
Appendix G – Biological Resources

Biological Resources

**Ann Arbor Municipal Airport
Runway 6/24 Extension**

Report prepared for

City of Ann Arbor, Michigan

Report prepared by

**Mead
& Hunt**

www.meadhunt.com

September 2023

Table of Contents

	Page
1. Introduction	1
A. Site Description	2
2. Site Observations	3
A. Infield Areas.....	3
B. Areas C – F (East of State Street).....	5
C. Drain	5
D. Southwest Wooded Area.....	6
E. Site Topography	8
3. Biological Assessment.....	9
A. Regulatory Background.....	9
(1) Endangered Species Act.....	9
(2) Natural Resources and Environmental Protection Act.....	9
B. Listed Species	9
(1) Federal	9
(2) State of Michigan.....	10
C. Northern Long-eared Bat (NLEB) and Indiana Bat	10
(1) Habitat Requirements.....	10
(2) Habitat Assessment	11
D. Eastern Massasauga Rattlesnake.....	12
(1) Habitat Requirements.....	12
(2) Habitat Assessment	13
E. Snuffbox Mussel	13
(1) Habitat Requirements.....	13
(2) Habitat Assessment	14
F. Mitchell's Satyr Butterfly	14
(1) Habitat Requirements.....	14
(2) Habitat Assessment	14
G. Poweshiek Skipperling	15
(1) Habitat Requirements.....	15
(2) Habitat Assessment	15
H. Eastern Prairie Fringed Orchid.....	15
(1) Habitat Requirements.....	15
(2) Habitat Assessment	16
I. Rusty Patched Bumblebee.....	16
(1) Habitat Requirements.....	16

Table of contents

(2) Habitat Assessment	16
J. Henslow's Sparrow	16
(1) Habitat Requirements.....	16
(2) Habitat Assessment	17
K. Creek Heelsplitter	17
(1) Habitat Requirements.....	17
(2) Habitat Assessment	17
L. Goldenseal	17
(1) Habitat Requirements.....	17
(2) Habitat Assessment	18
4. Conclusion.....	19
5. References.....	21

Appendices

- A Project Location Map
- B Proposed Alternative 3
- C Site Topography
- D USFWS Information for Planning and Consultation (IPaC) Listing
- E Correspondence relating to Endangered Species reviews

Tables

- 1 Federal Species ListPage 9
- 2 Michigan Species ListPage 10
- 3 Federal Species ListPage 19
- 4 Michigan Species ListPage 19

Figures

- 1 *Runway 6 End. View to the northeast.*Page 4
- 2 *Runway 24 End. View to the southwest*Page 4
- 3 *Areas C – F: ODALS 2. View to the east.*.....Page 5
- 4 *Drain. View to the north*Page 6
- 5 *Southwestern Wooded Area: Open area ringed by buckthorn. View to the northeast.*.....Page 7
- 6 *Woody encroachment at west farm field border along Lohr Rd. View to the east*Page 7
- 7 *Woody encroachment along Airport fence at southwestern corner. View to the west.*.....Page 8

1. Introduction

Ann Arbor Municipal Airport (ARB) (Airport) is a general aviation airport owned and operated by the City of Ann Arbor (City), Michigan. The Airport is at the intersection of State Street and Ellsworth Road in Pittsfield Township, less than 5 miles from Downtown Ann Arbor. The 837 acres of Airport property is currently located entirely within Pittsfield Township having been annexed by the City of Ann Arbor for water rights before Pittsfield Township became a charter township in 1972. The Airport is bordered on the west by single-family residences and a mix of commercial, office, and residential land use on the south, north, and east. Several parcels lying within airport property are in agricultural production. The largest of these fields parallels Lohr Road on the west; another large parcel is situated to the south of Runway 6/24. The Airport property spans two watersheds: the Wood Outlet Drain – Saline River subwatershed (HUC 12: 041000020403), part of the Raisin River Watershed and the Swift Drain – Huron River subwatershed (HUC 12: 040900050403), part of the Huron River Watershed. A project location map is presented in Appendix A.

The airfield at ARB consists of two runways and a supporting taxiway. The paved primary runway 6/24 is 3,505 feet long and 75 feet wide. A full-length parallel taxiway and five connector taxiways provide access between the runway, hangars, and apron areas. ARB also has a turf runway, Runway 12/30, that is 2,750 feet in length and 110 feet in width. This runway is used seasonally for smaller light aircraft. Taxiway A parallels Runway 6/24 and has connector taxiways A1, A2, and A3 that provide access between the runway and taxiway. Connector Taxiways B and C provide access between the parallel taxiway and the main apron as well as T-hangars on the north side of the airfield. Connector Taxiway A1 provides access to additional hangars that exist on the east side of the airfield. Fueling, flight training, aircraft rental and storage, and aircraft maintenance services are available from two full-service fixed-base operators.

The Airport is considering an extension of Runway 6/24 (primary runway) to meet the fleet mix needs of the Airport. The proposed action would shift the primary runway 150 feet to the southwest and extend the existing 3,505-foot runway to meet the requirements of existing users (See Proposed Alternative 3 in Appendix B). Additional major development items include the following:

- Extend Runway 6 by 795 feet
- Extend parallel Taxiway A to match Runway 6 extension
- Extend runway and taxiway lighting and guidance signage
- Relocate/reconstruct FAA owned Runway 6 Runway End Identifier Lights (REILS)
- Reconfigure taxiway intersection with Runway 24 and taxiway to the East Apron
- Remove FAA owned and decommissioned Runway 24 Omni-Directional Approach Lights (ODALs)

In support of an environmental assessment for the extension of Runway 6/24, site visits were conducted by Mead & Hunt, Inc. (Mead & Hunt) within an Area of Interest (AOI) over two field visits on October 10, 2018 and June 4 – 6, 2019. The AOI comprises 82.2 acres located in Sections 16 and 17, Township 3 South, Range 6 East, Washtenaw County, Michigan. A total of three wetlands and one stream were identified within the AOI. A review of threatened and endangered species for the proposed site was also conducted. This report summarizes the results of the field investigation and presents a review of biological resources that may be present within or near the project area.

Appendices to this report include a Project Location Map (Appendix A), Proposed Alternative 3 (Appendix B), Site Topography (Appendix C), U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) Listing (Appendix D), and Correspondence relating to Endangered Species reviews is presented in Appendix E.

A. Site Description

The AOI covers approximately 82.2 acres on Airport property. The AOI is split into two sections situated at the runway ends: approximately 10.4 acres at the Runway 24 end (Area A) and 71.8 acres at the Runway 6 end (Area G). Areas surrounding the four Runway 24 Omni-Directional Approach Lights (ODALs) east of State Street each consist of about 400 sq. ft (Areas C – F). The fifth ODAL (Area B) west of State Street at the runway end has previously been removed but the area was examined. A project location map is presented in Appendix A.

Nearly all infield areas consist of grasses and forbs and are mown on a regular basis. The airfield is relatively flat with little elevation change over the active airside areas. Topography within the active airfield varies from a high of about 830 ft (NAVD 1988) at the Runway 6 end to about 825 ft at the Runway 24 end, sloping gently from the southwest to northeast along the axis of the main runway.

The high point on airport property is located near the intersection of Ellsworth and Lohr roads in the northwest corner of the property. Surface runoff generally flows from north to south from higher points along Ellsworth Road to lower portions along the southern property boundary. Topographic mapping (contour interval 1-foot) from the Southeast Michigan Council of Governments (SEMCOG) is presented in Appendix C.

Two drains traverse the airport property. The unnamed western drain carries flows from north of airport property and joins the Wood Outlet before continuing to the south off airport property. A portion of the unnamed drain as it turns to the east is carried through reinforced concrete pipe covered by a wide berm. Another drain, the Mallets Creek – Airport Branch, located east of State Street flows to the northeast.

