

Plants of Concern: Monitoring Rare Plant Species in Chicago Wilderness

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CHICAGO BOTANIC GARDEN

www.plantsofconcern.org

POC Asks:

- What is the status of rare plants in the Chicago Wilderness region?
- How does management impact rare plant populations?
- Do trained citizen scientists provide reliable data?



C. Freeman



M. Hofherr

POC Monitors Rare Plant Species in Chicago Wilderness

- 70% of listed species in 7 northeastern IL counties (118 of the 169)
 - POC monitors 108 non-listed IL rare species
- ~57.3% (563 of 982) of the listed Element Occurrences (EOs) in NE IL



Photos by: C. Freeman

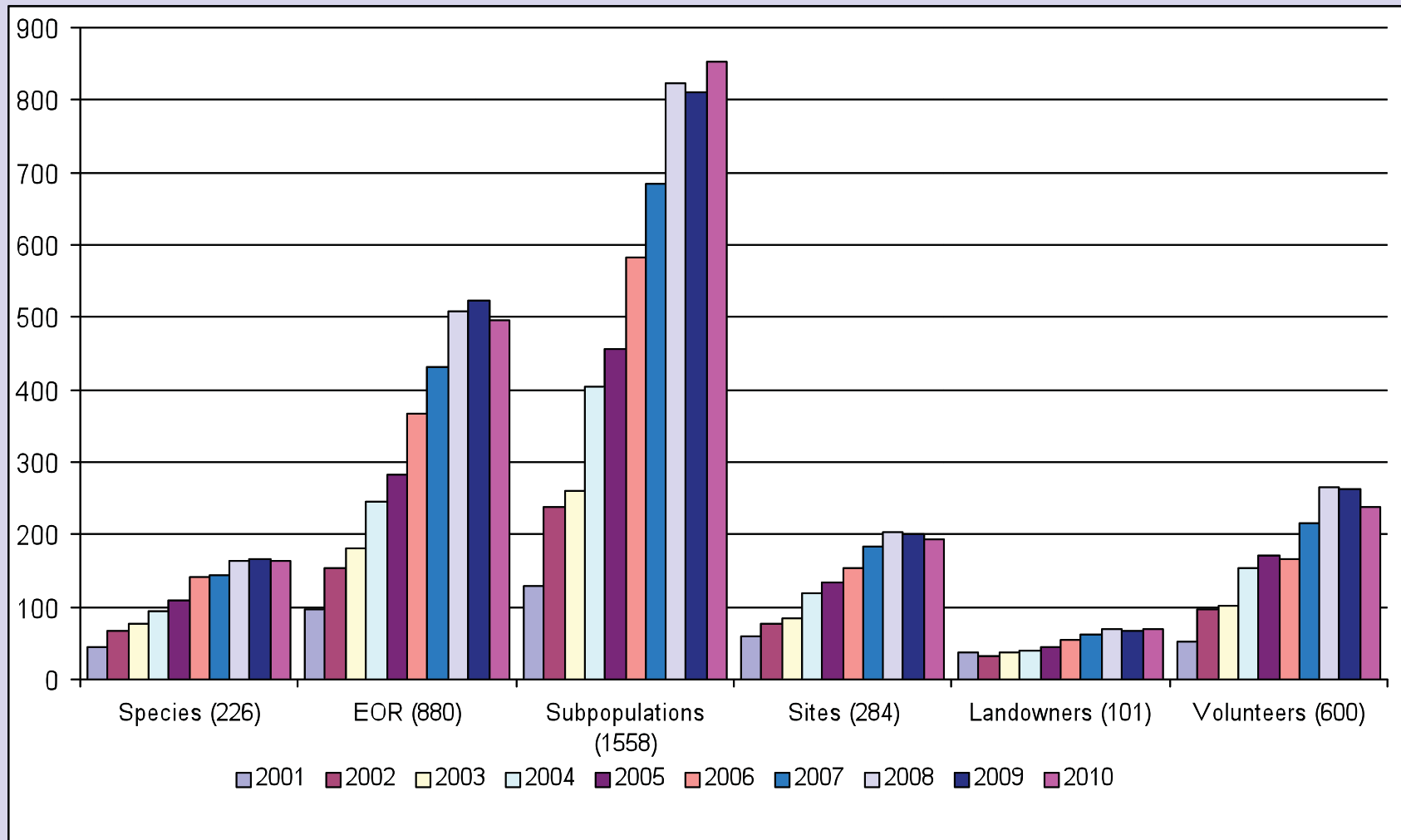
POC Program Elements

- Documents the region's rare plants through:
 - Standardized protocol
 - Regular data collection over 11 years
 - Database
- Provides feedback to managers
 - General threats
 - Invasive species presences
 - Management activities
 - Short term alerts
 - Long term trends
- Furthers Chicago Wilderness Biodiversity Recovery Plan goals to monitor, research and guide management of rare species
- Contributes Element Occurrence (EOs) information to the IL Natural Heritage Database

POC Program Elements

- Develops strong partnerships - 101 landowners, public and private
 - Federal, state and local agencies
 - SE Wisconsin and NW Indiana Chapters
 - Volunteer groups – Habitat Project, VSN, NIWP, FPD volunteers
 - Land managers, stewards, scientists, students, volunteers
 - Special projects
 - Midewin National Tallgrass Prairie
 - Openlands Lakeshore Preserve
 - Waukegan Harbor Area of Concern
 - Sustain our Great Lakes – Fort Sheridan
 - Calumet area expansion for 2012 (partnering with IDNR, Field Museum, Chicago DOE, Chicago Park District)

