An Assessment of Capacity and Resource Needs of North Carolina Watershed Programs

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- All survey respondents

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Glossary of Acronyms and Terms

APNEP	Albemarle-Pamlico National Estuary Partnership
Capacity Building	Building the strength and resilience of organizations; capacity building includes organizational assessment, increasing effectiveness and sustainability and developing strategies to address organizational needs.
CoG	Council of Governments
DWQ	Division of Water Quality in NCDENR
Educational Programs	Include products and services associated with formal learning, such as curriculum development or professional development; ensures distribution of factual information.
IE	Institute for the Environment
NCDENR	North Carolina Department of Environment and Natural Resources
NCSU	North Carolina State University
NCDA&CS	North Carolina Department of Agriculture and Consumer Services
NRCS	Natural Resources Conservation Service of the US Department of agriculture (USDA)
Outreach Activities	Services that involve contact with the public and serve to inform, excite interest and arouse curiosity. A systematic attempt to provide services beyond conventional means.
Social Marketing	A planned process for influencing behavioral change using traditional marketing principles for the purpose of societal benefit instead of commercial profit.
SWCD	Soil and Water Conservation District
UNC-CH	University of North Carolina at Chapel Hill
USEPA	US Environmental Protection Agency
WECO	Watershed Education for Communities and Officials
WRRI	Water Resources Research Institute

Executive Summary

Across the United States, watershed protection efforts are often small-scale; they are frequently constrained by limited funding and organizational capacity, attenuation of volunteers and a lack of scientific information to guide decisions about restoration, management or policy options. In North Carolina, although many watershed protection resources exist, there are geographical gaps in coverage and disconnects in knowledge-sharing across the state. For these reasons, the UNC Institute for the Environment, Watershed Education for Communities and Officials, the Water Resources Research Institute, the Division of Water Quality (DWQ) in the North Carolina Department of Environment and Natural Resources (NCDENR) and Triangle J Council of Governments formed a partnership in order to 1) identify existing watershed programs and resources (i.e., staff, volunteers, funding and skills), 2) assess and document any gaps in resources and geographical coverage, and 3) better understand programmatic needs and networking opportunities.

Using internet searches and professional contacts, the partners compiled a database of more than 550 programs and individuals focused on watershed protection in North Carolina. Prior to this assessment, no comprehensive, statewide database of watershed programs existed. Programs with paid staff were selected from the database to receive a survey, and 161 people responded. (*Input from watershed volunteers was collected in a second phase of this assessment*.)

Overall, the data indicate a strong base of professionally trained individuals and watershed programs in North Carolina, although respondents identified a need for continued skill-building and professional development for themselves and volunteers in their organizations. This study also identified several immediate opportunities for strategic partnerships that could help respondents better use their existing skills and fill gaps where needed.

A coordinated network that could facilitate partnerships, networking, and cross-training was highly desired by participants. While an online component of such a network would be effective for sharing information and connecting with others, face-to-face opportunities to learn were the preferred method of information delivery.

This assessment highlights the need to more effectively engage a variety of stakeholders and connect them to one another. It also shows broad interest in enhancing watershed outreach and education and increasing available funds for protecting local watersheds. Based on these results, the study team recommends the following actions:

1. Develop a searchable website of watershed programs and resources across the state.
2. Promote partnerships and cross-training among watershed professionals to address skill deficits.
3. Engage a variety of stakeholders in developing a statewide watershed stewardship network.
4. Actively involve local government staff and elected officials in management strategies.
5. Promote in-person networking through local, regional and statewide workshops and conferences.
6. Increase education about water quality impacts, stormwater and watershed protection.

These activities could serve as a foundation for a statewide watershed stewardship network, thereby building new resources for watershed protection.

Section I: Introduction

North Carolina's water resources are under increasing pressure, with population growing by 18.5% between 2000 and 2010. This growth makes it difficult to protect drinking water supplies while also supporting healthy ecosystems and water-based recreation.[1] In addition, the state has identified more than 38% of lakes and reservoirs and 10% of streams as impaired, or no longer providing the service or value for which they were designated.[2] Effectively managing our State's water resources requires collaborative, locally-driven watershed management. Recent peer-reviewed literature indicates that successful efforts rely on open learning processes and social networking, building trust and social capital, training in participatory systems, and local and technical knowledge.[3] In other words, watershed management must become adaptive and flexible.

