**2010 Project Abstract**
For the Period Ending June 30, 2012


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| **PROJECT TITLE**: | Integrated, Operational Bird Conservation Plan for Minnesota |
| **PROJECT MANAGER**: | Lee A. Pfannmuller |
| **AFFILIATION**: | Audubon Minnesota |
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| **WEBSITE**: | http://mn.audubon.org/ |
| **FUNDING SOURCE**: | Environment and Natural Resources Trust Fund |
| **LEGAL CITATION**: | **M.L. 2010, Chp. 362, Sec. 2, Subd. 3d** |
| **APPROPRIATION AMOUNT:** | **$151,000** |


## Overall Project Outcome and Results

Many national, regional, and state conservation plans broadly address Minnesota birds, but a consolidated and focused state conservation agenda does not exist. The goal of this initiative was to develop a clear operational plan for Minnesota conservation organizations and resource agencies that builds on existing plans, establishes priorities to guide conservation actions, and identifies conservation targets. Plans were prepared for Minnesota's four ecological provinces: the Tallgrass Aspen Parklands, the Laurentian Mixed-Forest, the Eastern Broadleaf Forest and the Prairie Parkland. The bird composition of each province is sufficiently distinct to warrant a different approach and different priorities. Three tasks were implemented in each province:

- First Task: Delineated a pool of priority species and selected a subset of conservation target species.
- Second Task: Decided where, among the suite of Minnesota's 48 Important Bird Areas (IBAs), it is most important to work to protect and manage these species.
- Third Task: Developed a toolbox of conservation actions to insure these species maintain viable populations on the priority IBAs, as well as throughout Minnesota.

Titled *An Implementation Blueprint for Minnesota Bird Conservation*, the operational plan's components include: 1) *Implementation Blueprints for Bird Conservation* in each ecological province, which identify clear priorities to guide conservation actions; 2) conservation accounts for 78 priority species; 3) detailed *Conservation Blueprints* for nine target species; 4) a database compiling critical information on 434 Minnesota birds; 5) a publication that highlights twelve of Minnesota's stewardship species (species that have ≥5% of their global population in the state and ≥5% of their North American breeding range in the state); and 6) management plans for three of Minnesota's priority Important Bird Areas (Goose Lake Swamp IBA, the Twin Cities Mississippi River IBA, and the Vermillion Bottoms-Cannon River IBA).

## Project Results Use and Dissemination

- The *Conservation Blueprints* were used in the development of Audubon's recently completed *Guide to Urban Bird Conservation* (Spring 2012): http://mn.audubon.org/twin-cities-bird-conservation.
- A booklet, *Stewardship Birds of Minnesota: Our Global Responsibility* was published in June 2012 (http://mn.audubon.org/sites/default/files/documents/11-18-12_web_stewardship-brochure.pdf).
- Findings were presented at nine workshops and eleven additional statewide and regional meetings.
- The *Common Tern Minnesota Conservation Blueprint* was used at a Structured Decision Making meeting to inform future Common Tern management at the Rice Lake National Wildlife refuge.
- Audubon is exploring ways to make all project data available to resource managers in a GIS format; in the interim *Conservation Blueprints* for the nine conservation targets and *Implementation Blueprints* for each ecological province will be available on the Audubon Minnesota website (http://mn.audubon.org).
- Information is helping update Minnesota's Comprehensive Wildlife Conservation Strategy.

**Environment and Natural Resources Trust Fund (ENRTF)**
**2010 Work Program Final Report**

**Date of Report:** November 26, 2012
**Final Report**
**Date of Work Program Approval:** June 9, 2010
**Project Completion Date:** June 30, 2012

**I. PROJECT TITLE**: Integrated, Operational Bird Conservation Plan for Minnesota


**Project Manager**: Lee A. Pfannmuller
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**Location:** Statewide

| | | |
|---|---|---|
| **Total ENRTF Project Budget:** | **ENRTF Appropriation:** | **$** 151,000.00 |
| | **Minus Amount Spent** (thru 6-30-2012)**:** | $ 150,983.68 |
| | **Equals Balance:** | $ 16.32 |

**Legal Citation: M.L. 2010, Chp. 362, Sec. 2, Subd. 3d**

**Appropriation Language:**
$151,000 is from the trust fund to the commissioner of natural resources for an agreement with Audubon Minnesota to develop an integrated bird conservation plan targeting priority species and providing a framework for implementing coordinated, focused, and effective bird conservation throughout Minnesota.

**II. and III. FINAL PROJECT SUMMARY**
Many national, regional, and state conservation plans broadly address Minnesota birds, but a consolidated and focused state conservation agenda does not exist. The goal of this initiative was to develop a clear operational plan for Minnesota conservation organizations and resource agencies that builds on existing plans, establishes priorities to guide conservation actions, and identifies conservation targets. Plans were prepared for Minnesota's four ecological provinces: the Tallgrass Aspen Parklands, the Laurentian Mixed-Forest, the Eastern Broadleaf Forest and the Prairie Parkland. The bird composition of each province is sufficiently distinct to warrant a different approach and different priorities. Three tasks were implemented in each province:

- First Task: Delineated a pool of priority species and selected a subset of conservation target species.
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Titled *An Implementation Blueprint for Minnesota Bird Conservation*, the components of the operational plan include: 1) *Implementation Blueprints for Bird Conservation* for each ecological province, which

identify clear priorities to guide conservation actions; 2) conservation accounts for 78 priority species; 3) detailed *Conservation Blueprints* for nine target species; 4) a database compiling critical information on 434 Minnesota birds; 5) a publication that highlights twelve of Minnesota's stewardship species (species that have ≥5% of their global population in the state and ≥5% of their North American breeding range in the state); and 6) management plans for three of Minnesota's priority Important Bird Areas (Goose Lake Swamp IBA, the Twin Cities Mississippi River IBA, and the Vermillion Bottoms-Cannon River IBA).

**Amendment Request (5/10/11)**
This amendment is being requested to clarify that the principal investigator, Lee Pfannmuller, is employed as a 100% FTE by National Audubon and that the fringe benefit rate is included in the salaries, as originally outlined in the LCCMR Proposal for the project. Also noted is a change in the administrative support personnel, from Jenny Vitale to Susan Swanson.

**Amendment Approved:** May 13, 2011

## IV. OUTLINE OF PROJECT RESULTS*:*

### RESULT/ACTIVITY 1: A draft Minnesota Bird Conservation Plan identifying prioritized bird species for conservation and practical conservation strategies for each species.

**Description:** Work will begin by identifying, reviewing and evaluating a wide array of long-range and strategic plans that address the conservation of Minnesota birds and their habitats. The effort will include a review of national plans under the umbrella of the North American Bird Conservation Initiative (such as the U.S. Shorebird Conservation Plan and the North American Landbird Conservation Plan); relevant regional plans under the umbrella of the Partners In Flight (PIF) Initiative (such as the PIF Bird Conservation Plans for the Northern Tallgrass Prairie and the Boreal Hardwood Transition); and regional joint venture plans designed to implement elements of the North American Bird Conservation Plan (such as the Upper Mississippi River and Great Lakes Region Joint Venture Implementation Plan). Numerous state conservation and management plans also will be reviewed (such as Tomorrow's Habitat for the Wild and Rare and Minnesota's Statewide Conservation and Preservation Plan) as well as state plans for priority habitats and landscapes (such as the Minnesota Forest Resources Council's regional landscape plans and The Nature Conservancy's Landscape Action Plans). In addition, there are national plans for individual species that occur in Minnesota (such as the King Rail and Cerulean Warbler) and numerous other plans and reports that directly or indirectly address the conservation of Minnesota birds and their habitats (such as recent reports addressing birds and climate change).

Most of these plans do an excellent job of compiling resource information and assessing the status of birds and their habitats, assessing current and potential future threats, and establishing very broad programmatic goals for conservation and management. But it is challenging to determine which, among the multitude of species discussed in each plan, are really the highest priority for action and which are most likely to benefit from immediate conservation efforts.

The objective of this first year of work is to synthesize and integrate bird species and bird habitat priorities from these existing plans and to develop a draft list of priority bird species at the state level and for each of Minnesota's ecological subsections. The emphasis is not to repeat work that has already been done, resulting in large lists of priority species for habitats throughout the state. Instead, the goal is to develop a short, manageable list of species that are most likely to benefit from local and statewide conservation efforts in the next 5-10 years.

Known conservation and management practices for each bird on this initial list of priority species will be synthesized and used to identify draft conservation actions at the statewide level and for each ecological

subsection. Together the information will be combined to develop the first draft of the operational plan for Minnesota bird conservation.

A group of technical advisors will be established to help provide guidance throughout the duration of the project. We will consider selecting representatives from groups such as Audubon Minnesota, the Minnesota Department of Natural Resources, the U.S. Fish and Wildlife Service, the University of Minnesota, the Nature Conservancy, the U.S. Forest Service, the National Park Service, Hawk Ridge Bird Observatory, the Minnesota Ornithologists Union, affiliate members of Bird Conservation Minnesota, and local Audubon Chapters.

| **Summary Budget Information for Result/Activity 1:** | **ENRTF Budget:** | $68,466.00 |
|---|---|---|
| | **Amount Spent** (thru 12-11-2011)**:** | $67,219.68 |
| | **Balance:** | $ 1,246.32 |

| **Deliverable/Outcome** | **Completion Date** | **Budget** |
|---|---|---|
| **1.** Compile and evaluate existing bird conservation efforts | October 15, 2010 | $19,696.00 |
| **2.** Develop a draft bird species priority list (statewide and by subsection) | December 15, 2010 | $11,268.00 |
| **3.** Compile and synthesize habitat needs and best management practices | March 30, 2011 | $19,651.00 |
| **4.** Identify draft conservation actions to implement at the statewide level and for each ecological subsection | April 30, 2011 | $ 5,764.00 |
| **5.** Prepare a draft operational plan | July 1, 2011 | $12,087.00 |

**Result Completion Date:** July 1, 2011

**Final Report Summary:** June 30, 2012

- Compiled and evaluated existing bird conservation efforts

  Scores of national, regional and state bird and habitat conservation plans that address Minnesota bird species and Minnesota landscapes were reviewed. A particular emphasis was placed on bird conservation documents developed by the North American Bird Conservation Initiative. The latter includes national and regional conservation plans for waterfowl (North American Waterfowl plans), waterbirds (North American Waterbird plans), shorebirds (U.S. Shorebird Conservation plans) and landbirds (Partners in Flight plans). Among some of the other documents reviewed were individual species conservation plans, Joint Venture plans, Minnesota Forest Resources Council landscape plans, the Minnesota Statewide Conservation and Preservation Plan, Minnesota's Comprehensive Wildlife Conservation Strategy (*Tomorrow's Habitat for the Wild and Rare*), A Fifty Year Vision: Conservation for Minnesota's Future, bird monitoring reports from the Superior and Chippewa National Forests, Minnesota's Long-Range Duck Plan, Minnesota's Aquatic Management Area Plan, Minnesota's Wildlife Management Area Plan, plans prepared by the Minnesota Nature Conservancy, and bird conservation plans from a select number of other states.

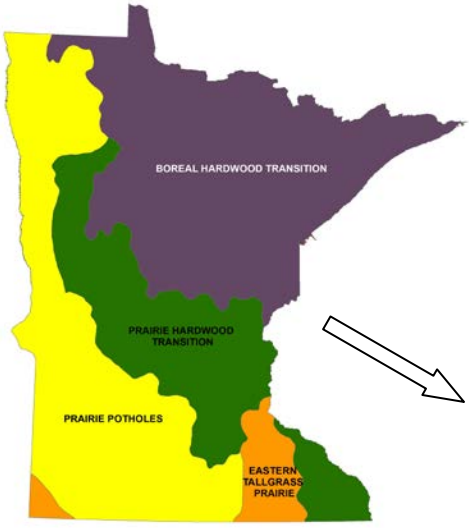
- Developed a database that summarizes critical information on each Minnesota bird species

  Relevant data from all the reviewed plans were compiled into an extensive database on Minnesota birds that occur in the state regularly (314 species), casually (42 species) and accidentally (78 species). Over 400 fields of data summarize information on such traits as distribution, life history, population

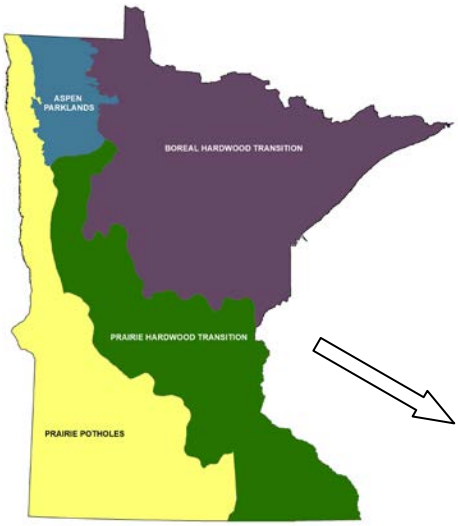
size, population trends, vulnerability to climate change, and status at the global, federal and state levels (not all fields are appropriate for each species). An additional document details the metadata for each field. Nothing similar to this has been compiled in Minnesota or elsewhere in the Great Lakes region. The database is available upon request and already has been provided to several resource agency personnel.

- Delineated four Bird Conservation Regions in Minnesota

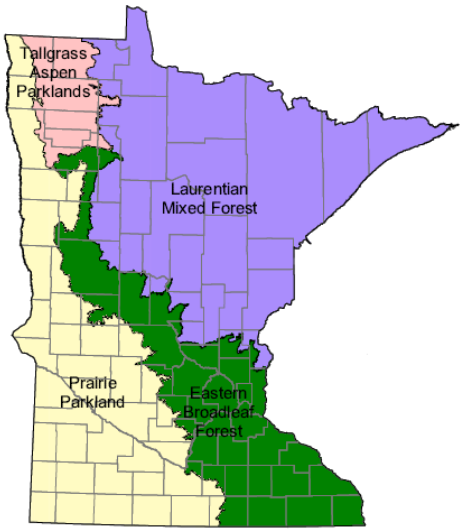
  Following analysis of the birds present in each of the four Bird Conservation Regions (BCRs) delineated by the North American Bird Conservation Initiative (see figure below left), the regions were revised slightly for the purposes of Minnesota's Bird Conservation Plan (below, center). Specifically, the Tallgrass Aspen Parklands was separated from the Prairie Pothole Region because of its unique habitat and combination of bird species. The portion of the Eastern Tallgrass Prairie Bird Conservation Region located in southwestern Minnesota was combined with the Prairie Pothole Region and the portion of the Eastern Tallgrass Prairie Bird Conservation Region located in southeastern Minnesota was combined with the Prairie Hardwood Transition Region. The resulting Bird Conservation Region boundaries were reasonably similar to the four province boundaries of Minnesota's Ecological Classification System (below right), allowing reasonable extension of the NABCI data for the BCRs to the provinces. Because Minnesota's Ecological Classification System boundaries have become a standard reference for land managers throughout the state, this project adopts those boundaries.




North American Bird Conservation Initiative (NABCI) Bird Conservation Regions that occur in Minnesota




Revised Bird Conservation Regions in Minnesota




Ecological Provinces delineated by Minnesota's Ecological Classification System and adopted as Bird Conservation Regions by the *Implementation Blueprint for Minnesota Bird Conservation*

- Identified bird priorities in each Bird Conservation Region

  Following consultation with several key technical advisors, including personnel associated with the University of Minnesota, the U.S. Fish and Wildlife Service, and Hawk Ridge Bird Observatory, the database was used to develop a preliminary list of priority birds for each bird conservation region. Our original work plan proposed identifying priorities for each ecological subsection but the broad distribution of birds made identification of priorities by Bird Conservation Region (i.e. ecological province) more reasonable.

  The preliminary list was presented to the Audubon Board and an interagency prairie team (USFWS, MNDNR, BWSR, TNC, MDA) in late December 2010 and late January 2011. Based on initial feedback a second approach was designed to delineate species priorities. The first approach relied heavily on identifying species that are present in manageable numbers in Minnesota and that were identified as priorities by the North American Bird Conservation Initiative (NABCI); the second approach relied more heavily on identifying species present in manageable numbers, with declining Minnesota populations, and dependent on habitats that are vulnerable in Minnesota. The advantage of the first approach is that it relies on data compiled by a team of experts for each NABCI Bird Conservation Region; the advantage of the second approach is that it incorporates more data specific to the species' population in Minnesota.