Infield areas are actively managed by regular mowing. At the time of field work, many areas within the AOI had been mowed, with adequate regrowth observed, making upland vegetation identifiable in most cases. Upland areas at the Runway 6 end were dominated by a mix of grasses and forbs consisting of smooth brome, Kentucky blue grass, orchard grass, white clover, common goat's beard, English plantain, common yarrow, bladder campion, and yellow hawkweed. The dominant upland species found at the Runway 24 end included orchard grass, timothy, smooth brome, Kentucky blue grass, chicory, spotted knapweed, dandelion, red clover, Canada thistle, and English plantain.

Most of the area to the west of the active airfield is in agricultural production as is a parcel south of the main runway. These fields have been farmed for decades.

A large wooded area at the southwest corner of Airport property outside of the airport fence consists of large patches of buckthorn with few larger trees intermixed. This area was formerly in agriculture use and currently appears to be unmanaged. Some additional open areas are present and covered by smooth brome and Canada goldenrod.

2. Site Observations

A. Infield Areas

All vegetated infield areas consist of grasses and forbs and are mown on a regular basis. At the time of field work, many areas within the AOI had been mowed, with adequate regrowth observed, making upland vegetation identifiable in most cases. Upland areas at the Runway 6 end (Area G inside the fence) were dominated by a mix of grasses and forbs consisting of smooth brome, Kentucky blue grass, orchard grass, white clover, common goat's beard, English plantain, common yarrow, bladder campion, pussytoes, and yellow hawkweed. Wetland areas were dominated by reed canary grass and cattail.

The dominant upland species found at the Runway 24 end (Area A) included orchard grass, timothy, smooth brome, Kentucky blue grass, common sow-thistle, chicory, spotted knapweed, dandelion, red clover, Canada thistle, and English plantain. Wetland areas were dominated by reed canary grass. See Figures 1 and 2.

Herbaceous and graminoid vegetation within the infield areas of the AOI consisted of:

- Smooth brome (*Bromus inermis*: FACU),
- Kentucky Blue-grass (*Poa pratensis*: FACU),
- Orchard grass (*Dactylis glomerata*: FACU),
- Timothy (*Phleum pratense*: FACU),
- Reed canary grass (*Phalaris arundinacea*: FACW),
- Dandelion (*Taraxacum officinale*: FACU),
- Common goatsbeard (*Tragopogon pratensis*: UPL),
- English plantain (*Plantago lanceolata*: FACU),
- Common yarrow (*Achillea millefolium*: FACU),
- Bladder campion (*Silene vulgaris*: UPL),
- Pussytoes (*Antennaria howellii*: UPL),
- Red clover (*Trifolium pretense*: FACU),
- Yellow hawkweed (*Hieracium caespitosum*: UPL),
- Common sow-thistle (*Sonchus oleraceus*: FACU),
- Chicory (*Chichorium intybus*: FACU),
- Spotted knapweed (*Centaurea stoebe*: FACU),
- Canada thistle (*Cirsium arvense*: FACU), and
- White/Sweet-Clover (*Melilotus officinalis*: FACU).



Figure 1. Runway 6 End. View to the northeast.



Figure 2. Runway 24 End. View to the southwest.

B. Areas C – F (East of State Street)

The large expanse of airport property east of State Street is dominated by reed canary grass (*Phalaris arundinacea*: FACW). The area is mown infrequently. Situated within this expanse are four concrete pads which have navigational lights mounted upon them. Each pad is underlain by fill materials and is slightly elevated above the surrounding terrain. The vegetation surrounding each pad consists of reed canary grass, smooth brome, Canada goldenrod (*Solidago canadensis*: FACU), dandelion, buckthorn, Queen Anne's lace (*Daucus carota*: FACU), common sow-thistle, and Canada thistle. See Figure 3.



Figure 3. Areas C – F: ODALS 2. View to the east.

C. Drain

The drain within the AOI, a short stretch of approximately 300 feet in length, is a narrow steep-sided open channel drain flowing to the south. The stream width (top-of-bank) is 15-20 feet with the channel depth about 10-12 feet. Water was flowing in the stream at the time of field investigation. The width of flow was 2-3 feet and the water depth was 6-8 inches. Flow through the mostly silty stream bottom was clear and there was no noticeable odor. The length of the drain within the AOI was shaded by trees or shrubs. No riffles were observed.

Vegetation along the south-flowing drain within the project area was covered by a woody mix of shrubs and trees. The steep sides were covered by a mix of buckthorn (*Rhamnus cathartica*: FAC), amur honeysuckle (*Lonicera maackii*: UPL), Tatarian honeysuckle (*Lonicera tatarica*: FACU), green ash (*Fraxinus pennsylvanica*: FACW), American elm (*Ulmus americana*: FACW), cherry (*Prunus* sp.), and black walnut (*Juglans nigra*: FACU) in the tree stratum. Dame's rocket (*Hesperis matronalis*: FACU), smooth brome, orchard grass, poison ivy (*Toxicodendron radicans*: FAC), and Virginia creeper (*Parthenocissus quinquefolia*: FACU) represented the herb stratum. See Figure 4.



Figure 4. Drain. View to the north.

D. Southwest Wooded Area

This part of the AOI is bounded by Lohr Rd on the west and a farm field on the north. The Airport fence on the northeast side demarcates this wooded area from managed areas inside the fence.

The Airport was constructed in 1928. An early aerial photo, taken in 1940, shows much of this area was in agricultural use at that time. Around 1984, this part of Airport property appears to be in pasture or is fallow with little woody vegetation evident. In the intervening years, woody encroachment and canopy closure in some areas is seen.

Buckthorn currently dominates throughout the area. Large dense patches of young trees grow along the northern field line and mature 20 – 25 foot trees line the Airport fence and occur more sparsely in other areas. Mature aspen (*Populus tremuloides*: FAC) and box elder (*Acer negundo*: FAC) trees are intermixed sporadically. Some small open areas are dominated by smooth brome and Canada goldenrod along with mullein (*Verbascum thapsus*: UPL) and wild-bergamot (*Monarda fistulosa*: FACU). See Figures 5 - 7.



Figure 5. Southwestern Wooded Area: Open area ringed by buckthorn. View to the northeast.



Figure 6. Woody encroachment at west farm field border along Lohr Rd. View to the east.



Figure 7. Woody encroachment along Airport fence at southwestern corner. View to the west.

E. Site Topography

The airfield is relatively flat with little elevation change over the active airside areas. Topography within the active airfield varies from a high of about 830 ft (NAVD 1988) at the Runway 6 end to about 825 ft at the Runway 24 end, sloping gently from the southwest to northeast along the axis of the main runway.

The high point on airport property is located near the intersection of Ellsworth and Lohr roads in the northwest corner of the property. Most of the area to the west of the active airfield is in agricultural production as is a parcel south of the main runway. Surface runoff generally flows from north to south from higher points along Ellsworth Road to lower portions along the southern property boundary.

Topographic mapping (contour interval 1-foot) from the Southeast Michigan Council of Governments (SEMCOG) is presented in Appendix C.

3. Biological Assessment

A. Regulatory Background

(1) Endangered Species Act

Section 7 of the Endangered Species Act of 1973 (ESA) requires all Federal agencies to use their authorities to conserve endangered and threatened species in consultation with U.S. Fish and Wildlife Service (USFWS).

Under the Section 7 implementing regulations (50 CFR Part 402), Federal agencies must review their actions to determine whether they may affect endangered or threatened species or critical habitat. To accomplish this, Federal agencies must determine whether any listed species may be present in the action area and whether that area overlaps with critical habitat.

If one or more listed species may be present in the action area – or if critical habitat overlaps with the action area – agencies must evaluate the potential effects of their action. If no species or their critical habitat are present or affected, no consultation is required.

(2) Natural Resources and Environmental Protection Act

Under Part 365 of the Natural Resources and Environmental Protection Act (1994, as amended) (NREPA), threatened and endangered species are protected from being taken or harmed during project activities. An environmental review must be completed for the project area to identify whether any threatened and endangered species may be affected by project actions. Permits may be required by the Michigan Department of Environment, Great Lakes, and Energy (EGLE) for project activities.