Tackling watershed problems often requires collaboration among public, private, and civic organizations. Such coordination is challenging, however, because watershed protection efforts are often small-scale, constrained by limited funding and organizational capacity, attenuation of volunteers, and a lack of current scientific information to guide decisions about restoration, management, or policy options. Although North Carolina is home to an array of professionally trained individuals and regional watershed programs, gaps in geographical coverage and disconnects in knowledge-sharing occur throughout the state.

The watershed protection approach was endorsed by the USEPA in 1991. This approach addresses water resource protection and restoration in hydrologically defined areas, seeks to involve all stakeholders, is based on science, integrates voluntary and regulatory programs, uses adaptive management and promotes the use of watershed planning to guide implementation of protection and restoration efforts.

For these reasons, the UNC Institute for the Environment, Watershed Education for Communities and Officials (WECO), the Water Resources Research Institute, the DWQ in NCDENR, and the Triangle J Council of Governments formed a partnership to:

1) Document existing watershed programs in the state,
2) Identify resource and geographical gaps in watershed training and assistance, and
3) Define programmatic needs and networking opportunities.

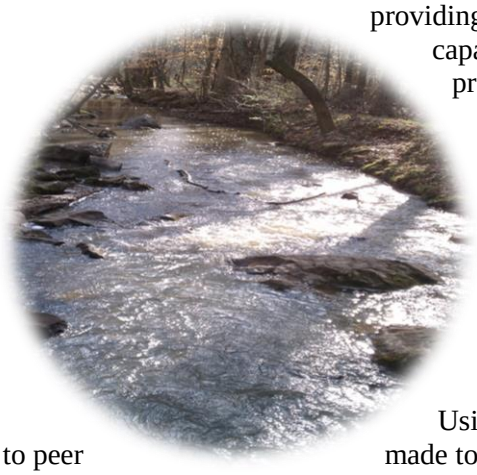
This report presents the results of a needs assessment, which consisted of a survey of paid watershed professionals and associated follow-up, and proposes next steps based on the results.

[1] http://online.wsj.com/article/SB10001424052748704728004576176971322420058.html
[2] http://ofmpub.epa.gov/waters10/attains_state.control?p_state=NC#total_assessed_waters
[3] Clark et al, 2005; Hardy and Koontz, 2009

Section II: Methodology

Survey Design and Implementation

The purpose of the survey was to document existing watershed programs in the state, identify resource and geographical gaps in watershed training and assistance, and define programmatic needs and networking opportunities. (*A copy of the survey is located in Appendix D.*) The survey framework was developed based on a review of similar studies. A survey conducted by the Tennessee Water Resources Research Center provided a basic structure, which was adapted to address North Carolina contexts and the specific interests of the study. Survey design was reviewed by consultants at the UNC-CH Odum Institute for Social Science, and Qualtrics was used as the online survey platform. A draft survey instrument was sent to peer reviewers at the following organizations: Albemarle-Pamlico National Estuary Partnership, North Carolina Conservation Network (NCCN), NC Ecosystem Enhancement Program, NC Sea Grant and the Town of Chapel Hill Stormwater Management Division. The survey was emailed to 366 potential participants, with follow-up conducted by email and phone to encourage participant response. Data were analyzed with Qualtrics analysis tools and Microsoft Excel.



Survey Participants

The study team developed a database of watershed programs and individuals whose work focuses on watershed protection. The data were gathered from an extensive web search, professional contacts and existing databases, maintained by the following organizations: DWQ in NCDENR, NPDES entities, NCCN, Office of Environmental Education in NCDENR, Soil and Water Conservation Districts / Natural Resources Conservation Service (SWCD/NRCS), USEPA and WECO. The database included both volunteer-based programs and agencies/organizations with paid staff. For the purposes of this survey, a subset of the database was selected to receive the survey. This subset was defined as those agencies/organizations with staff members who are paid to spend at least a portion of their time providing education, outreach, training and/or capacity building focused on watershed protection. To ensure a high response rate, the survey was sent to multiple individuals within the same organization. Subsequent phases of this study engaged volunteers through a series of focus groups and a second survey. Figure 1 provides a data management flow chart.

Using these strategies, attempts were made to identify as many active watershed programs in North Carolina as possible, but some may have been missed. Nevertheless, the survey yielded geographically and organizationally diverse results.

