



# The Endangered Species Act and Michigan's Listed Species



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# Presentation Overview

- Summarize main sections of the Endangered Species Act
- Summarize FWS's role in Clean Water Act review as it relates to listed species
- Review some of Michigan's Federally listed species, including EMR and other wetland associated species
- Project review using IPAC



# U.S. Fish and Wildlife Service

## Main Programs

- Ecological Services
  - Endangered Species
  - Contaminants
  - Conservation Planning Assistance
- Migratory Birds
- Refuges
- Fisheries
- International Affairs – Law Enforcement

Our mission is to work with others to conserve, protect and enhance fish, wildlife and plants and their habitats for the continuing benefit of the American people.

# Endangered Species Act - 1973

- Gives joint authority to US Fish and Wildlife Service and National Marine Fisheries Service
- Allows for protections for all species
- Protects habitat as well as species
- [www.fws.gov/endangered](http://www.fws.gov/endangered)



Pitcher's thistle, Photo by V. Cavalieri



# The Endangered Species Act

- Section 2: Findings and Purpose
- Section 3: Definitions
- **Section 4: Listing, Critical Habitat Designation, Recovery, Monitoring**
- Section 6: Financial Assistance to States
- **Section 7: The Role of Federal Agencies**
- **Section 9: Unlawful Activities**
- **Section 10: Exceptions, including Permits**
- Section 11: Penalties and Enforcement

# Findings and Purpose (Section 2)

- Some species of fish, wildlife, and plants are now extinct “as a consequence of economic growth and development untempered by adequate concern and conservation”
- Other species are in danger of extinction
- Species have aesthetic, ecological, educational, historical, recreational, and scientific value
- Purpose of the Act: to conserve endangered and threatened species and the ecosystems on which they depend



Bald eagle, USFWS photo



# Section 3-Key Definitions

- **Endangered** – Any species in danger of extinction throughout all or a significant portion of its range
- **Threatened** – Any species likely to become endangered in the foreseeable future
- **Critical Habitat** – Specific geographic areas with physical and biological features essential to the conservation of listed species



Endangered Piping Plover



Threatened Eastern massasauga



Piping Plover Critical Habitat



# Key Definitions

- Species includes any subspecies of fish, wildlife, or plants and any Distinct Population Segment (DPS) of any vertebrate species



**Mitchell's satyr**, MNFI photo



**Dwarf Lake Iris**, USFWS photo



**Copperbelly Watersnake**, Photo by O. Attum



# Listing – Section 4

Identifying species for possible designation as “endangered” or “threatened”

- Citizens may petition the Fish and Wildlife Service, or
- Fish and Wildlife Service can identify species through internal studies and discussion with States, Universities, and other experts in the scientific community



Petitioned for listing: N. Long-eared bat

Photo by WI DNR

# Listing – Five factor analysis

- Five factors considered in determining whether a species is endangered or threatened:
  1. Present or threatened **destruction, modification, or curtailment** of the species **range or habitat**
  2. **Over-use** for commercial, recreational, scientific, or educational purposes
  3. **Disease or predation**
  4. **Inadequacy** of existing **regulatory mechanisms**
  5. **Other** natural or man-made factors affecting the continued existence of the species



# Listing Process

- Use the best available scientific and commercial information
- Use peer-review to ensure sound science and sound decision-making
- Publish Federal Register notice of a proposal to list species as endangered or threatened
- Respond to public comments, and complete a final rule within one year
- Candidate species are those that warrant listing but the listing is precluded by higher listing priorities

# Listing – Critical Habitat

- Use best scientific data to identify areas essential to the conservation of a species and may require special management consideration or protection
- Economic impact analysis required, and areas may be excluded from protection based on analysis
- Publish Federal Register notice and seek public comment on proposal to designate critical habitat
- Designation does *not* create a park or preserve



# National Listing Workplan

- Plan for addressing Endangered Species Act listing and critical habitat decisions over the next seven years
- 30 Candidate species, 320 status reviews (12 month finding) for species petitioned for listing
- Michigan – rusty patched bumble bee, monarch
- [https://www.fws.gov/endangered/improving\\_esa/listing\\_workplan\\_prioritization\\_methodology.html](https://www.fws.gov/endangered/improving_esa/listing_workplan_prioritization_methodology.html)

# Recovery – Section 4

## Goals

- Reduce or eliminate threats to listed animals and plants
- Restore self-sustaining wild populations
- Remove species from the list



Kirtland's warbler, a recovering species

USFWS photo



# Recovery Plans

- Develop with stakeholders
- Identify recovery strategy
- Identify tasks and partners
- Establish delisting/downlisting criteria
- Provide timetable and cost estimate



# Section 4 - Delisting

- Delisting criteria identified in the species' recovery plan
- *Federal Register* notice published and public comment sought on proposal to delist
- Recovered species monitored for five years





# Section 6 – Cooperation with States

- Recognizes States' key role in conserving wildlife and plants
- Provides funding to States with which the Fish and Wildlife Service has cooperative agreements



Michigan has received funding to monitor and manage Mitchell's Satyr Butterfly.

Photo by B. Barton

# Section 9 – Prohibited Acts

- Listed plants are protected from commercial trade, collection, or malicious destruction on Federal lands, and similar actions that violate State law.
- Listed wildlife is protected from “take” and commercial trade.





# Section 9 - Take

**Take** means: harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or to attempt to engage in these activities.

- **Harm** includes habitat destruction that kills or injures listed species by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

Section 4(d) allows flexibility of section 9 prohibitions for threatened species.

# Section 7 – Interagency Cooperation

- **Section 7(a)(1):** All Federal agencies shall utilize their authorities in furtherance of the purposes of the Act by carrying out programs for the conservation of listed species.
- **Section 7(a)(2):** Each Federal agency shall insure that any action authorized, funded, or carried out by the agency is not likely to jeopardize the continued existence of listed species or result in destruction or adverse modification of designated critical habitat



# Section 7 – Interagency Cooperation

- If agency action may affect individuals of a listed species or critical habitat, the agency must initiate consultation with the Fish and Wildlife Service.
- Private citizens are affected by section 7 when their action needs a Federal permit or funding.
  - “Federal nexus”



# Section 7 – Interagency Cooperation

## Determination of Effects

- No effect
  - Does not require concurrence from Fish and Wildlife Service, but justification/support should be documented in file
- May affect, not likely to adversely affect
  - Requires written concurrence from Service
- May affect, likely to adversely affect
  - Requires formal consultation