B. Listed Species

(1) Federal

Mead & Hunt accessed and reviewed threatened and endangered species information provided in the U.S. Fish and Wildlife Service’s (USFWS) Information for Planning and Consultation (IPaC) database for the project (<https://ecos.fws.gov/ipac/>, accessed February 9, 2021). Appendix C provides the Federal list of threatened and endangered species that may occur in the AOI. No critical habitat under USFWS jurisdiction was found in the project area.

Also provided in Appendix C is USFWS consultation for the identified listed species. Table 1 summarizes the species identified in the project area.

Table 1. Federal Species List

Species Name	Common Name	Status
<i>Myotis sodalis</i>	Indiana Bat	Endangered
<i>Myotis septentrionalis</i>	Northern Long-eared Bat	Threatened

Table 1. Federal Species List

<i>Sistrurus catenatus</i>	Eastern Massasauga rattlesnake	Threatened
<i>Epioblasma triquetra</i>	Snuffbox Mussel	Endangered
<i>Neonympha mitchellii</i>	Mitchell's Satyr Butterfly	Endangered
<i>Oarisma poweshiek</i>	Poweshiek Skipperling	Endangered
<i>Platanthera leucophaea</i>	Eastern Prairie Fringed Orchid	Threatened

(2) State of Michigan

Mead & Hunt requested a Transportation Preliminary Database Search from the EGLE. This database search revealed occurrences of State-listed threatened and endangered species and State species of special concern: Henslow's sparrow and Creek heelsplitter. No Tier 1 Eastern Massasauga Rattlesnake (EMR) designated habitat is present within the project area. Occurrences of the Northern Long-eared bat were recorded within 500 feet of the project area. While no occurrences of Indiana bats were noted, the project location is within the range of the Indiana bat (Appendix D).

Consultation with the U.S. Environmental Protection Agency (USEPA) identified the presence of another state listed species: goldenseal (*Hydrastis canadensis*).

Table 2. Michigan Species List

Species Name	Common Name	State Status
<i>Ammodramus henslowii</i>	Henslow's sparrow	Endangered
<i>Lasmigona compressa</i>	Creek heelsplitter	Special concern
<i>Hydrastis canadensis</i>	Goldenseal	Threatened

C. Northern Long-eared Bat (NLEB) and Indiana Bat

(1) Habitat Requirements

The NLEB and Indiana bat have similar, overlapping habitat requirements. Both bats hibernate in winter in caves and mines, preferring the constant temperatures, high humidity, and no air currents present in these landscape features. Summer finds them roosting singly or in colonies underneath bark, in cavities or crevices of both live trees and snags. Potential roosts can be varied but suitable roost trees exhibit loose or exfoliating bark and/or dead or dying trees that contain cracks and crevices. Tree species used by Indiana bats as roosts may include "ash, elm, hickory, maple, oak, or poplar, although any tree that retains large, thick slabs of peeling bark may be suitable" (USFWS, 2018a). Larger trees (i.e., >5 inches diameter at breast height [dbh]) also are indicative. The NLEB seems to be more flexible in selecting roost trees, with the suitability of bark or presence of cavities or crevices being important.

“Suitable summer habitat for NLEB and Indiana bat consists of a wide variety of forested/wooded habitats where they roost, forage, and travel. This habitat may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields, and pastures. This includes forests and woodlots containing potential roosts, as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. NLEBs are typically associated with upland forests with generally more canopy cover than Indiana bats. NLEBs seem to be focused in upland, mature forests with occasional foraging over forest clearings, water, and along roads. However, most NLEB hunting occurs on forested hillsides and ridges, rather than along riparian areas preferred by the Indiana bat.

Many species of bats, including the Indiana bat and NLEB, consistently avoid foraging in or crossing large open areas, choosing instead to use tree-lined pathways or small openings. Thus, isolated patches of forest may not be suitable for foraging or roosting unless the patches are connected by a wooded corridor.”
(USFWS, 2018b)

(2) Habitat Assessment

Most of the project area is covered by grasses and forbs on the airfield with the exception of a small copse of trees near the Runway 6 end and along the forested portion of the drain corridor. The runway extension will not directly impact these areas. It is not anticipated that tree removals will occur in these two areas.

The southwest wooded area (outside the perimeter fence) is dominated by buckthorn and intermixed with isolated larger trees consisting of quaking aspen and box elder. Small open areas are dominated by smooth brome and Canada goldenrod. Buckthorn is an invasive species that can grow to a height of 20-25 feet and up to 10 inches dbh. It is possible that larger dying buckthorn trees could provide a roosting option, but it is assumed that native tree stands would be more attractive to the bats. It is not anticipated that tree removals will occur in this area.

Generally, this type of degraded forested habitat is not conducive to supporting either bat’s habitat needs. Large stands of monotypic species decrease the diversity of insect populations on which the bats feed while also limiting preferred native roost trees. However, pockets of clearings within this wooded area could provide some foraging habitat.

No known NLEB hibernacula are documented in Washtenaw County. However, NLEB roost trees are documented in Pittsfield Township (T3S, R6E) (USFWS, 2021).

Michigan has only one known Indiana bat hibernaculum in Manistee County, and research suggests the bat may overwinter in adjacent states such as Indiana and Kentucky. There is no designated critical habitat for the Indiana bat in the State. The Indiana bat is known to be present

in Lower Michigan including Washtenaw County and is considered potentially present wherever areas of suitable habitat exist within their range.

The runway extension and associated actions including the taxiway extension and taxiway intersection with Runway 24 take place within developed, highly managed landscapes devoid of suitable habitat. Potentially suitable habitat may be present in the southwest wooded area outside the perimeter fence despite the abundance of invasive buckthorn. If tree removal for the runway extension project is deemed necessary due to penetration of the approach surface of the preferred final option, it is likely that this can be accomplished by selective tree removal. This can be completed during recommended time periods appropriate for minimizing impacts to any potential NLEB and Indiana bat populations. Therefore, the project may affect but will likely not adversely affect either the NLEB or Indiana bat.

D. Eastern Massasauga Rattlesnake

(1) Habitat Requirements

The Eastern Massasauga Rattlesnake (EMR) historically occupied the Upper and Lower Peninsulas of Michigan and other areas of the Upper Midwest including New York, Pennsylvania, Ohio, Indiana, Illinois, Wisconsin, Minnesota, Missouri, and Iowa.

“EMR have been found in a variety of wetland habitat types across their range, including bogs, fens, shrub swamps, wet meadows, marshes, moist grasslands, wet prairies, peatlands, coniferous forests and floodplain forests. At many locations, EMR also move from wetlands to drier upland sites during certain parts of the year to forage, disperse, gestate, and even hibernate in some cases. Suitable upland habitat types range from forest edges and openings, savannas, and prairies to meadows, old fields, and some agricultural lands.” (USFWS, 2018c)

“Populations in southern Michigan are typically associated with open wetlands, particularly prairie fens, while those in northern Michigan are better known from lowland coniferous forests, such as cedar swamps..... In general, structural characteristics of a site appear to be more important than vegetative characteristics for determining habitat suitability.

Specifically, all known sites appear to be characterized by the following:

- (1) open, sunny areas intermixed with shaded areas, presumably for thermoregulation;
- (2) presence of the water table near the surface for hibernation; and
- (3) variable elevations between adjoining lowland and upland habitats.”

(<https://mnfi.anr.msu.edu/species/eastern-massasauga-rattlesnake>, accessed February 9, 2021)

Habitat loss including past wetland loss as well as land development and agriculture are important factors in the decline of EMR. Unmanaged woody succession is now an important risk factor (USFWS, 2018c). Woody succession, especially as seen with introduced species such as

Eurasian buckthorn, often results in habitats becoming too shady to support the basking and thermoregulation needs of the EMR.

