



Credit: Jim Williams

Olive-sided Flycatcher Minnesota Conservation Summary

*Audubon Minnesota
Spring 2014*



The *Blueprint for Minnesota Bird Conservation* is a project of Audubon Minnesota written by Lee A. Pfannmuller (leefann@msn.com) and funded by the Environment and Natural Resources Trust Fund. For further information please contact Mark Martell at mmartell@audubon.org (651-739-9332).

Olive-sided Flycatcher

Priority for Minnesota's Bird Conservation Plan:

- Boreal Hardwood Transition: High Level Priority

Other Status Classifications:

- Minnesota Species in Greatest Conservation Need
- On Audubon Minnesota's Action List
- Classified as "Near Threatened" by IUCN; ranked G4
- Yellow Watch List Species on National Audubon Society's List (2007)
- USFS Sensitive Species on the Superior National Forest
- USFWS Bird Species of Management Concern 1995 in Midwest Region
- USFWS Focal Species (2005)
- USFWS Bird of Conservation Concern in BCR12, Midwest Region and Nationally (2008)
- Considered a Focal Species by the Upper Mississippi Valley/Great Lakes Joint Venture
- Classified as High Tri-National Concern by Partners in Flight (PIF)
- Classified as a Species of Continental Concern (PIF); proposed action: Management
- PIF BCR12: Continental Concern and Regional Concern Species: Action is Management

Population Information:

- U.S. and Canada population estimate: 1,200,000 (U.S. PIF Plan)
- Continental Population Objective: Increase 100% (PIF)
- National population declined by 76% between 1966 and 2006
- Target population in the UMVGL JV region is 14,460; Current population estimate is 7,230
- Estimated Minnesota population: 4,894; Target (increase 100%) is 10,000
 - ✓ Estimated MN population in BCR11: 32; target is 64
 - ✓ Estimated MN population in BCR12: 4,800; target is 9,600
 - ✓ Estimated MN population in BCR23: 62; target is 120

Minnesota BBS Data:

- Yellow level of regional credibility
- 1966-2009: decreasing trend (**statistically significant**) of -3.0; 1999-2009: decreasing trend of -3.1
- Minnesota does not have one of the highest centers of the species abundance
- 1.60% of Olive-sided Flycatcher breeding range occurs in MN; 0.4% of its global population occurs in Minnesota
- Average # birds/route is 0.23; found on 23 of 74 routes

Minnesota Residency:

- Breeds in northeast and north-central Minnesota

Habitat Requirements: Open Woodland

Coniferous forests w/forest openings; forest edges near natural openings or human-made openings, or open to semi-open forest stands. Presence in early successional forest appears dependent on availability of snags or residual live trees for foraging & perches; often along wooded shores of streams, lakes, rivers & bogs where natural edge habitat occurs & standing dead trees are present. Often a species associated w/burned forest (Birds of North America)

From UMVGL JV LP Species Profile:

Conifer forest including muskeg, and jack pine; breeds primarily in opening that contain snags. Often found along edges of waterways, harvested forest units and burn sites. Nest typically 1.5 – 34 m high near the tip of a horizontal branch. Territories are large, typically ranging from 10-15 ha, largest 45 ha. Territories are rarely adjacent to each other and usually separated by unfavorable habitat. Densities range from 4-13 birds/km², with an average of 8.5 birds/km². Species uses a wide range of cover but is typically found near tall snags.

From Wisconsin Bird Conservation Initiative (WBCI):

The Olive-sided Flycatcher inhabits coniferous forests, especially those with openings created by beaver ponds, meadows, streams or rivers, burns or clearcuts. In Wisconsin, it occurs in spruce-tamarack bogs and swamps and less often in northern white cedar forests and pine barrens. When found in early-successional forests, they choose areas with remaining large trees or snags often at the edges of lakes, streams, or bogs.

