

ESA Guidance for Monarch Butterfly Proposed Listing

1. What action is USFWS taking for the monarch butterfly?

On December 12, the U.S. Fish and Wildlife Services (USFWS) **proposed to list the monarch butterfly** (*Danaus plexippus*) under the federal Endangered Species Act (ESA) as a **threatened species** with protective regulations under Section 4(d) of the Act (i.e., **4(d) rule**). USFWS is also proposing to designate critical habitat for the species, all of which is in California.

2. Are monarchs federally protected by the Endangered Species Act now?

This is not a final rule. USFWS may make changes to proposed listing based on public comments/new information. The final listing rule, which enacts legal protections, would be expected to be published about 1 year from the proposed rule date, with an effective date for 30 to 60 days later (winter 2025/2026).

However, at this time, federal agencies must ensure that their actions do not jeopardize the continued existence of the species. Some of WisDOT's federalized projects *may* need to engage in ESA Section 7 conferencing with USFWS prior to the final listing. WisDOT will work with the lead federal agency (e.g., FHWA) to determine if conferencing is necessary (see question 4).

3. Does the proposed listing affect all monarch butterflies?

Yes, the proposed rule includes all monarchs in the contiguous U.S. This guidance document focuses on the eastern migratory population of the monarch butterfly which occurs throughout Wisconsin.

4. Which projects need action taken now in response to the proposed listing?

A project may need to action now if:

- It "may affect and is likely to adversely affect" or is "likely to result in take" of the monarch butterfly after the listing is final **AND**
- The monarch take won't **EITHER** be excepted by the proposed 4(d) rule **OR** covered under the monarch CCAA. (See later questions for details).

Projects that meet the criteria above may need to engage USFWS in Section 7 conferencing if the project will be approaching or in construction when the listing will be finalized/effective (winter 2025/2026). Not taking action on these projects can jeopardize construction due the lengthy process of Section 7 formal consultation (federal projects) or Section 10 permitting (non-federal projects). Please reach out to Jen Gibson, WisDOT Ecologist, if you have a project in this situation.

Projects that are anticipated to be covered under the monarch CCAA (see questions 10-13), will need that coverage/eligibility documented and consultation completed with USFWS. The details and procedure for Section 7 consultation for CCAA covered projects have not been worked out with the local USFWS office at this time, but will be shared as soon as possible. We are hoping the process is streamlined given the CCAA coverage and that Section 7 conferencing is kept to a minimum on these projects.

5. How will other projects be addressed?

Projects that will have "no effect", "may affect, but are not likely to adversely affect" or "are not likely to result in take" of the monarch butterfly, are not covered under the CCAA and will follow

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WisDOT's ESA consultation, non-federal coordination, and/or documentation procedures per [FDM 24-10](#) when the listing is finalized. Informal consultation can take up to 60 days.

The following text can be used in environmental documents/ongoing re-evaluations for projects that do not need to take action for the monarch butterfly now:

On December 12, 2024, the U.S. Fish and Wildlife Service (USFWS) announced a proposal to list the monarch butterfly (*Danaus plexippus*) as threatened with a 4(d) rule under the Endangered Species Act (ESA). If listed, WisDOT will resolve ESA compliance prior to let, as appropriate. Construction activities for this project will not take place until WisDOT *[if federally funded, add: , in coordination with our lead federal agency,]* satisfies Endangered Species Act compliance for the monarch butterfly.

6. What is a 4(d) rule?

A 4(d) rule creates certain protections for threatened species based on the species' conservation needs. This proposed monarch butterfly 4(d) rule includes all ESA Section 9 take prohibitions but allows for several exceptions for incidental take. These exceptions incentivize conservation actions for the species. See question 8 for further details on the monarch's proposed 4(d) rule.

Note: A 4(d) rule does not remove Section 7 consultation requirements for federal actions. USFWS may elect to develop tools (e.g., IPaC determination keys) to streamline consultation for actions that fall under the 4(d) rule exceptions to prohibited take.

7. What is take?

Under the ESA, "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Take can result from direct or indirect impacts and can be intentional or incidental to otherwise lawful actions.

Note: Take pertains to all life stages of a species (i.e., egg, larva, pupa, adult) and is applied at the level of an individual of the species (i.e., not the population).

