

Natural Features Database



Northern Red Salamander, Hinckley Reservation
Pseudotriton ruber ruber

credit: Tim Krynak, Cleveland Metroparks

credit: Claire Weldon, Cleveland Metroparks



Longtail Salamander
Eurycea longicauda



Candy-striped Leafhopper
Graphocephala coccinea

credit: John Pogacnik, Lake Metroparks



Ruby meadowhawk dragonfly
Sympetrum rubicundulum

credit: John Pogacnik, Lake Metroparks

European
Honey Bee
Apis mellifera

credit: John Pogacnik, Lake Metroparks



credit: Claire Weldon, Cleveland Metroparks

Cranefly Larva



credit: http://www.illinoiswildflowers.info/grasses/plants/lake_sedge.html

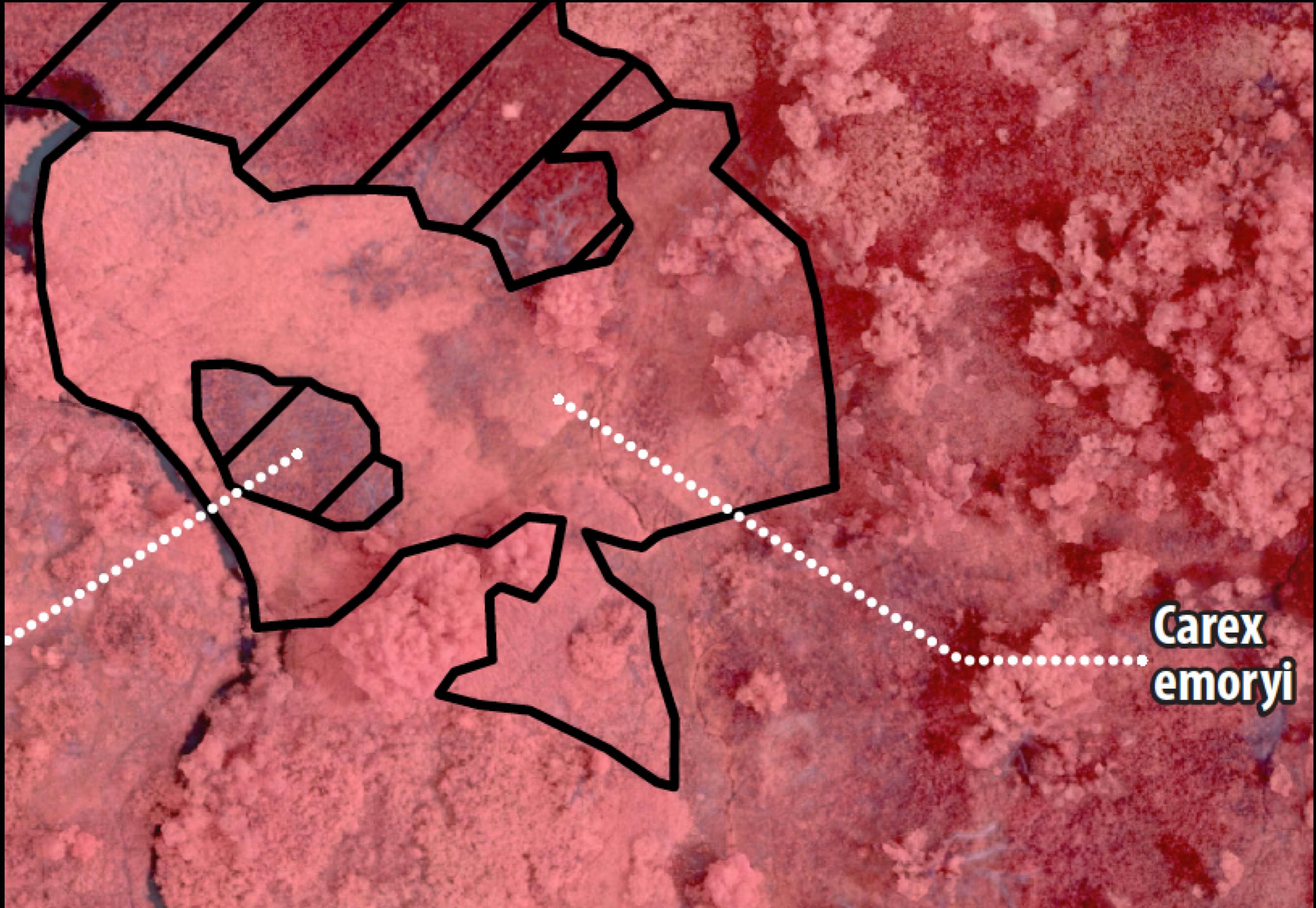


Lake Sedge
Carex lacustris

credit: John Reinier
Cleveland Metroparks



Emory's sedge Meadow
Carex emoryi



**Carex
emoryi**

Existing Assessments and Datasets

Assessments / Datasets currently Maintained

- Taxonomic observations
- Natural heritage data
- iNaturalist

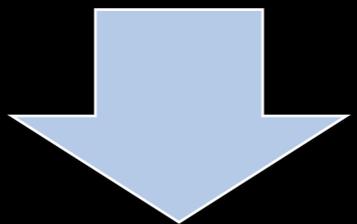
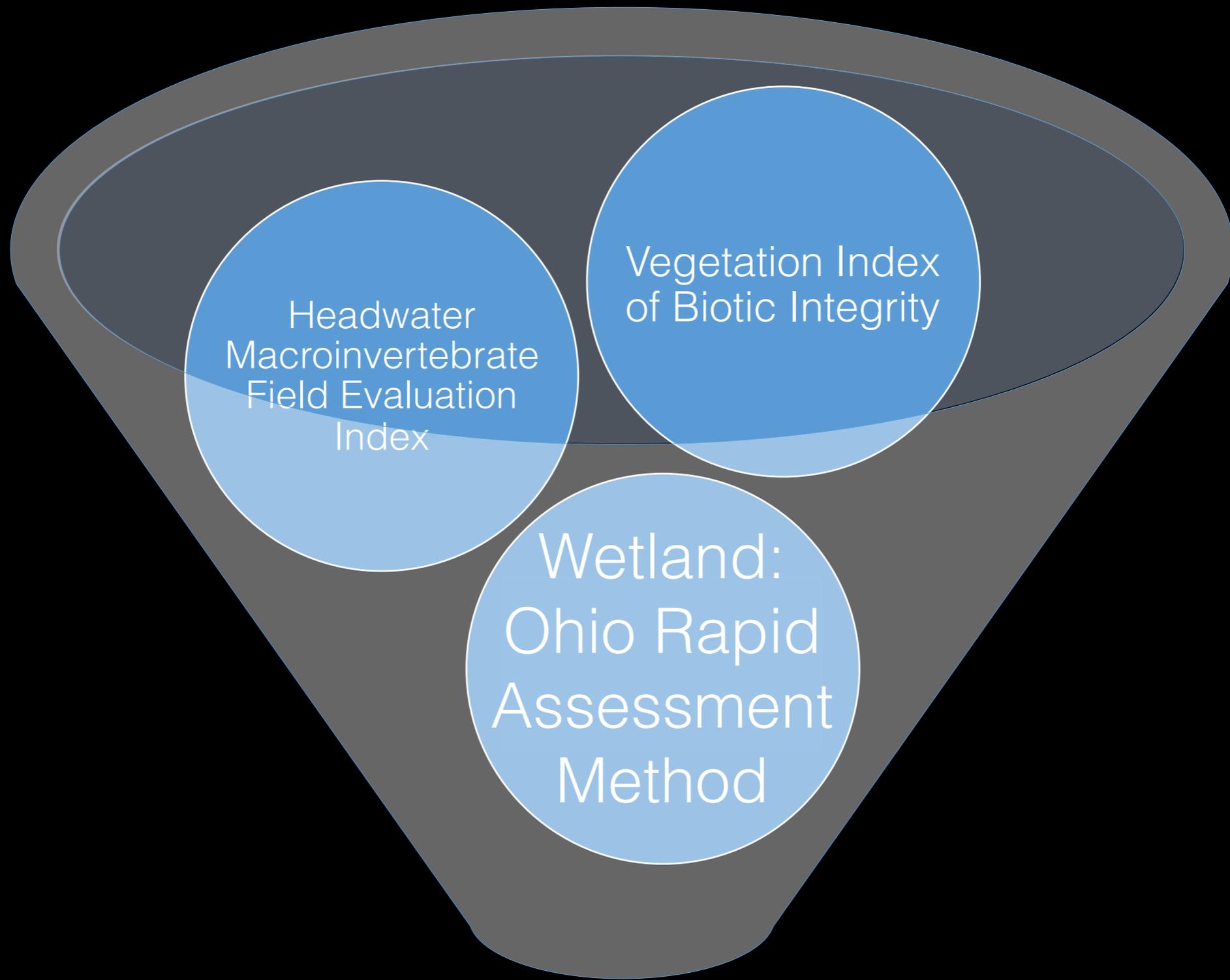
Assessments / Datasets currently Maintained

