

Examples for Developing Avoidance and Minimization Measures

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Purpose

The following guidance has been prepared by the U.S. Fish and Wildlife Service (USFWS, Service, "we") to assist CCAA applicants with the development of Avoidance and Minimization Measures (AMMs) and the completion of their Section 7 attachments to the CCAA application. The intent of this guidance is to share helpful examples with interested applicants. While the measures included here are not required, nor applicable to all, we highly recommend applicants consider similar or equivalent measures that best fit their enrolled lands and operations.

This document will be updated frequently, so check back to see if additional examples have been provided.

Key Takeaways

1. Applicants need to consider key questions and identify specific actions to avoid and minimize effects to listed or proposed plant species or designated or proposed critical habitat.
2. This document provides examples of avoidance measures that applicants can adopt or build upon for their own applications.
3. Cooperation with USFWS field offices in the development of AMMs is an effective way to ensure that applicants are using the most up-to-day and accurate information.

Developing AMMs – Basic Questions to Address and Resources to Explore

We recommend that applicants consider the following questions when explaining how they will avoid and minimize effects to the relevant species and to critical habitats on their enrolled lands:

1. How do you know which activities are likely to affect a listed or proposed species or designated or proposed critical habitat?
2. How do you apply AMMs when and where it is necessary?
3. When carrying out covered activities or implement monarch conservation measures under the CCAA that may affect a listed or proposed plant species or designated or proposed critical habitat, what will you do specifically to avoid or minimize the effects?

Coordination with Resource Agencies

Good examples of measures to avoid and minimize effects to threatened and endangered species and critical habitats include specific measures (see below), but also examples of cases where the applicant has developed ongoing and effective means to cooperate with USFWS field offices. Although targeted, species-specific measures are essential to avoiding and minimizing effects, close and ongoing coordination with USFWS field offices and state resource agencies ensures that rights-of-way managers are able to maintain up-to-date and accurate information on species' occurrences within their rights-of-ways and of the manner in which their activities could affect the species' conservation, positively and negatively.



The following is a generalized example of the way in which one CCAA applicant strives to maintain ongoing coordination with a USFWS field office to ensure that it is effective in avoiding and minimizing adverse effects to endangered and threatened species.

Our company conducts species and habitat surveys, IPaC reviews, and works with the USFWS field office on a routine basis to map and track known and potential habitat locations of federally listed species in proximity to our rights-of-way. Our company has worked with the USFWS field office for many years and has developed working best management practices (BMPs) for federally listed species, including timing restrictions, impact minimization measures, and biological monitors. There is an individual at the USFWS field office who is our primary contact. We maintain a BMP matrix, in coordination with the USFWS field office. Species information is tracked for each span in our ROW system and work activities are conducted in accordance with these BMPs.

This type of ongoing coordination helps to ensure that the rights-of-way manager has an up-to-date, thorough, and accurate awareness of locations where endangered and threatened species may be present within or near its rights-of-way. It allowed one applicant to state that ‘Locations of speciesX and speciesY and their suitable habitat have been surveyed over the course of many years and are tracked in our span database.’

Another example of this –

“(Company Name) is collaborating with the (State) Agency of Natural Resources to map significant natural community areas.”

Specific AMM Examples from Submitted Applications

The following examples have been included in previously submitted applications reviewed by UIC and USFWS.

Aquatic Species & Critical Habitats

In some cases, AMMs for aquatic species or critical habitats may be necessary. This may only be the case for certain species or critical habitats that are highly imperiled, highly sensitive, or both. Below are a few examples of good AMMs to consider in these circumstances.

1. Erosion along stream banks is of particular concern when removing vegetation near streams to avoid sediment transport into the stream. (Company name) encourages compatible vegetation to grow along stream banks. If incompatible species dominate the species composition of a stream crossing removing all vegetation during one cycle will be avoided, if possible. If removing all vegetation cannot be avoided appropriate erosion control methods would be used. If it is determined that erosion control measures are required, they will be implemented in accordance with the (Company Name) Environmental Guidance Manual.
2. Avoid soil disturbance along stream riparian corridors to the extent feasible and implement erosion prevention and sediment control measures as needed to prevent sediment-laden discharge to surface waters.