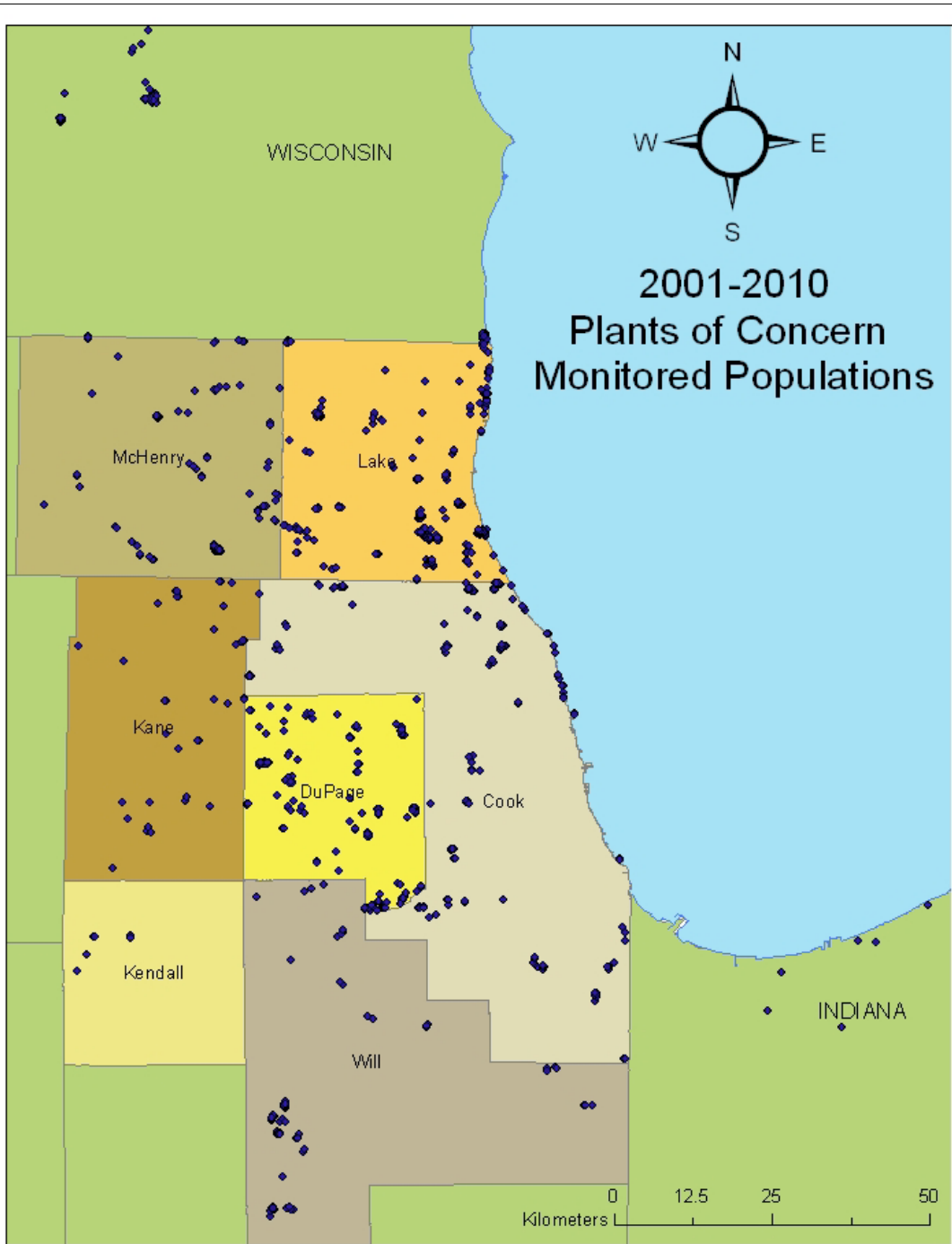
POC Accomplishments, 2001-2010



Cumulative numbers in parenthesis with category

As of 3/17/2011

Map of populations with GPS coordinates



Note: Most points represent multiple subpopulations and element occurrences.

County, State	Total # of EORs
Cook, IL	196
DuPage, IL	140
Kane, IL	53
Kankakee, IL	1
Kendall, IL	7
Kenosha, WI	13
Lake, IL	231
McHenry, IL	85
Ogle, IL	1
Porter, IN	4
Walworth, WI	22
Waukesha, WI	3
Will, IL	46

As of 2/23/2011

Volunteer Monitors

- **Retention of volunteers**
 - from 2009-2010 was 65%
 - from 2008-2009 was 66%
- **66 new volunteers** recruited in the 2010 season
- **122 volunteers active in 2010** were POC monitors for 3 or more years
- **97 stewards** are POC monitors
- **Volunteer hours:** 2955 in 2010 (field and office) @ \$20.25/hr = \$59,818 in matching funds



What We Are Learning about Trends: Highest Rate of Increase in Subpopulation Sizes

- **50.5%** of subpopulations with at least 5 years of data are **stable or increasing** in number of plants
- *Rubus pubescens* (n=6)
- *Carex viridula* (n=5)
- *Agalinis skinneriana* (n=2)
- *Carex formosa* (n=3)
- *Psoralea tenuiflora* (n=1)
- *Hydrastis canadensis* (n=1)
- *Carex crawei* (n=6)
- *Chamaesyce polygonifolia* (n=8)
- *Hybanthus concolor* (n=1)
- *Ammophila breviligulata* (n=7)



What We Are Learning about Trends: Highest Rate of Decrease in Subpopulation Sizes

