

# Wildlife Survey Report for: Milwaukee County Grounds (part of the Milwaukee Estuary Area of Concern Study)

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This report discusses the Species of Local Conservation Interest we found during our Milwaukee Estuary Area of Concern (AOC) study on or in the vicinity of the properties known as Milwaukee County Grounds, and their ecological significance. Landowners include Wisconsin DNR, Milwaukee Metropolitan Sewerage District, Milwaukee County Parks, and the City of Wauwatosa. Participation in the study by these landowners improved our understanding of the health of the fish and wildlife populations in southeastern Wisconsin. Thank you! You can access additional information on the larger regional study by going to the webpage for the Southeastern Wisconsin Conservation Summit, <https://wglbbo.org/what-we-do/swcs/221-southeastern-wisconsin-conservation-summit>, which includes a series of presentations that you can view on-line (specifically the pdf documents with "AOC" in the file name). Also, please don't hesitate to contact me for further detailed information or follow up. Full technical data are available. This study was conducted in partnership with the Milwaukee County Parks Department of Parks, Recreation & Culture (contact: Brian Russart).

## *What are Species of Local Conservation Interest (SLCI)?*

*"These are the species we should be paying attention to in our community, lest they disappear."*

Species of Local Conservation Interest (SLCI) are species that are at least one of the following criteria:

- a) listed as either state or federally Endangered, Threatened, or Special Concern;
  - b) listed as Species of Greatest Conservation Need in the State Wildlife Action Plan;
  - c) considered to be locally rare or declining; or
  - d) are of social value to stakeholders and considered to be desirable to the community.
- and*, the habitat has the potential to support viable populations of these species.



**SLCI found at this property: Dickcissel, Southern Flying Squirrel, and Eastern Milksnake.**

## Species Found

We either found or obtained reliable and recent third party records indicating the presence of the following SLCI on or contiguous to these properties (including the Menomonee River). This list does not include migratory species. If desired, you can contact me to obtain more detailed information about these species' status, behaviors, habitats, and conservation issues, which are summarized in species checklists.

SLCI Species Found	Number of Records
<b>Bats (4)</b>	<b>26</b>
Big Brown Bat	18
Hoary Bat	5
Little Brown Bat	1
Tricolored Bat	2
<b>Breeding Birds (17)</b>	<b>90</b>
American Redstart	2
American Woodcock	1
Bell's Vireo**	1
Black-crowned Night Heron**	2
Bobolink	11
Chimney Swift	21
Common Nighthawk	1
Dickcissel	6
Eastern Meadowlark	19
Field Sparrow	6
Great Blue Heron	5
Henslow's Sparrow**	1
Long-eared Owl**	1
Peregrine Falcon	2
Sora	2
Willow Flycatcher	7
Wood Thrush**	2
<b>Frogs (3)</b>	<b>53</b>
Gray Treefrog**	3
Green Frog	49
Northern Leopard Frog	1
<b>Mammals (3)</b>	<b>95</b>
Common Muskrat	1
Coyote	92
Southern Flying Squirrel	2
<b>Salamanders (1)</b>	<b>1</b>
Blue-spotted Salamander**	1
<b>Snakes (4)</b>	<b>89</b>
Butler's Gartersnake	52
Common Gartersnake	25



American Redstart



Gray Treefrog



Blue-spotted Salamander

SLCI Species Found	Number of Records
Dekay's Brownsnake	10
Eastern Milksnake	2
<b>Grand Total (32 species)</b>	<b>354</b>

\* – Number of Records is the number of times the species was reported, not the number of individuals observed.

\*\* – Not necessarily successfully breeding at this time, but present and/or roosting on site.

We also surveyed for mussels at several sites in the Menomonee River. For mussel SLCI, Ellipse, Slippershell, and Spike were found only as relics (old shells indicating recent disappearance of living populations). Historically Mucket also occurred. The Menomonee River downstream from the confluence with Underwood Creek is unlikely to be able to support restored mussel populations due to water quality impairments, as mussels are very sensitive to runoff and siltation. However, re-introducing species may be possible through a captive propagation program if water quality issues can be resolved in the future.

