CORE COMPETENCIES FOR WATERSHED AND LAKE/STREAM LEADERS

SURVEY RESULTS - SEPTEMBER 2013

INTRODUCTION

A survey was conducted of individuals who have participated in any one of three watershed leadership training programs offered by The Ohio State University, Michigan State University and Purdue University. The purpose of the survey was to gather input from program participants on the value of these training programs; to identify core competencies required by leaders of watershed, lake, and stream management efforts; and to evaluate the extent to which existing training programs address these core competencies.

Funding for the survey was provided by the Great Lakes Regional Water Program. This project was led by The Ohio State University in collaboration with Michigan State University, Purdue University, and the University of Wisconsin - Madison. Invitations were sent to 453 participants of the Indiana Watershed Leadership Academy (n=211, from Academy years 2006-2013), Ohio Watershed Academy (n=184, from Academy years 2007-2012) and Michigan Lake and Stream Leaders Institute (n=58, from Institute years 2002, 2005, 2007, and 2009). The survey was open from June 25-July 20, 2013. Four email addresses were invalid and an additional four people opted out, leaving a possible 445 respondents. Of these, 117 at least partially completed the survey (an additional 39 clicked on the link but did not answer any questions other than which academy/institute they participated in), for a response rate of 26% (See Table 1).

Table 1. Response rate by state

STATE	RESPONSE RATE
Indiana	36% (75/211)
Ohio	16% (29/184)
Michigan	22% (13/58)

SPSS software was used to analyze quantitative data and the qualitative data were coded and categorized by hand into emergent competencies and themes.

SUMMARY OF SURVEY RESULTS

Key Benefits of Training Programs: Networking and Developing a Broad Understanding of Watershed Management

With regard to networking, respondents mentioned benefiting from the contacts made during training programs, learning from others' experiences and their viewpoints, and how these experiences lead to broadening their understanding of watershed management.

> "The networking with other watershed focused people that allowed me to share ideas and analyze pros and cons of different ideas."

> "The networking was most helpful to me, not only because having contacts in water quality, conservation and planning is useful, but because networking presented me with many mindsets and viewpoints concerning challenges and goals in watershed management."

> "The well rounded aspect of the program, touching on all areas of watershed management."

Access to resources and having opportunities to use them was another common benefit expressed by respondents (e.g., access to reference books, readings, and computer tools). The assignments were mentioned by a number of respondents as beneficial, specifically assignments that allowed them to analyze data from their own watersheds or prepare sections of their management plans. Exposure to specific types of content such as best management practices for lakes and streams and water quality standards were also considered a benefit. Aspects of the format of the academies/institutes that participants found beneficial included the progression of assignments and educational speakers. Only one comment was negative with the respondent stating that since they had previous experience in the field of watershed management they did not gain a lot from the training and that when new topics were introduced there was not enough face-to-face time to address them.

Improvements Needed: Inclusion of more authentic learning experiences and technical information

With regards to what was not in the academy/institute that would have been beneficial, respondents discussed a wider range of topics. One theme was the need for more technical training and applied learning experiences (e.g., case studies) related to specific problems such as selecting critical areas for BMPs. Additionally participants mentioned the need for more in-depth information on particular technical topics (e.g., how to calculate sediment loads, Clean Water Act), as well as more emphasis on communication and understanding human dynamics (e.g., selling BMPs or understanding relationships needed for implementing BMPs) and some comments on formats such as more time for discussion beyond online forums.

> "More about selecting critical areas- this part needs much improvement."

> "More scientific technical information on the effect of pollution on watersheds and technical information of how conservation practices can improve watersheds."

> "At the time, there was not a lot on 'selling' BMPs. I think there's more on that aspect now, but I remember being a new watershed coordinator coming in to a conservation district to implement a watershed plan and feeling like I had no idea how to get cost-share out the door."

Value of Current Academy/Institute Offerings

In the survey, knowledge/skills addressed in the watershed training programs were organized into six broad categories: organizational, interpersonal, ecological assessment, implementation, policy, and education & outreach. Respondents were asked to rate the degree to which each knowledge/skill "item" within those categories is critical to their work. Respondents were instructed to imagine they were mentoring a new watershed/lake management leader and that the items they rank highest should be items they think are most fundamental to that leader's success, based on their own experiences. There were 19 items ranked as "critical" (see Table 8)

Participants were then asked to describe how they applied their top six ranked items in their work. We elaborate on the six highest ranked items, below.

Table 8. Items from all six categories with a mean of 3.0 ("Critical") or above:

KNOWLEDGE/SKILL	MEAN (3=CRITICAL; 4=VERY CRITICAL)
1. Partnerships/Collaboration	3.59
2. Outreach and communication	3.53
3. Project management	3.48
4. Landowner interaction/interpersonal skills	3.45
5. Best Management Practices	3.32
6. Building professional networks	3.31
7. Strategic planning	3.30
8. Water quality criteria	3.28
9. Working with boards and volunteers	3.27
10. State regulations	3.21
11. Program design and implementation	3.20
12. Conservation programs	3.12
13. Hydrology/stream processes	3.09
14. Monitoring	3.09
15. Local ordinances	3.08
16. Facilitation	3.07
17. Storm water regulations	3.07
18. Land use polices	3.02
19. Water policy	2.98

(Between 111 and 114 respondents rated the above items)

Partnerships/collaboration

Respondents described a wide range of collaborations (e.g., working with boards, landowners, government agencies) they were engaged in and described them as "vital" to watershed work and part of their day to day work lives. Specific ways in which partnerships and collaborations were fundamental to their success included: reducing duplication of efforts, amplifying their efforts, saving time and money, maximizing their impact, and obtaining needed expertise. Respondents rely on partners for specific services including funding, engineering, education, and data analysis. A representative response was, "My whole job is working with partnerships" and "[partnering] broadens reach... the more agencies/parties involved, the more we are able to get done."

