

Pollution Prevention with Natural Lawn Care Outreach

Illinois Lakes Management Association's 35th Annual Conference
March 12, 2020 | Champaign, IL

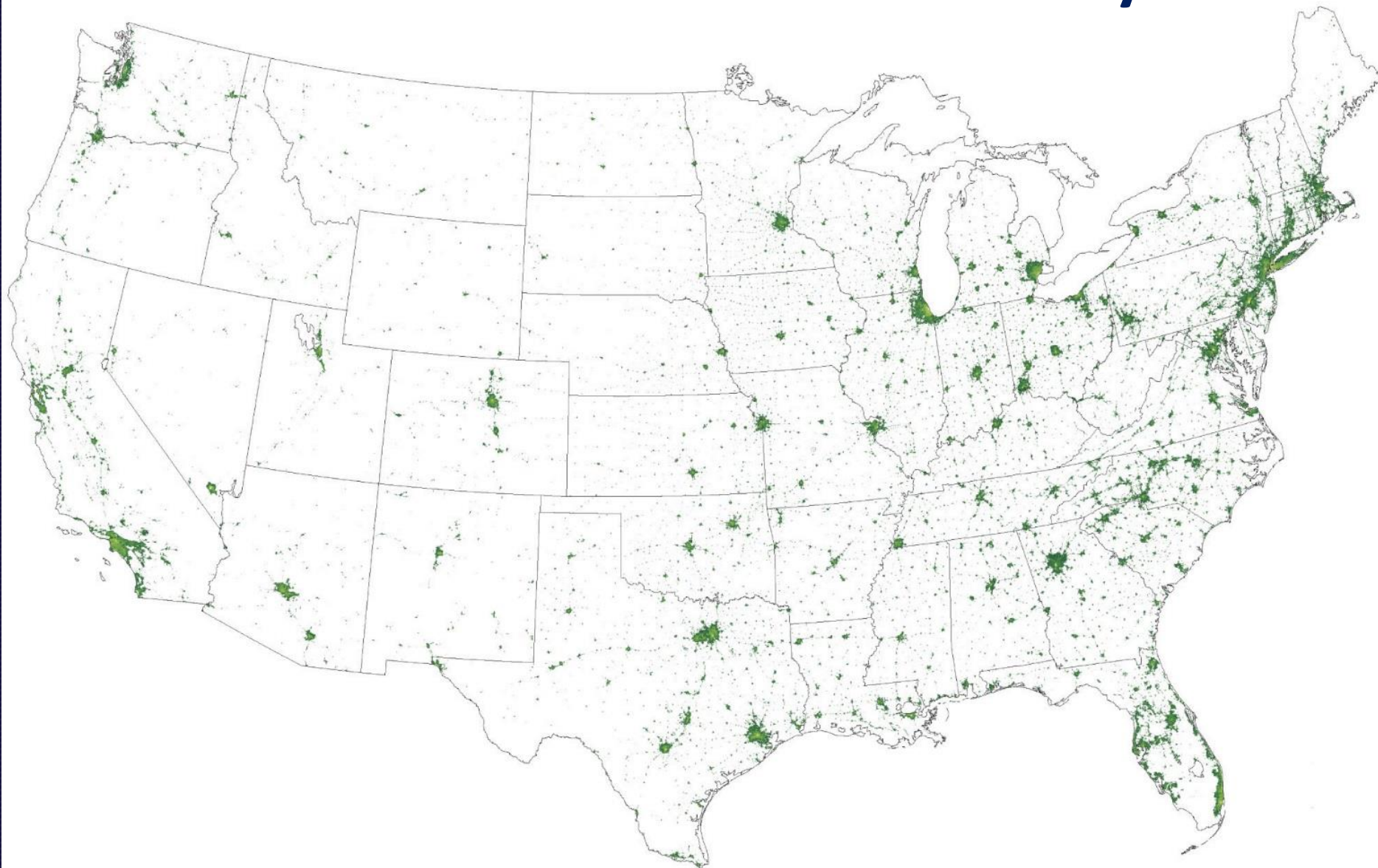
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FOR SALE

United States Land Surface Covered by Lawns



0.0

Fractional Turf Grass Area

1.0

Hidden Costs of Lawn Care

average upkeep for residential lawns

Water

- 💧 Typical suburban lawn uses **10,000 gallons** of irrigation water per year
- 💧 Residential lawns consume **2.5 billion gallons** per year

Energy

- ⚡ A **580 millions gallons** of gasoline used in lawnmowers
- ⚡ **270,000 BTUs** to produce a 100 lb bag of 6-6-6 fertilizer

Pesticides

- ☛ **67 million pounds** of synthetic pesticides on residential lawns each year
- ☛ Homeowners use **3 times more** pesticide per acre than farmers

Fertilizer

- 🌿 **3 million tons** per year applied to residential lawns

*Vickers 2006; Perry 2006; Bormann et al. 1993;
Wilson and Boehland 2009*

Pesticides

“a pesticide by any other name...”