8. What are the details of the 4(d) rule?

The following actions are proposed to be exceptions to the Section 9 prohibition on take due to their de minimis impact on the species' conservation:

- (1) Activities that may maintain, enhance, remove, or establish milkweed and nectar plants within the breeding and migratory range that do not result in conversion of native or naturalized grassland, shrubland, or forested habitats. These activities include the following:
 - a. **Habitat restoration and management activities**, such as mowing and haying native rangeland, that sustain monarch butterfly habitat, including activities to eliminate plant communities that contain invasive plants or noxious weeds as part of site preparations or habitat enhancement activities
 - b. **Livestock grazing and routine ranching activities**
 - c. **Routine agricultural activities**

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- d. **Fire management actions** (e.g., prescribed burns, cultural burns, hazardous fuel reduction activities, vegetation management, maintenance of fuel breaks and minimum clearance requirements, and other fuels reduction activities).
 - e. **Silviculture practices and forest management activities** that use state-approved best management practices.
 - f. **Maintenance, enhancement, removal, and establishment of milkweed and nectar plants on residential and other developed properties.**
 - g. **Vegetation management activities**, such as mowing, ground disturbance, and other management activities, that remove milkweed and/or nectar plants when conducted at times of year when monarchs are not likely present.
- (2) Implementation of comprehensive conservation plans and programs
 - (3) Maintenance or improvement of overwintering habitat
 - (4) Vehicle strikes
 - (5) Non-lethal collection, possession, captive-rearing, and release of ≤ 250 individual monarchs
 - (6) Non-lethal scientific research and educational activities involving ≤ 250 individual monarchs
 - (7) Possession of dead monarchs
 - (8) Sale of ≤ 250 captively reared monarchs

9. Are there 4(d) take exceptions for pesticide use?

USFWS is currently seeking public comments on how to address pesticide use under a 4(d) rule for the monarch butterfly. If there are specific exceptions to take developed for pesticide use, those will be included in the final listing rule.

10. What is the monarch butterfly CCAA and why did WisDOT become a partner?

WisDOT became a partner to the Nationwide Candidate Conservation Agreement (with Assurances) for the Monarch Butterfly on Energy and Transportation Lands (CCAA) in 2022 to help manage risk to the Department's actions in the event monarch butterfly would become listed under the ESA.

WisDOT enrolled its right-of-way (ROW) into the agreement (i.e., enrolled lands). This includes Interstate, U.S. and State highways, as well as WisDOT-owned roadside facilities and wetland mitigation sites. WisDOT enrollment does not include county/local ROW. Counties and local municipalities can still become CCAA partners during the listing process and enroll their ROW if they deem appropriate.

Through this voluntary conservation agreement, WisDOT committed to manage a subset of its enrolled lands to provide habitat for monarchs to help stabilize or restore the species. These areas are called adopted acres.

In turn, the USFWS provides WisDOT coverage under a Section 10(a)(1)(A) Enhancement of Survival (EOS) permit. The EOS permit allows incidental take to occur as a result of specific covered activities (e.g., general operations, right-of-way maintenance, and facility modernization) on enrolled lands if the monarch is listed under the ESA. Further, the permit contains assurances that WisDOT will not be required by USFWS to implement additional conservation measures beyond those in the agreement.

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The monarch habitat that WisDOT provides in its adopted acres more than offsets the incidental take that may occur from its activities on enrolled lands, so the result is a net gain for monarchs.

11. How does the monarch CCAA apply to WisDOT projects/actions given the proposed listing?

The CCAA EOS permit coverage does not activate until the monarch listing is final and effective.

The CCAA EOS permit provides incidental take coverage for covered activities; it does **not** fulfill any necessary Section 7 consultation requirements for WisDOT's federalized projects.

The CCAA coverage only applies when the action "is likely to result in take" of the monarch butterfly. For federalized projects, this means when the project "may affect and is likely to adversely affect" the monarch butterfly. The details and procedure for Section 7 consultation for CCAA covered projects have not been worked out with the local USFWS office at this time, but will be shared as soon as possible. We are hoping the process is streamlined given the CCAA coverage.

An action that "is not likely to result in take" monarch butterflies, is not covered by the CCAA, as a take permit/authorization is not necessary.

Projects that will have "no effect", "may affect, but are not likely to adversely affect" or "are not likely to result in take" of the monarch butterfly, are not covered under the CCAA and will follow WisDOT's ESA consultation, non-federal coordination, and/or documentation procedures per [FDM 24-10](#) when the listing is finalized.

