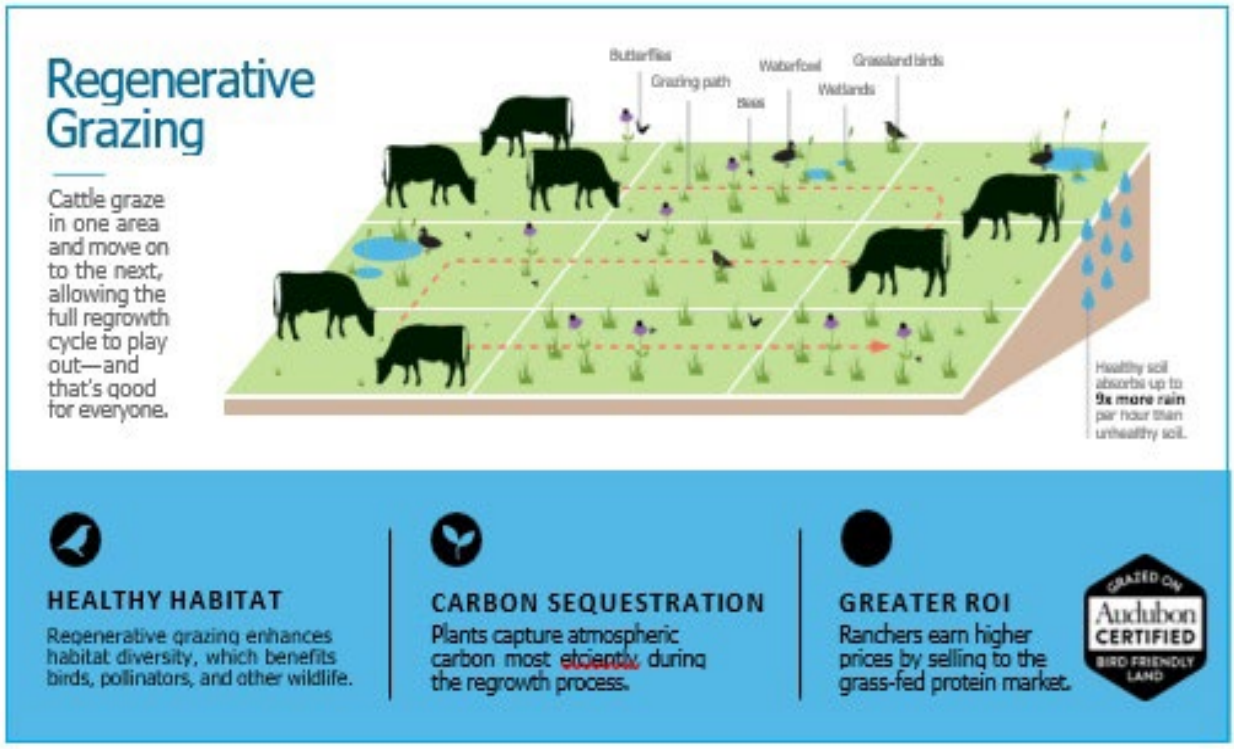
What's Good for the Herd Can Be Good for the Bird

The cornerstone of the ACR program is the development and implementation of Habitat Management Plans (HMPs), customized for each participating ranch. Audubon staff or consultants collaborate with ranchers to develop management plans uniquely tailored to address site-specific habitat and bird conservation opportunities. Desired outcomes of HMPs are guided by a region-specific set of priority/target grassland bird species, as well as associated program protocols that specify practices which, when adopted, ensure ranches are managed sustainably to benefit these species.

The Audubon Conservation Ranching program enhances millions of acres of grassland bird habitat by partnering with ranchers to implement bird-friendly management practices. The program seeks to develop market-based incentives for good grassland stewardship, and it allows consumers to participate in conservation efforts that keep producers on the land and healthy grasslands on the landscape.

> *"I was amazed. A wildlife group that actually wants to come out here and sit down and build a program from the grassroots on up, with input from producers—we haven't heard that in all the years we've been in the ranching business."*
>
> —**JERRY DOAN,** owner, Black Leg Ranch, on his ACR partnership

Underlying this approach to HMP design is the knowledge that grazing animals have played a key role in grassland ecosystems for millennia, and that the needs of grassland birds are strongly linked to the ecological impacts of grazers. Vast herds of bison once provided a shifting mosaic of habitat types through their movements, and cattle can be managed in ways that mimic the important impacts of their ruminant cousins. Audubon enlists the assistance of regenerative grazing experts to run workshops to help ranchers transition to grazing approaches that use animal density and rotation among paddocks/ pastures to diversify habitat structure and composition. Research is confirming that these practices can rebuild soil organic matter, put carbon back into soils, reduce runoff into streams, increase plant diversity and nutrient density, and lead to more productive ranchlands. Our HMPs emphasize regenerative grazing approaches that diversify habitat structure, improve soil health, and ensure environmental sustainability that benefit pollinators and other grassland wildlife.



Audubon's Green Seal

Ranch certification is achieved by demonstrating full compliance with Audubon-approved HMPs, as well ACR program protocols, a standardized set of criteria related to forage consumption, animal health and welfare, and environmental sustainability (see inset, below). Food Alliance, a third-party verifier, conducts ranch audits annually and administers the certification program. Upon successful completion of the ranch certification process, the Audubon green seal can be used on product packaging, websites, and other promotional materials to alert consumers that the product comes from a ranch managed for ecosystem health.

GRAZED ON Audubon CERTIFIED BIRD FRIENDLY LAND

FOUR PILLARS OF THE GREEN SEAL

Ranch certification is achieved by following a set of program standards in four areas:

HABITAT MANAGEMENT: Ranchers adopt a Habitat Management Plan (HMP) that addresses site-specific habitat goals and management actions to benefit target grassland bird species.

FORAGE AND FEEDING: Livestock must be able to freely graze open grasslands. Our standards prohibit the use of antibiotics and animal byproducts in feed, and seek to minimize or eliminate grain-based feed supplementation. No feedlots are allowed.

