

# Economics of Aquatic Invasive Species and Effectiveness of Outreach Campaigns in Illinois



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*Presentation to Great Lakes Panel 10/27/21*



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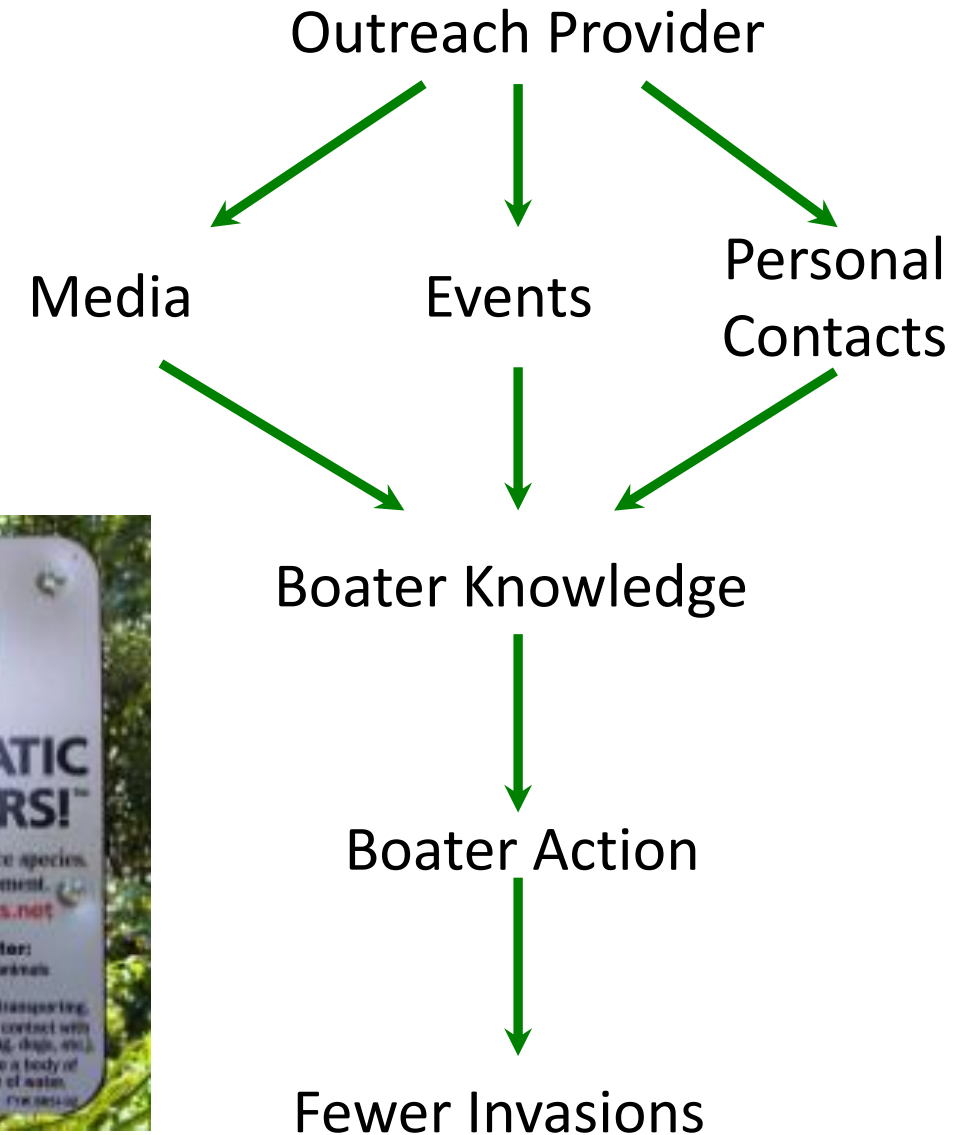
*Preparing people to lead extraordinary lives*

