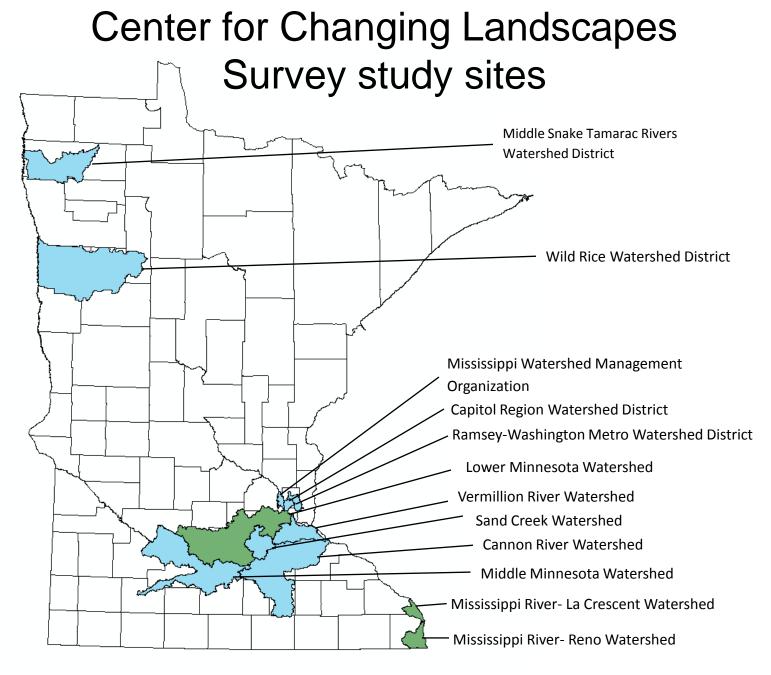
# Assessing local capacity for groundwater protection

