# The Native Shoreland Buffer Incentives (NSBI) Project: Findings and Conclusions

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Karlyn Eckman, U of M Water Resources Center
Mark Hauck, DNR
Mary Blickenderfer, MN Extension
Steve Henry, East Otter Tail SWCD

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# NSBI Basics

- Lead agency: DNR
- Funded for $225,000 (2008-2011)
- Goal: "*to develop, implement and evaluate the efficacy of several substantially different LGU engagement strategies, to incentivize and motivate buffer adoption*."
- Two counties: East Otter Tail and Itasca ($75,000 each for shoreland efforts)
- WRC led the social science and efficacy research

# Common Assumptions

- Lakeshore owners need financial incentives
- Lakeshore owners need education
- As long as I convince people that it is the right thing to do, they will likely adopt
- Communication tools are general enough for most audiences
- BMP adoption is the measure of success

# Core questions

- Are financial incentives effective at motivating the adoption of shoreland buffers?
- Are financial incentives sustainable?
- How can we engage lakeshore property owners more effectively?
- What impact are we having on our audiences?

# Incentives structure

- Financial incentives:
  - Cost-shares
- Non-monetary incentives:
  - Technical support and advice
  - Labor
  - Planting materials

# Engagement approaches

- We also tested the efficacy of different engagement approaches in both counties:
  - High touch
  - Medium touch
  - Low touch

| Otter Tail County (EOT) | Itasca County |
| --- | --- |
| •LGU-based | •Partner-based |
| •Main local expert: County shoreland technician | •Main local experts: MN Extension and Master Gardeners |
| •Scope: County-wide | •Scope: Five lakes |
| •Demographic: 44-70 age; frontages >120 feet | •Demographic: Non-specific but targeted properties with $10,000 in improvements |
| •Land type: Transitional eco-region | •Land type: Forested eco-region |
| • Lake class: All lake classes | •Lake class: RD and NE lakes |
| •Approach: high, medium and low touch; peer-to-peer; training of trainers | • Approach: high, medium and low touch with tiered incentives; peer-to-peer; training of trainers |

# Itasca County social science research

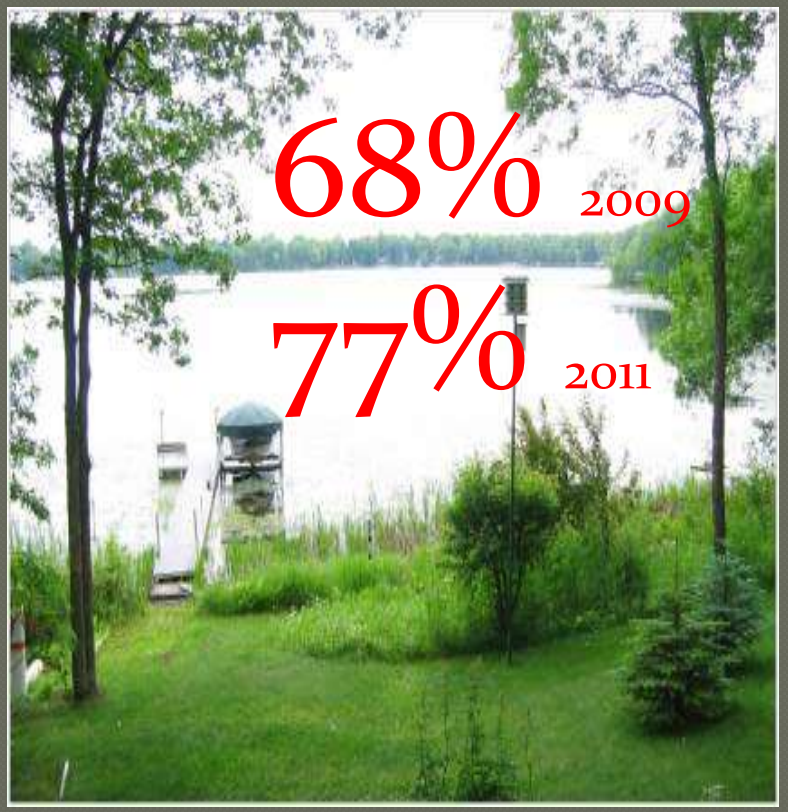
- KAP studies
  - First-round surveys 2009
  - Second-round surveys 2011
  - ➲ Evidence of impact
- Key informant interviews
- Focus group
- “Boat-by”