# Economic Impacts of Aquatic Invasive Species in Great Lakes

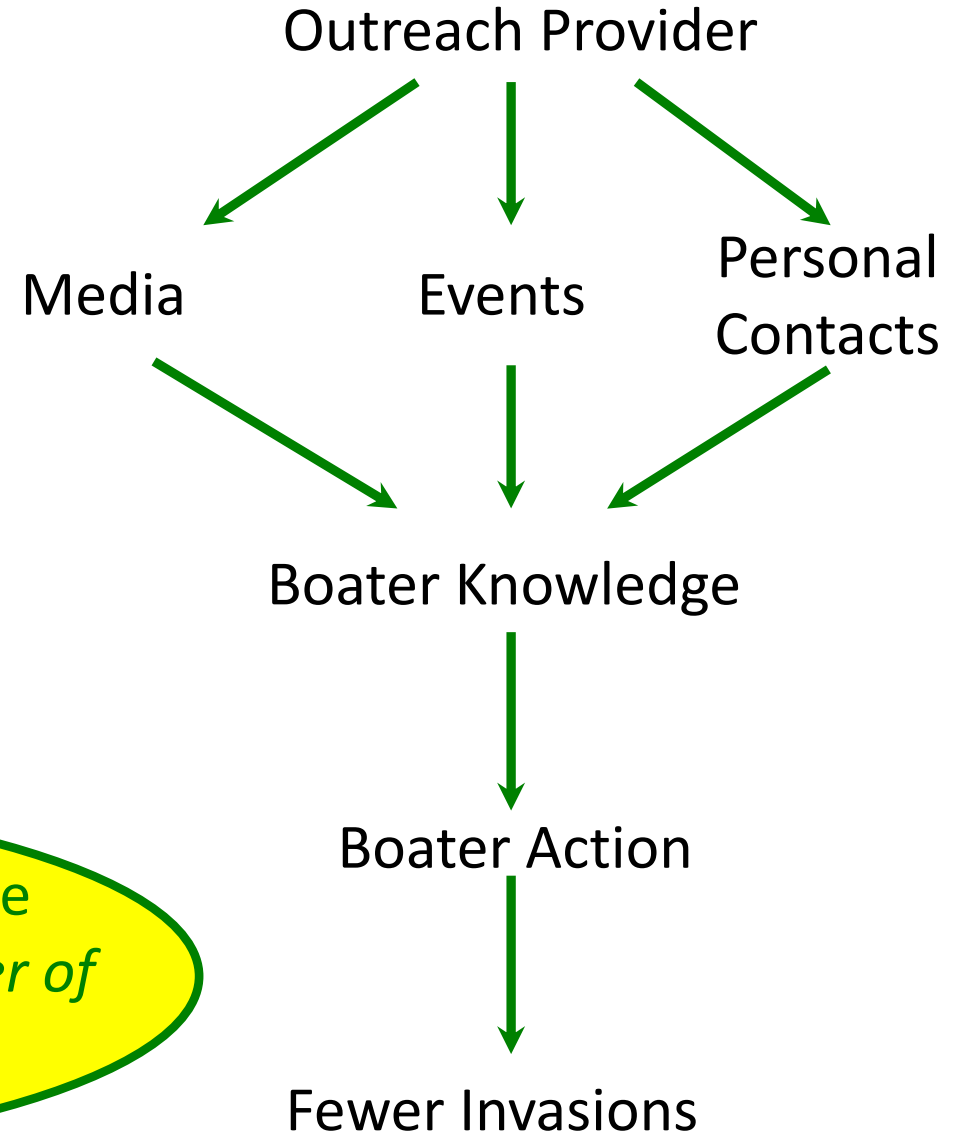
- Economic impacts of AIS in the Great Lakes are large but poorly understood
- Sea lamprey and *Dreissenid* mussels are probably the best known
  - Zebra/quagga mussels are reported to have caused billions of dollars in cumulative damage
  - Sea lamprey decimated fisheries and have ongoing annual control costs of \$17million+
- Impacts of some other species (e.g., Eurasian watermilfoil, *Bythotrephes*) are known to be large

# Outreach Efforts As A Response

- Federal, state/provincial, and local organizations use outreach to reduce overall impacts from AIS
- More educated water users will reduce behaviors that spread AIS
- Large financial investment

