

GLDIATR: Protecting the Great Lakes from Internet Trade of AIS

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Objectives

Phase I (2012 – 2016)

- Develop and demonstrate software to assess the availability of invasive species via Internet sales
- Provide information and management tools
- Present information on the Internet marketplace, including risks and options for management

Funding: FY12 Great Lakes Restoration Initiative EPA grant

Phase II (2016 – Present)

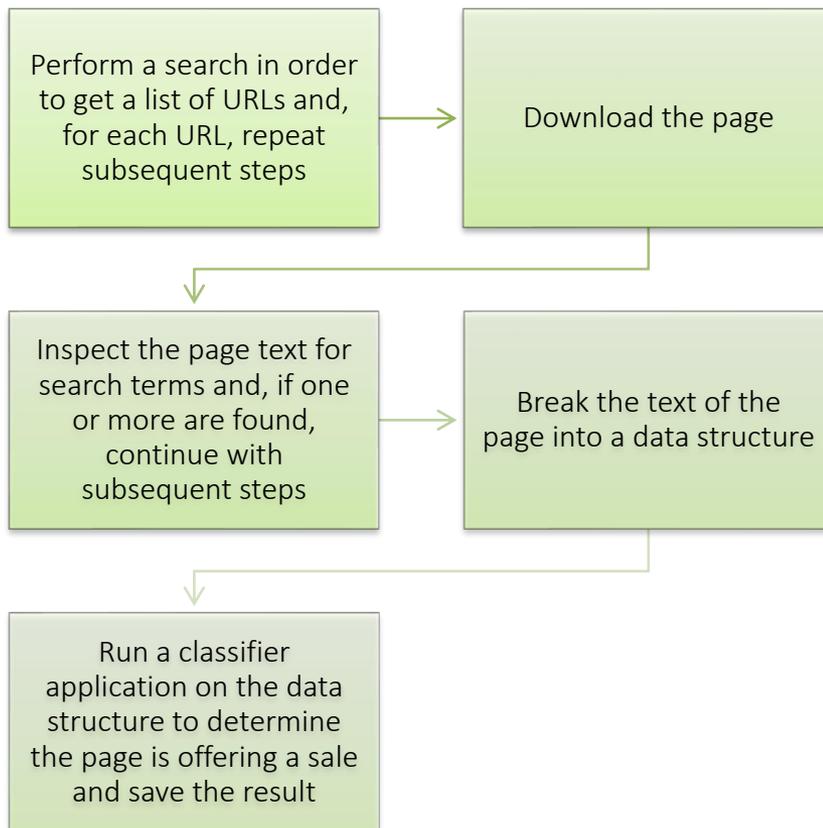
- Advisory Committee
- Enhance functionality and features
- Integrate GLDIATR into management activities
- Deliver GLDIATR information to managers
- Implement coordinated outreach to retailers

Funding: FY15 Great Lakes Restoration Initiative EPA grant



GLDIATR

Typical GLDIATR work flow



Species Watch List

- Non-native aquatic species prohibited or regulated by Great Lakes states and provinces (IN, IL, MI, MN, NY, ON, OH, PA, QC, WI) and federal governments
- GLANSIS Watch List
- GLMRIS Watch List
- U.S. FWS Ecological Risk Screening Summaries
- Stakeholder input



Phase I outcomes

Developed unique GLDIATR system

Identified > 200 websites and sellers

58 different invasive species for sale

- Species on GL Governors and Premiers “least wanted” species list
- Highly invasive plants – Brazilian elodea (*Egeria densa*), parrot feather (*Myriophyllum aquaticum*), water soldier (*Stratiotes aloides*), water chestnut (*Trapa natans*) and hydrilla (*Hydrilla verticillata*).

> 60% of suppliers identified are based in the U.S.