(2) Habitat Assessment

Occurrences of the Eastern Massasauga Rattlesnake have been reported in Washtenaw County and the AOI is within the known range of the EMR. Within highly managed airfield areas, the habitat is characterized as a mixture of turf grasses and introduced grasses such as smooth brome and orchard grass with a few areas containing common forbs. The on-going vegetation maintenance operations cause significant regular vegetative disturbance in airfield areas. Parts of the non-airfield airport property have been in agricultural production for decades, particularly on the west and south sides. Surrounding areas were also historically in agriculture before conversion to residential land uses.

The southwest wooded area outside of the airport fence was previously farmed before experiencing early successional growth and invasion by buckthorn. Small open areas are interspersed with large patches of buckthorn mixed with isolated larger trees. These shady buckthorn-dominated patches would not support the summer thermoregulation needs of the EMR although the snakes have been documented using buckthorn scrub/shrub swamps as over-wintering habitat.

Given historical agricultural land use, suitable habitat for the EMR was likely severely impacted early in the airport's history. On-going on-airport vegetation maintenance operations and agricultural activities create unstable and unsuitable habitat conditions for the EMR on the airfield. Invasion by woody non-natives within the southwest wooded parcel and the surrounding residential land uses likely are not conducive to supporting the EMR. Therefore, the project area provides limited potential habitat for the snake.

The USFWS IPaC listing indicates that the project area is within the known range of EMR. Suitable EMR habitat is not present due to regular vegetation maintenance activities, on-going airplane and motorized vehicle activity, and presence of pavement areas. Therefore, the proposed project will have no effect on the EMR.

E. Snuffbox Mussel

(1) Habitat Requirements

Populations of the snuffbox mussel have declined precipitously across its historical range. Extant populations, with few exceptions, are highly fragmented and restricted to short reaches. It was known to be present in a number of upper Midwest states including Michigan at the time of the species' listing in 2012.

“The snuffbox is a filter-feeding species from the Unionidae family with a diet likely consisting of a mixture of algae, detritus, bacteria, and microscopic zooplankton. The snuffbox is found in small to medium-size creeks as well as lakes and larger rivers.

Preferable habitat is characterized as having swift currents with riffles and shoals or wave-washed lakeshores over gravel and sand with occasional cobble and boulders. Generally, they are found burrowed deep into the substrate except for when they emerge to spawn or attract a host.” (USFWS, 2019)

(2) Habitat Assessment

The riverine habitat in the narrow, constructed drain on airport property is characterized by a silty bottom lacking riffles with no cobbles or gravel. Suitable riverine habitat for the snuffbox is not found within the project area. The project area provides limited potential habitat for the mussel. No impacts to the open channel portion of this drain are proposed. Therefore, the proposed project will have no effect on the snuffbox mussel.

F. Mitchell's Satyr Butterfly

(1) Habitat Requirements

The Mitchell's satyr butterfly is one of the most geographically restricted eastern butterflies. Historically, the Mitchell's satyr was found in New Jersey, Ohio, Michigan, Indiana, and possibly Maryland. Today, the butterfly can only be found in southern Michigan and northern Indiana in the Upper Midwest. The Mitchell's satyr is restricted to rare fen wetlands, a type of low nutrient wetland that receives carbonate-rich ground water from seeps and springs (USFWS, 1998).

“Bog fens are characterized as fen communities which contain a significant number of species of northern affinities, including conspicuous species such as *Larix laricina* (tamarack), *Toxicodendron vernix* (poison sumac), and *Sarracenia purpurea* (pitcher plant). Other conspicuous plant indicator species which are often present in Midwestern fens supporting this butterfly include *Potentilla fruticosa* (shrubby cinquefoil), and *Cornus stolonifera* (red-osier dogwood).” (USFWS, 1998)

The butterfly's habitat in Michigan is known to occur in prairie fen complexes with carbonate-rich groundwater seeps. These sites are usually dominated by sedges (which always include *Carex stricta*) and contain scattered tamarack and poison sumac (Hyde, 2012). Fens are heterogeneous ecosystems characterized by a mosaic of open, shrubby, and forested communities that exhibit a wide range of vegetative structure and composition. Mitchell's satyr appears to have a close association with young tamarack trees (USFWS, 1998).

(2) Habitat Assessment

Suitable fen habitat for the butterfly is not found within the project area. Wetland areas identified on the airport are dominated by invasive species such as reed canary grass, cattail, and buckthorn. The project area provides limited potential habitat for the butterfly. Therefore, the proposed project will have no effect on the Mitchell's Satyr butterfly.

G. Poweshiek Skipperling

(1) Habitat Requirements

The Poweshiek skipperling has a limited geographic distribution and is restricted to small populations geographically isolated from each other.

“The full range of habitat preferences for Poweshiek skipperling includes high-quality prairie fens, grassy lake and stream margins, remnant moist meadows, and wet-mesic to dry tallgrass remnant (untilled) prairies. These areas are dominated by native-prairie grasses, such as little bluestem and prairie dropseed, but also contain a high diversity of native forbs, including black-eyed Susan and palespike lobelia. The disjunct populations of Poweshiek skipperling in Michigan occur in prairie fens, specifically in peat domes within larger prairie fen complexes in areas codominated by mat muhly (*Muhlenbergia richardsonis*) and prairie dropseed (*Sporobolus heterolepis*).” (USFWS, 2015)

This butterfly was listed as endangered in 2014 and critical habitat was designated with the publication of the Final Rule in 2015. Washtenaw County contains some critical habitat for the Poweshiek skipperling in the northwest portion of the county (USFWS, 2015). Critical habitat, though, is not within the project area.

(2) Habitat Assessment

The Poweshiek skipperling butterfly is known to occur in high-quality prairie fens, grassy lake and stream margins, remnant moist meadows, and wet-mesic to dry tallgrass remnant (untilled) prairies with an abundance of native forbs. Suitable wetland habitat for the butterfly is not found within the project area. Wetland areas identified on the airport are dominated by invasive species such as reed canary grass, cattail, and buckthorn. The project area provides limited potential habitat for the butterfly. Therefore, the proposed project will have no effect on the Poweshiek skipperling.

H. Eastern Prairie Fringed Orchid

(1) Habitat Requirements

The historical geographic extent of the eastern prairie fringed orchid included parts of the Upper Midwest. Historically, it was observed in 21 Michigan counties. The 1999 Recovery Plan, however, referenced known populations in just nine counties at that time. The largest population was found to be in prairies bordering Saginaw Bay (Bowles, 1999).

“The eastern prairie fringed orchid occurs in a wide variety of habitats, from mesic prairie to wetlands such as sedge meadows, marsh edges and even bogs. It requires full sun for optimum growth and flowering which restricts it to grass- and sedge-dominated plant communities.” (Bowles, 1999)

Populations of the eastern prairie fringed orchid are at risk from a number of threats: habitat destruction through conversion to agricultural uses and development, encroachment of woody vegetation, impacts to pollinator populations, and competition from invasive species such as reed canary grass, purple loosestrife, and glossy buckthorn.

(2) Habitat Assessment

The eastern prairie fringed orchid can be found in a wide range of wetland habitats. Due to the species' need for full sun exposure, it is generally restricted to grass- and sedge-dominated plant communities. The grass and wetland habitats at the airport are dominated by introduced or invasive species such as smooth brome, orchard grass, reed canary grass, and buckthorn. The project area provides limited potential habitat for the orchid. Therefore, the proposed project will have no effect on the orchid.

I. Rusty Patched Bumblebee

(1) Habitat Requirements

The project area is located within the historical range of the rusty patched bumble bee (*Bombus affinis*) (RPBB) as shown on the FWS habitat map (<https://www.fws.gov/midwest/endangered/insects/rpbb/rpbbmap.html>, accessed February 10, 2021). No Low or High Potential Zones are identified for Washtenaw County. The RPBB historically is associated with grasslands and tallgrass prairies of the Upper Midwest. This type of habitat provides nesting sites, overwintering sites, and nectar and pollen from an abundant array of forbs.

