

# 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)

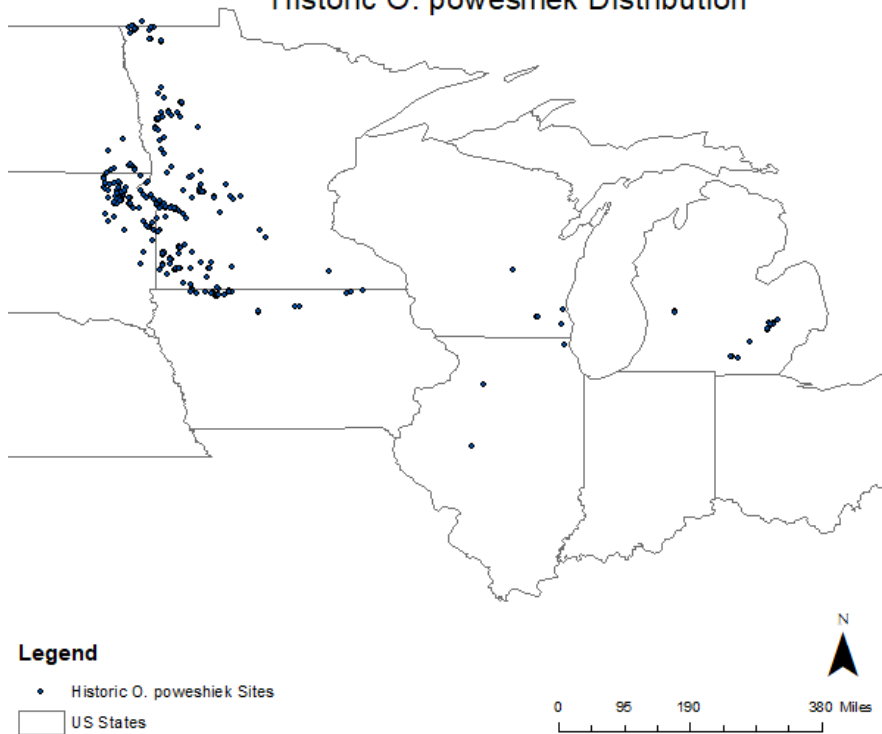


Park Lyndon, Washtenaw County, Michigan



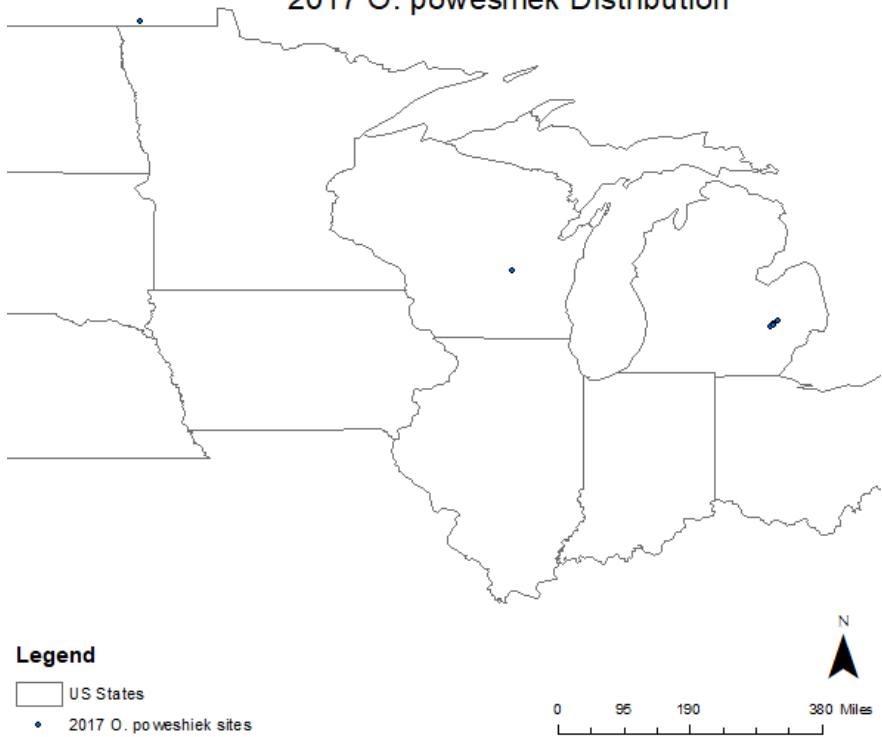
# Conservation of Endangered *Poweshiek skipperling*

Historic *O. poweshiek* Distribution



# Conservation of Endangered *Poweshiek skipperling*

2017 *O. poweshiek* Distribution



# What is driving/limiting diversity in these prairie fen communities?



Park Lyndon Prairie Fen, Livingston County, MI



# Prairie Fen Collaborative

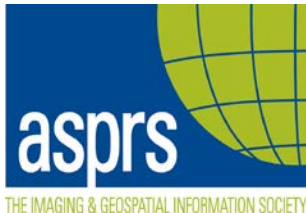
- Local, state, and federal managers, researchers from non-profits and AZA accredited zoos, curators from natural history museums, and university academics.
- Aggregate resources to address large scale research questions and inform conservation and management efforts.
- Dynamic, verifiable, scalable, and interoperable database.



