MOVING WATER QUALITY ENHANCEMENT FORWARD

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Human Dynamics

Technical Data

Landscape Change

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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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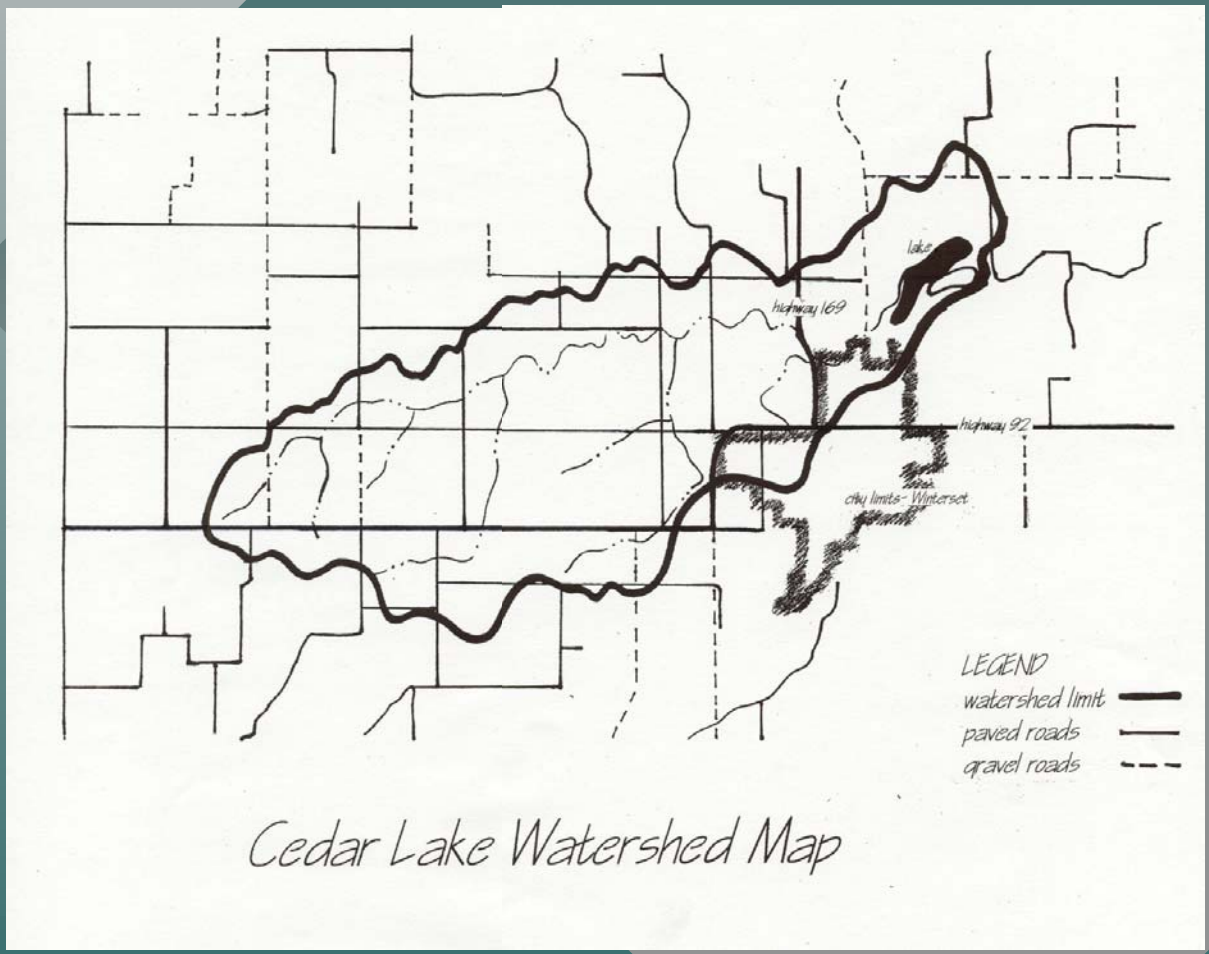
lake
highway 169
highway 92
city limits - Winterset
LEGEND
watershed limit
paved roads
gravel roads
Cedar Lake Watershed Map

