

Yellow-throated Warbler (*Setophaga dominica*) Species Guidance

Family: Parulidae – the wood-warblers

State Status: [Endangered](#) (1989)

State Rank: [S1?B](#)

Federal Status: [None](#)

Global Rank: [G5](#)

Wildlife Action Plan

Mean Risk Score: [3.1](#)

Wildlife Action Plan Area

Importance Score: [1](#)



Counties with documented locations of Yellow-throated Warblers breeding or breeding evidence in Wisconsin. Source: Natural Heritage Inventory Database, October 2018.



Photo by Dennis Malueg

Species Information

General Description: The Yellow-throated Warbler is approximately 13cm (5.1 in) long and has a relatively long bill. Males have blue-gray upperparts, white underparts with black streaking, white wing bars and tail spots, and a bright yellow throat and upper breast. The facial pattern consists of a black mask that is bordered by a bold white eyebrow stripe and a white patch on each side of neck. Females and immatures appear similar to males, but their plumage is duller overall. Plumage remains similar throughout the year (Howell and Webb 1995, Dunn and Garrett 1997, Dunn and Alderfer 2006).

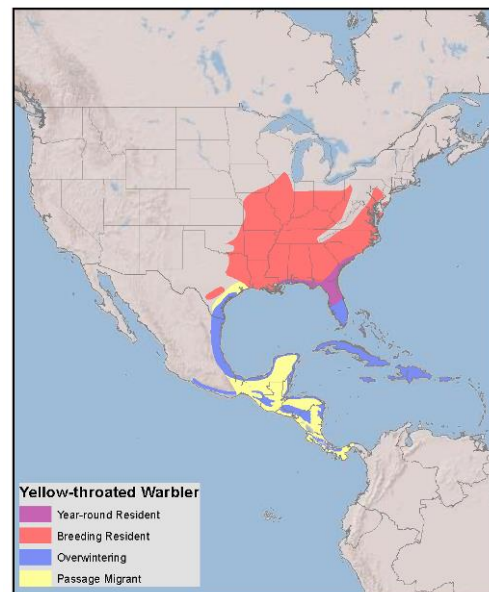
The Yellow-throated Warbler's song is a series of clear, descending notes that ends with a rising note: *teedle-teedle-teedle-teedle-tew-tew-tew-tew—tew-wi*. The call is a loud, sharp *chip* or *tsip* (Howell and Webb 1995, Dunn and Garrett 1997, Dunn and Alderfer 2006). An example of a typical song can be heard here: http://www.allaboutbirds.org/guide/Yellow-throated_Warbler/sounds

Definitive Identification: The Yellow-throated Warbler's distinctive facial pattern and lack of back streaking distinguish it from similar species.

Similar Species: Yellow-throated Warblers resemble immature male Blackburnian Warblers (*Setophaga fusca*) with yellow throats. Yellow-throated Warblers are differentiated from Blackburnian Warblers by their plain blue-gray upperparts (lacking back streaks), white neck patch, and bold white eyebrow stripe (Hall 1996, Dunn and Garrett 1997). The opening notes of the Yellow-throated Warbler and Louisiana Waterthrush songs sound similar, but the Louisiana Waterthrush song has a weak, jumbled ending unlike the clear, descending notes of Yellow-throated Warbler (Dunn and Garrett 1997).

Associated Species: Within appropriate, mature upland forest of mixed hardwoods and pines, the Yellow-throated Warbler can occur with the Yellow-billed Cuckoo (*Coccyzus americanus*), Acadian Flycatcher (*Empidonax vireescens*), Wood Thrush (*Hylocichla mustelina*), Cerulean Warbler (*Setophaga cerulea*), Worm-eating Warbler (*Helmitheros vermivorus*), Kentucky Warbler (*Geothlypis formosa*), and sometimes the Veery (*Catharus fuscescens*) and Louisiana Waterthrush (*Parkesia motacilla*). Where the Yellow-throated Warbler formerly bred along the Sugar River, it was associated with the Great Blue Heron (*Ardea herodias*), Yellow-billed Cuckoo, Red-headed Woodpecker (*Melanerpes erythrocephalus*), Acadian Flycatcher, Least Flycatcher (*Empidonax minimus*), Wood Thrush, Veery, Prothonotary Warbler (*Protonotaria citrea*), Cerulean Warbler and Louisiana Waterthrush.