Phase II work plan - original

Implement GLDIATR enhancements

- Geographic location information
- Case management system
- Improved reporting
- Updated species watch list



Conduct outreach

- Develop list of priority species to target for outreach/action
- Target and implement management activities to reduce species availability



Phase II work plan - revised

Assess third-party web crawling services

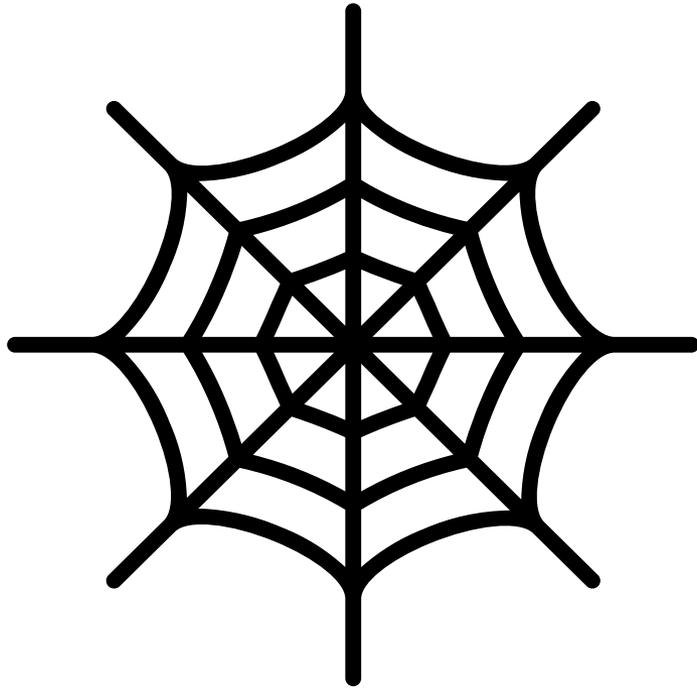
- Identify and evaluate service providers
- Implement web-crawling services on target species list
- Summarize findings and results

Conduct outreach

- Develop list of priority species to target for outreach/action
- Target and implement management activities to reduce species availability



Web-scraping service providers



~~Octoparse~~

Scrapehero

Marquee Data



Target species list

Criteria:

- Found in trade in the U.S. / Canada
- On a species list: regulated or "watch"
- Risk to the region (prevention or management efforts are being used)
- Management agencies willing to take action

Scientific name	Common name
<i>Channa argus</i>	Snakehead
<i>Leuciscus idus</i>	Ide; Orfe
<i>Misgurnus anguillicaudatus</i>	Japanese weatherfish; dojo loach; weather loach
<i>Tinca tinca</i>	Tench
<i>Cherax destructor</i>	Yabby
<i>Cherax tenuimanus</i>	Marron
<i>Corbicula fluminea</i>	Asian clam
<i>Melanoides tuberculata</i>	Malaysian trumpet snail
<i>Procambarus clarkii</i>	Red swamp crayfish
<i>Egeria densa</i>	Brazilian waterweed
<i>Hygrophila polysperma</i>	Indian hygrophila
<i>Pistia stratiotes</i>	water lettuce
<i>Cabomba caroliniana</i>	Carolina fanwort
<i>Hydrilla verticillata</i>	Hydrilla
<i>Hydrocharis morsus-ranae</i>	European frog-bit
<i>Lagorosiphon major</i>	African oxygen weed
<i>Limnophila sessiliflora</i>	Ambulia
<i>Lythrum virgatum</i>	Wanded loosestrife
<i>Murdannia keisak</i>	Marsh dewflower
<i>Myriophyllum aquaticum</i>	Parrot feather
<i>Stratiotes aloides</i>	Water soldier
<i>Trapa natans</i>	Water chestnut