Grub Control : Insecticide

Broadleaf, dandelion spray : herbicide

Weed and Feed : herbicide *(combined with fertilizer)*

Fungal Control : fungicide



Unintended consequences

Pesticides

Samples from a 2001 USGS study found one or more pesticides in:

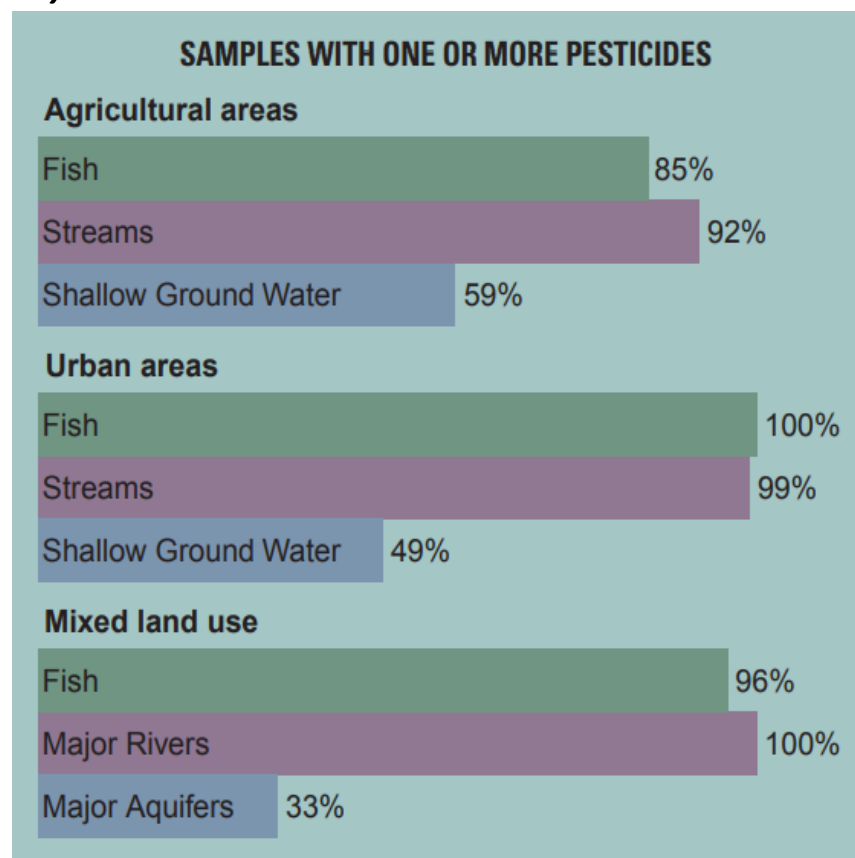
96% of fish

100% of surface waters

33% of major aquifers



By land use:



USGS, The Quality of Our Nation's Waters, 2001

Unintended consequences

Fertilizers



Todd Marsee, Michigan Sea Grant

Unintended consequences

Fertilizers



Google Earth - November 10, 2009



LAWN TO LAKE
midwest

What is Natural Lawn Care?

focusing on sustainable solutions

Natural

- ✔ soil care is foundation
- ✔ natural, organic products
(when needed)
- ✔ treats underlying problems

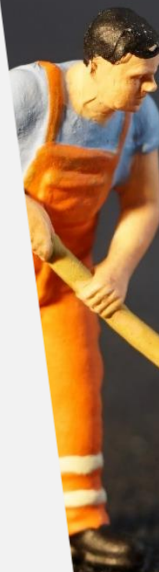
Conventional

- ✘ one-size-fits-all approach
- ✘ focus on applying products to all lawns
- ✘ treats symptoms for short-term fixes

Lawn to Lake

Principles

1. Right plant, right place
2. Fertilize appropriately
3. Manage lawn pests responsibly
4. Water efficiently
5. Compost
6. Attract wildlife
7. Reduce storm water runoff



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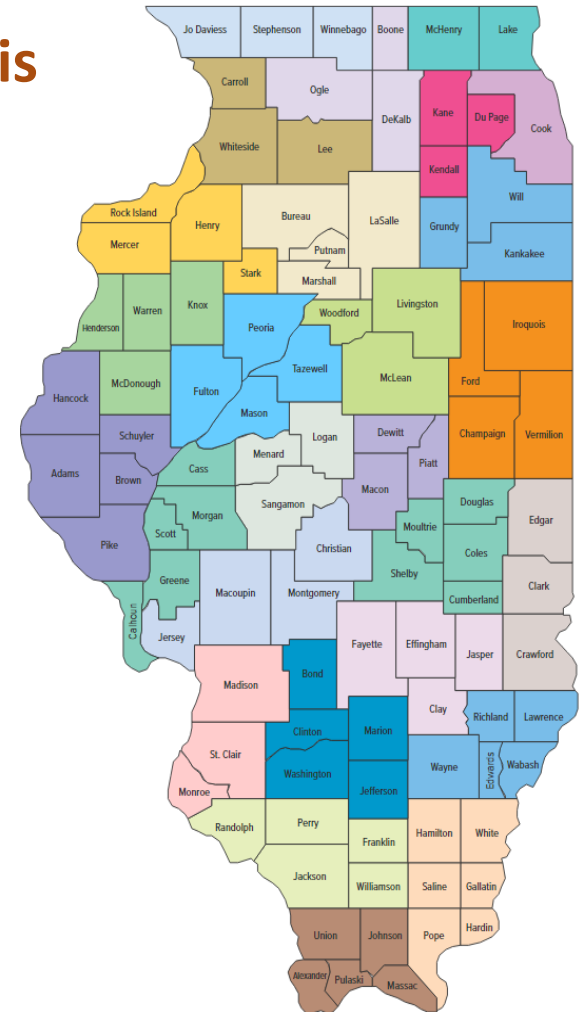


