

Managing Small Scale Watersheds for Water Quality

Pete Nowak

Nelson Institute for Environmental Studies
University of Wisconsin-Madison

Seminar Themes

- One implicit and 3 explicit themes
- Implicit theme is to be provocative in order to help you think about both the potentials and limitations of being a professional conservationist.
- My goal is to solve problems, not manage programs.

Explicit Seminar Themes

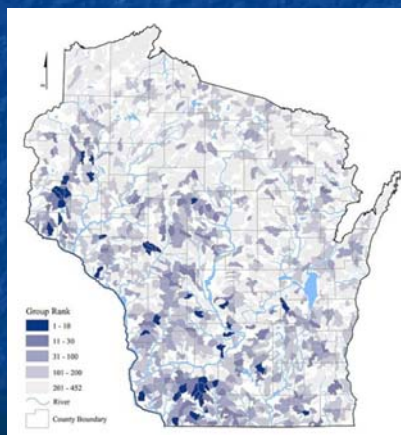
1. Disproportionality makes the water quality world go around.
2. There are no “bad actors” only inappropriate behaviors.
3. The farmer (landuser) needs to be viewed as a collaborator and not as a customer.

Themes in the Context of Small Watersheds

- **What is a small watershed?** Watersheds in the approximate range of 5,000 to 25,000 acres in size.
- **Why small watersheds?**
 - * Reduces probability of lag in the system causing error in interpreting data.
 - * Easier to establish causality.
 - * Impact easier to measure.

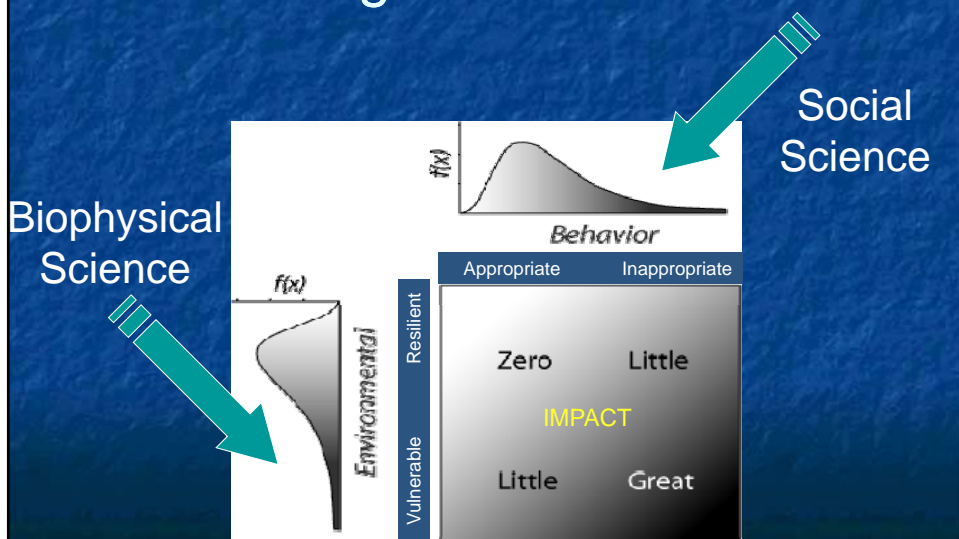
Themes in the Context of Small Watersheds

- Watersheds are a “nested” phenomena.
- Small watersheds can be ranked in terms of contribution to different types of environmental degradation.

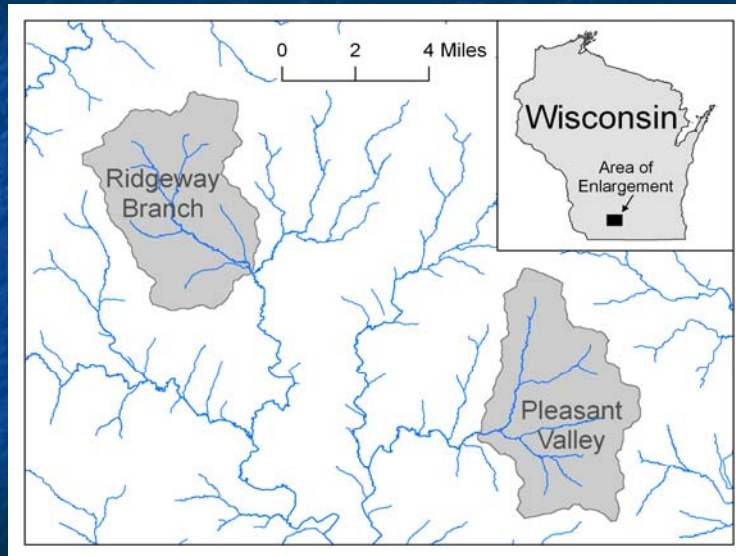


(<http://www.nelson.wisc.edu/people/nowak/wbi/>)