  After the second prioritization approach was implemented, the results of the two approaches were compared and collectively used to identify three levels of priority birds in each of Minnesota's four Bird Conservation Regions: Highest Priority, High Priority, and Moderate Priority. Because a list of all bird species present in each ecological subsection was developed early during the project, these priorities can easily be stepped down to each ECS subsection.

- Prepared comprehensive species accounts for Level One (Highest) and Level Two (High) Priority Species that include habitat requirements and best management practices

  Once the preliminary list of priority species was developed for each Bird Conservation Region, information on the habitat requirements and best management practices for all of the Highest and High Level Priority species in each region (66 species in total) was compiled into a species account; accounts for 12 additional Moderate Priority species were also prepared. Each account averages 4-10 pages in length and includes information on the species' population size, status classifications, distribution, migration status, habitat requirements, climate change vulnerability, best management practices, conservation recommendations, and monitoring needs.

- Identified Minnesota Stewardship Species

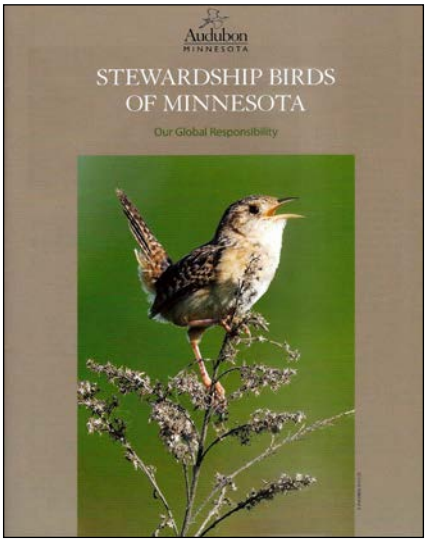
  As part of the overall *Implementation Blueprint*, Audubon identified Minnesota Stewardship Species. The term 'stewardship' is applied to species that reach their greatest abundance in a particular biome, resulting in the biome having a unique responsibility for ensuring the species long-term survival and sustainability. For example, the Greater Prairie Chicken is a stewardship species in North America's Tallgrass Prairie Biome. The same concept can be applied at the state level. We delineated two criteria for identifying Minnesota's Stewardship Species: 1) $\geq$5% of the species' North American breeding range occurs in Minnesota; and 2) $\geq$5% of the species' global population occurs in Minnesota. Twelve species, listed in the following table, met these criteria.

**Preliminary List of the Top Seven Minnesota Stewardship Species**

| Species | >5% of Global Population in MN | ≥5% of Breeding Range in MN |
|---|---|---|
| Golden-winged Warbler | 42% | 12% |
| Sedge Wren | 33% | 14 % |
| American White Pelican | 18% | 1%* |
| Bobolink | 13% | 9% |
| Trumpeter Swan | 12% | 11% |
| Black-billed Cuckoo | 10% | 10% |
| American Woodcock | 10% | 6% |
| Rose-breasted Grosbeak | 6% | 10% |
| Chestnut-sided Warbler | 6% | 6% |
| Veery | 6% | 6% |
| Baltimore Oriole | 5% | 8% |
| Nashville Warbler | 5% | 5% |

* Despite the low percentage of its total breeding range that occurs in Minnesota, the American White Pelican was included in the list of Stewardship Species because such a significant percentage of its global population occurs here. As a colonial species the pelican's population has a clumped North American distribution.

To further highlight the significance of these stewardship species, we prepared a 28 page booklet that brings attention to our global responsibility for these birds and provides information on each species distribution, description, habitat, threats/status and conservation. A total of 750 copies were printed for distribution at Audubon events and to Audubon Chapters, resources agencies and the general public. It also is available on the Audubon Minnesota website: (http://mn.audubon.org/sites/default/files/documents/11-18-12_web_stewardship-brochure.pdf).




- Prepared draft *Conservation Blueprints* (i.e. operational plans) for each Bird Conservation Region

The draft plan included the following components:

1. List of Highest, High and Moderate Priority birds in each region/ecological province.
2. Identification of priority habitats to focus conservation actions on.
3. Identification of Stewardship Species that should be primary targets in each region.

4. Assessment of the monitoring efforts currently underway for the highest priority species and recommendations for future monitoring.
5. Identification of habitat protection and restoration goals in each region; when available, specific acreage goals in Minnesota are provided.
6. Identification of habitat management considerations for the highest priority species.

**RESULT/ACTIVITY 2: Public review and revisions of draft plan to produce the final operational plan**

**Description:** In order to solicit and incorporate even broader input into the draft Operational Bird Conservation Plan, a series of six workshops will be held throughout the state in the late summer and fall of 2011. We anticipate the general locations will be in the northeast, northwest, southeast and southwest regions of the state as well as two in central Minnesota (including one in the metropolitan area). The focus will be to solicit targeted input from known agency and university professionals, conservation groups and citizen scientists. Specifically, we will discuss how to narrow the number of priority species and how to select a menu of potential conservation and management measures that are reasonable for implementation at the local level and can result in measureable conservation outcomes. The involvement of local conservation groups, Audubon chapters, and citizen scientists will be particularly important as they are seen as the principal audience for the plan.

Following completion of the workshops, suggestions will be evaluated and, as appropriate, incorporated into a final plan that incorporates a toolbox of conservation actions. A press release will announce its' completion that can be used in other organization's newsletters and various media outlets. Copies of the final plan will be provided to participants, including the Department of Natural Resources, U.S. Fish and Wildlife Service, National Park Service, U.S. Forest Service, The Nature Conservancy and each Audubon Chapter. Presentations on the plan's outcomes will be made to Audubon chapters and other statewide and local conservation organizations as funds allow. We will also examine dissemination methods to other potentially interested parties such as consulting forester associations, Soil and Water Conservation Districts, Natural Resource Conservation Districts, Minnesota Naturalists, Nature Center personnel, Prairie Enthusiasts, etc. The plan will also be available on Minnesota Audubon's web page.

| | | |
|---|---|---|
| **Summary Budget Information for Result/Activity 2:** | **ENRTF Budget:** | $44,638.00 |
| | **Amount Spent:** | $46,059.80 |
| | **Balance:** | - $ 1,421.80 |

| **Deliverable/Outcome** | **Completion Date** | **Budget** |
|---|---|---|
| **1.** Conduct 6 workshops statewide for plan review and input | October 15, 2011 | $22,126.00 |
| **2.** Finalize toolbox of conservation actions to implement at the statewide level and for each ecological subsection | November 30, 2011 | $ 9,124.00 |
| **2.** Prepare final state operational plan | December 30, 2011 | $ 6,081.00 |
| **3.** Disseminate final plan | January 30, 2012 | $ 7,307.00 |

**Result Completion Date:** January 30, 2012

**Final Report Summary:** June 30, 2012

- Held Statewide Workshops for plan review and input

  Nine workshops were held from September 2011 through December 2011 and reached over 250 individuals from the Minnesota Department of Natural Resources (Office of Budget and Management Services, Parks and Trails, Forestry, Fish and Wildlife, and Ecological and Water Resources), the U.S. Fish and Wildlife Service (Regional Office, National Wildlife Refuges, Wetland Districts), the National Park Service, the Nature Conservancy, the University of Minnesota, the U.S. Forest Service, conservation organizations, tribes, and county park districts. The workshops were as follows:

  | | |
  |---|---|
  | September 28: | Workshop with biologists working on High Conservation Value Forests in the Laurentian Mixed Forest Region and Eastern Deciduous Forest Region, St. Paul |
  | November 1: | Workshop on the Laurentian Mixed Forest Region, Duluth |
  | November 7: | Workshop on the Prairie Parkland Region, New Ulm |
  | November 14: | Workshop on the Eastern Broadleaf Forest Region, Brainerd |
  | November 16: | Workshop on the Eastern Broadleaf Forest Region, St. Paul |
  | November 17: | Statewide Workshop, St. Paul |
  | November 21: | Workshop on the Laurentian Mixed Forest Region, Grand Rapids |
  | November 28: | Workshop focused on the Prairie Parkland Region and Tallgrass Aspen Parkland Region, Bemidji |
  | December 2: | Statewide Workshop, Minneapolis |

  In addition to these workshops, eleven additional presentations were given to solicit further input, including: to the National Fish and Wildlife Foundation, regional staff of the National Audubon Society, to a statewide gathering of private land managers and to participants to the Department of Natural Resources Fish, Wildlife and Ecological Resources Roundtable.

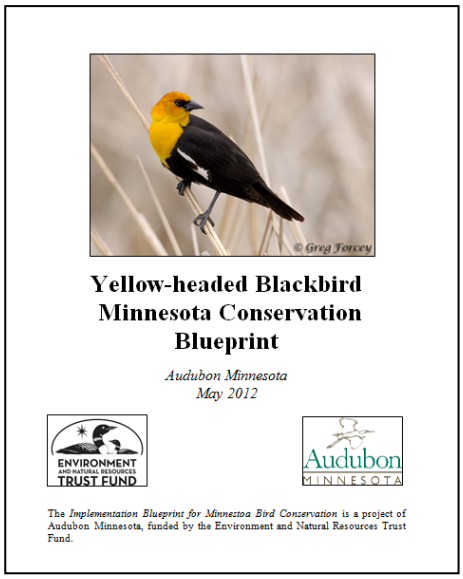
- Finalized toolbox of bird conservation actions

  1. **Selected Target Conservation Species to further focus conservation work**: After identifying a list of Highest, High and Moderate Priority species for each of the four Bird Conservation Regions, the list of priorities was further downsized by identifying Target Conservation Species from among the list of species priorities. Target Conservation Species were selected for the most important key habitats in each of the four regions (as identified by the *Comprehensive Wildlife Conservation Strategy for Minnesota: Tomorrow's Habitat for the Wild and Rare*, 2006). Six criteria (level of priority, ecological significance, management significance, cost effectiveness and feasibility of managing, sensitivity to climate change, and percent of the species global breeding range in Minnesota) were used to help identify the most appropriate target species. Target Conservation Species selected for each Bird Conservation Region are listed in the table on the following page. Those that are highlighted in blue also were delineated as Highest Priority Species in the respective region.

**Target Conservation Species selected for each Minnesota Bird Conservation Region**
(Species highlighted in blue were identified as the Highest Priority in each respective region)

| Tallgrass Aspen Parkland | Prairie Parkland | Eastern Broadleaf Forest | Laurentian Mixed Forest |
|---|---|---|---|
| | | | |
| Sharp-tailed Grouse | Blue-winged Teal | Forster's Tern | Common Goldeneye |
| Upland Sandpiper | Upland Sandpiper | Eastern Whip-poor-will | Hooded Merganser |
| Franklin's Gull | Black Tern | Red-headed Woodpecker | Red-breasted Merganser |
| | Grasshopper Sparrow | Louisiana Waterthrush | Common Loon |
| | | Prothonotary Warbler | Northern Goshawk |
| | | Cerulean Warbler | Common Tern |
| | | Eastern Meadowlark | Belted Kingfisher |
| | | Yellow-headed Blackbird | Olive-sided Flycatcher |
| | | | Connecticut Warbler |

2. **Prepared *Conservation Blueprints* for Nine Target Conservation Species**: The comprehensive species accounts that were developed for 78 species (Result #1) were further expanded into a more detailed *Conservation Blueprint* for nine of the ten Target Conservation Species that were also identified as the Highest Priority in each respective region (i.e. the species highlight in blue in the above table). A plan was not prepared for the Blue-winged Teal since it is the focus of significant conservation work by resource agencies. Each *Blueprint* combines all the background information included in the species accounts with specific conservation recommendations including a population goal, population objective and specific conservation actions.



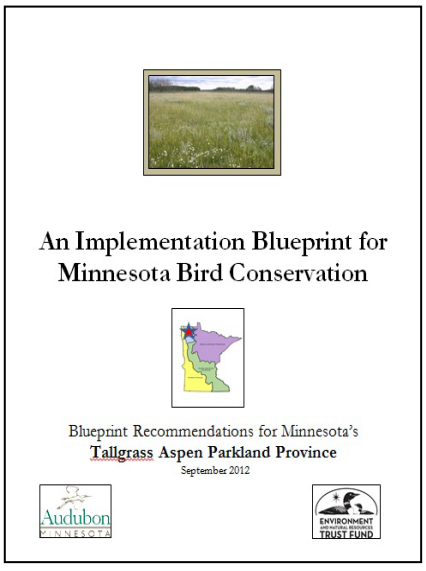

3. **Identified Important Bird Areas that are a Priority for Bird Conservation Actions**
An analysis of the priority Important Bird Areas (IBAs) in each province that support target conservation species and other priority species was conducted. The list was developed through a two-step process. The first step analyzed all existing IBAs using a matrix of criteria that included an assessment of the following:

- ✓ Urgency/Opportunity for conservation at each IBA
- ✓ Ability to acquire funding
- ✓ Whether the IBA fits with priorities of other conservation organizations
- ✓ Species priority on the IBA
- ✓ International Bird Life Ranking of species on the IBA
- ✓ Audubon Minnesota capacity
- ✓ Threats

Second, a more thorough analysis was conducted, based on the information currently available, of the presence and relative abundance of priority species in each IBA. Information from both analyses was used to help delineate the priority IBAs in each region.

4. **Revised and finalized *Conservation Blueprints* for Each Bird Conservation Region**: As mentioned under Result #1, *Conservation Blueprints* were prepared for each of Minnesota's four Bird Conservation Regions that include additional conservation tools, such as the identification of habitat protection and restoration acreage goals in each region. The drafts were further modified to include all of the following elements:

   1. A brief ecological description of the region.
   2. A summary of the primary characteristics of the region's bird community.
   3. A brief discussion of management issues and opportunities.
   4. A List of Highest, High and Moderate Priority birds in each region.
   5. Identification of conservation target breeding species in each region and population goals and objectives for each.
   6. Identification of Stewardship Species that should be primary targets in each region.
   7. Assessment of the monitoring efforts currently underway for the highest priority species and recommendations for future monitoring.
   8. Identification of key habitats in each region and the habitat associations of the highest priority species and target conservation species.
   9. Recommendations for habitat protection and restoration in each region; when available, specific acreage goals are provided.
   10. Identification of habitat management considerations for the highest priority species.
   11. Identification of the priority Important Bird Areas in each region to focus conservation work.

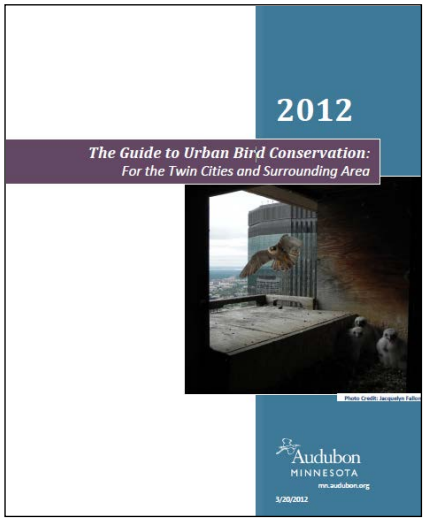


- Prepared Final Plan
  The final *Implementation Blueprint for Minnesota Bird Conservation* includes the following elements:

  a. Executive Summary for the entire *Blueprint*
  b. *Implementation Blueprints* for each of Minnesota's four Bird Conservation Regions (described in detail above):

     ✓ Tallgrass Aspen Parklands
     ✓ Prairie Parkland
     ✓ Eastern Broadleaf Forest
     ✓ Laurentian Mixed Forest

  c. Audubon's recently completed *Guide to Urban Bird Conservation*, which is embedded in the *Implementation Blueprint for the Eastern Broadleaf Forest Province*. Funded by the U.S. Fish and Wildlife Service, Audubon Minnesota worked with stakeholders to develop a bird plan for the seven county metropolitan region. Developed during the same time frame as the *Implementation Blueprint*, time was spent ensuring that its' approach closely mirrors that being developed for the statewide plan and includes the same priority species. It is available on Audubon Minnesota's website at: http://mn.audubon.org/sites/default/files/documents/gubc_03-19-12_pdf.pdf




  d. *Conservation Blueprints* for nine target conservation species (Upland Sandpiper, Common Tern, Black Tern, Franklin's Gull, Red-headed Woodpecker, Cerulean Warbler, Grasshopper Sparrow, Eastern Meadowlark, and Yellow-headed Blackbird).
  e. Species accounts for 69 additional priority species.
  f. A 28 page booklet on 12 Minnesota Stewardship species.
  g. An excel spreadsheet summarizing life history and population data on 434 Minnesota bird species.