LAWN TO LAKE
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Current Project

Targeting Natural Lawn Care Communications to Homeowners in Illinois

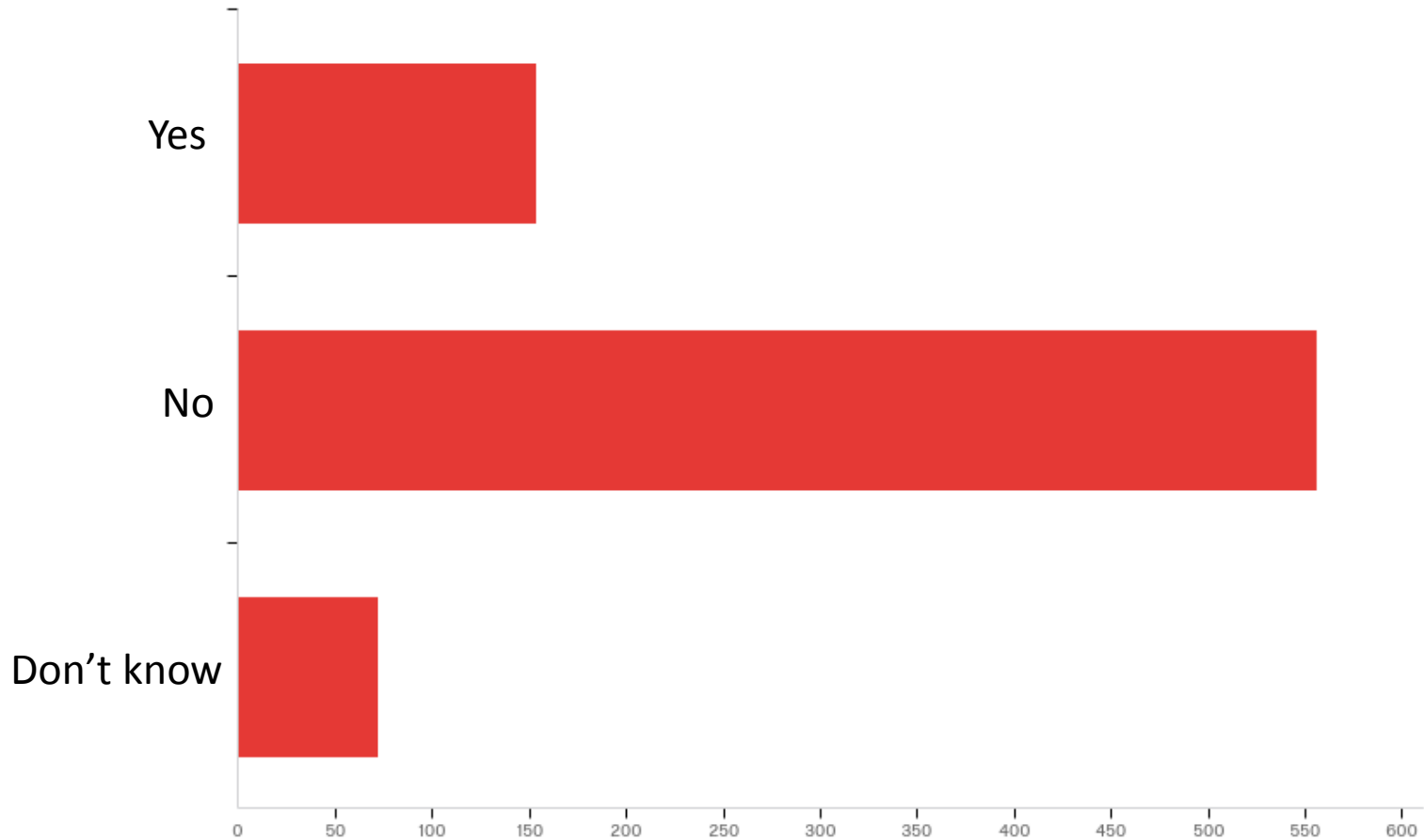
Interdisciplinary Collaborations in Extension Grant