# First-round KAP findings

- High knowledge of water quality
- Very high stewardship values
- Most report already having a natural shoreline
- Financial incentive not important
- Uses of shoreline/visual preferences
- Barriers to adoption were identified

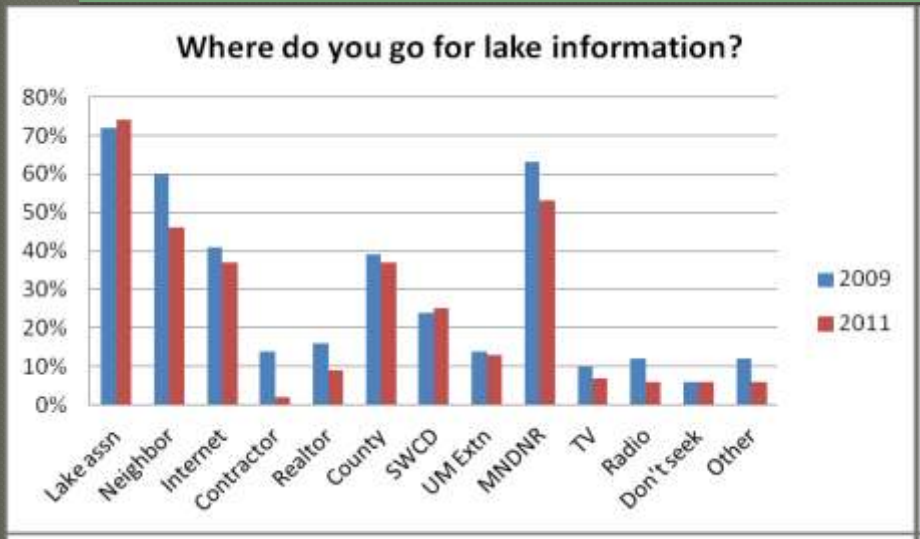
# Itasca KAP survey*

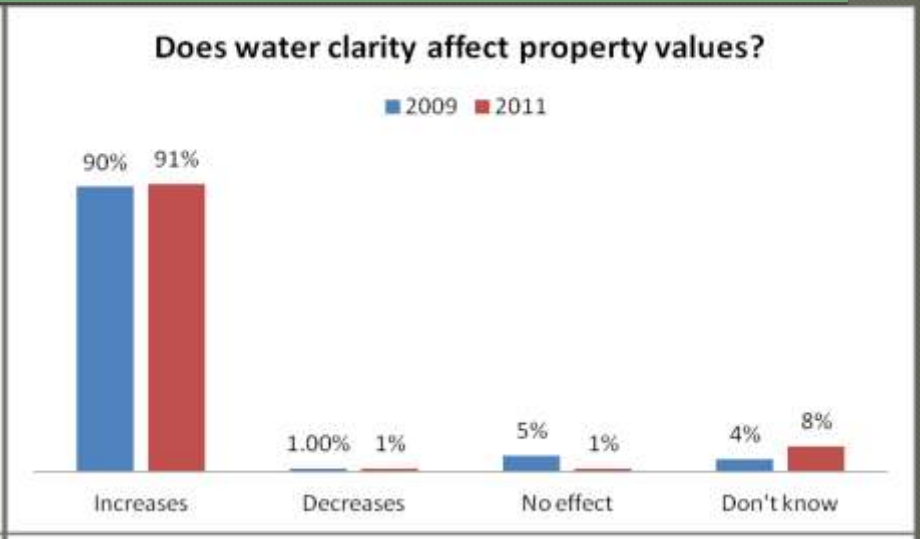
- 2/3 are SEASONAL
- Lake association is great link
- 68%  (2009) prefer native shorelines and increased to 77% (2011)
- ***ALL*** want to be good stewards
- Huge interest in fish & wildlife
- 40% enjoy lawn maintenance, 80% enjoy gardening
- Little perception of lake trends
- None could describe ordinances
- High knowledge of water quality
- Most report existing natural shoreline
- Financial incentive not important
- Uses of shoreline/visual preferences
- Barriers to adoption were identified