The survey was sent to 366 individuals representing 240 different watershed programs. We received 161 responses, resulting in a response rate of 44% (and representing 143, or 60%, of the identified watershed programs). There were 13 cases where multiple people responded from the same program, and in the interest of developing the most comprehensive data possible, all responses were included. Survey respondents are identified in Appendix A, and duplicates are indicated by a number in parentheses.

Data Management Flow Chart

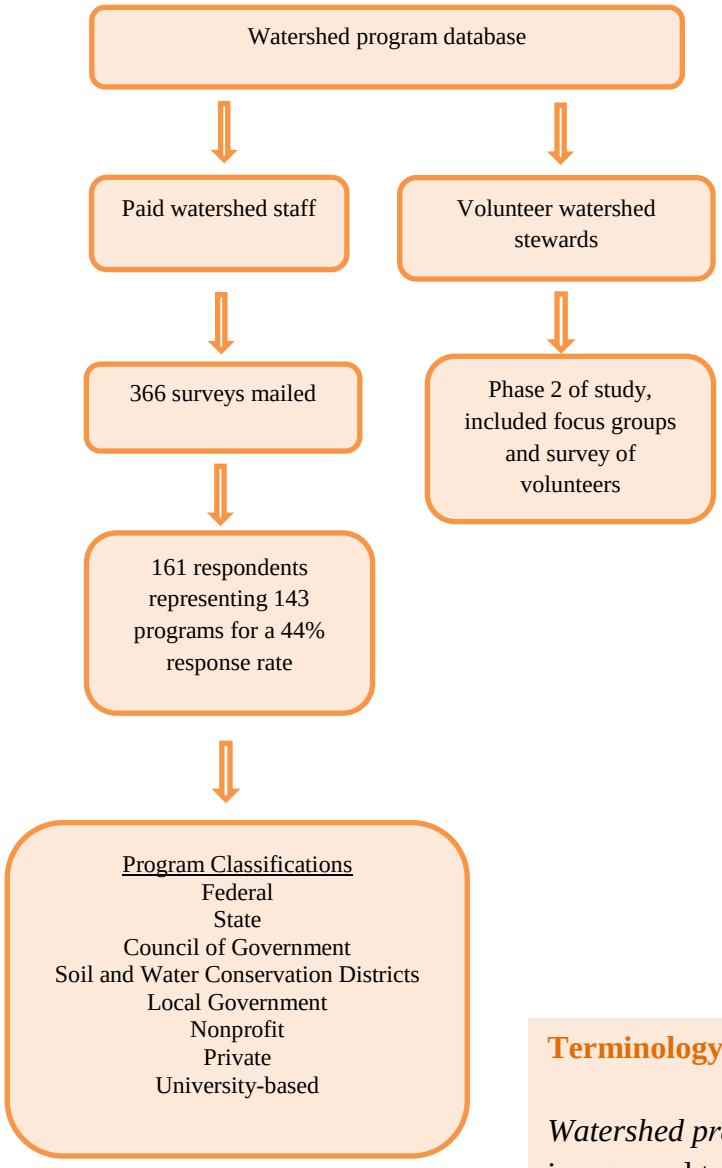


Figure 1 Data management flow chart

Terminology

Watershed program or "program" is a general term used to identify the respondents' place of work.

The watershed programs fell into eight general program *classifications.*

Classification of Programs

Participants were asked to respond for their specific division, unit or program. Some respondents identified with an organization, such as Neuse Riverkeeper or Wake SWCD, whereas respondents from larger agencies tended to identify a specific program within the larger organization, such as Stormwater Outreach and Education in DWQ in NCDENR. For this reason, this report uses *watershed program* to identify the place of work for which an individual provided responses.

The programs that respondents represented can be grouped into eight basic categories or classifications. A summary of the number of respondents and the percentage of total responses per classification are reported in Table 1. For some questions, responses among different classifications were notably different. In these cases, the data are provided by classification in the discussion below.