# Partners, Funders, and Data Providers



Hanes Trust  
Foundation



Small Collections Network

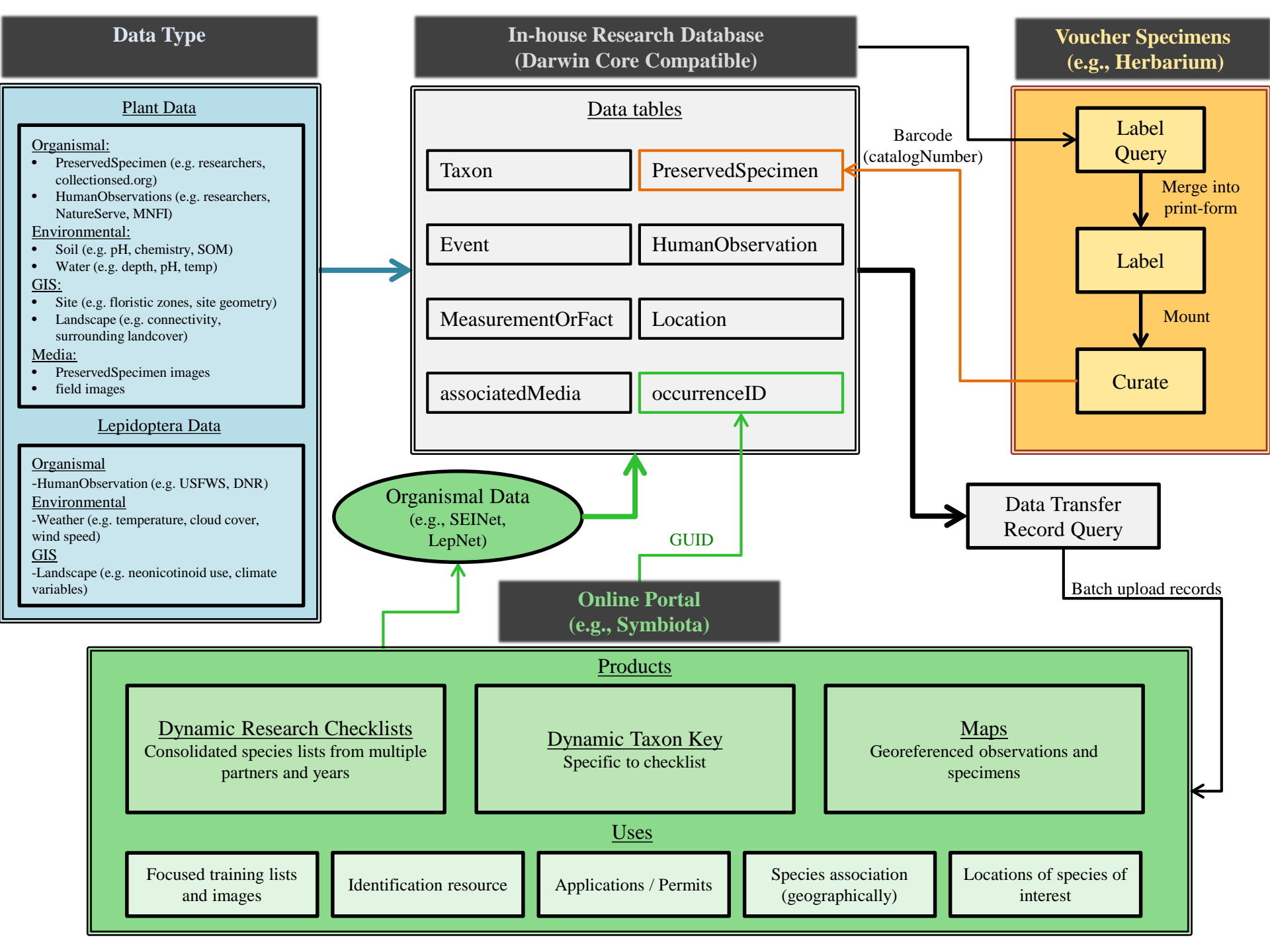
SEINet



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 Trimble's 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



- Evaluating a sampling protocol for assessing plant diversity in prairie fens.  
Hackett *et al.* 2016
- 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

- Standardized sampling protocol for *Poweshiek skipperling*.  
Pogue *et al.* 2016
- Habitat suitability modeling of *Poweshiek skipperling* in Michigan.  
Pogue *et al.* 2016
- 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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Clint D. Pogue