ANIMAL HEALTH AND WELFARE: Certified ranches demonstrate a commitment to properly caring for livestock by adhering to livestock production methods that reflect best practices for animal healthand welfare. Growth hormones are prohibited.

ENVIRONMENTAL SUSTAINABILITY: By restricting pesticides, minimizing fertilizers, and protecting streambanks, ranching practices result in cleaner streams, healthier soils, increased plant diversity, and more pollinators.

Putting the "Market" in Market-based Conservation

ACR uses market-based incentives to enhance and restore grassland bird habitat by empowering consumers to participate in conservation efforts. Early on, Audubon recognized that program self-sustainability over time would require us to help develop markets that give consumers the opportunity to selectively choose products carrying the green seal.

From the onset of the project, we worked with small retailers, local co-ops, and restaurants to carry products from nearby Audubon-certified ranches. We assessed the potential for existing regional and national grassfed beef brands to begin sourcing solely from Audubon-certified ranches. Two new beef brands were created solely around the ACR program, and several pre-existing brands began sourcing solely from ACR ranches. Prairie Bird Pastures is a new Missouri-based brand that sells beef locally and ships throughout the state. Blue Nest Beef is a new national beef subscription company that ships beef to consumers anywhere in the continental United States. Corner Post Meats, which initially sold locally in Colorado Springs, has expanded its operation and now ships ACR beef nationally. Evergreen Ranching, a grassfed beef brand that sources ACR beef exclusively, has expanded into institutional markets, including hospitals and universities, which offer outstanding growth opportunities.

Over the course of the project, we identified four distinct market pathways through which ACR products can reach consumers: 1) ranch direct to consumer, 2) regional retail, 3) national online subscription, and (4) institutional markets. Audubon anticipates up to 5,000 animals being sourced

from Audubon-certified ranches through these market pathways in 2021, and that number could double as markets continue to expand in the coming years. Audubon staff help connect certified ranches to branded companies, restaurants, and retailers to encourage self-sustaining markets that will incentivize continued program participation into the future. Importantly, 75 percent of Audubon-certified ranches were connected to premium ACR markets (via animals or product sales) at the conclusion of the project period. Audubon's largest market partners pay up to $2.80/lb to ACR ranchers. This represents a more than 35 percent premium over other grass-fed buyers and a 70 percent premium over conventional commodity beef prices.

Audubon uses several avenues to communicate the meaning of the green seal to consumers. We created a retail toolkit that includes posters, displays, rack cards, and freezer stickers to help retailers promote ACR products. Audubon's national website includes a program overview, videos, and links to all retailers by state. And social media, emails to Audubon members, events, ranch tours, and webinars have been used to connect consumers to ranchers and market partners.

Corner Post Meats hosts farm-to-table dinners and tractor-driven tours of Kiowa Creek Ranch. Photo: Chris Wilson/National Audubon Society

Project Strategies and Actions

We implemented eight key strategies during the three-year grant period. The following is an overview of each strategy with nested actions and details on the success (and, in some cases, challenges and how we met them) of each action as implemented.

STRATEGY 1 PRODUCER ENGAGEMENT, RECRUITMENT, AND CONTINUING EDUCATION

Host workshops for rancher recruitment	Rather than hold specific workshops for recruitment, we found it most effective to give a short presentation or have an informational table at pre-existing producer workshops.
Engage and recruit producers at conferences and events	National conferences (e.g., Grassfed Exchange, Quivira Coalition Conference, National Grazing Lands Conference) and regional producer group meetings (e.g., WY Cattle Women's Association, MO meeting of Pheasants Forever/Quail Forever, SD Grassland Coalition, TX Grassfed Beef Conference, TX Soil Health Workshop, Partners for Conservation, Southwest Grassfed Livestock Alliance) were ideal avenues to meet potential ranchers via table displays with staff to explain the ACR program.
Participant workshops on grazing practices	Audubon hosted or co-hosted workshops in every pilot state to provide background on ACR and technical assistance from consultants on implementation of regenerative grazing and grass-based finishing approaches.
Workshops on markets	Workshops were held in Wyoming and South Dakota aimed at providing information and targeted technical assistance on developing a ranch brand, value added, direct marketing, and connecting to ACR brands.

STRATEGY 2 DEVELOPMENT OF ECOREGIONAL HABITAT MANAGEMENT PROTOCOLS

Host workshops to develop regional habitat protocols and species targets	Audubon held workshops or small group meetings in every state to bring together ranchers, agency partners, bird experts, and others to develop appropriate habitat protocols and create target bird species for 20 ecoregions.

STRATEGY 3 SUPPLY CHAIN ESTABLISHMENT AND EXPANSION FROM PRODUCERS TO POINTS-OF-SALE

Engage co-ops, local grocers, chain grocers, and restaurants	Audubon worked with small grocers and restaurants to establish more than 100 points of sale for ACR products across the country. Six brands now source solely from Audubon-certified ranches and carry the Audubon "green seal" on products.
Supply Chain Development to identify market challenges and opportunities	We engaged multiple supply chain consultants to inform a program-wide Supply Chain Analysis to assess challenges and opportunities. Created a Market Development Roadmap to guide help assess opportunities in new locales.
Ensure slaughterhouse connections	Audubon assisted brands to identify regional processing plants and storage facilities. We supported Evergreen Ranching in product development related to the acquisition of Sturgis Processing Plant.
Identify and develop cattle finishers to allow participation of cow-calf producers	While we initially presumed that Audubon would need to develop finishing operations, experience guided us toward facilitating the connection of certified finishers to brands in need of finished animals.
Identification and onboarding of mail order retailer	Directly supported Blue Nest Beef, a new national online subscription beef company built solely around ACR, via emails to Audubon members, social media, website content, etc.