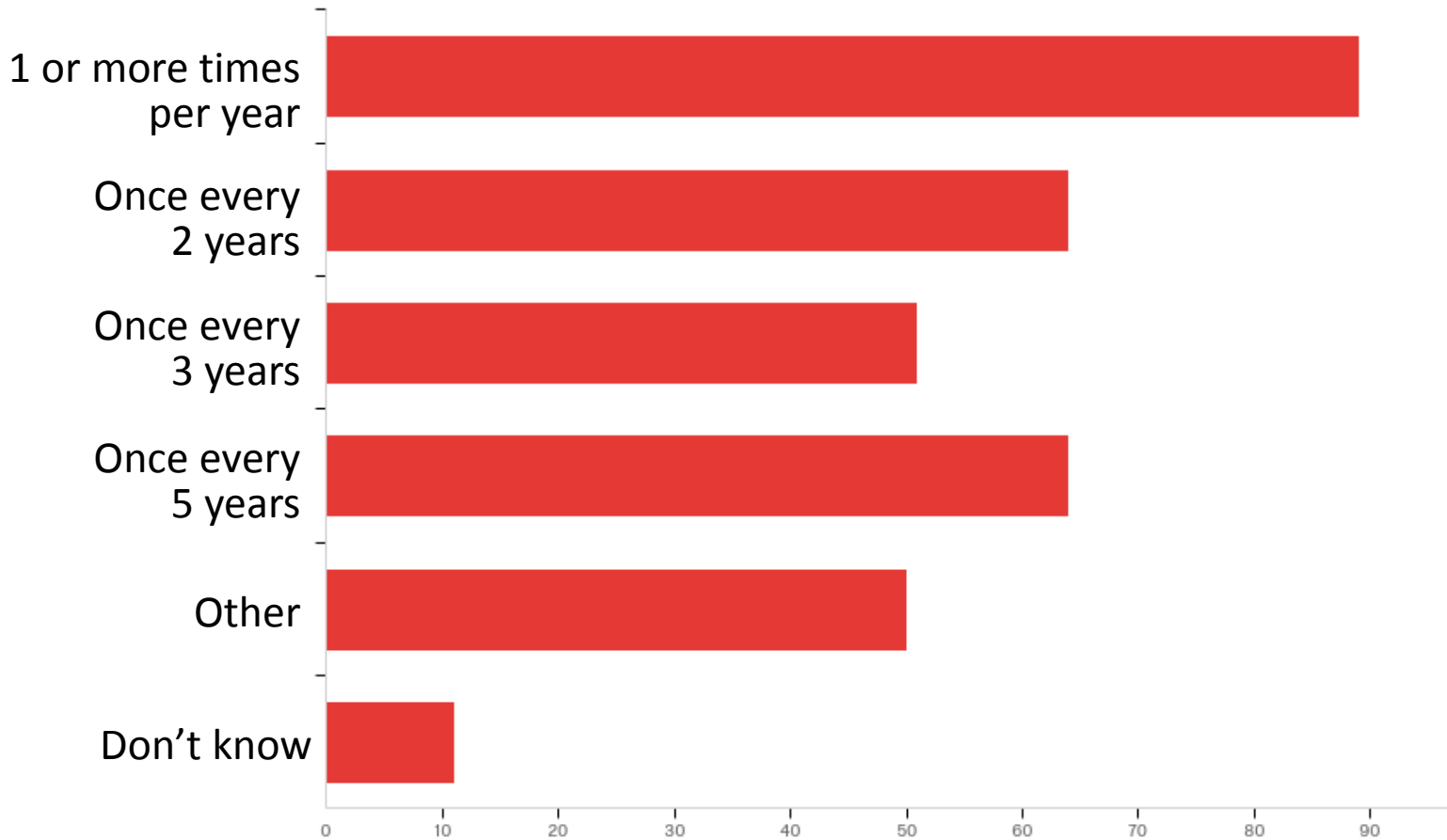
Survey Results

- 841 respondents; 799 (95%) had a lawn
 - 89% were homeowners
 - Size: 47% small, 26% medium, 26% large
 - 67% manage their own lawns, 21% ask other household members to take care of it
 - 95% said they participate in caring for their lawns
 - 82% felt they had some to a great deal of experience
- Demographics:
 - 65% female
 - 85% college graduates or held advance degrees
 - 80% between 35-74 years old
 - 167 between 55-64 years old