- Aquatic:
 - Headwater Habitat Evaluation Index (HHEI)
 - Headwater Macroinvertebrate Field Evaluation Index (HMF EI)
 - Qualitative Habitat Evaluation Index (QHEI)
 - Index of Biotic Integrity (IBI)

- Modified Index of Well-Being (MIwb)
- Invertebrate Community Integrity (ICI)
- Qualitative Community Tolerance Values (QCTV)

Assessments / Datasets currently Maintained

- Vegetation Index of Biotic Integrity
- Wetland
 - Classification
 - Unmapped observations
 - Ohio Rapid Assessment Method: ORAM
- Site Surveys
 - first or one-time visits
 - monitoring activities
- Camera traps
- Gull and Goose Observations



Natural Features database

Example of what we'll
track

Flowering Plant

1 - Species, family *Ex. Anemone cylindrica, Ranunculaceae*
Common name *Prairie Thimbleweed*
Common group name *Buttercups (marsh marigold, columbine)*

2 - TSN (Taxonomic Serial Number) - Unique Identifier
Cleveland Metroparks Rarity Code
Ohio Listed Species Code
NatureServe Code
Other codes (EPA, IUCN)

3 - Location (*coordinates, reservation, city, county, watershed*)
Location accuracy (*exact to very general*)
Directions
Description of site

4 - Number of clusters and individuals
Phenology stage (*number of adults, seedlings, senescent plants*)

5 - Habitat where found (*old field*)
Associations (other plants present in its proximity)
Expected habitat?
Soil type (sandy, loamy)
Moisture regime (subject to flooding?)
Tree canopy cover (%)
Aspect (NE,NW, SE...)
Landscape position (summit, shoulder, backslope, valley...)

6 - Disturbances (invasive plants, earthworms, trampling, overgrowth)
Occurrence condition (*healthy, under stress, browsed*)
Potential threats (browsing, collecting, shade)

7 - Occurrence date
Occurrence number in Cleveland Metroparks
Time of observation
Reporter name, affiliation, contact information
Photographs taken, storage
Verifier name, affiliation, contact information

8 - Specimen collected?
Whole plant, flowers, seeds?
Where housed (CM, CMNH...)
Contact information
Number assigned to collected specimen

9 - Suggested occurrence monitoring frequency
Occurrence monitoring records (dates, condition...)
Recommended immediate actions

Who is this?

Flowering Plant

1 - Species, family	<i>Ex. Anemone cylindrica, Ranunculaceae</i>
Common name	<i>Prairie Thimbleweed</i>
Common group name	<i>Buttercups (marsh marigold, columbine)</i>

What is this?

How special?

- 2 - TSN (Taxonomic Serial Number) - Unique Identifier
- Cleveland Metroparks Rarity Code
- Ohio Listed Species Code
- NatureServe Code
- Other codes (EPA, IUCN)

Where is it?

- 3 - Location (*coordinates, reservation, city, county, watershed*)
 - Location accuracy (*exact to very general*)
 - Directions
 - Description of site

Demographics

4 - Number of clusters and individuals

Phenology stage (*number of adults, seedlings, senescent plants*)

Context

5 - Habitat where found (*old field*)

Associations (other plants present in its proximity)

Expected habitat?

Soil type (sandy, loamy)

Moisture regime (subject to flooding?)

Tree canopy cover (%)

Aspect (NE, NW, SE...)

Landscape position (summit, shoulder, backslope, valley...)

Health

- 6 - Disturbances (invasive plants, earthworms, trampling, overgrowth)
Occurrence condition (*healthy, under stress, browsed*)
Potential threats (browsing, collecting, shade)

Who, what, when of observation

7 - Occurrence date

Occurrence number in Cleveland Metroparks

Time of observation

Reporter name, affiliation, contact information

Photographs taken, storage

Verifier name, affiliation, contact information

Voucher

8 - Specimen collected?

Whole plant, flowers, seeds?

Where housed (CM, CMNH...)