State Distribution and Abundance: The Yellow-throated Warbler is a very rare breeder in southern Wisconsin, and nesting is confirmed only along the Sugar River in Rock County (Mossman 1988, Robbins 1991) and in Wyalusing State Park (Reidinger 2005, Hansen 2006). Wisconsin is at the northern edge of this species' breeding range; therefore, it has likely never been common in the state (Robbins



Global range map for Yellow-throated Warbler. (NatureServe 2013)

1991). Distribution information for this species may not reflect its full extent in Wisconsin, because many areas of the state have not been thoroughly surveyed.

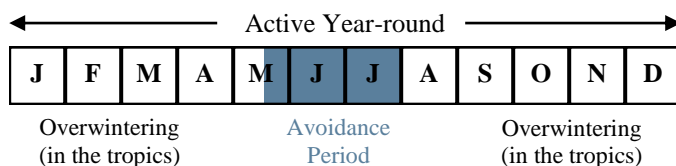
Global Distribution and Abundance: The Yellow-throated Warbler’s summer range extends eastward from western Missouri, eastern Oklahoma, and eastern Texas; south to southern Louisiana, southern Mississippi, southern Alabama, central Florida, and southern Georgia; north to central Pennsylvania, central Ohio, central Indiana, northern Illinois, and extreme southern Wisconsin. This species is largely absent from the higher elevations of the Appalachian Mountains (Hall 1996). Breeding Bird Survey data suggest a range-wide population increase for this species (Sauer et al. 2012). Highest densities occur in western West Virginia, southeastern Kentucky, and eastern Tennessee (Sauer et al. 2012).

The Yellow-throated Warbler’s winter range extends primarily from the southernmost portion of the breeding range (see “Ecology” section below) to the Atlantic Slope of Mexico, Belize, Honduras, and Nicaragua. Yellow-throated Warblers also winter in Bermuda and throughout the Caribbean (Dunn and Garrett 1997, Hall 1996).

Diet: Yellow-throated Warblers are primarily insectivorous and prefer adult and larval forms of moths (*Lepidoptera*), flies (*Diptera*), beetles (*Coleoptera*), bugs (*Hemiptera*), and scale insects (*Orthoptera*) (Hall 1996).

Reproductive Cycle: The Yellow-throated Warbler is a rare spring migrant to southern Wisconsin and arrives from late April to mid-May (Robbins 1991). Information on this species’ nesting phenology in Wisconsin is limited to a few expert observations: nest-building on May 15 and food-carrying on June 23 (M. Mossman pers. obs.).

Nest-building occurs elsewhere in the Yellow-throated Warblers range from mid-March to mid-May, and nestlings are present from mid-April to late July (Hall 1996). This species is an accidental fall migrant to Wisconsin and has only one September record (Robbins 1991).



Ecology: The Yellow-throated Warbler prefers to forage in the forest canopy from six to 30m (20-100 ft) above the ground (Hall 1996). This species forages for insects by creeping along branches and probing into bark crevices and pine cones (Hall 1996, Dunn and Alderfer 2006). It also nests in the forest canopy, generally at heights of three to 30m (10-100 ft). Nests are located on horizontal branches of oaks (*Quercus* spp.), cypress (*Cupressaceae* spp.), pines (*Pinus* spp.), and sycamores (*Platanus occidentalis*), and are often placed in clumps of leaves or pine needles two to three meters (7-10 ft) away from main trunk (Hall 1996, Dunn and Garrett 1997). The nest is composed of fine grasses, weeds, bark shreds, and plant fibers, and is lined with plant down and feathers. Females lay and incubate an average of four eggs. Incubation is 12-13 days, chicks fledge approximately 10 days after they hatch (Hall 1996, Baicich and Harrison 1997). This species often raises two broods in the southern part of its range (Hall 1996).

Yellow-throated Warblers are partial migrants – individuals in southern part of range are permanent residents, whereas individuals in northern part of range migrate to tropical wintering grounds. Yellow-throated Warblers from the northern breeding grounds move south to the Gulf Coast of the U.S., then across the Gulf of Mexico, and continue south to Mexico and Central America (Hall 1996).

Natural Community Associations ([WDNR 2005](#), [WDNR 2009](#)):

Significant: [pine relict](#)

Moderate: floodplain forest

Habitat: The Yellow-throated Warbler in Wisconsin formerly bred among mature floodplain hardwoods (with sycamore) along the Sugar River in Rock County, but now it breeds regularly only at Wyalusing State Park among mature oaks and upland white pine relicts embedded within a large tract of upland hardwood forest. It occasionally occurs in similar upland habitat in the Baraboo Hills (Robbins 1991, Hansen 2006, M. Mossman pers. obs.). The Yellow-throated Warbler’s habitat preferences vary considerably across the species’ continental range and include cypress and sycamore swamps, pine-oak uplands, and lowland pine forests (Hall 1996, Dunn and Garrett 1997, Gabbe et al. 2002).