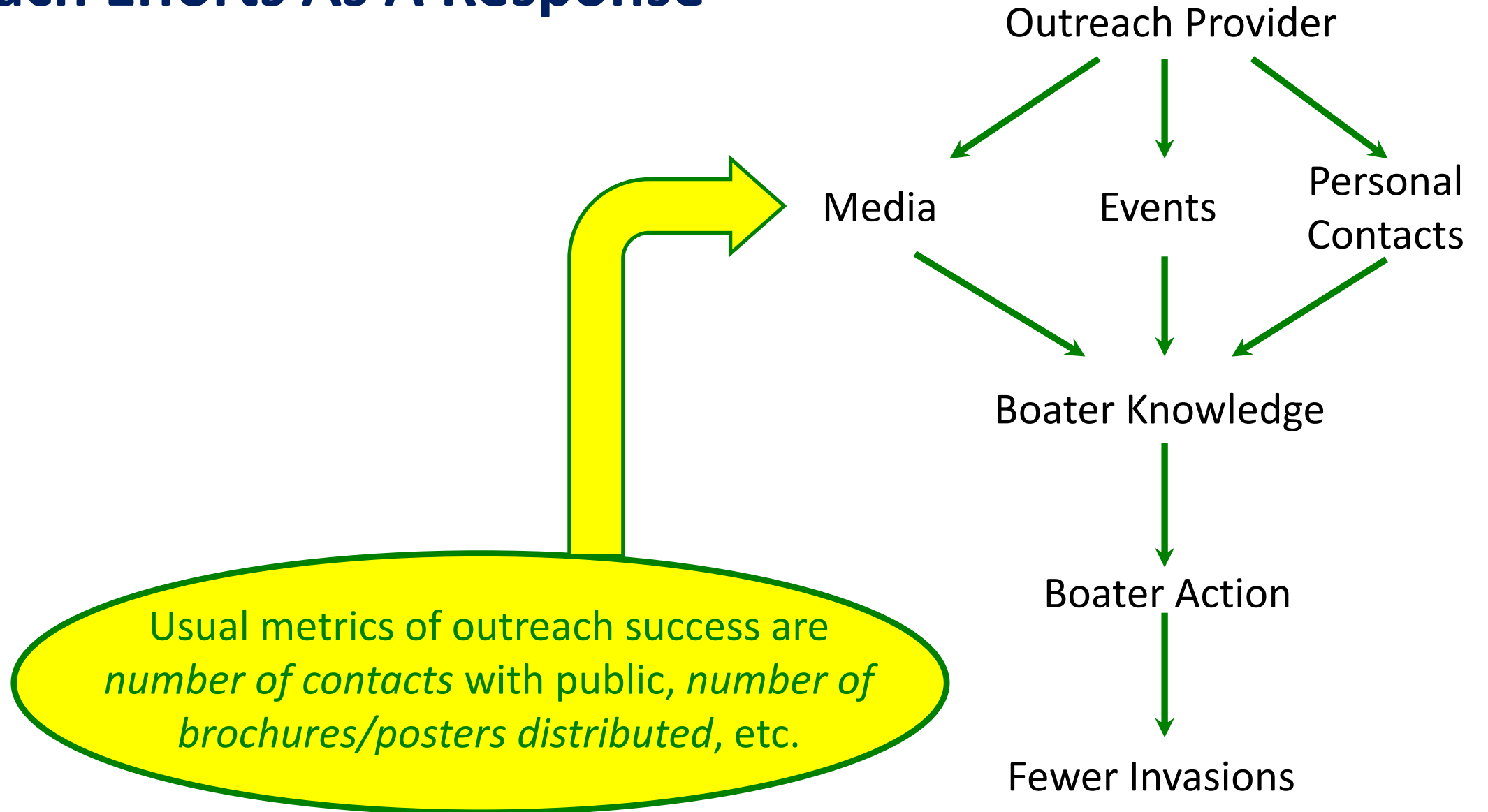


# Outreach Efforts As A Response



Usual metrics of outreach success are *number of contacts with public, number of brochures/posters distributed, etc.*