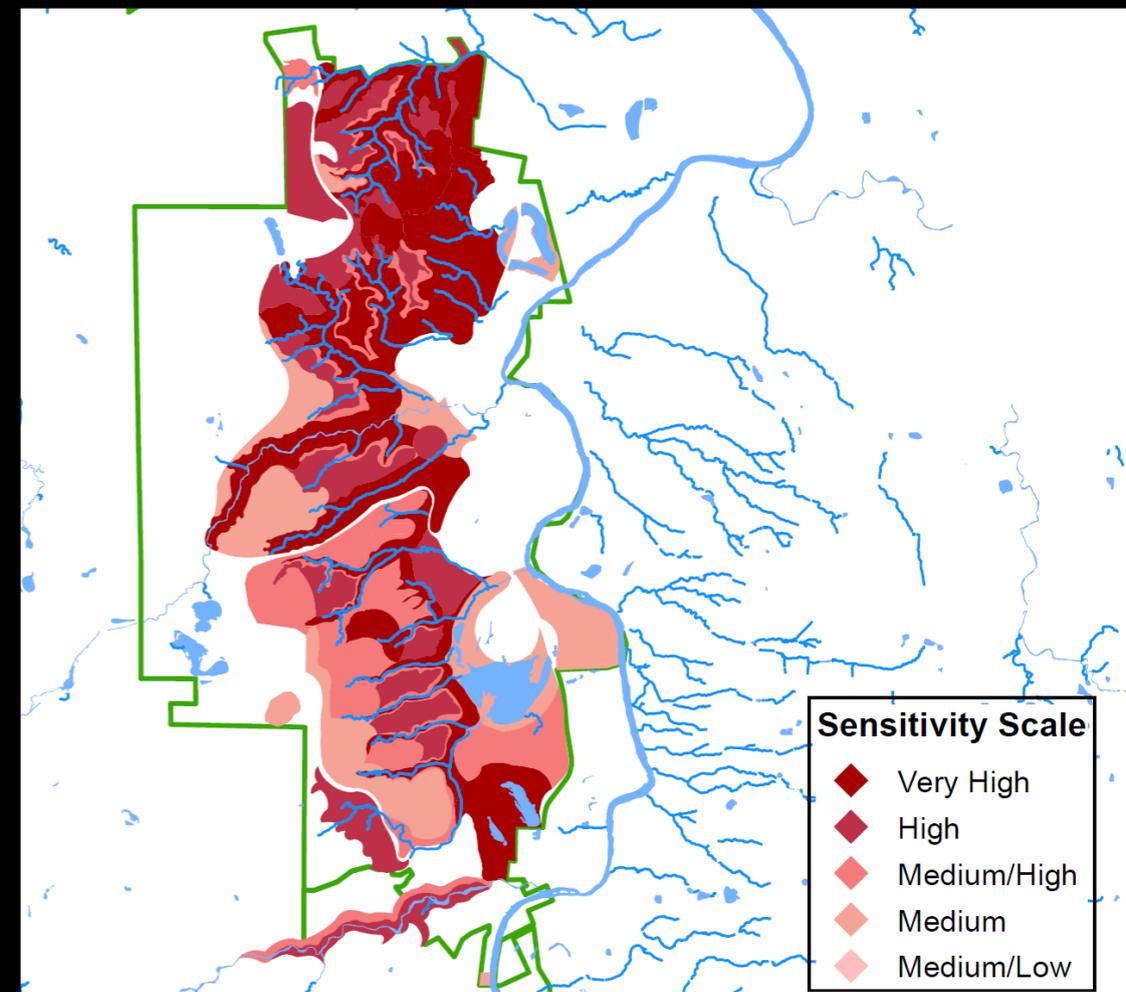
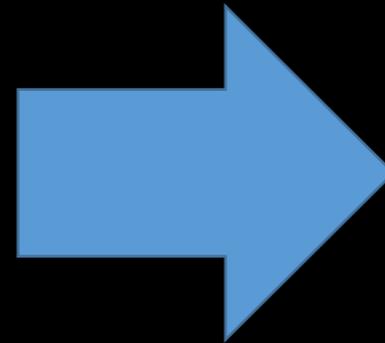
Contact information

Number assigned to collected specimen

Monitoring

- 9 - Suggested occurrence monitoring frequency
- Occurrence monitoring records (dates, condition...)
- Recommended immediate actions

Long-term Vision



Internal Contributors

- Nidia Arguedas, PhD, Conservation Planner
 - Draft database design (biological aspect)
- Claire Weldon, Aquatic Research Coordinator
 - Information / feedback on aquatic organism tracking needs
- John Reinier, Wetland Ecologist
 - Information / feedback on vegetation needs

Natural Features Database