Threats: Limiting factors for the Yellow-throated Warbler are poorly known. Loss or degradation of mature sycamore trees as well as upland pine relicts within hardwood stands in southern Wisconsin negatively impacts this species (WDNR 2005). The Yellow-throated Warbler does not appear to be limited on its wintering grounds (Hall 1996).

Climate Change Impacts: Habitat models for Wisconsin indicate a reduction of suitable growing conditions for floodplain forests but

an expansion of suitable growing conditions for upland hardwood forests (Swanston et al. 2011, WICCI 2011), although expansion depends on landscape connectivity and propagule (seed) availability. Although upland hardwood forest expansion might increase the amount of suitable forest cover for Yellow-throated Warblers, the species' dependence on additional forest characteristics (see "Habitat" section) may continue to limit its abundance in the state. Potential impacts of climate change at the continental scale include a decrease in the southeastern portion due to a predicted shift in winter temperatures and in potential evapotranspiration (Matthews et al. 2004).

Survey Guidelines: Persons handling Yellow-throated Warblers must possess a valid [Endangered and Threatened Species Permit](#). If surveys are being conducted for regulatory purposes, survey protocols and surveyor qualifications must first be approved by the Endangered Resources Review Program (see *Contact Information*). Area searches are effective for surveying Yellow-throated Warblers in forest stands <100 acres. Survey the entire affected area that contains suitable Yellow-throated Warbler nesting habitat (see "Habitat" section above), by walking slowly throughout the area and stopping occasionally to listen for Yellow-throated Warbler vocalizations. Point counts can be used for stands >100 acres and require that the observer stand in one spot for 10 minutes and record all birds seen or heard within a 100m (330 ft) radius. Point-count stations should be placed a minimum of 250m (820 ft) apart. For either the area-search or point-count method, record the following data: all Yellow-throated Warblers seen or heard, numbers of pairs and juveniles, behavioral observations such as courtship displays or food carries, and other Species of Greatest Conservation Need that are present at the site. Whenever possible, also map the approximate territory boundaries.

Carry out surveys between June 1 and July 4, preferably 10 days apart, and including at least one survey less than one week prior to any proposed project activity that may impact Yellow-throated Warblers (see *Screening Procedures*). Begin surveys within 15 minutes of sunrise and complete them within four hours, or no later than 10 am. Conduct surveys during appropriate weather (i.e., no fog, rain, or wind >10 mph; Ralph et al. 1993). Personnel conducting surveys must be able to identify Yellow-throated Warblers by sight and sound. At least three surveys conducted with the above protocol and yielding negative results are needed to determine that the species is not present at a site for the purposes of these guidelines.

Summarize results, including survey dates, times, weather conditions, number of detections, detection locations, and behavioral data and submit via the WDNR online report: <<http://dnr.wi.gov>, keyword "rare animal field report form">.