Amit K Pradhananga Mae A Davenport 04/26/18

Spring Groundwater Conference Minnesota Groundwater Association

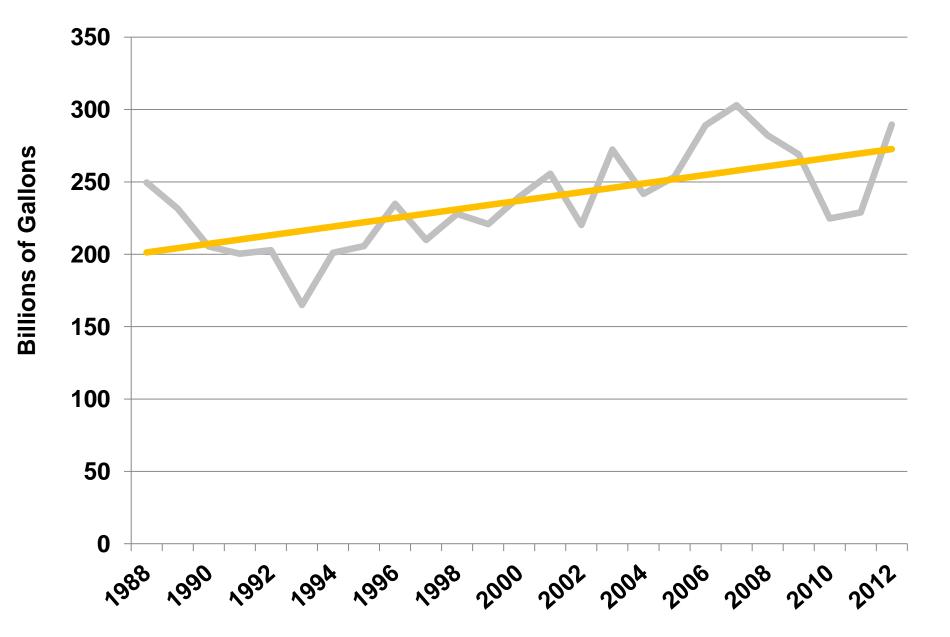




## MINNESOTA GROUNDWATER CONCERNS

### **INCREASING GROUNDWATER USE**

### POLLUTION



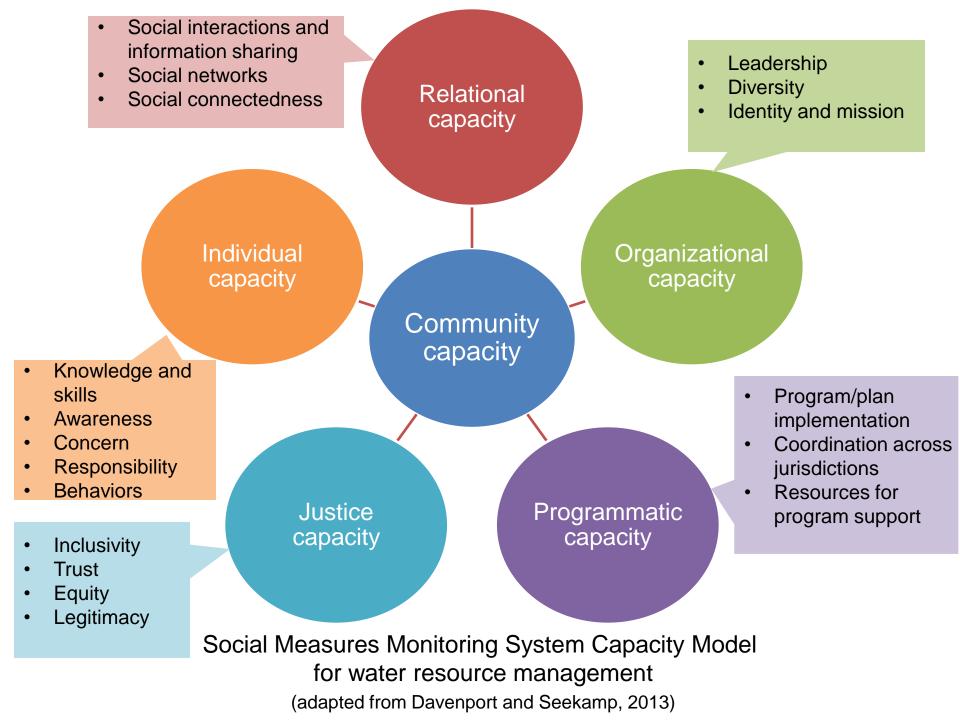
### What are the capacities and constraints associated with groundwater protection at the local level?

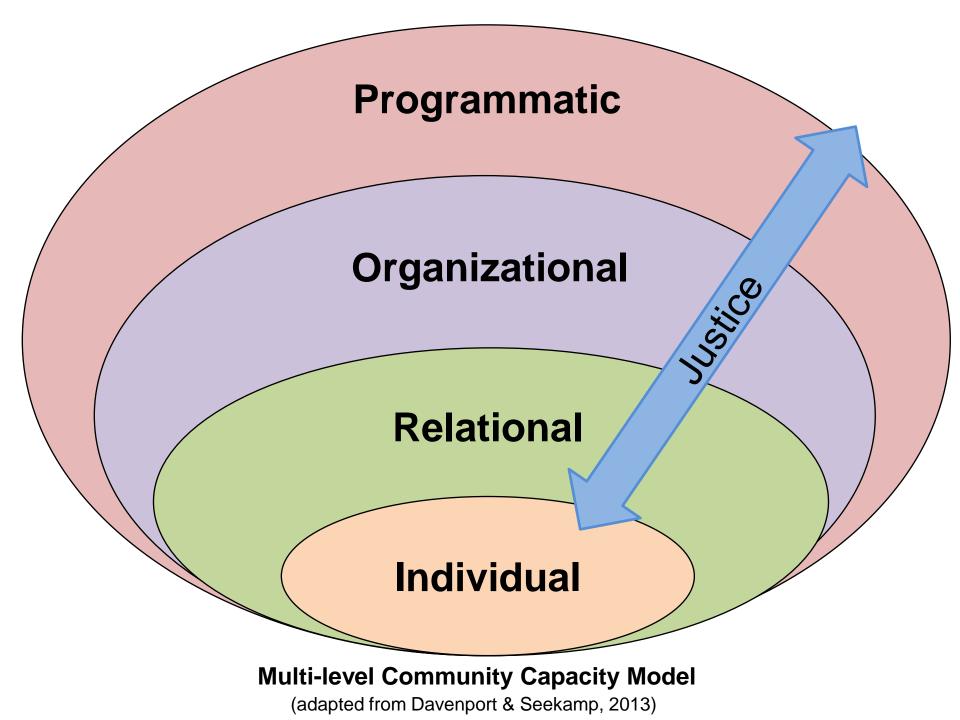
# What is Community Capacity?