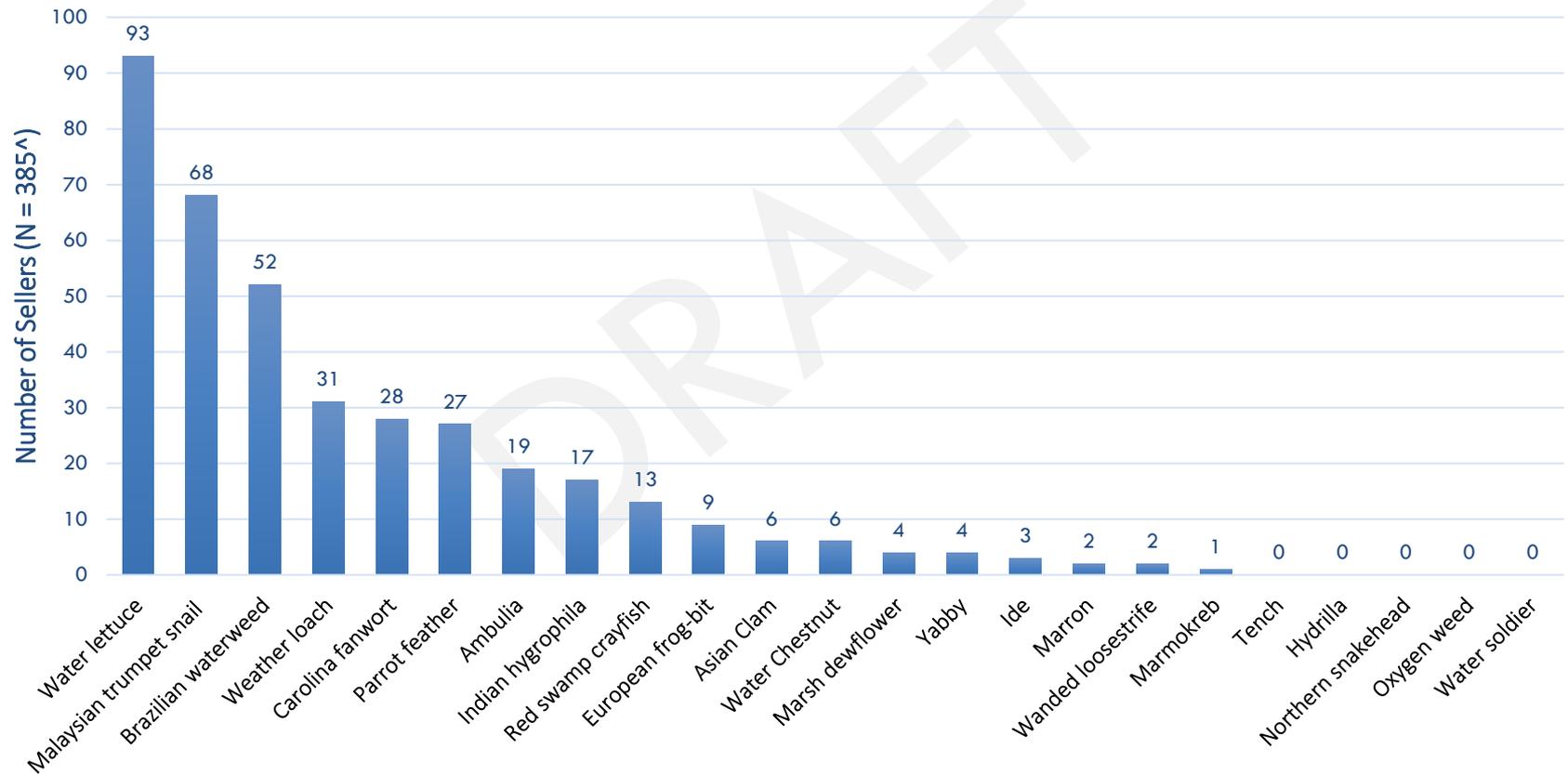


PRELIMINARY FINDINGS