12. What are covered activities under the CCAA?

Activities that are:

- Reasonably certain to cause take of monarch butterflies by removing or disturbing milkweed or flowering nectar resource (during the time of year when monarchs are present), or by taking monarchs directly; **AND**
- Located within WisDOT's enrolled lands; **AND**
- Occur substantially within the footprint of existing infrastructure and/or the accompanying lands maintained to support operations of that infrastructure.

Covered activities do not include construction of new infrastructure on newly acquired, or previously undeveloped or unmaintained right-of-way or parcels (construction on undeveloped lands is not a covered activity).

13. What are some examples of covered activities under the CCAA?

See [Section 5 of the CCAA](#) for details.

Maintenance of existing roads – routine maintenance of roads/bridges; de-icing/snow removal; vegetation clearing; fence/guardrail repairs/replacement

Infrastructure maintenance – pavement/shoulder repair; mill/overlay; culvert replacement; signage/lighting/guardrail installation; installation/maintenance of curb/gutter, culverts, bridges/piers, scour protection

Facilities management/maintenance – mowing, invasive weed control on stormwater facilities, mitigation sites, undeveloped/developed land; maintenance of structures/buildings

Facility repairs, upgrades, replacement associated with existing infrastructure – pavement replacement; bridge/culvert widening, extension, replacement; lane/shoulder

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widening/extension; construction of bike lanes, sidewalks, trails or other paths; noise/retaining wall construction; bank stabilization/hard armoring; roadside facility construction within existing roadways/infrastructure (rest areas, roundabout, interchanges, weight stations, ect); demolition of structures; facility construction/building maintenance; grading/seeding on lands previously used for operations/maintenance purposes; utility work

Misc - General facility operation; surveys/inspections; emergency response actions; installation of erosion control BMPs; temporary construction staging/storage if removed/restored within 3 years following construction

14. Will this proposed listing change typical roadside maintenance actions (e.g., mowing)?

No. WisDOT Bureaus of Highway Maintenance and Technical Services have been working with WisDOT maintenance staff and county highway departments to integrate monarch CCAA conservation measures into the Highway Maintenance Manual (HMM) as policy for roadside maintenance practices since 2022. These practices are integrated into the HMM policy and align with the Department's CCAA conservation measures or are considered covered activities. See questions 11-13 for details on covered activities.

15. When are monarchs considered present in Wisconsin?

USFWS has not provided detailed species guidance at the state level. Monarchs are generally present in Wisconsin May through October ([Journey North Maps](#)).

16. Will native seeding be required for projects that are considered CCAA covered activities?

Generally, no. See question 17 for more details on instances when it may be expected.

Native restoration/seeding (including milkweed) can count toward WisDOT's required conservation measures in adopted acres under the agreement. Native restoration may be recommended for large areas of suitable habitat disturbance, provided there is a plan for ensuring proper installation and maintenance. Discuss these opportunities with WisDOT environmental staff, project design team and BHM landscape architect, Christa Schaefer.

17. What avoidance/minimization measures (AMMs) are required for projects considered CCAA covered activities?

WisDOT must avoid/minimize the anticipated incidental taking of monarch butterflies to the maximum extent practicable.

Additionally, Section 7 AMMs were prepared for federally proposed/listed plants and proposed/designed critical habitat as part of WisDOT's CCAA enrollment. These AMMs were necessary for USFWS to issue the EOS permit.

If a project's IPaC official species list contains any federally proposed/listed plants or proposed/designed critical habitat, review the attached Section 7 document to see if any expectations/AMMs apply to the project. If a project cannot implement these pre-determined AMMs (when applicable), that should be discussed with USFWS during consultation/coordination. Please reach out to Jen Gibson, WisDOT Ecologist, with any questions.

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18. Why is the monarch butterfly proposed to be listed?

The eastern North American monarch population has been generally declining over the last 30 years ([Monarch Watch Graph](#)). The primary drivers affecting the eastern migratory population:

- Loss and degradation of breeding, migratory, and overwintering habitat due to:
 - past conversion of grasslands and shrublands to agriculture
 - widespread use of herbicides
 - logging/thinning at overwintering sites in Mexico
 - drought
- Exposure to insecticides
- Effects of climate change

Species Details from USFWS:

Life Cycle

During the breeding season for monarchs, adults lay their eggs on milkweed, and larvae emerge after 2 to 5 days. Larvae develop through five larval instars (intervals between molts) over a period of 9 to 18 days, feeding on milkweed and sequestering toxic cardenolides as a defense against predators. The larva then pupates into a chrysalis before emerging 6 to 14 days later as an adult butterfly.