# Section 7 Consultation

## Formal Consultations

- If adverse effects are unavoidable, the Federal agency initiates formal consultation
- Ensure the action not likely to jeopardize species or adversely modify critical habitat
- 135 day time frame with the end result of a “biological opinion” which determines whether the action is likely to result in jeopardy
  - Incidental take statement includes amount and extent of take, along with measures to minimize take

# Section 10 – Recovery Permits

- The Fish and Wildlife Service issues section 10(a)(1)(A) permits for scientific purposes or to enhance the propagation or survival of a species.
- Includes permits to conduct surveys, e.g., mussel surveys, mist-netting for bats



Indiana Bat USFWS photo



# Section 10 – Recovery Permits



- Section 10(a)(1)(A) permitting authority is used to encourage species conservation on non-Federal lands.
  - **Safe Harbor Agreements**
    - Voluntary agreements to encourage landowners to improve conditions for listed species on their land by removing fear of subsequent restrictions
  - **Candidate Conservation Agreement with Assurances**
    - Voluntary agreements with landowner to encourage conservation of candidate species and provides assurances if the species becomes listed in the future

# Section 10 – HCP

- The Fish and Wildlife Service issues incidental take permits to private landowners under section 10(a)(1)(B) provided an approved Habitat Conservation Plan is developed.
- Habitat Conservation Plans are a tool for conserving listed, proposed, and candidate species while providing for development that will not “appreciably reduce the likelihood of the survival and recovery of the species in the wild.”
- Statewide HCP for KBB, another coming soon for poweshiek skipperling and Mitchell’s satyr butterfly



# Section 11 – Penalties and Enforcement

- Provides for civil or criminal penalties for ESA violations:
  - Civil penalties up to \$25,000 per violation
  - Criminal penalties up to \$50,000 and/or a year in prison per violation
- Provides for citizens' lawsuits to compel the Secretary of the Interior to enforce the ESA

# Clean Water Act – Section 404

- Section 404 requires permits for discharge of dredged or fill materials into waters of the United States
- “Waters” includes wetlands
- Discharges are regulated through CWA permits issued by either the COE and/or state agencies





# USFWS Role in CWA Section 404

- 404(g) allows states to assume the regulatory authority for Section 404 when the State program is as stringent as the Federal 404 program
- Michigan and New Jersey have the only state-assumed permit programs pursuant to Section 404
- CWA includes specific provisions for the USFWS to review and comment on:
  - The adequacy of the State's 404 program
  - Applications for State 404 permits

# FWS Review of Section 404 Permits

- 40 CFR 233.50 specifies the FWS role in Federal review of applications for State 404 permits
  - FWS notifies EPA within 15 days of receiving notification if it will have comments on the permit application
  - FWS provide comments and evaluation to EPA within 30 days
  - EPA has 90 days to review the application
  - EPA consolidates Federal comments and makes the final decision to object or require permit conditions



# FWS Review of Section 404 Permits

- Regulations allow for Federal review to be waived for some types of permit applications (40 CFR 233.51)
  - Also specify that for 8 categories of discharges, the Federal review process can not be waived
    - Includes “Discharges with reasonable potential for affecting endangered or threatened species as determined by FWS”  
40 CFR 233.51(b)

# FWS Review of Section 404 Permits

- COE consults with FWS via section 7 of the ESA for permits under their jurisdiction
  - Section 7 process ensures projects do not jeopardize listed species or adversely modify critical habitat
  - Allows for a process to authorize “incidental take” of listed species



# FWS Review of Section 404 Permits

- No provisions under 404 to allow for Incidental Take, and applicants would need to go through the HCP process to get an Incidental Take permit
- FWS provides Federal review under Conservation Planning Assistance program
  - CWA, Fish and Wildlife Coordination Act, ESA, MBTA, and Bald and Golden Eagle Protection Act

# Section 404 – Clean Water Act

## 404 (b)(1) Guidelines

§230.10(b) No discharge of dredged or fill material shall be permitted if it:

... (3) Jeopardizes the continued existence of species listed as endangered or threatened under the Endangered Species Act of 1973, as amended, or results in likelihood of the destruction or adverse modification of a habitat which is determined by the Secretary of Interior or Commerce, as appropriate, to be a critical habitat under the Endangered Species Act of 1973, as amended.



# Summary of ESA

- ESA prohibits “take” of listed species
- For otherwise lawful activities that will result in harm or injury to individuals, authorize take through:
  - **Section 10 permits**
    - Research and recovery
    - Enhancement of survival - SHA, CCAA
    - Incidental take permit (associated Habitat Conservation Plan)
  - **Section 7**
    - Listed species and critical habitat
    - Only for actions with a federal nexus
    - Federal actions can't jeopardize listed species

# Threatened and Endangered Species in Michigan (Total 27)

## Mussels:

- Clubshell
- Northern riffleshell
- Rayed bean
- Snuffbox

## Birds:

- Kirtland's warbler
- Piping plover
- Red Knot

## Insects:

- American Burying Beetle
- Hine's emerald dragonfly
- Hungerford's crawling water beetle
- Karner blue butterfly
- Mitchell's satyr butterfly
- Poweshiek skipperling

## Reptiles:

- Copperbelly water snake
- Eastern massasauga rattlesnake

## Mammals:

- Canada lynx
- Gray Wolf
- Indiana bat
- Northern Long Eared Bat

## Plants:

- American Hart's tongue fern
- Dwarf lake iris
- Eastern prairie fringed orchid
- Houghton's goldenrod
- Lakeside daisy
- Michigan monkey-flower
- Pitcher's thistle
- Small whorled pogonia



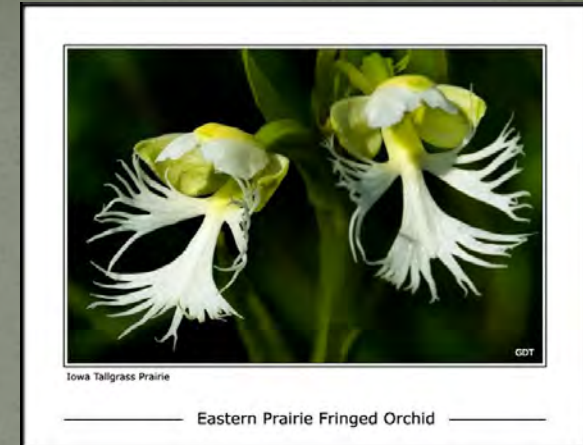
# Plants





# Eastern Prairie Fringed-Orchid (*Platanthera leucophaea*)

- Listing History
  - Listed as threatened in 1989
- Biology and Life History
  - Long-lived, up to 30 years
  - Flowering in late June and early July
  - Capsules mature in late September and release thousands of airborne seeds
- Distribution
  - Present in 15 counties in Michigan
  - Mostly restricted to the lakeplain prairies of Saginaw Bay and western Lake Erie



