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*Presented at the Illinois Lake Management Association and Illinois Chapter American Fisheries Society Joint Annual Conference
March 2-4, 2011*

A Social Assessment of the Nippersink Watershed: Maintaining What We Value

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Nippersink Creek Watershed Planning Committee

The
Nippersink
Watershed
Association

Project funded by Illinois Environmental Protection Agency
319 Grant Program

Defining a Watershed

- Area of land that drains water, sediment, and dissolved materials to a common outlet at some point along a stream channel (Dunne and Leopold 1978)
- In urban streams, one must consider engineered drainage networks



The Value of Watersheds



- Benefits from a watershed.
- Significance of water quality.
- The role of human values, beliefs, and behaviors in maintaining a healthy watershed.

The Nippersink Creek Watershed



Background



- Water Quality
- Watershed pollution
- Changes in the watershed
- Goal of the Survey
 - Evaluate understanding of watershed issues
 - Document knowledge and current behaviors
 - Assess support for Plan recommendations
 - Identify outreach opportunities

Research Methods



- Survey Design
 - Interviews with key informants helped to develop and design survey questions.
 - Self-administered mail questionnaire
 - EPA pilot project – SIPES
- Sampling
 - Four subwatersheds: Wonder Lake, Lower Nippersink, Nippersink Headwaters, and Silver Creek
 - 2,400 eligible households in sample; Census blocks

Response Rate and Addressing Non-Response Bias



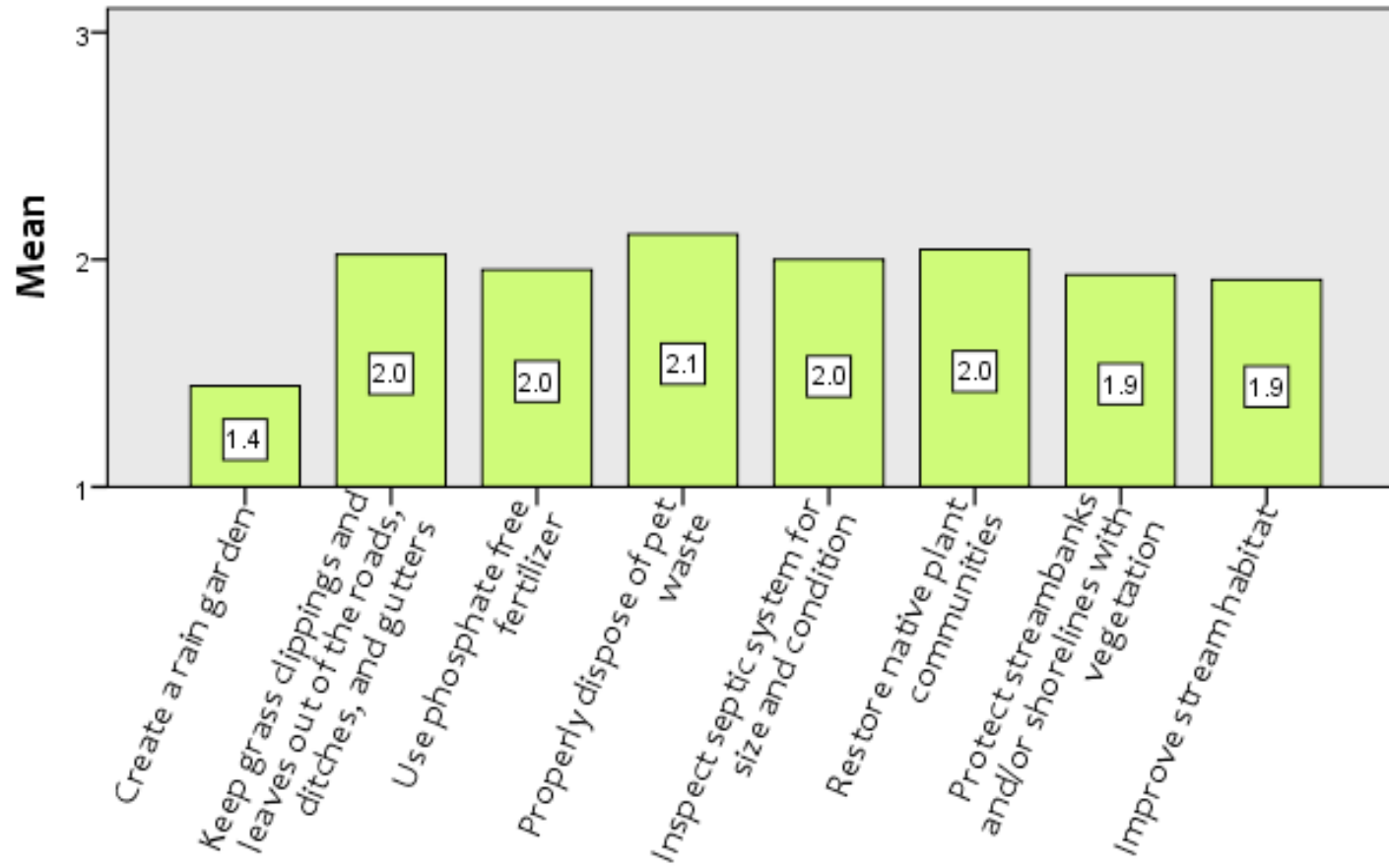
- Response Rate: 25.3%
- Non-Respondent Bias
 - Non-respondent phone survey (300 households)
 - Did not include Wonder Lake residents due to lack of phone numbers
- Data Comparisons to Address Non-Response Bias
 - McHenry County ACS data
 - Non-respondent survey data