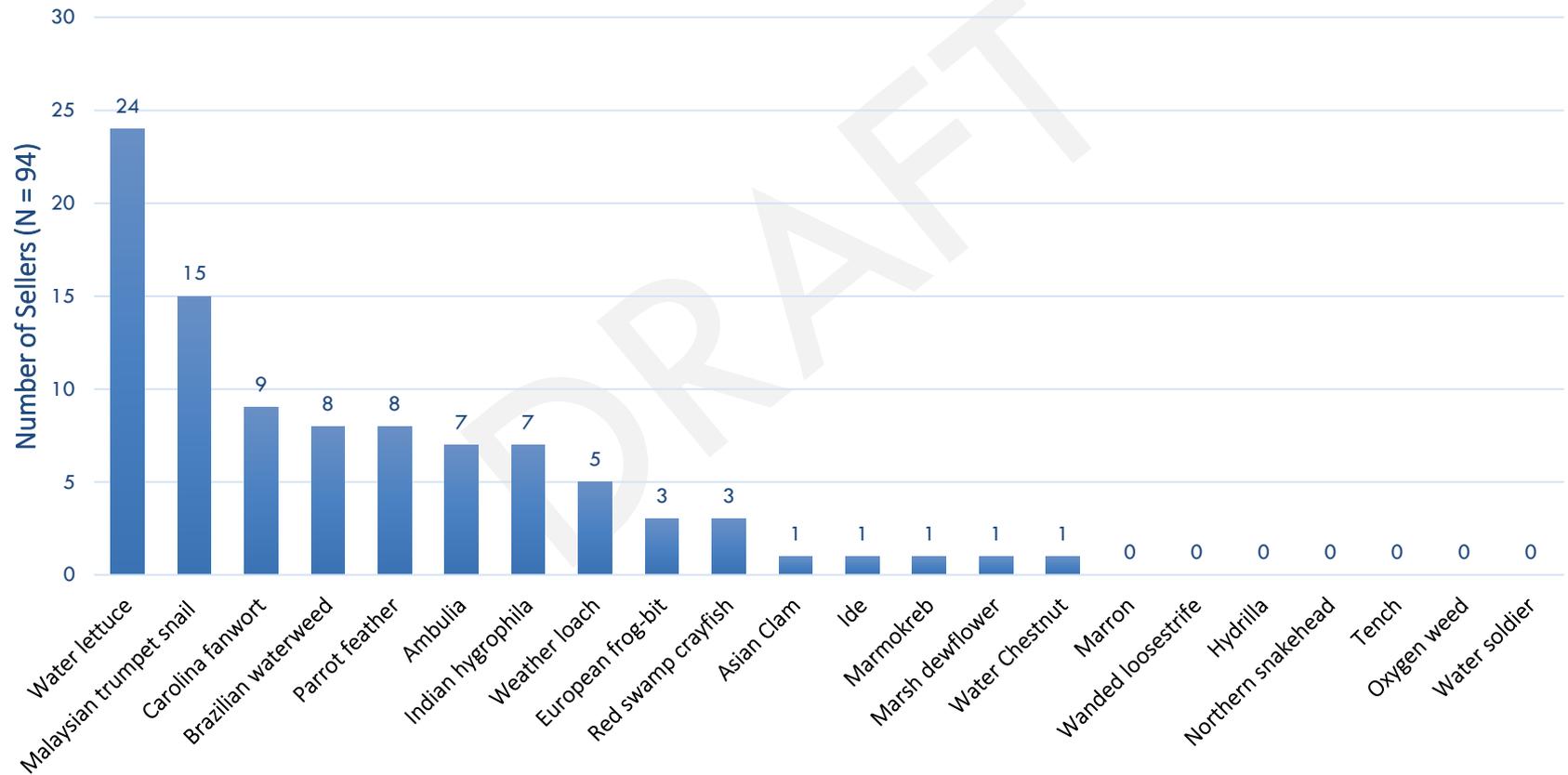
Species

Sellers by Species (All U.S. and Canada)