### "The interaction

#### of human capital, organizational resources, and social capital existing within a given community that can be leveraged to solve collective problems and improve or maintain the well-being of that community"

-Chaskin et al. (2001, pg. 7)





## **STUDY OBJECTIVES**



Assess capacities and constraints associated with groundwater protection



Identify and prioritize critical capacitybuilding needs of LGUs in groundwater and drinking water protection

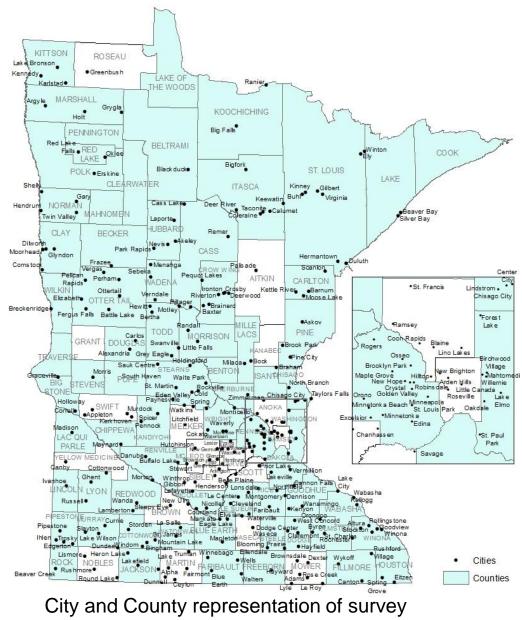
## **METHODS**

#### Who?

- 1654 non-elected LGU staff
- 87 counties, 700 cities with public water supply
- List obtained from the League of Minnesota Cities and Association of Minnesota Counties

#### How?

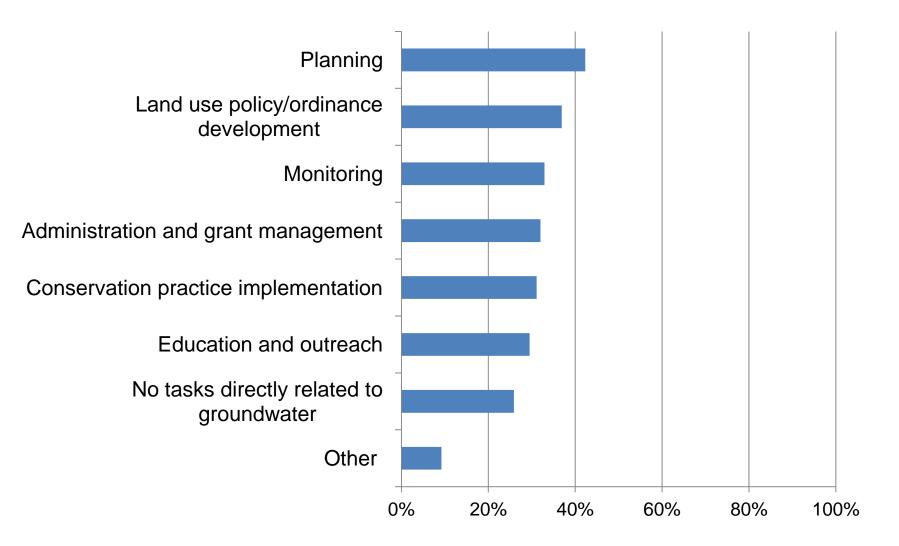
- Online survey
- Questionnaire developed using Qualtrics
- 3 waves- Feb and March 2017
- 29% response rate (n = 483)