(2) Habitat Assessment

The project area is within the historical range of the RPBB but suitable foraging and nesting habitat are not present on the project site due to the long history of row crop production and on-going vegetation maintenance activities on the airfield. Therefore, the project area provides limited potential habitat for the RPBB. Therefore, the proposed project will have no effect on the rusty patched bumblebee.

Within the historical range of the bumble bee, the RPBB has not been observed or collected since the year 2000. Section 7 consultation and Incidental Take permits are not needed.

J. Henslow's Sparrow

(1) Habitat Requirements

The Henslow's sparrow is a tallgrass prairie obligate and historically also utilized lowland prairie and marshes. As these habitat types were converted to agricultural uses, populations of the bird declined drastically. They can now be found in a variety of old field and pasture habitats such as weedy or grassy fields dominated by switch grass and brome and meadows often in low-lying or damp areas with widely scattered shrubs ([Ammodramus henslowii \(msu.edu\)](http://Ammodramus_henslowii.msu.edu), accessed April 2, 2021).

The sparrow is regularly sighted at the Airport as the Washtenaw Audubon Society conducts annual surveys for the bird. Under an agreement with the Society, the Airport limits mowing of certain areas of grassy meadow habitat south of the runway to limit disturbance to the bird during nesting season.

(2) Habitat Assessment

Suitable habitat is present at the Airport for the Henslow's sparrow. Grading for the new taxiway near State Road would be in an area currently under restricted mowing per a voluntary verbal agreement with the Washtenaw Audubon Society, a chapter of Michigan Audubon. ARB revises the boundaries of this mowing agreement annually, based on Audubon's most current bird count data and nesting site surveys. In order to avoid potentially impacting listed species during construction of the Preferred Alternative, ARB will not allow grading within agreed upon restricted mowing areas during the breeding season for the species, which extends through mid-July. Therefore, the project may affect but will likely not adversely affect the Henslow's sparrow.

K. Creek Heelsplitter

(1) Habitat Requirements

The creek heelsplitter (*Lasmigona compressa*) is a freshwater mussel found in creeks and small rivers in a variety of substrates throughout drainages in the lower and upper peninsula. Its geographic range spans the upper Mississippi, Ohio, and St. Lawrence river systems extending from Canada to Nebraska to as far east as Vermont and Quebec ([ADW: *Lasmigona compressa*: INFORMATION \(animaldiversity.org\)](#), accessed April 2, 2021).

(2) Habitat Assessment

The riverine habitat in the narrow, constructed drain on airport property is characterized by a silty bottom lacking riffles and no cobbles or gravel. Suitable natural riverine habitat for the creek heelsplitter is not found within the project area. The project area provides limited potential habitat for the mussel. No impacts to the open channel portion of this drain are proposed. Therefore, the proposed project will have no effect on the creek heelsplitter.

L. Goldenseal

(1) Habitat Requirements

This state threatened member of the Ranunculaceae or buttercup family occurs in the eastern half of North America. Currently goldenseal is known in the southern three tiers of Michigan counties. The plant prefers rich, shady mesic southern forests dominated by beech and sugar maple or red oak and sugar maple. Associated understory plants include mesic woodland herbs including jack-in-the-pulpit, wild ginger, spring beauty, trout-lily, blue cohosh, and other ground layer herbs typically found in mesic forests.

(2) Habitat Assessment

The grass and wetland habitats on the airfield are dominated by introduced or invasive species such as smooth brome, orchard grass, reed canary grass, and buckthorn and lack the shady mesic canopy species preferred by goldenseal. The project area provides no suitable habitat for goldenseal. Therefore, the proposed project will have no effect on goldenseal.

4. Conclusion

A total of three separate wetland boundaries enclosing 3.232 acres were delineated within the AOI at the Ann Arbor Municipal Airport. One stream of length 300.2 ft was delineated within the AOI. The forested area in the southwest corner of Area G contains large stands of buckthorn with isolated aspen and box elder trees interspersed. Clearings within this area contain a low-diversity mix of grasses and forbs. Generally, this type of habitat is not conducive to supporting either the NLEB or the Indiana bat's habitat needs. If tree removal for the runway extension project is deemed necessary due to penetration of the approach surface of the preferred final option, it is likely that this can be accomplished by selective tree removal. This can be accomplished during recommended time periods appropriate for minimizing impacts to any potential bat populations. Therefore, the project may affect but will likely not adversely affect either the NLEB or Indiana bat. Tables 3 and 4 summarize the effects determination for each identified species.

Table 3. Federal Species List

Species Name	Common Name	Determination
<i>Myotis sodalis</i>	Indiana Bat	NLAA*
<i>Myotis septentrionalis</i>	Northern Long-eared Bat	NLAA*
<i>Sistrurus catenatus</i>	Eastern Massasauga rattlesnake	No Effect
<i>Epioblasma triquetra</i>	Snuffbox Mussel	No Effect
<i>Neonympha mitchellii</i>	Mitchell's Satyr Butterfly	No Effect
<i>Oarisma poweshiek</i>	Poweshiek Skipperling	No Effect
<i>Platanthera leucophaea</i>	Eastern Prairie Fringed Orchid	No Effect
<i>Bombus affinis</i>	Rusty Patched Bumblebee	No Effect

Table 4. Michigan Species List

Species Name	Common Name	State Status
<i>Ammodramus henslowii</i>	Henslow's sparrow	NLAA*
<i>Lasmigona compressa</i>	Creek heelsplitter	No Effect
<i>Hydrastis canadensis</i>	Goldenseal	No Effect

* NLAA = May Affect, Not Likely to Adversely Affect

Suitable habitat for the EMR was likely severely impacted early in the airport's history. On-going on-airport vegetation maintenance operations and agricultural activities create unstable and unsuitable habitat conditions for the EMR. Woody succession within the southwest wooded parcel likely is not conducive to supporting the EMR given the historic agricultural use and surrounding residential development. The project area provides limited potential habitat for the snake. Therefore, the proposed project will have no effect on the EMR.

Riverine habitat is found only along the delineated stream within the project area. The observed stream characteristics are unsuitable riverine habitat for both the snuffbox mussel and creek heelsplitter. This stretch of stream provides limited potential habitat for the mussels. Therefore, the proposed project will have no effect on either the snuffbox mussel or the creek heelsplitter.

Suitable habitat for the Henslow's sparrow exists within the project area. Under a voluntary agreement with the Washtenaw Audubon Society, the airport limits mowing to agreed upon times of the year. During construction, ARB will limit grading to agreed upon restricted mowing areas during the breeding season for the sparrow, which extends through mid-July. Therefore, the project may affect but will likely not adversely affect the Henslow's sparrow.

The proposed project is limited to the runway ends at the airport. These areas are dominated by cool season grasses and invasives. The project area provides no suitable habitat for goldenseal. It is not anticipated that tree removal is necessary in the wooded area outside of the airport fence. Suitable habitat for goldenseal within the wooded area is unlikely due to previous historical agricultural use and the current encroachment of invasive woody species. Therefore, the proposed project will have no effect on goldenseal.

