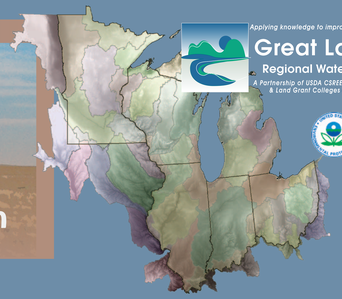
THE SOCIAL INDICATOR PLANNING & EVALUATION SYSTEM (SIPES) FOR NPS MANAGEMENT:

Applications in the Great Lakes Region



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

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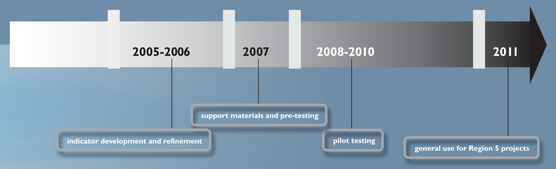
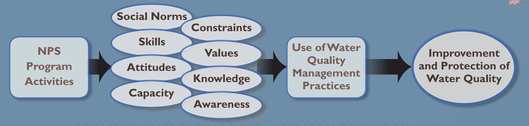
State Nonpoint Source (NPS) programs in the Great Lakes Region (USEPA Region 5) have been working collectively for the past few years to incorporate social indicators into NPS project planning and evaluation. Social indicators provide information about the social context, capacity, awareness, attitudes, and behaviors of individuals, households, organizations, and communities. Applied to NPS issues, they can help identify appropriate combinations of technical, financial, and educational assistance for those making land management decisions that influence water quality. Over time, social indicators can also provide consistent measures of change across projects, states, and regions.

A Great Lakes Regional project team consisting of university researchers and staff from state environmental agencies and USEPA (and convened through the CSREES Great Lakes Regional Water Quality Program), has developed the Social Indicator Planning and Evaluation System (SIPES) to support social indicator use. SIPES includes a set of core indicators and related processes for collecting, analyzing, and using indicator data. SIPES helps focus project planning and enables projects to measure social change due to NPS management efforts. The system is being applied to projects across the Great Lakes region during a multi-year pilot-testing phase to assess the indicators, the effectiveness of alternative methods for their collection, and the overall usability and utility of SIPES for NPS projects and state programs.





CONCEPTUAL MODEL OF SOCIAL INDICATORS AND WATER QUALITY

Social Indicators

NPS projects address factors that influence decisions to use water quality management practices that are expected to improve and protect water quality.

Using a participatory process that included input and feedback from stakeholders in all six states in the Great Lakes Region, the SI Team developed a set of "core" indicators that would apply to all projects using this approach. The set of core social indicators is not comprehensive, and other social indicators can also provide important information for planning, implementing, and evaluating NPS projects.

The SI Team also identified an additional set of contextual variables to help project leaders understand their social setting as well as supplemental indicators that individual projects could use selectively to augment core indicators. Project goals, intended outcomes, and core social indicators are listed in the table below.

Goals, Intended Outcomes, and Core Social Indicators for NPS Management

GOAL 1: INCREASE TARGET AUDIENCE AWARENESS

Awareness Outcome: Increase awareness of relevant technical issues and/or recommended practices in critical areas
Awareness Indicator 1: Awareness of consequences of pollutants to water quality
Awareness Indicator 2: Awareness of pollutant types impairing water quality
Awareness Indicator 3: Awareness of pollutant sources impairing water quality
Awareness Indicator 4: Awareness of appropriate practices to improve water quality

GOAL 2: CHANGE TARGET AUDIENCE ATTITUDES

Attitudes Outcome: Change attitudes to facilitate desired behavior change in critical area
Attitudes Indicator 1: General water-quality-related attitudes
Attitudes Indicator 2: Willingness to take action to improve water quality

GOAL 3: REDUCE TARGET AUDIENCE CONSTRAINTS

Constraints Outcome: Reduce constraints to behavior change
Constraints Indicator 1: Constraints to behavior change

GOAL 4: INCREASE ORGANIZATIONAL CAPACITY

Capacity Outcome 1: Increase capacity to leverage resources in critical areas
Capacity Indicator 1: Resources leveraged by grant recipient in the watershed as a result of project funding (including cash and in-kind resources)
Capacity Outcome 2: Increase capacity to support appropriate practices in critical areas
Capacity Indicator 2: Funding available to support NPS practices in critical areas
Capacity Indicator 3: Technical support available for NPS practices in critical areas
Capacity Indicator 4: Ability to monitor practices in critical areas