From NRRRI Species Profile:

General breeding habitat consists of a variety of boreal forests including uplands, lowlands, edges, beaver meadows and recently logged and burned areas. However, the most important aspect needed by this species and noted by all references is the presence of standing live or dead trees from which the species forages for insects. The most commonly used trees are large pine, spruce, or tamarack. The species was not found abundantly in many of the forests zones of the CNF or SNF, nor is it very common in the large contiguous, black spruce or tamarack forest of the Red Lake Peatland.

Migration: Neotropical

Climate Change Vulnerability: Medium (2)

Threats/Issues:

From BNA Species Profile:

- Given the overall positive numerical response of Olive-sided Flycatchers in several types of harvested forest, an apparent dichotomy exists between the increase in this type of habitat, particularly in western North America in the last 50 years and the widespread declines in the species. Since population declines are occurring throughout the breeding range of this species, despite different forest management issues regionally, one hypothesis is that populations are affected mostly by loss or alteration of habitat on wintering grounds.
- Regarding wintering habitat: One of 13 species of boreal landbirds that winter primarily in South America (Erskine 1977). Principal wintering range is Panama and Andes Mtns. of n. and w. South America, from n. and w. Venezuela south through Ecuador to se. Peru and w. Bolivia (Fitzpatrick 1980, Ridgely and Tudor 1994). Most abundant in Andean Range of Colombia.
- Harvested forest types may be ecological traps. They may appear to be suitable breeding habitat, having a superficial resemblance to early post-fire situation but in reality may function quite differently. Reproductive success and population health may be poor as result of limited food resources, high rates of parasitism or other unknown factors. So their presence in harvested landscapes may not represent healthy populations.

From WBCI Species Profile:

- Low breeding confirmation during the Atlas may be attributed to the difficulty of observing nests, difficult access to breeding territories and the overall low densities of the species.
- In the Western U.S. studies report positive response of Olive-sided Flycatchers to some types of timber harvest practices. Given this response, and that there is an increasing amount of harvested forests on the landscape it is perplexing that the species continues to decline.

- Its persistent decline across a broad and diverse landscape suggests it may be more limited by habitat loss or alternation on the winter grounds.

From NRRI Species Account:

- Reductions in the availability of snags in suitable habitat
- Decreased populations of beaver, primarily in the northeastern U.S.
- Suppression of forest fires
- Loss of habitat to increased urbanization
- Habitat changes in migration routes or on the wintering grounds
- The species may require relatively large blocks of boreal forest for breeding; at least 50 acres may be necessary to support a single territorial pair.

From Nebel et al. 2010:

- One of North America's aerial insectivores that has incurred a significantly stronger decline from 1966 to 2006 than other passerines. Long-range transport of pollutants and their impact on reducing calcium (which is less available to insects) is thought to be a principal factor in the species' decline.

OVERALL MINNESOTA GOAL: Eliminate regional population deficit over a 15 year period through effective and efficient habitat conservation that is considerate of other species of concern.

BEST MANAGEMENT PRACTICES

From Wisconsin Bird Conservation Initiative Species Profile:

- Few data exist on the impacts of timber harvesting or other forest management practices on this species in Wisconsin.
- Specific management prescriptions are difficult to develop without these data. In general, protecting coniferous forests, maintaining natural patterns of forest fire that create suitable forest openings, and retaining snags are practices that will likely benefit Olive-sided Flycatchers.
- Like other species that use burned forests, Olive-sided Flycatchers may suffer from the effects of overzealous "salvage logging" in these locations.
- Addressing habitat loss on the wintering grounds should be a high priority since it is unclear if this is the primary limiting factor.

From NRRI Species Profile:

- The species may require relatively large blocks of boreal forest for breeding; at least 50 acres may be necessary to support a single territorial pair.
- NRRI observations suggest that the species can tolerate disturbance such as logging and forest fire, as long as some large dead and live trees are left standing.
- The species can greatly benefit by leaving several tall trees and preferably dead trees within these cut-over areas.
- Although quantitative information is lacking, the Olive-sided Flycatcher tends to be found in a variety of habitat types but generally in a landscape matrix with more coniferous or boreal association rather than in a deciduous, dominated landscape.