- Disseminated final plan

  Feedback from our fall 2011 workshops led us to re-evaluate our original proposal to place all of the plan documents on the web. Managers voiced their excitement about having access to the conservation tools developed for targeted species. Nevertheless, they advised that text documents, even if they are available on the web, may not be consulted if they have to remember to search for the information each time they work on a parcel of land. They noted that GIS tools are now their primary means of accessing natural resource data and for developing and tracking the implementation of land

management plans. If Audubon could provide the information in a GIS format, it would be significantly easier for them to access and incorporate into their management activities.

As a result of this feedback, project staff met with Robert Maki, DNR Director of the Bureau of Management Information Services, and Tim Loesch, DNR GIS Coordinator, on January 11 to discuss and explore how to convert the plan documents into a GIS format that could be accessed by resource managers and professionals throughout the state via the DNR Data Deli. Because this task will require additional resources, we have developed a project proposal and are now exploring opportunities and funding for implementation. In the interim, we are using dollars available from a different funding source to prototype the concept in central Iowa.

We will, however, still post primary elements of the plan on the Audubon website. Once all elements are on the web, conservation organizations and resource agencies will be notified of their availability. The following table summarizes their distribution:

| **Implementation Blueprint for Minnesota Bird Conservation** | **Plans for Dissemination** |
|---|---|
| | |
| Executive Summary | • On the Web at www.mn.audubon.org in December 2012 |
| Conservation Blueprints for each Ecological Province | • On the Web at www.mn.audubon.org in December 2012 |
| Guide to Urban Bird Conservation | • Available at: http://mn.audubon.org/twin-cities-bird-conservation |
| Conservation Blueprints for 9 Target Conservation Species | • On the Web at www.mn.audubon.org by February 2013 |
| Species accounts for an additional 69 species | • Currently exploring options for making the information available in a GIS format |
| Booklet on 12 Stewardship Species | • Available at: http://mn.audubon.org/sites/default/files/documents/11-18-12_web_stewardship-brochure.pdf; hard copies available on request |
| Excel spreadsheet on all 434 Minnesota species | • Available on request; examining options to make available in a GIS format |

- Outcomes of the plan also have been used to assist the University of Minnesota Metropolitan Design Center's work to restore portions of the Mississippi River Corridor, have been presented at the DNR Roundtable for Ecological Resources and during a webinar for all Audubon staff within the Mississippi Flyway, and were summarized in the March 2012 newsletter for Forest Stewardship professionals in Minnesota. The Common Tern Conservation Plan was used at a Structured Decision Making meeting in April to inform future Common Tern management at the Rice Lake National Wildlife refuge.

## RESULT/ACTIVITY 3: Delineate and implement bird conservation actions

**Description:** This result has two primary outcomes. The first is to tailor the conservation priorities identified in the Operational Plan to specific conservation agendas for individual Audubon chapters. The focus will be on actions that chapters can reasonably implement in the coming 5-10 years by working

with their members and by partnering with other local conservation interests. Where feasible, emphasis will be placed on identifying conservation priorities in Important Bird Areas that are in the vicinity of chapter locations and that provide habitat for priority species.

The second outcome is to utilize the new operational plan to guide further delineation and management of Audubon Minnesota's Important Bird Areas. Important Bird Areas (IBA) are sites that provide essential habitat for one or more breeding, wintering and/or migrant bird species in Minnesota. The IBA Program is designed to be proactive, voluntary, participatory, and science-based and it works to identify, monitor and conserve the most essential bird habitats in the state. To date, 35 IBA sites have been officially delineated in Minnesota.

One concrete conservation outcome of this work program is to insure that these IBA sites actually do provide essential habitat for the priority species that are identified in the new operational plan. As a result, we will conduct a gap analysis of the existing IBAs to determine if they include breeding and migratory habitat for the priority species identified in the plan. Then, management plans that incorporate the conservation actions identified for each species will be developed for three IBAs located in different regions of the state. This will include workshops with private and public landowners within each IBA to solicit their input and support for specific conservation actions.

**Summary Budget Information for Result/Activity 3:** **ENRTF Budget:** $37,896.00
**Amount Spent:** $37,704.20
**Balance:** $ 191.80

| Deliverable/Outcome | Completion Date | Budget |
|---|---|---|
| **At the Statewide Level:** | | |
| **1.** Conduct a gap analysis of existing IBAs to assess if they effectively address breeding and migratory habitat for the priority species identified in the plan | March 30, 2012 | $14,918.00 |
| **At the Local Level:** | | |
| **1.** Identify implementation actions for Audubon chapters | April 30, 2012 | $ 7,123.00 |
| **2.** Develop three IBA management plans in different regions of the state that incorporate the plan's conservation actions | June 30, 2012 | $15,855.00 |

**Result Completion Date:** June 30, 2012

**Final Report Summary:** June 30, 2012

- Conducted Gap Analysis of IBAs and Priority Species

  Bird lists were compiled for all 48 of Minnesota's Important Bird Areas that were delineated as of June 2012 (note: six additional IBAs were nominated and finalized in October 2012 and were not included in this analysis). Existing lists that were available for many of the IBAs were augmented with additional sources of information when they were available, such as data from the Breeding Bird Atlas, data from Scientific and Natural Areas and State Parks that are located within IBAs, and data from the County Biological Survey, Minnesota Ornithologists Union and National Wildlife Refuges.

  Each source of data was entered separately into an excel database and then a single bird list was compiled from all the original data. The compiled lists were used to assess whether the suite of existing IBAs adequately protect the breeding and migratory habitat of Minnesota's priority birds, particularly its 10 Target Conservation species.

The analysis revealed that all of the highest, high and moderate priority species in each of Minnesota's four Bird Conservation Regions are represented on at least one IBA, usually multiple IBAs. Of the total 104 priority species only four are found on fewer than 10 IBAs:

- Spruce Grouse: 7 Important Bird Areas
- Boreal Owl: 9 Important Bird Areas
- Bell's Vireo: 8 Important Bird Areas
- Chestnut-collared Longspur: 2 Important Bird Areas (these are the only two sites where the Longspur is known to breed)

Minnesota's ten target conservation species are represented on IBAs as follows:

| **Target Conservation Species** | **Number of IBAs where species is documented to occur** | **Number of IBAs where species is known to breed*** |
|---|---|---|
| | | |
| Blue-winged Teal | 44 | 13 |
| Upland Sandpiper | 29 | 6 |
| Franklin's Gull | 32 | 5 |
| Black Tern | 42 | 13 |
| Common Tern | 29 | 5 |
| Red-headed Woodpecker | 36 | 11 |
| Cerulean Warbler | 19 | 8 |
| Connecticut Warbler | 35 | 5 |
| Grasshopper Sparrow | 34 | 8 |
| Yellow-headed Blackbird | 41 | 11 |

* The total number of IBAs where each of these specie breed is likely higher; we have only reported those sites where breeding has been documented.

Minnesota's suite of 48 designated Important Bird Areas adequately represents the priority and target conservation species delineated by the Implementation Blueprint for Minnesota Bird Conservation.

There are two primary challenges: 1) to ensure that those sites that support known breeding populations are adequately managed to sustain those populations; and 2) to inventory other sites where the species has been documented to assess if they support breeding populations.

At the time that the work on this project was completed there were no Important Bird Areas designated in southwest Minnesota, south of the Minnesota River Valley. The Blue-winged Teal, Upland Sandpiper, Franklin's Gull, Black Tern, Red-headed Woodpecker, Grasshopper Sparrow and Yellow-headed Blackbird are all species that are likely to be present on IBAs in this region. Geographical representation in this region is important (note: the six new IBAs delineated in late October 2012 included two in the southwest region).

- Identified Implementation Actions for Audubon Chapters

  Implementation actions were identified in two primary manners for local Audubon Chapters:

  1. First, the Conservation Blueprints for the nine Target Conservation Species each include an implementation plan. The implementation plan identifies responsible parties for each action. Audubon Minnesota and Audubon Chapters are listed as the responsible parties for many of the inventory and assessment actions. For example, the Implementation Plan for the Black Tern identifies two inventory and assessment actions where the chapters can participate:

     a. Assess the status of Black Terns on Important Bird Areas where they have been reported nesting in the past (11 sites are identified).
     b. Conduct a one-time assessment of the remaining IBAs where Black Terns have been reported during the breeding season to assess their breeding status (24 additional sites are identified).

  2. Second, a small toolbox of actions was prepared for each Audubon Chapter based on its geographical location. Actions focused on:

     a. Identifying the Important Bird Areas that were closest to each Chapter.
     b. Recommending an IBA for each chapter to "adopt" for focused conservation activities.
     c. Identifying the Bird Conservation Region that each chapter is located within.
     d. Identifying the Target Conservation Species that occur in each Chapter's region.
     e. Identifying which Target Conservation Species are present on each IBA in their region and their known breeding status on each IBA. The goal is to verify known breeding locations and confirm the breeding status on sites where the species has been casually observed.
     f. Identifying Breeding Bird Survey routes that were close to each chapter and delineating which are in need of new qualified surveyors that chapters may adopt.

- Developed three IBA management plans in different regions of the state that incorporate the plan's conservation actions

  Management plans were prepared for the three IBAs listed below and will be posted on the Audubon Minnesota web page in January 2013. The original workplan stated that Audubon would conduct workshops to solicit input on each management plan. Although the plans reflect input that has been gathered through other stakeholder venues, time did not allow us to organize and conduct separate workshops before completion of the project period. As the office proceeds to implement each plan additional input will be sought. Indeed, it will be critical to solicit the input and cooperation of each public and private landowner within the IBAs for successful project implementation.

  1. Goose Lake Swamp IBA in northwest Minnesota.
  2. Mississippi River - Twin Cities IBA in east-central Minnesota.
  3. Vermillion Bottoms – Lower Cannon River IBA in southeast Minnesota.

- Began efforts to implement two of the IBA Management Plans

  1. Goose Lake Swamp IBA in northwest Minnesota

     With funding secured from the U.S. Fish and Wildlife Service, through the Prairie Pothole Joint Venture, and in cooperation with the Minnesota Department of Natural Resources, Audubon Minnesota initiated a baseline assessment of migrant shorebirds, waterfowl and breeding birds

on the Goose Lake Swamp IBA during the 2012 field season. Field work will be conducted during the 2013 field season as well. Data will be used to help inform and guide habitat protection and restoration efforts on the IBA.

2. Vermillion Bottoms – Lower Cannon River IBA in southeast Minnesota

   Private funds were secured to establish a new Audubon field position, the Red Wing Community Conservation Specialist. The position's primary responsibility will be to work with local conservation organizations, agencies, and citizen stakeholders to implement the Vermillion Bottoms-Lower Cannon River IBA management plan. The new hire for the position will begin work January 2, 2013.

## V. TOTAL TRUST FUND PROJECT BUDGET

**Personnel**: **$ 145,510.00**

- Lee Pfannmuller, Project Manager; 100% FTE (est. $131,789, includes 36% fringe benefits)
- Mark Martell, Audubon Director of Bird Conservation; 7%FTE; provides technical assistance and develops 3 IBA management plans; (est. $10,088, includes 36% fringe benefits)
- Bonita Jenne, 5% FTE; provides editing assistance and graphic design; (est. $2,508, includes 36% fringe benefits)
- Susan Swanson, provides administrative support (est. $1,125, includes 12% fringe benefits)

**Travel:** **$ 3,410.00**

- In-state Mileage (est. $2,805):
  - ✓ 6 workshops averaging 300 miles each @ $.0.55/mi ($990)
  - ✓ Miscellaneous travel for meetings and consultations averaging 100 miles/month x 24 months x $0.55/mi ($1320)
  - ✓ 3 IBA planning sessions of 300 miles each @$0.55/mi ($495)
- Lodging and Meals (est. $605)
  - ✓ Estimate of 5 overnight lodging stays at @$90/night and meals for 5 days at @$31/day

**Additional Budget Items:** **$ 2,080.00**

- Publication Access Fee ($80: $40 annual charge for library privileges at UM to conduct research on priority species)

- Printing and Mailing ($2,000: $300 to print and distribute draft copies of plan; $1,500 to print and distribute final copies of plan; $200 to print and distribute 3 IBA plans

**TOTAL ENRTF PROJECT BUDGET:** **$ 151,000.00**

**Explanation of Capital Expenditures Greater Than $3,500:** Not applicable

**VI. PROJECT STRATEGY:**

**A. Project Partners:** Lee Pfannmuller will be hired as the Project Manager responsible for overall project implementation and plan development. Mark Martell, Audubon's Director of Bird Conservation, will provide assistance by guiding the preparation of the IBA management plans in cooperation with local Audubon Chapters. Technical guidance will be provided by: the U.S. Fish & Wildlife Service; the DNR Nongame Wildlife Program, the Minnesota County Biological Survey, the University of Minnesota, the Minnesota Nature Conservancy, the U.S. Forest Service, the National Park Service, Hawk Ridge Bird Observatory, the affiliate members of Bird Conservation Minnesota, other members of Audubon Minnesota and local Audubon Chapters.

**B. Project Impact and Long-term Strategy:** Development of the conservation plan will be completed with this funding request. The plan will serve as a catalyst for state and local partners, including Audubon, to implement conservation actions outlined in the plan that may initiate additional funding requests.

**C. Other Funds Proposed to be Spent during the Project Period:** Not applicable

**D. Spending History:** No funds will be spent on this project prior to July 1, 2010.

**VII. DISSEMINATION**: A variety of avenues have already been used to disseminate the final *Implementation Blueprint for Minnesota Bird Conservation*, from numerous presentations to distribution of the *Stewardship Birds of Minnesota* booklet to distribution of the database on Minnesota birds. The plan will also be available on the Minnesota Audubon web page at http://mn.audubon.org. The final IBA management plans will be distributed to major landowners within each IBA and will be posted on the Audubon web page. Audubon is also investigating opportunities to make the data available in a GIS format to increase its utility to land managers.

**VIII. REPORTING REQUIREMENTS:** Periodic work program progress reports will be submitted not later than December 30, 2010; June 30, 2011; and December 30, 2011. A final work program report and associated products will be submitted between June 30 and August 1, 2011 as requested by the LCCMR.

**IX. RESEARCH PROJECTS:** Not applicable

**Attachment A: Final Budget Detail for 2010 Project #145-E2**

**Project Title: An Integrated Operational Bird Conservation Plan for Minnesota**

**Project Manager Name: Lee A. Pfannmuller**

**Trust Fund Appropriation: $151,000**

| **2010 Trust Fund Budget** | **Result 1 Budget:** | **Amount Spent as of 6/30/12** | **Balance 6/30/12** | **Result 2 Budget:** | **Amount Spent as of 6/30/12** | **Balance 6/30/12** | **Result 3 Budget:** | **Amount Spent as of 6/30/12** | **Balance 6/30/12** | **TOTAL BUDGET** | **TOTAL BALANCE** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Prepare a draft Minnesota Bird Conservation Plan** | | | **Review and finalize operational plan.** | | | **Delineate and implement bird conservation actions** | | | | |
| **BUDGET ITEM** | | | | | | | | | | | |
| **PERSONNEL: wages and benefits** *(List individual names, amount budgeted and %FTE; add rows as needed)* | $67,466.00 | $67,219.68 | $246.32 | $41,360.00 | $41,727.81 | -$367.81 | $36,684.00 | $35,840.94 | $843.06 | $145,510.00 | $721.57 |
| **Lee A. Pfannmuller (100%FTE):** Project Manager; est. $131,789 (includes 36% fringe benefits) | | | | | | | | | | | |
| **Mark Martell (7%FTE);** Audubon Director of Bird Conservation provides technical assistance and develops 3 IBA plans; est. $10,088, including 36%fringe benefits | | | | | | | | | | | |
| **Bonita Jenne (5%FTE);** provides publication editing & graphic design; est $2,508, including 36% fringe benefits | | | | | | | | | | | |
| **Sue Swanson (2%FTE);** provides administrative support; est. $1,125, including 12% fringe benefits | | | | | | | | | | | |
| **Printing & Mailing:** $300 (est.) to print and mail draft conservation plan (result 1); $1,500 (est.) to print and mail final plan (result 2); $200 (est.) to print and mail 3 IBA plans (result 3). | $300.00 | | $300.00 | $1,500.00 | $2,949.68 | -$1,449.68 | $200.00 | $179.60 | $20.40 | $2,000.00 | -$1,129.28 |
| **Travel expenses in Minnesota:** | $660.00 | | $660.00 | $1,738.00 | $1,382.31 | $355.69 | $1,012.00 | $1,683.66 | -$671.66 | $3,410.00 | $344.03 |
| **1.** Mileage**:** 6 workshops averaging 300 mi each @ $0.55/mile (total est. $990; result 2); plus other travel for meetings and consultation averaging 100 mi/month for 24 mths (total est. $1320; $660 result 1; $385 result 2; $275 result 3); plus 3 IBA planning sessions averaging 300 mi each (total est. $495; result 3); est total: $2,805 | | | | | | | | | | | |
| **2.** Lodging and Meals: estimate of 5 overnight lodging stays @ $90/night and meals for 5 days at @$31/day (total est. $630; $380 result2; $250 result 3) | | | | | | | | | | | |
| **Other:** Publication Access Fee: $40 annual charge for library privileges at UM to conduct research on priority species | $40.00 | | $40.00 | $40.00 | | $40.00 | $0.00 | | $0.00 | $80.00 | $80.00 |
| **COLUMN TOTAL** | **$68,466.00** | **$67,219.68** | **$1,246.32** | **$44,638.00** | **$46,059.80** | **-$1,421.80** | **$37,896.00** | **$37,704.20** | **$191.80** | **$151,000.00** | **$16.32** |

Audubon
MINNESOTA

# STEWARDSHIP BIRDS OF MINNESOTA

## Our Global Responsibility

# INTRODUCTION

Our mission is to conserve and restore natural ecosystems, focusing on birds, other wildlife, and their habitats for the benefit of humanity and the earth's biological diversity.