Data Reliability

If transmission line surveys are conducted and new species populations are identified, (Company Name) will incorporate new survey data onto field mapping and GIS systems as soon as possible and will provide such data to the natural heritage program.

Planning for Avoidance

During field inventories by the Vegetation Management Team for the following year of vegetation management activities, the team will identify which, if any, population polygons can be entirely avoided by vegetation Management by indicating this on field mapping and/or field laptop GIS systems for inclusion into the Annual Work Plan.

Training and Communication with Field Crews

(Company Name) shall incorporate, where available, photographs, keys, blooming periods and/or habitat requirements into the field laptop GIS systems or as standalone documents for use by crews in the field during activities.

On an annual basis, each vegetation management and O&M crew will be trained regarding the intent and scope of this BMP document and the specific BMPs that have been selected for implementation in the field during vegetation management or O&M activities.

Daily Tailboard Meetings for Active Crews: Additionally, we recommend that planned activities, including designated access and work area limits, any identified T&E species population polygons, and BMPs to be implemented that day should be reviewed during daily safety and environmental “tailboard” meetings.

Flagging, or some other suitable form of field identification (e.g., signage on nearby poles), should be installed near each T&E polygon prior to work activities. Depending on the site specific factors (e.g., shape and extent of species polygon, ROW conditions), the planned activities, and the selected BMP, a single flag can be placed at the beginning and end of the polygon or known population as it is intersected by the easement (or a marker on the nearest structure). The intent of this BMP is to ensure crews are aware of the presence of T&E species in the vicinity and are prompted to consult literature or mapping, and to support the implementation of the selected BMP.

Vegetation Management

General

If the subject species is difficult to identify or is not in bloom, crews will be allowed to enter the population polygon area if it is determined that flagging and avoidance of individual species is feasible (i.e., through flagging of individual or clusters of species and utilizing a vegetation control method that avoids harm to the T&E species), based on review of previous botanical survey results and associated GPS data and the vegetation management inventory.

If it is determined that species density is such that individual flagging of species is infeasible, a biological monitor capable of identifying the species in question can be present onsite during the vegetation management activities to identify species with the crews and ensure protection of the species by overseeing a vegetation control method that



avoids effects to T&E species (e.g., through targeted hand clearing, cut stump treatment, basal treatment, or low volume hand-application of foliar treatment). Crews should exercise extreme care during herbicide application in proximity to T&E species, including considering wind speed, to ensure a suitable distance between the area of application and the T&E species is maintained so as to avoid effects.

Alternatively, if the species is readily identifiable, such as a conspicuous flowering species during its blooming period, crews shall be trained on the identifying characteristics of the species and the importance of avoiding individual plants, and they will be allowed to enter the population polygon to conduct O&M activities while concurrently surveying and avoiding the T&E species. At a minimum, photographs and general species identifying characteristics shall be reviewed, and then crews will be allowed to enter the polygon area to plan the access and staging of work equipment, survey those areas for the species of concern, and conduct the required O&M activities while avoiding the T&E species. See the Element Occurrence dataset for conspicuous species that can be subject to this option (i.e., applies to species with “Y” in “Option 2C Suitability”). If this option is selected, crews must take a precautionary approach. For instance, if considering this option for an endangered sunflower (*Helianthus* sp.) species, crews must avoid all similar yellow-flowered species. This approach may also result in the infeasibility of completing work if too many individuals are identified to safely avoid by crews.

Herbicide Use

Following the award of the work to a specific contractor, and the approval of an herbicide use permit, a meeting is held with the contractor. The purpose of this meeting is to review the Work Plan and to discuss the details of the permit application and the approved permit issued by the Department of Agriculture, including Significant Habitat Maps from the state fish & wildlife department and known threatened and endangered species or recent inventories.

Alternative Practices

In some instances, it may become necessary to devise alternative practices than what has been outlined by the AMMs. For example, crews may be required to grade a new “equipment pad” or work area in an area where T&E species were observed during a pre-activity survey. If the crew cannot complete the task while also implementing measures needed to avoid or minimize adverse effects to the species or critical habitat, (Company Name) will coordinate with the [local U.S. Fish and Wildlife Service field office](#) before proceeding. If alternative work practices are required, (Company Name) shall develop a tailored work plan or site-specific measure for the specific species and/or critical habitat and will submit to the USFWS for their concurrence prior to conducting the activities.