Research and Management Applications of Online Collections Data: A Case Study of Prairie Fen Biodiversity
Contributors

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Prairie Fens: At Risk Wetland Communities

- Most biodiverse ecosystem in the Northern temperate zone
  - >366 plant species
  - 53 listed species (Federal and/or State)

Park Lyndon, Washtenaw County, Michigan
Conservation of Endangered
*Poweshiek skipperling*
Conservation of Endangered Poweshiek skipperling

2017 O. poweshiek Distribution

Legend
- US States
- 2017 O. poweshiek sites
What is driving/limiting diversity in these prairie fen communities?

Park Lyndon Prairie Fen, Livingston County, MI
Prairie Fen Collaborative

• Local, state, and federal managers, researchers from non-profits and AZA accredited zoos, curators from natural history museums, and university academics.

• Aggregate resources to address large scale research questions and inform conservation and management efforts.

• Dynamic, verifiable, scalable, and interoperable database.
Partners, Funders, and Data Providers

Hanes Trust Foundation

Michigan Natural Features Inventory

The Nature Conservancy

Michigan Garden Clubs

SC net

Small Collections Network

U.S. Fish & Wildlife Service

Great Lakes Restoration

LepNet

Lepidoptera of North America Network

DNR - Michigan

SEINet

MINN - DNR

DigitalGlobe

Botanical Society of America

ASPRS - The Imaging & Geospatial Information Society

Great Lakes Restoration

CMU - Central Michigan University

SIGMA XI - The Scientific Research Society

South Dakota Game, Fish & Parks

Prairie Fen Research Collaborative
Issues with Integrating Data

- Data discoverability
- Compatibility among different sources - Darwin core - Standard information to include, documentation/evaluation of sampling methodology, thoroughness of label information
- Differing resolution/accuracy (spatial) of GPS (e.g., lat/long vs county centroid)
- Integrating data types - file sizes, storage, cross-table query capability, when to rename/integrate media
- Transcription time - optical character recognition, digital transcription in field for some fields. Can be done with some GPS tools like Trimbles Data Dictionaries or digital spreadsheets with fixed vocabulary.
- Credibility of other data sources (e.g., taxon identification) - voucher individual
- Allowing property owners/managers control over checklist to allow other researchers to add to list - multiple levels of administration for each list
- Increasing number of portals - work with existing portal editors/creators to build functions and products; ephemeral
Plant Diversity Research

- Prairie fen plant diversity relationships with site- and landscape-level factors. Hackett et al. in revision
- A remote sensing approach to delineation of floristic zones within wetland communities.
- Relationship between native plant diversity and spatial complexity in prairie fen communities
- Research and management applications of online collection data: a case study of prairie fen plant biodiversity.
Poweshiek skipperling Research

- Local and landscape level variables related to Poweshiek skipperling presence in Michigan, USA, prairie fens.
- Drivers of decline in *Poweshiek skipperling* across the historic range.
- Ecological risk assessment: Herbicide usage and decline in *Poweshiek skipperling*
- Phenology of *Poweshiek skipperling* and associated nectaring plants across the historic range
Early Career Professionals

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