Table 1 Number of respondents per classification

Classification	Total	Percentage
Soil and Water Conservation Districts (SWCD)	51	32%
Nonprofit	25	16%
State	23	14%
Federal	17	11%
University-Based	16	10%
Local Government	13	8%
Council of Government (CoG)	11	7%
Private	5	3%

Description of Program Classifications

***Soil and Water Conservation Districts* (SWCD)**	SWCDs composed 32% (n = 51) of the total respondents. There are 96 SWCDs in the state. Each district boundary coincides with a county boundary, with the exception of Albemarle Soil and Water Conservation District, which covers Camden, Chowan, Currituck, Pasquotank and Perquimans counties. All SWCDs have similar conservation missions but specific activities can vary by district depending on the objectives of the locally elected board, funding, staff size, and needs of the county. SWCDs are funded by county, state, and federal governments.
Nonprofit	This sector was represented by organizations that have specific watershed-focused missions as well as those that include a watershed focus among other priorities (such as those focused more broadly on the environment). They represented 16% of all respondents (n = 25). Two respondents from Resource Conservation and Development (RC&D) councils are also in the category.
State	A majority of the respondents in this category represented programs within NCDENR, with the exception of the Division of Soil and Water, which is in the North Carolina Department of Agriculture and Consumer Services (NCDA & CS). State respondents represented 14% of total respondents (n = 23).
Federal	Many of the federal respondents (n = 17, 11% of total) were with the USDA Natural Resources Conservation Service (NRCS). NRCS is a federal agency that has district conservationists who work locally. Each NRCS office operates under the same mission and goals, but the focus of each district conservationist's work may vary depending on the needs of counties they serve. Other respondents from federal programs represented the Tennessee Valley Authority (TVA), the U.S. Fish and Wildlife Service and U.S. Forest Service. The TVA is primarily located in Tennessee but also supports watershed protection in North Carolina.
University-Based	These programs had an affiliation with and/or funding from universities to conduct watershed programming and represented 10% of total respondents (n = 16). This category includes NC Cooperative Extension offices not located on a university campus.
Local Government	All but one respondent represented municipalities with stormwater outreach programs. The one exception was Wake County Parks, Recreation and Open Space. These entities represented 8% of total respondents (n = 13).
***Councils of Government* (CoG)**	Nine of the 16 CoGs in the state responded to the survey, for 7% of total respondents (n = 11). Three respondents from within the local CoG (Triangle J) provided information on distinct programs. CoGs are regional bodies that serve multiple counties and coordinate regional planning, economic development, and natural resources projects. CoGs are funded through mixed sources, and membership is drawn from county, city, and other government agencies within a designated area. The low CoG representation is likely due to the fact that not all CoGs have staff members who work on watershed issues.
Private	These respondents (5% of the total, n = 5) were primarily individuals working as private consultants, with four out of the five respondents in this role. Duke Energy was also represented in this category.

Section III. Findings

Geographic Spread of Respondents

The map in Figure 2 shows the location of respondents. Each point represents a program's physical address.

