

US EPA ARCHIVE DOCUMENT

# MOVING WATER QUALITY ENHANCEMENT FORWARD

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EMAP 2002

**Human  
Dynamics**

**Technical  
Data**

**Landscape Change**

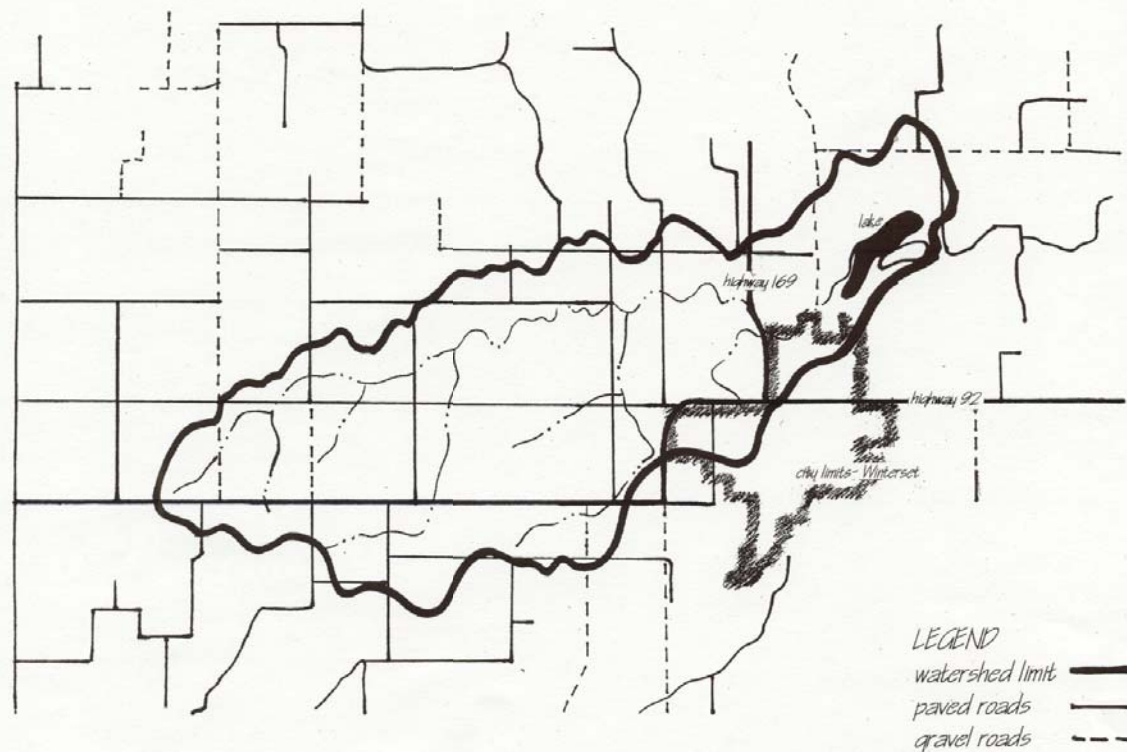
# Research Context

- Presence of natural resource impairment or goal to raise level of ecological integrity
- Inclusive of an organized landscape change project
- Initial (or very early) stage in project planning
- Results inform process, alternatives

# CEDAR LAKE



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*Cedar Lake Watershed Map*

# Assessment Tool

- Technical understanding of landscape function and water quality
- Limiting factors for social and physical change
- Contextual community values
- Visions of leadership and project structure