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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

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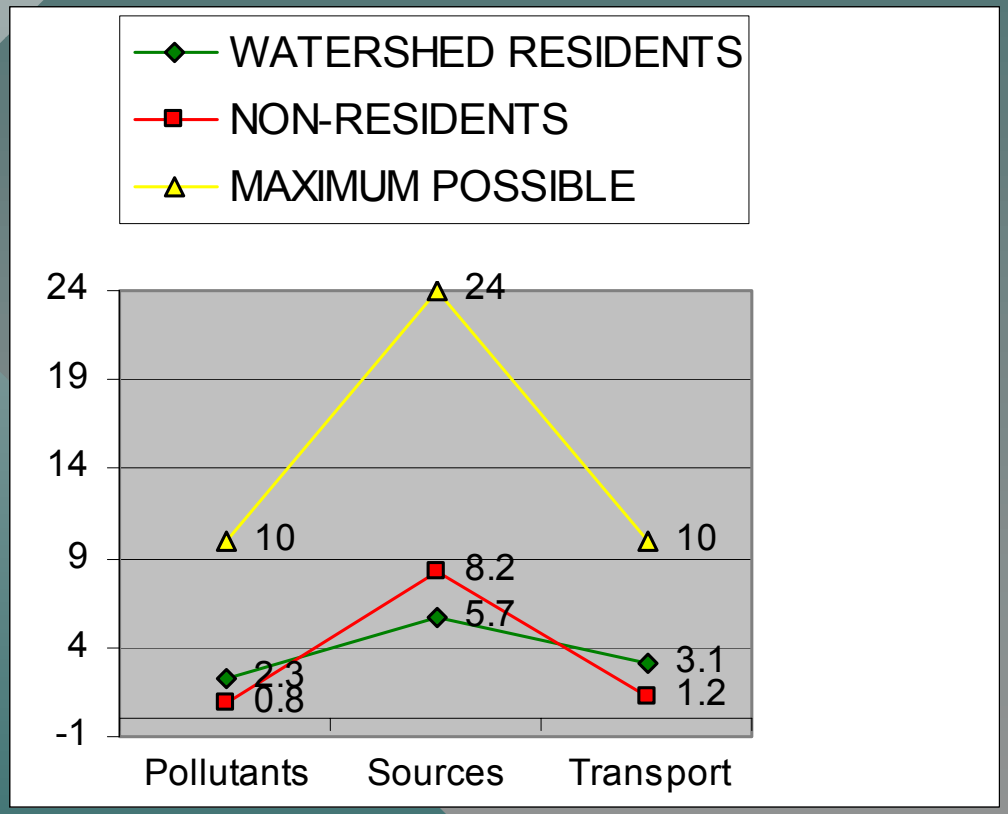
WATERSHED RESIDENTS
NON-RESIDENTS
MAXIMUM POSSIBLE
24
19
14
9
4
-1
24
10
10
8.2
5.7
2.3
0.8
3.1
1.2
Pollutants
Sources
Transport