STRATEGY 4 CONSERVATION RANCHING IMPLEMENTATION

Range Ecologists develop ranch-specific HMPs and assist with compliance and bird-related technical assistance	We expanded our network of Audubon Range Ecologists to seven staff supplemented by agency partners, nonprofit partners, and contractors across 13 states; entered into cooperative agreements with partner entities to lead the ACR program in key states where Audubon has no presence; and lead partners include the Missouri Department of Conservation, Montana Audubon, and Pheasants Forever/Quail Forever (Oklahoma).
Production specialists assist participants in transition to new grazing approaches	Audubon engaged grassfed consultant Allen Williams to conduct workshops and ranch consultations to assist participants, and we developed a workshop template with Ranching for Profit.
Facilitate producer access to NRCS cost share programs	We helped directly implement NRCS cost share practices in the Dakotas, and we worked with the Missouri Department of Conservation to connect ranchers to RCPP funding.
Participating producers modify ranch management to meet protocols and HMPs	As of July 2020, 96 participating ranches (initial onboarding to fully certified) totaling 2,332,616 acres have adopted HMPs.

STRATEGY 5 MARKETING, PUBLICITY, AND PROMOTION

Assist retail partners with product promotion	We created a retail toolkit that includes posters, displays, rack cards, and freezer stickers to help retailers promote ACR products and developed a webpage on the Audubon website with links to all retailers by state. We also supported marketing and promotion efforts of Prairiebird Pastures, Evergreen Ranching, and Blue Nest Beef.
Facilitate local/regional publicity campaigns using pilot ranchers in the marketing message	Audubon used social media to connect Audubon members to ACR ranchers and created ranch profile pages on Audubon websites and developed multiple videos highlighted certified ranches. ACR ranches were featured in articles and ads in Audubon magazine. We also created a video to promote ACR to institutional markets (hospitals, universities).

STRATEGY 6 THIRD-PARTY CERTIFICATION OF RANCHES TO VERIFY ADHERENCE TO PROGRAM PROTOCOLS

Use Food Alliance Certification Audits on participating ranches	A total of 50 ranches were fully certified by the end of the project period, with 46 others working toward certification.

STRATEGY 7 BIRD MONITORING AND HABITAT EVALUATION ON ENROLLED RANCHES

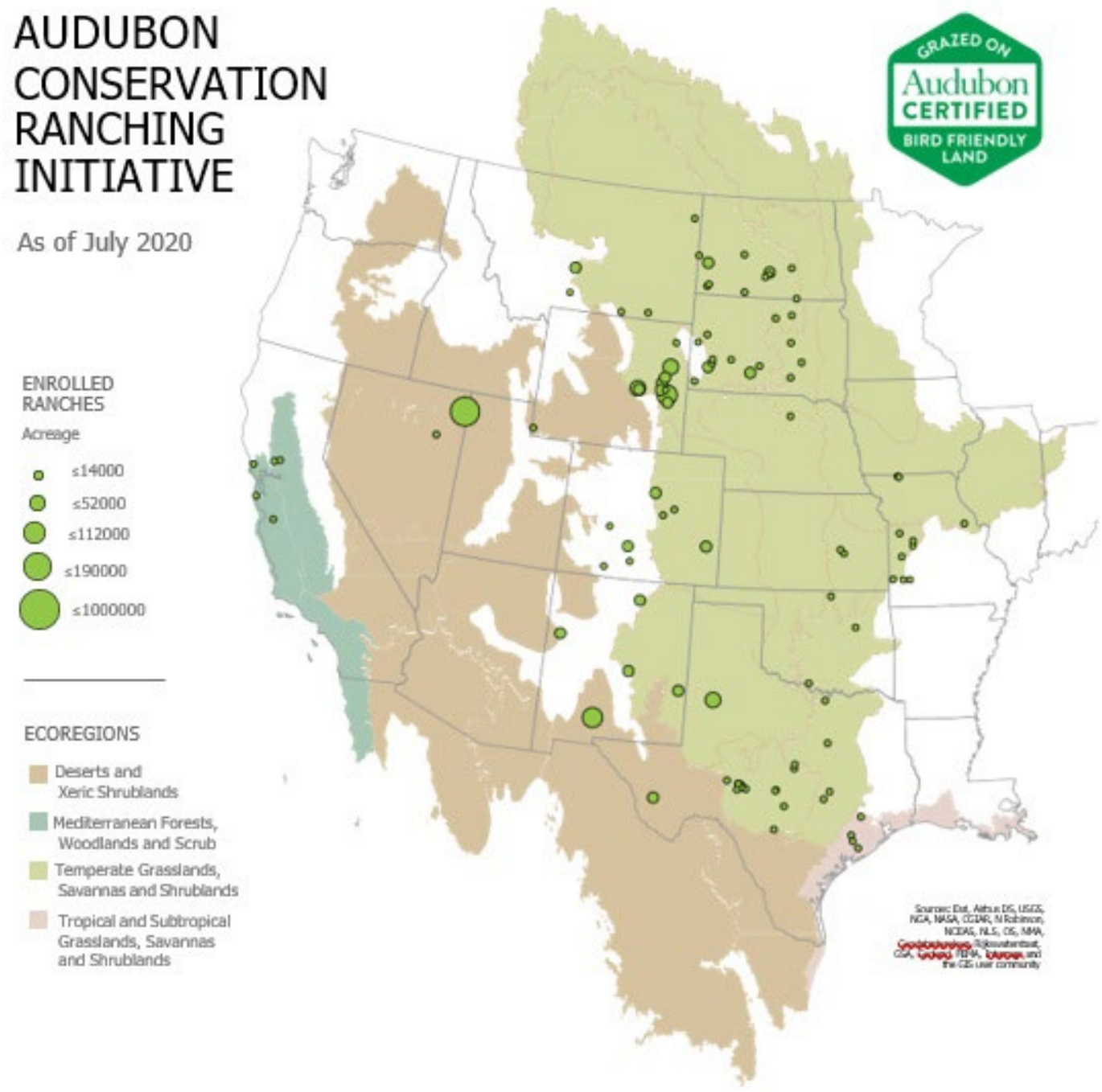
Conduct bird surveys on all participating ranches	Bird surveys were incorporated into the monitoring of every certified ranch in the program.
Explore habitat/vegetation monitoring methods	Piloting vegetation monitoring on ranches in the Rockies and Dakotas. Recognizing the potential benefits of regenerative grazing practices on soil health, we worked with Applied Ecological Services to conduct soil health/soil carbon measures on three ranches in the Rockies in 2019.
Annually summarize and analyze bird data (via Audubon's "Bird Friendliness Index")	We produced a standardized bird monitoring report for all participating ranchers in the program, as well as an overall ACR program bird monitoring report.