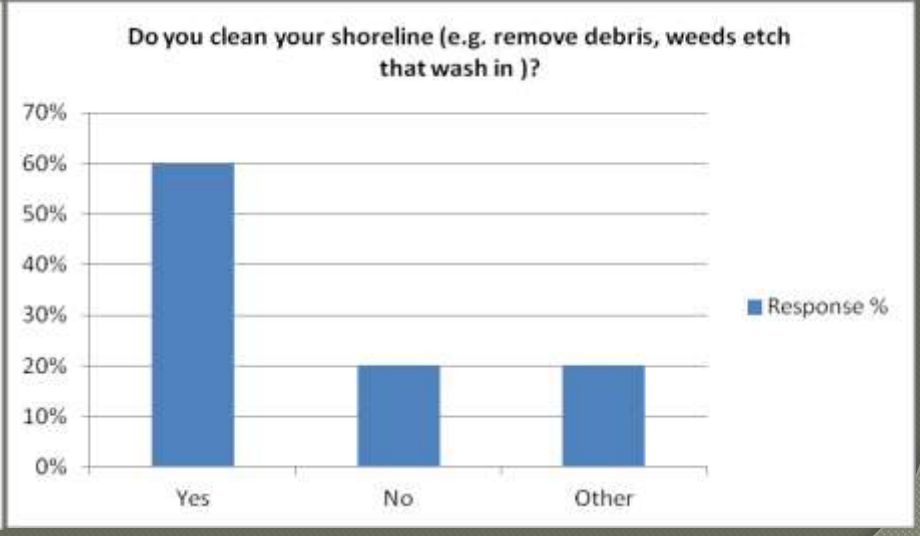

** 2009 Results based upon 109 door-door  and 116 mail-in survey responses of 340 total 10K property owners on five lakes in Itasca County*

# Other survey findings







# Itasca first-round KAP survey (cont.):

- Incentives preferences:
  - Detailed information and instruction (64%)
  - Technical support (51%)
  - “How-to” workshop (48%)
  - Input on design (48%)
  - Financial support (42%)
  - Labor assistance (37%)

# Itasca first-round KAP survey (cont.):

- Constraints:
  - Already have a natural shore (81%)
  - Like shore the way it is (19%)
    - Time (7%)
    - Don't know where to start (6%)
    - Physical limitations (5%)
    - Like lawn (5%)
    - Cost (4%)
    - Too much work (4%)
    - Block view (2%)

# Focus Group

- Focus group participants said that they wanted:
  - More information and assistance on buffers
  - Individual site visits by trained professionals

# How were the Itasca social science findings used?

# Itasca County Program Elements

- Itasca County Lake Challenge (template and website)
- Lake Challenge workbooks (tested by Master Gardeners and students)
- Lake Challenge activities (workshops and citizen research)
- Public workshops (fish, frog, etc.)
- Peer messengers
- Collaboration with lakeshore associations
- *Landscaping for Your Lake: A Guide to Protecting Water Quality with Perennial Plantings*
- Social marketing advice from Action Media
- Evaluation/social research (Pre/post KAP studies; participant interviews; focus group; boat-by)

# Marketing/behavior change strategies (Recommendations from Action Media)

- Frame message/word choice
- Peer-to-peer delivery is most effective (dissemination)
- Small non-financial incentives can be effective
- Community norms/modeling
- Remove barriers
- Entry-level activity
- Public commitment


Karlyn Eckman, personal communication
Action Media, personal communication
McKenzie-Mohr, D. and W. Smith. 1999. Fostering Sustainable Behavior.