Monarchs produce multiple generations during the breeding season, with most adult butterflies living approximately 2 to 5 weeks; however, migrating and overwintering adults enter into reproductive diapause (suspended reproduction) and live 6 to 9 months.

The overwintering site for the eastern North American migratory monarch population is in central Mexico. The habitat provides protection from the elements and a microhabitat conducive for winter survival. The species primarily overwinters in mountainous regions where the monarchs form dense clusters mainly on oyamel fir trees (*Abies religiosa*).

The same individuals that undertook the initial southward migration begin flying back through the breeding grounds, and their offspring start the cycle of generational migration over again. The eastern monarch population travels north in the spring, from Mexico to Canada, over two to three successive generations, breeding along the way.

Species Needs/Habitat

Monarchs utilize a variety of habitats including agricultural field edges, roadsides, natural/semi-natural landscapes (uplands and wetlands), and urban gardens. Adult monarch butterflies require a diversity of blooming nectar resources, which they feed on both throughout their migration routes and in their breeding grounds (spring through fall).

Monarchs also need milkweed (for both oviposition and larval feeding) embedded within this diverse nectaring habitat. The correct phenology, or timing, of both monarchs and nectar plants and milkweed is important for monarch survival.

Additionally, many monarchs use a variety of roosting trees along the fall migration route.

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TABLE 1—INDIVIDUAL-LEVEL REQUISITES FOR MONARCH SURVIVAL AND REPRODUCTION

Life stage	Requirements	Description
Egg, larva, and adult—breeding	Milkweed resources	Healthy and abundant milkweed is needed for oviposition and larval consumption.
Adult—breeding and migration	Nectar resources	Sufficient quality and quantity of nectar from flowers is needed for adult feeding throughout the breeding and migration seasons.
Adult—overwintering	Suitable habitat for overwintering	Habitat that provides a specific roosting microclimate for overwintering: protection from the elements (e.g., rain, wind, hail, excessive radiation) and moderate temperatures that are warm enough to prevent freezing yet cool enough to prevent lipid depletion. Nectar and clean water sources located near roosting sites.
Adult—migration	Connectivity and phenology	Nectar and milkweed resources along the migration route when butterflies are present; the size and spatial arrangement of habitat patches are generally thought to be important aspects, but currently unknown. Roosting sites may also be important for monarchs along their fall migration route.

Additional Resources:

Proposed listing rule: https://www.fws.gov/sites/default/files/documents/2024-12/threatened-species-status-with-section-4-d-rule-for-monarch-butterfly-and-designation-of-critical-habitat_0.pdf

USFWS Monarch Q/A: <https://www.fws.gov/question-answer/questions-and-answers-monarch-4d-rule>

ESA 4(d) rule FAQ: <https://www.fws.gov/sites/default/files/documents/2024-06/frequently-asked-questions-revised-endangered-species-act-regulations-2024-06-13.pdf>

Monarch CCAA website: <https://rightofway.erc.uic.edu/national-monarch-ccaa/>

Monarch CCAA signed agreement: https://rightofway.erc.uic.edu/wp-content/uploads/Final-CCAA_Signed-4.7.20.pdf

WisDOT Monarch CCAA Application

Section 7 Consultation Materials

Table 1. Federal-listed fish, wildlife, and critical habitat within the Enrolled Lands.