## What are Stewardship Birds?

MINNESOTANS ARE JUSTLY PROUD OF THE RICHNESS OF BIRD LIFE that is contained within our borders and across our diverse habitats. We also can take pride that our state provides quality habitat for several bird species that are common in our state, sometimes harboring significantly larger populations here than elsewhere. These "Stewardship Birds" confer on us a special responsibility to provide for their care. If their stronghold in our state is diminished, their ability to survive as a species may be in grave jeopardy. Audubon defines these stewardship bird species as having the following attributes:

- Minnesota contains 5% or more of the bird's global breeding population; and
- Minnesota encompasses 5% or more of their breeding range.

Out of the 314 bird species that regularly inhabit Minnesota, only 12 species meet these criteria. These 12 birds are the subject of this publication. Two iconic Minnesota birds familiar to all citizens did not meet these criteria – the Bald Eagle and Common Loon; both are common across Canada and Alaska as well as Minnesota. For the most part, the 12 Stewardship Birds have not attracted much attention or resources from the conservation community here in Minnesota. This is not surprising as rare and disappearing species demand much of our effort. However, it is important to realize that we have a responsibility to provide stewardship for those species for which we have globally significant numbers.

This booklet is designed to introduce the reader to these species. Because their survival may depend on how well they thrive in our state, our goal is to encourage Audubon chapters, wildlife professionals, and conservation volunteers to consider these species in their conservation work. Many Stewardship Birds are doing well; some are even increasing in numbers and distribution. Our challenge is to recognize the importance of Minnesota to the global conservation of these species and not take them for granted because of their abundance. If you own or are responsible for habitat that any of the Stewardship Birds depend on, nurture those habitat features (for example shrub cover, mature deciduous trees or wetlands) that are most important to those species, whether it is in your backyard, a wildlife management area or a state forest. Share with your neighbors, or professional colleagues, the unique role that Minnesota habitats provide and take pride in knowing that Minnesota is indeed a very special place for these birds. Finally, support the conservation work of Audubon Minnesota and help create a lasting benefit for our Stewardship Birds.

CONTENTS



*On the cover:*
Sedge Wren sings by Andrew Nyhus

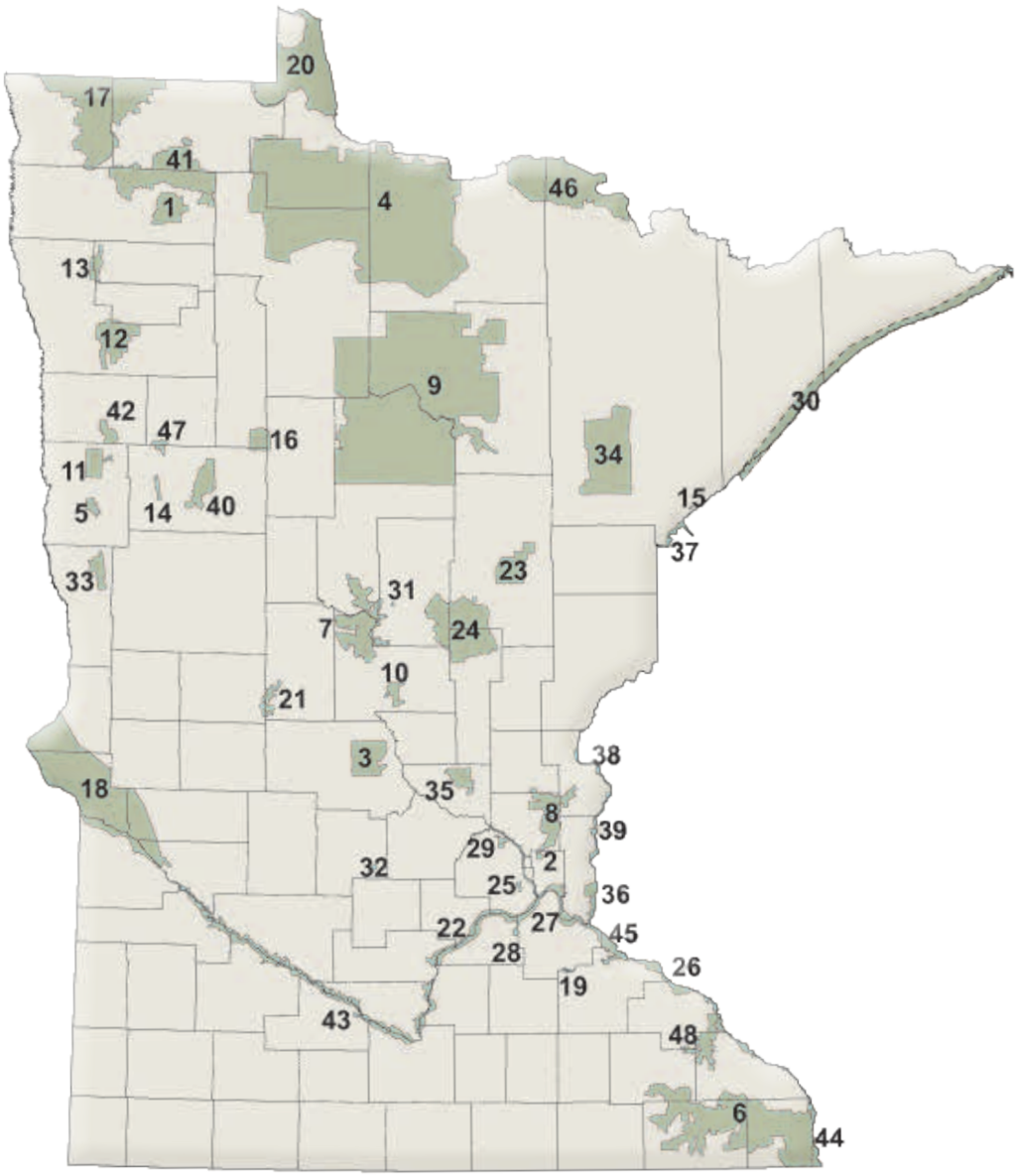
# IMPORTANT BIRD AREAS

## Critical to Conservation: Important Bird Areas in Minnesota and Beyond

AS THE U.S. PARTNER FOR BIRDLIFE INTERNATIONAL, Audubon spearheads an ambitious effort to identify, monitor, and protect the most critical places for birds – Important Bird Areas (IBAs). We also collaborate with 19 international partners to extend a web of protection throughout the Western Hemisphere. Audubon has identified over 2,600 IBAs covering 378 million acres of public and private lands in the United States.

This pillar of Audubon's overall approach to conservation is both powerful and simple: by identifying and protecting the most important places for birds, we can save species and preserve our natural heritage.

In Minnesota, Audubon and its partners have designated 48 places that are of highest conservation priority for birds – and additional sites are still being reviewed. Five of these IBAs have been designated as globally important. All of Minnesota's IBAs are key to the continued health of Stewardship Bird populations. In this booklet we identify for each Stewardship Bird the IBAs that provide critical breeding habitats.




### Minnesota IBAs

1 Agassiz NWR IBA
2 AHATS - Rice Creek IBA
3 Avon Hills IBA
4 Big Bog IBA
5 Bluestem Prairie - Buffalo River State Park IBA*
6 Blufflands - Root River IBA
7 Camp Ripley - Pillsbury - Lake Alexander IBA
8 Carlos Avery IBA
9 Chippewa Plains IBA
10 Crane Meadows NWR - Rice Skunk Wetland Complex IBA
11 Felton Prairie IBA*
12 Glacial Ridge IBA
13 Goose Lake Swamp IBA
14 Hamden Slough NWR IBA
15 Hawk Ridge Nature Reserve IBA
16 Itasca State Park IBA
17 Kittson-Roseau Aspen Parkland IBA
18 Lac Qui Parle - Big Stone IBA*
19 Lake Byllesby IBA
20 Lake of the Woods IBA
21 Lake Osakis IBA
22 Lower Minnesota River Valley IBA
23 McGregor IBA
24 Mille Lacs IBA
25 Minneapolis Chain of Lakes IBA
26 Mississippi River - Lake Pepin IBA
27 Mississippi River Twin Cities IBA
28 Murphy-Hanrehan Park Reserve IBA
29 North Metro Mississippi River IBA
30 North Shore Peregrine Falcon Eyries IBA
31 Northland Arboretum IBA
32 Pigeon Lake IBA
33 Rothsay IBA*
34 Sax-Zim Bog IBA
35 Sherburne NWR IBA
36 St. Croix Lake IBA
37 St. Louis River Estuary IBA
38 St. Croix - Wild River State Park IBA
39 St. Croix River Bluffs IBA
40 Tamarac NWR IBA
41 Thief Lake IBA
42 Twin Valley - Neal Prairie IBA*
43 Upper Minnesota River Valley IBA
44 Upper Mississippi NWR IBA
45 Vermillion Bottoms - Lower Cannon River IBA
46 Voyageurs Kabetogama IBA
47 Waubun Marsh IBA
48 Whitewater Valleys IBA

* Global IBA

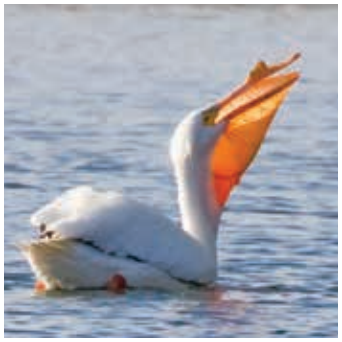
# AMERICAN WHITE PELICAN

*Pelecanus erythrorhynchos*

Minnesota supports one of the largest nesting colonies of American White Pelicans in North America, numbering approximately 11,000-14,000 nesting pairs.

CARROL L. HENDERSON

| State/Province | % of Global Population |
|---|---|
| North Dakota | 22 |
| Minnesota | 18 |
| Oregon | 13 |
| Utah | 12 |
| 18 other states and provinces | 35 |



REBECCA FIELD

Pelicans capture food by scooping and straining up to 5 gallons of water in their throat pouches.

**Current Distribution:** The American White Pelican breeds in North America's Great Plains. It winters along both the Gulf Coast and Pacific Coast of the southern United States and Mexico.

A survey conducted in Minnesota in 2010 estimated a total population of 16,000 nesting pairs dispersed among 17 different colonies. Thirteen of the colonies were found on four large lakes: Lake of the Woods (4 colonies, Lake of the Woods County), Marsh Lake (5 colonies, Big Stone County), Pigeon Lake (2 colonies, Meeker County) and Minnesota Lake (2 colonies, Fairbault County). Eleven of the colonies are within Important Bird Areas. Marsh Lake supported the largest colonies with over 11,000 nesting pairs combined. During the same year, another researcher estimated 14,000 breeding pairs at Marsh Lake. The discrepancy in numbers points to the difficulty of obtaining accurate counts in such large, dense nesting colonies. Not long ago, Chase Lake in North Dakota was considered the largest breeding colony in North America with nearly 18,000 nesting pairs in 2000. But, during the height of the 2004 breeding season, the adults suddenly abandoned their nests and young. Despite another nesting failure in 2005, the colony remains active and supports about 10,000 to 17,000 pairs. Population numbers can vary widely between years at any given colony. Nevertheless, the Chase Lake colony in North Dakota and the Marsh Lake colonies in Minnesota together comprise nearly 40% of the North American population.

**Description:** The pelican's prehistoric appearance captures everyone's attention. Its large white body, black wing feathers, enormous orange bill, and 8-9 foot wingspan are impressive. The bill's lower mandible has a deep pouch that enables the bird to swallow whole fish and amphibians. During the breeding season, the bill's upper mandible has a vertical plate, or horn, that measures up to 2.5 inches in height and the crown and nape of the neck have long white plumes. Midway through incubation the bill's horn is shed and the white feather plumes are replaced by darker feathers. This gives a mottled gray-black appearance to the pelican's crown that varies among individual birds. Later in the season, the crown feathers are replaced again by white feathers. This large, gangly bird appears most majestic in flight. Flocks of pelicans can be seen spiraling slowly upwards and then leveling off and gliding gracefully across the prairie marshes on the warm summer thermals. In his book, The Birds of Minnesota, T.S. Roberts wrote:

*On land the Pelican is an awkward and somewhat grotesque appearing bird; on the water it floats in a stately, dignified manner with the great bill and pouch held closely against the neck and breast; and on the wing it can be one of the most accomplished of aeronauts.*

**Habitat:** The American White Pelican is a colonial nester. Occasionally it nests in colonies as small as 5-10 nesting pairs, but colonies with hundreds to several thousand nesting pairs are more typical. Sites selected for nesting are usually islands with substrates that range from sand to gravel. Some birds nest on isolated islands on very large lakes such as Lake of the Woods; others on shallow prairie lakes like Marsh Lake. The site may be totally bare of vegetation or covered with scattered grasses and/or forbs. Pelicans usually forage some distance away from the nesting colony, travelling up to 60 miles to find food.

**Threats/Status:** Formerly abundant throughout Minnesota, American White Pelicans disappeared from the state in 1879, largely from human disturbance and persecution. Absent for nearly 90 years, they returned in 1968 when a small colony was established on Marsh Lake. Since then they have steadily increased to the current population of 16,000 breeding pairs in 17 colonies. Although the status and size of individual colonies varies each year, the state population has remained stable in recent years.

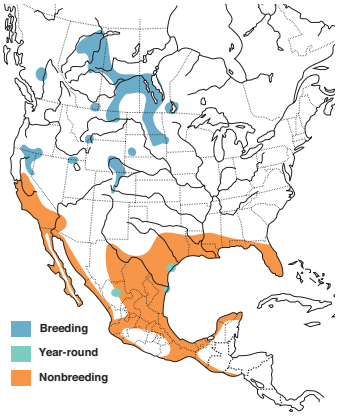
Colonial nesting species like white pelicans are quite vulnerable due to the population's concentration into small breeding areas. Any disturbance, from recreational boaters to predators, can affect the entire colony. High water caused by storms and winds also can threaten nesting colonies located on islands with little elevation above the surrounding water. More recently, as the Minnesota population has increased, so have concerns of lake-shore residents and anglers that pelicans are negatively impacting local fish populations. A Minnesota man was sentenced for destroying nearly 2,500 pelican chicks and eggs in 2011. Because the birds winter on the Gulf Coast, oil spills like the 2010 British Petroleum spill also pose potential risks.

**Conservation:** Protection of Minnesota's nesting colonies is a high priority. Equally important is the need to work with our conservation partners to promote the pelican's ecological role as a predator of salamanders, crayfish, tadpoles, and a variety of small fish.