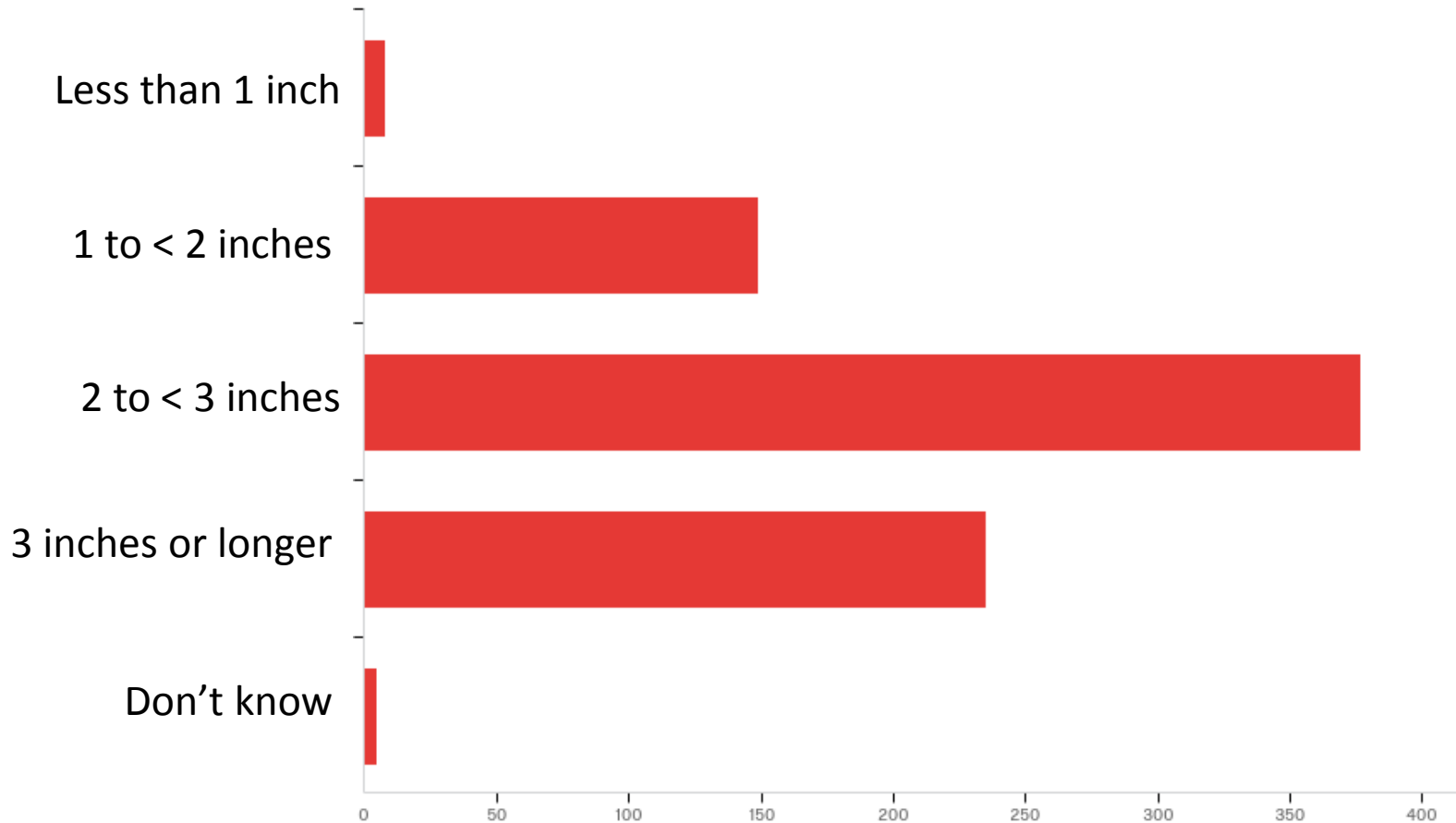
Has your soil ever been tested?



How often is your lawn aerated?



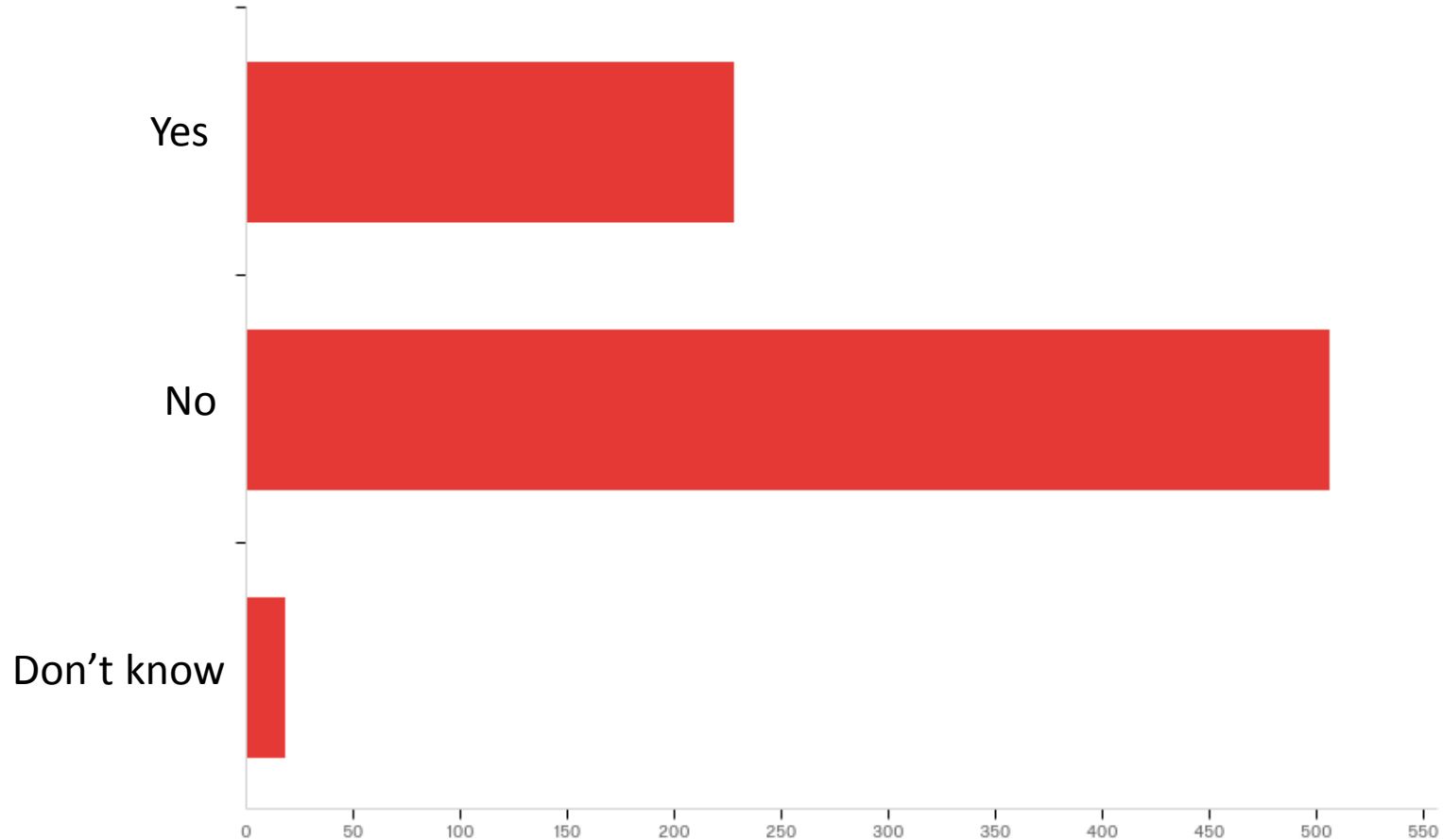
Typically, how long is your grass after it has been cut?