From PIF Plan for Boreal Hardwood Transition Area: Recommendations for Forest Priority Species in BCR12 (Broad-winged Hawk, Whip-poor-will, Northern Flicker, Yellow-bellied Sapsucker, Least Flycatcher, Veery, Wood Thrush, Black-throated Blue Warbler, Rose-breasted Grosbeak)

We recommend that all parties responsible for managing private, county, state, tribal, or national forest lands develop and implement management strategies that benefit the largest number of PIF priority birds. General recommendations that are pertinent to Northern Flickers include:

- Preserve large tracts of mature coniferous and mixed forest edge contiguous to large inland lakes, including the Great Lakes.
- Promote structural diversity (vertical and horizontal) at the landscape scale, including patches of early-, mid-, and late-successional forest in a range of patch sizes (Thompson et al. 1995).
- Maintain and increase the amount of dead woody material in forests, including standing snags, and fallen coarse and fine woody debris to provide food sources, perching sites, and cavity nest sites.
- If managing for early-successional species, increase regeneration cuts or shorten rotations in even-aged aspen systems (Thompson et al. 1995).
- If managing for canopy-gleaning and cavity-nesting species, lengthen rotation ages in even-aged systems, increase the proportion of large trees in uneven-aged systems, and retain some snags and live residual trees in regeneration cuts (Thompson et al. 1995).

From BNA Species Profile:

- Before establishing management guidelines, we need to know how specific factors affect population viability of this species. Until data are available, conservation strategies depend on management that provides suitable habitat but that is not necessarily based on breeding success or population viability in these habitats.
- Preliminary indication of the importance of post-fire habitat to nest success suggests the need to avoid or minimize salvage of burned trees in forest burns.
- Forest harvest practices that retain snags and live trees (potential nest trees) help provide suitable habitat.

From UMVGL JV LP Species Profile:

- Protect existing habitat area (565 km²) and quality and add (restore/enhance) 565 km² of habitat at multiple sites within current range.
- Forest management should focus on leaving gaps and snags to provide key habitat components.

MONITORING RECOMENDATIONS

The Breeding Bird Survey may be inadequate due to the patch distribution of the species. Species-specific monitoring may be needed to better describe population trends. Ideally, this would be done during Breeding Bird Atlas work.

CONSERVATION ACTIONS

- Identify and target high priority landscapes and habitats for conservation action

Action: Identify Important Bird Areas that are a priority for this species in Minnesota

- **Upper Mississippi Valley/Great Lakes Joint Venture Region:**

Action: Protect 565 km² of habitat and restore 565 km² of habitat in Minnesota to adequately protect and enhance this species

- **Boreal Hardwood Transition Zone (BCR12)**

Action: Establish multiple Forest Bird Conservation Areas within BCR12 that are large enough to maintain or restore components of the historic landscape that are important to birds. Each FBCA should be 4,500 hectares (11,000 acres) in size, each with an old-growth core of 3,000 hectares (7,400

acres). Where FBCA management units cannot be designated, satellite FBMA's should be established. In general, 1,000 contiguous hectares (2,300 acres) of forest will meet the habitat area requirements of many priority forest birds. The overall objective in establishing Forest Bird Conservation Areas (FBCAs) is to provide a framework for the long-term conservation of forest birds by applying general strategies known to benefit both bird generalists and specialists:

1. Maintain large contiguous forest tracts and manage in large blocks
2. Restore connectivity between large tracts
3. Minimize isolation of forest patches
4. Maintain a well-developed and diverse understory
5. Encourage a variety of seral stages and more forest interior for area-sensitive species
6. Limit narrow, linear tracts to reduce the ratio of edge to interior in managed areas.
7. Establish an old-growth core reserve area (surrounded by a buffer zone where no silvicultural activities occur) to benefit forest-interior species and other priority species.