STRATEGY 8 PROGRAM SUSTAINABILITY

Fundraise for program expansion	Audubon successfully built on the financial support of CIG to secure several significant grants from Margaret A. Cargill Foundation, Cedar Tree Foundation, National Fish and Wildlife Foundation, and several state grant programs and donors. Individual state programs secured additional funding from individual and foundation donors. All of this support is continuing, most significantly with a five-year $3.2 million RCPP AFA grant from NRCS in September 2020.
Build Audubon capacity to support program long term	The ACR Program Director and seven full-time range ecologists/ program managers are assisting participating producers and market partners. We will continue to expand the program via growing partnerships with governmental agencies foundations, corporations, and individuals.

OBJECTIVES AND OUTCOMES

The CIG project was initiated in seven states with a goal of certifying 600,000 acres by 2020. During the three-year project period, **ACR expanded to encompass more than 2.3 million acres**, representing partnerships with 96 ranchers (initial onboarding to fully certified) across 13 states—far beyond the original three-year expectations for the project.



The project included several key objectives to be accomplished during the grant period. The table below lists each objective and outcomes to date.

PROJECT OBJECTIVE	RESULTS
Enroll 35-50 producers in the Conservation Ranching Program.	By July 2020, 96 ranches were participating in the program, and 50 of these were fully certified.
Provide direct assistance to producers in the transition to bird-friendly cattle management practices and entry to premium beef markets.	Workshops were held to assist ranchers in ND, SD, CO, WY, NM, and MO; 37 certified ranches are selling into premium ACR markets.
Complete grassland bird habitat management protocols for 20 ecoregions throughout the Great Plains. Demonstrate and evaluate the effectiveness of livestock management practices to meet these protocols.	Habitat Management Protocol templates have been developed for 20 ecoregions, and 50 ranches have become certified as fully implementing HMPs and meeting protocols.
Increase grassland bird populations on 600,000 acres of privately owned grassland via producer implementation of ranch-specific Habitat Management Plans.	Bird monitoring has been initiated on all participating ranches, and data show that key target species have increased on ranches.
Develop fully linked regional supply chains that consist of producers, federally inspected slaughter facilities, packing and packaging facilities, distribution partners, and retailers with Audubon-certified products being sold in at least six regional markets.	Audubon certified products are being sold in more than 100 restaurants, grocery stores, shops, institutions, and online outlets. Ten brands now source solely from Audubon-certified ranches.
Build sufficient consumer appeal so that market demand produces a demonstrable financial premium for producers enrolled in the program.	ACR brands pay up to a 35% premium for cattle from certified ranches (as compared to grassfed market). Initially this has been largely driven by marketing to Audubon's 1.9 million members.
Reach 2 million Audubon members, 20,000 consumers, and up to 5 million members of the general public through multimedia education efforts on the importance of bird-friendly cattle management and the Conservation Ranching Program.	We have reached Audubon members via our magazine article, magazine ads, and direct email to members. Thousands of consumers have been reached through events, radio, billboards, and social media posts.

CONSERVATION IMPACT

The Grasshopper Sparrow, a grassland bird conservation target species, has increased five-fold on Audubon-certified ranches since 2016. Photo: Susan Ward/ Audubon Photography Awards

As noted above, more than 2.3 million acres are now being managed to enhance grassland bird habitat as a result of this project. Audubon conducts bird monitoring on every ACR ranch to assess the success of management practices on target grassland bird species over time. Bird populations are dynamic, and species-specific population responses to management can take time. However, monitoring data has already revealed some encouraging results on some of the early ranches to join the program.

Audubon developed the Bird-Friendliness Index (BFI) to measure grassland bird community response to management actions. The BFI takes into account species abundance, conservation status, and diversity of the entire community of grassland birds at a site. Because birds provide a variety of useful ecosystem functions, the resiliency of bird communities influences the resiliency of the overall ecosystem. Thus, the BFI includes a measure of functional diversity to evaluate the intactness and resilience of both the grassland bird community and the suite of functional roles they fulfill. Data for 2019 show that the BFI is indeed greater on Audubon-certified ranches as compared to conventionally managed ranches in a given region, which translates to better outcomes for grassland birds.

Audubon produces bird monitoring reports for every ranch in the program to inform its future management. In Missouri, targeted habitat management such as brush control and prescribed burning resulted in a fivefold increase in the number of Eastern Meadowlarks and a six-fold increase in the number of Northern Bobwhites at Round Rock Ranch. Grasshopper Sparrows are showing the same trend regionally, increasing fivefold across the 2.3 million acres of Audubon-certified ranches since 2016.

CHALLENGES

The implementation of a transformative new conservation approach does not come without significant challenges. First among these is the need to engage and support ranchers, the stewards of the grasslands upon which any successful grassland bird conservation approach hinges. For some ranchers, technical and financial assistance may be needed to transition to regenerative grazing and bird-friendly practices. Second, markets must create economic incentives for the continued habitat management on their ranches. For this to occur, self-sustaining markets that never existed before must be established, and this includes overcoming supply chain barriers (processing plant access, beef brands sourcing from ACR ranches). Third, the success of these markets is dependent upon Audubon telling the story behind the green seal to an ever-expanding audience and supporting marketing efforts of brand partners to facilitate their success.

NEXT STEPS

It has become increasingly clear that bird-friendly management practices and regenerative grazing approaches can have beneficial outcomes that go far beyond birds, with widespread benefits to soil health, water quality, pollinators, and other grassland wildlife. Audubon is currently assessing the potential to develop an ACR Carbon Marketplace that would provide ACR ranches the opportunity to

tap into a carbon market for grasslands and rangelands. An ideal financing mechanism would provide upfront funding for ranchers to implement infrastructure improvements (water distribution, fencing) to allow for more animal movement. This rest and recovery enhances habitat diversity, and it is key to enhancing soil health and building soil carbon. This ACR Carbon Marketplace would allow companies and organizations to purchase the carbon credits that would accrue in the soil of ACR ranches over time, with payments to ranchers for that carbon accrual.

