Endangered Species Conservation and Pesticide Use
An On-The-Ground Perspective

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Outline

- On-the-ground efforts and endangered species
- Kirtland’s Warbler conservation
- CWMA and Hine’s Emerald Dragonfly
- Pitcher’s Thistle Protection on Charity Island
- Conservation Work: The Process
- Endangered Species BMP Guides
The Conservation Landscape in Northeast Michigan

- Huron Pines
- Northeast Michigan Cooperative Management Area
- Kirtland’s Warbler Conservation Team and Alliance
- Agencies, nonprofits, businesses, local governments
On-The-Ground Efforts in NE Michigan

- Landscape Scale
  - Natural communities
  - People communities
- Diverse Partnerships
- High-Quality Habitat
  - 26 listed species (12 in NE MI)
Kirtland’s Warbler

- Specific habitat requirements
- Endangered since 1967 (1973 ESA original!)
  - Low of under 400 individuals
  - Recovery goal: 1,000 pairs (surpassed since 2001)
  - Proposed Rule for delisting now in review!
- Major threats:
  - Nest parasitism
  - Lack of fire
- Permanently conservation-reliant
Kirtland’s Warbler: A Long-Term Strategy

Conservation Team
Formerly Recovery Team
- Government agencies
- Universities
- Nonprofits
- Local interest groups/individuals

Goal: continue to manage KW habitat and maintain target populations across ownership boundaries.

Alliance
- State and national interest groups
- Nonprofits
- Ex officio agency staff
- Regional conservation groups
- Interested volunteers

Goal: raise sustainable funds to power conservation initiatives forever and provide outreach to the public on KW, ESA, tourism links, etc.
Kirtland’s Warbler: Conservation Activities

- Brown-headed cowbird trapping
- Prescribed fire and forest management
- Jack pine planting
- Habitat closures
- Invasive species control
- Intensive research—all locations
- Public outreach—all ages
Hine’s Emerald Dragonfly

- Found in only 4 states: IL, MO, WI, MI
- Open calcareous wetlands with coldwater seeps
- ESA listed in 1995
- Major threats
  - Forest encroachment/succession
  - Polluted runoff
  - Invasive species
HED Conservation Activities

- Tree and brush removal
- Water quality protection
- Invasive species control
- Permanent land protection
Pitcher’s Thistle

- Found only in MI, IN, WI, Ontario
- Grows in open dunes along Great Lakes shoreline
- Takes 5-7 years to mature, then blooms and dies
- ESA listed 1988 (threatened)
- Major threats:
  - Dune succession
  - Invasive species
  - Trampling, human use
Pitcher’s Thistle Conservation Activities: The Charity Island Partnership

- Partnership: schools, businesses, local governments, agencies
- Monitoring
- Invasive species control
- Thistle propagation (students)
- Public outreach
Conservation Work: The Process

- Pre-Project
  - Inventory and prioritization
  - Coalition building
  - Fundraising
  - Quality Assurance Project Plan
  - NEPA/ESA Sec. 7
  - NHPA
  - Landowner permissions
  - State and federal permits
    - Invasive species
    - Soil disturbance and water resources
    - NPDES
  - Sea lamprey evaluations

- Work

- Post-Project
  - Progress and financial reports
  - Permit reports
  - Adaptive management evaluation
  - Outreach
Working with Contractors

- Different values and concerns
- Project timing and location require different approaches
- Required to follow the law and our funders’ contract restrictions

Best Management Practice Guides
Endangered Species Best Management Practice Guides

- Simplifies Federal Register info and critical habitat protection requirements
- Proactive conservation measures
- Taking into account contractor needs/landowner values

Best Practice Guide

Hungerford’s Crawling Water Beetle (Brychius hungerfordi)

Find It
In Michigan, Hungerford’s crawling water beetles prefer cold streams with slightly alkaline water and high dissolved oxygen. The need for high dissolved oxygen and cool temperatures means these streams are often under partial or heavy shade from surrounding forests. These streams often have sand or gravel bottoms and can often be found below beaver dams or similar man-made structures.

Identify It
Hungerford’s crawling water beetles are endangered. These beetles are typically less than a quarter inch long; colored yellowish brown with dark stripes down the back and uneven yellow markings on the head.

Protect It
The Endangered Species Act prohibits any construction or development projects that would damage water beetle habitats. These activities would include, but are not limited to: beaver dam removal, fish introductions or removals, and stream modifications through dredging, channelization, improvements, etc. The beetles are particularly active between the third week of June and the fourth week of August so extra care should be taken to protect their habitat during this time.

The U.S. Fish & Wildlife Service works to study beetles and protect their essential stream habitats. You can help while you’re working by doing the following:

- Avoid transplanting stream species such as the New Zealand mud snail or predators such as brown trout into water beetle habitats.
- Do not feed your pets or feed your pets’ food to fish or other aquatic animals.
- Do not modify stream habitats by draining or blocking water sources.
- Do not remove beaver dams, as they provide essential habitat to water beetle populations.
- Protect water quality by limiting or eliminating use of chemicals such as pesticides and fertilizers around stream habitats.

Take care to especially follow these strategies in Emmet, Montmorency, Oscoda, and Presque Isle counties, as these are the five known locations of Hungerford’s crawling water beetles.

Contact Us

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Thank You!

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