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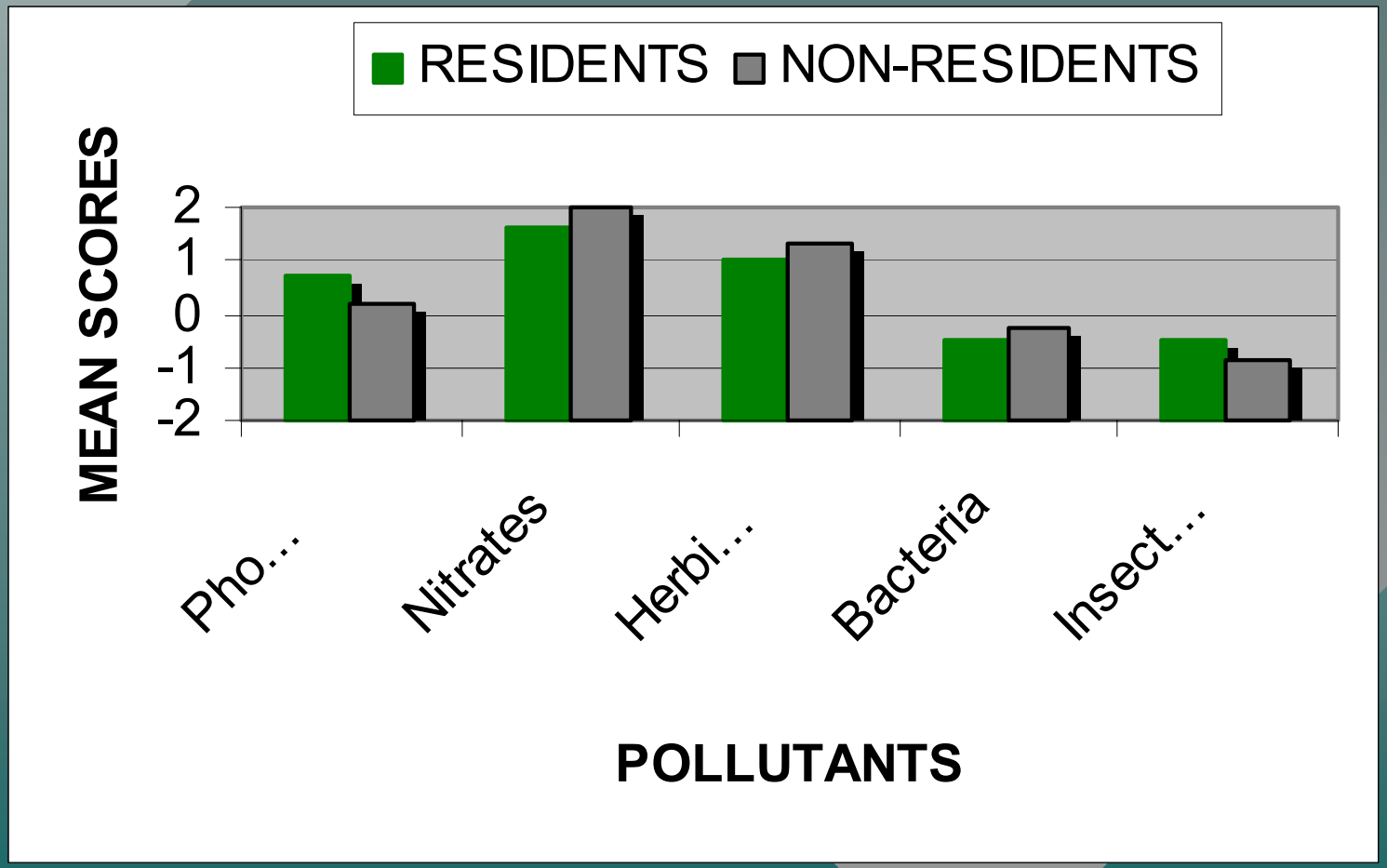
POLLUTANTS



