

Acadian Flycatcher (*Empidonax virescens*) Species Guidance

Family: Tyrannidae – the tyrant flycatchers

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

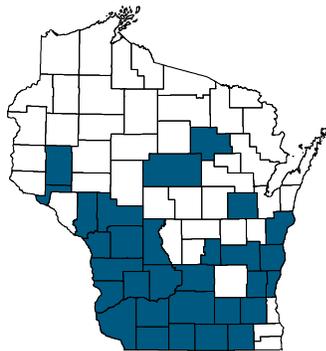
State Rank: [S3B](#)

Federal Status: [None](#)

Global Rank: [G5](#)

**Wildlife Action Plan
Mean Risk Score:** [3.1](#)

**Wildlife Action Plan Area of
Importance Score:** [2](#)



Counties with documented locations of Acadian Flycatcher breeding or breeding evidence in Wisconsin. Source: Natural Heritage Inventory Database, October 2018.



Photo by Bill Hubick

Species Information

General Description: The Acadian Flycatcher is approximately 15 cm (5.75 in) long. Males and females appear similar, and both have greenish-olive heads and upperparts with narrow, pale yellow eye-rings. The wings are long and contrastingly darker than the upperparts, with two buffy wing bars. Underparts are whitish, with a pale olive wash across the breast, and a pale-yellow wash on the belly and under-tail coverts. The bill is long, broad, and two-toned - black above and pale yellow below (Howell and Webb 1995, Whitehead and Taylor 2002, Dunn and Alderfer 2006).

The song is a demonstrative *tee-chup* or *peet-sah*, with the accent sometimes varying between the first and second syllable (Whitehead and Taylor 2002). The call is a sharp *peek* or *pweet*. An example of a typical song can be heard here: http://www.allaboutbirds.org/guide/Acadian_Flycatcher/sounds

Definitive Identification: The Acadian Flycatchers' long primary projection and long, broad bill distinguish it from other *Empidonax* flycatchers (Whitehead and Taylor 2002).

Similar Species: Acadian Flycatchers can be difficult to distinguish from Willow Flycatchers (*Empidonax traillii*) and Alder Flycatchers (*Empidonax alnorum*). Willow and Alder Flycatchers usually occur in more open habitats than Acadian Flycatchers, and have indistinct eye-rings, browner upperparts, and duller wing bars. Vocalizations are also distinctive – the Willow Flycatcher song is a buzzy *fitz-bew*, and the Alder Flycatcher song is a burry *wee-beo*. Differentiation between the Acadian Flycatcher and Least Flycatcher (*Empidonax minimus*) can also be challenging, but the Least Flycatcher has a smaller bill, browner upperparts, whiter wing bars and eye ring, and shorter primary projection. Least Flycatchers also are often found in drier, more open woods than Acadian Flycatchers. Acadian Flycatchers can be confused with Yellow-bellied Flycatchers (*Empidonax flaviventris*), but these two species generally co-occur in Wisconsin only during migration. The Acadian Flycatcher has a longer primary projection, heavier bill, and longer, broader tail than the Yellow-bellied Flycatcher (Howell and Webb 1995, Sibley 2000, Whitehead and Taylor 2002).

Associated Species: Within appropriate upland hardwood forest types, Acadian Flycatchers can occur with the following Species of Greatest Conservation Need: Yellow-billed Cuckoo (*Coccyzus americanus*), Veery (*Catharus fuscescens*), Wood Thrush (*Hylocichla mustelina*), Cerulean Warbler (*Setophaga cerulea*), Worm-eating Warbler (*Helmitheros vermivorum*), Louisiana Waterthrush (*Parkesia motacilla*), Kentucky Warbler (*Geothlypis formosa*), and Hooded Warbler (*Setophaga citrina*).

State Distribution and Abundance: The Acadian Flycatcher is an uncommon breeding resident throughout the southern half of the state, generally south of a line from Saint Croix, Chippewa, Marathon, and Door counties. Many small breeding populations are scattered among the more heavily forested areas of the [western coulee and ridges](#) ecological landscape. Highest known concentrations of this species are found in the Baraboo Hills, Wyalusing State Park vicinity, and the northern unit of the Kettle Moraine State Forest (Robbins 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 Acadian Flycatcher’s summer range extends eastward from eastern Iowa, northern Missouri, eastern Kansas, southeastern Nebraska, eastern Oklahoma, and eastern Texas; south to southern Louisiana, southern Mississippi, southern Alabama, and the northern peninsula of Florida; north to Massachusetts, New York, southern Ontario, southern Michigan, southern Wisconsin, and southeastern Minnesota (Whitehead and Taylor 2002). Within this range, highest densities occur in southern Ohio, northern West Virginia, southeastern Virginia, and northeastern North Carolina (Sauer et al. 2008).

