

US EPA ARCHIVE DOCUMENT

# What Drives Successful Nutrient Reduction Efforts?

## And How Can Land Grant Universities Support Them?

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and  
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# 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?

Great Lakes TMDL Needs Survey

The purpose of this survey is to understand how the Universities in EPA Region 5 could better support the Impaired Waters process of the Clean Water Act. For further information about the survey, contact Ann Lewandowski, University of Minnesota, alewand@umn.edu, 612-624-6785.

By using the survey link that was emailed to you, you may return to this survey at any time to continue or modify your responses. Your responses will be saved whenever you click the "Next" or "Done" buttons. (Do not use your browser's back button.)

Because of your specialized position, you will not be anonymous to the researchers. At the same time, we appreciate frank comments that help us understand your state's needs and so we will not attribute statements to individuals in our written and oral reports.

1. In your state, how effective is the Impaired Waters process for supporting clean water? Rate each component of the process. (You will have an opportunity in the next section to explain your ratings.)

	Very ineffective. A significant barrier to clean water.	Somewhat ineffective and a barrier to clean water.	Somewhat effective	Very effective
Setting pollutant standards and criteria	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Monitoring and assessing water quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Establishing TMDL's	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Implementing restoration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



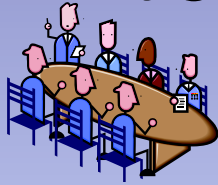
# Results – Key Drivers

## Skilled individuals

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



# Results – Key Drivers



Watershed Planning

Incentive Programs



Economic Forces

Rules and Regulations

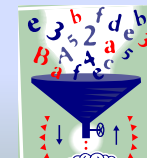


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Focusing Event

Monitoring Data



Targeting

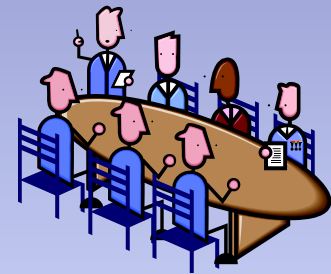


# Key Drivers: Watershed Planning

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.

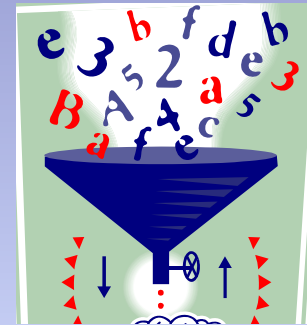
Potentially powerful, but not for the long-term.

# Key Drivers: Data

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

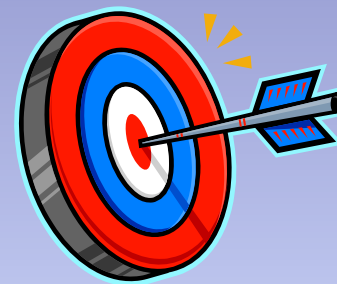
Data can motivate change

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](http://z.umn.edu/reg5surveys)