respondents

## FINDINGS

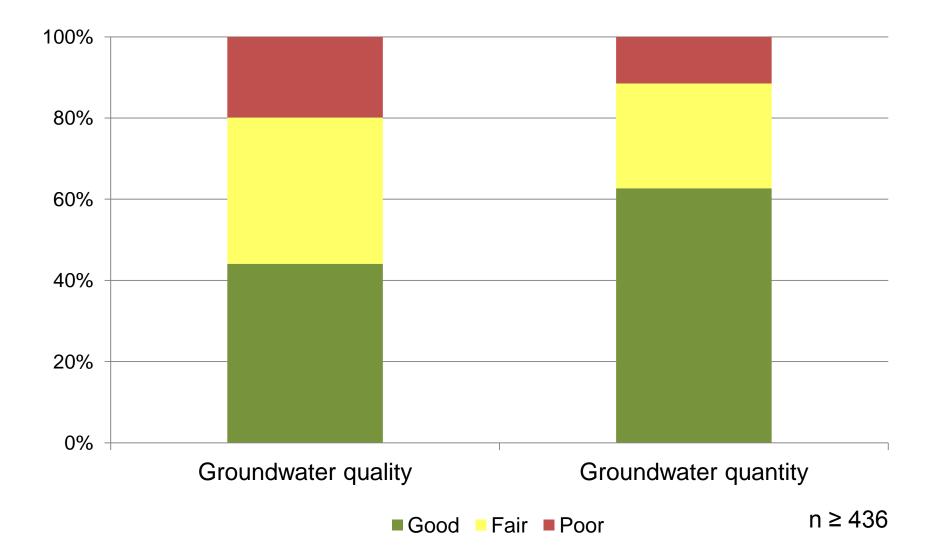
# Respondents' roles that directly relate to groundwater



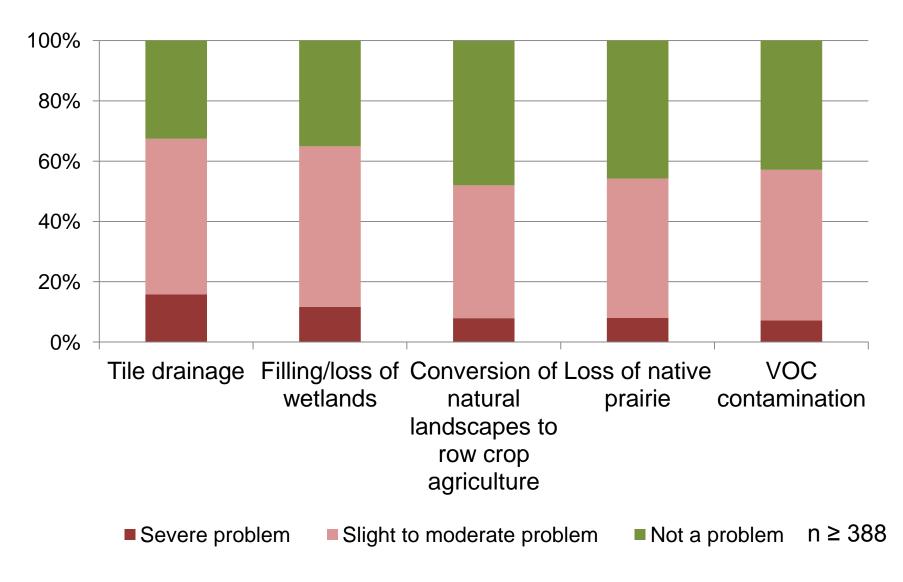


Assess capacities and constraints associated with groundwater protection

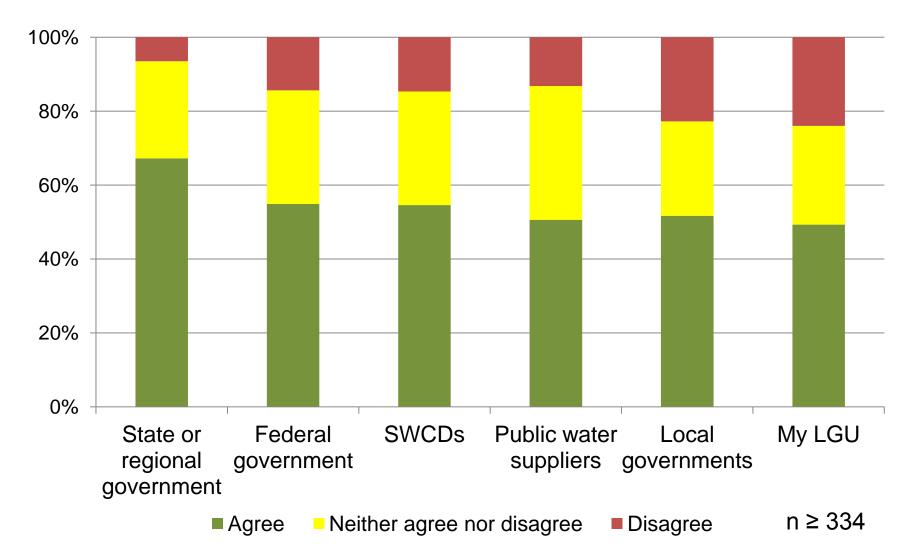
## Do LGU staff have the technical expertise they need on groundwater issues?