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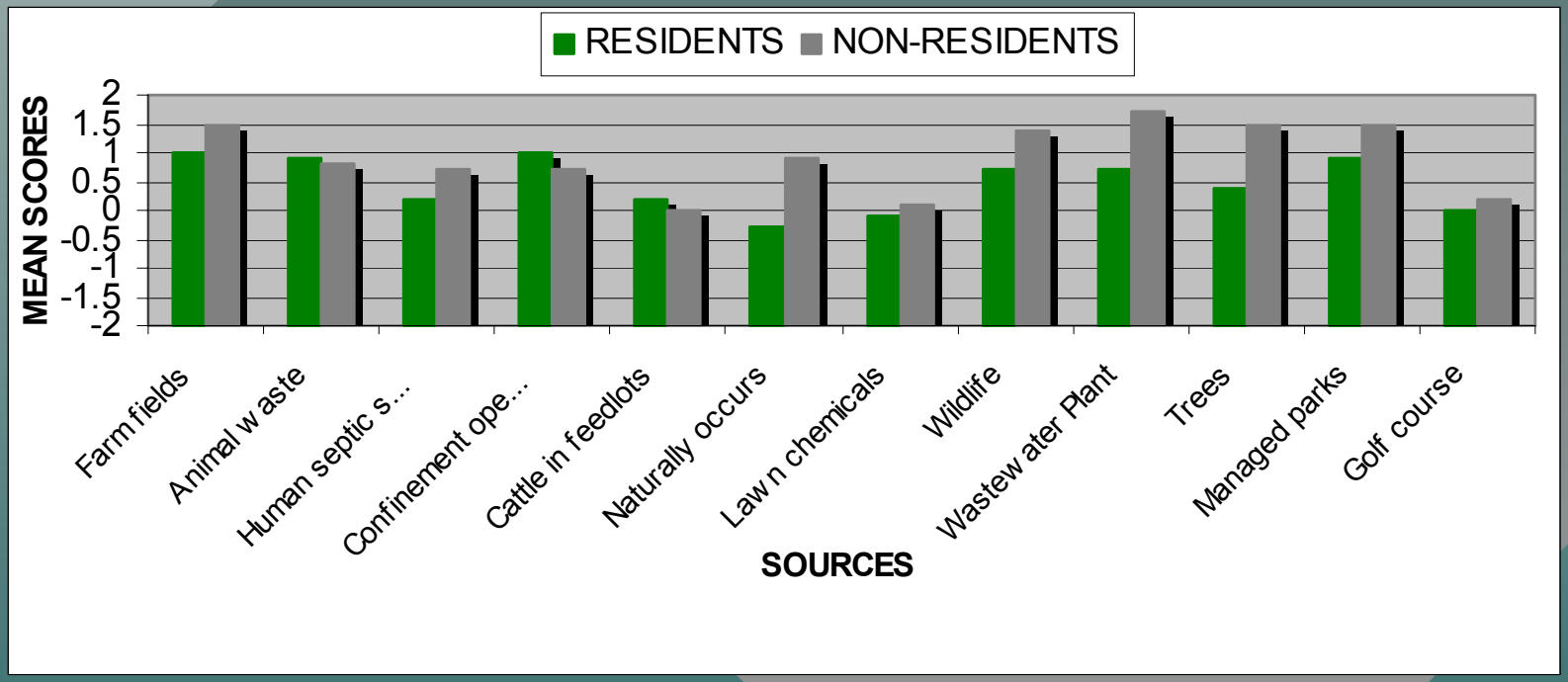
SOURCES