# Outreach Efforts As A Response



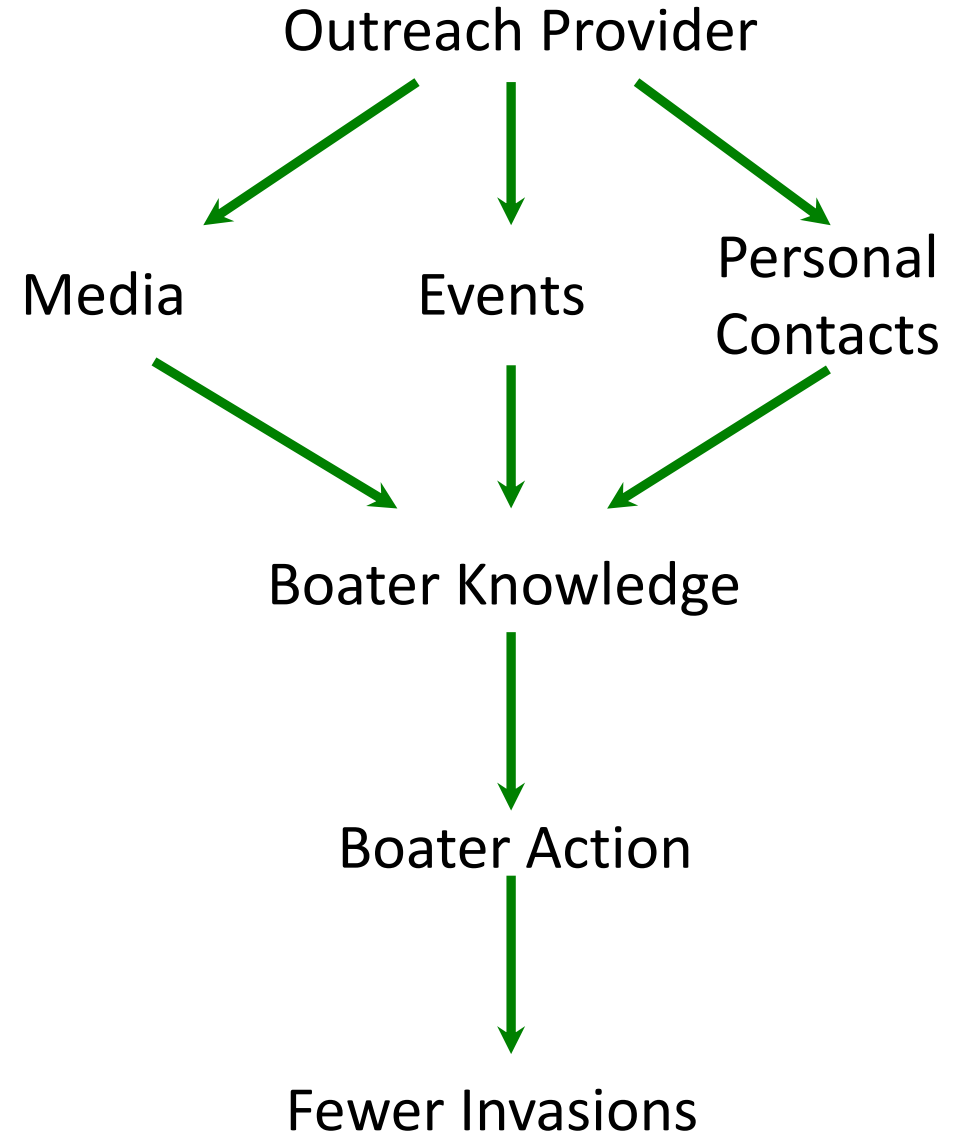
# Outreach Efforts As A Response

## Manager Interviews (n=14)

- Budgets, outputs
- Who works with whom
- How is performance assessed

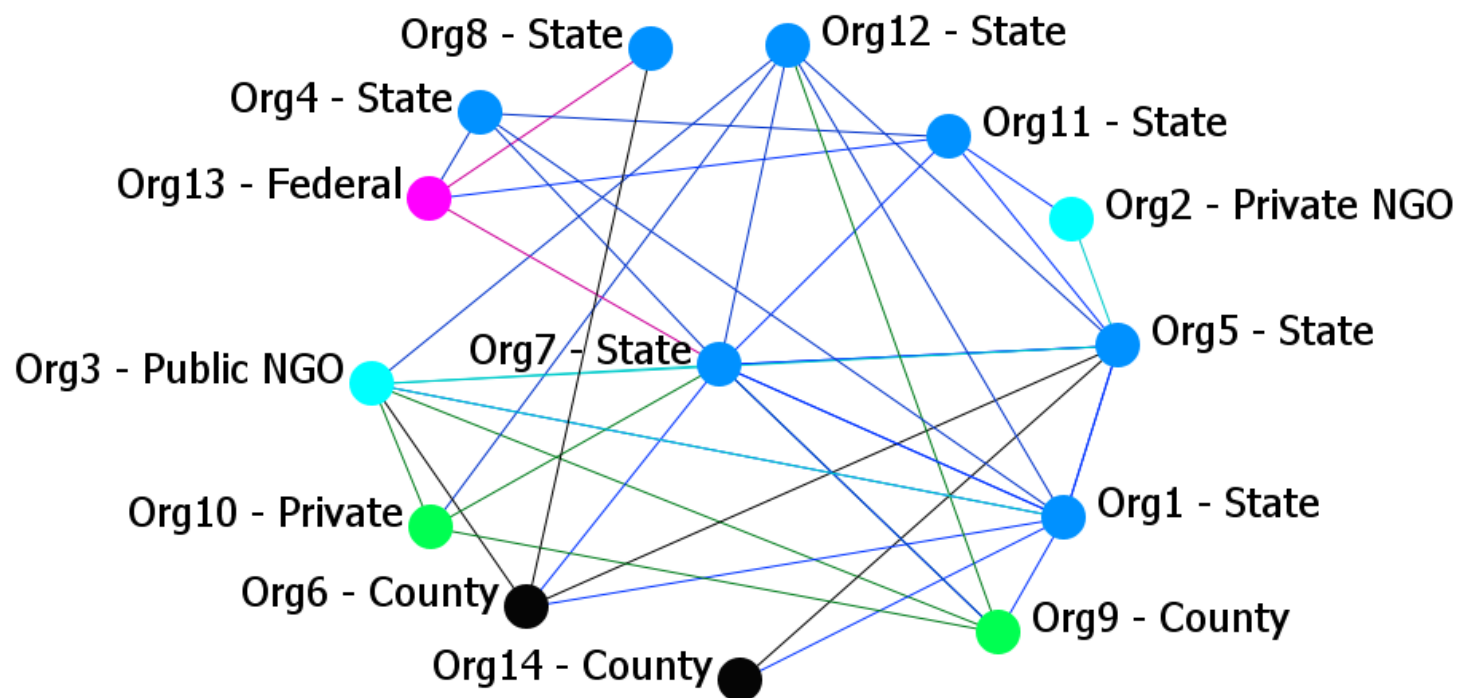
## Boater Survey (n=515)

- Media, events, and personal contacts used
- Knowledge of invasive species
- Actions taken to prevent spread of invasive species



# Manager Interviews

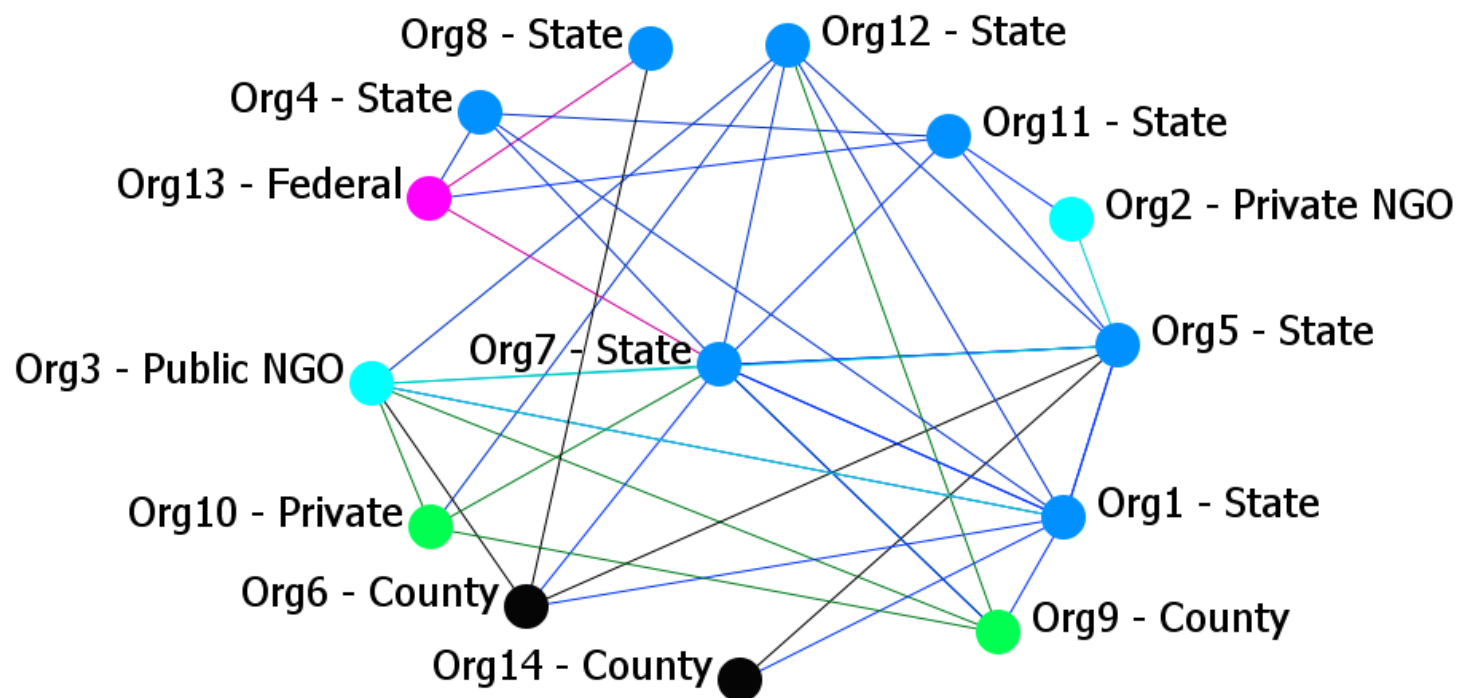
- Dense network of interactions
- Some clear leaders