<http://www.reflectiveimages.com/eprairiefringedorchid.htm>



<http://www.saltcreekgreenwayassociation.org/files/fringed%20orchid.html>



# Eastern Prairie Fringed-Orchid (*continued*)

- Habitat
  - In Michigan occurs in wet prairies and bogs
  - Communities with alkaline, lacustrine soils
  - 3 moths are known as pollinators
- Threats
  - Loss and fragmentation of wetlands and wet prairies
  - Exotics such as purple loosestrife
  - Ditching and diking of lakeplain prairie habitats
  - Recreational activities



<http://wolverines.wordpress.com/2009/06/04/minn-cracks-down-on-off-road-cowboys-who-trash-wetlands/>



<http://www.epa.gov/region5/cleanup/amerchem/fu20010810.htm>



# Michigan Monkey Flower (*Mimulus michiganensis*)

- Listing History
  - Listed in 1990
  - Only federally endangered plant in MI
- Biology and Life History
  - Blooms mid-June with peaks in late June into July
  - A poorly studied species
    - Thought to produce low viable pollen
    - May be dependent on vegetative propagation
- Distribution
  - Endemic to MI and only present in 6 counties





# Michigan Monkey Flower (*continued*)

- Habitat

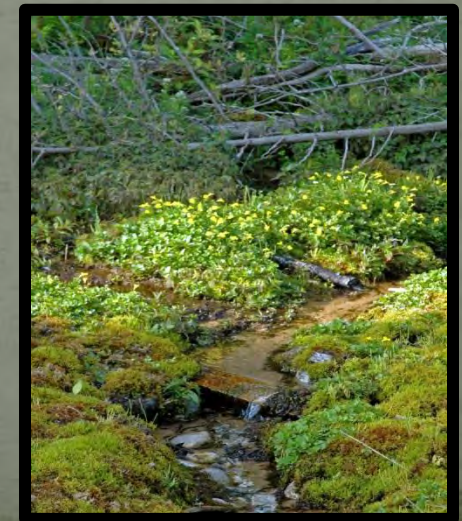
- Restricted to alkaline habitats, with cold ground water fed streams or springs
- Frequently associated with northern white cedar swamps
- Flourishes in open, sunnier habitats
- Found to occur in silty-sand substrate in cold, flowing water (8.7-16.6° C) with narrow pH range of 7.66 to 8.21



Jody Marquis

- Threats

- Changes in hydrology – both flow regime & H<sub>2</sub>O quality
- Residential development or development for recreation
- Loss of pollinators





# Plants (continued) (Threatened 1988)

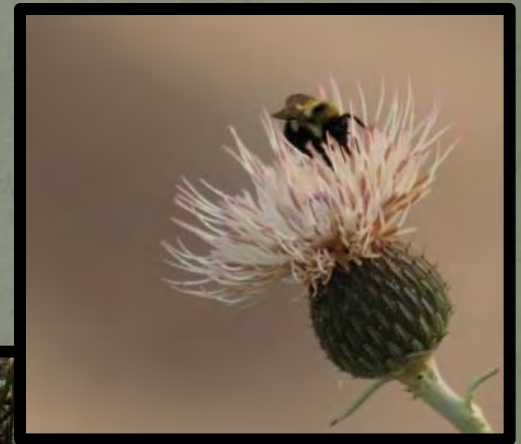
- Dwarf Lake Iris (*Iris lacustris*)
  - Present in 11 counties in Michigan
  - Great Lakes shores on sand or thin soils over gravel or bedrock
- Houghtons Goldenrod (*Solidago houghtonii*)
  - Present in 9 counties in Michigan
  - Occurs along the northern shores of Lake Huron and Lake Michigan in calcareous beach sands, or rocky and cobbly shores
  - Can occur in northern wet prairies of Kalkaska and Crawford counties





# Plants (continued) (Threatened 1988)

- Hart's-Tongue Fern (*Asplenium scolopendrium*)
  - Present in Mackinac and Chippewa counties in Michigan
  - Occurs on north or east-facing slopes in Michigan
  - Grows on boulders and ledges of dolomite in moist, shady areas
- Pitchers Thistle (*Cirsium pitcheri*)
  - Occurs along shores of Lake Michigan, Huron, & Superior
  - Typically grows on open dune habitats
- Lakeside daisy (*Hymenoxys herbacea*)
  - A single occurrence in Mackinac county
  - Limestone or dolomite parent geology





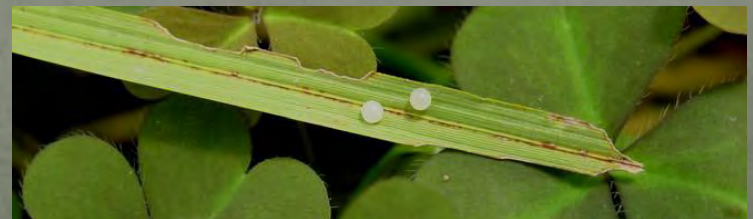
# Insects





# Mitchell's Satyr (*Neonympha mitchellii mitchellii*)

- Listing History
  - Endangered 1991
- Biology and Life History
  - Adults fly late June through mid-July
  - Eggs laid on underside of leaves
  - Larvae feed on sedges
  - Overwinter as larvae, resume feeding in spring
- Distribution
  - Present in Barry, Berrien, Branch, Cass, Jackson, Kalamazoo, St. Joseph, Van Buren, Washtenaw counties





# Mitchell's satyr (*continued*)

- Habitat
  - Mosaic of prairie fen, sedge meadow, tamarack savanna, and shrub-carr
    - Groundwater-fed, alkaline wetlands
    - Saturated peat soil
    - Dominated by sedges
    - Scattered trees and shrubs
- Threats
  - Habitat loss and degradation
  - Pesticides and other pollutants
  - Butterfly collectors





# Poweshiek Skipperling (*Oarisma poweshiek*)

## Listing History

- Endangered 2014
- Critical Habitat Designated 2015

## • Biology and Life History

- Flight period mid-June to mid-July
- Adults nectar on prairie flowers (water and carbohydrates)