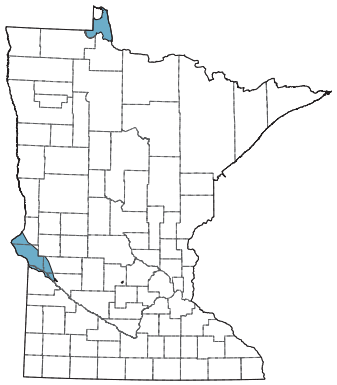
**Did You Know?** Unlike its coastal cousin the Brown Pelican that dives for fish, the American White Pelican scoops up food with its head just below the water's surface. It often feeds in shallow waters, far from its nest site. While feeding, these birds may work cooperatively, circling together to concentrate fish.

CARROL L. HENDERSON

American White Pelican habitat




American White Pelican Range



American White Pelicans breed in these Important Bird Areas

CARROL L. HENDERSON

This day-old chick has a much higher chance of survival than its unhatched sibling. Less than 10% of the second-hatched pelican chicks usually survive.

# AMERICAN WOODCOCK

*Scolopax minor*

Minnesota supports approximately 10% of the global population of the American Woodcock – a unique looking, forest-inhabiting shorebird – and 6% of its breeding range.

DAVID CAHLANDER

| State/Province | % of Global Population |
|---|---|
| Ontario | 24 |
| Michigan | 18 |
| Minnesota | 10 |
| Quebec | 9 |
| Wisconsin | 7 |
| 20 other states and provinces | 32 |

REBECCA FIELD

The Wilson's Snipe, while similar to the American Woodcock, is more slender and has crown stripes that go from the front to the back of the head.

**Current Distribution:** The American Woodcock occurs in the eastern United States and southeastern Canada. In the northern half of its range the species is migratory; in the southern half it can be found throughout the year although it is unclear whether the birds are resident year-round or if the region's summer breeders migrate south and are simply replaced by the northern breeders migrating south.

In Minnesota, the woodcock is most abundant in the northern and central forested regions but is also found further south in the southeastern forests and in the west central agricultural counties, particularly along the Minnesota River Valley. Minnesota's birds are short-distance migrants, likely following the Mississippi Flyway south to the Gulf Coast.

**Description:** Broad lateral stripes across the crown, a long bill, and large eyes located far back on the head are some of the distinguishing features of this mottled brown forest inhabitant. Slightly larger than a robin, the woodcock is a chunky bird with a big head; its brown and black plumage provides an effective camouflage against its forest floor habitat. One species it might be confused with is the Wilson's Snipe which is more slender, has a white belly in contrast to the woodcock's buffy belly, and has crown stripes that go from the front to the back of the head.

Although the American Woodcock is inconspicuous most of the year, during a few weeks each spring the male's courtship performance proudly announces its presence to all. Active at sunset and in the twilight hours of the morning, the male performs while the female is well-hidden nearby. He selects an open area where he is visible while strutting with his tail erect and his bill pointing downward, emitting a sound that is best described as *peent*. The behavior that follows the singing, or *peenting,* has been eloquently described by Aldo Leopold, in A Sand County Almanac as the Sky Dance:

> *Suddenly the peenting ceases and the bird flutters skyward in a series of wide spirals, emitting a musical twitter. Up and up he goes, the spirals steeper and smaller, the twittering louder and louder, until the performer is only a speck in the sky. Then, without warning, he tumbles like a crippled plane, giving voice in a soft liquid warble that a March bluebird might envy. At a few feet from the ground he levels off and returns to his peenting ground, usually to the exact spot where the performance began, and there resumes his peenting.*

While many naturalists thought that the *twitter* heard when the woodcock spirals upwards was vocal, it is actually the sound of air passing over the bird's outer primary wing feathers.

**Habitat:** For those skilled in Latin, the woodcock's scientific name, *Scolopax minor*, provides a clue to its haunts: "little lover of the swamps or bogs." American Woodcock, however, actually require a mosaic of different habitats. Open areas are needed for the male's courtship performance; pastures, trails and clearcuts are all used. Young forests, located near the clearings, are used for nesting and brood rearing. Feeding occurs in areas that provide a dense midstory. Alder lowlands or young aspen stands found on rich soils that support a healthy population of their primary food item, earthworms, are preferred. Finally, large fields are used for night roosting.

**Threats/Status:** When T.S. Roberts published The Birds of Minnesota in 1932, woodcock were most abundant in the state's southeastern deciduous forests. However, as clearing and farming spread northward, so did the woodcock. Today, the bird is far more common in the northern region. This expansion northward into the boreal hardwood forests happened throughout the species' North American range, as did its retreat from the southern forests that were cleared for agriculture and development.

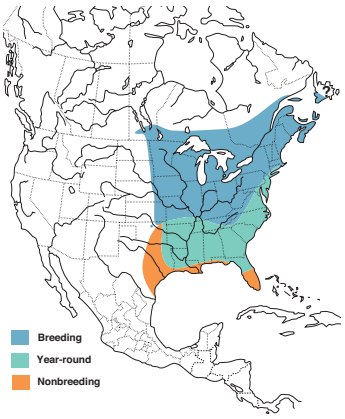
As a popular game bird, the woodcock's declining population has spawned numerous conservation initiatives. Spring surveys to count the number of peenting males began in the late 1960s as a tool for tracking populations. These surveys suggest that the North American population has been declining slowly while the Minnesota population has remained stable. But the number of peenting males actually detected is low, raising concern about the survey's reliability as a population index. Population models based on available woodcock habitat lead to a different conclusion and suggest that woodcock numbers are declining everywhere, including in Minnesota. The principal cause of the decline is the loss of young forests, as abandoned farmland succeeds to mature forest cover. A national conservation plan completed for the species in 2008 established an overall goal to restore population densities to those observed in the 1970s.

**Conservation:** Protection of existing young forest habitat and creation of additional acres is considered the most effective management tool.

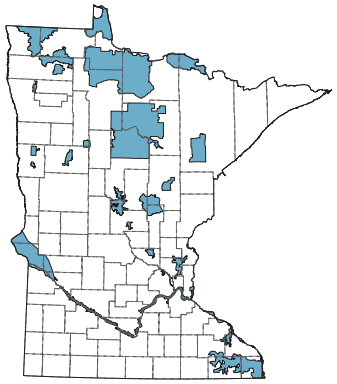
**Did You Know?** The woodcock searches for earthworms with a flexible tip to its bill that may help it feel worms below the surface. By rocking its body back and forth and stepping hard on the ground with its foot, worms move beneath the surface and become more detectable. Its unusual appearance has earned the woodcock a variety of folk names including timberdoodle, bogsucker and big-eye.

DAN NEULAND

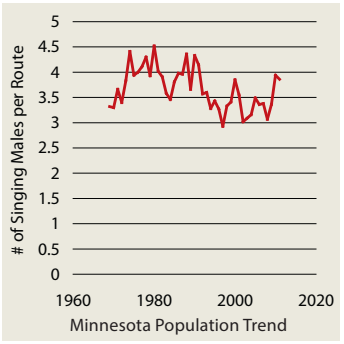
American Woodcock habitat




American Woodcock Range



American Woodcocks breed in these Important Bird Areas



# BALTIMORE ORIOLE

*Icterus galbula*

Minnesota includes 8% of the Baltimore Oriole's breeding range and 5% of this popular backyard bird's global population.

REBECCA FIELD

| State/Province | % of Global Population |
|---|---|
| Kansas | 11 |
| Alberta | 10 |
| Saskatchewan | 8 |
| Nebraska | 7 |
| Minnesota | 5 |
| Missouri | 5 |
| 41 other states and provinces | 54 |

JIM WILLIAMS

A little smaller than the Baltimore Oriole, the male Orchard Oriole has chestnut-colored feathers on the chest, belly and lower back.

**Current Distribution:** The Baltimore Oriole has the broadest distribution of Minnesota's Stewardship Birds, occurring across central and southern Canada and throughout much of the eastern half of the United States.

Given that the oriole's range includes 47 states and provinces, the fact that Minnesota supports 5% of its population and includes 8% of its breeding range is significant. The Baltimore Oriole can be found throughout Minnesota, wherever there is suitable habitat. It is least common in the extensive northern forest region. A Neotropical migrant, it winters along the coastal slopes of central Mexico, through Central America and the South American countries of Venezuela and Columbia, and in portions of the West Indies. Although the majority of birds winter south of the United States, some can be found in southern Florida and in scattered locations along the Atlantic and Pacific coastal states.

**Description:** A little smaller than a robin, few Minnesota birds this size have such brilliant plumage. The male's bright orange chest and belly, contrasting with its black head, throat and wings, give the Baltimore Oriole the appearance of a tropical species. The wings also display some orange as well as two white wing patches. The oriole was originally called the "Baltimore Bird" because its black and orange feathers were the same colors of the family crest of Lord Baltimore, the British landlord of the Maryland colony.

The female's head is more mottled and the orange feathers in the chest and belly are much duller than the male's, though the color intensifies with age. First year males appear similar to the females; they don't acquire their full breeding plumage until the fall of their second season.

Although it might be hard to confuse the Baltimore Oriole with other species, the Orchard Oriole is similar in appearance and widely distributed in southern and western Minnesota. The primary difference is the male Baltimore Oriole's bright orange feathers are replaced with deep chestnut-colored feathers in the chest, belly, and lower back of the male Orchard Oriole.

One might expect a complex melodious song from such a stunning bird but that is not the case. Delivered while perched high in the canopy, the oriole's song is a series of clear, loud

notes sung singly or in groups of two and separated by small pauses. Despite its simplicity, each male's song sounds unique. Females also sing a short phrase of 2-3 whistled notes.

**Habitat:** The Baltimore Oriole is found in a variety of habitats, but prefers the edges of woodlands or open areas with scattered large trees, usually deciduous. Riparian areas along lakes and streams, as well as urban parks and orchards are all among the species' haunts. Extensive forest areas, however, are avoided. As a result, it has adapted to urban habitats and its frequent appearance at backyard bird feeders delights homeowners. Like other orioles, the female constructs a woven nest chamber with a small opening on the top that hangs from a tree branch. She uses her beak to weave thousands of stitches that hold the structure together. Natural fibers, such as grasses, horse hair and vines are used as well as miscellaneous refuse, such as fishing line and string.

**Threats/Status:** Because it is so well-adapted to urban environments, the Baltimore Oriole has fared reasonably well on its breeding grounds. In Minnesota, its population has declined 0.4% per year since 1966; at the national level it has declined 1.2% per year. Although the cumulative loss has been substantial, it is still significantly less than that observed for many other songbirds. There is more concern about the oriole's winter habitat. It is one of many species that has traditionally used trees within shade-grown coffee plantations. But as these sites are cleared and converted to sun-grown coffee in Central America, there is increasing concern that the loss of winter habitat is negatively impacting the oriole.

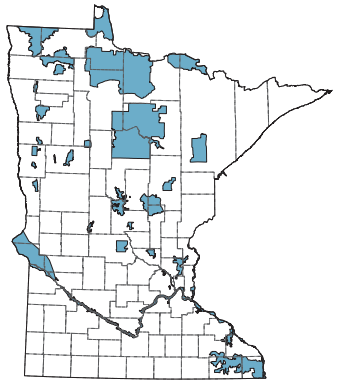
**Conservation:** Preservation of large hardwood trees in urban environments is important. More important may be the protection of suitable habitat on the species' winter range. This bird can be positively impacted by using native plantings and reducing pesticide use in backyards, parks, and corporate campuses.

**Did You Know?** Unlike other fruit-eating birds, the Baltimore Oriole prefers ripe, dark colored fruit. They feed using a practice called "gaping" where they stab the fruit with their thin bill, then open their mouth slicing the fruit and releasing its juicy contents.

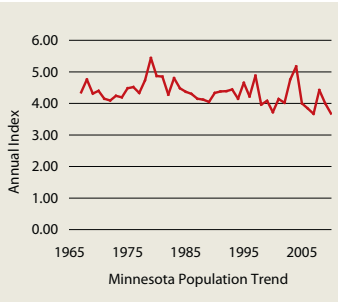
MARK PETERSON

Baltimore Oriole habitat


Baltimore Oriole Range



Baltimore Orioles breed in these Important Bird Areas



# BLACK-BILLED CUCKOO

*Coccyzus erythropthalmus*

Its secretive nature belies the fact that Minnesota supports nearly 10% of the Black-billed Cuckoo's breeding range and global population.

BRUCE A. FALL

| State/Province | % of Global Population |
|---|---|
| Manitoba | 20 |
| Ontario | 14 |
| Saskatchewan | 10 |
| Minnesota | 10 |
| North Dakota | 8 |
| Wisconsin | 5 |
| Michigan | 5 |
| 32 other states and provinces | 28 |

JIM WILLIAMS

The Yellow-billed Cuckoo's song and appearance are quite similar to its close relative, the Black-billed Cuckoo.

**Current Distribution:** This secretive denizen of Minnesota's shrublands and woodlands often goes unnoticed by casual birders. Nevertheless, the state provides habitat for nearly 10% of the Black-billed Cuckoo's global population and encompasses 10% of its entire breeding range. Statewide in distribution, the species has been documented nesting in all four corners of the state, from Lake County in the northeast, to Kittson County in the far northwest, to Rock County in the extreme southwest to Winona County in the southeast, and in many points in between. A Neotropical migrant, its winter distribution in South America is poorly documented.

**Description:** One more often hears the Black-billed Cuckoo than sees it. Its soft, repetitive *cu-cu-cu* call has what many refer to as a ventriloquist quality, making it difficult to locate. Usually hidden in dense thicket vegetation of lowland shrubs, it can be a challenge to see its namesake feature, the black bill. If you are lucky enough to catch even a quick glimpse of the bird, the red eye ring, long tail, and small white spots on the tips of the tail feathers are diagnostic. Males and females are identical and both have a grayish brown plumage on the back and wings and light undersides from the throat down through the belly.

The biggest challenge in identifying Black-billed Cuckoos is that their song and appearance can be easily confused with their close relative, the Yellow-billed Cuckoo. Although it is broadly distributed throughout the state, the latter species is more common in the eastern deciduous region and less common in the northeast forests and western grasslands. In areas where the two species co-occur, distinguishing physical features of the Yellow-billed Cuckoo include its yellow-bill, rusty patches on the outer wing feathers and the much larger white patches on the tips of the tail feathers. Its *cu-cu* call is described as harsh and deeper in tone than that of the Black-billed Cuckoo. Only the first syllable of the call may be audible (*cu*-*cu*), and it often ends with a strong *kowlp-kowlp-kowlp-kowlp* sound.

**Habitat:** The Black-billed Cuckoo occurs in a wide range of habitats but is most commonly found in forest edges and shrub thickets. Nesting territories are often associated with water, such as in the thick vegetation of alder-willow wetlands or in shrubs and small trees alongside a stream or lake. Upland forest edges or openings are also used. The

cuckoo's nest is a loosely constructed platform of twigs that is located about 3-6 feet above the ground in a shrub or small tree. In areas where their ranges overlap, Black-billed Cuckoos and Yellow-billed Cuckoos can occur in the same habitat.

**Threats/Status:** Although it remains broadly distributed throughout the north central and northeastern regions of North America, the Black-billed Cuckoo has declined throughout its range. A predator of large insects, such as caterpillars and cicadas, the species' population responds positively to large outbreaks of these food items. When insect irruptions occur, the birds frequently move in and saturate the local region. Their preference for such forest pests as gypsy moths and tent caterpillars make them a favorite among forest managers and cabin owners.

In the late 1880s cuckoos were observed to move in large flocks among woodlots and shrublands until all the prey items had been consumed. In contrast, today it is challenging to catch a glimpse of even a few birds in areas with recent insect outbreaks. Local irruptions of Black-billed Cuckoo populations, however, also may occur at times when there are no insect outbreaks, so the connection between populations and local food abundance is complicated.

Throughout North America, the Black-billed Cuckoo has shown a significant population decline of 2.9% per year since 1966. In Minnesota the decline has been similar with a more recent downturn of 6.9% per year from 2000-2010. The Minnesota population trend graph illustrates the cyclic nature of the species population. Since monitoring began in the late 1960s it appears that there may be population cycles every eight to nine years.

The Black-billed Cuckoo's reliance on insects that often result in significant forest damage may be responsible for some of its decline. Large tracts of forest are often treated with chemicals to reduce insect damage. The bird may be very susceptible to the accumulated residues of these insecticide applications.