The 2017-2020 grant from NRCS's CIG program was the timely and decisive factor that moved Audubon's Conservation Ranching program from the small-scale pilot phase to a proven strategy for achieving grassland conservation at a significant national scale. In the next few years, the ACR program will continue to expand to new states and is likely to include every state in the Central and Western U.S., with a target goal of five million acres by the end of 2024. As Audubon builds capacity, we expect to enhance our ability to communicate the program to the general public, as well as expand our work to support marketing efforts by our ACR market partners. We will continue to leverage our 1.9 million members as part of the consumer market, towards the goal of 11 percent of our members buying beef raised on ACR ranches by 2023. We will facilitate market expansion in each of the four market pathways as we aim to get ACR products distributed/sold through 250 points of sale nationwide. By building a growing market that incentivizes rancher participation, the program is expected to enhance millions of acres of grassland bird habitat by empowering consumers to participate in conservation efforts that keep ranchers on the land and healthy grasslands on the landscape.

Audubon enlisted soil health and regenerative grazing consultant, Dr. Allen Williams, to conduct workshops in several states. Photo: Chris Wilson/ National Audubon Society

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K.V. Rosenberg, A.M. Dokter, P.J. Blancher, J.R. Sauer, A.C. Smith, P.A. Smith, J.C. Stanton6, A. Panjabi, L. Helft, M. Parr, P.P. Marra. 2019. Decline of the North American Avifauna. Science 10. 1126.

Wellspring Management. 2013. A Bird Friendly Strategy for Cattle Grazing: The Role of Grass Fed Beef. Study for the Audubon Society.

APPENDIX A: PROJECT OUTPUTS AND MEDIA

Audubon has produced several videos and hosted webinars highlighting the ACR program and Audubon-certified ranches. Several podcasts and articles have appeared online and in the popular media highlighting the ACR program:

VIDEOS

Paul Ranch, North Dakota:

https://www.dropbox.com/sh/bm0ms7077e0n5yu/AADSuM6LV8Py9yMWYEGv8nfqa?dl=0

Round Rock Ranch, Missouri:

https://www.dropbox.com/sh/02tfvxcxemektt1/AACqBbukdBbjHUgwfgeYTeuaa?dl=0

Ranney Ranch, New Mexico

https://drive.google.com/open?id=1xq8YAFC8_qGImw4zT3sI-4IuGqK1kArK

May Ranch, Colorado:

https://rockies.audubon.org/ranching/profiles/may-ranch

Kiowa Creek Ranch, Colorado:

https://rockies.audubon.org/ranching/profiles/corner-post-meats

PODCASTS

Sustainable Dish, Audubon's Marshall Johnson: https://sustainabledish.com/podcasts/marshall-johnson-audubon-society/. September 3, 2020.

Birds are the Treasure and the Measure: FOA 182. December 4, 2019.

TEDxFargo, Audubon's Marshall Johnson. July, 2019.

Working Cows, with Audubon's Joshua Lefers: Episode 039. July 30, 2018.

WEBINARS

The Audubon Conservation Ranching Program—An Emerging Land Ethic. Facebook Webinar. September 3, 2020

The Audubon Conservation Ranching Program—Empowering Consumers to Help Our Imperiled Grassland Birds. Facebook Webinar. August 6, 2020.

ARTICLES

Some ranchers and conservationists agree: Grazing and logging can save birds. Mongabay. April 28, 2020.

MDC says Audubon Conservation Ranching program helps imperiled grassland birds. Missouri Department of Conservation NEWSROOM. February 11, 2020.

Conservation Ranching is for the birds and the cows. Wyoming Tribune Eagle, December 15, 2019.

Meat can be climate-friendly, if the animals are raised right. Minneapolis Star-Tribune. Letter to the Editor. December 13, 2019.

The Treasure and the Measure of Regenerative Agriculture with Russ Conser of Blue Nest Beef. Future of Ag Podcast Series FOA 182. December 2019.

Regen Ag Renegades: Blue Nest Beef is offering consumers "bird-friendly" beef. Ag Funder News. November 26, 2019.

Food startup Blue Nest offers beef from cattle that fix climate-change problems. Minneapolis Star-Tribune. November 25, 2019.

Carbon sequestration part of conservation ranching initiative. Sheridan Press. October 2, 2019.

Downey: Conservation ranching is a win for wildlife and people. Wyoming Tribune Eagle. September 10, 2019.

Dixon Water Foundation Partners with the Audubon Society For Bird-Friendly Beef: Dixon Water Foundation. July 30, 2019.

Grazing Like its 1799: How Ranchers Can Bring Back Grassland Birds. Audubon Magazine. 2019.

A Conservation Ranching Perspective for Birds and Beef - Holistic Management International. Guest Blog by Nancy Ranney. August 31, 2018.

Beef that Benefits Birds. Audubon Seeks to Empower a New Partner in Grassland Conservation: the Consumer. Missouri Prairie Journal. Spring, 2018.

Partner Spotlight: Burgundy Pasture Beef and ROAM Ranch. Audubon Texas website.

