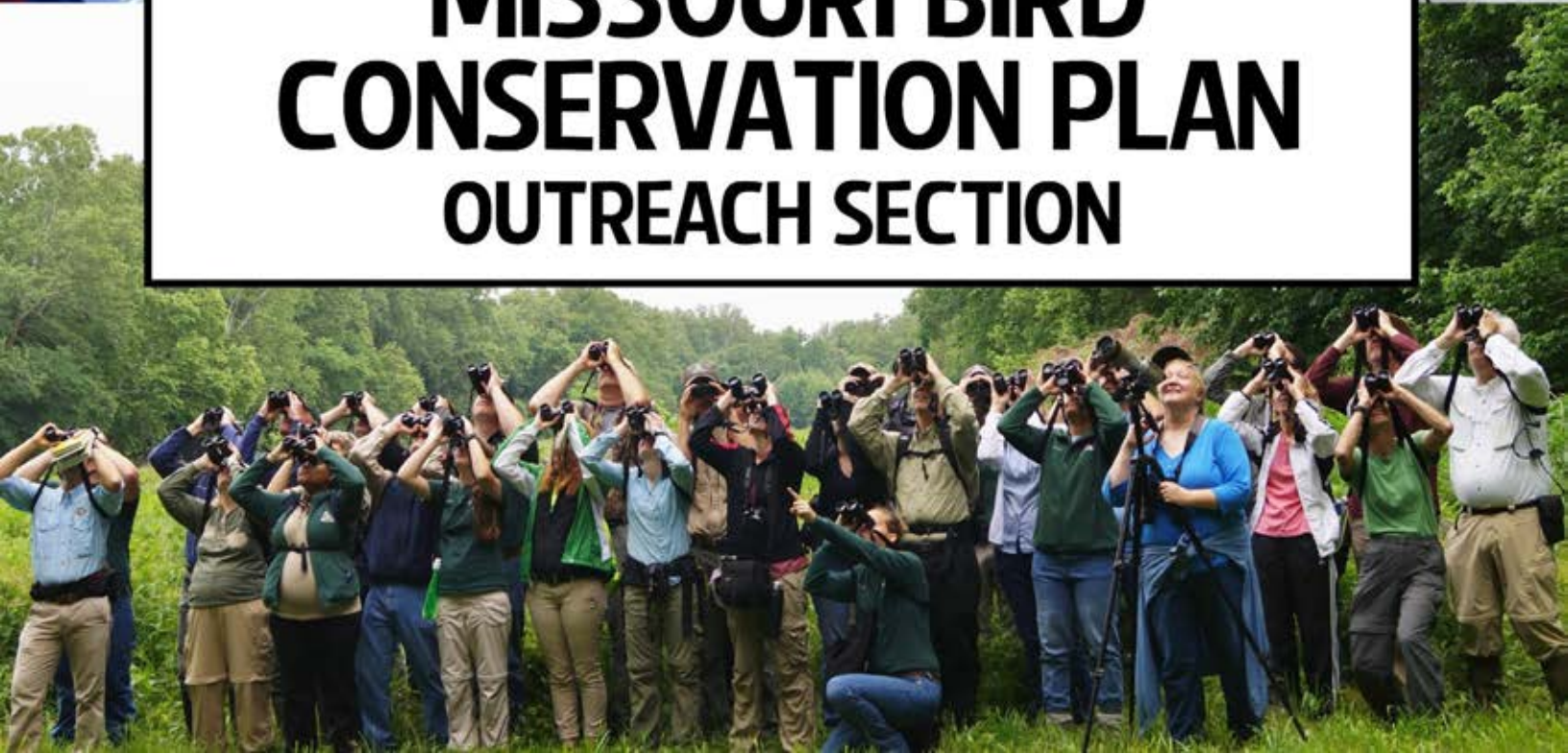


# MISSOURI BIRD CONSERVATION PLAN OUTREACH SECTION





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## CALL TO ACTION

Birds play significant roles that are necessary for healthy ecosystem function. Insect-eating birds control pests that would otherwise decimate agricultural crops and natural vegetation. Birds assist with dispersing seeds that would otherwise not fall far from the tree or plant, and some species act as pollinators. Some birds scavenge carcasses and metabolize disease to remove it from the ecosystem. In addition to these systematic roles, birds are one of life's more beautiful pleasures enjoyed by humans. Millions of people around the world enjoy watching and feeding birds; they are a gateway for many to learn more about nature and ecology.