Management Guidelines

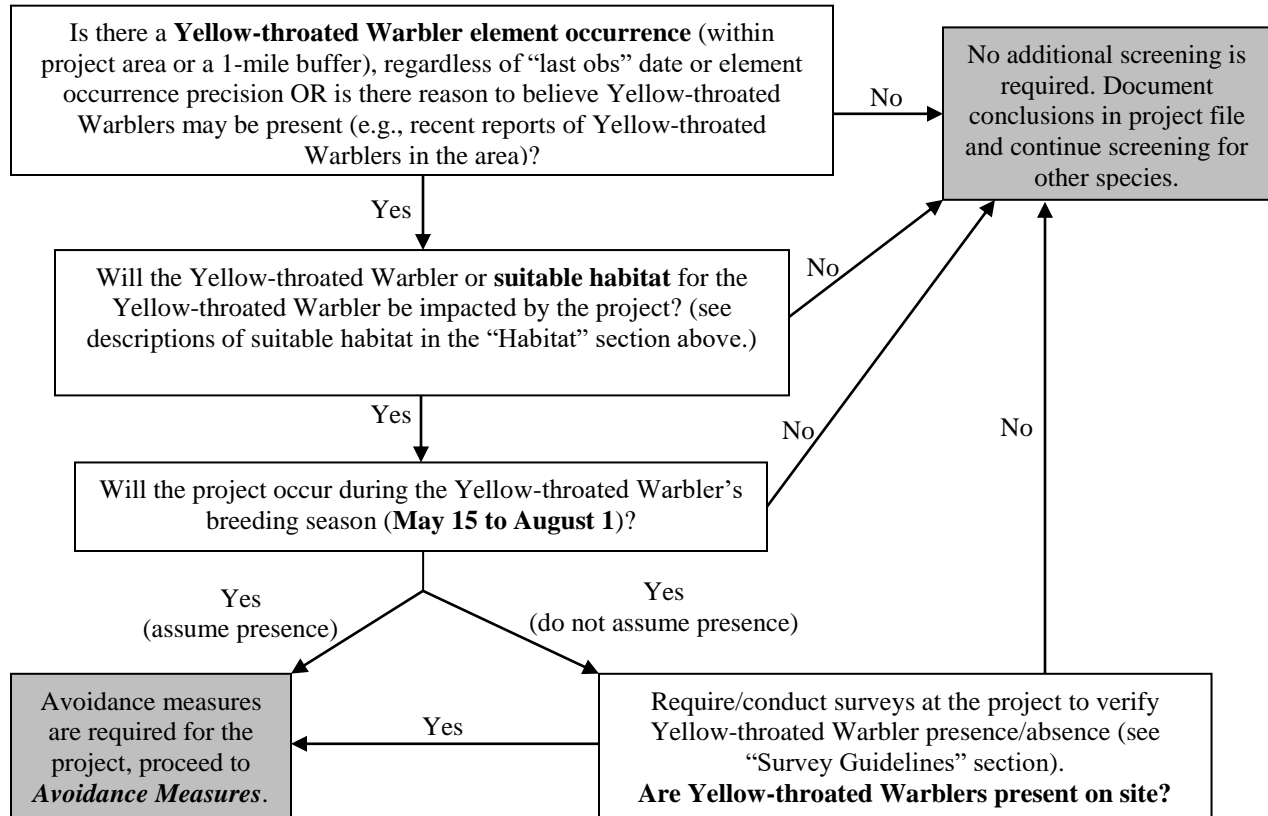
The following guidelines typically describe actions that will help maintain or enhance habitat for the species. These actions are not mandatory unless required by a permit, authorization or approval.

Yellow-throated Warblers are extremely rare in Wisconsin, and efforts to maintain or enhance Yellow-throated Warbler habitat should be carefully planned in consultation with a species expert to minimize negative short-term impacts (see *Contact Information*). Suitable breeding habitat has the following components: 1) mature upland pine-hardwood relicts embedded within large forest tracts, and 2) bottomland hardwood forest with large sycamore trees. Protect upland pine relicts within large hardwood forests, especially at Wyalusing State Park and secondarily the Baraboo Hills. The Yellow-throated Warbler may also benefit from sycamore restoration and management in floodplain forests along the Sugar, Mississippi, and Wisconsin rivers. Additionally, expansion of forest along the Sugar River, especially the Avon Bottoms Wildlife Area, may increase the amount of suitable habitat available to this species (Mossman 1988, Hansen 2006).

Screening Procedures

The following procedures must be followed by DNR staff reviewing proposed projects for potential impacts to the species.

Follow the “Conducting Endangered Resources Reviews: A Step-by-Step Guide for Wisconsin DNR Staff” document (summarized below) to determine if Yellow-throated Warbler will be impacted by a project (WDNR 2012):



Avoidance Measures

The following measures are specific actions required by DNR to avoid take (mortality) of state threatened or endangered species per Wisconsin’s Endangered Species law (s. 29.604, Wis. Stats.). These guidelines are typically not mandatory for non-listed species (e.g., special concern species) unless required by a permit, authorization or approval.

According to Wisconsin’s Endangered Species Law (s. 29.604, Wis. Stats.), it is illegal to take, transport, possess, process, or sell any wild animal on the Wisconsin Endangered and Threatened Species List (ch. NR 27, Wis. Admin. Code). Take of an animal is defined as shooting, shooting at, pursuing, hunting, catching or killing.

If *Screening Procedures* above indicate that avoidance measures are required for a project, follow the measures below. If you have not yet read through *Screening Procedures*, please review them first to determine if avoidance measures are necessary for the project.