RESEARCH PUBLICATIONS

Michel, N.L., C. Burkhalter, C.B. Wilsey, M. Holloran, A. Holloran. 2020. Metrics for conservation success: Using the "Bird-Friendliness Index" to evaluate grassland and aridland bird community resilience across the Northern Great Plains ecosystem. Diversity and Distributions, https://doi.org/10.1111/ddi.13163

APPENDIX B: AUDUBON CONSERVATION RANCHING PROGRAM PROTOCOLS

(Example for the Texas Oaks and Prairies Ecoregion)

Audubon

AUDUBON CONSERVATION RANCHING

GRAZED ON Audubon CERTIFIED BIRD FRIENDLY LAND

PROTECTING BIRDS - BY RESTORING - GRASSLANDS

PROGRAM PROTOCOLS

REGION: Texas Oaks and Prairies

December 2019

Texas Oaks and Prairies Protocol Template Dec 2019.docx
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APPENDIX C: PRIORITY BIRD SPECIES DOCUMENT INCLUDED IN HABITAT MANAGEMENT PLANS (E.G., TEXAS OAKS AND PRAIRIES)

PRIORITY BIRD SPECIES FOR TEXAS OAKS AND PRAIRIES

Dickcissel, Eastern Meadowlark, Northern Bobwhite, Painted Bunting


Photo: Ellen Nelson/Audubon Photography Awards

Dickcissel. Identification. Large sparrow-like bird with conical bill, males have a black V on the throat, yellow chest and rusty shoulders. Females have pale yellow breast and rusty shoulders. Named for its song, one or two sharp introductory notes followed by a fast high warble "dick-cissel." Habitat consists of Alfalfa and other fields; meadows, prairies. Originally nested in native prairies and meadows. Today, many nest in fields of alfalfa, clover, timothy, or other crops. In migration, may be found in any kind of grassy or weedy fields. Forages mostly on the ground and in low vegetation. Except when nesting, usually forages in flocks. Diet is mostly insects and seeds. Nest site is usually on or near the ground, typically well concealed in dense growth of grass, weeds, alfalfa, clover, or other plants. Sometimes placed in shrub or low tree, up to 6' above ground, exceptionally higher. Formerly nested commonly along Atlantic seaboard, but disappeared during late 19th century; has reappeared as a breeding bird in the East since the 1920s, but only in small numbers. Overall populations recently have been declining again. Ranch operation is within breeding range of the species. Dickcissels are Neo-tropic migrants. "Their primary winter range extends from Mexico to South America, with most residing in the northern countries of South America. They arrive in our area in April, and some remain to breed while others continue north. The primary breeding range consists of the states of the central U.S. By early November most have departed the U. S. for their tropical wintering grounds, which are grasslands, field, pastures, and farmland." (Houston Audubon).


Photo: Sheri Douse/Audubon Photography Awards

Eastern Meadowlark. Identification. Approximately 9.5 inches head to tail; males larger than females. Lemon yellow front and black, thin beak and short tail. Habitat consists of open fields and pastures, meadows, prairies. Breeds in natural grasslands, meadows, weedy pastures, also in hayfields and sometimes in fields of other crops. Winters in many kinds of natural and cultivated fields. In the Midwest, tends to prefer taller and lusher grass than Western Meadowlark, but in the Southwest it lives in very arid desert grasslands. Forages by walking on the ground, taking insects and seeds from the ground and from low plants. May probe in the soil with its bill. In winter, may forage in flocks. Diet is mostly insects and seeds. Nest: Placed on the ground, in areas with dense grass and other low cover, in a small depression in soil. The species probably increased in numbers during the 1700s and 1800s as forests were cleared and turned into farmland. However, populations generally have been declining in the East in recent decades. The decrease in amount and quality of habitat is the most likely cause. Stewardship. Maintain diverse grassland with a balanced mix of grass for cover, forbs to attract insects and bare ground where food is collected. Use multiple efforts to control woody encroachment.

Top management recommendations for Eastern Meadowlark.

- Prescribed Burning: Of all the management options available to land managers, none have more potential to restore and maintain meadowlark habitat. Prescribed fire is an inexpensive and natural process that can be used to manipulate the various habitat elements that are important to the meadowlark. Fire can stimulate food producing plants such as forbs, increase insect abundance, change the structure of woody vegetation, and increase the amount of bare ground. Fire will also control invasive plants such as eastern red cedar. Under certain prescriptions fire can also be used to thin forests and stimulate herbaceous understory growth.
- Prescribed Grazing: Proper grazing management cannot be emphasized enough. Without proper grazing, meadowlark habitat cannot be managed and fuel for prescribed fire cannot be maintained. Maintaining a stocking rate that leaves standing residual vegetation is key. In areas exceeding 30 inches of annual precipitation, no grazing will result in herbaceous cover quickly becoming too dense. Grazing systems that encourage even grazing distribution should be avoided.
- Forest Thinning: Many forests over stories are too dense to provide meadowlark habitat. The removal of trees by commercial thinning or Timber Stand Improvement (TSI) is necessary to restore and maintain forests and bobwhite habitat. Trees should be thinned to achieve between 10-40% overhead canopy cover to meet the meadowlark's habitat increases in grass for nesting cover, increases in forbs for brood and adult food, and cover.


Photo: Stephen Pollard/Audubon Photography Awards

Northern Bobwhite. Identification. About 9.75 inches head to tail; compact, medium sized bird with white throat and extensive white eyebrow (buffy in female) separating rusty cap from cheek; rusty sides streaked with white and lightly speckled breast. Habitat consists of Farms, brushy open country, roadsides, and wooded edges. Found in a wide variety of semi-open habitats, including brushy meadows, overgrown fields, or where pastures or agricultural fields are next to hedgerows or woodlots. Forages by walking on ground, head down, searching for food by sight; sometimes moves up into vines or shrubs. Includes seeds, leaves, and insects. Nest site is on ground among dense growth. Has disappeared from much of the northern part of its range, and has declined seriously even in more southern areas. The causes for these declines are not well understood. Stewardship. Maintain native bunchgrasses for nest cover and good balance of forbs and bare ground. Areas with high forb diversity and bare ground are ideal areas for quail to bring their broods to feed. Forbs attract insects, which is the primary diet for quail chicks the first six weeks of their lives. Also, forbs provide a seed source for quail throughout the year. Manage for a mosaic of low brush within 50 yards of each large clump for shelter. Ideal shrub arrangement is clumps spaced within flushing distance for cover and thermoregulation. Manage regrowth of cedar to maintain open shrubby habitat with healthy bunchgrasses.

Top management recommendations for Bobwhite quail.

- Shrub Component: Quail are considered a shrub obligate species so maintaining a shrub component for escape cover, thermal regulation, and loafing areas is critical.
- See Eastern Meadowlark recommendations above.