Species	Taxa	Federal Status	Monarch Habitat Overlap	AMMs Required
Canada Lynx <i>Lynx canadensis</i>	Mammal	THR	No	N/A
Northern long-eared bat <i>Myotis septentrionalis</i>	Mammals	END	Yes	N/A
Tricolored bat <i>Perimyotis subflavus</i>	Mammals	Proposed END	Yes	N/A
Piping plover <i>Charadrius melodus</i>	Birds	END	No	N/A
Red Knot <i>Calidris canutus rufa</i>	Birds	THR	No	N/A
Whooping Crane <i>Grus americana</i>	Birds	EXPN	No	No
Eastern massasauga <i>Sistrurus catenatus</i>	Reptile	THR	Yes	N/A
Higgins Eye (pearlymussel) <i>Lampsilis higginsii</i>	Clams	END	No	N/A
Sheepnose Mussel <i>Plethobasus cyphus</i>	Clams	END	No	N/A
Snuffbox Mussel <i>Epioblasma triquetra</i>	Mussel	END	No	N/A
Winged Mapleleaf <i>Quadrula fragosa</i>	Mussel	END	No	N/A
Salamander Mussel <i>Simpsonia ambigua</i>	Mussel	Proposed END	No	N/A
Hine's Emerald Dragonfly <i>Somatochlora hineana</i>	Insect	END	Yes	N/A
Karner Blue Butterfly <i>Lycaeides melissa samuelis</i>	Insect	END	Yes	N/A
Poweshiek Skipperling <i>Oarisma poweshiek</i>	Insect	END	Yes	N/A
Rusty Patched Bumble Bee <i>Bombus affinis</i>	Insect	END	Yes	N/A
Western Regal Fritillary Butterfly <i>Argynnis idalia occidentalis</i>	Insect	Proposed THR	Yes	N/A
Dwarf Lake Iris <i>Iris lacustris</i>	Plant	THR	Yes	Yes
Eastern prairie fringed orchid <i>Platanthera leucophaea</i>	Plant	THR	Yes	Yes
Fassett's locoweed (<i>Oxytropis campestris</i> var. <i>chartaceae</i>)	Plant	THR	Yes	Yes

Species	Taxa	Federal Status	Monarch Habitat Overlap	AMMs Required
Mead's Milkweed <i>Asclepias meadii</i>	Plant	THR	Yes	Yes
Northern Wild Monkshood <i>Aconitum noveboracense</i>	Plant	THR	No	No
Pitcher's Thistle <i>Cirsium pitcheri</i>	Plant	THR	Yes	Yes
Prairie Bush-clover <i>Lespedeza leptostachya</i>	Plant	THR	Yes	Yes
Hine's Emerald Dragonfly <i>Somatochlora hineana</i>	Critical Habitat	Designated	Yes	Yes
Piping Plover <i>Charadrius melodus</i>	Critical Habitat	Designated	No	No
Poweshiek Skipperling <i>Oarisma poweshiek</i>	Critical Habitat	Designated	Yes	Yes
Salamander Mussel <i>Simpsonaias ambigua</i>	Critical Habitat	Proposed	No	No

Where to apply AMMs

Avoidance and minimization measures (AMMs) are required in areas where the CCAA is covering take of monarchs (e.g. grasslands containing milkweeds and nectar plants) and the activity may potentially impact either Federally listed plants described in Table 2 and or proposed or designated critical habitat described in Table 3.

WisDOT coordinates with Wisconsin Department of Natural Resources Transportation liaisons by conducting Certified Endangered Resources Reviews for construction and maintenance projects. The results of this review identifies potential State and Federal listed species within the project area and identifies actions required to avoid or minimize impacts to protected species. In addition to this, IPaC is queried to identify all Federally listed species, including plants and critical habitat. These AMMs will be communicated to project teams for design, construction, maintenance and vegetation management projects in areas where they apply based on Certified Endangered Resources Reviews and input from Wisconsin DNR or USFWS Field Offices. Before these activities begin, employees and/or contractors performing work on the WisDOT system shall work with specialists internally to identify environmental restrictions applicable to locations where work is planned, including but not limited to, the locations of known occurrences of Federal-listed species and designated critical habitats with applicable AMMs below.

When Federal-listed plants highlighted in green in Table 1, are identified within suitable habitat described in Table 2, the following AMM's will be applied as applicable.

Work Planning and Scheduling

1. Coordinate with USFWS if unable to meet all applicable AMMs for federal-listed plants and critical habitat described below, or if impacts to listed plants or critical habitat may occur.
2. Ensure that the appropriate personnel are trained to ensure a sufficient understanding of the AMMs, as well as information about potential habitat, or any protected plant species in the project area.

3. Conduct a desktop review of the project location, and, as necessary, have a qualified biologist familiar with identified of the listed species or critical habitat conduct an onsite survey.
4. Institute timing restrictions to minimize or avoid the effects of certain activities upon listed species or suitable habitat. These avoidance periods overlap with important life history functions for a species (e.g., flowering). See table 2 for individual species avoidance periods.
5. Have a qualified biologist familiar with identification of the listed species or critical habitat mark the edge of the approved work area on plan sets to avoid impacts to listed species present.