GOAL 5: INCREASE TARGET AUDIENCE ADOPTION OF NPS MANAGEMENT PRACTICES

Behavior Outcome: Increase adoption of practices to maintain or improve water quality in critical areas.
Behavior Indicator 1: Percentage of critical area receiving treatment
Behavior Indicator 2: Percentage of target audience implementing practices in critical areas
Behavior Indicator 3: Ordinances in place that will reduce nonpoint source stressors

Using SIPES for NPS projects

SIPES involves the seven steps illustrated below. Because the purpose is to both establish a baseline for future evaluation AND to inform project outreach and education efforts, Step 1 requires projects to answer these four questions:

1. *What are the specific NPS problem(s) your project is trying to address?*
2. *What are the critical area(s) that contribute to the problem(s)?*
3. *Who are the target audiences for the NPS problem(s) your project will address? (Target audiences are the people that influence management decisions for the critical area.)*
4. *What actions do you want the target audience(s) to take regarding the NPS problems?*

A SIPES Handbook provides detailed guidance for conducting all seven steps. For more information and to download a copy of the SIPES Handbook, visit: www.uwex.edu/ces/regionalwaterquality/Flagships/Indicators.htm

The Social Indicators Data Management & Analysis (SIDMA) Tool

The Social Indicator Data Management and Analysis (SIDMA) tool is a web-based project management aid that supports SIPES for NPS projects in USEPA Region 5. SIDMA will be used by project coordinators to collect, organize, and use social indicators related to water quality improvements.

Eventually, SIDMA will integrate with existing systems already in use for tracking and reporting NPS data. SIDMA includes the following features:

GEOGRAPHIC INFORMATION AND MAPPING TOOLS

Provide watershed boundaries and population data;

SURVEY BUILDER

Provides survey questions to be selected and adapted for use by a watershed project;

DATA INPUT SCREENS AND DATABASE

Use to input and store responses from questionnaires and other social indicator data;

DATA ANALYSIS TOOLS

Use to generate statistics from survey data;

MECHANISM FOR REPORTING SOCIAL INDICATOR DATA

Use to report social indicator data to USEPA Region 5; and

REPORT WRITING TOOLS

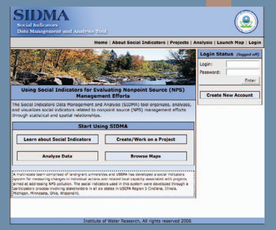
Provide assistance for communicating social indicator data.

Testing SIPES

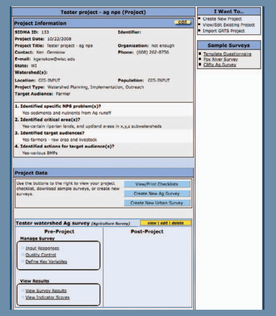
State NPS management programs in USEPA Region 5 are working with the SI Team to pilot-test the system. The purpose of the pilots is to test and evaluate:

- The utility and usability of the indicators and methods, the Handbook provided to projects, the on-line Social Indicators Data Management and Analysis (SIDMA) tool, and the technical assistance provided by the regional SI team and state NPS program office.
- If the indicators are useful, whether they measure change across time, and if the information they generate can be aggregated at the regional level.
- If the methods of data collection and analysis provide accurate information that is practical to collect and applicable to different project types and target audiences.

This pilot test phase will include 30 - 40 projects across the region through 2010. These projects will represent the variety funded by the NPS programs in each state and/or have significant interest and capacity to work on the social components of NPS management.



SIDMA HOME PAGE



SIDMA PROJECT MANAGEMENT

A SAMPLE OF PROJECT VARIABLES TO BE COLLECTED DURING PILOT PHASE:

- Watershed size
- Land use characteristics
- Type of project sponsor
- Interest in using social indicators
- Type of project (planning, implementation (does it include cost share), or outreach)
- Year project funded
- Year work begun
- Year SI process initiated
- Year project work completed
- Pollutants specified in watershed plan
- Target audiences
- Amount of 319 (grant) funds
- Resources leveraged by grant recipient/project
- Total funding available to support NPS practices
  - Funding available for practices/cost-share
  - Funding available for outreach/education
- Technical support available for NPS practices
- Technical support available/used for SI activities
- Ability to monitor in critical areas
- Average weekly hours by paid staff
- Average weekly hours by volunteers
- Education/training/experience of project staff
- Availability of computer hardware
- Size of target audience for watershed
- Strength of relationships with target audience
- Project planning and evaluation budget

Data from the pilot testing phase will be compiled by the SI Team and reviewed annually with NPS state programs and USEPA Region 5.

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Photos by Jeffrey J. Strobel, Amy Turney and Kevin Erb