What Drives Successful Nutrient Reduction Efforts?

And How Can Land Grant Universities Support Them?

Ann Lewandowski
and
Faye Sleeper

Applying knowledge to improve water quality
Great Lakes Regional Water Program
A Partnership of USDA NIFA & Land Grant Colleges and Universities

University of Minnesota Extension

Water Resources Center
University of Minnesota
Driven to Discover℠

Presentation

Purpose

Surveys

- Local water leaders
- State impaired waters leaders

Results

- Drivers of successful nutrient reduction efforts
- University roles

Summary and Conclusions

Overall Purpose

To identify roles of Land Grant Universities in reducing nutrient delivery to the Gulf of Mexico

Survey: Local Water Leaders

Local watershed planners

EPA Region 5

Phone interviews

Topics

- Describe a successful project
- What drove the success?
- What role can the University play to support success?

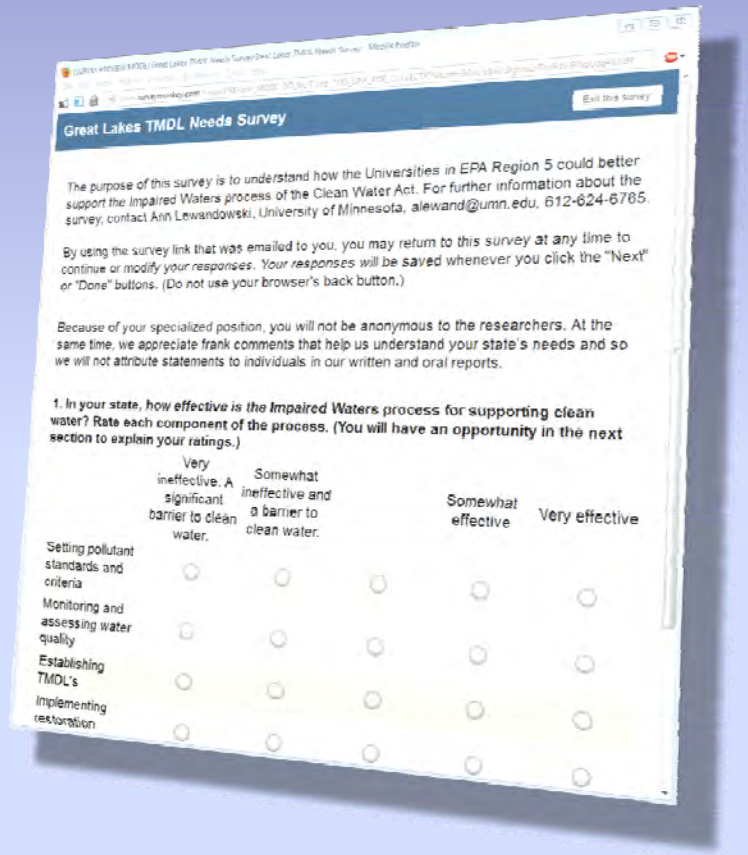
Survey:
State Impaired Waters Leaders

TMDL program leaders and university faculty

Online survey with open-ended questions

Topics:

- What is working and not working?
- What role can the University play?

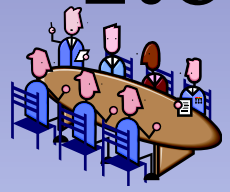


Results – Key Drivers

Skilled individuals

- People skills
- Understand science
- Stay focused on long term vision

Results – Key Drivers



Watershed Planning

Incentive Programs

Economic Forces

Rules and Regulations

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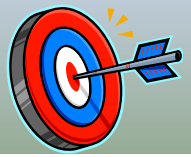
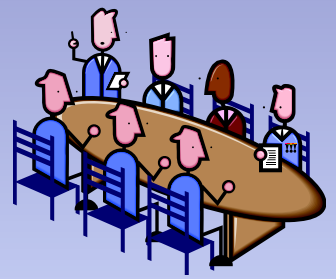
Focusing Event

Monitoring Data



Targeting

Key Drivers: Watershed Planning



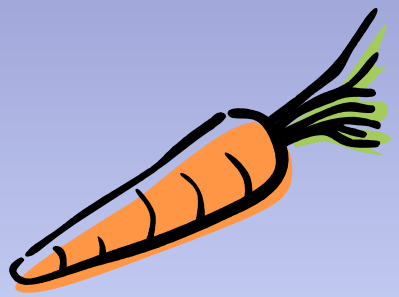
Essential to stay on task

Useful for

- building partnerships,
- securing funding,
- prioritizing,
- providing project structure, and
- communicating to generate support.

Key Drivers: Incentive Programs

Necessary for funding



The role in the process:

- Motivate and build partnerships; or
- As an implementation tool after partnerships and goals are well-defined.

Key Drivers: Economic Forces

A huge driver; yet, not the end-all determinant of behavior.

Project managers have the least control over this driver.

Key Drivers: Rules and Regs

A useful tool but use carefully

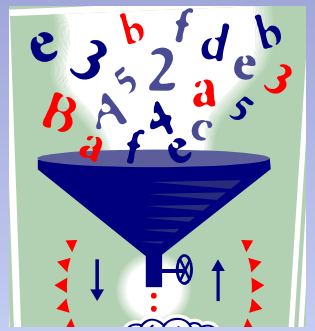
Key Drivers: Focusing Event

E.g. An acute water quality concern or a highly publicized gathering

Can trigger widespread awareness and galvanize action.

Potentially powerful, but not for the long-term.

Key Drivers: Data

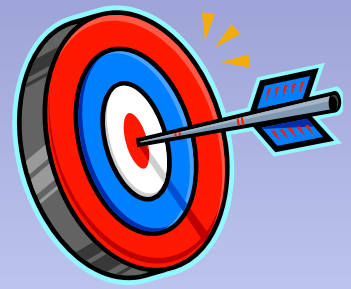


If data is available and understandable, citizens and landowners will look for it

Data can motivate change

Underutilized for this purpose

Key Drivers: Targeting



Identifying and prioritizing opportunities can organize and motivate project activity

TMDL Process

Not a primary driver

Reports used:

- To gain access to funding
- To help focus and plan implementation
- As a data information source and tool for communicating with the public.

Results – University Roles

- Conduct research
- Train local staff
- Deliver education and outreach
- Implement watershed work

Results – University Roles

Research

- Agricultural systems research
- Social science research
- Monitoring and assessment methods
- Other
  - Literature reviews
  - Value of cropland
  - Policy/program impacts

Results – University Roles

Train Local Staff

- Behavior change
- Effective watershed planning
- Capacity building

Results – University Roles

Deliver education and outreach

- Agricultural Producers
- Community
- Local offices (watershed, SWCD, county, etc)

Results – University Roles

Implement Watershed work

- Tools
- Social Science Expertise
- Modeling
- Monitoring

Local vs. State Responses: Research

- Targeting
- Agronomic research
- Bridge-building
- Monitoring, standards, & assessment research
- Tool development

Summary and Conclusions

- Importance of individual leaders
- Among other drivers, one can be primary and the others supporting – no predominant primary driver
- TMDL not a primary driver

- Research and Training – involve locals in designing
- Training programs should address both social and natural sciences
- More research in agricultural systems

Thank You

Funded by the U.S. Environmental Protection Agency, through the National Institute of Food and Agriculture, U.S. Department of Agriculture

Reports can be found at:
z.umn.edu/reg5surveys

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