Project Construction and Ground Disturbing Activities

6. If suitable habitat or presence of listed species has been determined through surveys and added to the plan sets, mark sensitive areas in the field to exclude project activities and avoid impacts to listed species. Examples may include contractors installing fencing around the sensitive areas marked on plan sets or adding signs or rebar posts. Ensure removal of all materials after activities are completed.
7. Design project or implement measures to reduce or prevent surface runoff and flooding of terrestrial habitats in order to avoid impacts to the species.
8. Implement prevention and control measures to reduce the presence of invasive species onsite and to prevent the spread offsite. WisDOT adheres to invasive species prevention BMPs outlined by the following state resources:
 - a. Wisconsin DNR: <https://dnr.wisconsin.gov/topic/Invasives/bmp.html>
 - b. Wisconsin Council on Forestry website – Invasive Species Best Management Practices: Rights of Way: <https://councilonforestry.wi.gov/Pages/InvasiveSpecies/RightsOfWay.aspx>
9. When initiating construction or ground disturbing maintenance activities near or within locations of known plant populations, preconstruction hydrological conditions will be maintained throughout the duration of construction activities and in post construction unless agreed upon with USFWS.
10. Where appropriate, disturbed areas of potential habitat will be restored using native, non-invasive seed mixes that are suitable for the habitat and species.

Vegetation Management (Non-Ground Disturbing Activities)

11. Integrate a 1-mile buffer of known species occurrences and critical habitat into WisDOT's highway mowing GIS database. Mowing in these locations will be restricted to October 1 through March 31 to avoid impacts to listed species and critical habitats. Share this data with county mowing staff and other vegetation management sub-contractors through WisDOT Maps online portal to ensure implementation. Update database annually at a minimum.
12. For other vegetation management activities outside the annual long-line and safety mowing locations, conduct operations when they are least likely to cause damage to listed species and critical habitat. At a minimum, follow avoidance periods in table 2. When feasible, complete work when ground is frozen and snow-covered. However, in areas of the state where frozen conditions are unreliable, very dry soils late in the growing season might be the best available alternative.
13. Consult the GIS database containing 1-mile buffers of known species occurrence and critical habitat prior to conducting herbicide treatment applications. Field survey by a qualified biologist familiar with identification of the listed species or critical habitat may be needed prior to conducting treatment. In areas containing known populations of listed plants, targeted herbicide applications will be applied to individual plants or stands of

target species. All herbicide applicators will have the necessary licenses and certifications to comply with all state and local requirements.

14. Ensure tree removal is limited to that specified in project plans or as discussed with the WisDOT Landscape Architect. Ensure that contractors understand clearing limits and how they are marked. Install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits.
15. Institute timing restrictions for prescribed burns to minimize or avoid the effects of certain activities upon listed species suitable habitat. These avoidance periods overlap with important life history functions for a species (e.g., flowering). See table 2 for individual species avoidance periods.

Table 2. Habitat for Federal-listed Plants within the Enrolled Lands

Species	Federal Status	Habitat and Related Information (Optional)
Dwarf Lake Iris <i>Iris lacustris</i>	THR	A Wisconsin Threatened and Federal Threatened plant, is found near Lake Michigan on beach ridges, stabilized dunes, limestone ridges, forest gaps and edges, and ditches. Blooming occurs early May through early July; fruiting occurs late June through late July. Avoidance period: May 1 through July 31.
Eastern prairie fringed orchid <i>Platanthera leucophaea</i>	THR	A Wisconsin Endangered and Federal Threatened plant, is found in moist, undisturbed, deep-soiled and/or calcareous prairies and rarely in tamarack fens. Blooming occurs early July through early August; fruiting occurs throughout August. Avoidance period: July 1 through August 31.
Fassett's locoweed <i>Oxytropis campestris</i> var. <i>chartaceae</i>	END	A Wisconsin Endangered and Federal Threatened plant, is found in sandy, fluctuating lakeshores. Its appearance is sporadic depending on water level. Blooming occurs early May through late June; fruiting occurs late June through late July. Avoidance period: May 1 through July 31.
Mead's Milkweed <i>Asclepias meadii</i>	THR	This milkweed requires moderately wet (mesic) to moderately dry (dry mesic) upland tallgrass prairie or glade/barren habitat characterized by vegetation adapted for drought and fire. It persists in stable late-successional prairie. Mead's milkweed is considered extirpated in Wisconsin and only found in localized areas where reintroduced according to the 5-Year review of the species . Avoidance period: June 15 through September 15.
Pitcher's Thistle <i>Cirsium pitcheri</i>	THR	A Wisconsin Threatened and Federal Threatened plant, is found on open sand dunes adjacent to the Great Lakes. Blooming occurs late June through late July; fruiting occurs late July through late August. Avoidance period: June 15 through August 31.
Prairie Bush-clover <i>Lespedeza leptostachya</i>	THR	A Wisconsin Endangered and Federal Threatened plant, is found in gravelly or sandy hillside prairies. Blooming occurs late July through late August; fruiting occurs early August through early September. Avoidance period: July 15 through September 15.