The PIF Plan suggests the following sites in BCR12 of Minnesota as potential FBMA's:

1. Beltrami Island State Forest
 2. Boundary Waters Wilderness Canoe Area
 3. Chippewa and Superior National Forests
 4. Itasca State Park
 5. Voyageurs National Park
- Additional broad conservation actions for landbirds from the UMVGL JV LBP that are pertinent to Olive-sided Flycatchers:
 1. Follow available "best practices" guidelines for land managers.
 2. Promote landbird planning and conservation across ownerships, states, JV regions, and international boundaries
 3. Focus on land supporting viable populations of JV Focal species in relatively unfragmented landscapes >10,000 ha and with fewer threats.
 4. Emphasize conservation on landscapes >70% intact (undeveloped) and contain core sites with source populations of JV focal species. Landscapes with <70% natural cover should also be conserved if focal species habitat needs are met, especially if there are few or no landscapes meeting the 70% criteria. In landscapes with <70% natural cover, retain or increase size of forest and grassland tracts, especially in central parts of the JV region.
 5. Identify and/or maintain critical breeding areas for species where this JV is particularly important to breeding populations.

Note: For certain species near the edge of their ranges in BCR 12 (e.g., **Olive-sided Flycatcher**, Connecticut Warbler, and Bay-breasted Warbler), it may be difficult to impossible to achieve population goals through habitat management, as factors other than management issues are likely responsible for their current distribution in the BCR.

RESEARCH NEEDS

From UMVGL JV LP Broad Landbird research needs (A set of even more specific objectives is listed for each of these items)

- Identify landscape and habitat characteristics (e.g., composition, structure, configuration) associated with high productivity and/or survivorship, including source populations. This information is needed to help ensure viable breeding populations at objective levels set for the region.
- Refine breeding density estimates across the JV region and improve models used to calculate habitat objectives. JV focal species whose estimated habitat requirements exceed the estimated habitat

available should be completed first. This information is necessary to determine the location and amount of habitat needed to meet population objectives.

From UMVGL JV LP Species Profile:

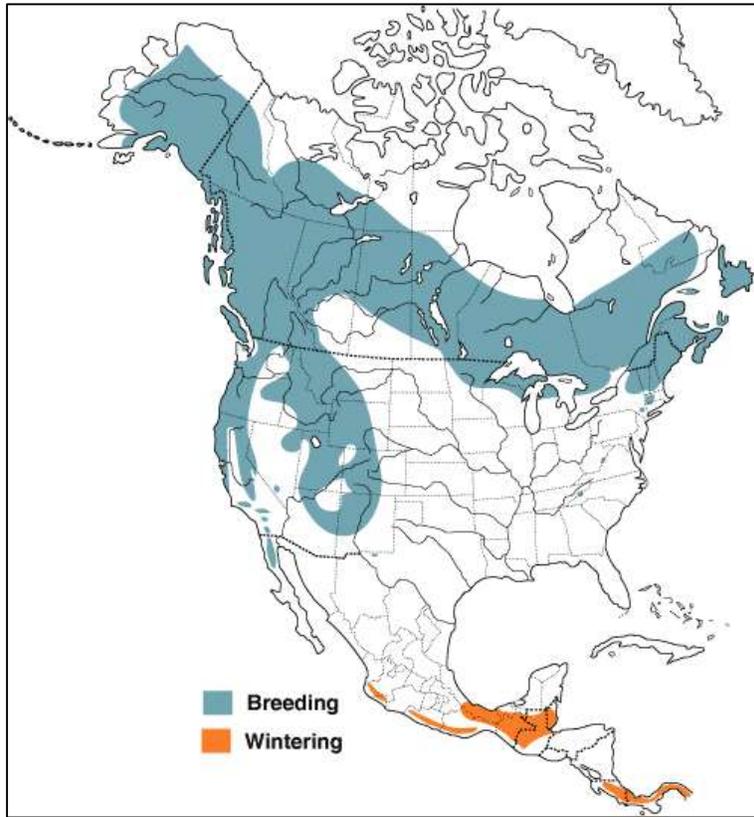
- Demographic work is needed specifically productivity on the breeding grounds. Species may be limited on wintering areas and identification of habitat and habitat trends must be completed to determine if decline is due to breeding or wintering areas.