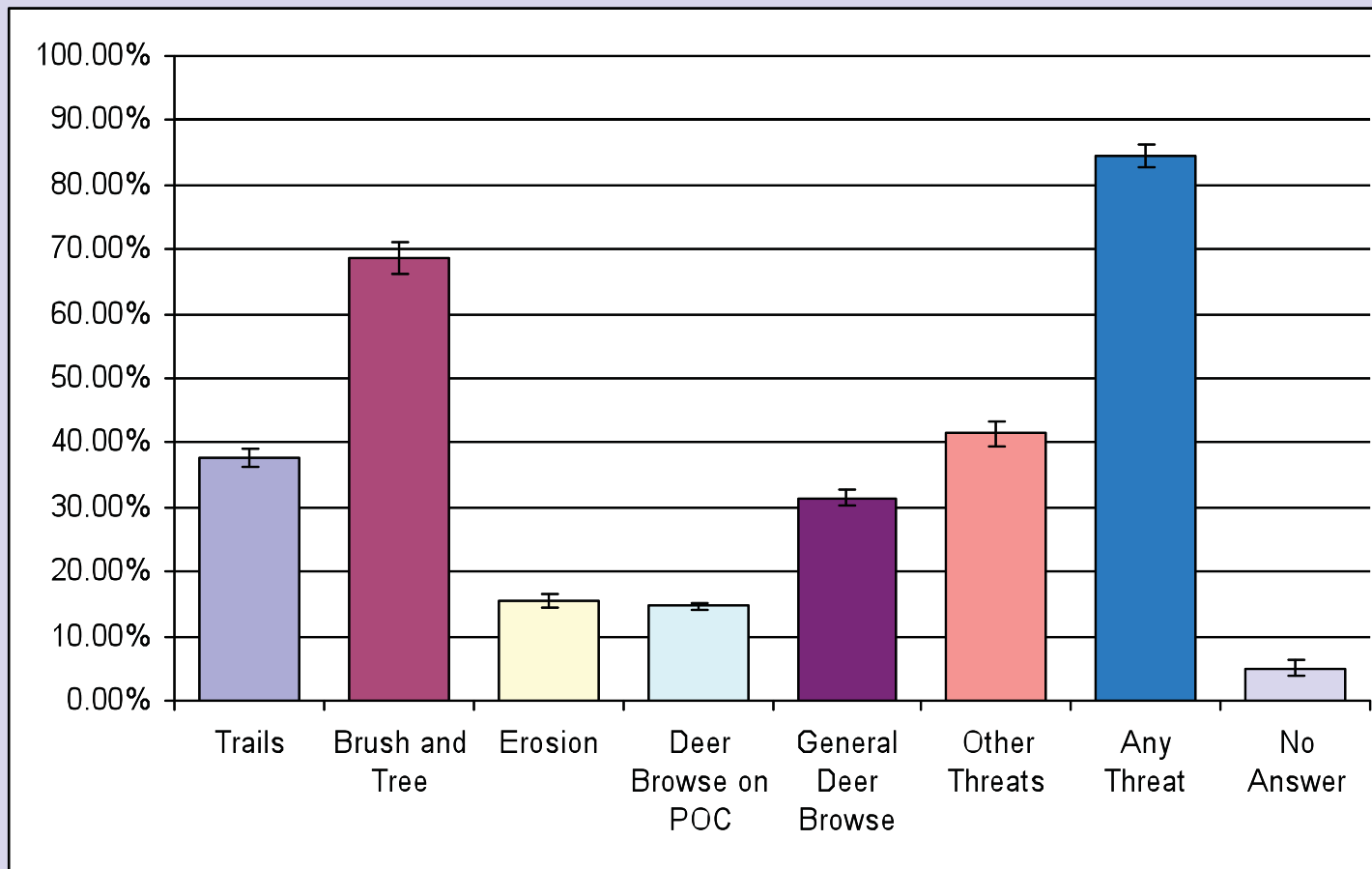
- *Stellaria pubera* (n=1)
- *Scirpus hattorianus* (n=4)
- *Cakile edentula* (n=9)
- *Liatris scariosa* var. *nieuwlandii* (n=3)
- *Trillium sessile* (n=1)
- *Scirpus microcarpus* (n=2)
- *Malvastrum hispidum* (n=4)
- *Cypripedium parviflorum* var. *makasin* (n=1)
- *Triglochin maritima* (n=4)
- *Jeffersonia diphylla* (n=3)