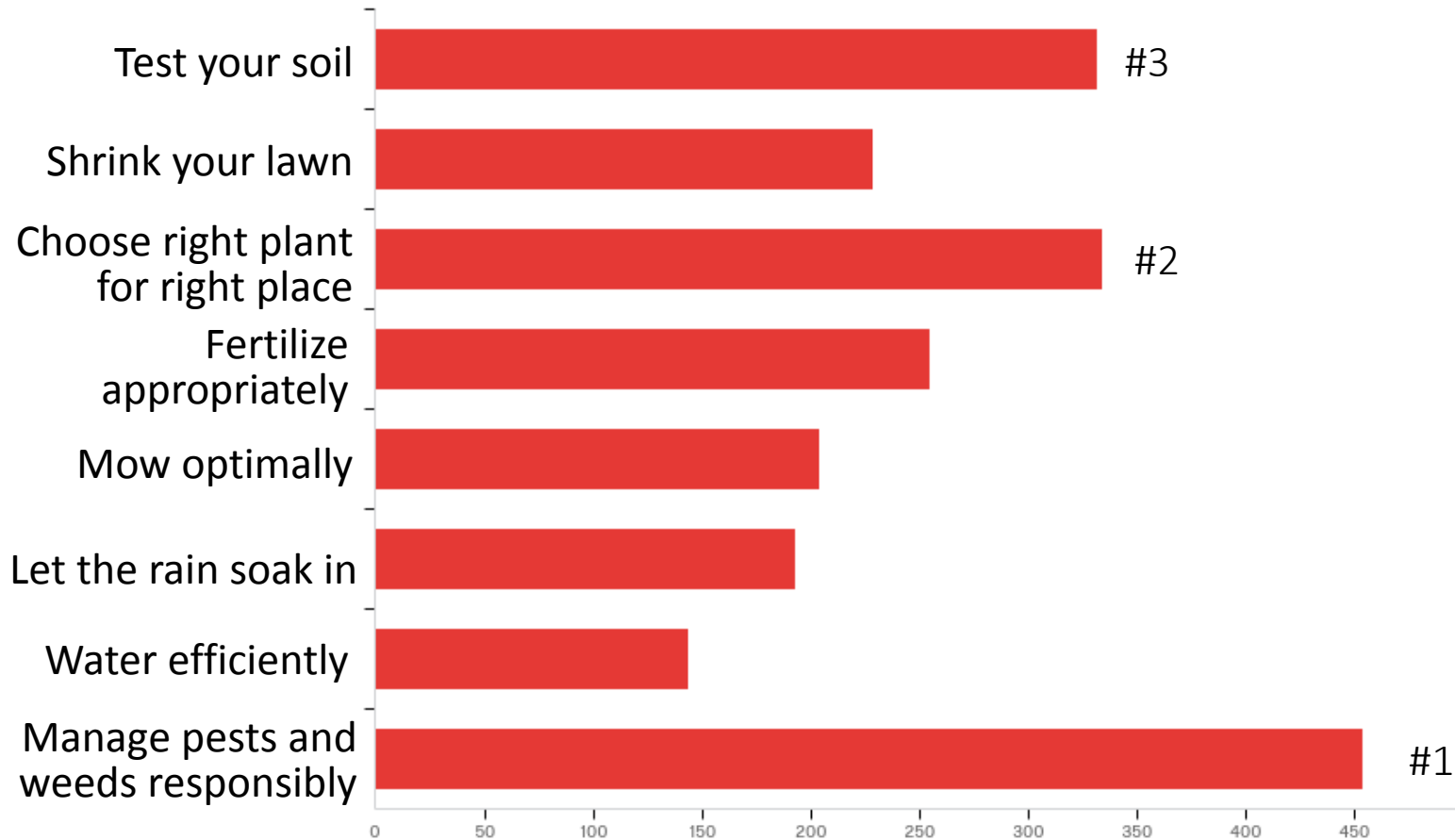
Do you already follow the lawn care practices below? If not, would you be willing to do them in the future?