# Engagement: local experts

- MN Extension
- ICC students
- Master Gardeners
- Informed volunteers

# Itasca County Lake Challenge (based on the Minnesota Energy Challenge)

***The Itasca County Lake Challenge*** Lake _____ Property Owner_____ Property #_____ Property Width____ft. Date_____

**Step 1:** Take a closer look at your site. **Step 2:** Note items circled in these two grey columns. **Step 3:** Consider the corresponding *Challenge(s)* in this column. **Step 4:** Go for it!

| In the Water<br>From the water's edge lakeward | Circle your responses | | | If you circle items in these two columns, consider a *Challenge* | | | In the Water<br>*Challenge* Menu | Lake and Human Benefits | Relative Cost | Time-Effort | *I'll take this Challenge** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| What is the width of the recreation area where aquatic plants have been removed? | No water use | About 10 feet | About 20 feet | About 30 feet | More than 40 feet | ⇨ | **A Smaller Footprint** Where aquatic plants were removed, allow them to grow back. | Fish, frogs, and other wildlife use plants for nesting, cover and food. Aquatic plants protect your shore from erosion. Native aquatic plants can minimize invasive plants. | 0 | None | |
| | | | | | | | **Go Fish!** Replant aquatic plants (MN DNR no-fee permit required). | | $-$$ | Some to Moderate | ** |
| Are there downed trees ("fish sticks") in the water? | Abundant fish sticks | | Some fish sticks | | No fish sticks | ⇨ | **Fish Sticks** Let fallen trees and branches remain along the shore and in the water. | Fish, turtles, water birds and mammals use downed trees for shelter, resting, hunting and food. | 0 | None | |
| How many accessories (docks+boats+other) are in the water? | 0 | 1-2 | 3 | 4 | More than 4 | ⇨ | **Ships Ahoy!** Store on land the water accessories you don't often use. | Increase fish habitat (otherwise limited by water accessories). | 0 | None | |

| Along the Shore<br>From water's edge to 15 ft landward of the high water line | Circle your responses | | | If you circle items in these two columns, consider a *Challenge* | | | Along the Shore<br>*Challenge* Menu | Lake and Human Benefits | Relative Cost | Time-Effort | *I'll take this Challenge** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| What width of your shoreline has been altered for lake access, view, recreation, other? | Little or none | About 10 feet | About 20 feet | About 30 feet | More than 40 feet | ⇨ | **A Smaller Footprint** Reduce this area to a smaller footprint with the following option(s). | 80 percent of wildlife in MN depends upon a shoreland of native plants for their survival. | 0 - $$$ | None to Moderate | ** |
| Within this area:<br>a. Describe the tree/shrub cover. | Dense | Many | Some | A few | None | ⇨ | **Hedge Your Edge** Plant native trees and shrubs along your shore. | Deep roots of native plants resist erosion from ice and wave action. Native plants also filter soil and pollutants from rainwater run-off. | $ - $$ | Moderate | ** |
| b. What part is lawn or sand blanket? | None | About one quarter | About half | About three quarters | All or nearly all | ⇨ | **Green Armor Your Shore** Plant native grasses and grass-like plants. | | $ - $$ | Moderate | ** |
| c. What part is mowed or weed-whipped? | None | Only enough for a path | Some | Most | All | ⇨ | **Bye-Bye Geese** Stop mowing and weed-whipping. Geese avoid tall plants where predators may be lurking. | 1.5 pounds of poop per goose per day will not land on your lawn and wash into the lake. | Saves you $$ | None | |
| d. What part is armored with rock? | None | About one quarter | About half | About three quarters | All or nearly all | ⇨ | **Soft Rock** Install native plants into existing rock. | Plants soften the appearance, filter run-off and provide wildlife habitat. | $ - $$ | Moderate | ** |
| e. What other hard surfaces exist? (Circle all that exist.) | None | | Other? | Boat(s) Sidewalk Dirt path | Road Building Patio | ⇨ | **Stop the Drop** Remove unnecessary hard surfaces and replant or install pervious surfaces, berms, etc. to capture and filter rainwater. | Reduce rainwater run-off (carrying soil, nutrients and other pollutants) entering the lake by over 80%, and reduce algae in the lake, too! | $ - $$ | Moderate | ** |
| f. Is there a fire ring or area? | No | | | | Yes | ⇨ | **Ring of Fire** Move fires and fire rings away from the lake (25 to 50 feet is recommended). | Reduce the phosphorous- and nitrogen-rich ashes carried into the lake by rainwater and wind. | 0 | Some | |
| g. What portion of the shore has an ice ridge? | All – Ridge not breeched | Part – Ridge not breeched | None – Natural slope | All/Part – Ridge breeched | All – Ridge regraded | ⇨ | **No Water Over This Dam** Leave ice ridge in place and create an access over it. Plant a rain garden behind it for added beauty and filter. | An ice ridge across your entire shoreline can capture and filter up to 100% of soil, nutrients and other pollutants in rainwater run-off. | 0 | None | |
| h. What length of shoreline is eroding? (continued on back side) | Little to none | About 10 feet | About 20 feet | About 30 feet | More than 40 feet | ⇨ | **Shore Up Your Shore** Consult with Itasca SWCD to determine which erosion control method is best for your | For a 100-ft lot, this can reduce the soil entering the lake by about 360 pounds per year and result in about | $ - $$$ | Some to Great | ** |

