

Macrofungi of the  
Chicago Region  
and the  
North American Mycological  
Association Voucher Program

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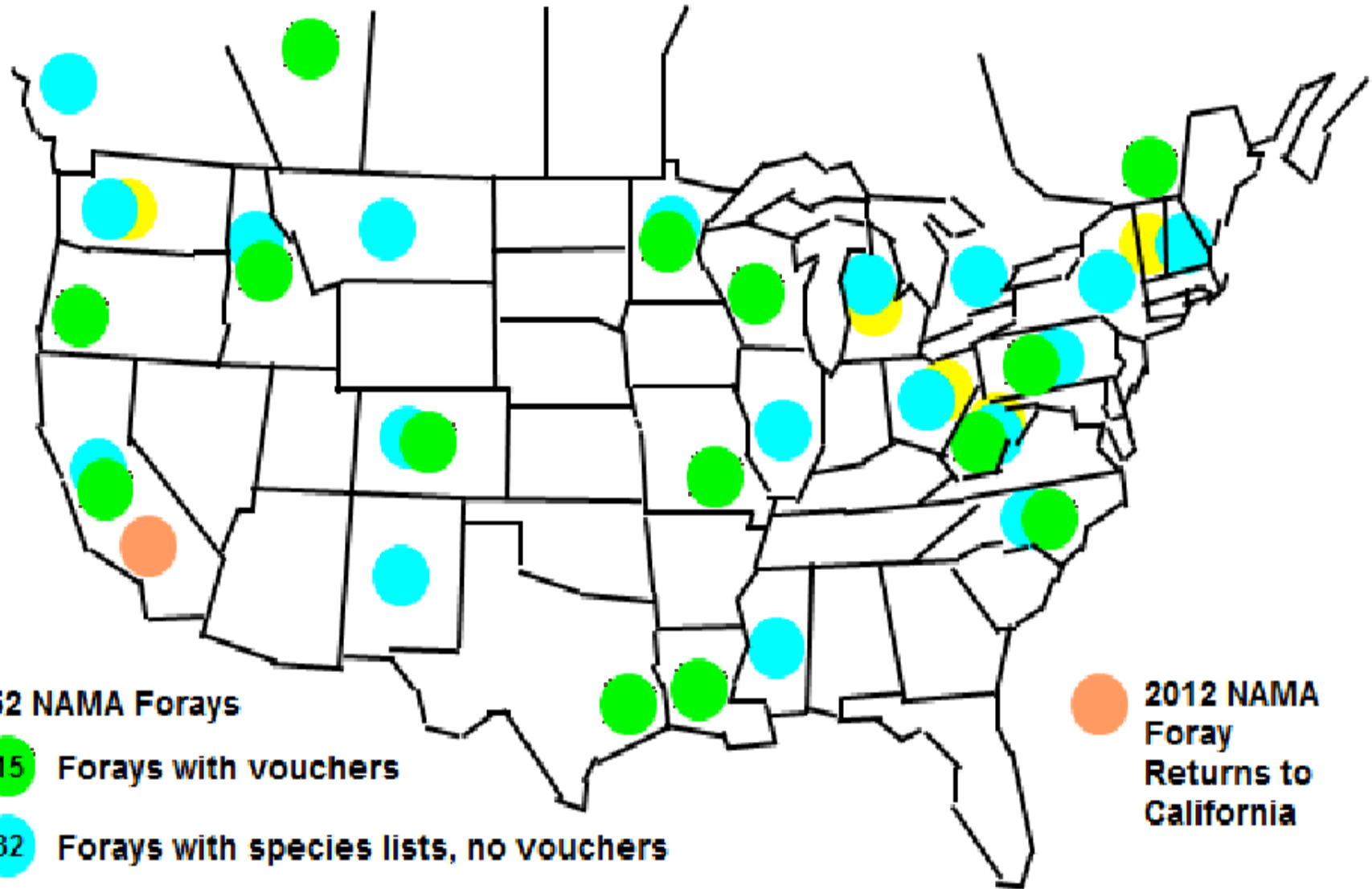
# Documenting the fungi of North America with amateur organizations