#	Question	ALREADY do this	YES, willing to do in the future	NO, not willing to do in the future	Unsure/ Don't know	Total
1	Choose plant or grass species that best fit yard conditions (e.g., sunlight, drainage)	54.44% (417)	34.20% (262)	2.61% (20)	8.75% (67)	766
2	Design landscape to reduce unnecessary grass area	43.28% (325)	36.62% (275)	8.79% (66)	11.32% (85)	751

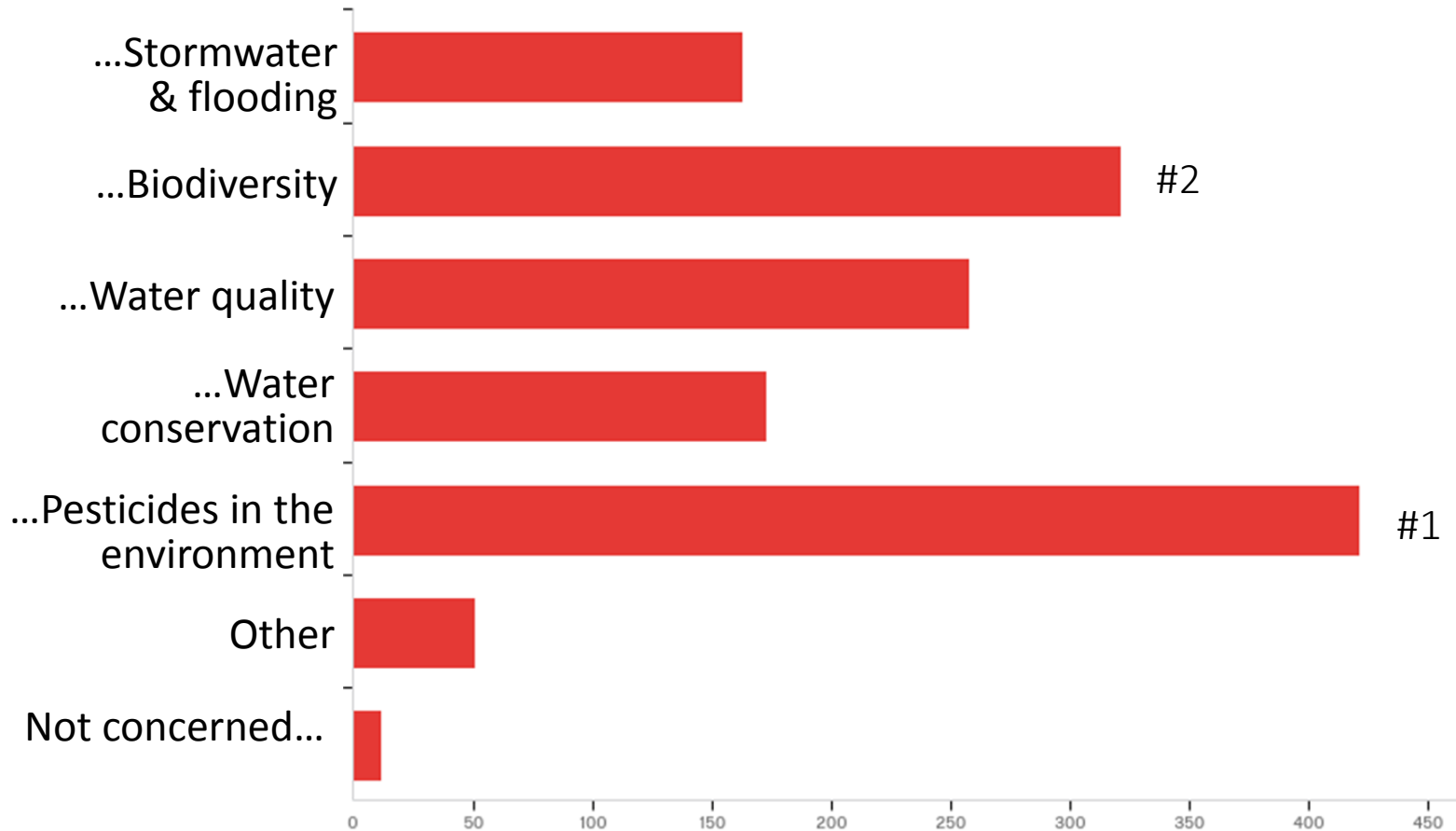
Do you use a combined pesticide and fertilizer (e.g., weed and feed) on your lawn?



Which of these environment-friendly lawn care practices would you like to learn more about? Select all that apply.



What are your major concerns related to the environment in general? Select your top two concerns.



What are your current and preferred sources of lawn care information?

Current

1. Internet research (15%)
2. University Extension experts (9%)
3. Family, friends, neighbors, and/or colleagues (8%)
4. Newspaper or magazine articles (8%)
5. Product packaging (7%)

Preferred

1. Internet research (13%)
2. University Extension experts (11%)
3. Brochures or factsheets (11%)
4. Guidebook or manual (8%)
5. Family, friends, neighbors, and/or colleagues (6%)

Conclusions

- Although some respondents are testing their soil and following best practices when it comes to planting and fertilizer/pesticide use, there is room for improvement, and many are willing to adopt new practices.
 - Consider the audience
- Although outreach materials aren't currently a source of lawn care information, they are a priority.
- Continued engagement of Extension experts is key to successful natural lawn care education.