# People-centered engagement

- Provide opportunities for citizen-science:
  - Run-off plots
  - Frog and toad counts
  - Kid's fish habitat workshops
  - Beachcombing workshops

# Dock signage


- Gives recognition that property owner is a lake steward
- Emphasizes association with “our lake”

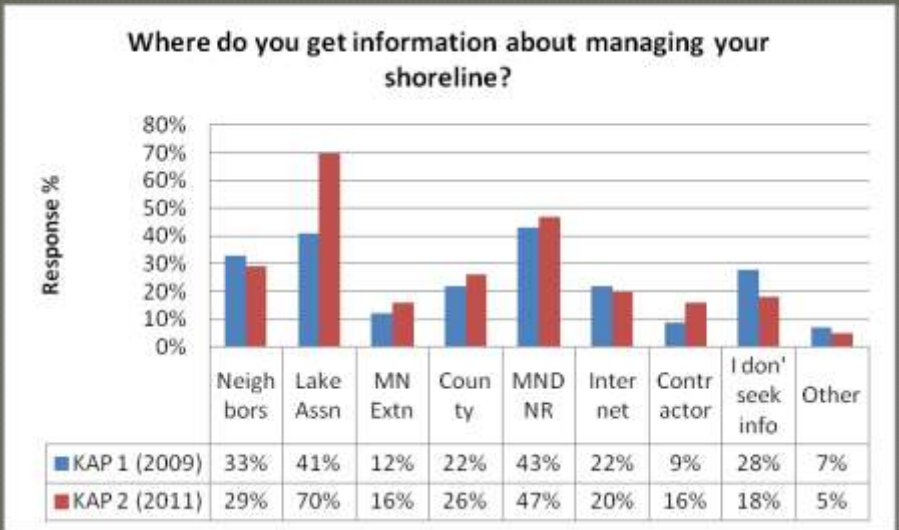
# EOT social science research

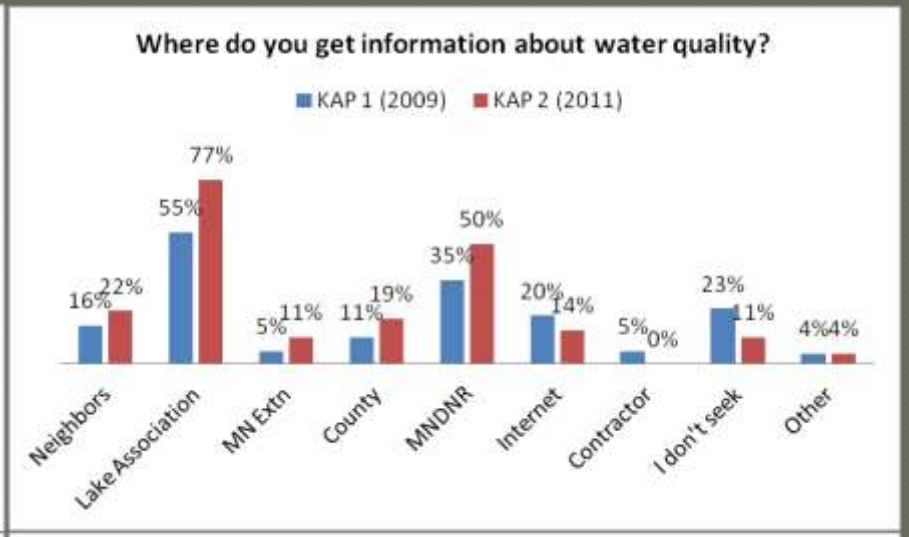
- Pre/post KAP studies
- Key informant interviews