Painted Bunting. Identification. About 5.25 inches head to tail; males have a blue head, green back, and red breast; females with a mostly green body and lighter green breast. Habitat. Forages mostly on the ground. Also does some foraging up in shrubs and low trees. During migration, may forage in mixed flocks with Indigo Buntings. Diet consists of Mostly seeds and insects. Reported to feed mainly on seeds, primarily those of grasses and weeds; sometimes eats berries and fruits. Also eats many insects, including beetles, caterpillars, grasshoppers, flies, and others. Probably eats more insects in early summer, and feeds them to its young. Stewardship. Enhance shrubby mottes with diverse herbaceous vegetation and open savannahs with healthy understory. Use prescribed burns and rotational grazing to maintain shrubs and good plant diversity, including bare ground. Control cedar with appropriate mechanical or chemical means, avoid broad-spectrum pesticides, trap and remove cowbirds to reduce nest parasitism and increase nesting success.

ADDITIONAL GRASSLAND BIRD SPECIES OF IMPORTANCE

Bell's Vireo, Cassin's Sparrow, Grasshopper Sparrow, Henslow's Sparrow, Le Conte's Sparrow, Loggerhead Shrike, Northern Harrier, Rufous-Crowned Sparrow, Scissor-tailed Flycatcher, Western Meadowlark.

Bell's Vireo. Identification. About 4.75 inches head to tail; gray to faint green above and white to pale yellow below; one clear wing bar with another faint one above; faint broken white eye ring. Habitat. Willows, streamsides. Breeds in low dense growth, especially in second-growth scrub or brushy fields in Midwest, streamside thickets in southwest, but also locally in chaparral, woodland edges, and or scrub oaks. Winters in the tropics in dense low scrub, mostly near water. Usually forages in low brush, within 12' of ground, but occasionally will feed much higher. Searches for insects among foliage, sometimes hovering while picking items from leaves or twigs; occasionally flies out to catch insects in mid-air. Diet is mostly insects. In breeding season, feeds almost entirely on insects, especially large ones, including caterpillars, stink bugs, wasps, bees, and weevils, and many others. Eats some spiders, and a very few berries. Winter diet unknown. Stewardship. Maintain a dense, diverse understory, especially adjacent to water, for nest sites and insect food. Use rotational grazing, mechanical brush clearing and occasional prescribed burns to maintain a diverse woody plant habitat in pocketed areas.

Cassin's Sparrow. Identification. About 5.5 inches head to tail; nondescript, pale grey-brown sparrow with faint yellow wash wings; easiest to identify by males loud, sweet song and territorial display; male sings as he flies up and then floats down on spread wings. Habitat. Can be found in desert grassland, brushy fields. Breeds in a variety of situations having good ground cover of grass and low shrubs; ranges from open grassland with only scattered shrubs to brushy areas with grassy understory. In migration

and winter, also found in pure grassland, brushy areas, and deserts. Forages mostly or entirely on the ground, hopping about in relatively open areas, taking items from the ground or from plant stems. Diet consists of mostly insects and seeds. Summer diet is partly to mostly insects, especially grasshoppers, caterpillars, moths, and beetles, also many others. Young are fed almost entirely on insects. Also eats seeds, especially in fall and winter, mainly those of weeds and grasses.


Photo: Evan Barrientos/
Audubon Rockies

Grasshopper Sparrow. Identification. Approximately 5 inches head to tail, flat head and stubby neck with chestnut and black back and wings. Common habitat is grassland, hayfields, and prairies. Breeds in rather dry fields and prairies, especially those with fairly tall grass and weeds and a few scattered shrubs. Also nests in overgrown pastures and hayfields, and sometimes in fields of other crops. Forages while hopping or running on the ground, picking up items from the soil or from plant stems. Almost always forages alone. Diet consists of mostly insects and seeds. In summer feeds mostly on insects, including many grasshoppers, also beetles, caterpillars, ants, true bugs, and many others. Also eats spiders, snails, centipedes, and earthworms. Seeds are also important in diet, probably more so in winter, including those of weeds and grasses as well as waste grain. Stewardship. Maintain larger tracts of grassland with a balance of bare ground for foraging, grasses for nesting, forbs for food, and some shrub as cover. Limit or cease use of insecticides to maintain good supplies of insects, and control red imported fire ant populations.


Photo: Phil Hauck/Flickr
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Henslow's Sparrow. Identification. Approximately 4.3 to 5.1 inches in length. A large-headed and thick-billed sparrow, found exclusively in weedy grasslands with sparse shrubs. Singing males perch conspicuously in the breeding season; otherwise secretive, especially in migration and winter. Distinctive color combination of olive-green nape, rufous wings, and crisp black streaks below. Populations declining sharply for unknown reasons. Listen for its short insect-like song, "ts-lick." Habitat. Weedy fields. Requirements not well understood; often absent from seemingly suitable habitat. Breeds in fields and meadows, often in low-lying or damp areas, with tall grass, standing dead weeds, and scattered shrubs. Sometimes in old pastures, occasionally in hayfields. Winters in various kinds of rank weedy fields. Apparently does all of its foraging on the ground. Almost always forages alone, not associating in flocks with its own kind or other sparrows. Diet is Mostly insects and seeds. Summer diet is mainly insects, including crickets, grasshoppers, beetles, stink bugs, caterpillars, small wasps, and many others, also some spiders and snails. Many seeds are also eaten, and probably make up the majority of the winter diet; included are seeds of weeds, grasses, and sedges.


Photo: Aaron Maizlish/Flickr
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LeConte's Sparrow. Identification. Approximately 4.75 inches head to tail. Best identified by flight pattern and yellow tan color. Habitat preference is tall grass, weedy hayfields, and marshes. Breeds in wet meadows or the edges of marshes, in areas with damp soil or very shallow water and dense growth of grass, sedges, or rushes. Winters mostly in damp weedy fields, shallow freshwater marshes, coastal prairies. Diet consists of mostly insects and seeds. Diet is not well known, but apparently eats mostly insects in summer, mostly seeds in

winter. Eats caterpillars, leafhoppers, stink bugs, and many other insects, as well as spiders. Also eats seeds of grasses and weeds. Young are fed almost exclusively on insects.