Focus Groups

- January 9, 2020: Effingham
- January 16, 2020: Rock Island
- January 23, 2020: Lake



SOIL TESTING FOR A HEALTHY LAWN
for Homeowners

What's in Your Watershed?
Flint-Henderson

What is a watershed?
A watershed is an area of land that drains to a waterbody, such as a lake, stream, or wetland. They can be as small as the drainage area for a pond or as large as the Mississippi River Basin (Figure 1). Elevated land features like hills and slopes separate one watershed from another. Even if you don't live directly next to a river or lake, the precipitation that falls on the land surrounding your home will eventually drain to nearby waters.

How does pollution enter a watershed?
Any single source of pollution that is easy to identify, like a pipe coming from a factory or sewage treatment plant, is called point-source pollution. On the other hand, nonpoint source water flows across residential lawns, farm fields, and streets, it picks up these nonpoint source pollutants—which include fertilizers, pesticides, road salt, and oils. This means that the health of your watershed and the plant, animal, and human lives it sustains locally and downstream.

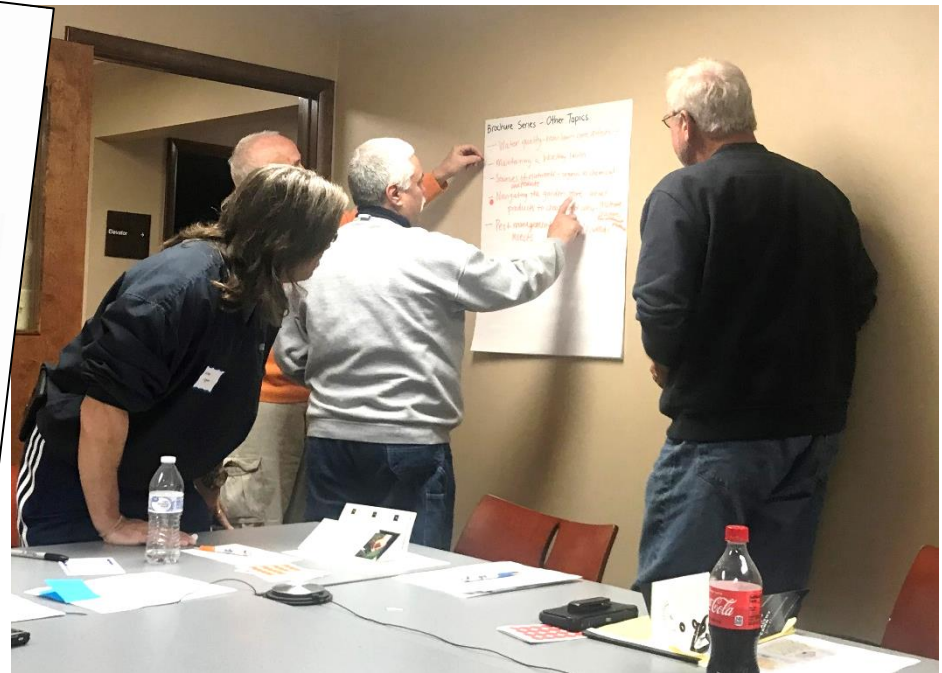
One major threat to water quality is nutrient pollution from fertilizers. Excess nitrogen and phosphorus in waterbodies triggers algae blooms, which creates a host of problems including impaired use of the water for drinking and recreation, where decreased oxygen levels in the water harm aquatic plants and animals. One such example is the dead zone that extends across thousands of square miles in the Gulf of Mexico (Figure 1). The Gulf dead zone results from polluted runoff from the Mississippi River Basin watershed, which covers 41% of the continental U.S.

The Flint-Henderson watershed
The Flint-Henderson watershed is a sub watershed within the Mississippi River Basin, and is also referred to as the Mississippi North Central River watershed. It covers approximately 1.5 million acres and encompasses portions of six counties in Illinois: Henry, Mercer, Anox, Warren, Henderson, and Rock. Over 65 tributaries make up the Flint-Henderson watershed, which accounts for over 865 miles of rivers, creeks, and streams. Some major tributaries include the Edwards River, Rock Creek, North Henderson Creek, and Ellison Creek. The land in the Flint-Henderson watershed is used in agriculture and residential development.

Excess nutrient pollution locally in Illinois and downstream is a concern. Representatives from state and federal agencies, local government, and non-profit organizations gathered with local wastewater treatment professionals to develop a strategy called the Illinois Nutrient Loss Reduction Strategy.

Figure 1: The Mississippi River Basin watershed

Figure 2: The Flint-Henderson watershed



Coming Soon...

- Outreach Materials
 - Brochures: Soil Health/Testing, Right Plant Right Place, IPM
 - Factsheets: *“What’s in your watershed?”*
 - Website & Guidebook
- Workshops
 - Collaboration with Cook County Extension & Conservation@Home

UNIVERSITY OF ILLINOIS EXTENSION

NATURAL LAWN CARE

Registration: <https://go.illinois.edu/NaturalLawnCare>

APRIL 4, 2020 | 10:00AM TO 12:00PM
SAGAWAU ENVIRONMENTAL LEARNING CENTER

APRIL 11, 2020 | 10:00AM TO 12:00PM
CRABTREE NATURE CENTER

APRIL 18, 2020 | 10:00AM TO 12:00PM
TRAILSIDE MUSEUM OF NATURAL HISTORY



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