Outreach and communication

Outreach and communication were considered part of day-to-day work of watershed group leaders and a "fundamental practice." Various formats for outreach and communication were mentioned as necessary including newsletters, website, social media, newspaper articles, and direct communications to get help and build support.

> "[Communication] never stops and is always taking place or in the works."

> "If you're not getting the information out there, odds are good that no one will be actively searching you out because they didn't know the basic information was even out there to be found."

> "Outreach and education occurs every day. Always be aware of the information you are presenting and the way it is being delivered whether you are having a one on one conversation or presenting to a large group. If you cannot communicate to your stakeholders your efforts are pretty much pointless."

Project Management

Many respondents mentioned the need for effective project management including coordinating multiple projects at once, tracking grant funds, and being transparent and realistic about what can be done and what has been done. Project management was used to "keep things on track" and "move forward", as well as to implement projects (e.g., BMP installation). Project management involved managing time, people, and budgets.

> "Watershed issues are very complex...when taken step by step, piece by piece, the project will be successful. That requires management."

Landowner interaction/interpersonal skills

Respondents mentioned communicating effectively, identifying issues of concern, understanding appropriate incentives, forming relationships, and encouraging "ownership" of problems. Communicating to landowners involved being able to describe water quality standards and listen effectively.

> "Much of administering a conservation program relies on relating to those who would participate and answering their queries."

> "Implementation is all about relationships - if you are good at forming and maintaining those, you might actually convince someone to accept your cost-share money and change their management habits."

Best Management Practices

Respondents mentioned the need to be familiar with specific examples of best management practices, to learn from others and to understand the current behaviors/interests of their target audiences. Watershed leaders need to know what's effective and "what [BMP] fits" where.

> "Knowledge of what fits is very important. With BMPs one size does not fit all."

Respondents also mentioned the need to know about BMP related research.

Strategic planning

Strategic planning was considered an important knowledge or skill respondents applied frequently to their work (e.g., in setting direction, generating new ideas, tracking progress, measuring outcomes, and community involvement). One respondent referred to strategic planning as "… the bible that needs to be followed to reach our anticipated goals. Strategic planning was necessary to ensure sufficient resources and personnel would be available in the future to address watershed threats."

> "If there is no clear plan or direction, work will never be more focused than whatever opportunity walked through the door."

Building Professional Networks

Professional networks are needed for "gaining tools to get the job done." They expand the reach of the watershed leader and are critical to making things happen outside the leader's own organization.

> "It's who you know in addition to what you know. What you know only gets you in the door. Who you know lets you influence the outcome."

Water Quality Criteria

A basic understanding of water quality criteria was considered "necessary" and the "point" behind watershed planning. Water quality criteria and standards are used to set a baseline and/or "starting point", track reductions, set goals, and understand what's "fixable".

> "The point behind watershed plans is to improve the water quality in the watershed, you can't know if there has been improvement unless you have a baseline established."

Working with Boards and Volunteers

Being able to work effectively with boards was considered "invaluable" because they were described as the "backbone" for accomplishing an organization's mission. Board support is critical for planning and implementation and spending decisions. A common theme was the importance of keeping boards "engaged." Board members needed to be informed and educated about their duties. At times it may be necessary to "navigate" the differing opinions of members of the board. Volunteers extend the efforts of paid staff, conduct outreach and education, collect data, and implement demonstration practices. Watershed and lake leaders needed to be able to manage volunteers in a way that "they help you vs. you looking for something for them to do."

> "[You] need to be able to match a volunteer with their strengths and keep them accountable for their projects."

Core Competencies

Respondents were asked to list up to five competencies (knowledge, skills, abilities, or behaviors) that have proven to be the most beneficial and/or made the biggest difference for them in their role in water resources management. Their comments fell into five thematic areas:

1. Communicate effectively (e.g., "Speaking to the people you are meeting with at the time and tailoring the message")
2. Organizational and project management skills (e.g., "keeping meetings meaningful and people involved")
3. Facilitative leadership (e.g., "being able to let others have the idea and then support them")
4. Vision (e.g., "an ability to set attainable and measurable goals for which continued progress can be shown to stakeholders, partners, the public, board members.")
5. Collaboration (e.g.,"Maintaining and keeping open strong/trusting relationships with key organizations [such as the] drain commissioner, conservation district, and local interest groups".)

SUMMARY

This research effort allowed us to identify core competencies watershed and lake management leaders considered fundamental to their success and to identify some of the benefits and areas for improvement in our respective watershed leadership courses. The five areas where competency is fundamental to success identified by respondents included: communication, management, facilitative leadership, vision, and collaboration. The most beneficial aspects of the existing watershed and lake management academies for participants is fostering a broader understanding of watershed management and expanding professional networks. In terms of weaknesses, respondents mentioned the need for more applied learning experiences (e.g., case studies and field scale problem solving) and inclusion of additional technical topics.

RECOMMENDATIONS

In order to improve the watershed and lake management training programs, coordinators of these programs should consider:

1. Offering more authentic learning exercises that integrate the competency areas and bridge the connection between the social and natural sciences aspects of watershed management.
2. Assessing existing curricula in relation to the core competency areas to identify gaps.
3. Create evaluation tools for measuring changes in participants' knowledge and skills related to each of the core competencies.

USDA United States Department of Agriculture National Institute of Food and Agriculture

Great Lakes Regional Water Program

The Ohio State University

Purdue University

UW Extension Cooperative Extension

Environmental Resources Center

Michigan State University Extension

Wisconsin University of Wisconsin-Madison

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