Organization	\$2013
1	\$332,600
2	\$141,250
3	\$66,000
4	\$60,500
5	\$45,275
6	\$22,700
7	\$15,000
8	\$6,650
9	\$5,000
10	\$1,700
11	\$1,500
12	\$1,000
13	\$800
14	\$500
<b>TOTAL:</b>	<b>\$700,475</b>

# Manager Interviews

- Dense network of interactions
- Some clear leaders
- No organizations have rigorous assessments of how well their outreach works

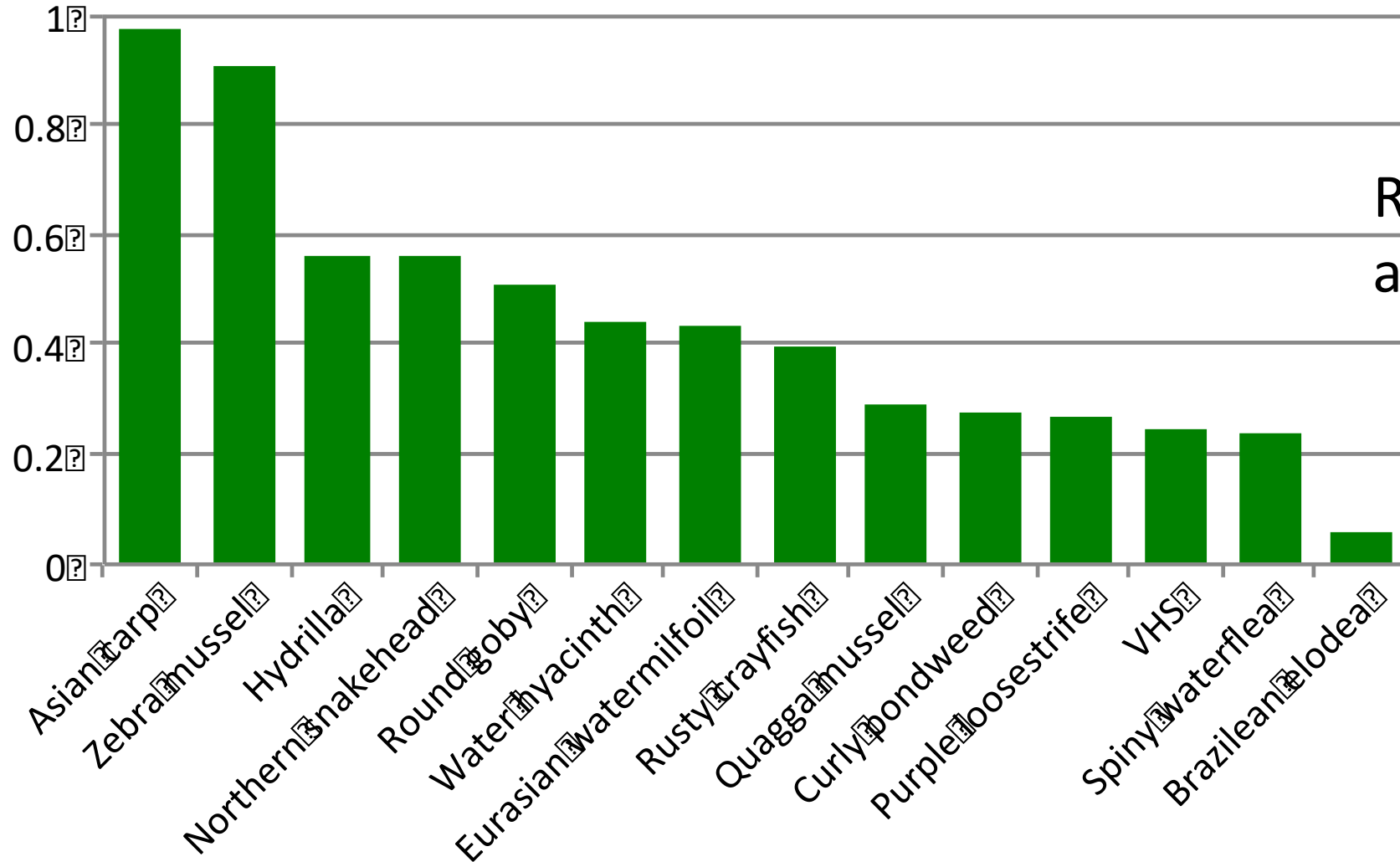


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# Boater Knowledge

- What Aquatic Invasive Species have you heard about?