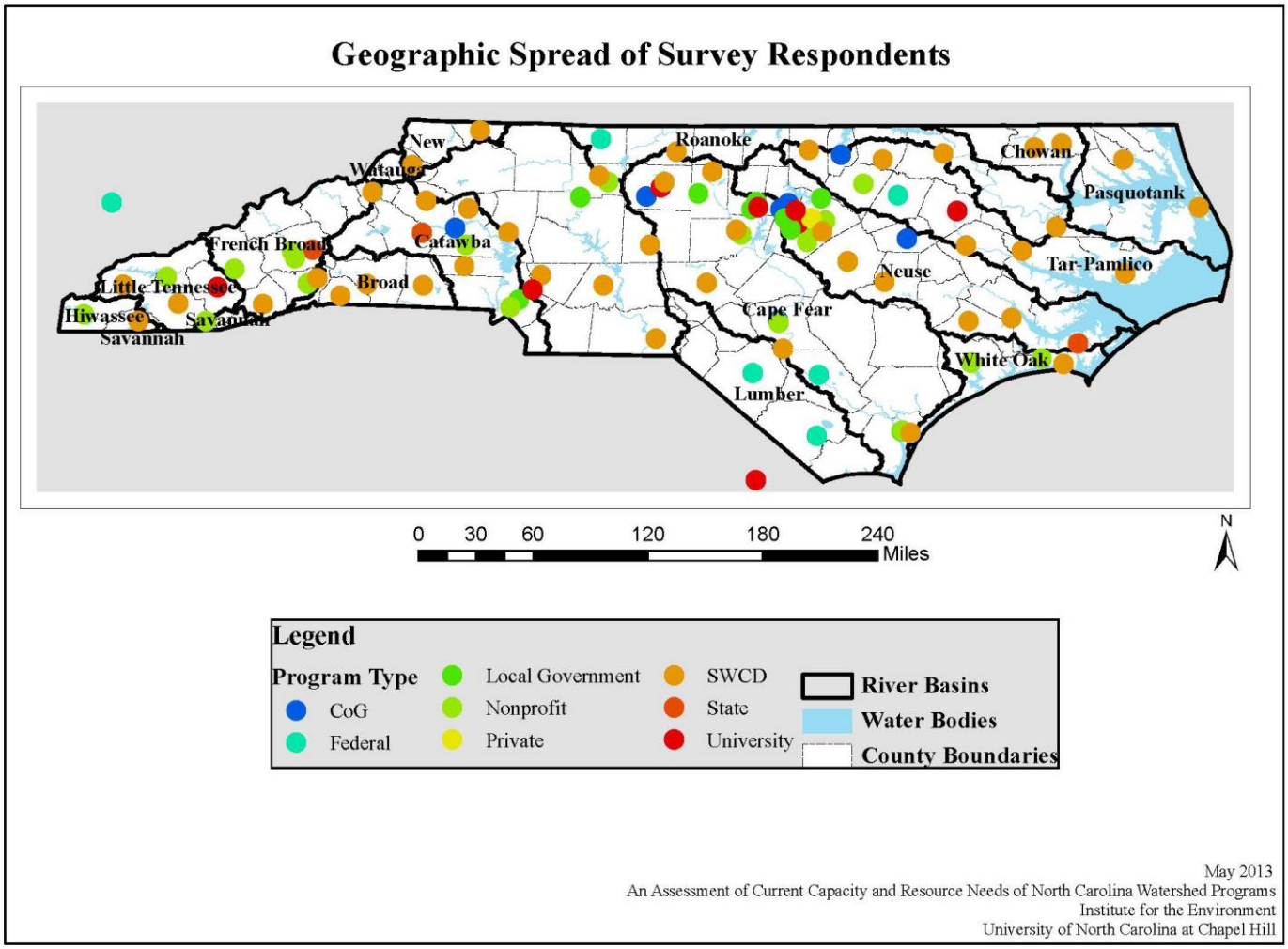


Figure 2 Geographic spread of respondents

There are two points located outside the state boundaries. One represents the Tennessee Valley Authority (TVA) which works in the Little Tennessee River basin, and one represents the Waccamaw Watershed Academy at Coastal Carolina University, which supports watershed efforts in the Lumber River basin.

Respondents are located throughout the state, though many responded from the western portion of the state or clustered in metropolitan areas such as the Raleigh-Durham-Chapel Hill area and the Charlotte-

Mecklenburg area. SWCDs provided the most geographically diverse representation, because they are strategically placed in each county and have personnel with technical watershed skills.

In Which Basins do Respondents Work?

Many programs work in more than one basin and, in several cases, have a statewide focus. The number of respondents per basin generally corresponded to the size of the basin. Table 2 indicates the number of respondents indicating work in a specific basin. A complete list of respondents sorted by river basin can be found in Appendix B.

Watershed programs use different methods for delineating and describing their coverage areas, creating a challenge to developing an accurate statewide map of programmatic coverage.

Table 2 Number of watershed programs supporting each NC river basin

Basin	Basin Area (Sq. Miles)	Number of Programs Supporting Basin	Percentage of Survey Respondents
Statewide	52,514	37	23%
Cape Fear	9,322	41	25%
Yadkin	7,221	25	16%
Neuse	6,235	30	19%
Tar-Pamlico	5,440	22	14%
Pasquotank	3,635	10	6%
Roanoke	3,503	17	11%
Lumber	3,336	12	7%
Catawba	3,285	16	10%
French Broad	2,830	21	13%
Little Tennessee	1,797	10	6%
Broad	1,513	14	9%
Chowan	1,378	11	7%
White Oak	1,264	11	7%
New	753	5	3%
Hiwassee	625	9	6%
Watauga	205	8	5%
Savannah	172	9	6%

General Watershed Program Characteristics

Respondents tended to have small staffs and many years experience in watershed protection.

- **Staffing**: Respondents reported having an average of 6 staff members and a median of 2 staff members who worked at least 10 hours per week supporting watershed protection efforts in their programs. Less than 13% of respondents indicated that they had more than 7 staff members, and of those, many of the responses were from NCDENR.
- **Years of experience**: The average length of time that an organization has been involved in watershed related efforts was 37 years, with a median time of 30 years. US Fish and Wildlife reported the longest history, at 140 years.