1. The simplest and preferred method to avoid take of Yellow-throated Warblers is to avoid directly impacting individuals, known Yellow-throated Warbler locations, or areas of suitable habitat (described above in the “Habitat” section and in *Screening Procedures*).
2. If Yellow-throated Warbler impacts cannot be avoided entirely, avoid impacts during the **breeding season (May 15 to August 1)**.
3. If Yellow-throated Warbler impacts cannot be avoided, please contact the Natural Heritage Conservation Incidental Take Coordinator (see *Contact Information*) to discuss possible project-specific avoidance measures. If take cannot be avoided, an [Incidental Take Permit or Authorization](#) is necessary.

Additional Information

References

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- WDNR [Wisconsin Department of Natural Resources]. 2005. Wisconsin's Strategy for Wildlife Species of Greatest Conservation Need: A State Wildlife Action Plan. Madison, WI. <<http://dnr.wi.gov>, key word "Wildlife Action Plan">
- WDNR [Wisconsin Department of Natural Resources]. 2009. Wisconsin wildlife action plan species profile: Yellow-throated Warbler. (Accessed October 2012). Madison, Wisconsin, USA. <material now available on the Endangered Resources Species Web page: <http://dnr.wi.gov>, key word "biodiversity">
- WDNR [Wisconsin Department of Natural Resources]. 2012. *Conducting Endangered Resources Reviews: A Step-by-Step Guide for Wisconsin DNR Staff*. Bureau of Endangered Resources. Wisconsin Department of Natural Resources, Madison, Wisconsin.
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WICCI [Wisconsin Initiative on Climate Change Impacts]. 2011. Wisconsin's Changing Climate: Impacts and Adaptation. Nelson Institute for Environmental Studies, University of Wisconsin-Madison and the Wisconsin Department of Natural Resources, Madison, Wisconsin. <http://www.wicci.wisc.edu/report/2011_WICCI-Report.pdf>

Linked Websites:

- Cornell Lab of Ornithology All About the Birds: <http://www.allaboutbirds.org/guide/Yellow-throated_Warbler/id>
- Natural Communities of Wisconsin: <<http://dnr.wi.gov>, key word “natural communities”>
- Rare Animal Field Report Form: <<http://dnr.wi.gov>, key word “rare animal field report form”>
- Wisconsin Bird Conservation Initiative All Bird Conservation Plan: <<http://www.wisconsinbirds.org/plan/species/ytwa.htm>>
- Wisconsin Wildlife Action Plan: <<http://dnr.wi.gov>, key word “Wildlife Action Plan”>
- Wisconsin Initiative on Climate Change Impacts: <<http://www.wicci.wisc.edu/>>
- Wisconsin Endangered and Threatened Species: <<http://dnr.wi.gov>, key word “endangered resources”>
- Wisconsin Endangered and Threatened Species Permit: <<http://dnr.wi.gov>, key word “endangered species permit”>
- Wisconsin Natural Heritage Inventory Working List Key: <<http://dnr.wi.gov>, key word “Natural Heritage Working List”>

Funding

- Natural Resources Foundation of Wisconsin: <<http://www.wisconservation.org/>>
- USFWS State Wildlife Grants Program: <<http://wsfrprograms.fws.gov/subpages/grantprograms/swg/swg.htm>>
- Wisconsin Natural Heritage Conservation Fund
- Wisconsin DNR Division of Forestry

Contact Information (Wisconsin Species Experts for Yellow-throated Warbler)

- Refer to the Bird contact on the [Rare Species and Natural Community Expert List](#)

Contact Information (Federal Migratory Bird Treaty Permits or Questions)

- [Larry Harrison](#), U.S. Fish and Wildlife Service, 5600 American Blvd. West, Suite 990, Bloomington, MN 55437-1458 (612-713-5489, Larry_Harrison@fws.gov)
- See also <<http://www.fws.gov/migratorybirds/mbpermits.html>>

Endangered Resources Review Program Contacts

- General information (DNRERReview@wisconsin.gov)
- [Rori Paloski](#), Incidental Take Coordinator, Wisconsin DNR, Bureau of Natural Heritage Conservation (608-264-6040, rori.paloski@wisconsin.gov)

Suggested Citation

- Wisconsin Department of Natural Resources. 2013. Wisconsin Yellow-throated Warbler Species Guidance. Bureau of Natural Heritage Conservation, Wisconsin Department of Natural Resources, Madison, Wisconsin. PUB-ER-695.

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Special Acknowledgment

We acknowledge the administrators of the [Wisconsin Bird Conservation Initiative All Bird Conservation Plan](#) webpage for allowing reproduction of text in several parts of this document.

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