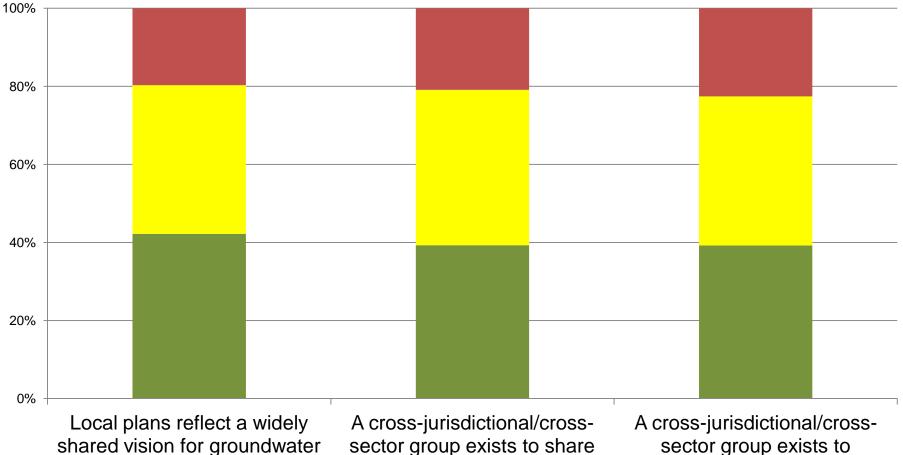
## What land uses/issues are LGU staff concerned about?



## What organizations have the capacity to protect groundwater in their area?



## What are LGU staff members' beliefs about capacity of local planning processes?



sector group exists to share data about groundwater issues.

a cross-jurisdictional/crosssector group exists to coordinate groundwater protection.

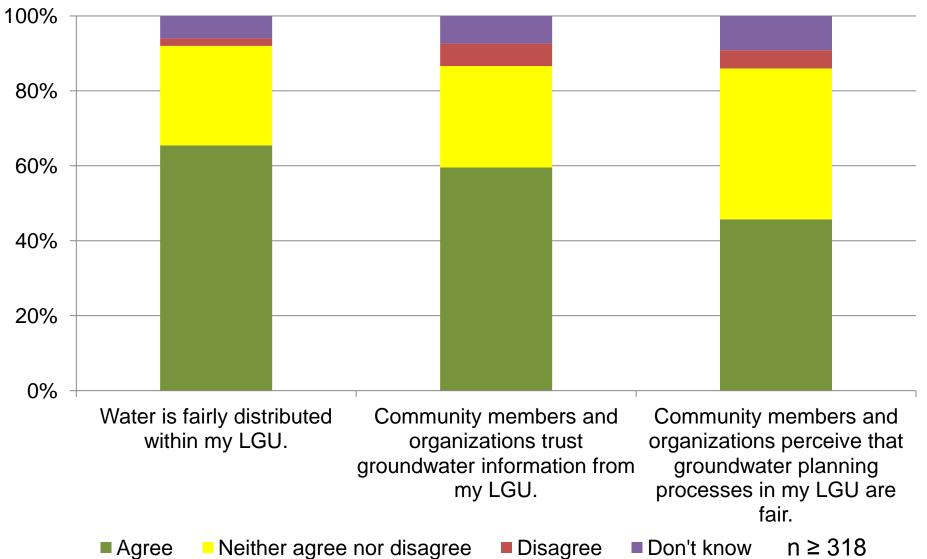
n ≥ 359

protection.

