



Presented By: Christopher Hoving
Date: March 2007



What is a Prairie Fen?

- Wetland, often with slope
- Bog – like
 - peat soil
 - Basic, not acidic
- Early succession
- Common plants
 - Sedges
 - Wildflowers
 - Tamarack trees
 - Poison sumac



Chris Hoving, Michigan DNR

Common Plants of Fens



Chris Hoving, Michigan DNR

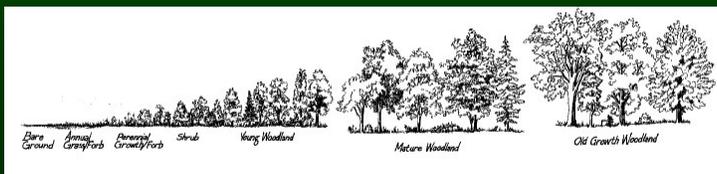


Common Plants of Fens



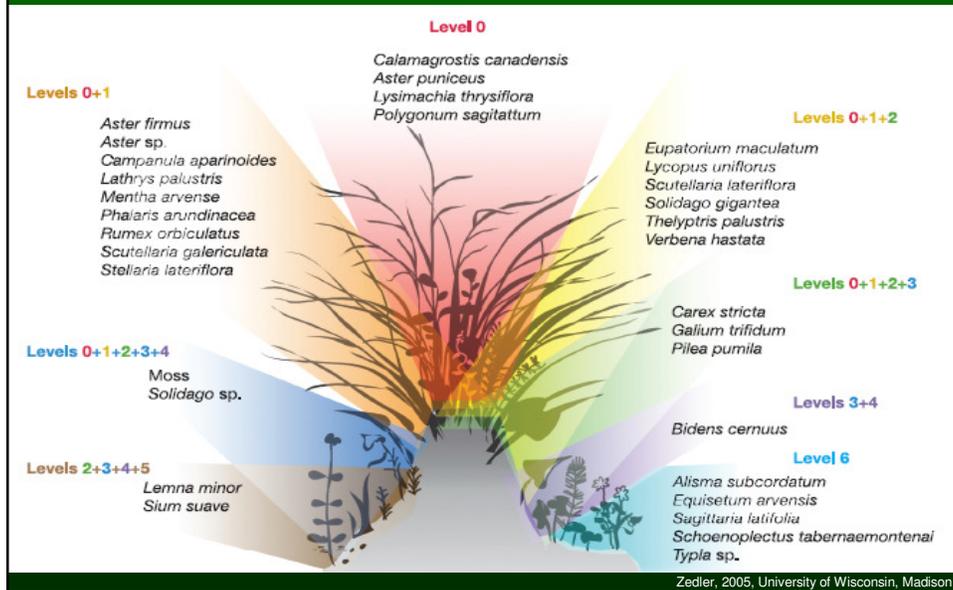
Natural Systems are Dynamic

- Natural succession
- Historical disturbance regimes
 - Beaver
 - Fire
- Fens were part of an open landscape
- Native organisms adapted to open communities now in decline





Tussock Sedge Topography



Conservation Status

- Occur only in glacial Midwestern U.S.
- 117 fens in Michigan Natural Feature Inventory's database
- Few high quality
- Globally imperiled



Conservation Threats to Fens

- Succession to shrub swamp or conifer swamp
 - Fire suppression
 - Invasive exotic species
- Permanent draining or flooding
- Pollution and run-off



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Rare Plants and Animals of Prairie Fens



Susan Crispin, Michigan Natural Features Inventory

White lady slipper



Rare Plants and Animals of Prairie Fens



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Prairie Indian Plantain



Rare Plants and Animals of Prairie Fens



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Eastern Box Turtle



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Rare Plants and Animals of Prairie Fens



Bill Westrate

Kirtland's snake



Rare Plants and Animals of Prairie Fens



Kyle Kücher, Michigan Natural Features Inventory

Eastern Massasauga Rattlesnake



Rare Plants and Animals of Prairie Fens



Dave Cuthrell, Michigan Natural Features Inventory

Tamarack tree cricket



Rare Plants and Animals of Prairie Fens



David Cuthrell, Michigan Natural Features Inventory

Poweshiek skipperling



Rare Plants and Animals of Prairie Fens



Barb Barton, Michigan Natural Features Inventory

Swamp metalmark



Mitchell's satyr Butterfly

- Rarest animal of prairie fens
- One indicator of a healthy fen
- Flagship species for fens