*Tricholoma focale*



North American Mycological Association foray in Oregon 2004



**52 NAMA Forays**

**15** Forays with vouchers

**32** Forays with species lists, no vouchers

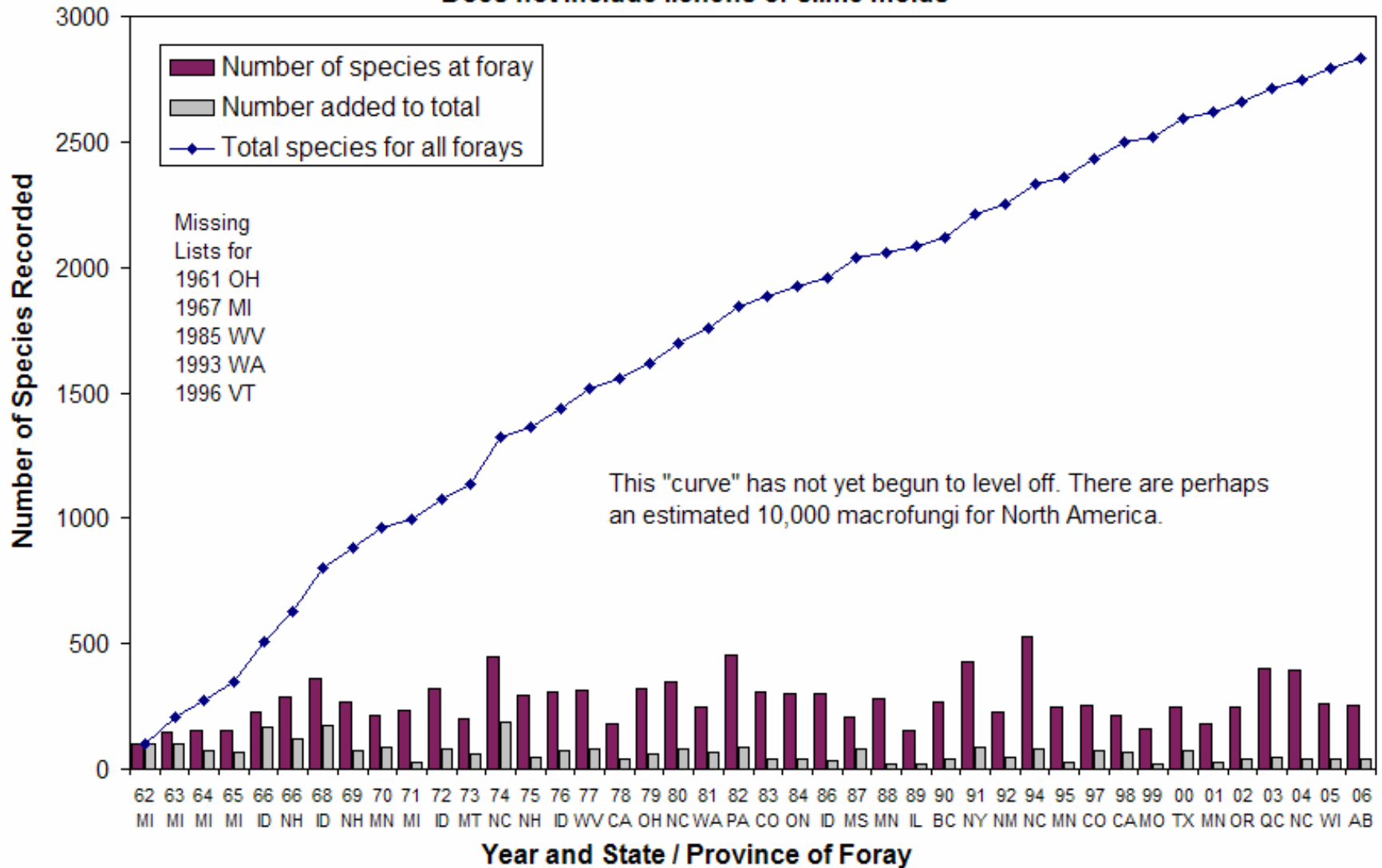
**5** Forays missing species lists : OH 61, MI 67, WV 85, WA 93, VT 96

**2012 NAMA Foray Returns to California**

**NAMA Voucher Collection Committee and The Field Museum, Chicago**

## Species Accumulation for 42 NAMA Forays with 2832 fungal names

Does not include lichens or slime molds



# Macrofungi of the Chicago Region, 1994 -- present



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W.C. Gaswick, J.P. Schmit, J.F. Murphy





# Chicago Region



Chicago Wilderness region covers 24 counties of four states.

vPlants.org documents plants of this region.