Birds are everywhere. Urban or rural, in every corner of the globe, one finds birds. Wildlife watching is among the fastest growing outdoor pursuits in the United States – 45 million of the 86 million American wildlife watchers in 2016 were birdwatchers. For context, anglers number nearly 36 million and hunters 11.5 million (U.S. Department of the Interior, U.S. Fish and Wildlife Service, and U.S. Department of Commerce, U.S. Census Bureau 2016). In Missouri, residents' ranking of future interests in outdoor activities showed the greatest interest in wildlife viewing (77%; Dietsch et al. 2018). Between 2014 and 2018, over 197,806 birder checklists were submitted to eBird<sup>1</sup> in Missouri alone. Wildlife viewing and birding hold great promise for the future of Missourians experiencing and appreciating nature.

Birds are an economic driver. Wildlife watchers spent nearly \$76 billion on travel, equipment, and other expenses in 2016. In 2011 in the U.S. alone, birding expenditures created 666,000 jobs; \$31 billion in employment income; and \$13 billion in local, state, and federal tax revenue (U.S. Fish and Wildlife Service 2013). These U.S. figures do not include the thousands of guided birdwatching tour employment opportunities that provide an economic “leg up” for many in some economically depressed parts of the world where bird abundance and diversity are staggering.

Unfortunately, many birds are experiencing alarming declines. Despite their important roles and enjoyment by millions, most North American bird species have experienced significant declines over the last few decades; many are still declining. Some birds that have always been considered common are showing precipitous global population declines ranging from 30-77% since 1970 (Sauer et al. 2017) and have been given special designation by Partners in Flight<sup>2</sup> as Common Birds in Steep Decline<sup>3</sup>. Eight of 29 species highlighted in this Bird Plan have this designation, including Eastern Meadowlark and Northern Bobwhite. On September 19, 2019, an article in the journal *Science* was published that quantified the net loss of North American avifauna since 1970, totaling 2.9 billion birds, or 29% of North American birds (Rosenberg et al. 2019). Why the declines? The transient and/or migratory nature of most bird species and their ability to quickly adapt to changing environments due to the mobility of flight make pinpointing exact reasons quite

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<sup>1</sup> eBird.org is a online database of birder checklists that grows by over 100 million bird sightings annually worldwide. eBird's growth and massive dataset is now allowing them to contribute to avian science, monitoring, research, and conservation planning.

<sup>2</sup> Partners in Flight is a network of over 150 organizations across the Western Hemisphere that work together to promote and advance landbird conservation through science, research, planning, policy development, land management, monitoring, education, and outreach to halt and reverse bird population declines before species are listed as threatened or endangered. They maintain the Avian Conservation Assessment Database, which scores various threats to landbird species throughout their annual life cycles.

<sup>3</sup> Common Bird in Steep Decline is a Partners in Flight designation as part of the Avian Conservation Assessment Database (Partners in Flight 2019) with the criteria of species with continental population decline of 50% or more since 1970 (Partners in Flight 2019).

difficult. Common causes discussed by the ornithological community include large-scale land-use change, habitat modification and loss, the effects of widespread pesticide use on insect prey, climate change, and lack of necessary land management practices. These far-reaching changes have taken place over the same time frame as many bird species' recorded declines, and they pose significant threats to the long-term sustainability and health of resident and migratory bird populations in Missouri and at larger nationwide and worldwide scales.