Respondent Demographics



- College education: 79% have at least some college
- Median age: 57 years
- Property ownership: 94% own their property
- Median length of residence: 14 years
- Lawn care use: 23% of respondents use a professional lawn service

Familiarity with Practices to Improve Water Quality



Use of BMP Practices on Personal Property



- Most commonly used practices to improve water quality:
 - Properly disposing of pet waste (60.4%), keeping roads and gutters free of grass (65.8%), septic system inspection (52.9%)
- Least commonly used practices:
 - Creating a rain garden (95% do not currently use this practice)
- Residents practice what they are most familiar with.

Factors Influencing Changes in Lawn Care and/or Storm water Practices on Own Property



- Greatest Limiting Factors (A Lot):
 - To Much Time Required for Implementation (42.3%)
 - The Need to Learn New Skills or Techniques (31.6%)
 - Lack of Available Information About a Practice (30.2 %)
- Least Limiting Factors (Not At All):
 - Restrictive subdivision covenants (50.7%)
 - No One Else I Know is Implementing The Practice (42.9.%)

Septic Systems



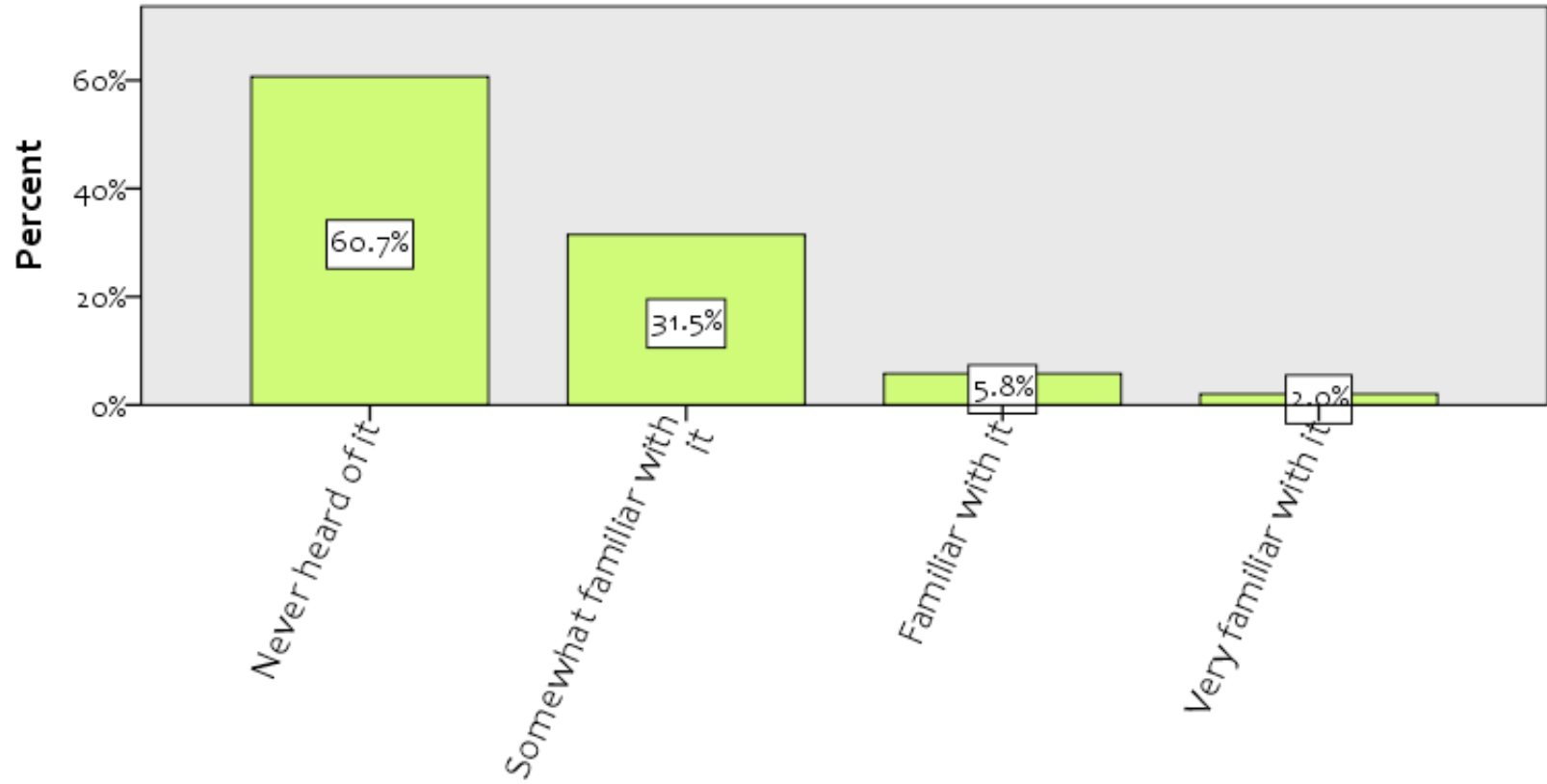
- Septic system ownership
 - 60% of respondents own a septic system
- Septic system problems
 - 13% of respondents have had some kind of problem with their septic system
- Maintenance reminders
 - An overwhelming majority (79%) of respondents do not want a service reminder from the public health department