Funding Sources

Table 3 presents respondents' funding sources for watershed programming during the past three years. When analyzed by classification:

- Nonprofits and SWCDs had the most diverse funding sources.
- Nonprofits received more funding from foundations, membership dues, business grants, and general donations than any other classification.
- SWCDs and university-based programs received most of their funding from federal, state, county, and foundation grants.
- Federal, state, and local governments listed federal, state, and local (respectively) as the most frequent funding sources.
- CoGs frequently received funding from state and federal grants (including 319 grants), membership dues, and fees for service.
- All classification types received some amount of funding from state or 319 grants.

Table 3 Sources of funding for watershed programs in the past three years

Funding Sources	# Response	%
State grants/funds	97	65%
Federal funds (other than 319 grants)	85	57%
319 grants	73	49%
City/county budget	71	47%
Foundations	61	41%
Membership dues	29	19%
Fees for service	28	19%
General donations	28	19%
Special events	20	13%
Business/industry grants	20	13%
Stormwater utility	14	9%
Bequests	11	7%
Other	4	3%

Organizational Activities

Figure 3 presents activities that are currently being conducted by watershed programs throughout the state. Fifty percent (or more) of the respondents conduct the following activities:

- Collaborating with other agencies/organizations
- Educational programs/materials
- Land conservation
- Grant writing
- Designing/implementing outreach activities
- Developing watershed-related plans
- Monitoring/assessing conditions
- Conducting restoration activities

Table 4 lists the five most commonly selected activities by program classification. Collaboration with others was the only activity selected by all classifications. Activities that were not among those listed above included conducting cleanups (reported by local governments), consulting (by CoGs and private respondents), influencing policy (by local governments and nonprofits), monitoring/assessing conditions (by private and state respondents), and soliciting donations from membership/foundations (nonprofits).