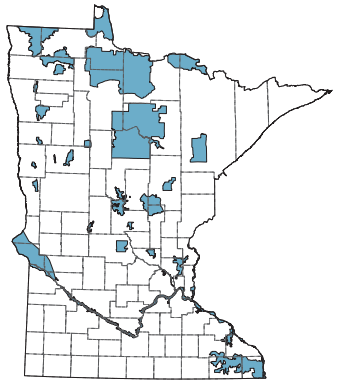
**Conservation:** The Black-billed Cuckoo has not been the focus of any targeted conservation actions. Maintenance of its preferred shrub habitat, particularly in uplands, is critical.

**Did You Know?** When there is an abundance of food, female Black-billed Cuckoos may produce more eggs than their nest can accommodate. The surplus eggs are deposited in the nest of other species, including Yellow-billed Cuckoos, American Robins, and Gray Catbirds. This behavior is even more common in Yellow-billed Cuckoos.

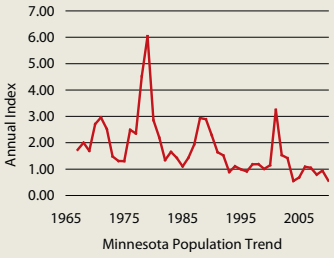
LEE PFANNMULLER

Black-billed Cuckoo habitat


Black-billed Cuckoo Range



Black-billed Cuckoos breed in these Important Bird Areas



# BOBOLINK

*Dolichonyx oryzivorus*

Distributed widely throughout the state, Minnesota supports approximately 13% of the Bobolink's global population and nearly 9% of its breeding range.

JIM WILLIAMS

| State/Province | % of Global Population |
|---|---|
| Ontario | 20 |
| North Dakota | 14 |
| Minnesota | 13 |
| Quebec | 10 |
| South Dakota | 5 |
| 39 other states and provinces | 38 |

JIM WILLIAMS

The female Bobolink builds the nest in an open field. She constructs an exterior wall of grasses and forbs around an area she has cleared on the ground. Then she lines it with soft grasses.

**Current Distribution:** Statewide in distribution, Bobolinks can be found during the summer breeding season wherever appropriate grassland habitat occurs. They reach their highest abundance, however, in the grasslands and native prairies of Minnesota's Red River Valley. An extraordinary Neotropical migrant, Bobolinks travel over 6,000 miles to spend their winter in the South American grassland region known as the pampas, which includes portions of Bolivia, Brazil, Paraguay and Argentina.

**Description:** Smaller than a robin, the plumage of the male Bobolink has an upside down appearance. Unlike most species that have light undersides and darker backs, this pattern is reversed in the male Bobolink. Described as wearing a tuxedo backwards, bright, light-colored feathers decorate the male's back, including cream-colored feathers on the back of the head, and white feathers on the rump and shoulder, while jet black feathers can be found from the front of the head all the way down through the belly. The female, however, who needs to remain cryptic among the brown grasses while she incubates, has a light cream throat and belly, wings and back streaked with black, and cream and black-colored stripes on the head.

Although it is impossible to describe with simple mnemonics, the male Bobolink's twinkling song is unmistakable. Given in flight or while perched on a tall grassland forb, many writers have waxed poetically about the melody. Arthur Bent, author of Life Histories of North American Birds, described the song best when he wrote that it is *a bubbling delirium of ecstatic music*. Thoreau wrote *Methinks they are the most liquidly sweet and melodious sounds I have ever heard*.

**Habitat:** The Bobolink is a species of open landscapes including native prairies, old fields and sedge meadows. Typical habitat features include a high percentage of grass or sedge cover, moderate forb cover, little to no woody vegetation, and a moderate litter layer. They occasionally nest in cropland but areas with high grass cover are preferred. The birds demonstrate some sensitivity to the size of the grassland, requiring tracts that are at least 25-75 acres.

**Threats/Status:** Like all species dependent on grasslands, the major threat to Bobolinks is the loss of habitat. More than one hundred years ago it was the large-scale conversion

of native grasslands to row crop agriculture that caused the species decline. Although the species has adapted to using old hayfields and other surrogate grasslands, the increasing intensity of agricultural practices, coupled with farmers' waning interest in conservation programs that pay less than the current high prices for corn and soybeans, continue to threaten the species status. Because Bobolinks often nest in hayfields, mowing during the breeding season is another hazard.

Since the mid-1960s, when monitoring population trends for all songbirds began, the Bobolink has declined an average of 1.6% per year (1966-2010) in Minnesota, or approximately 50% over the entire 44 year period. From 2000-2010 it has fared a bit better with an average annual decline of 0.9%. This recent trend may reflect the success of various agricultural conservation programs. In Minnesota alone, the Conservation Reserve Program (CRP), which began in 1996 and provides annual payments to farmers for restoring and protecting environmentally sensitive agricultural land, has resulted in the retirement of approximately 1.7 million acres. These CRP acres have provided suitable habitat for nesting Bobolinks throughout western and southern Minnesota. The preservation of these acres is in jeopardy today, however, due to high land prices and high commodity prices. The loss of CRP acres is considered the biggest threat to grassland bird conservation throughout the Midwest and Great Plains. In 2012, the predicted loss of nearly one-fifth of the land now set aside in Minnesota through the Conservation Reserve Program (nearly 300,000 acres) will result in a significant loss of habitat.

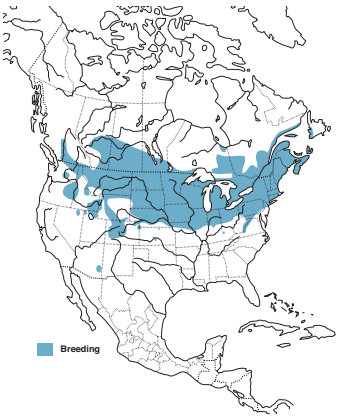
In addition to the concern for their grassland habitat, Bobolinks are also susceptible to parasitism by Brown-headed Cowbirds.

**Conservation:** The key to protecting habitat for Bobolinks is to conserve large patches of grassland habitat and to actively manage it to prevent succession to woody vegetation.

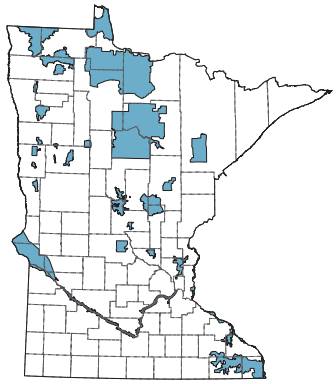
**Did You Know?** With one of the longest migration routes of any songbird, scientists estimated that one female bobolink, captured at age nine, flew the equivalent of 4.5 trips around the equator during its lifetime of annual migrations. During the breeding season, some males may breed and maintain territories that include two or more females.

JIM WILLIAMS

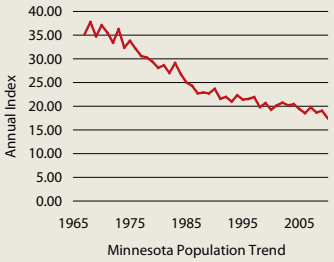
Bobolink habitat




Bobolink Range



Bobolinks breed in these Important Bird Areas



# CHESTNUT-SIDED WARBLER

*Setophaga pensylvanica*

The Chestnut-sided Warbler reaches its highest abundance in the United States in Minnesota, which supports 6% of its global breeding population and 6% of its breeding range.

REBECCA FIELD

| State/Province | % of Global Population |
|---|---|
| Ontario | 35 |
| Quebec | 22 |
| Manitoba | 9 |
| Saskatchewan | 8 |
| Minnesota | 6 |
| Wisconsin | 5 |
| 27 other states and provinces | 15 |

JIM WILLIAMS

The Yellow Warbler's song is similar to one song of the Chestnut-sided Warbler, making identification of the warblers in the field by song alone a challenge.

**Current Distribution:** An inhabitant of young forests, the Chestnut-sided Warbler is largely restricted to the northeastern United States and southeastern Canada. Nearly 75% of its population occurs in Canada. Small, disjunct populations occur in several areas including the Ozark Plateau of Missouri and Arkansas, eastern Iowa, and north central Colorado.

Minnesota supports 6% of the warbler's global breeding population and breeding range. It occurs in the northern forest region from Chisago county west to Morrison county and north to the Canadian border. There are occasional reports south and west of this area including in southeastern Minnesota and west along the Minnesota River Valley. During the winter this Neotropical migrant is found in Central America, from southeastern Mexico through Panama.

**Description:** As its name reveals, the most distinguishing feature of this wood warbler is the rich chestnut-colored feathers on both sides of the white belly. The bird's bright yellow cap coupled with a black line through the eye and down both sides of the throat, below the bill, make the Chestnut-sided Warbler difficult to confuse with any other warbler species. The adult female shares these features, albeit with a little duller cap and shorter chestnut streaks. During the fall the warbler's distinct plumage disappears and fades into yellow-green above and white below. Its light wing bars become one of its most defining features.

Although the Chestnut-sided Warbler's breeding plumage is unmistakable, its song repertoire can be challenging. The primary song sounds like *please . . please . . pleased to meet cha*, with a strong accent on the "meet" syllable. This song is heard more commonly when males have returned in the spring and begin to establish territories. But they also have an alternate song without an accented ending. The latter can be easily confused with songs of the Magnolia Warbler, American Redstart or, with the Yellow Warbler's *sweet . . sweet . . sweeter than sweet* song. This unaccented song is often heard later in the season, once nesting has begun. Unfortunately, many variations of both songs exist adding to the challenge of identifying Chestnut-sided Warblers in the field by song alone.

**Habitat:** The Chestnut-sided Warbler is strongly associated with young successional forests that follow disturbances such as forest fires, blow-downs or timber harvesting. All these events remove the older tree canopy which is replaced in time by a young forest with a dense shrub layer and small trees that range in height from approximately 5-15 feet, before it succeeds further into an older forest. The warbler is most abundant in young deciduous

forests but can also be found in young mixed deciduous-coniferous stands and coniferous stands. Its open cup nest is usually constructed just a few feet above ground in the fork of a tree or shrub branch. Chestnut-sided Warblers specialize in feeding on insects found on the underside of leaves.

**Threats/Status:** Changes to the North American landscape, as settlement spread westward, frequently resulted in negative impacts to the continent's breeding birds. The Chestnut-sided Warbler, however, is an exception. As older forests were cleared for timber, younger forests took their place, creating ideal habitat for this species. Arthur Bent, in Life Histories of North American Birds, wrote:

> *The beautiful little, chestnut-sided warbler is one of the species that has benefited, flourished, and increased with the spread of civilization. It seems strange that such a common, well-marked, and familiar species, as we now know it to be over so much of northeastern North America, should have been largely unknown by the early writers on American birds.*

Indeed, John James Audubon is reported to have only seen the bird once in his lifetime.

In Minnesota, the Chestnut-sided Warbler once occurred throughout the state but was most numerous in the southeastern hardwood forests. Then, as the northern old-growth forests of pine, spruce, fir and hardwoods were cleared, there was left behind a landscape of young, suitable habitat for the species. Over time, the warbler largely disappeared from the southern region of the state as agriculture and urban growth replaced the forests.

Loss of habitat is the primary threat to this species. Throughout its range it has exhibited an annual population decline of 1.4%. In the eastern states, the succession of shrubby, overgrown agricultural fields to mature forests is a likely cause. In Minnesota, the Chestnut-sided Warbler population has declined less than 1% per year since 1966.

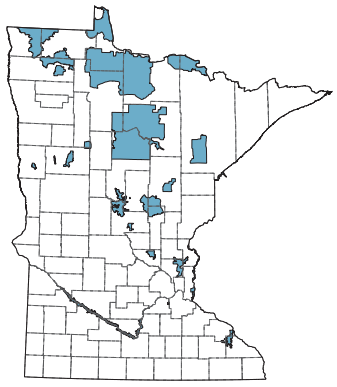
**Conservation:** Because of its dependence on young, successional forests, the Chestnut-sided Warbler benefits from sustainable timber harvesting activities.

**Did You Know?** Each winter, a Chestnut-sided Warbler will return to its wintering grounds in Central America to join the same flock of tropical warblers that it had been with the previous year.

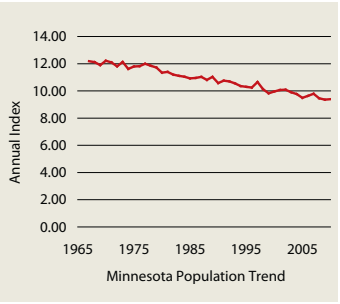
LEE PFANNMULLER

Chestnut-sided Warbler habitat


Chestnut-sided Warbler Range



Chestnut-sided Warblers breed in these Important Bird Areas



# GOLDEN-WINGED WARBLER

*Vermivora chrysoptera*

The Golden-winged Warbler is Minnesota's premiere Stewardship Bird. Our state's northern forest region encompasses only 12% of the species entire breeding range but 42% of its global population!

JIM WILLIAMS

| State/Province | % of Global Population |
|---|---|
| Minnesota | 42 |
| Wisconsin | 22 |
| Ontario | 18 |
| Michigan | 5 |
| West Virginia | 4 |
| 13 other states and provinces | 9 |

JIM WILLIAMS

Blue-winged Warblers displace Golden-winged Warblers in upland shrub habitat where Blue-wings do best. Matings between the two species produce fertile hybrid offspring. Hybridization is considered one of the most significant threats to the Golden-winged Warbler.

**Current Distribution:** During summer, Golden-winged Warblers can be found throughout much of northern Minnesota, but they reach their highest abundance in all of North America in a small region centered in Mille Lacs and Aitken counties. Weighing approximately one-third of an ounce (9 grams), this Neotropical migrant travels at least 2,000 miles to its winter home in southern Central America and northern South America each fall.

**Description:** The name 'Golden-winged Warbler' aptly describes one of the male's most prominent features – bright yellow wing patches. Coupled with a bright yellow crown, a black eye mask and black throat, this little gray warbler is a welcome sight in any forest. The female has many of the same plumage traits as the male except that the eye mask and throat patch are gray rather than black. The males' primary song is unmistakable: one buzzy note followed by 3-5 lower pitched buzzy notes: *zee bee bee bee*.

**Habitat:** The Golden-winged Warbler inhabits shrub wetlands and young successional habitats with dense ground cover. The most important habitat features are patches of ground vegetation, shrubs and scattered trees. Such features are often characteristic of young aspen forests, brushy clearcuts, shrubby lowlands and overgrown farmlands. In Minnesota, most birds have been observed in alder-willow wetlands and young aspen forests; indeed, territories often are located at the very edge of these two habitats. Recent field studies in Minnesota demonstrate that both the adults and young also use much older forests that border the young shrubby habitats. Nests are usually placed amongst dense herbaceous vegetation on the ground or in supporting woody vegetation just above the ground.

**Threats/Status:** The Golden-winged Warbler's distribution in Minnesota has changed considerably in the past century. In 1932, Minnesota ornithologist T. S. Roberts reminisced about the times when he first encountered breeding birds in what is now south Minneapolis:

> *The dainty little Golden-winged Warbler has always had for the writer some such charm… Perhaps this is due…to the treasured memories of many beautiful days spent long ago within the sound of the Falls of Minnehaha, about the shores of the sylvan lakes of*

*Hennepin County, and in the byways of the "Big Woods" to the west and northwest…for it was then and there that the acquaintance of the Golden-wing was first made.*

Unfortunately, the days of hearing Golden-winged Warblers in the metropolitan region are long past. The loss of habitat in this area likely coincided with the species movement further north as older forests were cleared for timber, agriculture and development, replaced by the young forest habitat that the species utilizes. Today, Golden-winged Warblers only occur north of the metropolitan area, in the forest region of east-central, northeast and north-central Minnesota. Current forest conditions in this region provide abundant habitat for the bird. In addition to their high abundance in east central Minnesota, Tamarac NWR IBA, located in Becker County, has an estimated 2,000 pairs.

Even in the past 30 years it seems that this warbler's range has continued to retreat northward, due in part to the expanding range of its competitor, the Blue-winged Warbler. A very rare summer resident in southeastern Minnesota in the days of T.S. Roberts, this small wood warbler has gradually moved northward along the Mississippi River and its tributaries. It displaces the Golden-winged Warbler in upland shrub habitats where Blue-wings do best. Not only does the Blue-wing displace the Golden-wing, but matings between the two species produce fertile hybrid offspring. Today, hybridization is considered one of the most significant threats to the Golden-winged Warbler.