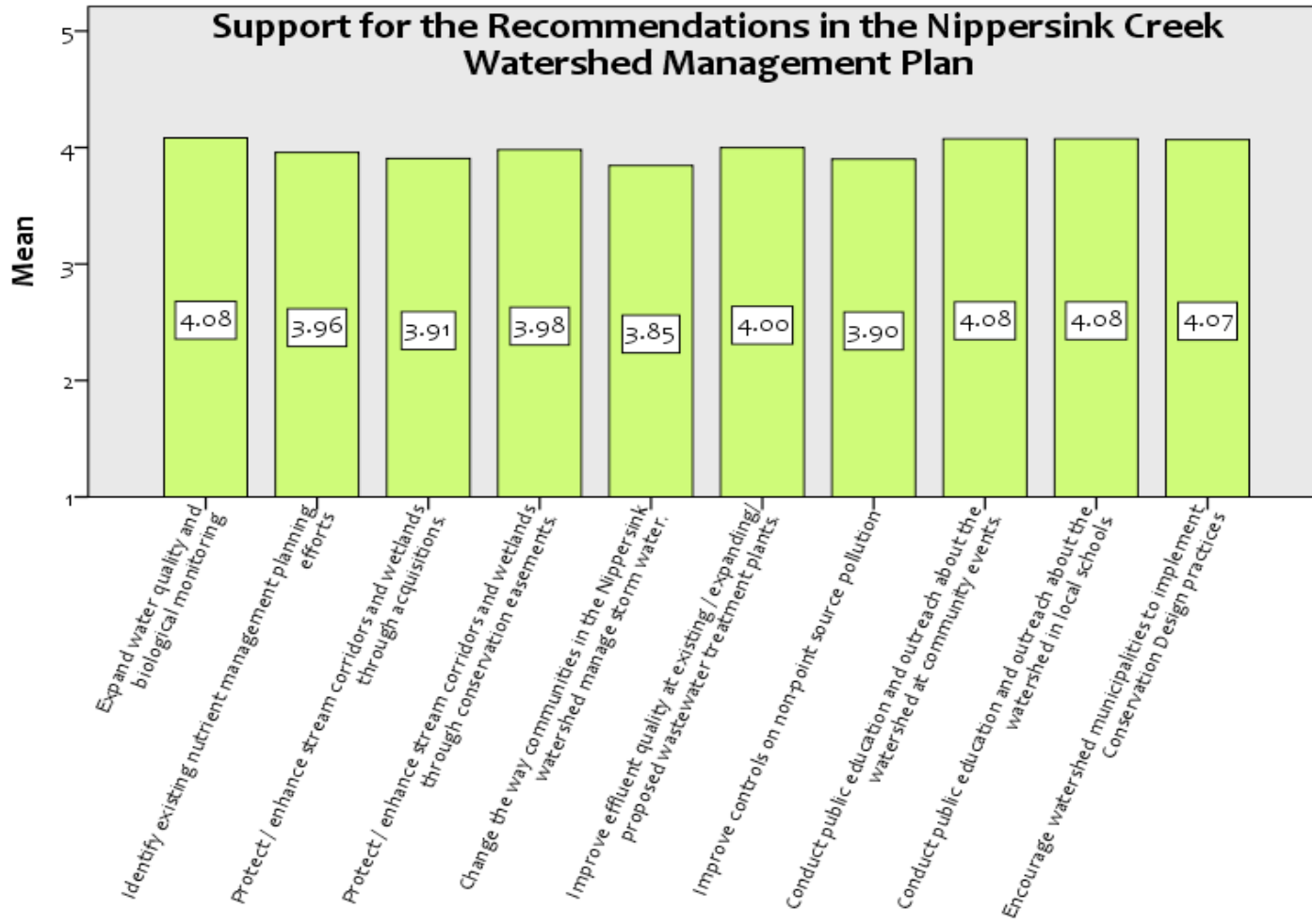
What Do Respondents Value?



- Opinions and Beliefs Regarding Water Quality
 - Respondents agreed/strongly agreed that the way they care for their lawn and yard can influence local water quality (86.8%)
 - Respondents agreed/strongly agreed that their actions have an impact on water quality (88.4%)
 - Respondents disagreed/strongly disagreed with statements such as “It is okay to reduce water quality to promote economic development” (86.7%)

Familiarity with the Nippersink Creek Watershed Plan





Regression Analyses



- Respondent Opinions
 - Education and age most constant predictors
- Practices to Improve Water Quality
 - Plan familiarity, education, use of lawn care service
- Making Decisions for My Property
 - Income, household decision-maker
- Nippersink Creek Plan Recommendations
 - Education is the most constant predictor of support

Conclusions



- Respondents demonstrate respectable level of knowledge about water quality issues and threats within the watershed.
- Respondents see a connection between their actions, water quality, and quality of life in their community.
- 60% of respondents were not aware of watershed management plan.
- However, strong support for recommendations in the watershed plan among respondents, regardless of knowledge about the watershed management plan.

Conclusions



- Considerable room for further dissemination of the Watershed Management Plan and its recommendations.
- As knowledge of the plan increases, use of various BMP practices to improve water quality also increases (ie: proper use of lawn fertilizers).
- Opportunity to collaborate with other organizations that promote broader watershed health or water quality (ie: McHenry County Conservation District; Environmental Defenders of McHenry County; local schools and science teachers)

Final Thoughts



- Overall respondents have a strong sense of their watershed and water quality.
- Respondents recognize the significance to their overall quality of life.
- Important baseline information on barriers to specific BMP actions – helpful for the development of tailored actions to influence behavior.
- Develop and direct these tools at the community level to have the greatest impact.

For More Information



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