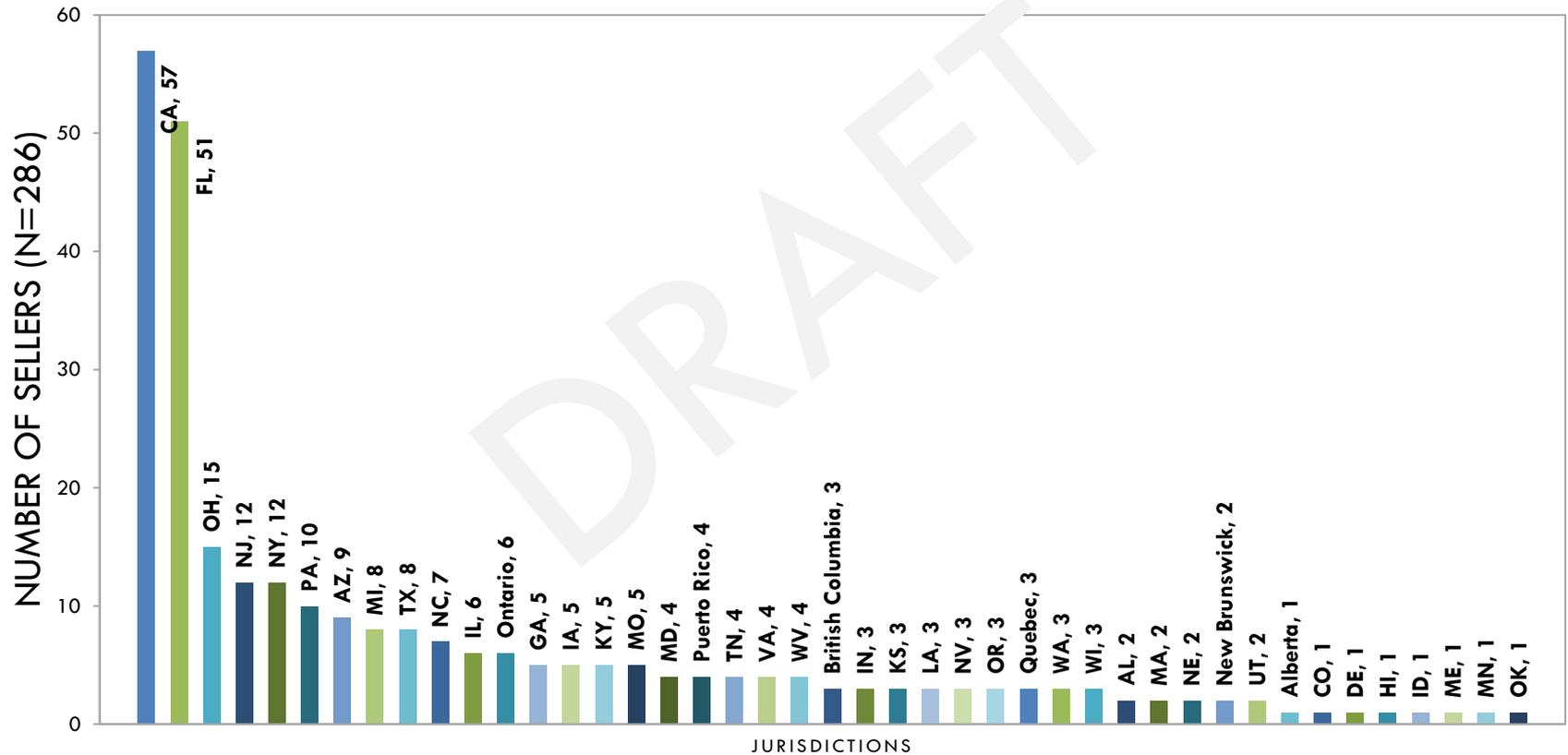
Species

Sellers by Species (Great Lakes Only)