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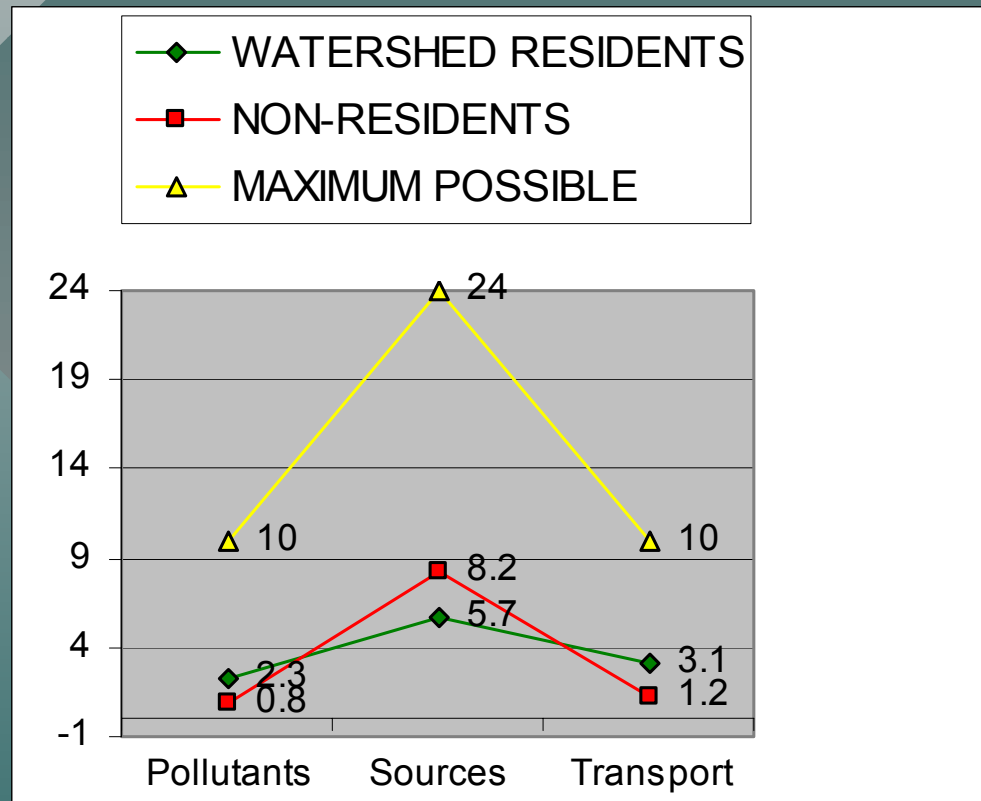
# ELEMENTS ASSESSED FOR ACCURACY

- Knowledge of local hydrology, sewage treatment, water supply
- Definition of water quality
- Causes, sources of pollution for their lake

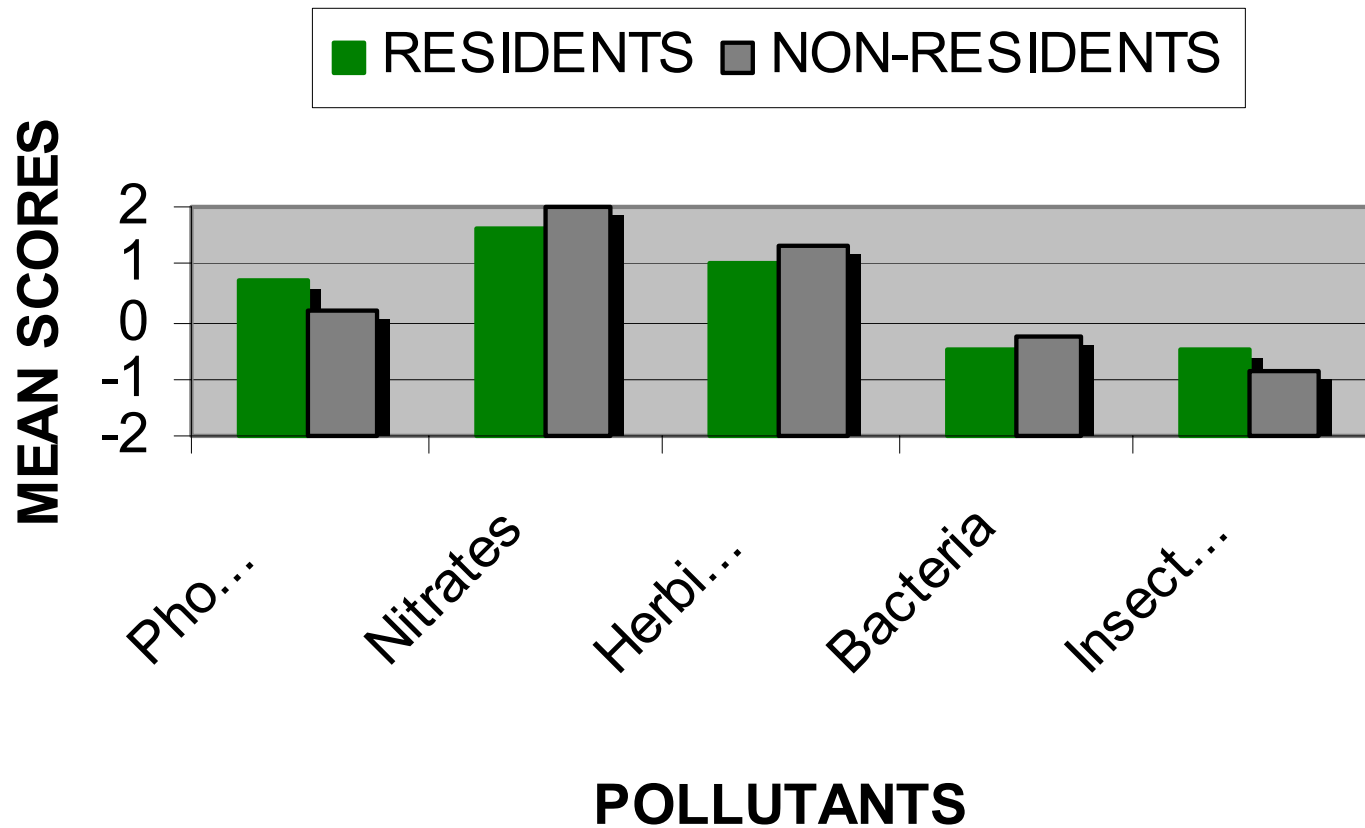
# Assessment of knowledge and beliefs about water quality--