## • Distribution

- Only present in Oakland county and Manitoba, CAN

## • Habitat

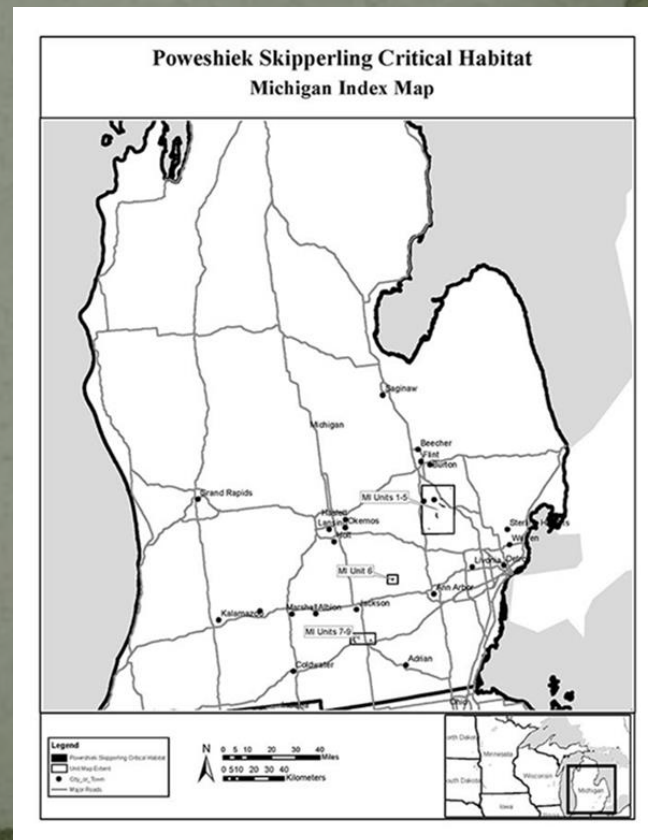
- Prairie fens in Michigan

## • Threats

- Habitat loss and land management practices



Photo by Erik Runquist



# Karner Blue (*Lycaeides melissa samuelis*)

Photo by T. Meyer

- Listing History
  - Endangered 1992
- Biology and Life History
  - Adults feed on nectar of several flowering species and larvae feed on lupine only
- Distribution
  - Present in Allegan, Ionia, Kent, Lake, Mason, Mecosta, Monroe, Montcalm, Muskegon, Newaygo, Oceana counties
- Habitat
  - Oak savannas & road-utility ROWs with wild lupine
- Threats
  - Habitat loss or degradation or collection



Photo by Susan Cnspin





# Hines Emerald Dragonfly (*Somatochlora hineana*)

- Listing History
  - Endangered 1995
  - Critical Habitat Designated in 2007
- Biology and Life History
  - Larvae/nymphs will stay aquatic for 2 to 4 years = Semivoltine
  - Adults live for 5 to 6 weeks = Semelparity (single reproductive episode before death)
- Distribution
  - Present in Alcona, Alpena, Mackinac, Menominee, Presque Isle counties





# Hines emerald dragonfly (*continued*)

- Habitat

- Wetlands dominated by graminoids, that contain slow moving rivulets and seeps
- Cool, shallow, flowing waters are important for larvae
- Sedges, shrubby cinquefoil, bulrushes, rushes and twig-rushes make up northern fen vegetation



- Threats

- Changes in local hydrology that impacts flow regime or water quality
- Adult mortality due to flights into roadways





# Hungerford's crawling water beetle (*Brychius hungerfordi*)

- Listing History
  - Endangered 1994
- Biology and Life History
  - Both adults and larvae are herbivores
  - Adults are not thought to use flight as a mode of dispersal and likely rely on passive transport in streams
  - Predators include fish, tadpoles and other aquatic insects
- Distribution
  - Present in Emmet, Montmorency, Oscoda, Presque Isle counties



PHOTO: [http://mnrsar.cat.webfeat.com/pages/MNR\\_SAR\\_HGFRD\\_CR\\_WA\\_BE\\_INS\\_EN.aspx](http://mnrsar.cat.webfeat.com/pages/MNR_SAR_HGFRD_CR_WA_BE_INS_EN.aspx)





# Hungerford's crawling water beetle (*continued*)

- Habitat
  - Inhabits fast flowing, relatively cool (15-25° C) alkaline streams
  - Substrates are often sand and gravel
  - Open or partially open canopy
  - Below beaver dams or similar structures (culverts)
- Threats
  - Changes to water chemistry or thermal regime
  - Removal of beaver dams
  - Projects with culverts (human-made conditions akin to beaver dams)
  - Introduced, non-native fish (e.g. German Brown Trout)