Respondents had heard about an average of 5-6 species

# Boater Actions

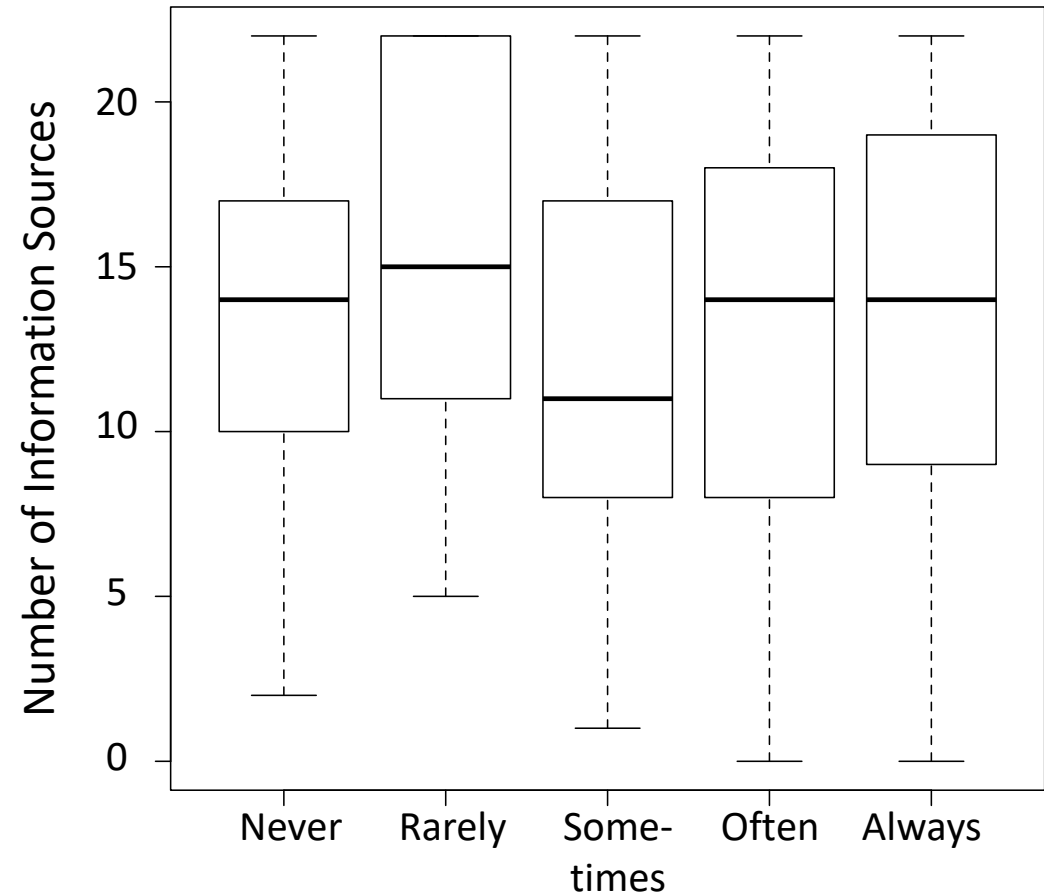
- How often do you perform at least one of the following actions between waterbodies: visual inspection and removal of AIS, power washing, dry boat for at least five days?

Frequency	Percent of Boaters
Never	7.6%
Rarely	2.5%
Sometimes	8.9%
Often	18.1%
Always	62.9%

# Boater Knowledge

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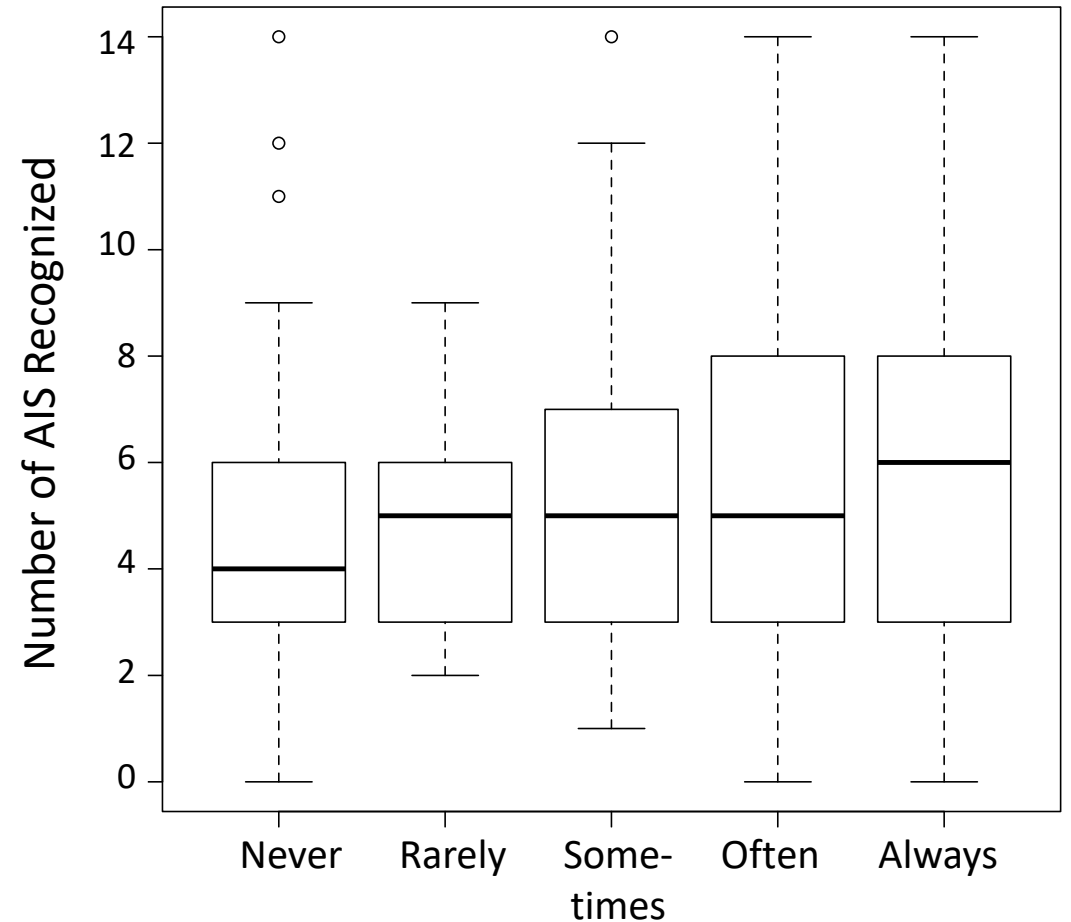
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# Boater Knowledge