Photos by: C.Freeman

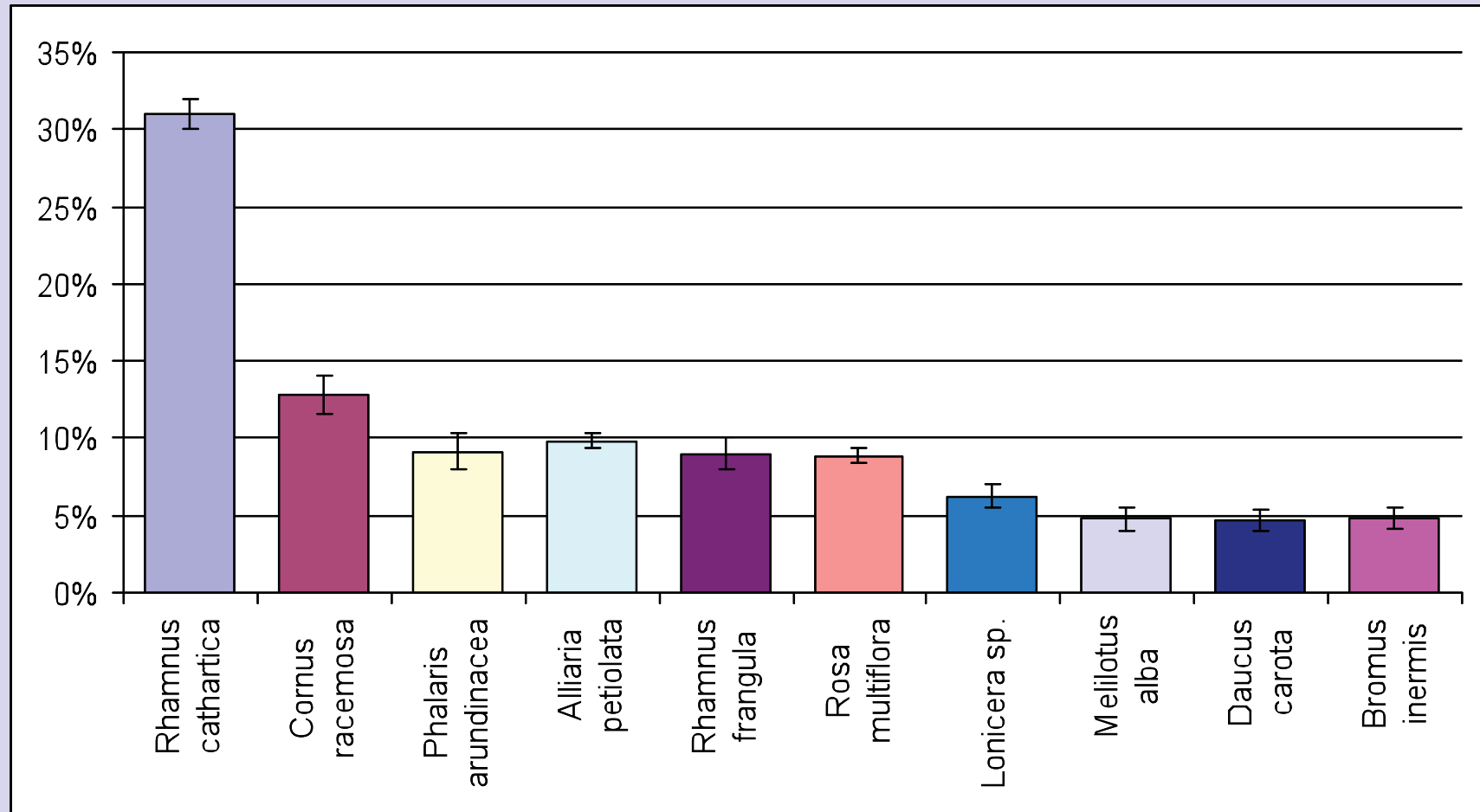
As of 2/24/2011

What We Are Learning: Threats



•84% of subpopulations are reported as threatened by invasive brush, deer browse, erosion, or trail impact (averaged over all years).

What We Are Learning: Invasives



• **88%** of subpopulations are reported with at least one invasive species (averaged over all years).