Daria Hyde, Michigan Natural Features Inventory



Mitchell's satyr Identification

- Dark chocolate brown
- Size 1.5 to 1.75 in
- Slow bobbing flight
- Frequently perches on vegetation
- Unique wing pattern



Doug Landis, Michigan State University



Other Brown Butterflies Wood Nymph



Chris Hoving, Michigan DNR



Dan Kennedy, Michigan DNR



Other Brown Butterflies

Appalachian Eyed-Brown



David Cuthrell, MNFI



Dan Kennedy, Michigan DNR



Other Brown Butterflies

Little Wood satyr



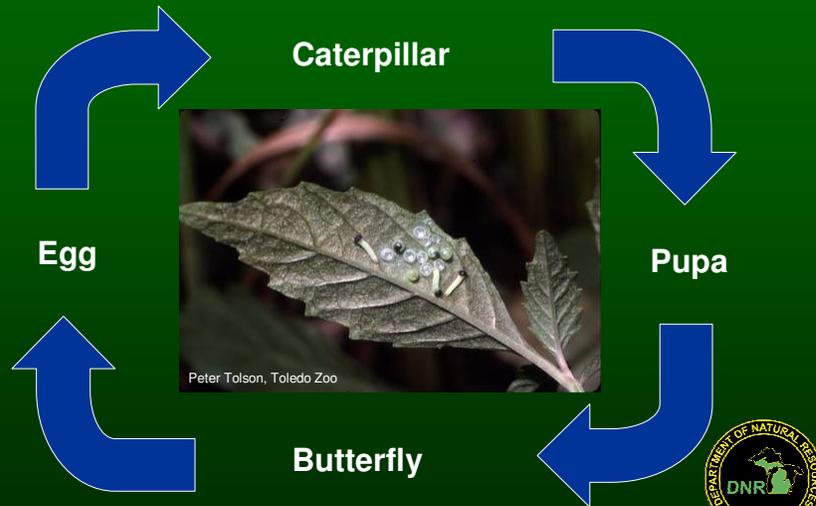
Will Cook
©2005 Will Cook



Dan Kennedy, Michigan DNR



Mitchell's satyr Life History



Mitchell's satyr Habitat

- Between open fen and shrub or tree edge
- Water level, humidity, and plant diversity appear critical



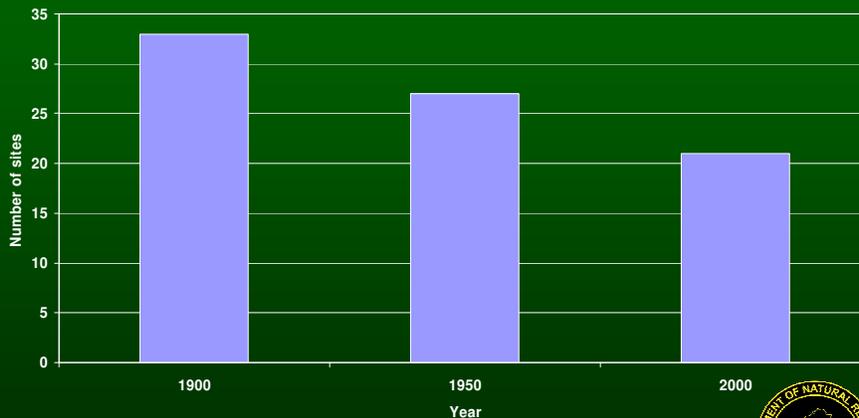
Mitchell's satyr Distribution

- Historically known from
 - Michigan
 - Indiana
 - Ohio
 - Maryland
 - New Jersey
- 19 current sites
 - 17 in Michigan, 2 in Indiana
 - 15 on private land