The winter range extends from the Caribbean slope of Nicaragua, south through Costa Rica, Panama, Columbia, northwestern Venezuela, and western Ecuador. In its tropical winter range, the Acadian Flycatcher generally occurs in the shrubby understory of primary- and second-growth forest between 50 and 2,700m (165-8,800 ft) elevation (Whitehead and Taylor 2002).

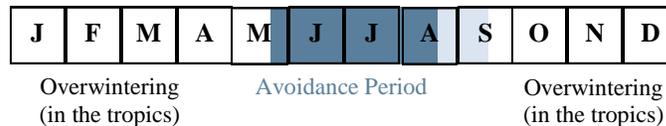
Diet: Acadian Flycatchers are primarily insectivorous, and prefer bees and wasps (*Hymenoptera*), moths (*Lepidoptera*), beetles (*Coleoptera*), flies (*Diptera*), and true bugs (*Homoptera*; Whitehead and Taylor 2002).

Reproductive Cycle: Acadian Flycatchers arrive in Wisconsin from early May to early June (Robbins 1991). Initial nest-building begins in late May, and nestlings are present from mid- to late June. Second nesting attempts may occur throughout July, and nestlings and fledglings have been found as late as mid-August (Bielefeldt and Rosenfield 2006). Acadian Flycatchers depart Wisconsin by mid-September (Mossman and Lange 1982).



Global range map for Acadian Flycatcher. (NatureServe 2013)

Post-fledgling -
Departure



Ecology: The Acadian Flycatcher prefers to forage in the semi-open understory and lower canopy of forests at heights ranging from two to 12m (6.5-40 ft). It perches quietly on exposed branches and then sallies out to attack prey (Mossman and Lange 1982, Whitehead and Taylor 2002). This species also hawks insects from the air or gleans them from small branches, and, less commonly, forages on the ground (Whitehead and Taylor 2002). In the Baraboo Hills of Wisconsin, Mossman and Lange (1982) documented sugar maple, eastern hemlock (*Tsuga canadensis*), and yellow birch (*Betula alleghaniensis*) saplings as important perching/foraging sites.

Nests are often built in forks of thin, horizontal or drooping branches of trees and saplings two to seven meters (6.5-23 ft) above ground. Important nest substrates in Wisconsin include sugar maple, witch-hazel (*Hamamelis virginiana*) and eastern hemlock in the Baraboo Hills (Mossman and Lange 1982), common buckthorn (*Rhamnus cathartica*), boxelder (*Acer negundo*), and elms (*Ulmus* sp.) in the Kettle Moraine State Forest (Bielefeldt and Rosenfield 1992, Bielefeldt and Rosenfield 2006). Female Acadian Flycatchers build shallow, loose cup-nests composed of fine bark strips, fine twigs, grasses, and understory herbs (Whitehead and Taylor 2002). The female lays and incubates two to four eggs, with an average clutch size of three. Incubation lasts 13-14 days, and chicks fledge 13-14 days after hatching (Baicich and Harrison 1997). This species typically raises only one brood but will occasionally double-brood (Whitehead and Taylor 2002).

Acadian Flycatchers are medium-distance migrants that fly to southern Central America and northern South America in September. They leave their wintering grounds in the spring and move north through Panama, Costa Rica, and the Atlantic Slope of Mexico, and then across the Gulf of Mexico to the Gulf Coast of the U.S., continuing on to their breeding grounds. Some individuals appear to fly nonstop across the Gulf, but others stop over on barrier islands along Gulf Coast, Bahamas, Cuba, and Yucatan Peninsula (Whitehead and Taylor 2002). This pattern is reversed during fall migration, with birds mostly moving from the Yucatan Peninsula eastward after crossing the Gulf (Howell and Webb 1995).

Natural Community Associations (WDNR 2005, WDNR 2009):

Significant: [southern mesic forest](#), [southern dry-mesic forest](#), [hemlock relict](#)