Disproportionality: The “Tail” that Wags the Watershed

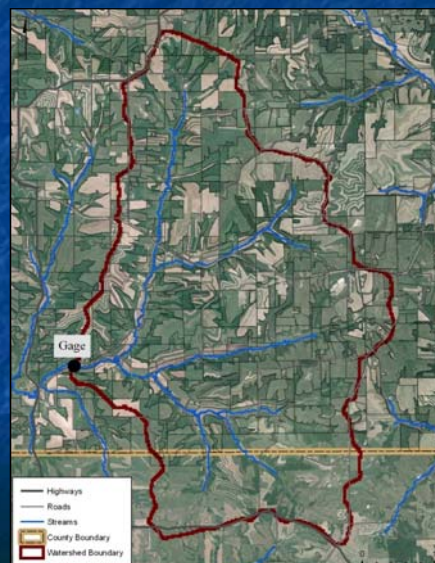


A Test of Disproportionality

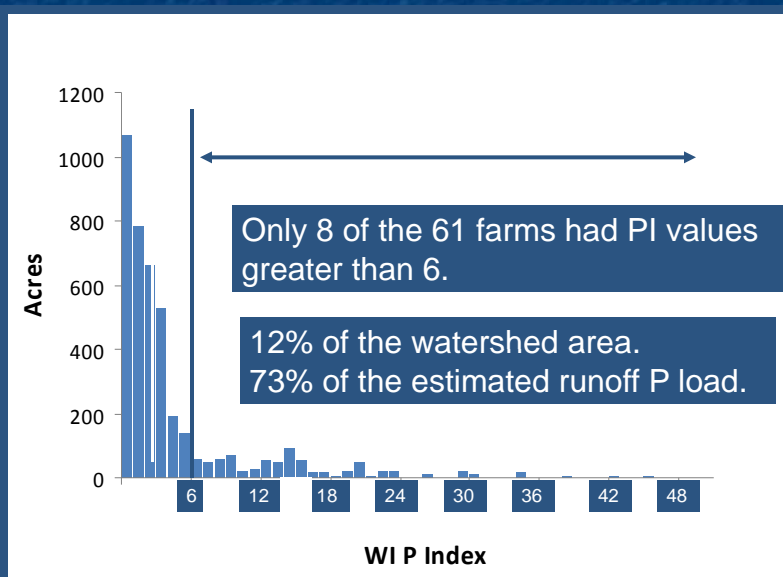


Pleasant Valley Watershed

- Soil tested all fields, “night lots”, wooded pastures, and pasture.
- There are 61 farms that operate land in the watershed.
- USGS monitoring with 3 years of baseline.



Example of Disproportionality

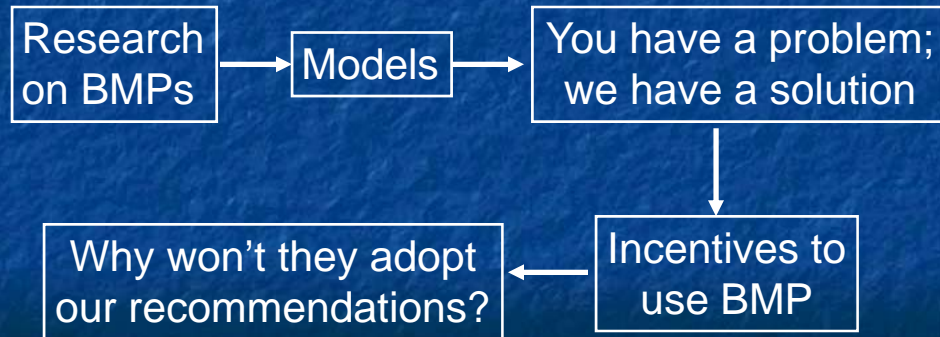


~~Not Bad Actors~~

- These 8 farmers are opportunities waiting to be discovered!
- They are engaging in inappropriate behaviors in vulnerable times or places.
- Understanding why these inappropriate behaviors are occurring is the clue you need determine appropriate behaviors.

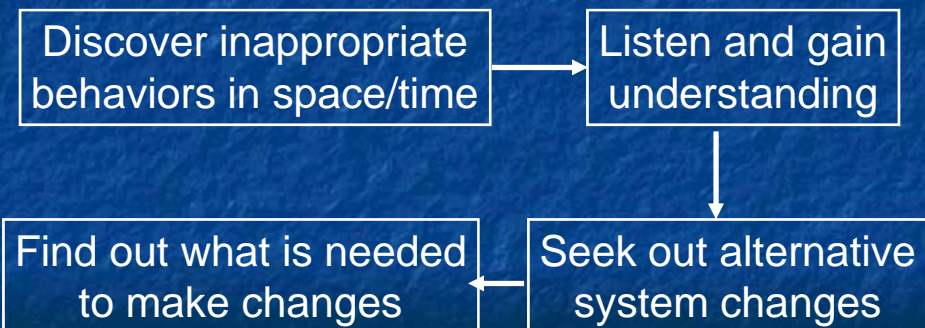
Strategies to Address Disproportionality

The Classic Approach



Strategies to Address Disproportionality

The Open-Minded Approach



But I Can't ...

- Remember, intense interpersonal resources are only applied to a small minority of landusers.
- Listening rather than telling gains trust.
- “Solutions” that are mutually developed in one situation may be applicable for other farms in the area.

Farmer as Collaborator

- We have ignored the problem solving capabilities of the farmer.
- Most farmers are professional problem solvers, yet we ignore this capacity.



Farmer as Collaborator

- Making a “sale” is not what the farmer or our natural resources need.
- Achieving a Geography of Hope is based on working with those who control 70% of land area.



Surprises Ahead

- The conservation efforts of today will not be the same in the near future.
- We will be surprised.
- It is the exceptional (the tail) that drives ecological, market, and social systems.



Short Take Home Messages

- There are no “bad actors” only inappropriate behaviors in vulnerable locations or times.
- Farmers are not customers, only potential collaborators.
- The tail wags the watershed.

Thank you

Pete Nowak
Professor, Environmental Studies, Nelson Institute
University of Wisconsin-Madison
64 Science Hall
550 North Park Street
Madison, WI 53706
608-265-3581
pnowak@wisc.edu