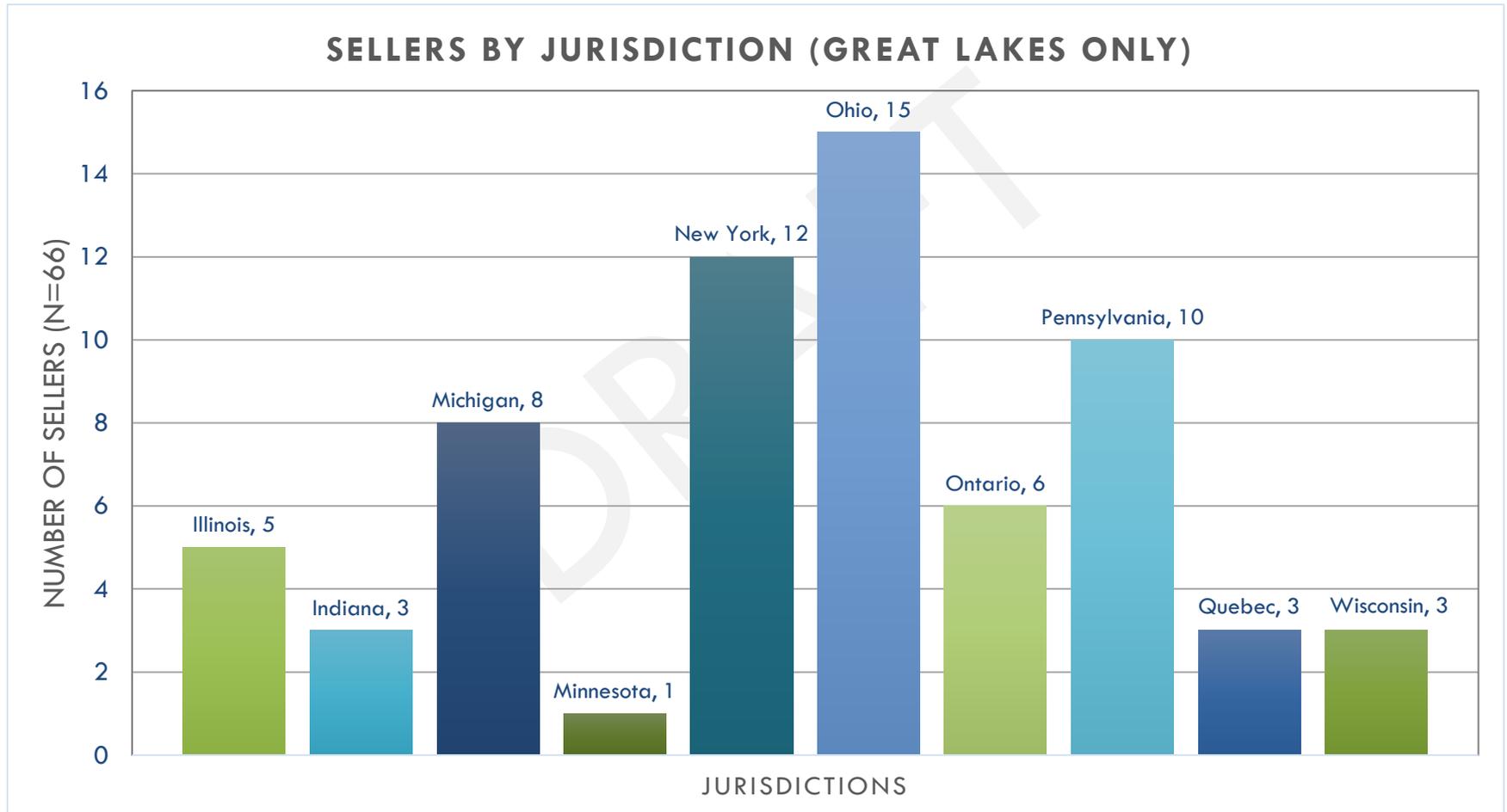


Sellers

SELLERS BY JURISDICTION (ALL U.S. AND CANADA)

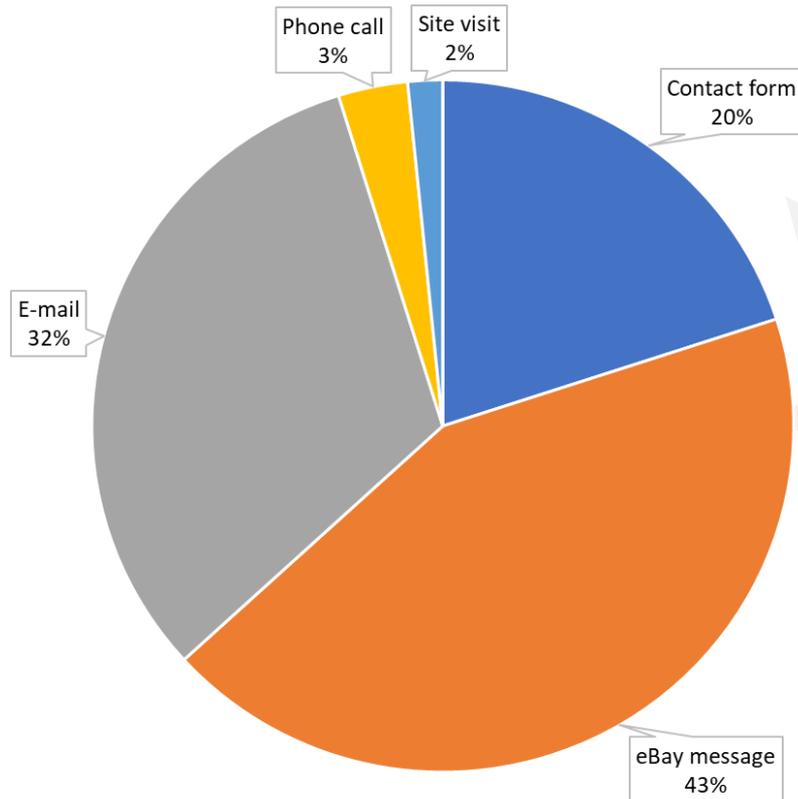


Sellers

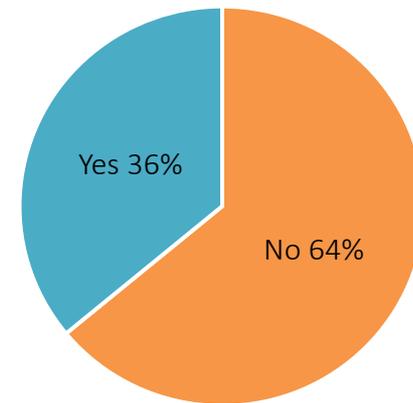


Seller outreach (n=126)