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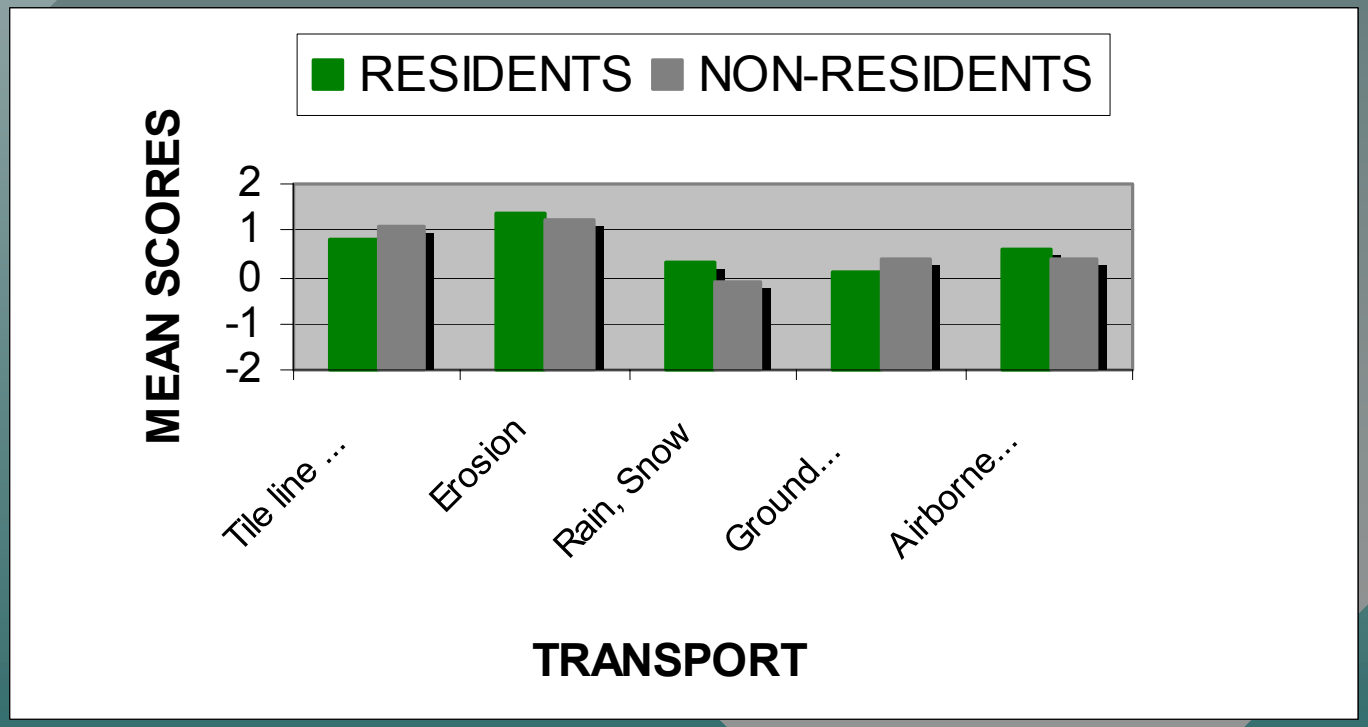
TRANSPORT



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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

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

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JENSEN MARSH
MADISON COUNTY
CONSERVATION BOARD
COUNTY PARK

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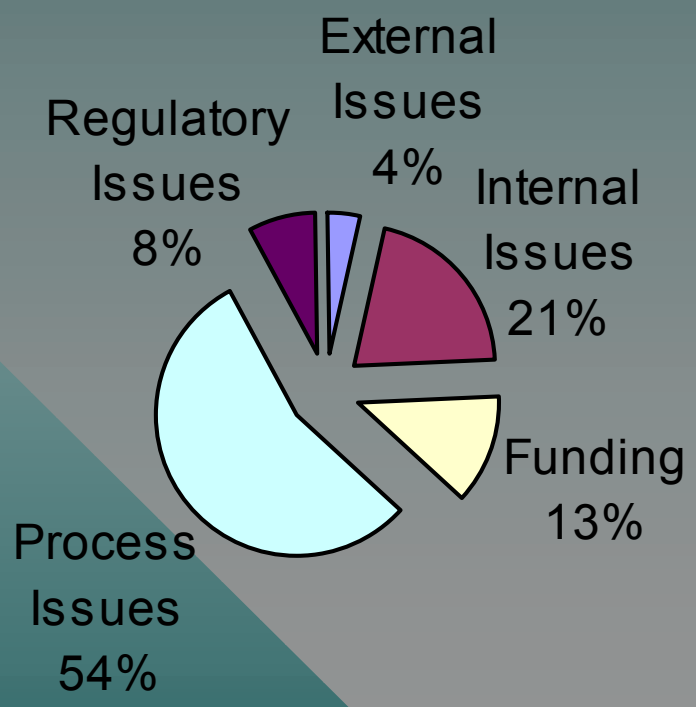
SELF-DESCRIBED ROLES

- Leader
- Participant
- Observer
- Not Involved

PERCEPTION OF CHALLENGES



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FINDINGS

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54% of challenges expressed were process-related

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Widespread acceptance that a problem exists involving nitrate

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Accurate knowledge beyond this is limited

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Minimal differences in technical knowledge between rural and urban samples

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Necessary changes in watershed will likely be difficult

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Leadership in rural watershed

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

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

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Insufficient communication between agencies & residents

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Most city and county organizations lack understanding of their role

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Visions of project leadership are distorted and confused

Strong support for a coalition structure with shared leadership

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