independent variables sorted with an ordered scale

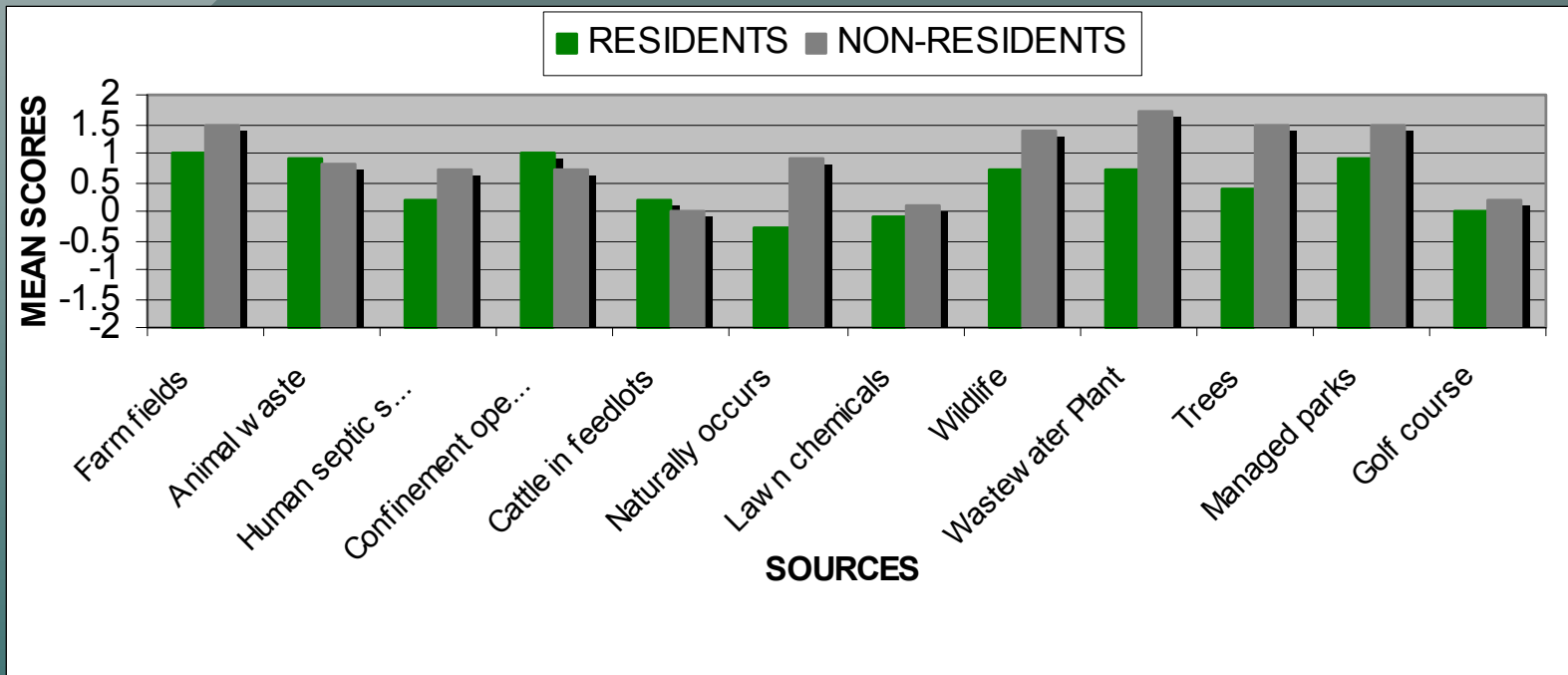




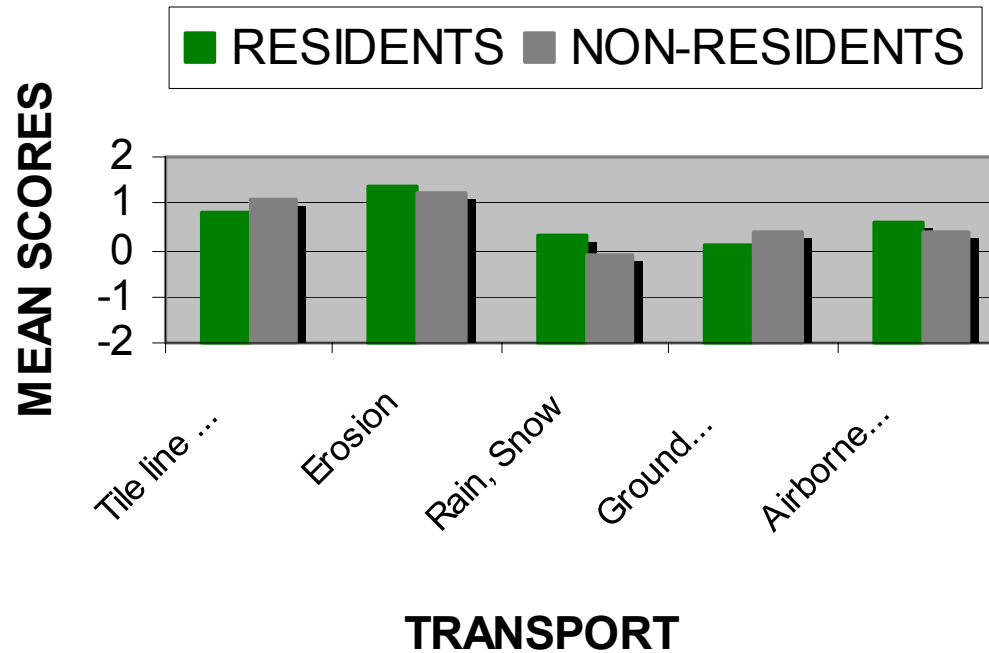
# POLLUTANTS



# SOURCES



# TRANSPORT





# ELEMENTS ASSESSED BY RESPONSE RATINGS

- Meaning and Attachment
- Awareness & value of non-human species, natural landscapes, local restoration projects
- Self efficacy
- Self-perceived role and motivation
- Perceptions of challenges, needs

# Awareness & Value of non-human species

<b>Invertebrates</b>	<b>Species names of fish indicated</b>	<b>Common species: + birds/waterf owl (no species given), turtles</b>	<b>Common species: deer, raccoons, fish (no species listed), squirrels, coyote, etc.</b>	<b>Cattle, hogs, pet dogs and cats</b>
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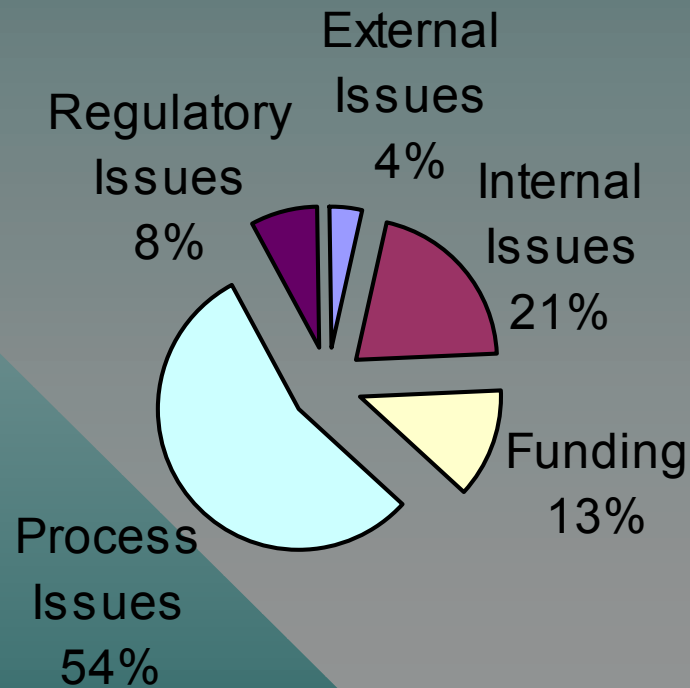


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# SELF-DESCRIBED ROLES

- Leader
- Participant
- Observer
- Not Involved

# PERCEPTION OF CHALLENGES



# ***FINDINGS***

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*54% of challenges  
expressed were  
process-related*

*Widespread  
acceptance that a  
problem exists  
involving nitrate*

*Accurate knowledge  
beyond this is limited*

*Minimal differences  
in technical  
knowledge between  
rural and urban  
samples*

*Necessary changes  
in watershed will  
likely be difficult*

# *Leadership in rural watershed*

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*Resistance to  
changing agricultural  
practices: grazing,  
tile intakes/outlets on  
terraces*

*Cedar Lake is valued  
as a utility, rather  
than an important  
natural area*

***Insufficient  
communication  
between agencies &  
residents***

*Most city and county  
organizations lack  
understanding of  
their role*

***Visions of project  
leadership are  
distorted and  
confused***

*Strong support for a  
coalition structure  
with shared  
leadership*