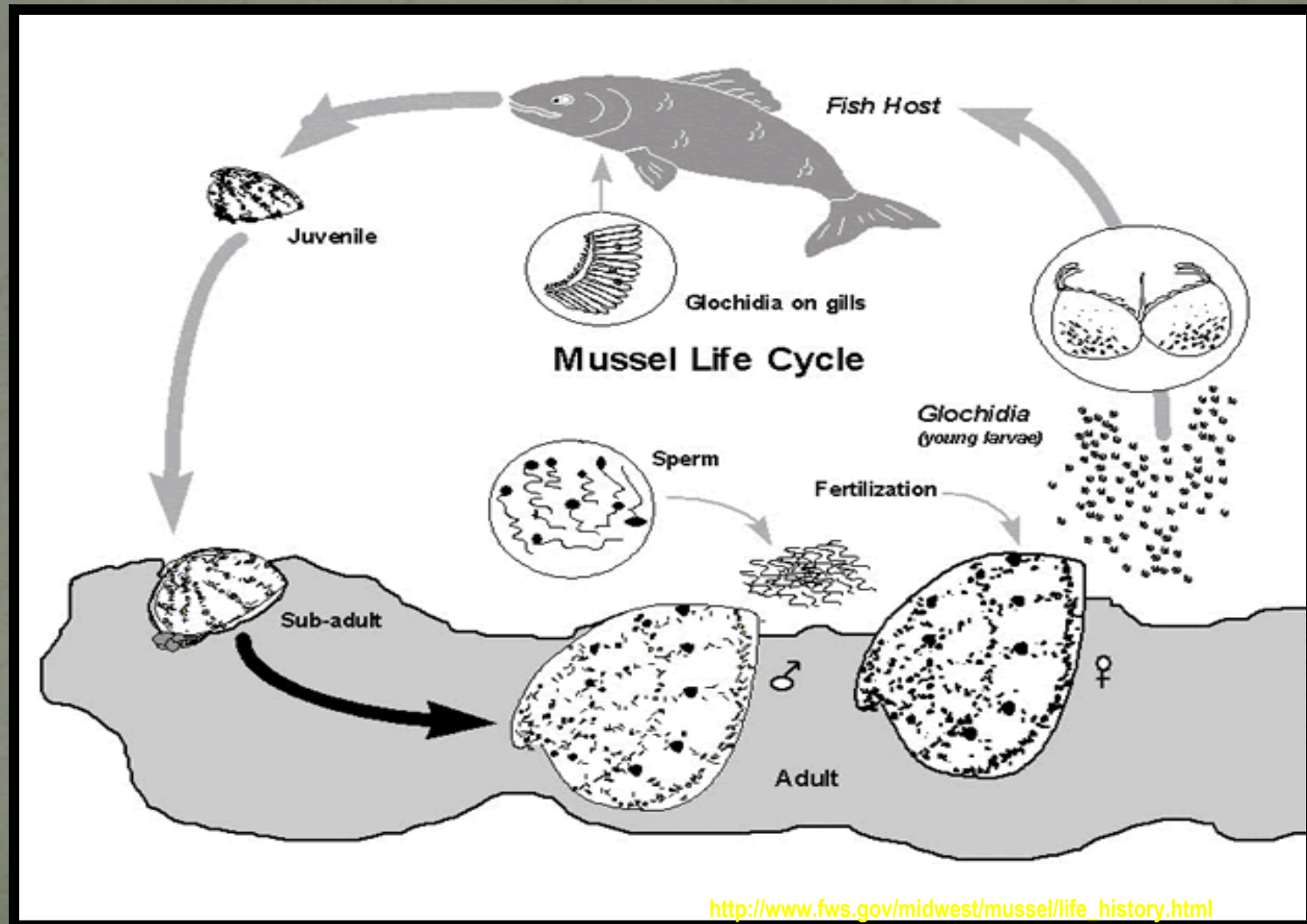




# Freshwater Mussels

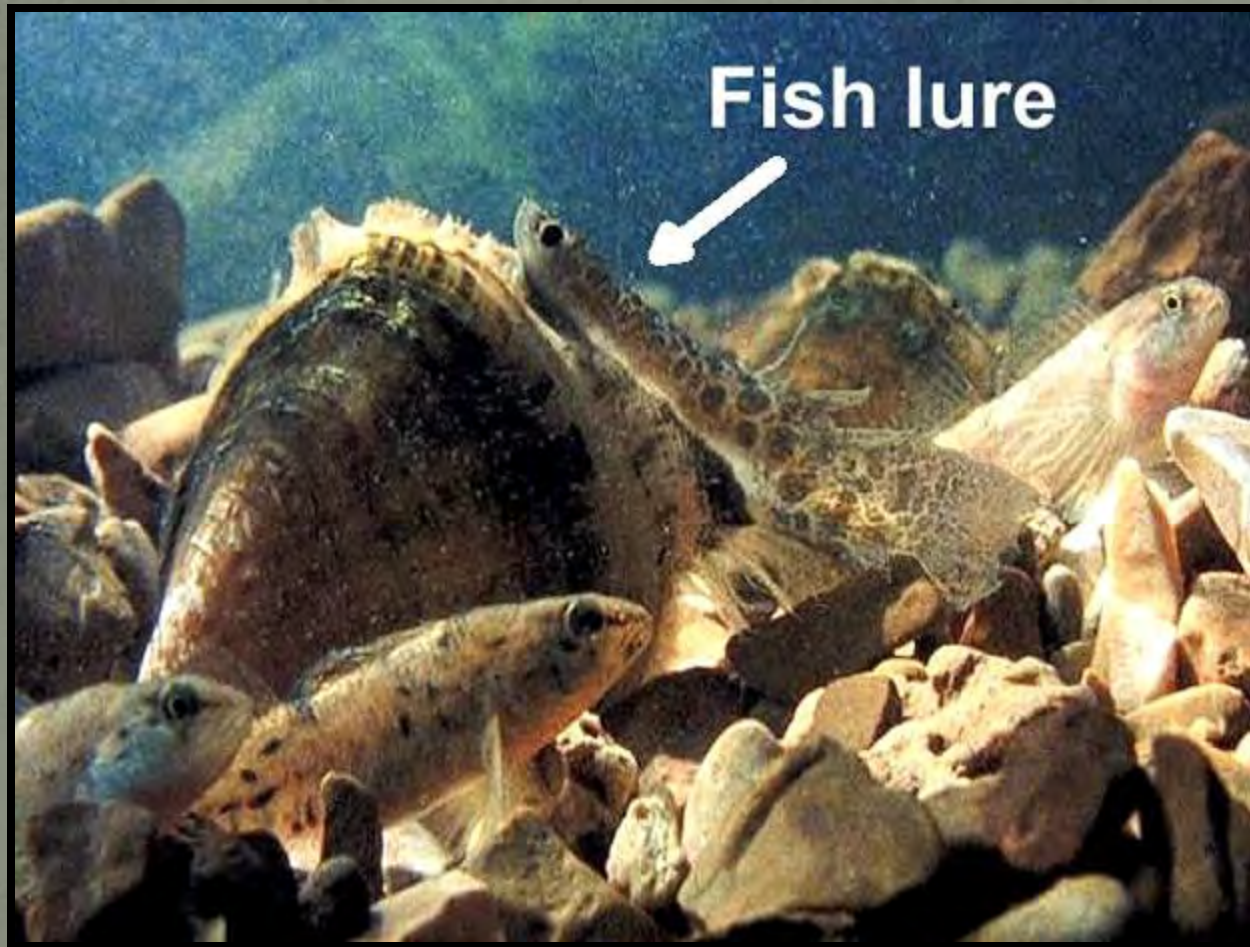


- 4 Federally endangered species in Michigan
- Unique life cycle





Modified mantle will waver to appear as a minnow



[http://www.fws.gov/midwest/mussel/life\\_history.html](http://www.fws.gov/midwest/mussel/life_history.html)



# Threats

- Fragmentation of habitat by dams
- Loss of water quality by pollutants and changes in natural water regimes
- Loss of host fish
- Invasive species such as zebra mussels or non-native crayfish





## Clubshell (*Pleurobema clava*) (ESA listing 1993)

- Host fish include: blackside darter, central stoneroller, logperch and striped shiner
- Maximum life-span is at least 50 years (Badra and Goforth 2001)
- St. Joseph Watershed, Hillsdale County
- Gravel and sand substrate