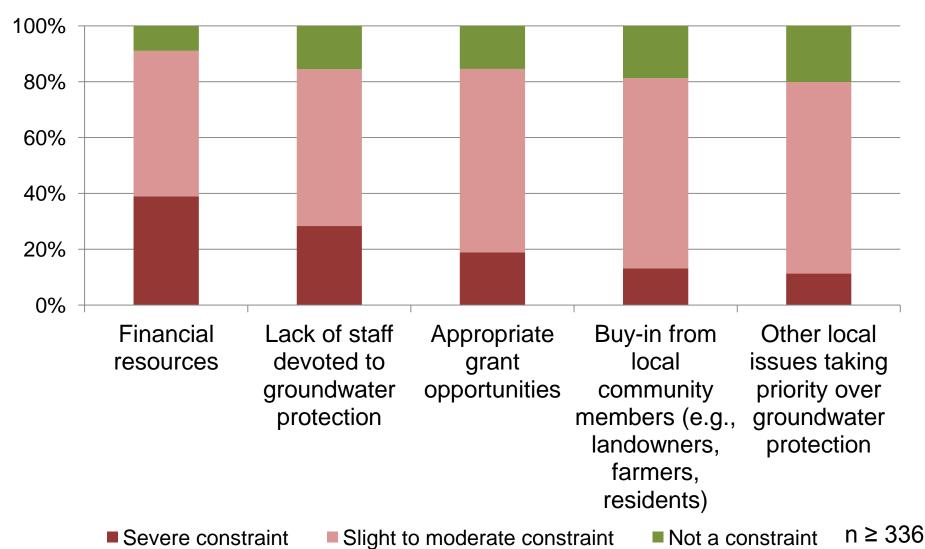
Neither agree nor disagree

Disagree

## What are LGU capacities related to trust and fairness in groundwater protection?



## What are LGU staff beliefs about constraints to groundwater protection?





Identify and prioritize critical capacitybuilding needs of LGUs in groundwater and drinking water protection

#### What types of support to LGUs need?

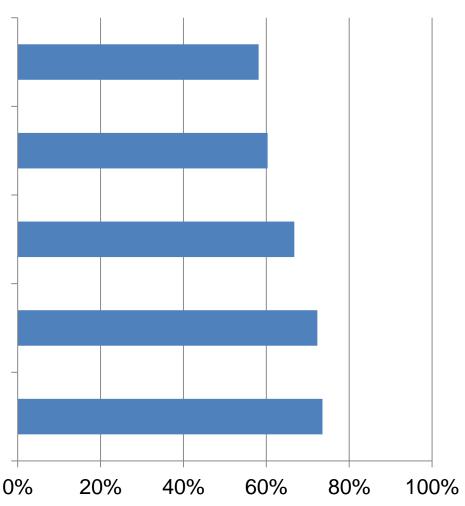
Information on studies on land use impacts on groundwater

Assistance in identifying/prioritizing local threats to groundwater quality/quantity

Grant opportunities to fund groundwater activities in local plans

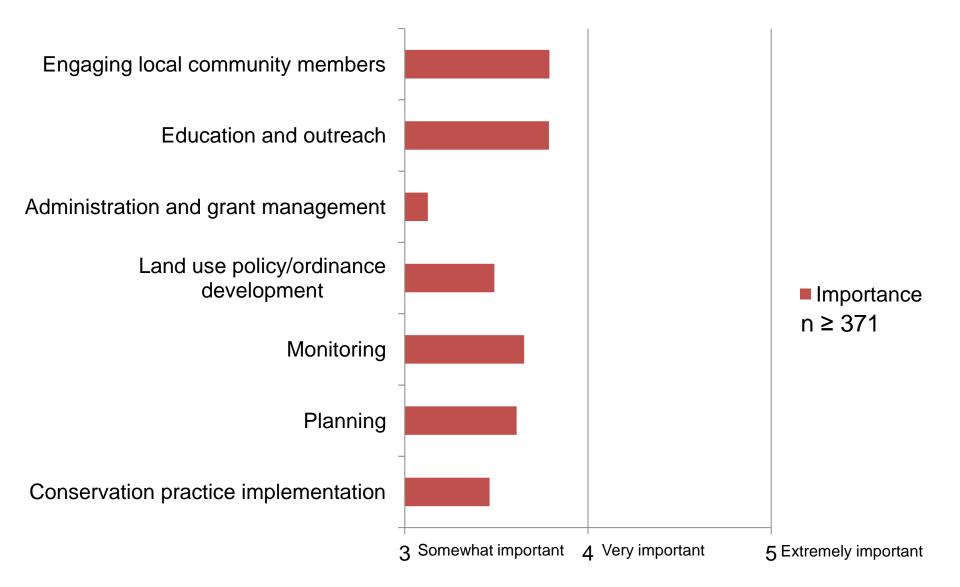
Information on local groundwater quality and quantity trends