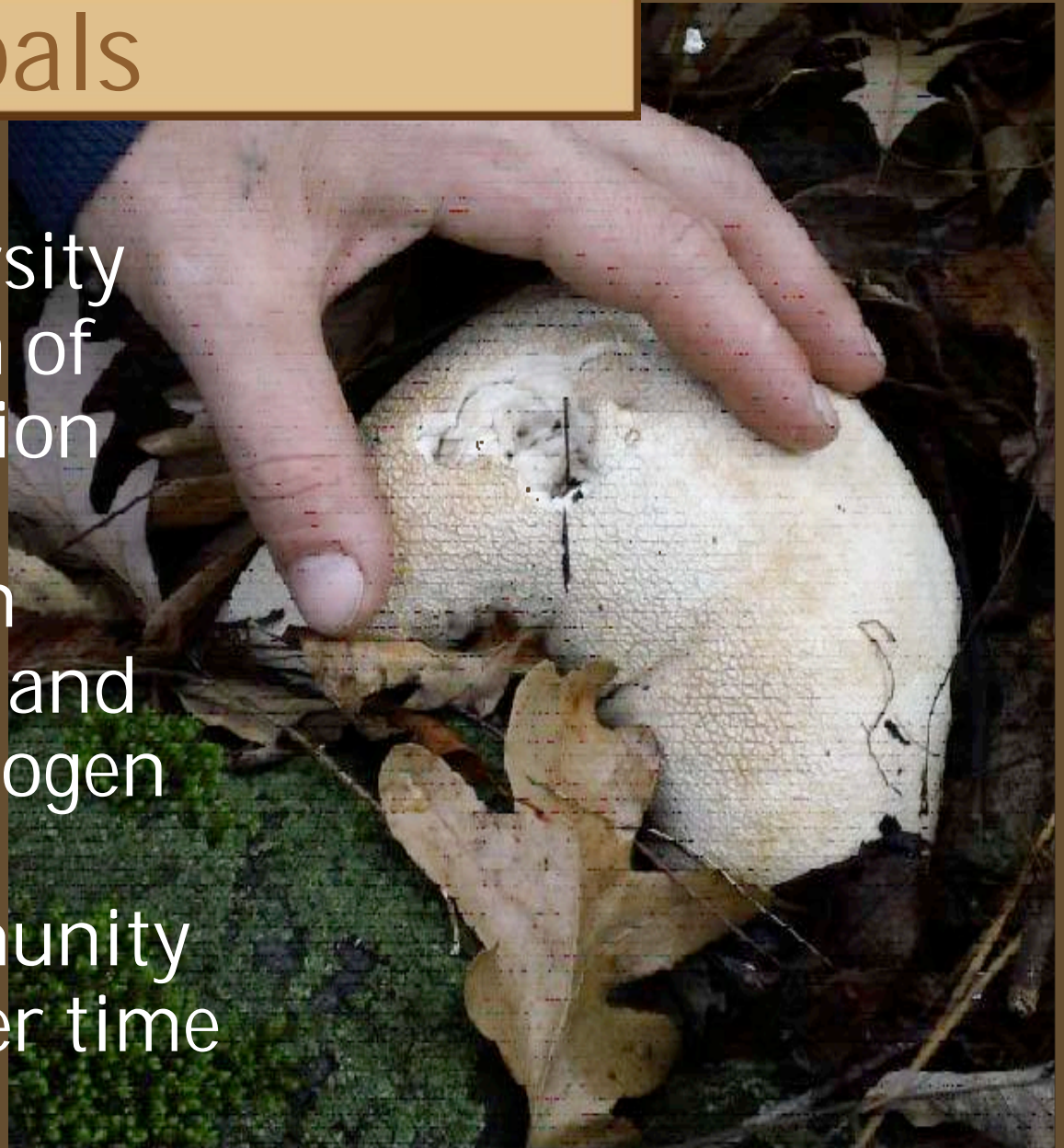


vPlants.org



# Goals

- Document diversity and distribution of fungi across region and habitats
- Relate to human activities: woodland restoration; nitrogen deposition
- Plot data, community composition over time