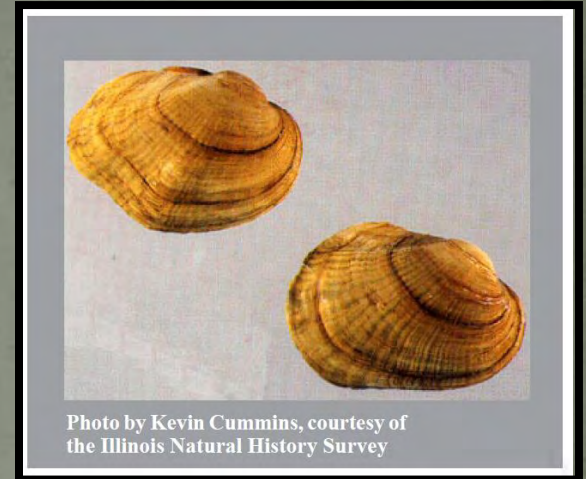
## Rayed Bean (*Villosa fabalis*) (ESA listing 2012)

- Host fish is Tippecanoe darter but unknown in Michigan.
- Maximum life-span unknown.
- Small, shallow rivers or wave action areas of lakes. Buries deep in gravel and sand substrate.
- In the past twenty years, only found in the River Raisin, Belle, Pine and Clinton Rivers



## Northern riffleshell (*Epioblasma torulosa rangiana*) (ESA listing 1993)

- Host fish include: blackside darter, logperch, rainbow darter, Johnny darter, and mottled sculpin
- Life-span is approximately 15 years or more
- Found in the Black River, Sanilac county



## Snuffbox (*Epioblasma triquetra*) (ESA listing 2012)

- Life-span is approximately 8-10 years
- Host fish is logperch
- Found in the Pine and Belle rivers, St. Clair County; Clinton River, Oakland County; throughout the Grand River watershed
- Preferred substrate is sand, gravel, cobble





# Michigan Mussel Survey Protocols and Relocation Procedures

- Adapted from West Virginia and Ohio Protocols
- Provide project proponents with guidance and standardized survey and relocation protocols to minimize impacts to mussel species that are state or federally listed.
- Coordination with the USFWS is necessary when federally listed mussels may be present.
- A federal permit is required for survey or relocation activities where federally listed species are present.





# Snakes



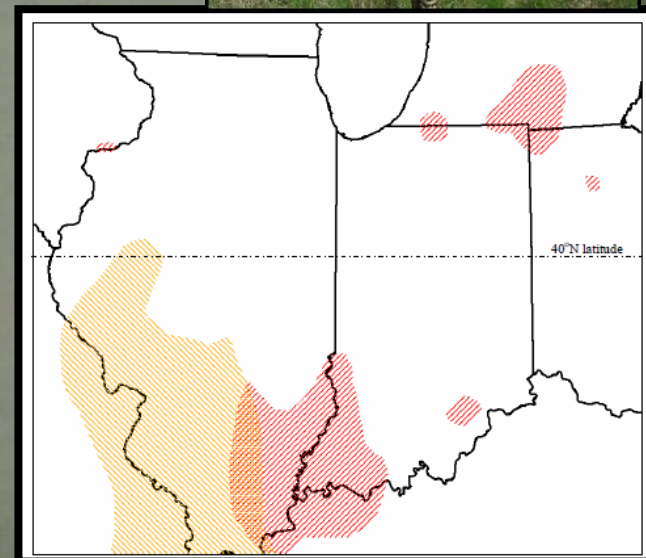


# Northern Copperbelly Watersnake (*Nerodia erythrogaster neglecta*)

- Listing History
  - Federally listed as threatened in 1996  
Currently completing 5 Year Review
- Biology and Life History
  - Coloration
  - Hibernacula include crayfish burrows, rotting stumps, dense brush piles and beaver lodges (Kingbury *et al.* 2003)
- Distribution
  - DPS to the northeast of the 40<sup>th</sup> North Parallel
  - Current distribution



Bruce Kingsbury





# Habitat

- Highly vagile species moving between multiple wetlands using adjacent uplands
- Wetland community types in Michigan
  - Pond
  - Emergent marsh
  - Southern wet meadow
  - Inundated shrub swamp
  - Southern floodplain forest
  - Southern hardwood swamp
- Upland habitat:
  - Upland areas with shrubs and tall herbaceous growth
  - Open upland habitats with abundant grass coverage adjacent forested habitats





# Threats

- Habitat Loss & Habitat Fragmentation
- Loss of ephemeral wetlands that are fishless but have high amphibian biomass
- Persecution
- Roads = Roadkill
- SFD?





# Eastern Massasauga Rattlesnake (*Sistrurus catenatus catenatus*) (EMR)

- Biology and Life History
  - Produce live young = viviparous
  - Mating can occur in spring, summer and fall (females like can store sperm)
  - Females with 8 to 20 young from late July to early October (most in August)
  - In Michigan, home ranges reported from 3 to 41 acres
- Habitat
  - Live in wet areas including wet prairies, marshes, fens, and low areas along rivers & lakes
  - Often use adjacent upland areas during part of the year
  - Will hibernate in crayfish burrows





# Candidate Conservation Agreement with Assurances (CCAA)

- CCAA
  - Formal Agreement between the Service and one or more parties to address the conservation needs of a proposed or candidate species or species likely to become a candidate
  - Goal of CCAA is to conduct conservation activities that can preclude need for listing
- Benefits of CCAAs
  - May preclude need to list
  - If species is listed, there is an associated 10a1A permit authorizing the landowner incidental take
    - Provides assurances to landowners that conservation efforts will not result in future regulatory obligations in excess of Agreement
- EMR CCAA between the Service and the MDNR Finalized in August 2016



# Candidate Conservation Agreement with Assurances

- Agreement with MDNR for Enrolled Lands
  - Agree to follow conservation measures for EMR to minimize adverse effects during certain activities on areas enrolled as Managed Lands
  - Prescribed fire, trail maintenance, mowing, invasive species control
- No additional requirements now that species is listed
- 14 private landowners signed on via Certificates of Inclusion
  - 158,595 acres of Managed Lands
    - 136,311 acres DNR
    - 22,284 acres through COI





# Listing History

- Listed as threatened (October 2016)
  - Species Status Assessment (SSA) was prepared to assess EMR current and projected future ability to survive
  - Listing rule allows for protection of humans
    - “any person may take endangered [or threatened] wildlife in defense of his own life or the lives of others.” 50 CFR 17.31, 50 CFR 17.21(c)(2)
    - any person taking, including killing, listed wildlife in defense of human life under this exception must notify our headquarters Office of Law Enforcement, at the address provided at 50 CFR 2.1(b), in writing, within 5 days.
- Critical Habitat
  - Service determined that designation of critical habitat is not prudent due to potential for increased persecution and unauthorized collection.



