Road to Recovery Goals Document

A Strategy for Reversing Avian Declines

Cactus Wren by Brian Sullivan

Vision

Using targeted and actionable science to recover North American bird populations and lost abundance before they become endangered or extinct.

Problem Statement

A 2019 landmark paper in Science reported major population losses—a total of nearly 3 billion birds from every biome across much of the North American breeding avifauna. Although broad general threats to birds have been well documented (e.g., habitat loss, anthropogenic causes of mortality, invasive species), we still cannot pinpoint either the specific causes of declines for most bird species or the specific conservation actions that would effectively address those causes and reverse declines. Despite decades of sound ornithological science, landscape planning, habitat delivery, and monitoring, many bird species continue to decline precipitously. This trajectory of demise signals a process of eventual extinction.

In early 2020, we initiated a new path forward in the conservation of North American birds—an effort we are calling the **Road to Recovery** (R2R). The *Science* publication and the outreach efforts accompanying it succeeded in elevating awareness and attention, making "bring back 3 billion birds" a clarion call across the bird conservation community. Yet narrowing the gap between conservation gains and hemispheric environmental degradation and habitat loss will require a deliberate reimagining of the scope and strategies of bird conservation. Today, more species than ever are sliding toward threatened and endangered status. Not only does that mean more species are closer to extinction, it also means species, if listed, will be subject to regulatory action and cost taxpayers hundreds of millions of dollars. The time to act on this next set of what we are calling the species on the brink is now. We need to be targeted, strategic, and swift if we are to recover these species and avoid listing status. In addition, just as the full annual cycle of avian species collectively connects multiple nations and cultures, our solutions to reverse declines must also more fully engage a broad spectrum of collaborators, including ecological and social scientists, land managers, private industry, and policy makers throughout the hemisphere.

Guiding Principles

Our reimagining of bird conservation is empowered by four key guiding principles that, if infused in our work, will represent a significant change of course in the way bird conservation is practiced. First is a focus on ***demonstrated population recovery***, which is different from a focus solely on habitat management or addressing broad threats; second, R2R strives toward ***incorporating social science*** and its insights into all phases of bird conservation; third, R2R is about ***practicing actionable science and implementation intentionally in tandem*** in such a way that the concept of an implementation gap is eliminated; and fourth, R2R will strive to achieve conservation in a manner ***promoting inclusivity and social and environmental justice*** with every action and at every step along the path to sustained recovery.

Road to Recovery Goals and Objectives

A critical first step was to develop a prioritization process for identifying the bird species that have declined perilously close to being considered for U.S. threatened or endangered status, but do not yet have that designation. To develop this list of species, we relied on species-level data already available in the Avian Conservation Database (ACAD)—a database created and maintained by Partners in Flight (PIF) and housed at the Bird Conservancy of the Rockies. Our assessment identified **60** species that exhibited the following criteria: 1) high vulnerability to extinction (i.e., assessed by scoring a series of independent factors—population size, breeding and nonbreeding distribution, threats, and trend); 2) steep population decline (i.e., a loss of 50% or more of total adult breeding population since 1970); 3) high urgency (i.e., estimation that a future population is likely to decline by an additional 50%); and/or 4) presumed urgency, but data deficient (Rosenberg et al. in prep.). This priority list of R2R Species on the Brink (very similar to the U.S. Fish and Wildlife Service's Birds of Conservation Concern) comprises species for which research on a species-by-species basis is necessary for identifying where and when specific limiting factors are operating to cause declines. Understanding when, where, and what is driving population declines across the full annual cycle is an essential step in developing targeted and effective implementation strategies to recover populations. It is also essential that these research efforts **engage the users** of the science (e.g., land managers, private landowners) and social scientists initially and throughout the process—effectively eliminating the concept of an implementation gap and thereby accelerating permanent recovery.

Our three broad goals, each with clarifying subgoals, reflect the most important steps for engagement over the next 6-12 months for achieving our vision of reimagined bird conservation:

1.Develop a process for management and recovery of species on the brink.