Table 3. Habitat and AMM's For Federal-designated Critical Habitats within Enrolled Lands

When Federally-listed critical habitat in Table 1 for a particular listed species is mapped in the project area, the following AMM's will be applied as applicable.

Critical Habitats			
Species	Federal Status	Habitat and Related Information (Optional)	Species-specific AMM
Hine's emerald dragonfly <i>(Somatochlora hineana)</i>	Critical habitat	<p>(1) For egg deposition and larval growth and development:</p> <ul style="list-style-type: none"> a) Organic soils (histosols, or with organic surface horizon) overlying calcareous substrate (predominantly dolomite and limestone bedrock); b) Calcareous water from intermittent seeps and springs and associated shallow, small, slow flowing streamlet channels, rivulets, and/or sheet flow within fens; c) Emergent herbaceous and woody vegetation for emergence facilitation and refugia; d) Occupied burrows maintained by crayfish for refugia; and e) Prey base of aquatic macroinvertebrates, including mayflies, aquatic isopods, caddisflies, midge larvae, and aquatic worms. <p>(2) For adult foraging; reproduction; dispersal; and refugia necessary for roosting, resting, refuge for adult females to escape from male harassment, and predator avoidance (especially during the vulnerable teneral stage):</p> <ul style="list-style-type: none"> a) Natural plant communities near the breeding/larval habitat which may include fen, marsh, sedge meadow, dolomite prairie, and the fringe (up to 328 ft (100m)) of bordering shrubby and forested areas with open corridors for movement and dispersal; and b) Prey base of small flying insect species (e.g., dipterans). 	<p>Mapped critical habitat intersects WisDOT lands in:</p> <p>Ozaukee County</p> <ul style="list-style-type: none"> • STH33 near Cedarburg Bog <p>Door County</p> <ul style="list-style-type: none"> • STH42 near Ellison Bay • STH57 near Fish Creek <p>Work Planning and Scheduling</p> <ol style="list-style-type: none"> 1. Coordinate with USFWS, when needed, to ensure that activities avoid affecting any area where protected critical habitat is mapped. <p>Project Design and Construction AMMs</p> <ol style="list-style-type: none"> 2. Design project or implement measures to reduce or prevent surface runoff and flooding of terrestrial habitats in order to avoid impacts to the species. 3. Prior to commencing ground disturbing work, field surveys will be conducted by a qualified biologist familiar with identification of critical habitat elements. 4. Implement prevention and control measures to reduce the presence of invasive species onsite. All vehicles,

Critical Habitats			
Species	Federal Status	Habitat and Related Information (Optional)	Species-specific AMM
			<p>machinery, and equipment, including technical gear and personal protective equipment, must be clean and free of invasive species before use at the project site.</p> <p>5. Disturbed areas of potential habitat will be restored using native, non-invasive seed mixes that are appropriate for the habitat and species, as appropriate.</p> <p>Vegetation Management AMMs</p> <p>6. In areas containing known populations, herbicide applications will be applied locally, to individual plants or stands of target species.</p> <p>7. Ensure tree removal is limited to that specified in project plans or as discussed with the WisDOT Landscape Architect. Ensure that contractors understand clearing limits and how they are marked. Install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits.</p> <p>8. Contact the appropriate Service Field Office to determine the appropriate time of year for controlled burn restrictions for your project area.</p>
Poweshiek Skipperling <i>Oarisma poweshiek</i>	Critical habitat	<p>Primary Constituent Element 1— Wet-mesic to dry tallgrass remnant untilled prairies or remnant moist meadows containing:</p> <ul style="list-style-type: none"> a) A predominance of native grasses and native flowering forbs; b) Undisturbed (untilled) glacial soil types; 	<p>Mapped critical habitat intersects WisDOT lands in:</p> <p>Waukesha County</p> <ul style="list-style-type: none"> • STH 67 and STH 59 near Eagleville <p>Work Planning and Scheduling</p>