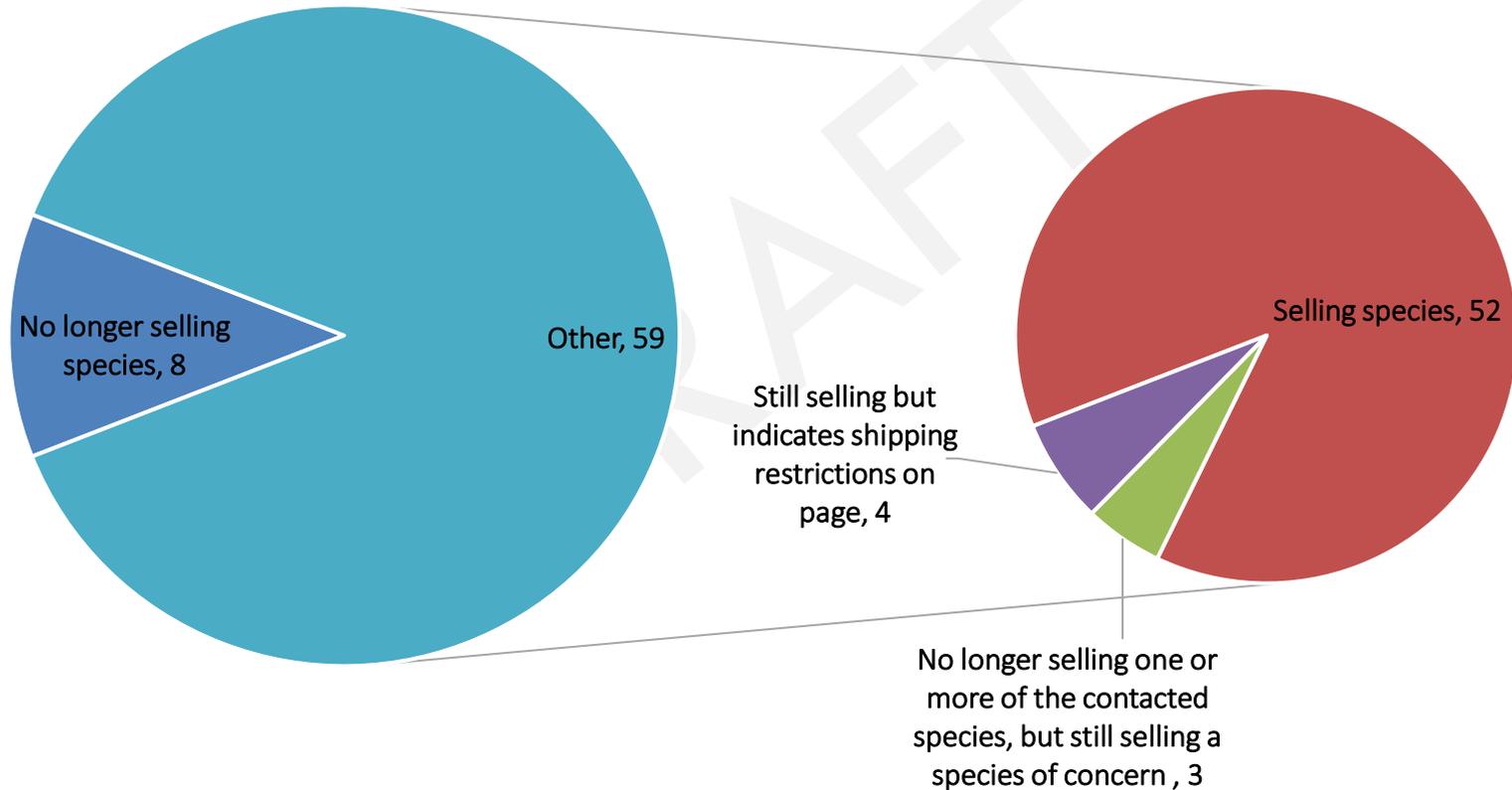
Outreach method



Did Sellers Respond to Contact?



Seller behavior change (n=67)



Next steps



Complete final report



Discussion with stakeholders

Advisory Committee
Great Lakes ANS Panel



Acknowledgments

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