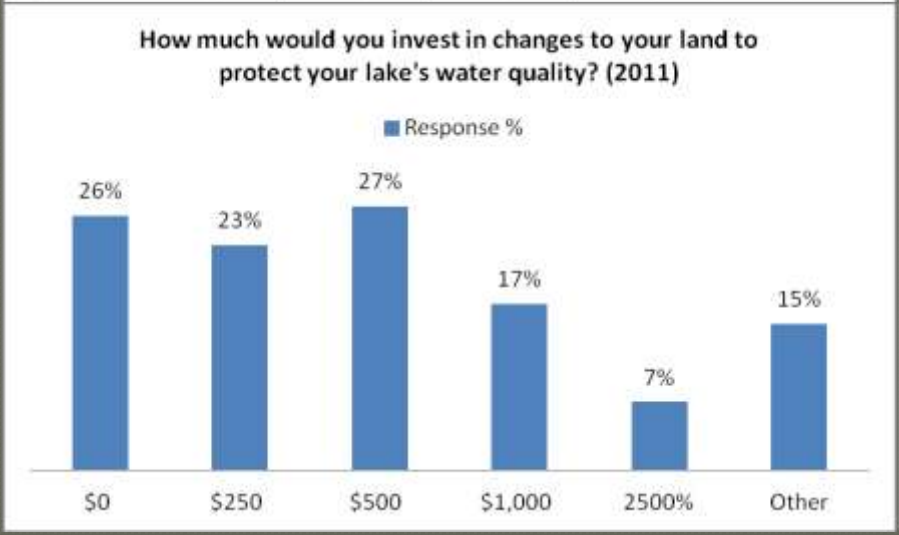
# E. Ottertail KAP study

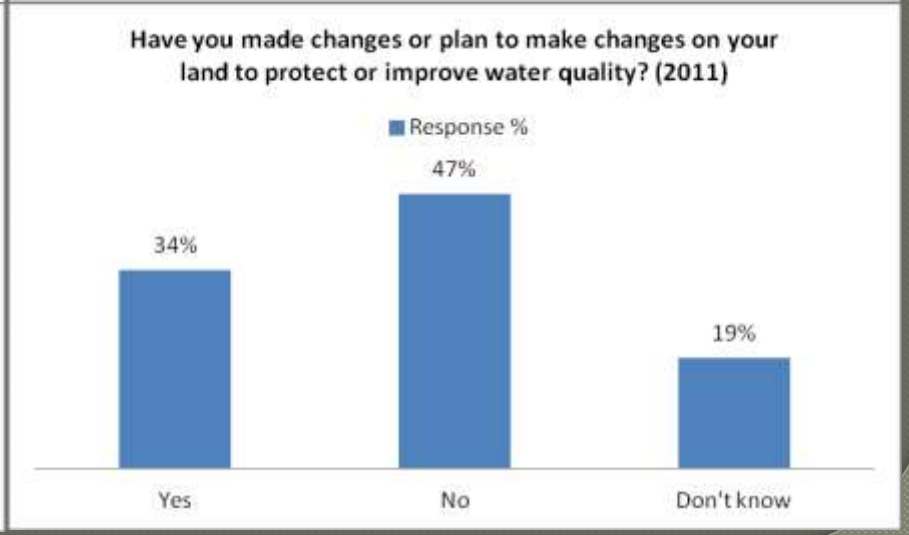
- Very high levels of concern expressed for clean water and stewardship
- Levels of knowledge were high
- Lake association is best link to owners
- Strong sense of legacy (53% have owned parcel 31+ years)
- 70%  already have native shorelines
- Little perception of lake trends
- About 1/3 have tried erosion control, with little success.
- Bluff lands over lakes are problematic