But it's not all bad news. The silver lining is that we can change this. The conservation community, including private landowners and the general public, can make a difference for birds at large and small scales. Protection of intact habitat, habitat management, and the resiliency and adaptability of birds provide us with opportunities to make significant habitat gains and improvements for many of these species *within as little as a decade or two*. Also, bird conservation partnerships in Missouri are strong and have a successful track record of cooperation and effective project implementation. But conservation partners cannot effectively tackle threats and habitat challenges individually. A united effort involving agencies, organizations, and the general public is necessary to make substantial gains for birds, especially the most threatened species. Missouri conservation agencies, organizations, and the public concerned about bird declines have not previously had a state-specific plan outlining bird conservation priorities as a joint effort. This plan outlines the state's highest-priority bird species and the breeding habitat they require, and which outreach topics are of the greatest importance to communicate to Missouri citizens from a united conservation community. This need for targeted, statewide collaboration and partnership spurred a multi-organizational effort to create the Missouri Bird Conservation Plan's Outreach Section.

## **BACKGROUND AND CONCEPT**

The Missouri Bird Conservation Plan (hereafter Bird Plan) is composed of a Technical Section and this Outreach Section. The Technical Section strategically focuses bird conservation efforts to promote and increase collaboration among conservation partners and the public to achieve common, high-level goals that will maintain and grow sustainable bird populations in Missouri. The Bird Plan Technical Section provides context for statewide bird conservation by assigning a Missouri Concern Score to priority bird species and their habitats within Missouri's primary natural community types; and recommends research and monitoring needs. The Outreach Section of the Bird Plan organizes high-level goals for bird-conservation outreach and education in the state.

To build the Outreach Section of the Bird Plan, a multi-organizational team of outreach and education staff from agencies and organizations that conduct bird education in Missouri was convened (hereafter the Outreach Team). Each member was asked to represent his or her agency or organization; to bring their group's perspective and education goals to the Outreach Meeting; and to be prepared to brainstorm, discuss, and identify high-level education topics for targeted and unified messaging to the public.

### **Scope of the Missouri Bird Conservation Plan**

The Bird Plan (Technical and Outreach Sections) acts as a high-level bird conservation resource for land managers on public and private land, conservation planners, bird-conservation groups, private landowners, conservation educators, volunteer groups, and the general public. The Technical Section provides context for which breeding bird species in Missouri are the most threatened and information on their habitat

needs, which can be used to guide management actions, goals, and objectives. The Outreach Section identifies the highest-priority messages agreed upon by a diverse group of bird-conservation education professionals. The Bird Plan was created to be used as a tool to inform and target both land management and conservation education messages where threatened birds need it most; to identify goals and objectives that conservation partners and the public can work toward together.

### **Future Iterations of the Bird Plan**

The Missouri Bird Plan (Technical and Outreach Sections) will be reviewed and updated every five years. The Outreach Section Team will hold annual team check-ins to track progress and stay current and relevant in an ever-changing world; more information in Measuring Success section below.

## **TARGETED BIRD OUTREACH: BRAINSTORMING PROCESS**

Missouri is rare and fortunate in its broad and diverse conservation community. Multiple agencies, non-governmental organizations, and volunteer organizations backed by a motivated, conservation-minded public promote strong partnerships and conservation actions. Many great bird-education efforts are conducted every day in the state; good work is occurring simultaneously by many different groups. Our charge was to identify what our Outreach Team felt to be the most important topics to communicate statewide to the public with a unified voice.

Therefore, a brainstorming session was held to capture large topic themes. We asked the group to write down bird outreach messages and topics to gather many ideas and begin to synthesize them. The notes were collected and grouped into major themes, which are outlined below:

**The Value of Birds:** This included both the inherent and quantifiable values of birds. Why should we care about birds? They provide essential ecological roles and are a source of aesthetic beauty and enjoyment for millions of people. Birds' existence not only engages humans via bird feeding or bird study but provides an accessible entry point into other areas of nature study or involvement in the outdoors.

