

# A Guide to Incorporating Social Science in Bird Conservation

Advancing Strategically with Human Dimensions and Conservation Social Science

In response to the call from the bird conservation community to coalesce around a fundamental truth that people are essential to all wildlife conservation efforts, the NABCI Human Dimensions Subcommittee presents this guide for bird conservation professionals who want to act but may not know how to implement human dimensions (HD) and conservation social science (CSS). With this guide, the Subcommittee hopes organizations and professionals can more readily and efficiently incorporate HD perspectives and CSS actions into their existing organizational strategies and work plans.

Our brief guide contains:

1. An overview of Human Dimensions and the Conservation Social Sciences
2. Human Dimensions and Conservation Social Sciences Key Topic Areas
3. Strategies to Incorporate Human Dimensions into Conservation
4. Examples of HD and CSS Achieving Bird Conservation Goals
5. Further Readings

## Overview of Human Dimensions and the Conservation Social Sciences

**Human dimensions (HD)** is a general term that refers to the many elements of conservation that are not wildlife and habitats (Figure 1). It is a term that reminds us that all conservation issues have a human element—social, cultural, historical, legal, political, and economic factors influence both the status of bird populations and the feasibility and success of bird conservation efforts. As conservation is a human endeavor, a focus on human behavior and social process, whether in the form of scientific research or public engagement, is necessary. However, wildlife, habitats, and people are not always thought of together when we plan, manage, or study bird conservation even though the reality is they are inseparable.

Human Dimensions		
	Research	Engagement
Purpose	Apply systematic and standard practices to investigate and monitor behavior and social process.	Integrate social insights and principles into planning, decision-making, evaluation, and governance processes.
Domains	Question and Orientation	Public Participation
	Design and Methodology	Collaboration
	Data Collection and Analysis	Conflict Management
	Evaluation and Inference	Continuing Education
	Interpret and Disseminate	Extension and Outreach
Mechanism	Systematic Research	Participatory Processes

Figure 1. The human dimensions encompass a spectrum of research and engagement activities that focus on human behaviors and social processes that influence conservation.

**Conservation social science (CSS)** is a general term that refers to the many scientific disciplines that facilitate research to examine or evaluate the human dimensions or integrate aspects of wildlife, habitats, and human behavior or social processes (Figure 2). Biologists often apply various disciplinary tools to design research with practical implications for bird conservation and management. Conservation Social Scientists similarly apply a variety of tools to understand potential human responses to bird conservation and management, including observations



Figure 2. Several disciplines and fields contribute to doing conservation social sciences and help us better understand the human dimensions of bird conservation.

**People are tools for conservation** and the incorporation of human dimensions in conservation helps us explore ways to effectively leverage that critical tool. Integration of HD includes exploring what people think and do related to conservation, incorporating that understanding into decision-making

about conservation policies and programs, and evaluating the impact of those efforts on both human behavior and conservation targets. Comparable to biological information, HD information can be a valuable addition in every phase of conservation work, from research and planning to design, delivery, monitoring, and evaluation. Examples of this integration are reflected in the [NABCI 5 Game Changing Paradigms](#) as well as the [Road to Recovery Guidance Document](#). HD can and should be a component of an adaptive management process. HD research, particularly when it involves forms of engagement, can also help develop ecologically- and socially-informed goals (Sexton et al. 2013).

## Key Topic Areas of Human Dimensions and Conservation Social Sciences

**ENGAGEMENT:** Public engagement can be an effective and powerful conservation tool. The following guides are starting places for ideas and insights:

1. [EPA Public Participation Guide](#)
2. [USFWS Stakeholder Engagement Wayfinder](#)
3. [The Tools of Engagement: A Toolkit for Engaging People in Conservation](#)

**RESEARCH:** There are many topics and research areas that fall under the umbrella of conservation social science. Thinking strategically about these can help to first identify information that exists and is relevant to your work and to also identify gaps and areas of needed research. The use of existing information is an approach to HD integration that is widely accessible and can be both cost- and time-effective. By exploring the areas listed below in the context of your conservation goals, you can better identify the types of experts you may need to advance your work. This list is not exhaustive, but it provides a good foundation of relevant topic areas.

### Historical contexts

The land use, settlement, and cultural history of people, can improve understanding of how people in the region relate to birds and bird conservation and how they have responded to bird conservation issues or management actions in the past. This history can inform how you engage with communities on contemporary issues. Knowledge of the historical context of an area can also facilitate the identification of groups who may have knowledge about particular birds or ecosystems or an interest in conservation programs. For example, Understanding the history of land tenure in a region can help ensure the engagement of groups with long histories using or managing the species, with knowledge about its past or present status.

### Governance structures

Federal, tribal, state, county, and municipal policies, as well as formal and informal rules and social norms, shape how people interact with nature and wildlife. Awareness of the constraints and opportunities created by these structures will help design more effective bird conservation programs. You can also incorporate policy-related strategies into conservation implementation plans in an effort to influence policies that impact birds and bird habitats.