Photo: George Scott/Audubon Photography Awards

Loggerhead Shrike. Identification. About 8.25 inches head to tail; distinctive black mask and large head; swooping flight and white wing patches most visible in flight distinguish it from Northern Mockingbird. Habitat consists of Semi-open country with lookout posts; wires, trees, scrub. Breeds in any kind of semi-open terrain, from large clearings in wooded regions to open grassland or desert with a few scattered trees or large shrubs. In winter, may be in totally treeless country if fences or wires provide hunting perches. Forages mostly by watching from an exposed perch, then swooping down to take prey on or near ground or from low vegetation. Mostly large insects, also rodents and small birds. Nest Placed in a dense (and often thorny) tree or shrub, usually 5-30' above the ground, occasionally higher, in a spot well hidden by foliage. During recent decades, numbers have declined in many areas; now essentially gone from the northeast. Reasons for decline poorly understood, may be related to pesticides and/or changes in habitat.


Photo: Kameko Walker/ Audubon Photography Awards

Northern Harrier. Identification. About 18 inches long from head to tail, Northern Harriers are slender, medium-sized raptors with long, fairly broad wings and a long, rounded tail. They have a flat, owl-like face and a small, sharply hooked bill. Harriers often fly with their wings held in a dihedral, or V-shape above the horizontal. At close range, the face of our Northern Harrier looks rather like that of an owl; like an owl (and unlike most other hawks) it may rely on its keen hearing to help it locate prey as it courses low over the fields. Habitat. Marshes, fields, prairies. Found in many kinds of open terrain, both wet and dry habitats, where there is good ground cover. Often found in marshes, especially in nesting season, but sometimes will nest in dry open fields. Usually hunts by flying low over fields, scanning the ground; males tend to fly lower and faster than females. May find some prey by sound. On locating prey in dense cover, may hover low over site or attempt to drive prey out into open. Mostly small mammals and birds. Diet varies with location and season. Often specializes on voles, rats, or other rodents; also takes other mammals, up to size of small rabbits. May eat many birds, from songbirds up to size of flickers, doves, and small ducks. Also eats large insects (especially grasshoppers), snakes, lizards, toads, and frogs. May feed on carrion, especially in winter.


Photo: Mary Ann Melton/ Audubon Photography Awards

Rufous-Crowned Sparrow. Identification. About 5.5 inches head to tail; male and female similar in appearance; rust crown, white eye ring, gray-brown above with reddish streaks; gray below; long rounded tail. Habitat. Grassy or rocky slopes with sparse low bushes; open pine- oak woods. Habitat varies in different parts of range, but always in brushy areas. In Southwest, usually in rocky areas of foothills and lower canyons, in understory of pine-oak woods, or in chaparral or coastal scrub. On southern Great Plains, found in rocky outcrops with cover of dense grass and scattered bushes. Forages mostly while walking or hopping on the ground, but also will feed up in weeds and low bushes. Tends to move slowly, foraging in a limited area. Usually forages in pairs or in family groups. Diet is mostly insects and seeds.

Diet varies with season and locality, but tends to eat more insects in summer, more seeds in winter. Major items in diet may include caterpillars, beetle larvae and adults, grasshoppers, ants, and other insects and spiders. Also eats many seeds of grasses and weeds at all seasons, but especially in winter. Stewardship. Encourage diverse shrub and open woodland with balance of grasses, forbs, and bare ground. Control cedar to maintain relatively open habitat, and encourage forb diversity.

Scissor-tailed Flycatcher. Identification. Female is about 10 inches and adult male is about 13 inches head to tail with long black and white forked tail, grayish back and head with pink sides and under wings. Habitat. Forages mostly by watching from a perch, flying out to catch insects, and then returning to perch to eat them. May take insects in mid-air, or may pick them from foliage or from ground while hovering; very agile and maneuverable in flight. Feeds mostly on insects, including many grasshoppers, also beetles, wasps, bees, true bugs, flies, caterpillars, moths, and others. Also eats some spiders. Small numbers of berries and wild fruits are eaten occasionally. Male has spectacular courtship display, sharply rising and descending in flight, its long tail streamers opening and closing, while the bird gives sharp calls. May perform backwards somersaults in the air. Nest site is usually in a tree or tall shrub, placed on a horizontal limb or less often in a vertical fork, usually 7-30' above the ground. Often also places nest where wires attach to utility poles, or on other artificial sites such as towers or bridge supports. Nest (built by female) is a ragged open cup of twigs, weeds, rootlets, and grass, lined with finer materials such as hair and plant down. Stewardship. Encourage insect and plant diversity and control woody plant invasion in open areas. Limit or cease use of pesticides and control red imported fire ants.

Western Meadowlark. Identification. Remarkably similar to the Eastern Meadowlark in colors and pattern, this bird is recognized by its very different song and call notes. The two species of meadowlarks evidently can easily recognize their own kind the same way; even where their ranges overlap in the Midwest and Southwest, they almost never interbreed. However, the two species do seem to see each other as potential rivals, and they actively defend territories against each other. Habitat. Grasslands, cultivated fields and pastures, meadows, prairies. Breeds mostly in natural grasslands, abandoned weedy fields, rangeland, also sometimes on cultivated land. In the Midwest, seems to prefer shorter grass and drier fields than the sites chosen by Eastern Meadowlark. In winter, often in stubble fields and other farmland. Forages by walking on the ground, taking insects and seeds from the ground and from low plants. Often probes in the soil with its bill. In winter, usually forages in flocks. Diet is mostly insects and seeds. Majority of diet consists of insects, especially in summer, when it eats many beetles, grasshoppers, crickets, caterpillars, ants, true bugs, and others; also spiders, snails, sowbugs. Seeds and waste grain make up about one-third of annual diet, and are eaten especially in fall and winter.

APPENDIX D: ADVERTISEMENT FOR AUDUBON CONSERVATION RANCHING THAT APPEARED IN AUDUBON MAGAZINE

APPENDIX E: SOIL HEALTH INFOGRAPHIC