

Minnesota's Experience in Testing Social Indicators to Measure Behavior Change

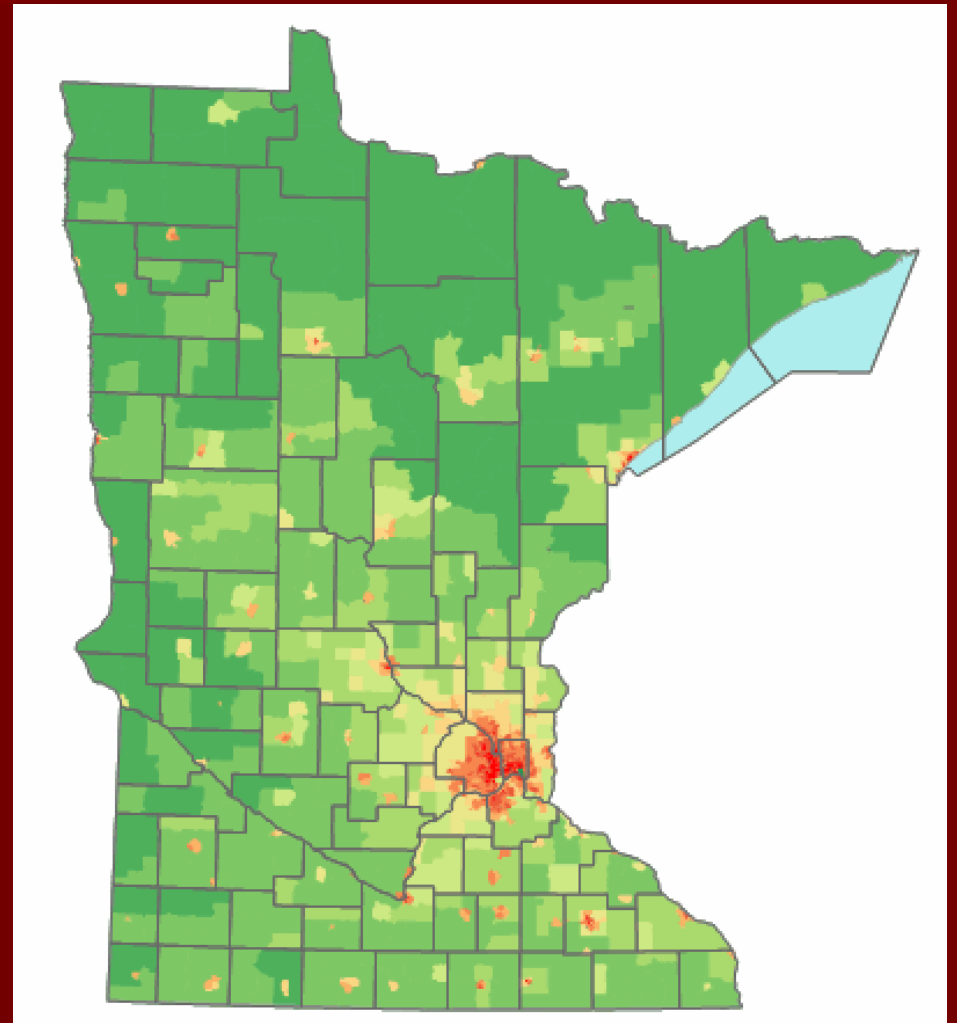
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The Minnesota Context:

Significant water resources:

- Lake Superior/coastal communities
- Mississippi, Minnesota, Buffalo/Red, St. Croix rivers
- 14,000 + lakes
- Numerous urban/suburban trout streams (28 in Duluth alone)
- Boundary Waters Canoe Area Wilderness
- Natural wetlands
- International border (Canada)



The Minnesota Context...

- Minnesota's water have multiple uses (agriculture, forestry, fisheries, industries, ethanol, drinking water, recreation, etc.
- But...we have significant NPS pollution issues too
- Minnesota Clean Water Legacy Act; passage of the Lessard Amendment in November 2008
- We have great opportunities to develop and test new approaches and methods.



How do NPS projects in Minnesota evaluate impacts and outcomes?