### Human demographics

Conservation implementation plans often include a bioregional or ecological context section. Since humans also live in these areas, it can be valuable to include measures of human populations along with measures of bird populations. Considering human population

densities, indices of diversity, levels of affluence or poverty, political affiliations, trends in population growth, and other demographic factors can result in the design and delivery of more effective conservation activities. For example, bird conservation problems and their solutions will differ between an affluent and densely populated city and a lower-income, rural area. USFWS has a useful tool that can provide insights in these areas: [USFWS Socioeconomic Profile Tool](#)

### **Growth and development**

Human populations have the potential to affect both birds and habitats. Identifying where and when development and population growth may occur can help focus habitat conservation initiatives or implement communications efforts with communities or developers. These strategies can ensure that development proceeds in a manner that benefits both people and birds whenever possible.

### **Social contexts**

People's connection with and beliefs about nature and wildlife set the backdrop for all bird conservation efforts. What people believe about the relationship between humans and the natural world, the barriers they face in engaging in wildlife recreation or conservation behaviors, and the experiences they have had with wildlife influence public support for conservation and can impact the success of conservation efforts. Importantly, these relationships differ across race, age, geography, and political affiliation, and they change over time. Considering shifting social contexts will make it possible to communicate with people in terms that matter to them and identify approaches to bird conservation that are consistent with public values.

### **Recreation activity**

Regional trends in recreation participation, including how people spend money, how they participate in conservation, and what controls satisfaction with outdoor recreation opportunities are important to consider in conservation planning. These can inform the development of strategies that work with and for recreationists, especially those who engage in bird conservation-related recreation (i.e. hunting and birdwatching). View results from the [Wildlife Viewer Survey](#) conducted by Virginia Tech researchers in collaboration with the Association of Fish and Wildlife Agencies Wildlife Viewing and Nature Tourism Working Group for an example of the critical link between recreation and conservation.

### **Public opinion**

National, regional, or local levels can inform strategic actions in support of conservation implementation. For example, public opinion on water or land conservation measures might bolster fundraising efforts, shape outreach and communications approaches, or prompt additional focus on particular conservation strategies with broad public support.

### **Landowner characteristics**

Management activities, motivations, demographics, and environmental concerns, are key to achieving bird conservation success. For example, when working in an area where the majority of the landscape is in private ownership, we must understand how and why landowners make the management decisions they do. There is a large body of HD literature that examines the

predictors and motivations of landowner conservation behavior. This literature can inform conservation implementation and help build partnerships that are more effective with private landowners for bird and habitat conservation.

# Incorporating Human Dimensions into Conservation Strategies

In this section, we suggest some steps to follow to incorporate human dimensions into your existing and future conservation strategies. Realizing again that different organizations have varied financial resources and research or engagement capacity, we have included multiple strategies at each step of the process to cover a spectrum of integration and involvement.

## Phase 1: What do you need to know to successfully incorporate human dimensions in your work?

### 1. LIST your major conservation priorities, threats and pressures.

- What are the main priorities that your program or organization is trying to conserve?
- What are the threats and pressures impacting conservation?

### 2. IDENTIFY human elements and contributions influencing those threats.

- What human actions are contributing to threats or could be leveraged to create solutions?
- What is the scope of public/private involvement?

### 3. EXPLORE examples of HD and CSS implementation.

- What similar HD/CSS studies or efforts have already been undertaken?
- What were lessons learned that may apply here?
- Seek to understand the characteristics of the human communities involved in the conservation area.

### 4. DEVELOP initial list of HD/CSS question areas to be answered.

- Given your priorities, threats, influences, and similar examples, what types of questions would you like answered (e.g., attitudes, constraints, willingness to pay, etc.)?
- Given the question areas you have, what CSS expertise might you need (e.g., conservation psychology, partner engagement, environmental economics, etc.)?

### 5. FIND CSS collaborators and/or experts to provide guidance and input

- [North American Bird Conservation Initiative Human Dimensions Subcommittee.](#)
- If you have a partner who works for the USFWS, work through them to find a collaborator through the [USFWS social science expert directory.](#)
- Society for Conservation Biology Social Science Working Group's [email list.](#)

- The Wildlife Society's [Human Dimensions Working Group](#).
- Association of Fish and Wildlife Agencies [Human Dimensions and Social Science Subcommittee](#).
- The Conservation Social Sciences [Community Network](#).
- [HDGov](#): a multi-agency website for all things human dimensions of natural resources. This website includes [training resources](#) such as videos, podcasts, and newsletters as well as [news and announcements](#).

## PHASE 2: How to move forward and put human dimensions work into practice:

### 6. REVIEW sources of HD/CSS information with CSS collaborator to inform your work.

- Work with HD/CSS experts to pull together relevant information (e.g., literature review) that will lay the foundation for your work.
- Share your findings from Step 3 and dive deeper.

### 7. PRIORITIZE HD purpose and needs specific to your work.

- HD topics are inherently intertwined. Aim for a narrow focus on the needs most relevant to your project goals.

### 8. CREATE a plan for implementation, monitoring, and evaluation.

- What social variables will you need to monitor and measure?
- How will you determine if your plan is working? Connect this to both biological **and** social components.