# Other survey findings



# How were the EOT social research findings used?

# East Otter Tail County Program Elements

- Template-based buffer designs
- Shoreland buffer guidebook based upon KAP #1 findings (*Otter Tail County Lakeshore Landscaping Manual*)
- High touch: workshops and on-site visits to properties
- Medium-touch: workshops
- Low touch: newsletter mailings and guidebooks
- Peer-to-peer communication
- Collaboration with lakeshore associations
- Evaluation/social research (Pre/post KAP studies; participant interviews)

# People-centered engagement

- Listen first, then respond
- Don’t just “drum everything out”
- Don’t assume that everyone needs/wants the same information or incentive
- Customize the message based on the owner’s issues

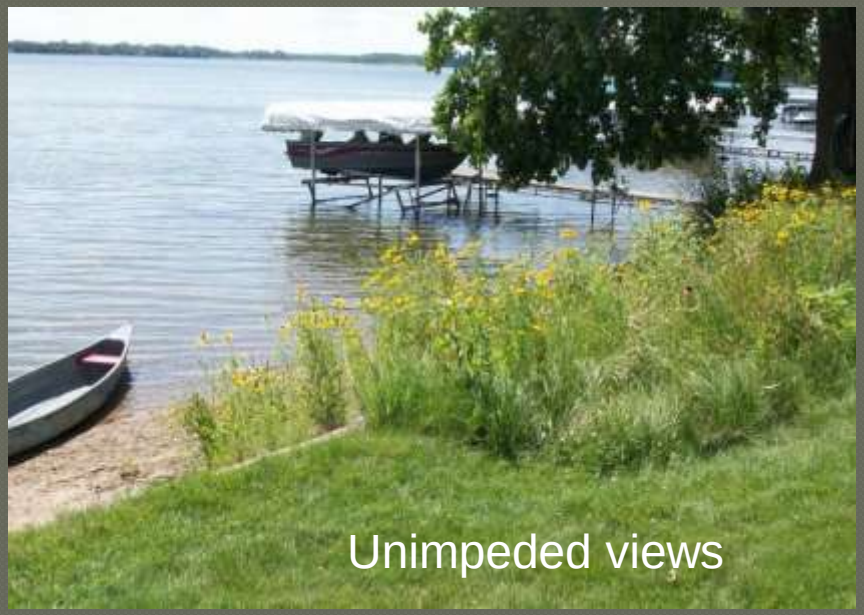
# Peer-to-peer messaging

- Use existing social networks (lake associations, churches, garden clubs) for moving messages and information
- Find opportunities to bring groups on tours