## Next Steps for EMR

- Recovery Planning will identify goals for delisting, SSA will inform Recovery Planning process
- Chicago Field Office is the lead
- Research permits issued by regional office:  
<https://www.fws.gov/midwest/endangered/permits>
- For more information on EMR:  
<https://www.fws.gov/midwest/endangered/reptiles/eama/>



# EMR – Project Review

- Modeling by MNFI and Ohio State was used to develop polygons to guide where EMR likely to be present, as well as likely suitable habitat
- Developing BMPs that can reduce or potentially eliminate concerns for some types of projects
  - Examples:
    - Using wildlife-safe materials for erosion control
    - mowing during the inactive season when possible
    - using exclusionary fencing to separate EMR habitat from action area



**EMR killed by erosion control blanket's plastic mesh netting**



# Threats



- Habitat Loss and Fragmentation
- Fire management
- Persecution
- Snake Fungal Disease

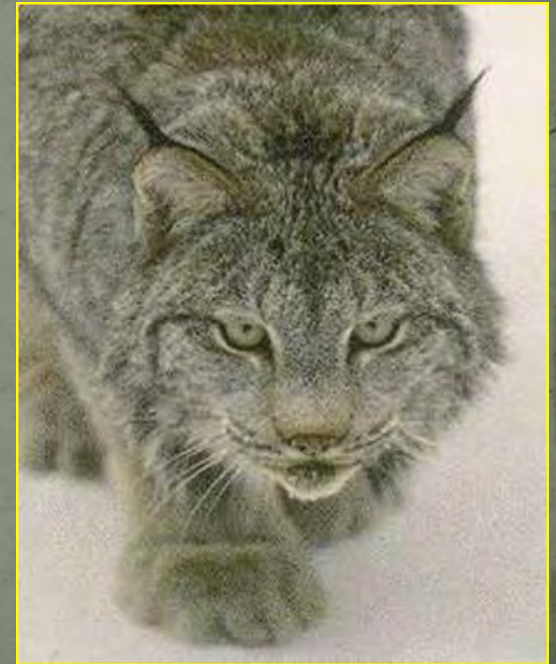


Kevin McCurley



# Mammals

- Gray Wolf (*Canis lupus*) (Endangered 2014)
  - Listing is currently being litigated
  - Present in the U.P.
  - Northern woodlands
  - Prey is white tailed deer, moose, beavers, snowshoe hare
- Canada Lynx (*Lynx canadensis*) (Threatened 2014)
  - Present in the U.P., mostly dispersing individuals
  - Prey in snowshoe hare
  - No critical habitat in MI
- Indiana Bat (*Myotis sodalis*)
- Northern Long-eared Bat (*Myotis septentrionalis*)





# Birds

- Piping Plover (*Charadrius melodus*) (Endangered 1985)
  - Great Lakes population breeds in Michigan & Wisconsin
  - Cobbly beaches of Lakes Michigan, Huron & Superior
  - Critical habitat designated in MI
- Red Knot (*Calidris canutus rufa*) (Threatened 2014)
  - Present during migration (May 1- September 30) throughout MI on Great Lakes shorelines
- Kirtland's Warbler (*Setophaga kirtlandii*) (Endangered 1967)
  - Breeds in Michigan & Wisconsin; winters in Bahamas
  - Jack pine trees of certain sizes and ages
  - Ground nester





# Project Review

- **Information, Planning, and Conservation System**  
<http://ecos.fws.gov/ipac/>

- Project scoping, resource maps, regulatory review, and impact analysis

- **Midwest Region's section 7 consultation and technical assistance**

<http://www.fws.gov/midwest/endangered/section7/s7process/index.html>

- Provides you with a list of federally listed species that may occur in your county and walk you through the section 7 consultation process.



## IPaC Information for Planning and Conservation

Powered by ECOS - the Environmental Conservation Online System

Welcome to the new IPaC!

• [Video: What's new in IPaC](#) ~10m

[See our FAQ](#)

# IPaC is a project planning tool which streamlines the USFWS environmental review process

GET STARTED


LOG IN

## Integrate the environmental review process into your project design

Quickly and easily identify USFWS managed resources and suggested conservation measures for your project.



### Explore species and habitat

See if any listed species , critical habitat, migratory birds or other natural resources may be impacted by your project.

Using the map tool, explore other resources in your location, such as wetlands, wildlife refuges, GAP land cover, and other important biological resources.



### Conduct a regulatory review

Log in and define a project to get an official species list and evaluate potential impacts on resources managed by the U.S. Fish and Wildlife Service.

Follow IPaC's Endangered Species Review process—a streamlined, step-by-step consultation process available in select areas for certain project types, agencies, and species.



### Perform an impact analysis

For projects or species not covered by the step-by-step consultation process, get a list of potential impacts from your specified project activities to use when making effect determinations.

Receive conservation measures recommended by U.S. Fish and Wildlife Service biologists to avoid, minimize, or mitigate effects to listed species.