0.1 ha plots  
two or four / site

All macrofungi recorded  
in 40 quadrats per plot.  
Four to six visits / year



Plot work at Marengo Ridge, 2011



# Illinois Mycological Association



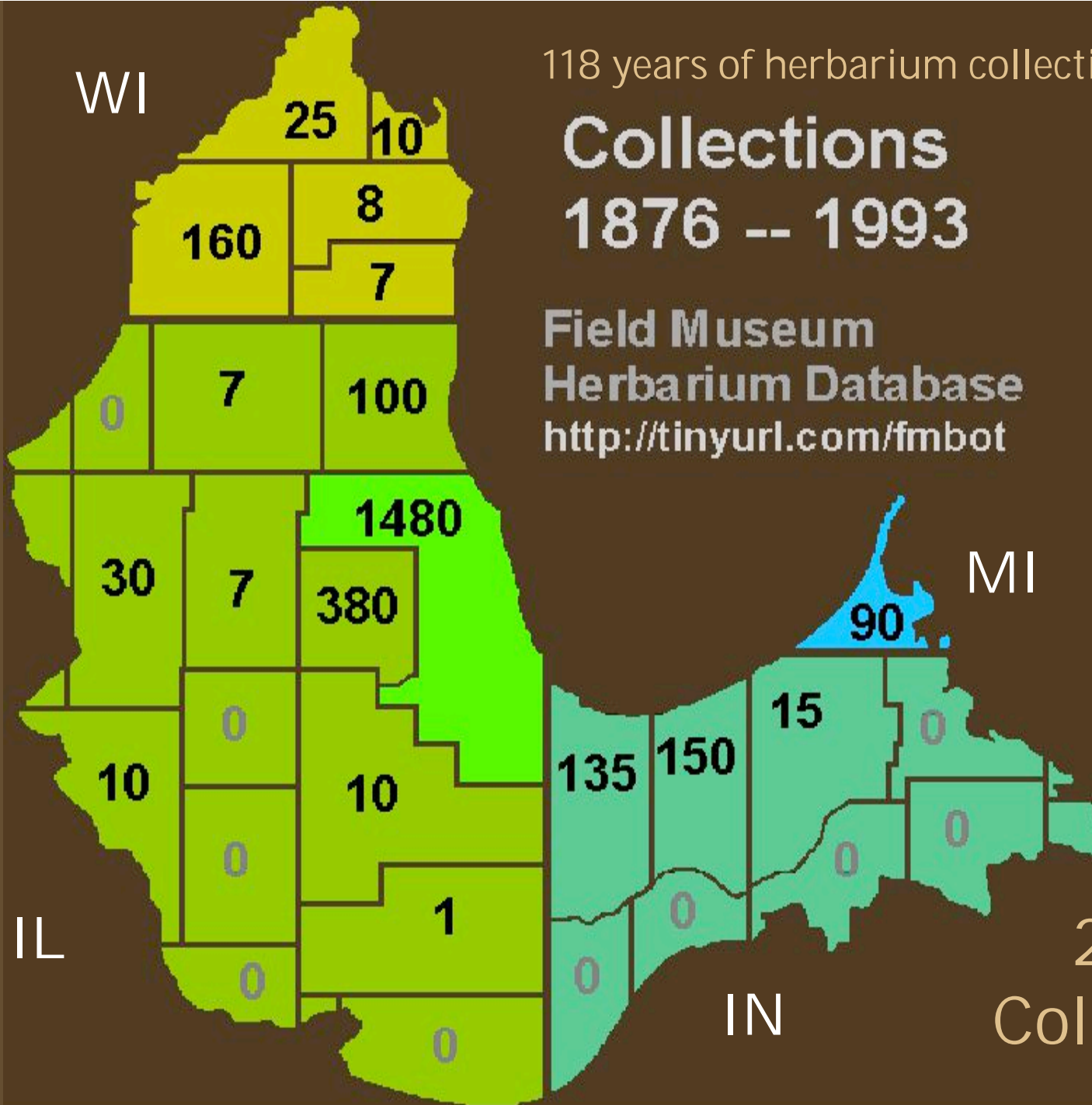
IMA forays have contributed over 1500 observations from 25 locations in the Chicago Region.