From WBCI Species Profile

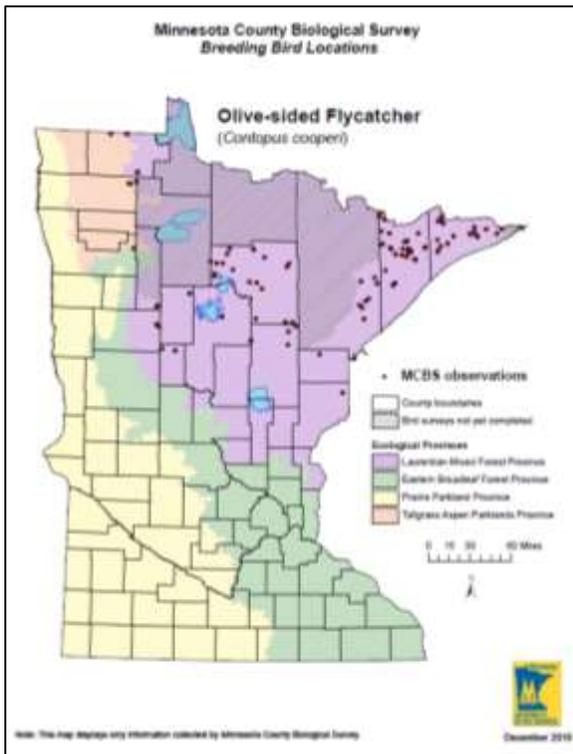
- More information is needed on nesting success, food availability, predation rates, and competition in different forest types and management regimes.
- Information is urgently needed on the impacts of fragmentation and habitat loss on the wintering grounds.

Effectiveness Measure: Eliminating the current population deficit requires a 100% population increase or an average annual increase of 5% over a 15 year period.

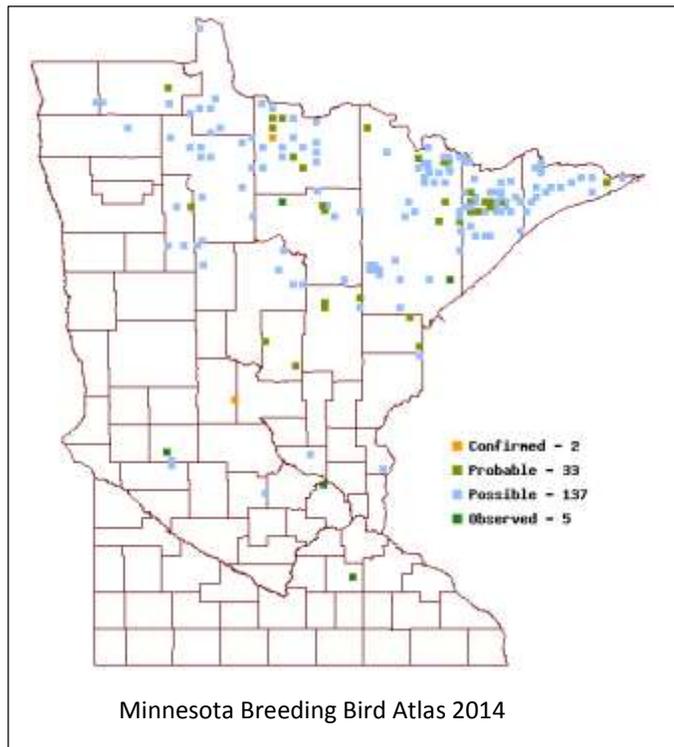
Olive-sided Flycatcher Distribution Maps



Birds of North America <http://bna.birds.cornell.edu/bna/>



MN DNR http://www.dnr.state.mn.us/eco/mcbs/bird_map_list.html



MN Breeding Bird Atlas <http://www.mnbba.org/>