- We wondered how SI would fit with existing evaluation practices of NPS project staff
- Do NPS project staff actually evaluate whether people adopt and maintain BMPs?
- How do NPS project staff evaluate such outcomes?
- What gaps in evaluation exist?

The Minnesota NPS Project Survey

(Eckman, Walker, Nuckles and Bouapao 2008)

- We asked a series of questions about **target audiences** (baselines, size, identification, etc).
- Questions included **project characteristics**, evaluation practices, who conducts evaluation, evaluation training.
- **Project evaluation practices** (adoption rates, whether BMPs are maintained, changes in knowledge or attitude, etc.).
- We asked about **constraints to evaluation**.

What we found:

- 77% of projects do not conduct a social baseline study of the target audience;
- 71% do not evaluate BMP adoption rates;
- 83% do not evaluate cultural connections to water;
- 88% do not evaluate spiritual connections to water.

What we found...

- Most NPS staff are trained in environmental sciences.
- Most staff cannot determine impacts on their intended target audiences.



What we found...

- Project staff are stretched to the limit (time and money).
- Reluctance to invest staff time into complex social evaluation methods.
- But...they do need social information to better understand target audiences
- Staff want to know if they have an impact

Size and scale matter!

- That is, size of target audience relative to scale of evaluation tool
- Half of MN projects have target audiences <500 households
- Larger projects can use random samples and quantitative methods.
- However, standardized questionnaires may not work for smaller projects.



NPS target audiences in Minnesota are very diverse:

- Public employees (as trainees)
- MNDOT and county snowplow drivers
- SWCD, MWO, watershed district staff
- Small town residents
- Municipal employees of small towns
- Lakeshore property owners, lakeshore associations, and resorts
- Recreational land owners
- Native tribal communities
- Urban residents/renters
- Suburban, exurban property owners
- Family farms; agribusinesses

Minnesota's two-track approach to NPS evaluation and impact assessment:

- Continue to test SIPES in collaboration with the EPA region 5 team and our local partners;
- And...develop and test a "supplemental" toolkit of simple, low-cost impact assessment methods



Minnesota's "supplemental" toolkit:

- **Gap analysis** exercise (what do we need to know about our target audience?)
- Knowledge, attitudes and practices (**KAP**) **method**
- Evaluation **mini-workshops**
- **Participant observation**
- These can be used in various combinations



What's a KAP study?

- We adapted the KAP study method from international water/health programs
- Simple, flexible method, pre/post intervention
- Is not indicator-based
- So far so good...! Seems to meet the needs of our project partners
- KAP studies underway in Minnesota:
 - Duluth LSRP
 - Onsite Sewage Treatment Program
 - Dakota County (with Connie Fortin)
 - Otter Tail County (with DNR NSBI)
 - Itasca County (with DNR NSBI)

Minnesota's experience with the social indicators project

- Winter maintenance practices 2007-2008 (snowplow drivers and road salt)
- Duluth LSRP (first round surveys completed in 2008)
- McCarron's Lake (Roseville) June 2008 (withdrawn)
- Dakota County employees – completed December 2008
- Heron Lake SWCD at Fulda Lakes (February 16-17 2009)
- Crow River (2009-2010)
- Buffalo/Red River (2009-2010)



Testing SIPES in Duluth

- Small urban target audience (88 households)
- First test of the SIDMA urban questionnaire
- SIPES/SIDMA did not answer the information needs of planners
- A KAP study was designed to identify specific target households



SI activities in Duluth to date...

- Beta-tested the SIDMA software in January 2008
- A KAP study was completed in May 2008
- SIDMA urban questionnaire was tested at a community workshop in September 2008
- SIDMA and KAP surveys will be repeated in 2010



Testing SIPES with the Winter Maintenance NPS project

Winter Road Maintenance and the Environment

Finding a balance between protecting motorists and the environment.