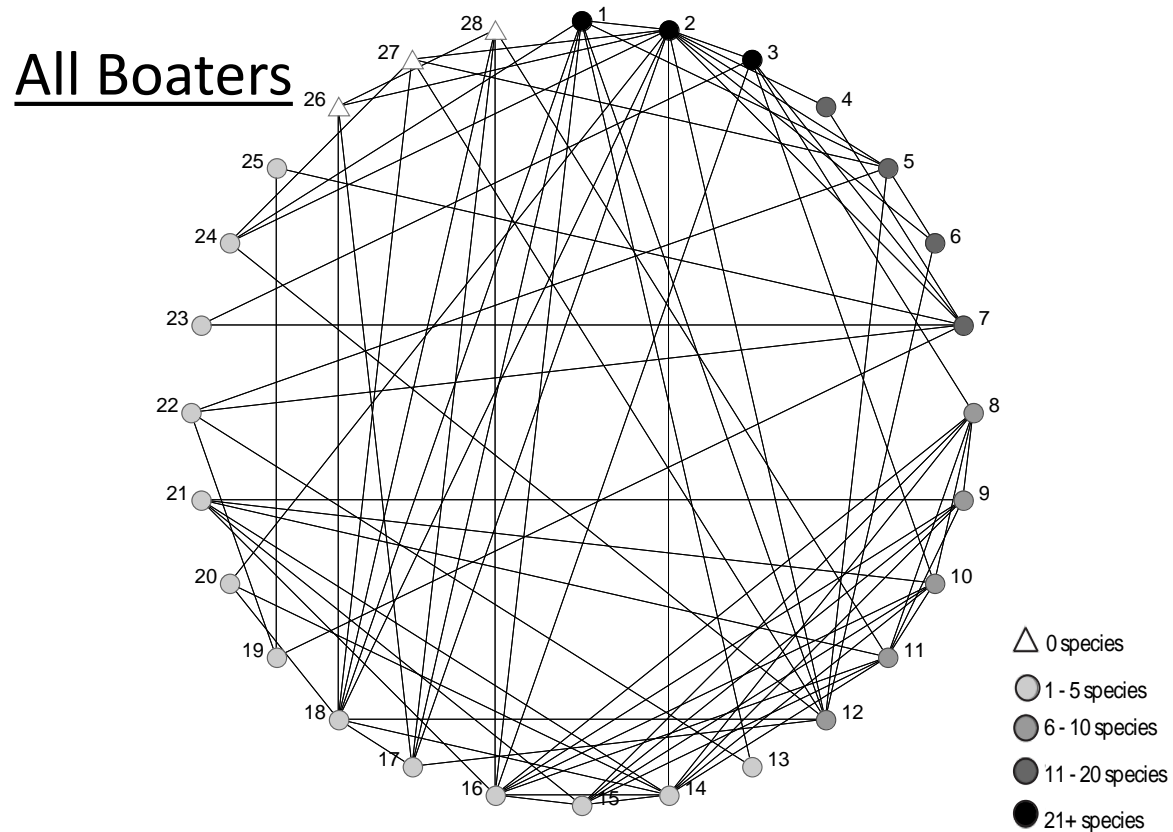
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# Boater Travel and AIS Spread