**Bird Awareness and Basic Education:** A need was identified to educate and interpret on these topics in particular: basic introductory bird education, migration, public lands' importance for birds year-round, the widespread decline in bird populations, stewardship for birds, where to go to birdwatch/see nature, and voicing optimism from past successes by highlighting that *conservation works!*

**Economic Impact of Birds and Birders:** Birders spend money while birding! Seek ways to highlight the economic value of birding on the economy. Support market-based conservation approaches like Audubon Conservation Ranching Program (bird-friendly beef) that support bird habitat on private ranches, and shade-grown coffee, which provides foraging tree areas/structure over coffee plants for migratory birds on stop-over sites and the wintering grounds. Seek ways to highlight the economic value of ecosystem services that birds provide, i.e. pest control, carcass/disease removal of scavengers, pollination.

**Scalable Bird Habitat Improvement:** Encourage the public to use native plants, shrubs, and trees in landscaping and on their property; educate about this need at a variety of scales: backyard, small space, and acreage. Remove invasive and non-native plants and trees, as they are of little benefit to native

wildlife. Everyone can help! Nature is all around – it's local, even in your backyard. Encourage the public to create and maintain native-plant-based bird habitat at a reasonable and achievable scale.

**Bird Collisions:** Collisions with windows, buildings, and towers are the second-largest contributor to bird mortality. Work to build bird-safe communities by reducing window strikes through education on solutions for problem windows and encouraging lights-out programs on towers and buildings especially during high-collision times of year like spring and fall migrations.

**Reach New Audiences:** Reaching out to, including, and welcoming new audiences to bird education and birdwatching is important. With multiple demands on time and attention in today's world, nature education to young people and those with less exposure to the outdoors, with a focus on the accessibility (and affordability) of birds and birdwatching, is valuable and needed.

**Citizen Science:** Encourage the public, especially younger birders, to participate in citizen science efforts like eBird, the North American Breeding Bird Survey, Christmas Bird Counts, Great Backyard Bird Count, and other monitoring efforts.

**Threats to Bird Populations:** Identify what threats exist for bird populations for the public. Educate and encourage the public on ways to minimize the impacts of climate change, lead ammunition, plastics, pollution, water quality.

**Cats:** Cats have been identified as a top contributor to bird mortality; avoiding this statistic due to social stigma is not an option. Encourage the public to keep cats indoors and promote outdoor enclosed cat structures.

**Health of Nature and Humans:** Birds act as an indicator of environmental health due to their mobility and ability to adapt to a changing environment relatively quickly, compared to other taxa. Thus, healthy birds are an indicator of a healthy environment and planet. Protecting birds means protecting humans. Birding is also a healthy outdoor activity that is stimulating to the mind and body.

**Quality Bird Habitat:** We must not only work to provide habitat for birds, but quality habitat. Do this by advocating for or directly conserving and restoring grassland habitat, encouraging fewer pesticides, encouraging sustainable agriculture for the benefit of birds and the ecosystem, and supporting conservation farming and ranching (bird habitat-friendly private land improvements).

## **Broad Thoughts from Brainstorming Session**

- **Promote the relevancy of birds.** Work to find ways to help the public understand why birds matter and what to do to help them. Children and adults alike aren't connecting with nature and lack understanding of its relevancy; work to connect people to the wonder of birds. For example, people have grabbed on to conservation efforts for the monarch butterfly; conservation groups have worked to make the public concerned about them. We need to get the public to feel the same way about birds.
- **Start with basic bird education.** Increase awareness of which birds are here and when, tying in migration. Connect the public with the bigger picture of what and how many bird species Missouri supports and what we stand to lose.

- **Conservation education community must have a tiered approach to outreach.** From very broad, general awareness/education to more experienced audiences, find scalable calls to action for participants along that spectrum. We must work to meet people where they are; start small and move them along the stewardship continuum to larger topics and targeting specific audiences (beginners, audiences already engaged, young people, etc.).
- **Track measurable progress in five years and adjust our focus** when the Missouri Bird Conservation Plan Outreach Section is updated.