Moderate: pine relict

Minimal: none

Habitat: The Acadian Flycatcher has highly specialized habitat requirements. It breeds in areas of moist, older forest with dense canopy cover (>75%) and often near ravines and stream gorges (Mossman and Lange 1982). It appears to prefer a semi-open understory and thus avoids areas with either dense understory vegetation or a completely open understory (Mossman and Lange 1982, Bakermans and Rodewald 2006). In Wisconsin, the Acadian Flycatcher favors mesic maple (*Acer* spp.) forests, maple-hemlock forests, and drier white oak (*Quercus alba*) and red oak (*Q. rubra*) forests (Mossman and Lange 1982, Robbins 1991, Bielefeldt and Rosenfield 2006), and has been known to use commercially-thinned pine plantations in the Kettle Moraine State Forest. Pine plantations are an atypical habitat for Acadian Flycatchers (Bielefeldt and Rosenfield 2006), but the thinning and subsequent development of a shrub understory produced suitable Acadian Flycatcher habitat. This species is considered area-sensitive in some regions (Whitehead and Taylor 2002). In the Baraboo Hills of Wisconsin, Acadian Flycatchers occurred only in extensive tracts of forest and were rarely observed within 30m (100 ft) of the forest edge (Mossman and Lange 1982). In agricultural or urban landscapes, Acadian Flycatchers appear to avoid narrow forest tracts (<100m [330 ft]) and may only be present in tracts >400m (1300 ft) wide (Peak and Thompson 2006). Temple (1988) estimated that Acadian Flycatchers have a minimum area requirement of approximately 250 acres in the fragmented landscape of southern Wisconsin.



Example of a forested ravine providing Acadian Flycatcher habitat in Vernon County. Rich Staffen, Wisconsin DNR

Threats: Acadian Flycatchers' largest threat is fragmentation and loss of existing large patches of mature deciduous forest. The amount of urban development within one kilometer of forest stands has an especially negative impact on Acadian Flycatcher occupancy (Bakermans and Rodewald 2006). Severe infestations of hemlock woolly adelgid (*Adelges tsugae*), an introduced insect, are causing whole-stand hemlock mortalities and concomitant declines in Acadian Flycatchers in parts of the eastern U.S. (Allen et al. 2009). Habitat loss and degradation on the Acadian Flycatcher's tropical wintering grounds is also a significant conservation issue for this species (Whitehead and Taylor 2002).

Climate Change Impacts: Potential climate change impacts include a northward shift in Acadian Flycatcher distribution, and possibly food limitations due winter conditions on the eggs or pupae of Acadian Flycatcher prey (Matthews et al. 2004). However, climate change models for Acadian Flycatchers have low model reliability, so projected distribution changes should be interpreted cautiously.

Survey Guidelines: Persons handling Acadian Flycatchers 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 Acadian Flycatchers in forest stands <100 acres. Survey the entire affected area that contains suitable Acadian Flycatcher nesting habitat (see "Habitat" section) by walking slowly throughout the area and stopping occasionally to listen for Acadian Flycatcher vocalizations. The distinctive, single note of the female can be used to verify breeding pairs and locate nests, which are easily found. Point counts can be used for stands >100 acres and require that the observer stand in one spot for 10 minutes and record all Acadian Flycatchers seen or heard within a 100m (330 ft) radius. Place point-count stations a minimum of 250m (820 ft) apart. For either the area-search or point-count method, record the following data: date, location (GPS waypoint in datum WGS84, Decimal Degrees), all Acadian Flycatchers 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 <1 week prior to any proposed project activity that may impact Acadian Flycatchers (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 Acadian Flycatcher vocalizations. 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.

Acadian Flycatcher conservation in Wisconsin requires restoration and management of large forest stands (>250 acres) within appropriate ecological landscapes, including the [central sand plains](#), [central sand hills](#), [central Lake Michigan coastal](#), [southeast glacial plains](#), and [western coulee and ridges](#) (WDNR 2005). Within these landscapes, key conservation sites include Wyalusing State Park and Millville Unit of the lower Wisconsin State Riverway in Grant County (Mossman and Hoffman 1989 and unpublished data), the northern unit of the Kettle Moraine State Forest (Volkert 1992), and the Baraboo Hills (Mossman and Lange 1982).