A simple web-based map showing groundwater use in my area

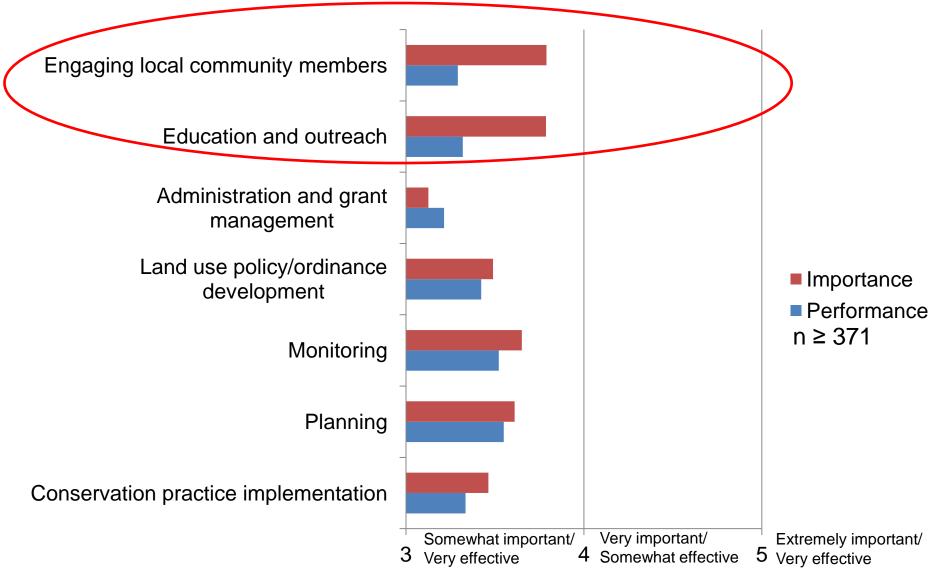


n = 325

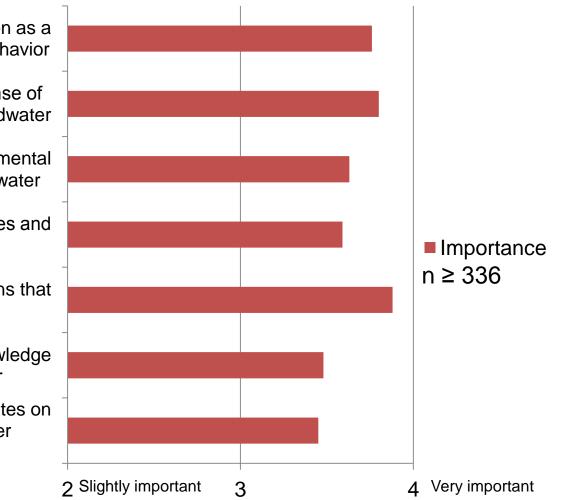
#### Importance of groundwater protection roles