The Outreach Team’s brainstorming process led us to the realization that we had identified both general themes and specific actions. For instance, *education, interpretation and awareness* were identified as needs for bird conservation focus. Simultaneously, specific topics were also identified (i.e. ecological roles of birds, basic bird ID, preventing window strikes, etc.) that could be focused upon in education, interpretation, and awareness efforts. The specific topics were the means by which the group wished to specifically act to combat a threat.

## STATEWIDE BIRD OUTREACH STRATEGY

The brainstorming session and discussions of the Outreach Team led us to realize that we were building a communications campaign for reaching the public. By creating a communications strategy, each group represented on the Outreach Team could deliver on specific calls to action that best fit their group’s bird-education goals. A need for being clear and concise was agreed upon by the Outreach Team through this process: tell the public why they should care, what the problem is, and how they can help.

### Birds are Awesome

- Why should we care about birds? What do they do for natural systems and humans?
- Ecological roles, aesthetic beauty, gateway to the outdoors, accessible wildlife.

Here we focus on the *why*. Why should anyone care about birds? What ecological roles do they fill? What do they do for the average person? Provide context and educate. This theme can be communicated in a number of ways: Birds are Awesome, Birds are Important, Humans Need Birds, Birds Matter.

Suggested topics for partner communication include:

**Ecological roles and services:** pest control, seed dispersal, pollination, and scavenging/removal of carcasses from the ecosystem; they play critical roles in the food web in a healthy natural system.

**Economics:** Birds save us money (see Ecological roles above). Birdwatchers and those who feed birds spend a lot of money and contribute to the economy.

**Aesthetics:** Birds are beautiful, diverse, and accessible wildlife. They provide aesthetic beauty and enjoyment to millions. Birds hold cultural value to humankind by inspiring art and symbolism with their behavior and beauty.



**Migration:** Long-distance movements of longest-traveling migratory species inspire wonder and impress. Migration also connects countries in a shared bird-conservation goal via full life-cycle conservation.

**Human health:** Scavenging birds remove disease from the landscape for the health benefit of wildlife and people. Humans depend on a functional natural system for their health; birds are critical in maintaining that system. Birdwatching's outdoor time and exercise also provides valuable benefits to mental and physical health.

**Culture and art:** Birds hold cultural value to humankind by inspiring art, symbolism, spirituality, and beauty. From stories, sports teams, songs, engineering feats, and more, birds have influenced culture through their physiological abilities (flight) to their diversity in shape, size, color, and song. Birds are an integral part of our shared natural heritage.

## Birds are Declining

- Widespread declines across many different groups of bird (loss of 29% or 2.9 billion birds since 1970 (Rosenberg et al. 2019).
- Inform the public!

Here we outline the *problem* of broad bird population declines over the last 50 years. Here we work to spread the word and educate on the issue of bird declines and address some of the likely causes:

**Habitat loss and land-use change** has removed or degraded habitat for birds throughout their annual lifecycles.

**Widespread pesticide use** reduces the prey base/food source for insectivorous birds.

**Climate change** has been found to be causing large-scale bird range restrictions and expansions, perhaps due to changes in temperature, weather patterns, and frequency of intense weather events.

**Cats** are the greatest contributor to bird mortality in the United States after habitat loss.

**Collisions** with windows, attraction to lights on buildings. Collisions are one of the leading contributors to bird mortality in the United States and one of the easiest bird-decline causes to fix.

## How You Can Help Birds

- Whether you live in an urban, suburban, or rural area, you can help birds. Here's how.
- Conservation works. Waterfowl populations have increased 56% increases over the last 50 years (Rosenberg et al. 2019) due to concerted efforts by waterfowl hunters and other wetland conservationists.

Here we provide diverse and scalable Calls to Action based on the mission and objectives of an agency or organization. The most important Calls to Action identified by the Outreach Team are as follows:

**Plant native plants, shrubs, and trees.** Wherever you live, planting native vegetation helps birds by providing food (insects, berries, and seeds), cover, and nesting locations. Consider reducing mowed

lawn and non-native ornamental plantings and adding native plants. Avoid pesticides in your yard; birds need insects.