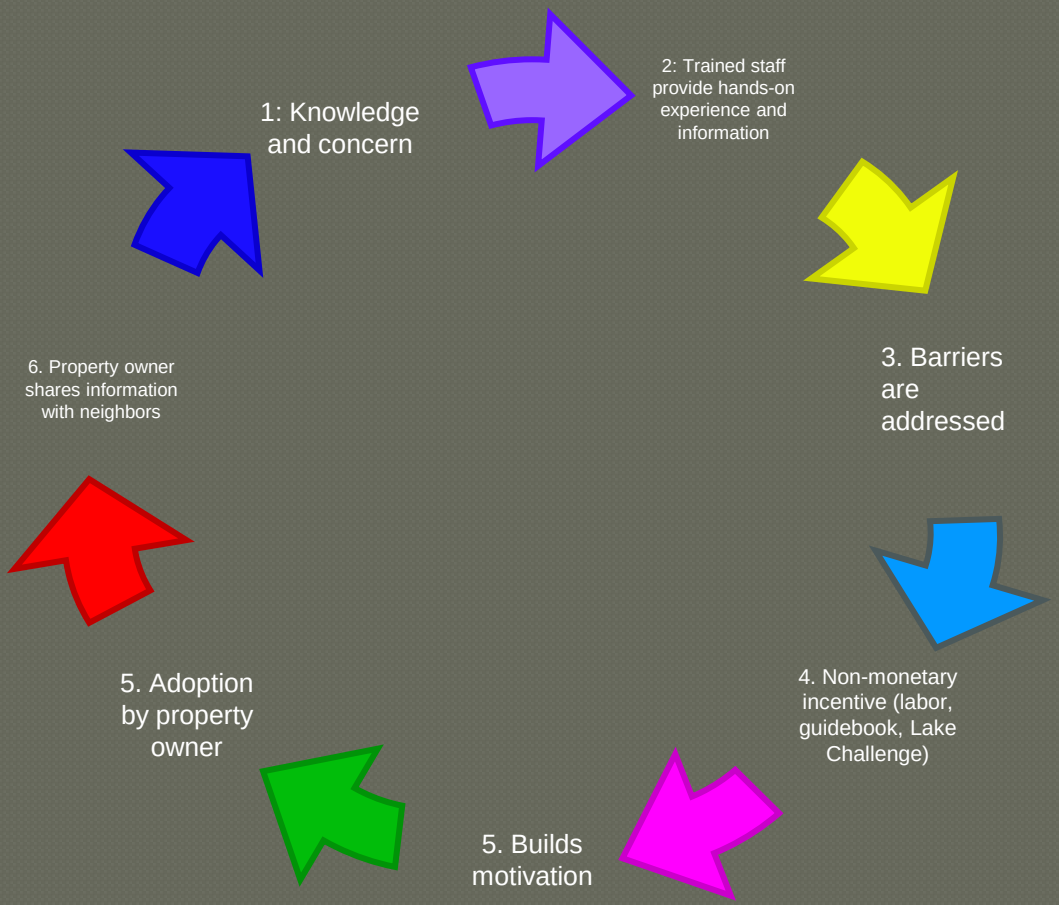
# EOT tours and landscaping manual

# Message framing: before


# Message framing: after




# The link between knowledge and action



# Efficacy (both counties)

- What worked best?
  - Medium and high-touch engagement strategies
  - Neighbor-to-neighbor (peer-to-peer) messaging (led to spontaneous adoption by other owners)
  - Customized messaging and materials based on KAP data (especially preferences and constraints)
  - Communication through lake associations
- What worked least?
  - Financial incentives… *Not one person adopted because they were offered a cost-share*
  - *Low Touch Approach*

# Evidence of success (comparison of pre/post KAP data)

- Knowledge values increased somewhat (they were already very high).
- Attitudes values shifted in a positive direction.
- Practices: Of those without natural shorelines, there was satisfactory adoption in the “medium” and “high” touch groups.
- Constraints: Staff were able to overcome constraints with better messaging, and by providing appropriate incentives (labor, planting materials).

# Unanswered questions…

- Perceptions of a “natural” shoreline (lots of variation!)
- Are the NSBI incentives sustainable? (not enough time has passed to determine this)
- Our finding that people prefer “high” touch contact over a financial incentive: does this apply to other demographics and regions of the State?
- What are constraints and barriers to adoption for people elsewhere in the State?
- Will the social engagement pieces created in the NSBI work elsewhere in Minnesota?

# Questions?

Karlyn Eckman,
U of M Water Resources Center

Mark Hauck,
Minnesota DNR

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**Partners:**
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