Forays give members firsthand experience with learning fungi.

118 years of herbarium collections

# Collections 1876 -- 1993

Field Museum  
Herbarium Database  
<http://tinyurl.com/fmbot>



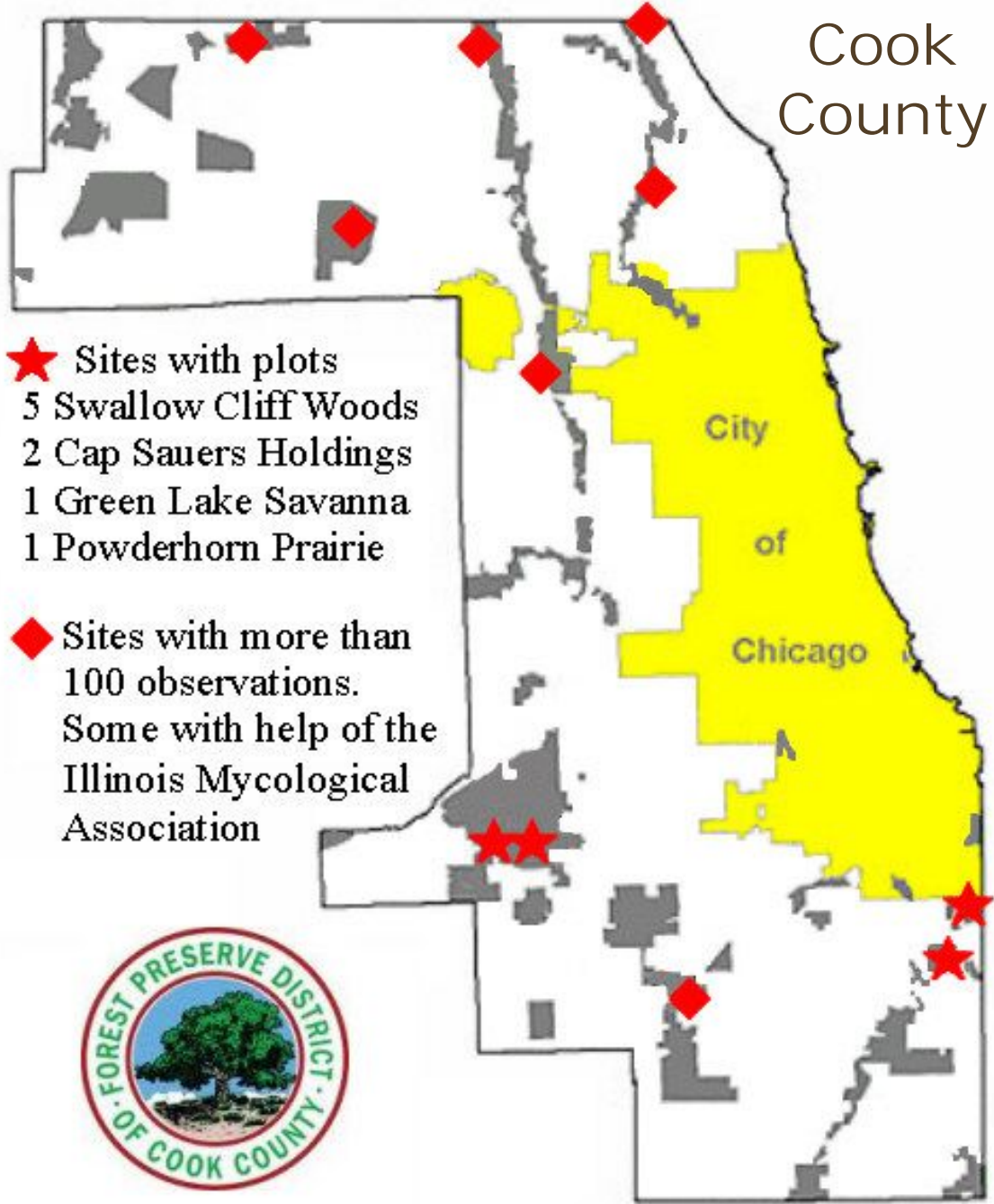
720  
taxa

2,625  
Collections





# Cook County



## Plots and Surveys



## IMA forays



# Major Sites in Cook