Mitchell's satyr Butterfly Decline

Number of sites with Mitchell's satyr through time



Mitchell's satyr Threats

- Threats to fen habitat
 - Fire suppression
 - Invasive exotics
 - Wetland changes
 - Draining
 - Stabilization
 - Pollution
- Other threats
 - Illegal collection
 - Random events
- May be threats
 - Disease vectors
 - Competition
 - Parasitism



Conservation Actions – Prescribed Burning



Conservation Actions – Cut Shrubs and Invasive Exotics



Conservation Actions – Restore Hydrology



Private Land Programs

- U.S. Fish and Wildlife Service
 - Private Stewardship Grant Program (PSGP)
 - Competitive grant, nationwide
- Michigan DNR
 - Landowner Incentive Program
 - Management plans and funds for conservation actions
- Not-for-Profit organizations
 - Conservation easements
 - Surveys, apply for grants, etc.



Federal and State Protected

- Listed as “endangered”
 - Federal
 - State
- “Endangered” species are in danger of extinction
- Illegal to “take” any listed species
 - Without proper permits



What is “Take?”

- Take – harming or killing a listed species
- A permit for take may be required for some activities, such as
 - Research
 - Reintroduction
 - Habitat restoration
 - Other activities that negatively affect occupied habitat



The Current Permitting Process

- Recovery related permits
 - Habitat management that might result in take (prescribed burning)
 - Research
- Non-recovery related permits
 - All other non-conservation actions
- Federal agencies
 - Section 7 consultation
 - Landowners that receive federal funding such as the Landowner Incentive Program



Take Authorization and Permits

- Permit may be required in occupied habitat
 - If federal funding, may not need a permit
 - Working with conservation organizations
 - Otherwise, each landowner applies for an individual permit
 - If for recovery-related action, typically apply for a “recovery” permit
 - Small application fee
 - Takes 3-4 months



Habitat Conservation Plans (HCP)

- A tool developed by the U.S. Fish and Wildlife Service
- Landowner receives an Incidental Take Permit
- A *Plan* is needed to get a *Permit*
- An HCP describes
 - anticipated effects of the proposed action
 - how that take will be minimized



Chris Hoving, Michigan DNR

Example of HCP and Permit

- Shrubs threaten
- Prescribed burn
- Top layer of vegetation
- Timing and amount of occupied habitat crucial
- Plan determines
 - how much
 - best times of year
- Receive a permit to cover take that occurs incidental to the burn



Benefits of the HCP

- Ecological benefits
 - Fen management
 - Mimics natural processes
 - Safe for rare species
- Landowner benefits
 - Reduces uncertainty
 - May be easier than other permits
 - Allows activities consistent with satyr conservation
 - Helps other wildlife



Adrienne Bozic, Michigan Natural Features Inventory



Mitchell's satyr HCP Process

- 2006 Michigan DNR (lead agency) received a grant from U.S. Fish and Wildlife Service
- 2006 Michigan DNR formed a team with Indiana DNR and Michigan Natural Features Inventory
- 2007 Team asks for input
 - From the public
 - From affected land managers
 - From scientific experts



Daria Hyde, Michigan Natural Features Inventory

Mitchell's satyr HCP Process

- 2007-2008 Team will write the Habitat Conservation Plan
- 2009 Michigan DNR will submit the Plan to the U.S. Fish and Wildlife Service, along with an application for an Incidental Take Permit
- 2009 – ongoing Anyone seeking to do activities consistent with the HCP can request a Certificate of Inclusion from Michigan DNR



The HCP and You

Does the HCP change my property value?

- No. The HCP is voluntary.

Does the HCP open my land to public hunting?

- No.

Will DNR or U.S. Fish and Wildlife Service staff visit my property if I participate?

- By participating, you agree to allow staff to visit your property to make sure the permitted actions were consistent with the permit.

How do I participate?

- First, we need your comments on the Plan.
After the plan is written, to participate under the permit, you will need to contact the DNR.



Please Send Us Your Comments

- E-mail: lergj@michigan.gov
- Postal mail: 610 North 10th St., Plainwell, MI 49080
- <http://www.fws.gov/midwest/endangered/permits/hcp/mitchellsatyr/index.html>



Nate Fuller, Southwest Michigan Land Conservancy





Great Lakes, Great Times, Great Outdoors

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