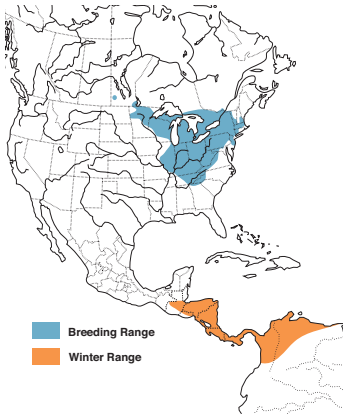
Range-wide, the status of the Golden-winged Warbler is a concern among biologists. Its population has declined an average of 2.6% per year from 1966 through 2010. This decline is most notable in the eastern populations, such as New York (5.1% decline per year), Pennsylvania (6.7% decline per year) and the Appalachian Mountains (8.4% decline per year). Loss of young forest habitat is considered a major threat in this eastern region. By contrast, in Minnesota the Golden-winged Warbler population has remained fairly stable with a slight increase of 0.5% per year during the same time period.

**Conservation:** Conservation actions for this species focus primarily on maintaining suitable young forest habitat and ensuring the protection of wet lowland shrub habitat.

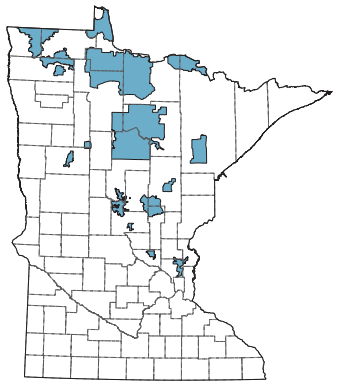
**Did You Know?** When this warbler hybridizes with the Blue-winged Warbler, the offspring will not sing a hybrid version of their parents' song, but instead will sing a pure version of one species song and in some instances will sing both versions.

LEE PFANNMULLER

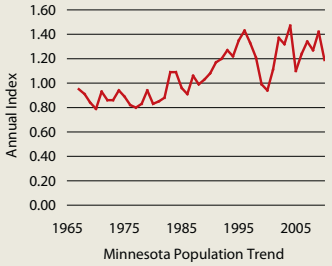
Golden-winged Warbler habitat




Golden-winged Warbler Range



Golden-winged Warblers breed in these Important Bird Areas



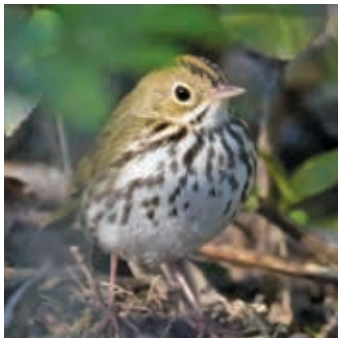
# NASHVILLE WARBLER

*Oreothlypis ruficapilla*

The Nashville Warbler reaches its highest abundance in the United States in Minnesota, which supports 5% of its breeding population and 5% of its breeding range.

JIM WILLIAMS

| State/Province | % of Global Population |
|---|---|
| Quebec | 28 |
| Ontario | 22 |
| Manitoba | 18 |
| Saskatchewan | 11 |
| Minnesota | 5 |
| California | 3 |
| 22 other states and provinces | 13 |



REBECCA FIELD

The Ovenbird is the most frequently encountered warbler in Minnesota's northern forest landscape. The Nashville Warbler comes in at a close second.

**Current Distribution:** Like many forest-dependent wood warblers, the heart of the Nashville Warbler's breeding range lies in southeastern Canada and the northeastern United States. Nearly 80% of its global population occurs in eastern Canada, from Saskatchewan to Nova Scotia.

Minnesota supports both 5% of the species global breeding population and 5% of its breeding range; northeastern Minnesota also has the highest density of Nashville Warblers in the United States. This eastern North American population was originally described from a specimen found near Nashville, Tennessee in 1811.

Further west, approximately 8% of the population is found in a disjunct region that stretches from southern British Columbia and southwestern Alberta south into western Montana, northern Idaho and south along the Cascade mountain range in Washington and Oregon to northern California. Originally considered a separate species known as the Calaveras Warbler, further taxonomic work identified the birds as a subspecies of the Nashville Warbler.

The Nashville Warbler spends its winters along the Pacific coast of California and the Gulf Coast of Texas, south into central and southern Mexico. To the north it may occasionally be found in other southwestern states such as New Mexico and Arizona; to the south it also may be found in Belize and Guatemala.

**Description:** Unlike many other wood warblers that are dressed each breeding season in a dashing palette of plumage colors, the Nashville Warbler looks a little under-dressed for the occasion. The male's breeding plumage consists of a gray head, a yellow throat, chest and belly, and an olive-green back and wings. A prominent white eye ring is one of the most important field characteristics. A small rufous patch on the head is rarely visible. The female is similar though duller in coloration as are birds in fall and winter plumage. The only warbler the Nashville Warbler might be confused with is the Connecticut Warbler; the latter differs by having a gray hood on its head that covers the throat and upper chest.

The Nashville Warbler's song consists of two parts. The first, which is higher in pitch, is a series of slow, two note phrases followed by a series of rapid notes that are almost always lower in pitch. Aretas Saunders, in Arthur Bent's Life Histories of North American Birds, describes the song as sounding like *pa tipa tipa tipa tipa tititititititi*. Unlike many thin, wispy warbler songs, that of the Nashville Warbler is loud and strong.

**Habitat:** Considered a forest generalist, the Nashville Warbler is common in a wide variety of forest habitats from lowland spruce and tamarack bogs to upland mixed deciduous-coniferous forests. Data from northern Minnesota suggests that it nests in higher densities in conifer-dominated forests than in deciduous forests. It is also less common in very young stands and very old stands, preferring forests that are approximately 15-40 years in age. Specific habitat requirements for this ground-nesting species appear to be a well-developed shrub layer and dense ground vegetation.

**Threats/Status:** Because it is dependent on mid-successional forests that follow disturbances such as fire, wind or harvesting, as well as lowland conifers found on peatland soils, the Nashville Warbler's population has fared well in Minnesota. Although the species wasn't as rare as the Chestnut-sided Warbler during the early 1800s when many of the early naturalists such as John James Audubon and Alexander Wilson were studying birds, it was still encountered infrequently. As forests were cleared it became a much more common bird. Today it is one of the most frequently encountered warblers in Minnesota's northern forest landscape, second only to the Ovenbird.

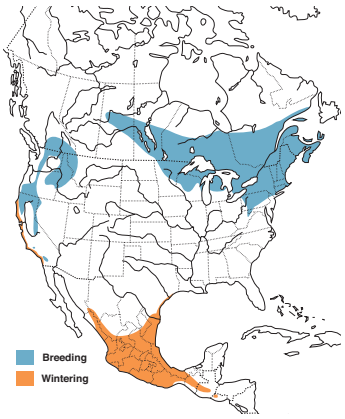
The Nashville Warbler was an occasional resident in southeastern Minnesota in the early 1900s but its breeding range has since contracted northward. Beginning in 1966, when the U.S. Fish and Wildlife Service began monitoring songbird populations, the species' population has remained relatively stable throughout North America and Minnesota. In addition to overall habitat loss, as a ground nester one of the major threats to the Nashville Warbler is predation, particularly along forest edges where the number of nest predators is often high. In Minnesota it is also one of the most common species killed during migration from collisions with buildings.

**Conservation:** The Nashville Warbler benefits from sustainable timber harvesting activities that provide a continuous supply of mid-successional forests.

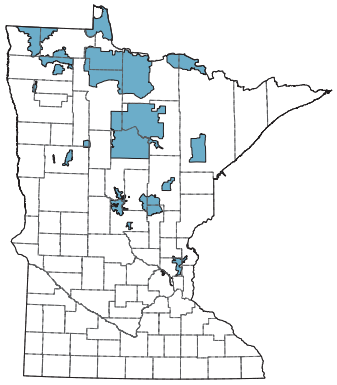
**Did You Know?** The Nashville Warbler nests on the ground under small trees or bushes and is known to use porcupine quills in the construction of its nest.

LEE PFANNMULLER

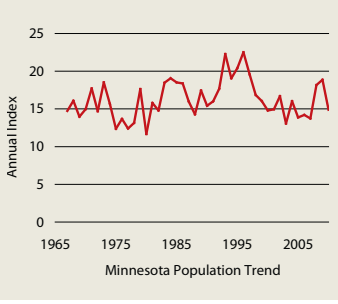
Nashville Warbler habitat




Nashville Warbler Range Map



Nashville Warblers breed in these Important Bird Areas



# ROSE-BREASTED GROSBEAK

*Pheucticus ludovicianus*

Minnesota includes 10% of the Rose-breasted Grosbeak's breeding range and supports 6% of its global population.

REBECCA FIELD

| State/Province | % of Global Population |
|---|---|
| Ontario | 12 |
| Manitoba | 11 |
| Saskatchewan | 10 |
| Wisconsin | 9 |
| Alberta | 8 |
| Minnesota | 6 |
| 20 other states and provinces | 44 |

JIM WILLIAMS

The female Rose-breasted Grosbeak looks like a large sparrow or Purple Finch.

**Current Distribution:** The Rose-breasted Grosbeak is distributed across Canada, the northeastern United States and the Great Lakes Region. Although it occurs throughout Minnesota, from the dense northeastern forests to the scattered woodlots of the western and southern agricultural regions, it is more common in the central and southeastern forests. A Neotropical migrant, the Rose-breasted Grosbeak travels south to the coastal slopes of Mexico through Central America and to South America, from Venezuela south to Peru. Occasionally it may winter in the West Indies.

**Description:** Slightly smaller than a robin, the male Rose-breasted Grosbeak is a stunning sight in the green foliage of the forest canopy. Its thick, white beak, built for cracking seeds, is in sharp contrast to its black head, throat, upper back and wings. The lower back and rump are white, mixed with some black, and there are several patches of white in the wings that are noticeable in flight. The tail is largely black with some white at the base of the outer feathers. A rose-red breast is striking against the black throat and white belly. If one only catches a glimpse of the male grosbeak in flight, a black bird with many patches of white is the most notable observation. The adult female, however, only shares one of these plumage features: the white wing patches. Otherwise she is a mottled olive-brown color with distinct white and cream-colored stripes on the head and just above the eye.

The Rose-breasted Grosbeak is one of the few species where both the male and female sing. The song is similar to the robin's song (*cheerily, cheer up, cheer up, cheerily, cheer up*) but more variable. The distinction is the phrases in the grosbeak's song are not separated with a pause but are nearly continuous and sound very sweet and melodious. To some the song sounds like a loud, drunken robin. T. S. Roberts, in his book The Birds of Minnesota described it this way:

> *The song of the male Rose-breasted Grosbeak is a loud, sweet, pure-toned warble…there is nothing more beautiful in the way of a warbled song in all our woodlands. It has been compared with the finest efforts of the Robin and also with those of the Scarlet Tanager, but it is far superior to either. The Robin's song is shorter and heavier and more broken, the Tanager's weaker and marred by occasional buzzing notes.*

Male songbirds, like the Rose-breasted Grosbeak, traditionally sing to defend their

breeding territories and attract a mate. Unlike many birds, however, the male grosbeak also sings while he is sitting on the nest, incubating eggs or brooding hatchlings. The female also sings in this position and when she is helping construct the nest or taking over parental care duties from the male.

**Habitat:** The habitat of the Rose-breasted Grosbeak has been described in so many different ways that the bird does not seem to be particularly selective about the type of woods that it finds suitable. Deciduous forests of varying ages are the primary habitat, with a preference in Minnesota for mesic upland, mid-successional hardwood stands approximately 20-40 years old. It tolerates well-developed landscapes as well, often occurring in parks and wooded suburban areas. The grosbeak usually constructs its open cup nest in the upper tree canopy or in the subcanopy layer comprised of smaller trees and shrubs.

**Threats/Status:** Although the Rose-breasted Grosbeak's distribution in Minnesota has remained unchanged over the past 100 years, there is some evidence that its range has expanded in other areas, such as in northeastern Canada, due to timber harvesting and development within the boreal forest. As a habitat generalist, with a widespread distribution and a tolerance for human-developed landscapes, the grosbeak is faring better than many other songbird species in North America. Nationally, and in Minnesota, its population has decreased only slightly since monitoring began in the late 1960s (-0.6% per year nationally and -0.5% per year in Minnesota).

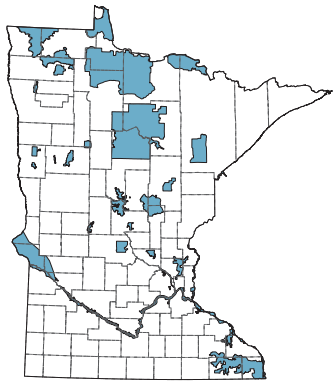
**Conservation:** Specific conservation plans have not been prepared for the Rose-breasted Grosbeak. Sustainable forest management is the best overall conservation measure. This bird can benefit from native plantings and reduced pesticide use in backyards, parks, and corporate campuses.

**Did You Know?** The nest of the Rose-breasted Grosbeak is so flimsy that one often can see the eggs when viewing the nest from underneath. The male helps incubate the eggs about one-third of the time during the day and as the parents exchange nest-sitting duties, they often sing to each other softly.

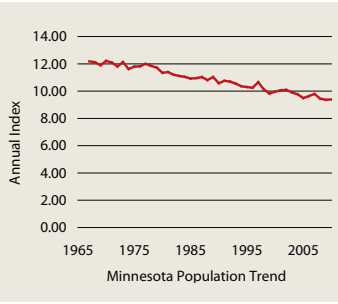
JIM JENNÉ

Rose-breasted Grosbeak habitat


Rose-breasted Grosbeak Range



Rose-breasted Grosbeaks breed in these Important Bird Areas



# SEDGE WREN

*Cistothorus platensis*

Minnesota includes 14% of the Sedge Wren's breeding range but nearly 33% of this tiny songster's entire global population – more than any other state or province.

JIM WILLIAMS

| State/Province | % of Global Population |
|---|---|
| Minnesota | 33 |
| Manitoba | 20 |
| South Dakota | 12 |
| North Dakota | 12 |
| Wisconsin | 10 |
| Saskatchewan | 8 |
| 14 other states and provinces | 5 |

JIM WILLIAMS

Another common grassland bird, the Vesper Sparrow, is found in meadows, pastures, hay and grassfields.

**Current Distribution:** A tiny brown bird, the Sedge Wren can be easily overlooked. But when one learns its distinctive song, it suddenly seems quite abundant throughout the state. Minnesota supports nearly one-third of the Sedge Wren's global population, more than any other state or province. Although it can be found in appropriate habitat in every Minnesota county, this open meadow species is less common in the heavily forested region of northeastern Minnesota.

Broadly distributed throughout the midwestern United States and south-central Canada, almost 95% of its total population is found in just six states and provinces. Seldom seen during migration, Sedge Wrens spend the winter season in the southeastern United States ranging from the Atlantic Coast west and south to northeastern Mexico.

**Description:** Like many of its grassland neighbors, the Sedge Wren is a small, brown bird. One often doesn't see it until it is flushed underfoot. Once disturbed, it usually takes a very short flight, just above the vegetation, and then disappears quickly, diving down into the grasses. It can be identified in flight by the white streaks on its dark back, its short round tail, and its light rusty rump. Like most wrens, if you catch a glimpse of it singing, its tail is flicked upward. Its song is a dry chatter preceded by three short chips. Males and females look identical.

Perhaps T.S. Roberts best described the little Sedge Wren in 1932 when he wrote:

> *It is a sprightly, restless little creature, the smallest of our birds except the Hummingbird. When forced to take wing, it flies in a labored, fluttering fashion, as though its body were too heavy for its wings, and when alighting tumbles into the grass in a hasty, ungraceful way as though exhausted by the effort.*

**Habitat**: Its abundance in Minnesota demonstrates that there are a wide range of habitats that the Sedge Wren finds suitable. Found nesting in areas as diverse as the open sedge peatlands of north central Minnesota and the mesic grasslands of western and southern Minnesota, the most common features are a tall and dense growth of grasses and sedges and scattered small shrubs. The habitat is often described as wet, but areas with standing water are avoided. In contrast, its close relative the Marsh Wren, is largely restricted to wet marshes.

Nests are typically a circular globe with a small entrance on one side. Made of grasses and sedges, it is suspended by the surrounding vegetation to which it is attached. Like other

wren species, the Sedge Wren male usually constructs multiple "dummy" nests which may be a strategy to fool likely predators.