- Determine which of the Species on the Brink and other severely declining species have formed recovery teams. Assess meeting frequency, team composition, and approach for species recovery.
- For species without recovery teams, identify and nominate team members for the co-production of actionable science and recovery.
- Hire recovery team leaders for each species, perhaps organized by habitat type, to ensure steady progress toward recovery.
- Ensure that there are quantitative metrics for advancing species along the road to recovery (outlined elsewhere), including an evaluation process with measurable medium- and long-term objectives.

2.Promote targeted and actionable science to recover bird populations.

- Identify and strategically fill critical knowledge gaps (e.g., migratory connectivity, limiting factors, broad scale threats) to advance species through the recovery process, including research on limiting factors and causes of declines, starting with species on the brink but eventually including wide-ranging declining species.
- Co-produce actionable research that also engages the users of the science (e.g., land managers, private landowners) throughout the process—effectively eliminating the concept of an implementation gap.
- Define the appropriate scale of action and focus on priority areas.
- Evaluate the targeted science conducted by newly created or existing recovery teams to ensure that it considers social science integration and/or co-production along the steps of the road to recovery.

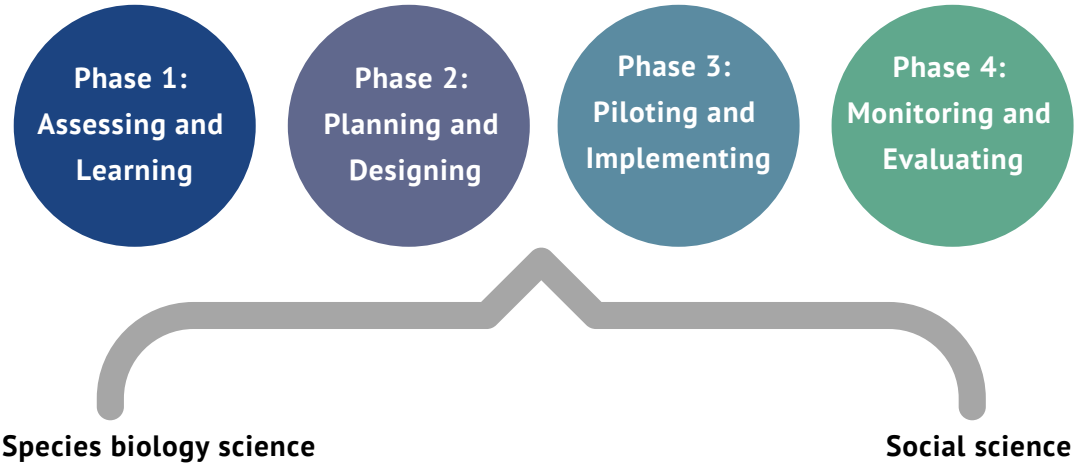
3.Increase efficiency and effectiveness of implementation.

- Create new funding streams and seek better use of existing conservation resources aimed at recovering populations of steeply declining bird species.
- Make sure best available natural and social science research is incorporated into conservation and management plans and conveyed across programs to recover species and lost abundance.
- Intentionally monitor effectiveness of conservation actions using adaptive feedback and considering both social and ecological outcomes.

Baird's Sparrow by Rick Bohn/USFWS Mountain-Prairie Creative Commons Attribution 2.0

Road to Recovery Process for Species on the Brink

The Road to Recovery initiative proposes a process that **needs to be applied on a species-by-species basis** – because even species in the same habitat have different biology and are under different threats throughout their annual cycle. Even within a single species, sub-populations that are linked across the full annual cycle may be limited by different demographic rates or during different times of year. The Road to Recovery Process is developed to incorporate the biological and social sciences in parallel and this process may not be linear and is adaptive. The process consists of four phases that incorporate biological science, social science, co-production and communications.



The Guidance Document described the evolution of the Road to Recovery process, lists the steps present in each phase and provides examples gathered from bird conservation efforts.

The Road to Recovery Process has evolved from a series of steps focused on the biology of the species to identifying how and when the human dimensions can be incorporated. However, the design of the R2R process is not finished. There are challenges that will not be overcome until a species is moved along the road to its recovery and information is gathered on how the process worked.