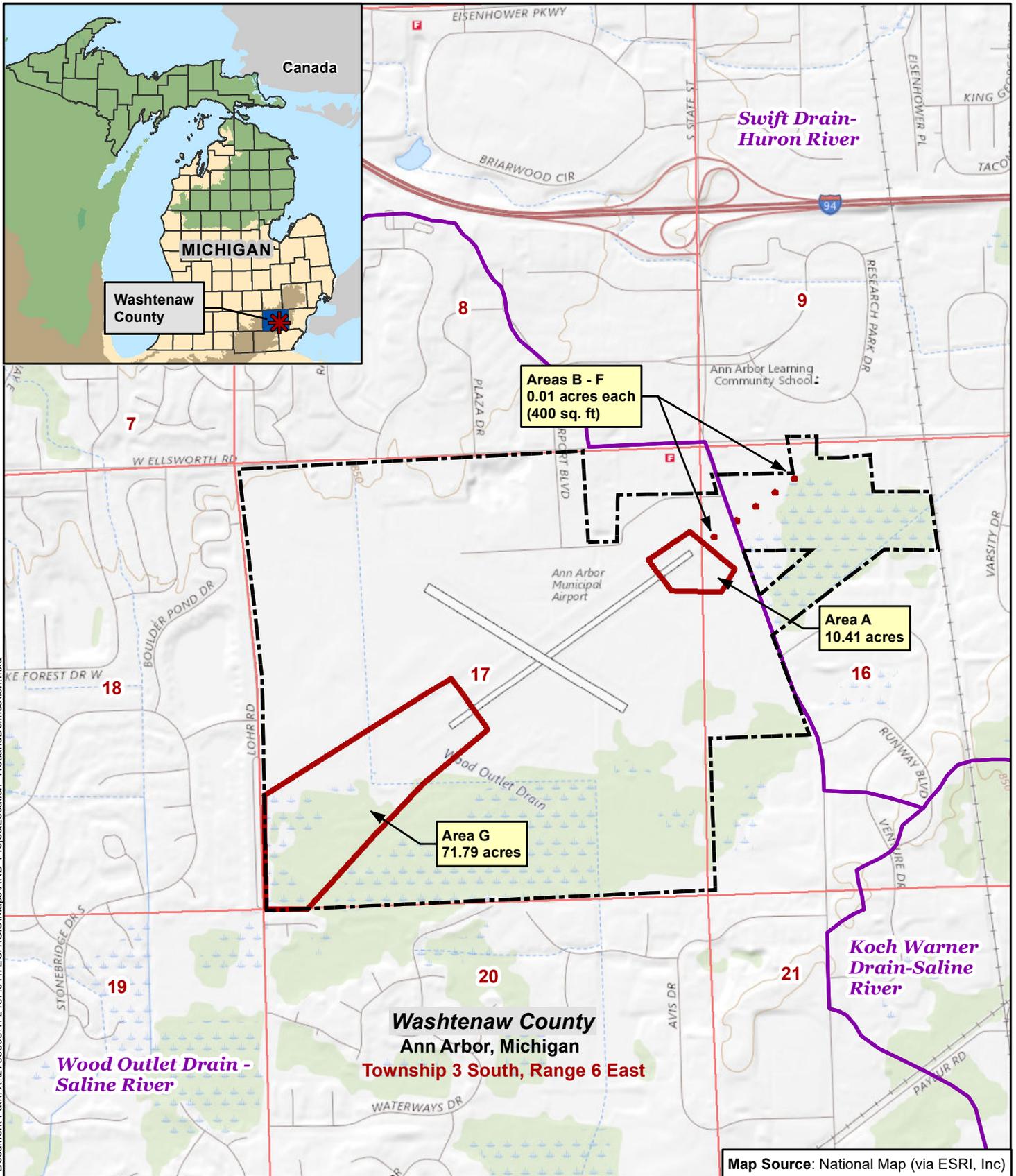
Wetland areas identified on the airport are dominated by invasive species such as reed canary grass, cattail, and buckthorn. Therefore, the project area does not provide suitable potential habitat for either of the identified endangered butterflies - Mitchell's Satyr Butterfly and Poweshiek Skipperling. Therefore, the proposed project will have no effect on either Mitchell's Satyr butterfly or the Poweshiek skipperling.

While the eastern prairie fringed orchid can be found in a wide range of wetland habitats, the wetlands identified within the AOI do not provide suitable high-quality undisturbed wetland habitat for the orchid. Therefore, the proposed project will have no effect on the orchid. Similarly, suitable foraging habitat is not present for the Rusty Patched Bumble Bee and therefore the proposed project will have no effect on the Rusty Patched bumblebee. Due to the long-term agricultural practices associated with this parcel, the project area provides limited habitat potential for wildlife and limited functional value for water quality.

5. References

- Bowles, Marlin L., 1999. EASTERN PRAIRIE FRINGED ORCHID *Platanthera leucophaea* (Nuttall) Lindley RECOVERY PLAN. Prepared by Marlin L. Bowles, The Morton Arboretum, Lisle, IL. Prepared for U.W. Fish and Wildlife Service, Fort Snelling, MN. September 1999.
- Hyde, D. 2012. Update of Lee, Y. 2000. Special animal abstract for Mitchell's satyr butterfly (*Neonympha mitchellii mitchellii*). Michigan Natural Features Inventory, Lansing, MI. 7 pp.
- U.S. Fish and Wildlife Service, 1998. RECOVERY PLAN FOR MITCHELL'S SATYR BUTTERFLY (*Neonympha mitchellii mitchellii* French) (Lepidoptera: Nymphalidae: Satyrinae) Prepared by the Mitchell's Satyr Butterfly Recovery Team for the U.S. Fish and Wildlife Service, Ft. Snelling, Minnesota. April 1998.
- U.S. Fish and Wildlife Service, 2015. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Dakota Skipper and Poweshiek Skipperling. U.S. Department of the Interior, Fish and Wildlife Service. Published in Federal Register/ Vol. 80, No. 190. October 1, 2015, Rules and Regulations. Docket No. FWS-R3-ES-2013-0017; 4500030113].
- U.S. Fish and Wildlife Service, 2018a. Biological Opinion: Effects to the Indiana Bat (*Myotis sodalis*) from the Gilbert Lake Project, Huron-Manistee National Forests. Prepared by U.S. Fish and Wildlife Service, Michigan Ecological Services Field Office, East Lansing, MI. Log # 18-R3-ELFO-03. July 19, 2018.
- U.S. Fish and Wildlife Service, 2018b. Programmatic Biological Opinion for Transportation Projects in the Range of the Indiana Bat and Northern Long-Eared Bat. Prepared by U.S. Fish and Wildlife Service, Midwest Regional Office, Bloomington, Minnesota. Revised February 2018.
- U.S. Fish and Wildlife Service, 2018c. Biological Opinion: Range-wide Programmatic Agreement for The Conservation and Management of the Eastern Massasauga Rattlesnake (*Sistrurus catenatus*) in Michigan. Prepared by U. S. Fish and Wildlife Service, Michigan Ecological Services Field Office, East Lansing, Michigan. November 5, 2018.
- U.S. Fish and Wildlife Service, 2019. Biological Opinion on the Ohio Department of Transportation Vrooman Road Bank Stabilization (associated with the LAK-Vrooman Road Project, PID105029) in Lake County, Ohio. Prepared by U. S. Fish and Wildlife Service, Ohio Ecological Services Field Office, Columbus, Ohio. August 9, 2019.
- U.S. Fish and Wildlife Service, 2021. Michigan Northern Long-eared Bat Hibernacula and Roost Tree Locations. U.S. Fish and Wildlife Service, Midwest Region – Michigan Field Office. Accessed at <https://www.fws.gov/midwest/EastLansing/te/index.html>, February 10, 2021.

Appendix A. Project Location Map



Document Path: X:\2708800\172467.01\TECH\GIS\Maps\ARB Project Location WetlandDelineation.mxd

Project Location Ann Arbor Municipal Airport



Legend

LRR SUBREGION

- K
- L
- M

- Airport Property Boundary
- Watershed Boundary
- Project Area of Interest (AOI)
- Section Line

Project Information

T3S, R6E, Sections 16 and 17
 Ann Arbor Municipal Airport
 Washtenaw County, MI
 LRR subregion: M
 USACE Regional Supplement: Midwest
 Area of Interest = 82.2 acres
 Field work conducted: October 10, 2018
 and June 3 - 6, 2019

Appendix B. Proposed Alternative 3

These documents shall not be used for any purpose or project for which it is not intended. Mead & Hunt shall be indemnified by the client and hold harmless and defended from all claims, damages, liabilities, losses, and expenses, including attorney's fees and costs, arising out of such misuse or reuse of these documents. In addition, unauthorized reproduction of these documents in part or as a whole, is prohibited.