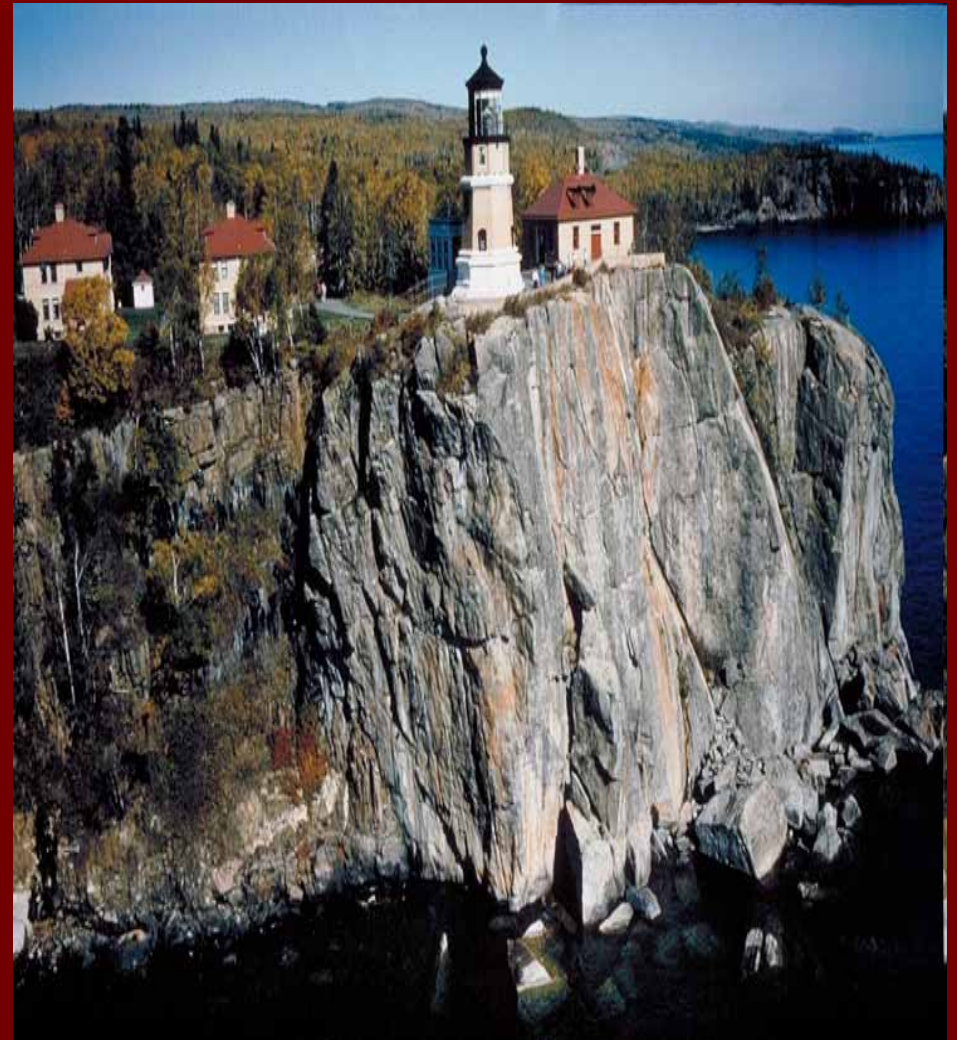
Winter Maintenance Project

- Local partners: Fortin Consulting, MNDOT, Dakota County
- Goal: reduced use of de-icing chemicals
- Target audience: snowplow drivers who are public employees
- SIDMA questionnaires will have to be adapted to diverse target audiences



Lessons learned so far...

- The SI framework works best for NPS projects with target audiences >500
- SIPES/SIDMA questionnaires are designed for property owners
- SIPES/SIDMA questionnaires don't work well for other audiences (trainees, renters, etc.)
- The urban questionnaire needs refining.



Lessons learned so far...

- Need to adapt SIDMA questionnaires for diverse target audiences
- There is a need for smaller-scale social impact assessment and evaluation methods
- SI was designed as an evaluation system for USEPA. Local NPS staff may have different information needs.



Lessons learned so far...

- There is ample need and opportunity to build the capacities of local project staff in social evaluation and impact assessment.
- In Minnesota, both quantitative and qualitative tools are needed.



Next steps...

- Repeat the SIDMA and/or KAP studies as projects are completed
- This will enable us to assess socio-economic impacts and outcomes
- Continue to work with the regional team to improve the urban questionnaire, and to designing new questionnaires for diverse target audiences
- Continue to develop “supplemental” toolkit

A nod of thanks to...

- Minnesota Pollution Control Agency
- United States Environmental Protection Agency
- Our local partners



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