PLANTS of Powderhorn
and the Vegetation
of the Calumet Region

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Map with Powderhorn location
Calumet at time of Land Survey

- Only natural lakes in Cook Co IL
  - Lake Calumet & Wolf Lake
- Surveyed in May 1834
  - Timber or Prairie on ridges separated by marshy swales
  - Ridges running NW to SE broken in places by meandering Calumet river
  - Burr, White and Black oaks were the witness trees
  - Briars and thorns infrequently undergrowth
Bur oak grove in wet prairie
Abandoned channel of Calumet in Winter
Calumet of Pepoon (1927)

- Pepoon (Flora of the Chicago Region, 1927) had an affection for the Clark & Pine section of Gary IN (as well as dunes east of Miller).
- Pepoon describes the Lake Calumet and Wolf Lake areas as already significantly altered, and it seems likely he spent little time east of Gary.
- *Thismia americana* was collected only in Calumet in 1912.
Changing notions of PLACE

- People want to know where to find useful plants
  - Place names and narratives of where the plants are within that place.
- The natural world does not generally have boundaries and is comfortable with talking about a region without specifying boundaries.
- The human world, including science, is very concerned with boundary lines.
- Now, with GPS, place can be specified very precisely.
A list of plants at a place, FLORA

• What can one do with a FLORA?
  – Decide where to go for a plant you want
  – Compare areas: which place has more species
  – Measure dynamics of local extinction and colonization
  – Use as the basis of an ecological restoration

• Floral list makes equivalent species with a single individual to others which are uncommon, common or abundant. This is a problem for each of above uses.
Evolving Documentation

- Naming types of plants began with descriptions of the features of the species, replaced by scientific names by Linnaeus.
- Storage of pressed specimens preserved shape (morphological) features for future comparison.
- Today taxonomy is being revised to conform closer to phylogeny with DNA sequence studies.
- Capacity to store and transmit huge amounts of information make pictures the way to document vegetation.
SAAD, a species plus list

- **SA** = specific areas, within the legal boundaries of the preserve subunits are mapped to make location information more specific.

- **A** = Abundances of species are noted, with a minimum of 3 classes – common, uncommon and rare and a narrative of what each term means.

- **D** = Dates of the inventory are necessary because plants vary seasonally and year to year.
Powderhorn Study Units
Temporal Aspects of Study

• While I had been to Powderhorn many times, this study included:
  • 14 visits in 2007 between 1 April and 3 October.
  • 12 visits in 2008 between 20 April and 27 Sept.
  • 12 visits in 2009 between 25 April and 24 Sept.
PWH at Solstice
PWH at the equinox
Blitz compared to SAAD

- 195 plant species on both lists
- 222 species on the BioBlitz list not seen by me (+9 aquatic species which I did not inventory).
- 126 species seen by me not on the BioBlitz list, including:
  - *Oenothera pilosella*, seen only in 2009
  - *Habenaria lacera*, very rare – blink
  - *Gentiana crinita*, out of season
Prairie Sundrops
Ragged Fringed Orchid
Fringed Gentian
CONCLUSIONS

• The most literal interpretation is that 222 terrestrial plants species have gone extinct at PWH between the Blitz and my inventory.

• Without information on the abundance of the species and how widely dispersed it is on the site, it is impossible to separate the diverse types of changes/mistakes that could have occurred.

• SAAD inventories emerge from stewardship, a continuous presence and growing knowledge over a period of time.