We also surveyed for dragonflies and damselflies. There is a strong dragonfly community present but this group has not been assessed for conservation status due to a lack of comparative historical data. We found the following species at Milwaukee County Grounds: Autumn Meadowhawk, Band-Winged Meadowhawk, Black Saddlebags, Blue Dasher, Calico Pennant, Common Baskettail, Common Green Darner, Dot-Tailed Whiteface, Eastern Forktail, Eastern Pondhawk, Familiar Bluet, Marsh Bluet, Northern Spreadwing, Ruby Meadowhawk, Sweetflag Spreadwing, Tule Bluet, Twelve-Spotted Skimmer, Wandering Glider, White-Faced Meadowhawk, and Widow Skimmer.



Black Saddlebags

We did not survey for or assess butterflies or bees, but note that these properties are also important habitat for Monarch Butterflies and the federally Threatened Rusty-patched Bumblebee.



Monarch Butterfly

## Discussion

Our study revealed that approximately 25 Species of Local Conservation Interest are supported on these properties, a fairly high number for an urban greenspace, in addition to several insect species of conservation concern (dragonflies, butterflies, bumblebees). This area is therefore important for regional conservation of rare wildlife, and provides opportunities for further enhancing habitat conditions to better support SLCI. Especially noteworthy are the Southern Flying Squirrel in the forested parcels, and the diverse snake community with a den site identified (a critical habitat feature). The diverse bat and breeding bird communities are also noteworthy. This was one of only four sites that

supported Tricolored Bat during the maternal season. The hardwood forests are important bat roosting habitat, while the wetlands and grasslands provide ample food resources. The construction of an isolated ephemeral pond is recommended to benefit several rare frogs, a salamander, and dragonflies. The grassland areas are important for supporting breeding birds and some mammals. A Long-eared Owl winter roost attracts many people each winter and should be protected.

There is also potential for other SLCI to be present on the property or to be restored to this area (in particular Gray Treefrog, Blue-spotted Salamander, Prairie Crayfish, and additional breeding birds). There are a number of reasons why other species may not have been observed on our surveys, including that they are very rare or transitory, or their elusive behavior makes them very difficult to find, or that they are truly absent but could be restored with proper management.

We recommended a list of Candidate Focal Species for conservation projects in this region to the AOC program (listed below). This area has high potential to benefit breeding birds such as American Woodcock, American Kestrel, Black-billed Cuckoo, Brown Thrasher, Chimney Swift, Common Nighthawk, Dickcissel, Eastern Meadowlark, Field Sparrow, Purple Martin, Marsh Wren, Red-headed Woodpecker, Sora, Wood Thrush, Vesper Sparrow, Virginia Rail, Willow Flycatcher, and Yellow-billed Cuckoo, by managing their habitats. Several rare bats could benefit from managing mature trees and light pollution. Habitat management and enhancement can also help preserve the snake community, attract additional frogs, and benefit uncommon mammals such as Gray Fox and weasels.

This area also plays an important role as stopover habitat for migratory birds, bats, and insects (such as Monarch Butterfly and dragonflies). Managing for high quality native vegetation will provide value for migrants. Stopover habitat is needed for refueling and resting, therefore native plants that provide nutritious foods are important, as well as shelter trees with cavities, large leaves, and loose bark. Shrub and conifer thickets can also provide important resting shelter. Light and noise pollution are important conservation and human health issues here and should be mitigated wherever practical. Light and noise pollution disrupts animal activity (especially harsh blue spectrum lighting), and harms human health. Wildlife friendly lighting options are available for any needed lighting.

For additional discussion, detail, and references, I attach a memorandum prepared for the Environmental Impact Assessment Committee for the Northeast Quadrant of the County Grounds in 2017.



American Kestrel, Least Weasel, and Chorus Frog are potentially restorable species.

## Regional AOC Candidate Focal Species

A subset of SLCI were recommended as Candidate Focal Species for projects in this area.

Bats (all habitats): Big Brown Bat, Little Brown Bat, Silver-haired Bat, Eastern Red Bat, Tricolored Bat.

Breeding Birds (Forest - upland/lowland, savanna): American Redstart, American Woodcock, Black-billed Cuckoo, Long-eared Owl, Red-headed Woodpecker, Wood Thrush, Yellow-billed Cuckoo.