ANN ARBOR MUNICIPAL AIRPORT RUNWAY 6/24 - 795' EXTENSION BUILD ALTERNATIVE 3

ANN ARBOR, MICHIGAN

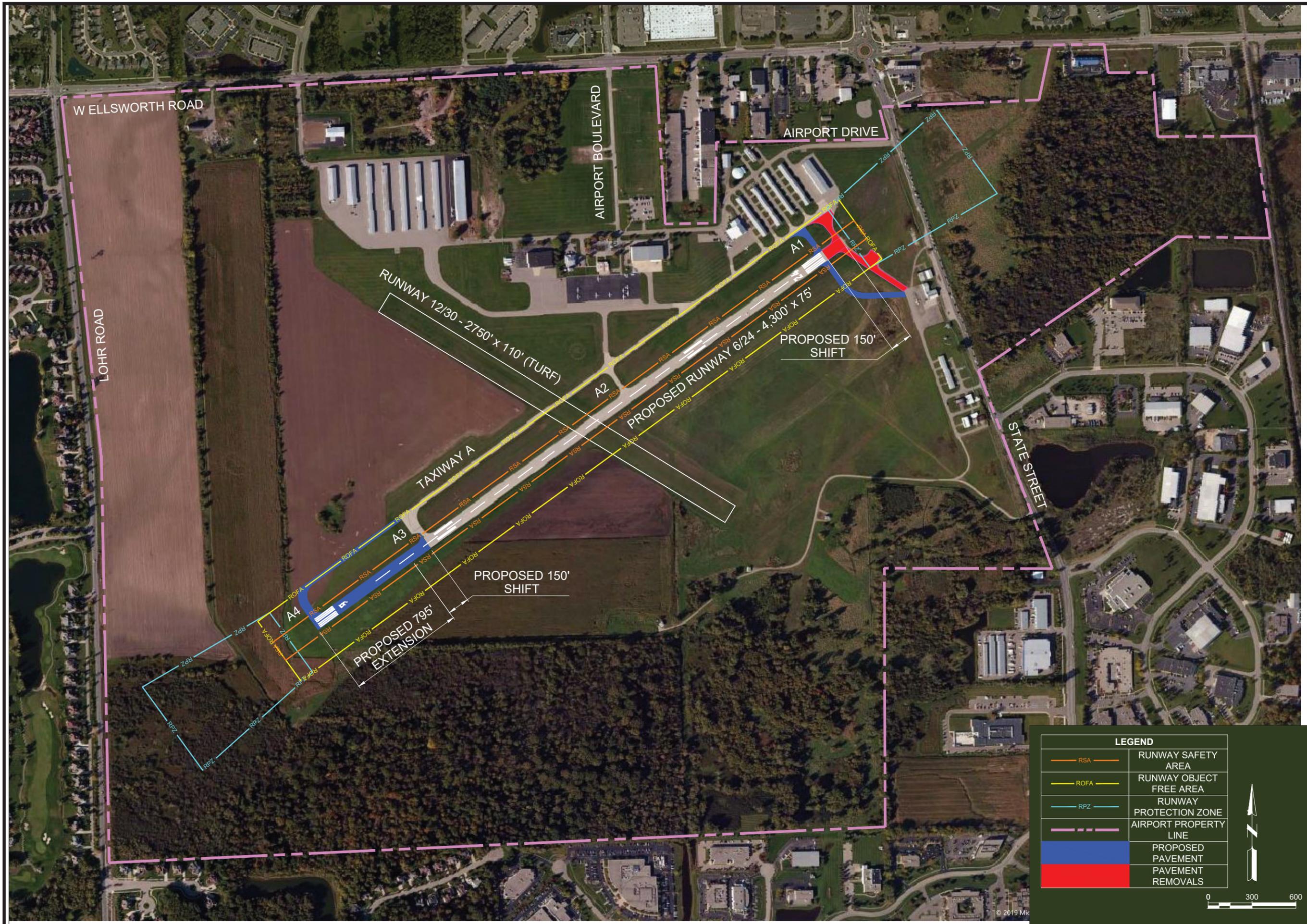
ISSUED

MSH NO.: 2708800-172467.01
DATE: 4/5/2019
DESIGNED BY: JMM
DRAWN BY: JMM
CHECKED BY: WB
DO NOT SCALE DRAWINGS

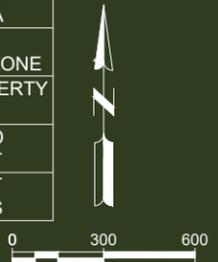
SHEET CONTENTS
PROJECT CONCEPT
SKETCH

SHEET NO.

C-101



LEGEND	
	RSA RUNWAY SAFETY AREA
	ROFA RUNWAY OBJECT FREE AREA
	RPZ RUNWAY PROTECTION ZONE
	AIRPORT PROPERTY LINE
	PROPOSED PAVEMENT
	PAVEMENT REMOVALS



Appendix C. Site Topography



Path: X:\1270800\172467.01\TECH\GIS\Maps\ARB_Topography\Map_Landscape.mxd

Image Source: FSA-NAIP, July 2018

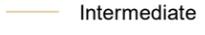
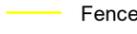
Topography Map

Ann Arbor Municipal Airport

Data Sources:

Elevation data: Washtenaw County from 2017
 LiDAR data. The contour elevation interval is 1 foot.
 Streams: Washtenaw County

Legend

- | | |
|--|--|
|  Project Area of Interest (AOI) | Contour Type* |
|  Piped Drainage |  Index |
|  Stream |  Intermediate |
|  Airport Property Boundary | * Contour interval is 1 foot |
|  Fence | |

Project Location

T3S, R6E, Sections 16 and 17
 Ann Arbor Municipal Airport
 Washtenaw County, MI
 LRR subregion: M
 USACE Regional Supplement: Midwest
 Area of Interest = 82.2 acres
 Field work conducted: October 10, 2018
 and June 3 - 6, 2019



**Appendix D. USFWS Information for Planning and Consultation
(IPaC) Listing**



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Michigan Ecological Services Field Office
2651 Coolidge Road Suite 101
East Lansing, MI 48823-6360
Phone: (517) 351-2555 Fax: (517) 351-1443
<http://www.fws.gov/midwest/EastLansing/>

In Reply Refer To:

April 02, 2021

Consultation Code: 03E16000-2021-SLI-0647

Event Code: 03E16000-2021-E-04238

Project Name: Ann Arbor Michigan Runway 6/24 Extension

Subject: Updated list of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The attached species list identifies any federally threatened, endangered, proposed and candidate species that may occur within the boundary of your proposed project or may be affected by your proposed project. The list also includes designated critical habitat if present within your proposed project area or affected by your project. This list is provided to you as the initial step of the consultation process required under section 7(c) of the Endangered Species Act, also referred to as Section 7 Consultation.

Section 7 of the Endangered Species Act of 1973 requires that actions authorized, funded, or carried out by Federal agencies not jeopardize federally threatened or endangered species or adversely modify designated critical habitat. To fulfill this mandate, Federal agencies (or their designated non-federal representative) must consult with the Fish and Wildlife Service if they determine their project may affect listed species or critical habitat.

There are several important steps in evaluating the effects of a project on listed species. Please use the species list provided and visit the U.S. Fish and Wildlife Service's Region 3 Section 7 Technical Assistance website at <http://www.fws.gov/midwest/endangered/section7/s7process/index.html>. This website contains step-by-step instructions to help you determine if your project may affect listed species and lead you through the section 7 consultation process.

Under 50 CFR 402.12(e) (the regulations that implement section 7 of the Endangered Species Act), the accuracy of this species list should be verified after 90 days. You may verify the list by visiting the ECOS-IPaC website (<http://ecos.fws.gov/ipac/>) at regular intervals during project planning and implementation and completing the same process you used to receive the attached list.

For all **wind energy projects** and **projects that include installing towers that use guy wires or are over 200 feet in height**, please contact this field office directly for assistance, even if no federally listed plants, animals or critical habitat are present within your proposed project area or may be affected by your proposed project.