### 9. UNDERTAKE the work.

- Ensure you have the right team assembled for the project

### 10. EVALUATE results and connect them to conservation outcomes.

- Seek input from CSS experts to interpret social implications of results as needed.

### 11. SHARE results.

- Share your results with people involved in your project as well as the participants who contributed to any data collection.
- Share with NABCI HD Subcommittee for incorporation on the [Success Stories Map](#).
- Share with leadership in your organization and others.

### 12. PLAN AND ADAPT to improve current and future efforts based on results.

- Explicitly identify and detail your future HD information needs. What do you still want to know?
- Fundraise for research that can answer human dimensions questions that tie back to conservation goals and objectives.

- If you have funding, use future needs to develop a request for proposals from partners interested in undertaking projects to address them.
- Promote your prioritized list of HD needs to university researchers and graduate students who may be interested and have their own funding to work on applied conservation projects.

## Examples of HD and CSS Achieving Bird Conservation Goals

Over the past few years, various entities within the bird conservation community have released conservation plans that call for more extensive attention to the social context of bird conservation and an expansion of HD research, including:

### Association of Fish and Wildlife Agencies

The Association of Fish and Wildlife Agencies hosts a [Human Dimensions and Social Science Subcommittee](#). This subcommittee serves as a central point for highlighting social science contributions within state and federal agencies as well as identifying significant outstanding questions in state and federal fish and wildlife management that could be addressed with human dimensions and social science. Some of the AFWA regions have their own human dimensions subcommittees as well.

### North American Bird Conservation Initiative (NABCI)

The US NABCI Committee created a [Human Dimensions Subcommittee](#). As of January 2017, NABCI partners support a full-time National Bird Conservation Social Science Coordinator position to aid in building social science capacity for the entire bird conservation community. In 2021, NABCI published the [5 Game Changing Paradigms](#) for Bird Conservation which heavily highlight the importance of integration of social science and human dimensions in conservation efforts.

### North American Waterfowl Management Plan (NAWMP) 2018

[People Conserving Waterfowl and Wetlands](#) refers to the three-legged stool of conservation as including people, habitat, and birds. To implement NAWMP's goal of "growing the number of waterfowl hunters, other conservationists, and citizens who enjoy and actively support waterfowl and wetlands conservation," the NAWMP Committee and the National Flyway Council jointly organized a Human Dimensions Working Group and Public Engagement Team to address the HD research needs in waterfowl and wetlands conservation.

### Partners in Flight

[Saving Our Shared Birds: A Tri-national Vision for Landbird Conservation](#) also highlights social science research needs. These include understanding how and why people relate to birds and bird conservation issues. More specific HD needs include understanding (1) conservation outcomes achieved from birding tourism; (2) societal valuation of ecosystem services; (3) costs and benefits of conservation-oriented management practices; and (4) outcomes of conservation education programs.



## Road to Recovery

[Road to Recovery](#) is an independently funded enterprise focused on the recovery of North America's most rapidly declining birds. The R2R approach is a purposeful integration of biological and social science targeted at identifying and addressing specific causes of declines. Starting with a set of On-Alert and Tipping Point species, R2R supports species-focused teams and projects. R2R works collectively with scientists, conservation practitioners, and local communities to create sustainable solutions for recovering bird populations.

## Further Readings

This list is designed to be a starting point for gaining knowledge in each area. Further expansion of resources should be a goal of all teams implementing HD and CSS work.

### Human Dimensions

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### Conservation Social Sciences

*\*including Environmental, Marine, and Natural Resources Social Sciences*

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- Cox, M. (2015). A basic guide for empirical environmental social science. *Ecology and Society*, 20(1), 63. <http://dx.doi.org/10.5751/ES-07400-200163>
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### Bird Conservation Social Science Research

- Dayer, A. A., Barnes, J. C., Dietsch, A. M., Keating, J. M., & Naves, L. C. (2020). Advancing scientific knowledge and conservation of birds through inclusion of conservation social sciences in the



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- Drum, R. G., Ribic, C. A., Koch, K., Lonsdorf, E., Grant, E., Ahlering, M., Barnhill, L., Dailey, T., Lor, S., Mueller, C., Pavlacky Jr, D.C., & Sample, D. (2015). Strategic grassland bird conservation throughout the annual cycle: linking policy alternatives, landowner decisions, and biological population outcomes. *PLOS ONE*, 10(11), e0142525. <https://doi.org/10.1371/journal.pone.0142525>
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The North American Bird Conservation Initiative (NABCI) is a coalition of state and federal government agencies, private organizations, and bird initiatives in the United States working to ensure the long-term health of North America's native bird populations. Its vision is to support healthy and abundant populations of North American birds that are valued by future generations and sustained by habitats that benefit birds and people.

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**The NABCI Human Dimensions Subcommittee aims to integrate the science and tools of human dimensions into bird conservation.**

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**For more information:**

**NABCI Human Dimensions Subcommittee**

<http://nabci-us.org/how-we-work/human-dimensions/>

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