## Importance and performance of groundwater protection roles



# Importance of groundwater protection actions



Promoting groundwater protection as a cultural norm, or an expected behavior

Building local individuals' sense of responsibility to protect groundwater

Adapting to changing environmental conditions to protect groundwater

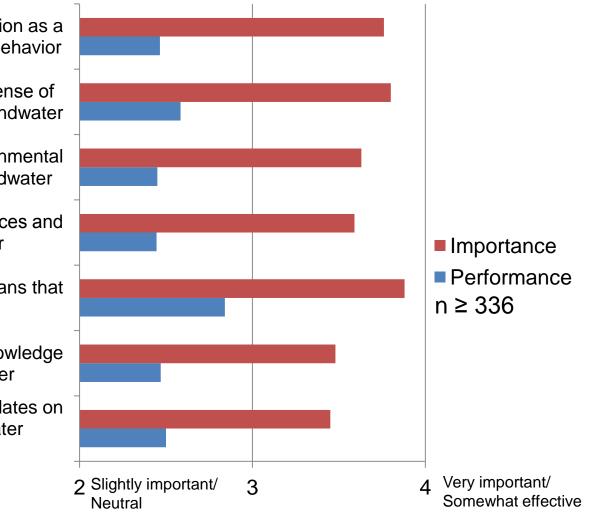
Expanding local individuals' resources and skills to protect groundwater

Developing strategic, long term plans that protect groundwater

Bringing people together to share knowledge and concerns about groundwater

Providing meaningful feedback or updates on progress made toward groundwater protection

# Importance and performance of groundwater protection actions



Promoting groundwater protection as a cultural norm, or an expected behavior

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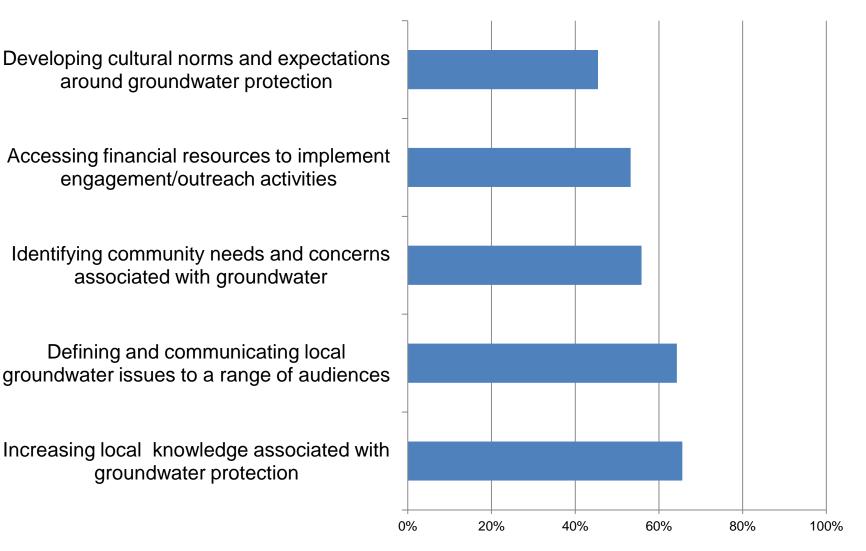
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# What types of support to LGUs need to build local capacity?



## CONCLUSION AND RECOMMENDATIONS

#### **Programmatic**

Cross-jurisdictional/cross-sector groups; widely shared vision in plans

> **Organizational** Staff; other priorities

#### **Relational**

Komes in oecision noting Expertise in community engagement

#### Individual

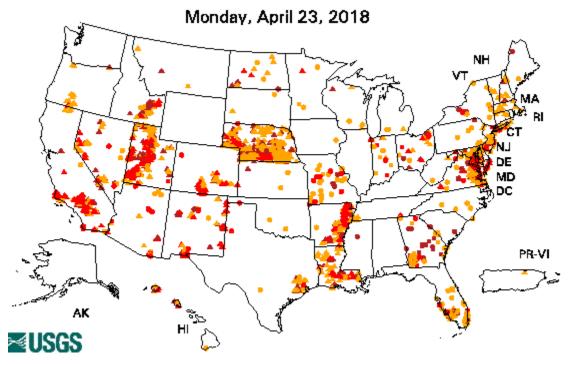
**Technical expertise** 

and resources

**Capacity Constraints** 



## Provide locally specific information on groundwater



groundwaterwatch.usgs.gov



## Enhance LGU staff's community engagement skills





Address staffing and resource needs, and prioritize groundwater protection





#### Develop and/or increase use of crosssector groups



## Acknowledgements

- Partners/Collaborators
  - Sharon Pfeifer, DNR
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## Questions?