**Make windows and lighting bird friendly.** If you see or hear birds hit windows on your home or work building or find them dead or stunned under windows, work to prevent collisions deaths by marking the exterior of the window with opaque stickers or external screens; adding inside blinds; or use bird-friendly glass when the window needs replacement. Work to encourage lights-out programs on large buildings or towers to decrease bird attraction and subsequent collisions, especially migrants during spring and fall migrations.

**Experience nature. Go birding.** Birdwatch in your yard. Take advantage of natural spaces and public lands. Nearly any park will do but check out the Great Missouri Birding Trail for the best places to bird in the state – all are free and open to the public.

**Take someone birding. Spread the word.** Work to recruit new birdwatchers, especially youth. Work to make birding more inclusive and welcoming to all. Provide beginner birder events or field trips with introductory identification and topics. Consider partnered programming or bird walks with non-traditional partners such as libraries, community groups, churches, etc.

**Encourage and promote sustainable agriculture.** Promote fewer pesticides or spot-treatments to prevent further large-scale impacts on insect abundance. Insects are the major food source of most breeding landbirds, waterfowl, waterbirds, and shorebirds across all habitats.

**Keep cats indoors.** Promote outdoor cat enclosures or keeping pets inside for their safety and to protect birds/prevent bird mortality.

**Conservation works.** Support conservation efforts, organizations, and agencies near you. Volunteer for bird monitoring or bird conservation. Advocate for birds, land protection for habitat, and bird conservation Vote.

**Support market-based conservation.** Purchase conservation-minded food products, like the Audubon Conservation Ranching Program (bird-friendly beef) and shade-grown coffee (coffee grown under shade trees provides a higher-quality coffee and the tree layer provides foraging habitat for migratory birds on stop-over sites and the wintering grounds).

**Be a citizen scientist.** Upload your bird sightings to eBird. Check out iNaturalist. If you know your birds by sight and sound, volunteer for the North American Breeding Bird Survey, Christmas Bird Count, or other monitoring program.

## MEASURING SUCCESS

The Outreach Team agreed that the Missouri Bird Conservation Plan’s Outreach Section needs to include measurable goals to track progress and encourage participating agencies and organizations to meet deliverables.

The Outreach Team will hold annual check-ins via teleconference to discuss each partners’ progress in communicating the Outreach Section’s strategy areas and messages. An in-person meeting will be held every five years to update and refocus the Outreach Section’s messages to remain current and relevant in changing times. Annual check-ins and in-person meetings at five-year intervals will work to motivate Outreach Section partners to maintain focus and gain support from the team as they update the group and discuss ideas. A tracking sheet like the draft example below will help the group to focus progress in each Call to Action outlined in this Outreach Section:

<b>Call to Action</b>	<b>Active/Passive Engagement</b> (e.g. workshop vs. display):	<b>Frequency:</b> # of active/passive engagement activities related to Calls to Action	<b>Reach:</b> # engaged (or other appropriate measure)	<b>Notes:</b> Activity description
Plant native plants, shrubs, and trees.				
Make windows and lighting bird friendly.				
Experience nature. Go birding.				
Take someone birding. Spread the word.				
Encourage and promote sustainable agriculture.				
Keep cats indoors.				
Conservation works.				
Support market-based conservation.				
Be a citizen scientist.				

## **OUTREACH COORDINATION**

Through the creation of the Outreach Section of the Missouri Bird Conservation Plan, a platform for collaboration and coordination between agencies and organizations that educate the public on bird conservation has been created. This network of bird-education partners will allow for coordinated messaging via increased communication through the diverse audiences of Outreach Team participants. Pushing key messages throughout the year across many outlets will only help strengthen calls to action statewide.

The Outreach Team will check in every two years/annually to measure progress on spreading key messages. These periodic check-ins will maintain communication and coordination between participating statewide bird-education partners. The Outreach Section will be updated every five years to facilitate active participation and brainstorming for Plan updates. New foci of the Outreach Section will be reviewed and considered by the group considering changes in education needs and research findings that may inform education efforts.

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