

EXECUTIVE SUMMARY

Nonpoint sources (NPS) of pollution are the number one cause of impairment to Ohio’s surface waters. A key strategy adopted by the state to address NPS pollution is the formation of locally led collaborative watershed groups, which are encouraged to develop and implement comprehensive watershed management plans. The state, along with local agencies and organizations, has invested significant resources to create full-time, paid positions—typically using the title of watershed coordinator—to coordinate and facilitate both the planning process and subsequent implementation of watershed plan action items. These watershed leaders play a vital role in mobilizing and coordinating human and capital resources to get NPS projects on the ground. (For this study, “watershed leader” refers to any full-time, paid staff member whose primary job responsibility is to lead the development and implementation of watershed plans.)

Some watershed leaders have been more successful than others at getting NPS projects implemented. The purpose of this study was, first, to identify characteristics (knowledge,

skills, behaviors) of successful watershed leaders and, second, to provide recommendations for training, professional development and other strategies to address gaps in leadership capacity among watershed leaders in Ohio.

This study builds on previous work conducted by land-grant universities in U.S. EPA Region 5 to develop social indicators for NPS pollution. This work led to the development of the Social Indicator Planning and Evaluation System (SIPES), a process and tool system for NPS project managers to measure changes in levels of awareness, skills, attitudes, capacity and constraints among target audiences. This report represents an initial step in the development of social indicators for watershed leadership that could be used to evaluate the capacity of watershed leaders to implement NPS management projects.

The study was undertaken in two phases. Phase one involved a review of the watershed management literature, resulting in a draft framework (categories and subcategories) of social indicators for watershed leadership (Figure 1).

Figure 1. Framework from the literature review: Attributes of effective watershed leaders.

Attributes of effective watershed leaders (Categories)	Attributes of effective watershed leaders (Subcategories)
Technical	Tools and techniques
	Specialized knowledge base
	Systems thinking/problem-solving/analytical skills
Administrative	Project management
	Grant-writing and management
Social	Communication and education
	Interpersonal and group dynamics
	Community dynamics
	Political dynamics

For phase two, 20 watershed leaders were interviewed about their involvement in NPS project implementation, focusing on the knowledge and skills they found most beneficial for getting NPS projects done. Study participants were identified by the Ohio EPA NPS program manager or by other study participants as having an outstanding record of successful implementation of NPS projects.

Analysis of interview transcripts confirmed the validity of the draft framework for organizing indicators. It also provided a more detailed picture of how successful leaders employ these skills day-to-day, and which of the many indicators identified are most critical to getting NPS projects done.

Which indicators are most critical to getting NPS projects done?

Communication and interpersonal skills: By far, the skills most frequently mentioned by study participants were communication and interpersonal skills. Successful watershed coordinators are in continuous communication with stakeholders, elected officials, their watershed boards and partner organizations. Their background in the natural sciences helps them communicate effectively with technical experts, but they are also skilled at translating technical topics into language that is accessible to lay audiences, some of whom may be key stakeholders. Interpersonal skills are necessary for cultivating professional networks that facilitate building multidisciplinary teams and multistakeholder partnerships. Successful watershed coordinators are effective at communicating a vision for the watershed and inspiring key stakeholders to take action. They know the science of watershed management but, more importantly, they know how to rally support behind priority projects. This means understanding and effectively communicating the economic and social as well as the environmental value of a project.

Community dynamics: Closely related to communication and interpersonal skills, community dynamics involve the ability to identify and utilize existing social networks and social capital within and among watershed communities.

Successful watershed leaders identify and match community leaders' goals with NPS project goals and then identify key stakeholders and potential partners that have a vested interest in a) getting the project done and b) access to needed resources, including information, technical assistance and capital.

Administrative skills: Because watershed leaders are often the sole paid staff working exclusively on watershed planning and implementation, they may be required to take on many administrative responsibilities. Study participants pointed to general project management skills and grant-writing and grant management skills as particularly beneficial for NPS project implementation. NPS projects often involve multiple partners, contractors, landowners and funders. Watershed leaders frequently play a central role in managing communications between these various stakeholders and may also be responsible for monitoring and reporting on grant deliverables and ensuring contractors are held accountable for meeting timelines and budgets.

Specialized knowledge base and analytical skills: Successful watershed coordinators draw on training in the sciences to develop a sophisticated understanding of the physical and ecological processes that influence water quality in their watersheds. They are able to evaluate the pros and cons of alternative NPS project approaches in relation to social and economic as well as environmental impacts. Most of the study participants pointed to specialized knowledge and experience in water resources, planning or policy as keys to their success. Having expertise in a relevant discipline and the use of technical tools for watershed management (e.g., GIS, water quality monitoring, sediment transport modeling) can be directly applied to the evaluation and design of NPS projects, but it may be more important as a credential for the watershed leader when communicating or negotiating with stakeholders. Being able to "speak the language" of watershed management, stream restoration or water quality gives the watershed leader a credible voice among experts who often serve as opinion leaders in selecting, designing and promoting NPS projects.

What can be done to increase the capacity of watershed leaders to implement NPS projects?

While this study was focused primarily on describing the characteristics of successful watershed leaders, here are some implications of this study for agencies, universities and other organizations that seek to increase the capacity of watershed leaders to get NPS projects done:

- Watershed leaders, watershed groups and funders can utilize the social indicators identified in this study to evaluate the watershed leader's performance and identify weaknesses to be addressed through mentoring, coaching or professional development programs.
- Watershed groups can utilize the social indicators for watershed leadership in developing watershed coordinator position descriptions and during interviews with candidates to assess their level of experience and skills in the social dimensions of watershed management.
- Professional development and training for watershed leaders should emphasize aspects of communication and other interpersonal skills used in educating stakeholders, working with multidisciplinary teams and building partnerships.
- Watershed leaders should consider their relative strengths and weaknesses in all aspects of watershed management and seek out professional development opportunities that address areas of weakness.
- Watershed leaders are encouraged to build relationships with professionals who have the knowledge and skill sets that can be applied directly to evaluating and designing priority NPS projects in their watershed.
- State agencies and other institutions that support local watershed plan implementation should identify gaps in expertise around the state and should develop mechanisms to address those gaps. Allowing one specialist to provide services to multiple watershed groups may be more efficient in many cases than attempting to train multiple watershed coordinators to provide the same services to their own group.
- Watershed leader success is a factor of that leader's capacity but also depends on multiple contextual factors that are largely beyond his or her control. Watershed groups that hire watershed coordinators and institutions that provide funding for coordinator positions are encouraged to honestly and critically assess the readiness of the watershed group and the communities in which they will work to support the watershed planning and implementation process. Even the most experienced and skilled watershed coordinator will struggle to implement effective NPS projects if adequate levels of social and economic capital are not present.