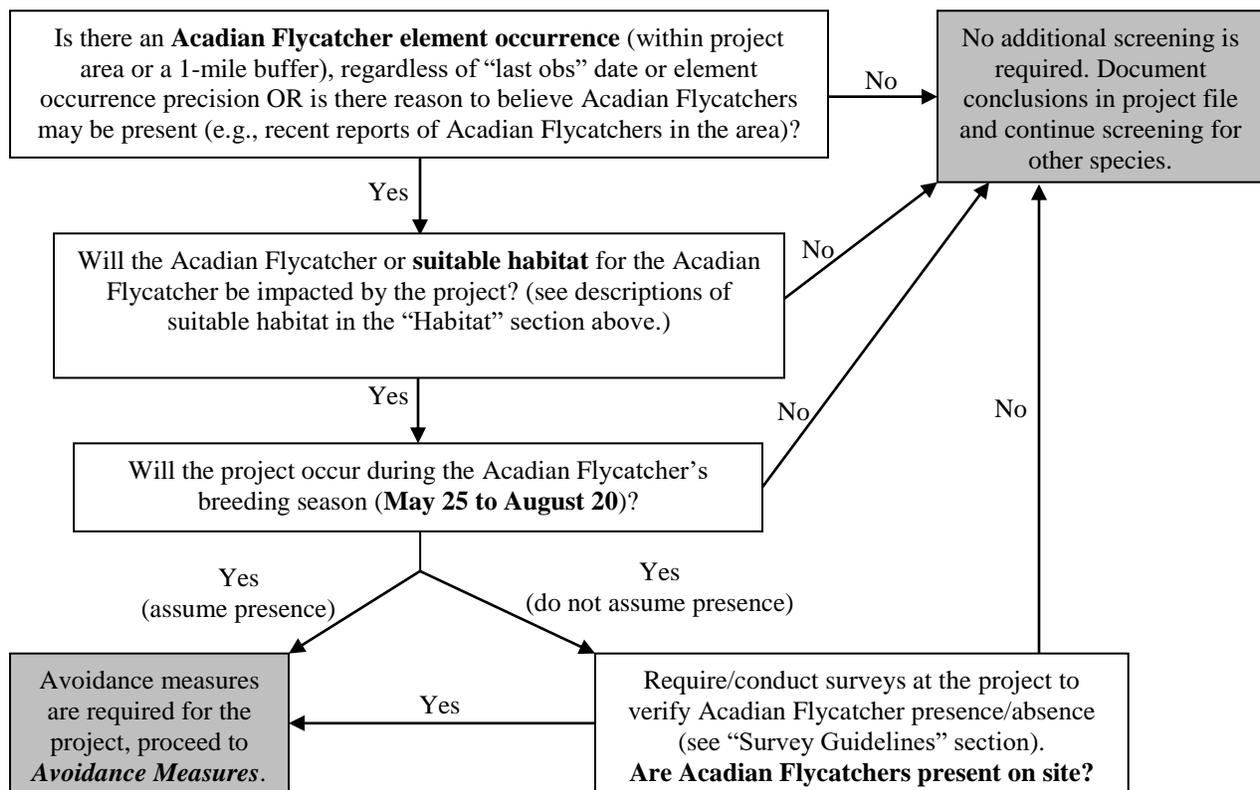
Appropriate management decisions depend on landscape context and site-specific characteristics. Landscapes that provide the highest reproductive potential for Acadian Flycatchers contain >50% forest cover within a 10 km (6 mi) radius, and high levels of forest connectivity (Fauth and Cabe 2005, Buehler et al. 2008, DAI 2008). Landscapes containing <50% forest cover within a 10 km (6 mi) radius have a low potential for Acadian Flycatcher conservation (DAI 2008) and exhibit greater parasitism and predation rates for forest birds (Robinson 1995, Fauth and Cabe 2005).

Suitable breeding habitat has the following components: 1) a moist or mesic site with mature sugar maple, red oak, hemlock, or yellow birch trees; 2) extensive forest tract, possibly 250-acre area requirement; 3) semi-open understory; 4) dense (>75%) canopy cover; and 5) proximity to ravine, kettle depression, or stream gorge. Within landscapes containing >50% forest cover, establish corridors >100m (330 ft) wide between existing forest stands to increase forest connectivity (Bakermans and Rodewald 2006, DAI 2008). Enlarge existing forest stands to >250 acres through reforestation of adjacent areas, if needed. Oaks are especially important to consider when choosing species to favor in these areas. Manage for non-linear forest stands by planting trees to form round edges along a forest stand (DAI 2008). Maintain a semi-open understory by controlling or eliminating invasive plant species.

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 Acadian Flycatcher 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 Acadian Flycatchers is to avoid directly impacting individuals, known Acadian Flycatcher locations, or areas of suitable habitat (described above in the "Habitat" section and in *Screening Procedures*).
2. If Acadian Flycatcher impacts cannot be avoided entirely, avoid impacts during the **breeding season (May 25 to August 20)**.
3. If Acadian Flycatcher 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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Linked Websites:

- Cornell Lab of Ornithology All About the Birds: http://www.allaboutbirds.org/guide/Acadian_Flycatcher/id>
- Driftless Area Initiative Forest Interior Bird Guide: http://www.driftlessareainitiative.org/pdf/Managing_from_a_Landscape_Perspective_Web_Version_1_1.pdf>

- 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/acfl.htm>>
- Wisconsin Wildlife Action Plan: <<http://dnr.wi.gov>, key word “Wildlife Action Plan”>
- 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 DNR Species Experts for Acadian Flycatcher)

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

Endangered Resources Review Program Contacts

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

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