# IPaC Information for Planning and Conservation

MY PROJECTS

1 Find location

2 Define area

3 Confirm

Verify the area where project activities will occur

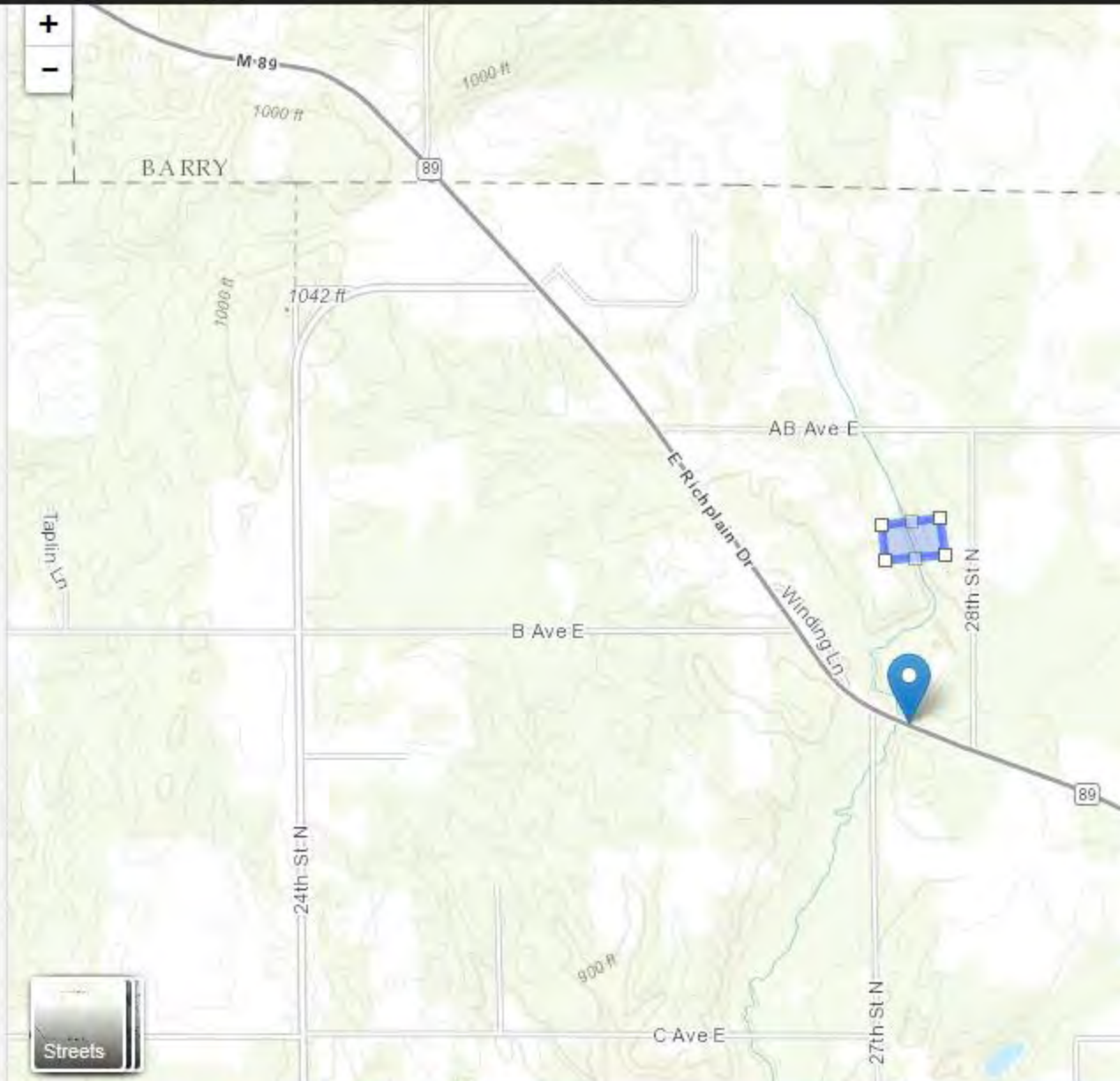
AREA: 7.15 acres

CONTINUE

START OVER

Layers

ADD



# IPaC Information for Planning and Conservation

MY PROJECTS

FACILITIES

WETLANDS

DEFINE PROJECT

Define a project at this location to evaluate potential impacts, get an official species list, and make species determinations.

THUMBNAILED LIST

## Insects

NAME

Mitchell's Satyr Butterfly  
Neonympha Mitchellii Mitchellii

## Mammals

NAME

Indiana Bat  
Myotis Sodalis

Northern Long-eared Bat  
Myotis Septentrionalis

## Reptiles

NAME

Eastern Massasauga (=rattlesnake)  
Sistrurus Catenatus



# Endangered species review

[< BACK](#)

## 1 Request an official species list

## 2 Make effect determinations

### Step 1: Request an official species list

An official species list is a letter from the local U.S. Fish and Wildlife Service office with information that assists in the evaluation of potential impacts of this project. It includes a list of species that should be considered under [Section 7](#) of the Endangered Species Act, a project tracking number, and other pertinent information from the local office.

### Does this project require an official species list?

Federal agencies are required to "request of the Secretary of Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action" ([Section 7](#) of the Endangered Species Act).

This requirement applies to projects that are **conducted, permitted, or licensed** by any Federal agency.

[YES, REQUEST A SPECIES LIST](#)[SKIP / DOES NOT APPLY](#)

# IPaC Information for Planning and Conservation

MY PROJECTS


PROJECT HOME

REGULATORY REVIEW


## Regulatory review

The IPaC regulatory review process will help evaluate the potential impacts of your project on resources managed by the U.S. Fish and Wildlife Service. We'll walk through regulations covering each protected resource, and offer suggestions and assistance in designing your project.

### Endangered species


Endangered species are protected under the Endangered Species Act .

4 endangered species are known to occur or may be affected by activities in this location.

 [Request an official species list](#)

You have skipped this step.

**2 Make effect determinations**

For each listed species  in the project area, a determination must be made regarding the potential effects of the project on the species.

**REVIEW SPECIES**



# IPaC Information for Planning and Conservation

MY PROJECTS

PROJECT HOME

REGULATORY REVIEW

You have skipped this step.

## 2 Make effect determinations

For each listed species <sup>2</sup> in the project area, a determination must be made regarding the potential effects of the

REVIEW SPECIES



## Migratory birds

Migratory birds are protected under the Migratory Bird Treaty Act <sup>3</sup> and the Bald and Golden Eagle Protection Act <sup>4</sup>.

23 migratory birds of conservation concern are expected to occur or may be affected by activities in the location.



Contact the local U.S. Fish and Wildlife Service field office

There is currently no regulatory review process in IPaC for migratory birds. Please contact the local U.S. Fish and Wildlife Service field office to evaluate effects and authorize take.

# IPaC Information for Planning and Conservation

MY PROJECTS

PROJECT HOME

REGULATORY REVIEW



## Facilities

U.S. Fish and Wildlife Service facilities are protected under the National Wildlife Refuge System Administration Act <sup>5</sup> and the National Fish Hatchery System <sup>6</sup>.

THERE ARE NO U.S. FISH AND WILDLIFE SERVICE REFUGES OR FISH HATCHERIES AT THIS LOCATION.



## Wetlands

Wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act <sup>7</sup>, or other State/Federal statutes.

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

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# Example Project using IPAC

- Vegetation management, to include mostly invasive species removal
- Timing: Winter, ground frozen
- Applicant determined no effect to bats, no effect to EMR, unsure about Mitchell's satyr so contacted our office
  - Based on the location of the project and timing, no Mitchell's satyr habitat will be affected

# Project Review

- Determine whether the species may be present in the action area
- Is suitable habitat present? If not
  - If yes, option of conducting a survey.
    - Negative survey results
- Assess whether adverse effects are expected
  - If possible, are there timing restrictions or other measures that would avoid those impacts?
- If you determine that adverse effects are may occur please contact our office.
- Contact East Lansing Field Office for technical assistance