Breeding Birds (Urban): Chimney Swift, Common Nighthawk, Purple Martin.

Breeding Birds (Wetland): American Woodcock, Black-crowned Night-Heron, Common Gallinule, Marsh Wren, Sedge Wren, Sora, Virginia Rail, Willow Flycatcher.

Breeding Birds (Grassland, Shrubland): American Kestrel, American Woodcock, Black-billed Cuckoo, Blue-winged Warbler, Bobolink, Brown Thrasher, Dickcissel, Eastern Meadowlark, Field Sparrow, Grasshopper Sparrow, Henslow's Sparrow, Long-eared Owl, Sedge Wren, Vesper Sparrow, Willow Flycatcher.

Fishes (Menomonee River): Black Crappie, Bluegill, Largemouth Stoneroller, Pumpkinseed, Stonecat.

Herptiles: Gray Treefrog, Wood Frog, Spring Peeper, Boreal Chorus Frog, Blue-spotted Salamander, Eastern Milksnake, Midland Brownsnake, Northern Red-bellied Snake, Butler's Gartersnake.

Mammals: American Mink, Common Muskrat, Coyote, Eastern Fox Squirrel, Ermine, Gray Fox, Least Weasel, Southern Flying Squirrel.

Migratory Birds, Bats, and Insects: All migratory species, including butterflies, bees, and dragonflies.

Primary Burrowing Crayfish: Prairie Crayfish.

## What's Next?

Ideas for projects on this property include:

- Management agreements for preserving existing SLCI (see table above).
- Enhance and/or create ephemeral ponds. Potential sites exist in Sanctuary Woods, Forest Exploration Center, the river parkway, and some grassland areas. Currently no existing ephemeral ponds have sufficient hydroperiods to support target SLCI, or are impaired from storm water runoff. These existing ponds can be considered for enhancement, or new ponds created.
- Establish new populations of Prairie Crayfish, Gray Treefrog, Wood Frog, Spring Peeper, Boreal Chorus Frog, or Blue-spotted Salamander through repatriation; and new breeding bird SLCI through habitat management.
- Enhance grassland quality through management actions such as planting, mowing, and burning; especially to enhance butterfly habitat, and grassland bird habitat.
- Enhance, expand, and connect mature hardwood tree stands to benefit Southern Flying Squirrel, bats, and forest birds and amphibians (i.e., Gray Treefrog, Wood Thrush).
- Remove invasive species and replant native species, especially food and shelter trees to benefit migrants as stopover habitat.
- Add wildlife structures such as bird and bat houses.
- Reduce light pollution.
- Establish professional and Citizen Science based wildlife monitoring programs, designed to return metrics for tracking occupancy and trends with confidence (note that these techniques

often differ from those used for outdoor education objectives). Especially promising are automated acoustic surveys that allow for statistically significant sample sizes.

Milwaukee Estuary Area Of Concern (AOC) program: To be funded by the AOC program, projects must contribute to AOC delisting metrics, which are basically the establishment, protection, or enhancement of populations of SLCI. The more SLCI protected or benefitting from a project the higher priority it should receive. We have made project recommendations to this program, which as of this writing is engaged with a technical advisory team to prioritize potential projects. You can explore the program in greater depth at the Office of Great Waters website (<https://dnr.wi.gov/topic/greatlakes/>). Landowner cooperation will also be required for any AOC project implementation to proceed. If you wish to discuss the potential for AOC funding of habitat projects on your property, you may contact the Milwaukee Estuary AOC coordinator Stacy Hron at: <https://dnr.wi.gov/topic/greatlakes/staffcontacts.html>.

Potential Follow-up Services: This wildlife survey identified species that are of conservation concern in this area. Continuing wildlife surveys would prove useful for property planning and habitat management guidance, and provide a measure of success. In particular, monitoring of these rare species is recommended: Southern Flying Squirrel, bats, snakes, frogs, butterflies, and breeding birds. Methods for these groups are well developed. To explore opportunities for such habitat enhancement programs, or pursue additional surveys, wildlife monitoring, habitat planning, or restoration, please engage with professional ecologists at your convenience. An integrated wildlife plan implemented by the various property owners and stakeholder groups would be a desirable outcome for this regional gem.