County

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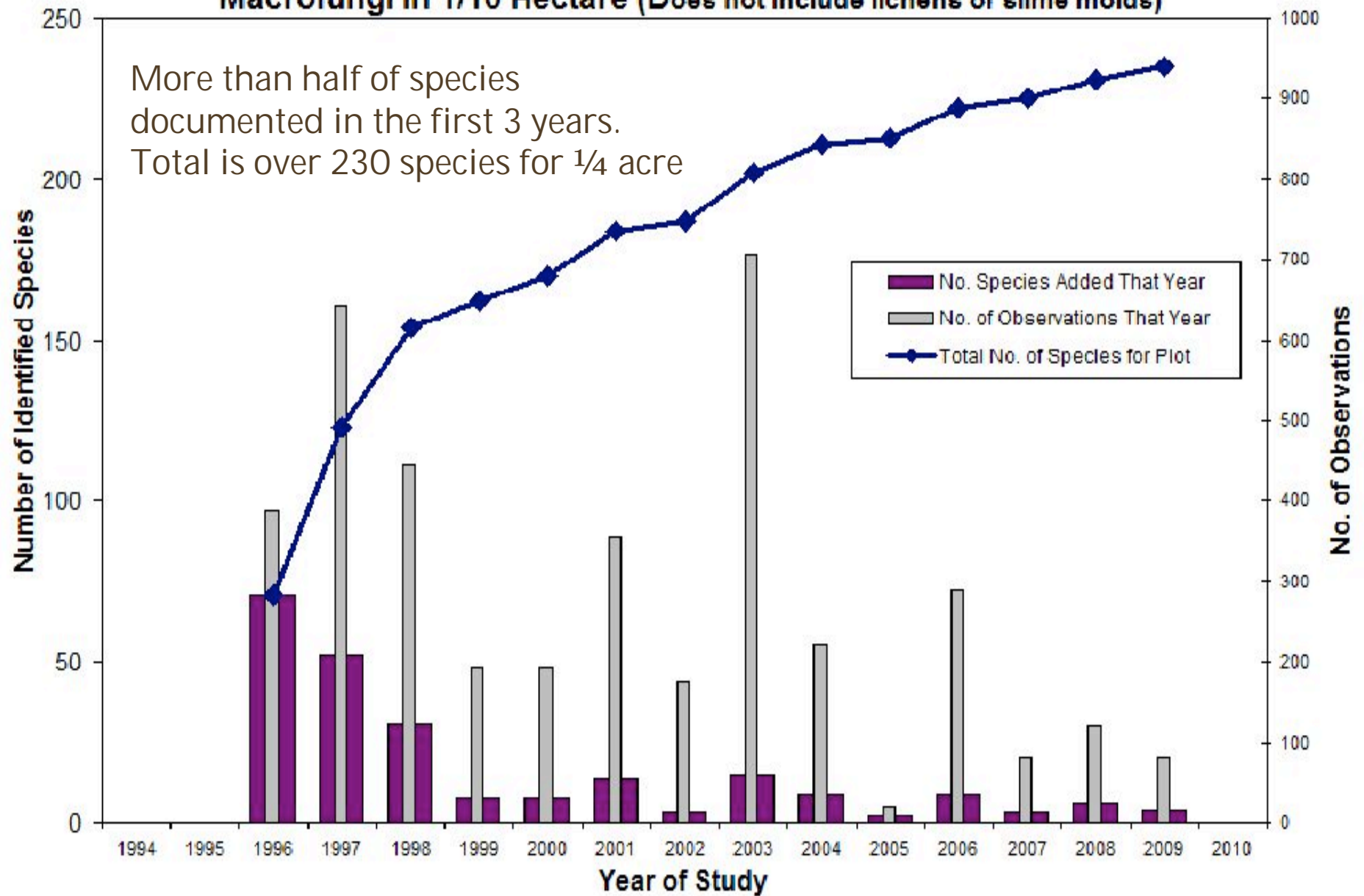
Cook County Site	plots	visits	years	observ.
Swallow Cliff Woods	5	130	16	13,715
Cap Sauers Holdings	2	55	7	3,610
Green Lake Savanna	1	18	7	660
Powderhorn Prairie	1	12	4	437
Busse Forest		17	8	423
Deer Grove West		6	6	392
St. Mihiel Preserve		12	10	501