Please see the “Migratory Birds” section below for important information regarding incorporating migratory birds into your project planning. Our Migratory Bird Program has developed recommendations, best practices, and other tools to help project proponents voluntarily reduce impacts to birds and their habitats. The Bald and Golden Eagle Protection Act prohibitions include the take and disturbance of eagles. If your project is near an eagle nest or winter roost area, see our Eagle Permits website at <https://www.fws.gov/midwest/eagle/permits/index.html> to help you avoid impacting eagles or determine if a permit may be necessary.

Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/birds/policies-and-regulations/administrative-orders/executive-orders.php>.

We appreciate your concern for threatened and endangered species. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
 - USFWS National Wildlife Refuges and Fish Hatcheries
 - Migratory Birds
 - Wetlands
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Michigan Ecological Services Field Office

2651 Coolidge Road Suite 101

East Lansing, MI 48823-6360

(517) 351-2555

Project Summary

Consultation Code: 03E16000-2021-SLI-0647

Event Code: 03E16000-2021-E-04238

Project Name: Ann Arbor Michigan Runway 6/24 Extension

Project Type: TRANSPORTATION

Project Description: The Airport is considering an extension of Runway 6/24 (primary runway) to meet the fleets mixed needs of the Airport. The proposed action would shift the primary runway 150 feet to the southwest and extend the existing 3,505-foot runway to meet the requirements of existing users. Additional major development items include the following:

- Extend Runway 6 by 795 feet
- Extend parallel Taxiway A to match Runway 6 extension
- Extend runway and taxiway lighting and guidance signage
- Relocate/reconstruct FAA owned Runway 6 Runway End Identifier Lights (REILS)
- Reconfigure taxiway intersection with Runway 24 and taxilane to the East Apron
- Remove FAA owned and decommissioned Runway 24 Omni-Directional Approach Lights (ODALs)

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@42.21813325,-83.75491559029733,14z>



Counties: Washtenaw County, Michigan

Endangered Species Act Species

There is a total of 7 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5949 General project design guidelines: https://ecos.fws.gov/docs/tess/ipac_project_design_guidelines/doc5663.pdf	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045 General project design guidelines: https://ecos.fws.gov/docs/tess/ipac_project_design_guidelines/doc5664.pdf	Threatened

Reptiles

NAME	STATUS
Eastern Massasauga (=rattlesnake) <i>Sistrurus catenatus</i> No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> ▪ For all Projects: Project is within EMR Range Species profile: https://ecos.fws.gov/ecp/species/2202 General project design guidelines: https://ecos.fws.gov/docs/tess/ipac_project_design_guidelines/doc5280.pdf	Threatened

Clams

NAME	STATUS
Snuffbox Mussel <i>Epioblasma triquetra</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4135	Endangered

Insects

NAME	STATUS
Mitchell's Satyr Butterfly <i>Neonympha mitchellii mitchellii</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8062	Endangered
Poweshiek Skipperling <i>Oarisma poweshiek</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/9161	Endangered

Flowering Plants

NAME	STATUS
Eastern Prairie Fringed Orchid <i>Platanthera leucophaea</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/601	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31
Bobolink <i>Dolichonyx oryzivorus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31

NAME	BREEDING SEASON
<p>Dunlin <i>Calidris alpina arctica</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds elsewhere
<p>Henslow's Sparrow <i>Ammodramus henslowii</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3941</p>	Breeds May 1 to Aug 31
<p>Lesser Yellowlegs <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679</p>	Breeds elsewhere
<p>Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 10 to Sep 10
<p>Rusty Blackbird <i>Euphagus carolinus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds elsewhere
<p>Semipalmated Sandpiper <i>Calidris pusilla</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds elsewhere
<p>Short-billed Dowitcher <i>Limnodromus griseus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480</p>	Breeds elsewhere
<p>Wood Thrush <i>Hylocichla mustelina</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 10 to Aug 31

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see



Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very

helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of

certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER EMERGENT WETLAND

- [PEM1B](#)

FRESHWATER FORESTED/SHRUB WETLAND

- [PFO1B](#)
- [PSS1B](#)

RIVERINE

- [R5UBFx](#)
-

Appendix E. Correspondence relating to Endangered Species reviews



GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
LANSING



LIESL EICHLER CLARK
DIRECTOR

June 30, 2020

Mr. Matt Kulhanek
Ann Arbor Municipal Airport
801 Airport Drive
Ann Arbor, Michigan 48108

Dear Mr. Kulhanek:

SUBJECT: Transportation Preliminary Database Search
Project Name: ARB Rwy Extension EA / Ann Arbor, Michigan
Site Name: 81-ARB Rwy Extension EA
Submission Number: HP0-8MSR-EJM7D
Location: T03S, R06E, Section 16, Washtenaw County

This letter provides the results of the Transportation Preliminary Database Search that was requested on June 4, 2020, for the above subject project. The Transportation Preliminary Map/Database Review includes a database search for the following concerns within 500-feet of the project location:

- Historical occurrences of state-listed threatened or endangered (T&E) species within the MNFI database*
- Tier 1 Eastern Massasauga Rattlesnake (EMR) designated habitat
- Michigan Mussel Protocol Group 1/Group 2 (state) and Group 3 (federal) T&E Mussels
- Known contamination locations
- State-regulated 303 wetlands
- Section 10 regulated waterways

The following T&E species are listed in the database as having been observed within 500 feet of your project area:

- Henslow's sparrow (*Ammodramus henslowii*); Status: state: endangered
- Creek heelsplitter (*Lasmigona compressa*); Status: state: special concern

Mapped 303 wetlands (primarily soil areas which include wetland soils) were noted in the database as being observed within 500 feet of your project area at the following location:

- South portion of project area for Runway 6/24 extension.
- South portion of project area for Primary Runway shift.

The database search indicated occurrences of the Northern long-eared bat (NLEB) in your project area. NLEBs are federally listed as an endangered species. Indiana bats, which are also federally listed as an endangered species were not noted; however, Indiana bats are considered potentially present wherever suitable habitat exists within their range. Your project location is within the range of the Indiana bat in Michigan. You will need to consult with the United States Fish & Wildlife Services (USFWS) for further guidance prior to performing work or applying for permits.

The database search did not indicate any occurrences for EMR habitat, mussels, contaminated sites, and Section 10 waterways.

** Historical occurrence data for state-listed T&E species were provided to the Water Resources Division (WRD) by the Michigan Natural Features Inventory (MNFI). These data are not based on a comprehensive inventory of the state. The lack of data for any geographical area shall not be construed to mean that no significant features are present. In addition, although the MNFI maintains high standards of quality control, there is no warranty as to the fitness of the data for any purpose, nor that the data are necessarily accurate or complete.*

The only way to obtain a definitive statement on the status of threatened and endangered species is to have a qualified biologist perform a complete field survey of the proposed project area. Under Part 365, Endangered Species Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, "a person shall not take, possess, transport, . . . fish, plants, and wildlife indigenous to the state and determined to be endangered or threatened," unless first receiving an endangered species permit from the Michigan Department of Natural Resources (MDNR). The presence of threatened or endangered species does not preclude activities or development but may require alterations to the project. To obtain or submit an endangered species permit, please contact Ms. Casey Reitz, MDNR, at 517-284-6210 or reitzc@michigan.gov.

This review does not include a comprehensive search for federally listed species. The project location must be screened using the self-service USFWS IPaC website. If your project will potentially impact a federally listed T&E species, you should contact USFWS Ecological Services Field Office at 517-351-2555 or eastlansing@fws.gov to begin the consultation process. If your project requires a permit from the WRD, the application submission should include documentation from USFWS of concurrence/approval.

This letter does not include a review of potential lake, stream, wetland, or floodplain impacts caused by your project that may require a permit from our office. A copy of this letter should be provided as an attachment to any future Joint Permit Application submitted for this location. If you have any questions, please feel free to contact me at prysbym1@michigan.gov or 517-899-7316.

Sincerely,



Michael Prysby, P.E.
Transportation Review Unit
Water Resources Division

cc: USFWS
Ms. Casey Reitz, MDNR