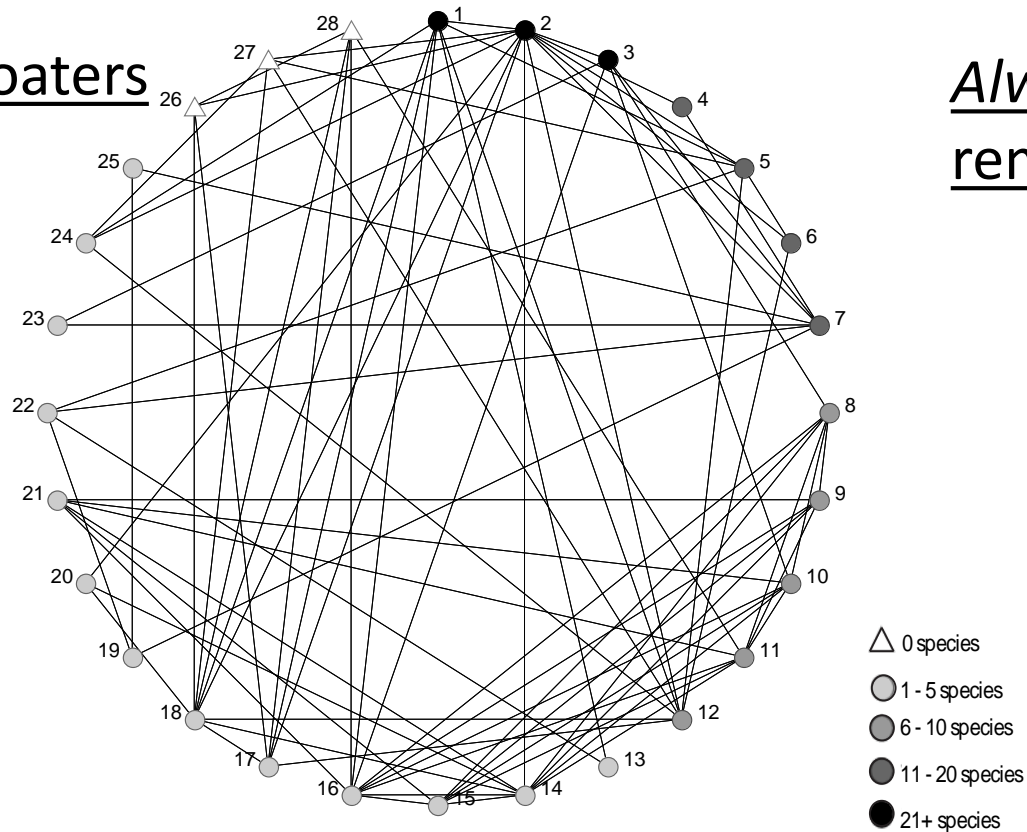
- 28 waterbodies with sufficient visits to put into a network of travel; creates highly connected network of waterbodies



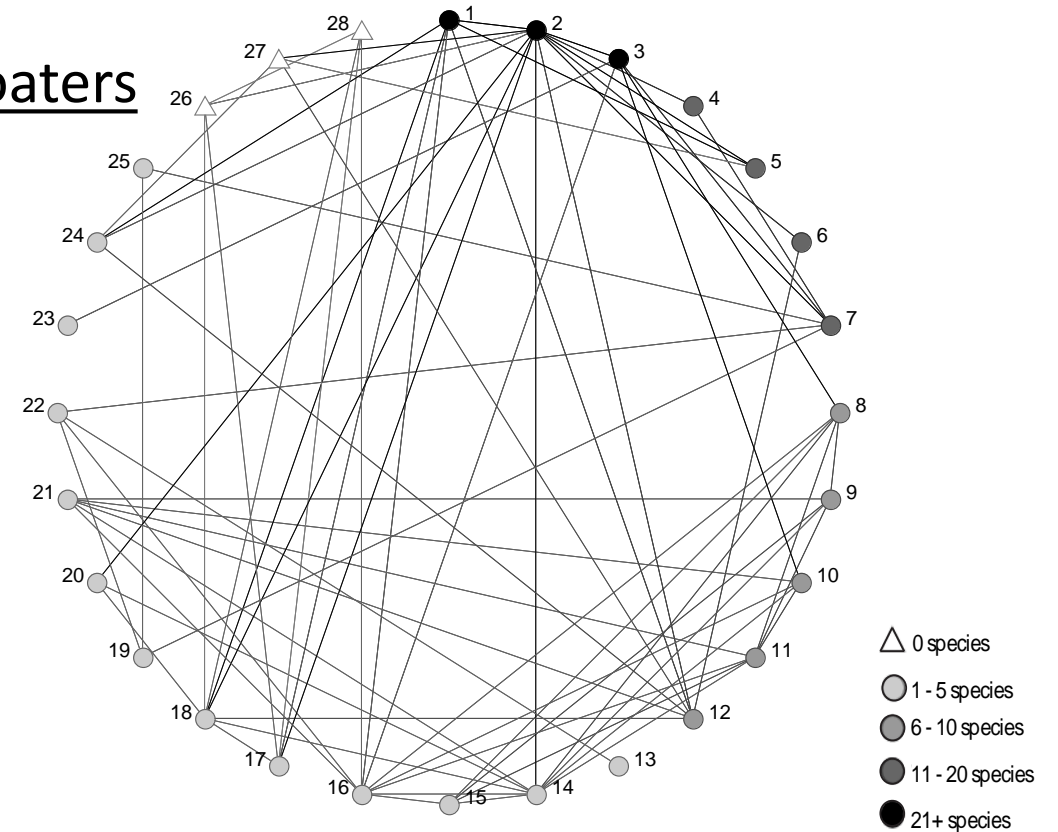
# Boater Travel and AIS Spread

- 28 waterbodies with sufficient visits to put into a network of travel; creates highly connected network of waterbodies
- Removing *Always* boaters makes network less dense, but all waterbodies still involved

All Boaters



Always boaters removed



# Conclusions

- Economic impacts of AIS are large and real, including \$700k+ spent in Illinois alone during one year to support outreach
- Outreach has been quite successful; >60% of boaters report that they *Always* take recommended actions, and another 18% *Often* do this
- Greater exposure to outreach is not correlated with actions
- Greater knowledge of AIS slightly correlated with actions

# Conclusions

- Outreach *Bang for Buck* likely to come from accessing those who have not yet changed behaviors
- Will require different approaches and metrics for success