18 year Field Museum research period: 1994 – 2011

All Chicago Region sites and sources = 42,300 observations

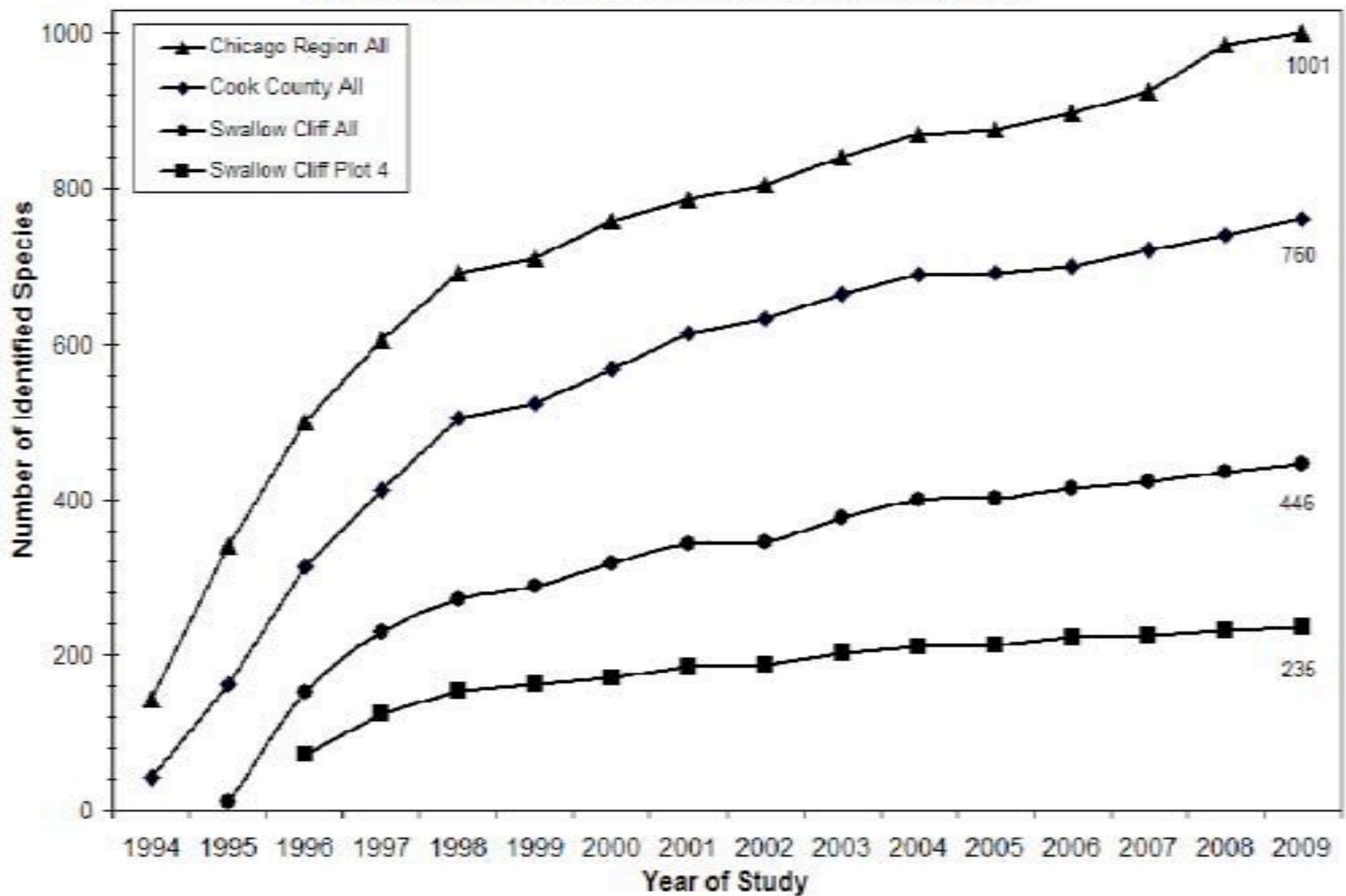
## Species Accumulation for Swallow Cliff Plot 4