One of the unique features of Sedge Wrens is their apparent nomadic behavior. Nesting occurs in the Upper Midwest states and southern Canada in May and early June followed by a later nesting season (July to September) further south into Kansas and Missouri and east into New England. Whether the same individuals are breeding twice in widely separate regions has not yet been documented. However, another clue to this possible behavior is the fact that the Sedge Wren's song sounds exactly the same throughout its range. Like people, songbirds display regional dialects. For example, a Song Sparrow in the northeastern United States sounds slightly different than a Song Sparrow in the Midwest. But the Sedge Wren's song doesn't display these regional differences. Such nomadic behavior could be an adaptive strategy in response to the species' dependence on wet vegetation. If their northern habitat is either too dry or too wet it is an advantage to find other areas for successful nesting before summer's end.

**Threats/Status:** Dependent on wet grassy meadows, the most significant threat to the Sedge Wren is the continuing loss of wetlands, particularly those that harbor shallow water only in the spring, as these are the most likely to be drained and either cultivated or developed. Mowing hayfields during the height of the nesting season also is a major threat, resulting in frequent nesting failure for birds in these actively managed habitats.

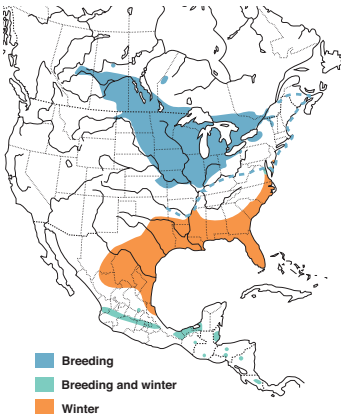
Despite these concerns, since 1966, when scientists and amateur birders began monitoring songbird populations, the Sedge Wren has fared reasonably well. Range-wide it has shown a steady but slow population increase of 1.8% per year from 1966-2010 with a slightly smaller annual increase during the past ten years of 0.9%. In Minnesota the increase is statistically significant and larger. Between 1966 and 2010 the population has increased an average of 2.2% per year and 2.8% per year since 2000. Perhaps the species has benefitted from Minnesota's wetland conservation laws, among the strongest in the nation.

**Conservation:** The most important conservation efforts for Sedge Wrens are programs that protect the wet meadow habitat they depend on. This includes both regulatory measures (e.g. the state and federal wetland protection laws and rules) and conservation measures designed to protect and restore wetland and grassland habitats.

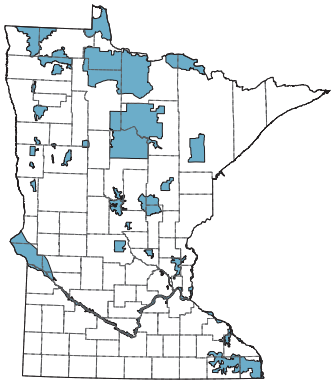
**Did You Know?** In an apparent effort to reduce competition, male and female Sedge Wrens will destroy the nests of their Sedge Wren neighbors by piercing the eggs with their bill. They may do this to the nests of other species nesting nearby as well.

LEE PFANNMULLER

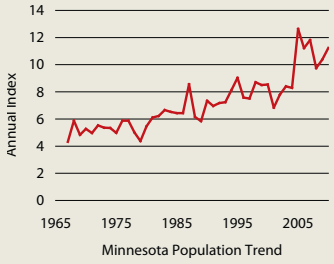
Sedge Wren habitat




Sedge Wren Range



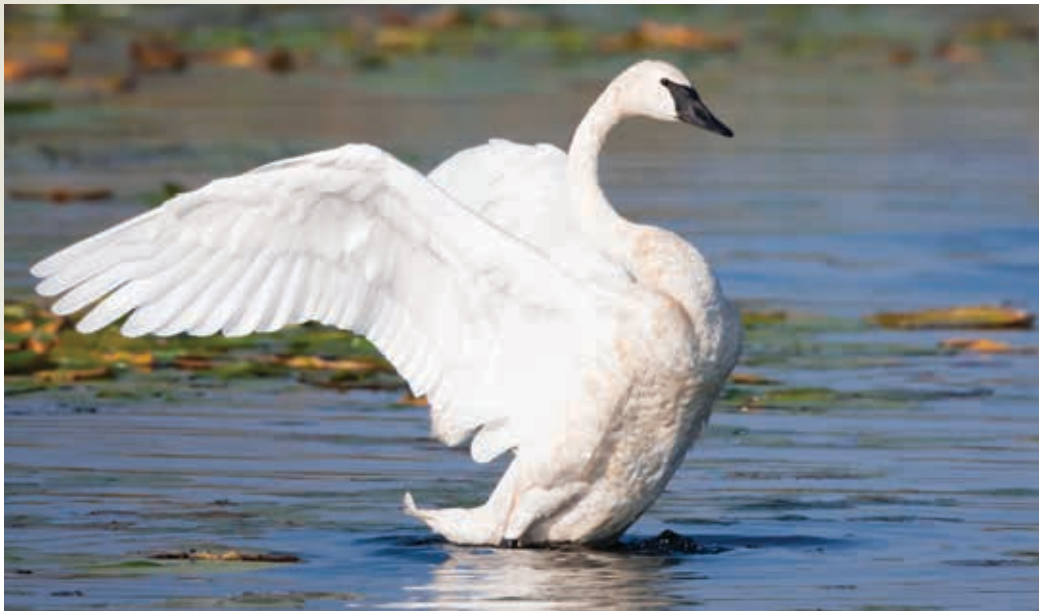
Sedge Wrens breed in these Important Bird Areas



# TRUMPETER SWAN

*Cygnus buccinator*

Minnesota supports the largest population of the majestic Trumpeter Swan south of Alaska and Canada.



REBECCA FIELD

| State/Province | % of Global Population |
|---|---|
| Alaska | 55 |
| Rocky Mountain population of Yukon, western British Columbia, Alberta and Northwest Territories | 19 |
| Minnesota and western Ontario (approximately 12% in Minnesota) | 13 |
| Pacific Coast population of Yukon and northwest British Columbia | 3 |
| Wisconsin | 2 |
| 14 other states and provinces | 8 |

MARTHA JORDAN, TRUMPETER SWAN SOCIETY

The large, yellow spot at the base of this Tundra Swan's bill may be barely visible or absent in other birds.

**Current Distribution:** There are three geographically recognized populations of Trumpeter Swans in North America: the Pacific Coast population, the Rocky Mountain population and the Interior population.

The heart of the swan's Minnesota range is in the central region of the state, with pairs gradually expanding northeast, south and west. During the winter, birds that comprise the Interior population of Trumpeter Swans move to areas that are ice-free and provide sufficient food. In Minnesota, the largest concentration of wintering swans can be found on the Mississippi River at Monticello. A smaller number also winter along the Fish Hook River in Park Rapids and in other scattered locations.

**Description:** All swans are unmistakable in their appearance. Graceful in flight and on the water, the adults white plumage, long neck and large size are easy field characteristics. The challenge is distinguishing the three different species that occur in Minnesota. During the breeding season, all swans seen in Minnesota are Trumpeter Swans. The only exception is the occasional Mute Swan. Officially classified as an exotic species in the state, the Mute Swan is easily identified by its orange bill with a black knob at its base. Mute swans are not migratory so they may be present any time of year.

Migrating Tundra Swans, on the other hand, can be difficult to distinguish from resident Trumpeter Swans during their spring and fall migration through Minnesota. Even skilled field ornithologists can be challenged by their identification unless the birds are side-by-side. The Tundra Swan is smaller and usually displays a small, yellow spot at the base of the bill. The bill is also smaller and the upper ridge is a bit concave compared to that of the Trumpeter. When viewed from the front, the base of the Trumpeter's bill is v-shaped between the eyes compared to a u-shape on the Tundra. Despite these challenges, the call of the Trumpeter Swan is distinct and upon first hearing it, the listener will understand why the bird is called a "Trumpeter." Its deep, rich honking call is horn-like in resonance, unlike the higher, raspy call of the Tundra Swan that sounds more similar to a goose.

**Habitat:** The Trumpeter Swan is primarily an inhabitant of marshes and shallow lakes although the shallow bays of large lakes also may be used. Because vegetation is a large component of its diet, a rich and diverse community of aquatic plants is critical, including pondweeds, water lilies and bulrush. Fish and fish eggs are also consumed along with

other small aquatic animals such as mussels and crayfish. The swan's large size requires an area of open water at least 30 feet long to allow a running start for getting airborne. Nests are usually close to shore and constructed on muskrat or beaver homes, beaver dams or floating mats of vegetation.

**Threats/Status:** Prior to the mid-1800s, the Trumpeter Swan was a regular breeding species in Minnesota's native prairie and prairie-forest border. Elsewhere, its historical range stretched from the Bering Sea, across Canada and south into Missouri, Illinois and Indiana. But, as settlement moved westward, this large conspicuous bird was an easy target for the settlers' rifles. By the early 1890s the species was extirpated from the state.

Efforts to reintroduce Trumpeter Swans to Minnesota were begun by the Three Rivers Park District in 1966 and later expanded in the early 1980s by federal, state and tribal resource agencies, the Trumpeter Swan Society, and the University of Minnesota. Similar efforts were also initiated by other states and provinces. Minnesota's initial goal of establishing 15 breeding pairs has now been exceeded by orders of magnitude. A 2010 continental survey of Trumpeter Swans documented 6,070 adults in Minnesota and western Ontario, nearly 5,500 of which were present in Minnesota.

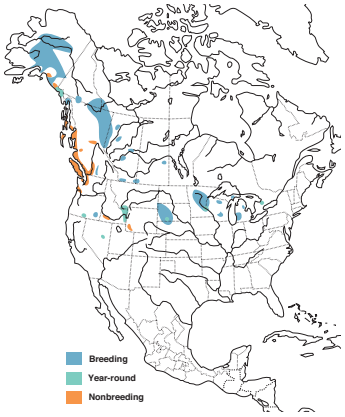
Although a breeding population is well-established in the state, threats remain. Today the largest cause of mortality is from lead poisoning caused by ingesting lead shot and lead sinkers. Swans swallow these items when they forage for aquatic vegetation rooted in the sediments or search for grit to aid their digestion. Ingesting as few as 3-4 lead shot pellets can cause death. Lead shot is no longer allowed for waterfowl hunting, but decades of use has resulted in the accumulation of pellets on the sediments of popular hunting marshes. Lead fishing sinkers are still in common use today. Other threats include collisions with power lines, recreational disturbance on nesting lakes and vandalism or illegal shooting.

**Conservation:** Protection of the swan's nesting habitat, wetlands and shallow lakes with abundant aquatic vegetation, is the most critical conservation effort. Continued education about the potential hazards of lead fishing sinkers is also important.

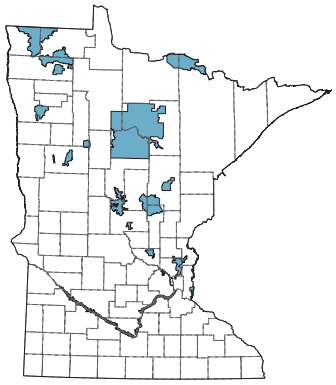
**Did You Know?** The largest of North America's waterfowl, weighing up to 28 pounds, the Trumpeter Swan's largest feathers were considered the best for quill pens. The birds pair up when they are three to four years old and generally mate for life, many living over 24 years in the wild. Some males that lose their mates never mate again.

JIM WILLIAMS

Trumpeter Swan habitat




Trumpeter Swan Range



Trumpeter Swans breed in these Important Bird Areas

JIM WILLIAMS

During courtship the male and female Trumpeter Swans remain close to one another.

# VEERY

*Catharus fuscescens*

Outside of Canada, the Veery reaches its highest abundance in Minnesota which supports 6% of its global population and 6% of its breeding range.

JIM WILLIAMS

| State/Province | % of Global Population |
|---|---|
| Ontario | 28 |
| Quebec | 24 |
| Minnesota | 6 |
| Manitoba | 6 |
| Saskatchewan | 5 |
| British Columbia | 5 |
| 35 other states and provinces | 26 |

DAVID CAHLANDER

The song of the Swainson's Thrush is like the Veery's but it spirals progressively up in pitch rather than down.

**Current Distribution:** The Veery is strictly a forest species. During the summer breeding season its distribution in Minnesota parallels the boundaries of the state's northern Boreal Hardwood Forest and Eastern Deciduous Forest. It generally avoids the agricultural region but is occasionally found there along wooded river valleys and in larger woodlands. Although it is broadly distributed throughout the state's forests, the Veery is most common in the northern and east central regions of the state.

Further north, the Veery is abundant in the Canadian Boreal Hardwood Forest where nearly 72% of its global population is found in nine Canadian Provinces; 52% in Ontario and Quebec alone. Despite its concentration in these two provinces, its breeding range stretches from eastern British Columbia east to the Atlantic coast. In the United States it can be found in the northern Rockies and then east across the Great Lakes states and New England and south along the Appalachian Mountains. This Neotropical migrant spends winters in a limited region of South America in southern Brazil.

**Description:** Several inches smaller than its close relative, the American Robin, the Veery has a light rusty-brown color on its back and wing feathers. The throat and upper chest are a light yellow-cream color with brown spots or streaks that vary in intensity. The belly is white. A pale cream eye ring can sometimes be seen.

In Minnesota's dense forest region, the Veery is more commonly heard than seen. Variously described as nasal, metallic or ethereal in quality, its song can be broken down into phrases that sound like *where-u, where-u, where-u, where-u*, each progressively descending downwards. The only bird song that sounds similar is that of the Swainson's Thrush whose gurgling, flute-like phrases spiral up the scale rather than down. The Swainson's Thrush is also found in Minnesota's forest region but is more restricted to the northern counties.

**Habitat:** Damp deciduous and mixed deciduous-coniferous forests are the Veery's preferred habitat, including riparian areas bordering wetlands, lakes and rivers. A well-developed understory of shrubs and small trees is a common feature of its habitat.

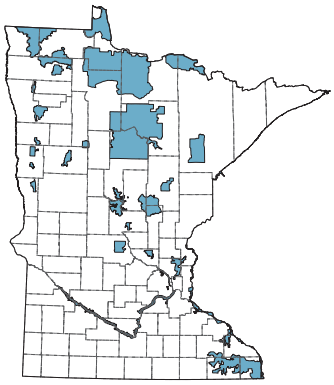
Because Veeries nest on or near the ground, usually at the base of a tree or shrub, the thick understory may help protect the nest site from predators. Dense understories are more often found in mid-successional forests where enough light can filter through the canopy to promote the growth of shrubs and small trees. Veeries are usually not found in older forests with a closed canopy that prevents light from filtering through, or in younger forests where the understory is still developing. Field research in other Midwest states suggest that the bird may avoid smaller forests and prefer stands that are at least 200 acres in size.

**Threats/Status:** Although the Veery is a common and widely distributed species throughout Minnesota's forests, it has declined an average of 1% per year since the late 1960s. Compared to some birds, this is a relatively small decline yet still represents a cumulative loss of 35% over the past 40 years. Causes for the decline are not well understood. Factors may include the smaller size of forest stands that result from timber harvest and development, and the loss or degradation of habitat in the wintering range. For many years it was thought that the Veery wintered across a broad region of South America but researchers have recently learned that is it restricted to a relatively small area, making it more vulnerable to habitat loss. As a ground nester, Veeries also are susceptible to nest predation by a large variety of avian and mammalian predators, including crows, hawks, squirrels and deer.

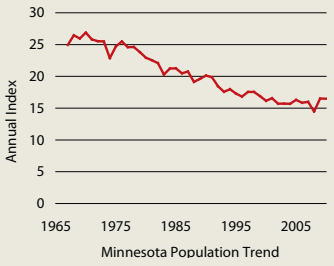
**Conservation:** On its breeding grounds, the Veery will benefit from sustainable forest management that promotes larger forest stands and well-developed understories.

**Did You Know?** The Veery belongs to the family of birds known as Turdidae, which includes some of the finest bird singers in the world. Other members of the family that nest in Minnesota include the Hermit Thrush, Wood Thrush, and Swainson's Thrush – each with beautiful and complex songs. The dull plumage of these forest inhabitants is a striking contrast to their melodious songs.


Veery Range



Veeries breed in these Important Bird Areas




LEE PFANNMULLER

Veery habitat

JIM WILLIAMS

# Stewardship Birds of Minnesota

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