Critical Habitats			
Species	Federal Status	Habitat and Related Information (Optional)	Species-specific AMM
		<ul style="list-style-type: none"> c) If present, depressional wetlands or low wet areas, within or adjacent to prairies that provide shelter from high summer temperatures and fire; d) If present, trees or large shrub cover less than 5 percent of area in dry prairies and less than 25 percent in wet mesic prairies and prairie fens; and e) If present, nonnative invasive plant species occurring in less than 5 percent of the area. <p>(2) Primary Constituent Element 2— Prairie fen habitats containing:</p> <ul style="list-style-type: none"> a) A predominance of native grasses and native flowering forbs; b) Undisturbed (untilled) glacial soil types including, but not limited to, organic soils (peat), or marl that provide the edaphic features conducive to Poweshiek skipperling larval survival and native prairie vegetation; c) Depressional wetlands or low wet areas, within or adjacent to prairies that provide shelter from high summer temperatures and fire; d) Hydraulic features necessary to maintain prairie fen groundwater flow and prairie fen plant communities; e) If present, trees or large shrub cover less than 25 percent of the unit; and f) If present, nonnative invasive plant species occurring in less than 5 percent of area 	<ul style="list-style-type: none"> 1. Coordinate with USFWS, when needed, to ensure that activities avoid affecting any area where protected critical habitat is mapped. <p>Project Design and Construction AMMs</p> <ul style="list-style-type: none"> 2. Design project or implement measures to reduce or prevent surface runoff and flooding of terrestrial habitats in order to avoid impacts to the species. 3. Implement prevention and control measures to reduce the presence of invasive species onsite. All vehicles, machinery, and equipment, including technical gear and personal protective equipment, must be clean and free of invasive species before use at the project site. 4. Prior to commencing ground disturbing work, field surveys conducted by a qualified biologist familiar with identification of critical habitat elements. 5. Disturbed areas of potential habitat will be restored using native, non-invasive seed mixes as applicable. <p>Vegetation Management AMMs</p> <ul style="list-style-type: none"> 6. Conservation measures applied under the CCAA (conservation mowing, temporary set-asides, and targeted herbicides) will minimize potential impacts to skipperling where native grasses and forbs may be present in roadsides adjacent to mapped critical habitat.

Critical Habitats			
Species	Federal Status	Habitat and Related Information (Optional)	Species-specific AMM
		<p>(3) Primary Constituent Element 3— Native grasses and native flowering forbs for larval and adult food and shelter, specifically;</p> <ul style="list-style-type: none"> a) At least one of the following native grasses available to provide larval food and shelter sources during Poweshiek skipperling larval stages: Prairie dropseed (<i>Sporobolus heterolepis</i>), little bluestem (<i>Schizachyrium scoparium</i>), sideoats grama (<i>Bouteloua curtipendula</i>), or mat muhly (<i>Muhlenbergia richardsonis</i>); and b) At least one of the following forbs in bloom to provide nectar and water sources during the Poweshiek skipperling flight period: Purple coneflower (<i>Echinacea angustifolia</i>), black-eyed Susan (<i>Rudbeckia hirta</i>), smooth ox-eye (<i>Heliopsis helianthoides</i>), stiff tickseed (<i>Coreopsis palmata</i>), palespike lobelia (<i>Lobelia spicata</i>), sticky tofieldia (<i>Triantha glutinosa</i>), or shrubby cinquefoil (<i>Dasiphora fruticosa</i> ssp. <i>floribunda</i>) <p>(4) Primary Constituent Element 4— Dispersal grassland habitat that is within 1 km (0.6 mi) of native high quality remnant prairie (as defined in Primary Constituent Element 1) that connects high quality wet-mesic to dry tallgrass prairies, moist meadows, or prairie fen habitats.</p>	<p>7. In areas containing known populations, herbicide applications will be applied locally, to individual plants or stands of target species.</p> <p>8. Ensure tree removal is limited to that specified in project plans or as discussed with the WisDOT Landscape Architect. Ensure that contractors understand clearing limits and how they are marked. Install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits.</p> <p>9. Vegetation removal and trimming shall be avoided, to the extent possible, during the active flight period of June 21st to July 20th and completed in the inactive flight season of July 21st to June 20th.</p> <p>10. Contact the appropriate Service Field Office to determine the appropriate time of year for controlled burn restrictions for your project area.</p>