as of 3/17/2011

Land Management in Action



Photo by S.Packard



Photo by N.Williams



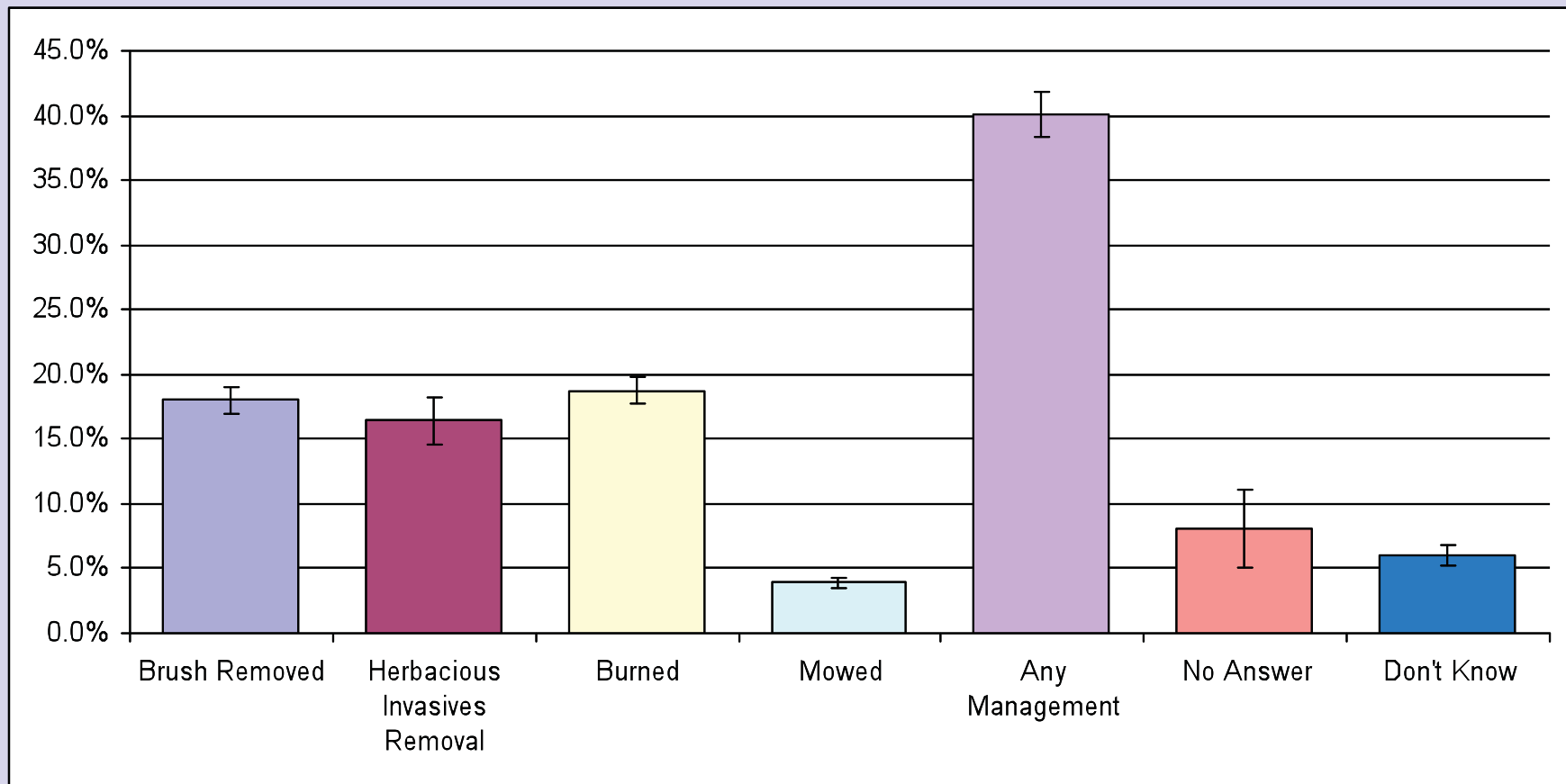
Photo by J. Steffen



Photo by D. Sollenberger

Monitor-Observed Management in Populations 2002-2010

- **45.6%** of subpopulations were managed in 2010



POC Future: Long Term Program Goals

- Achieve monitoring of 75-80% of EORs in the 8 counties of NE IL currently in the program
- Enhance volunteer recruitment and retention
- Support creation of POC programs in other areas of IL
 - (need funds and local leadership to do this)
- Seek ongoing funding for overall program operation and staffing
- Conduct analyses of POC data to show population trends in relation to management activities -long-term data is critical for more robust analyses
- Provide datasets to researchers to conduct more in-depth analyses of POC data, including climate change and GIS applications

Thanks to our Funders!

Chicago Wilderness, 2001 – 2009

Illinois Wildlife Preservation Fund (IDNR), 2004-2012

**USDA Forest Service (Midewin National Tallgrass Prairie),
2003-2005; 2008-2011**

The Gaylord & Dorothy Donnelley Foundation, 2010 & 2011

National Fish and Wildlife Foundation, 2006 & 2007 (Midewin)

NFWF (Sustain our Great Lakes) 2011 & 2012

Conservation 2000 (IDNR), 2006 & 2007

The Nature Conservancy VSN, 2007-2012

Openlands, 2010 & 2011

Garden Club of America, 2010

GLRI (Waukegan Area of Concern) 2011 & 2012



How to Participate

- **Attend a spring training workshop**
 - Sunday, April 1, Lost Valley Visitor Center, Glacial Park, Ringwood, McHenry County, IL
 - Saturday, April 14, Brewster Creek Lodge, St. Charles, Kane County, IL
 - Wednesday, April 18, Bowen Park (Jack Benny Center), Waukegan, IL
 - Saturday, April 28 Sand Ridge Nature Center, South Holland, Cook County, IL
- **Participate in a POC group “foray”**
- **Visit us on the web at plantsofconcern.org**