### Macrofungi in 1/10 Hectare (Does not include lichens or slime molds)





**Species Accumulation for the Region, 1 County, 1 Preserve, and 1/10 Hectare Plot**  
**Macrofungi of Chicago** (Does not include lichens or slime molds)



# Estimated minimum numbers of named species of macro-fungi

- 1150 species for the Chicago Region
- 815 species for Cook County (11,280 colls.)
- 140 unique to Cook County (in region)
  
- 700 species for Indiana Dunes (8,710 colls.)
- 105 unique to Indiana Dunes (in region)



# Acknowledgements

For support of our Chicago Region research (1994 – 2012):

Chicago Wilderness, Conservation Foundation

Forest Preserve District of Cook County

Forest Preserve District of Lake County

Illinois Department of Natural Resources

Illinois Nature Preserves Commission

Indiana Nature Preserves Commission

Jeff Metcalf Fellows Program, Univ. Chicago

MacArthur Foundation

McHenry County Conservation District

NASA Earth Science Education Program

National Park Service (Indiana Dunes)

National Science Foundation

Neuman Family Foundation



Research assistants, interns,  
volunteers, other colleagues,  
and the  
Illinois Mycological Association

Field Museum's Biodiversity Explorers Program funded by Bannerman Foundation, Webber Family Research Fund, Hyndman Scholarship Fund, and Wood Internship

For support of vPlants: Institute of Museum and Library Services



## Both projects

- All macrofungi collected. Identifications dependent on expertise of those present (NAMA often includes lichens, slime molds)
- Specimens in herbarium, F, available for taxonomic studies.
- Filemaker Pro database Win/Mac.

## Chicago, 18 years

- Staff mycologist(s), full-time assistant, paid undergraduate summer interns, volunteers for field and herbarium work
- 2011, 2012 contract work (by PRL) with only volunteers

## NAMA, 15 years

- Voucher committee, 3 or 4 graduate assistants, foray volunteers, professional and amateur mycologists
- Post-foray processing by PRL and volunteer.

## Chicago, 18 years

- Fresh collections partially processed same day, many refrigerated over night and processed and dried the next day.
- Microscope work done at later time.

## NAMA, 15 years

- Fresh collections not processed until identified. Then go to display tables for one or more days. Some lost to rot, mold, or disappear.
- Some checked microscopically at foray, rarely later.

## Chicago, 18 years

- From the saved collections the rule is to accession the best specimen of each taxon per site per year to be put in herbarium.
- Have unaccessioned duplicate material.
- Have much unidentified material.

## NAMA, 15 years

- Rule is one specimen of each taxon per foray to be vouchered and put in herbarium.
- Occasionally have duplicates from foray.
- Few missing vouchers but no unaccessioned material.
- Fewer unidentified vouchers.



## Chicago, 18 years

- Taxon concepts more uniform and can be back-corrected.
- Location and habitat data well documented
- Long term study of one region
- Plot studies with statistical data

## NAMA, 15 years

- Taxon concepts less uniform, sometimes competing.
- Location and habitat data often incomplete
- Snap-shots of regions across USA, Canada

## Chicago, 18 years

- ID of all macrofungi by a few workers is difficult. Unidentified material accumulates.
- Interest in having club members report observations of a set of distinctive taxa. Fruiting times have shifted.

## NAMA, 15 years

- Those at foray determine what groups are identified. The rest is tentatively labeled or not vouchered.
- Desire better system for selecting and preserving vouchers. More workers also required.

## Bottom Line

- herbarium material  
1876 - 1993  
118 years = 720 taxa =  
2,400 collections

Chicago, 18 years

- Full time; 6 month  
field season

- New = 20,300 colls.  
and > 1100 taxa

prior species lists

- 1961 - 1996

- 32 yrs = 2530 taxa  
and ?  $\geq$  50 collections

NAMA, 15 years

- One weekend per  
year plus processing

- New = 4300 colls.  
and > 1950 taxa