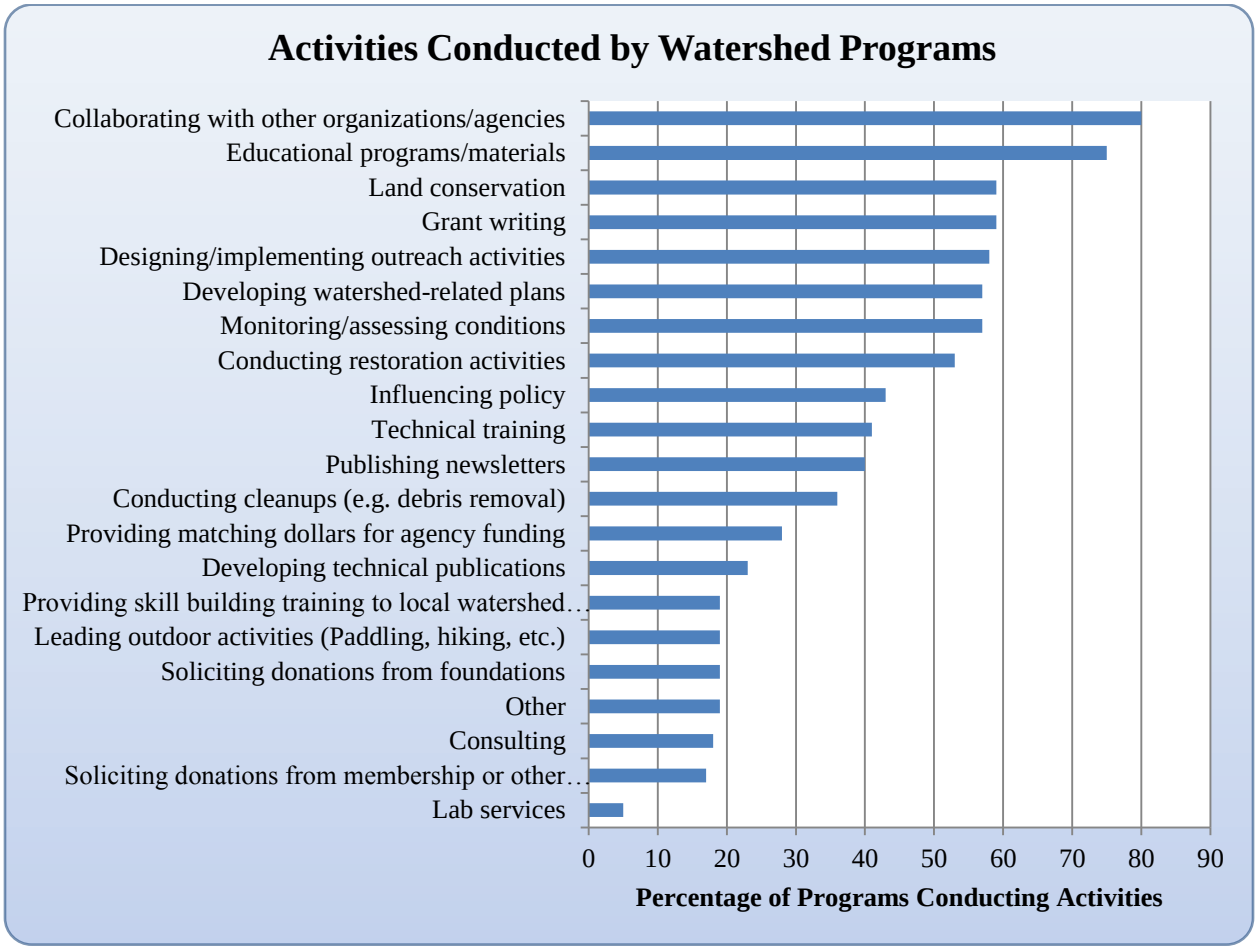


Figure 3 Activities conducted by watershed programs

Table 4 Five most commonly selected activities identified by program classification

Classification	Activity	# Resp.	%
Council of Governments (n = 11)	Grant writing	10	91%
	Collaborating with other organizations/agencies	10	91%
	Educational programs/materials	7	64%
	Designing/implementing outreach	6	55%
	Consulting	6	55%
Federal (n = 17)	Land conservation	16	100%
	Collaborating with other organizations/agencies	11	69%
	Conducting restoration activities	9	56%
	Educational programs/materials	8	50%
	Developing watershed related plans	7	44%
Local Government (n = 13)	Educational programs/materials	13	100%
	Collaborating with other organizations/agencies	12	92%
	Influencing policy and/or permit decisions	11	85%
	Conducting cleanups (e. g. debris removal)	11	85%
	Designing/implementing outreach	10	77%
Nonprofit (n = 25)	Grant writing	24	96%
	Collaborating with other organizations/agencies	23	92%
	Soliciting donations from membership/individuals	22	88%
	Soliciting donations from foundations	22	88%
	Influencing policy and/or permit decisions	19	76%
Private (n = 5)	Conducting restoration activities	5	100%
	Monitoring/assessing conditions	5	100%
	Developing watershed-related plans	4	80%
	Consulting	3	60%
	Collaborating with other organizations/agencies	3	60%
State (n = 23)	Collaborating with other organizations/agencies	20	87%
	Monitoring/assessing conditions	17	74%
	Developing watershed-related plans	16	70%
	Influencing policy and/or permit decisions	15	65%
	Educational programs/materials	15	65%
SWCD (n = 51)	Educational programs/materials	45	88%
	Land conservation	44	86%
	Collaborating with other organizations/agencies	38	75%
	Developing watershed-related plans	30	59%
	Designing/implementing outreach	27	53%
University-Based Program (n = 15)	Educational programs/materials	13	81%
	Grant writing	13	81%
	Collaborating	11	69%
	Designing/implementing outreach	11	69%
	Developing watershed related plans	10	63%

Skill Sets of Paid Staff

Tables 5 and 6 below provide responses for two related questions in the survey, which asked for information on existing skill sets and needed skills sets. These data provide information on availability of watershed skills in North Carolina and training needs.

- Overall, these data indicate a strong base of professionally trained individuals and watershed programs in North Carolina.
- Response rate for "skill sets paid staff need to be more equipped to perform their roles" was low, indicating that respondents believe the staff members in their programs have the skills needed.
- Among the skills sets that respondents said they needed most were, 1) social marketing, 2) web development, and 3) social media communication. However, responses for these skills were generally low (n=36, 32, 25, respectively). One way to interpret this information is that social marketing, web development, and social media communication have been identified as necessary and useful programmatically but are not skills that individual respondents would like to obtain.

Table 5 Skill sets paid staff currently possess

Skill		Response	%
GIS/mapping/surveying		121	76%
Natural resource conservation planning		116	73%
Implementing outreach activities		110	69%
Grant writing		110	69%
Event coordination		107	67%
Implementing educational programs		106	67%
Designing outreach activities		102	64%
Watershed assessment (i.e. analyzing data)		99	62%
Watershed planning		97	61%
Facilitation, conflict resolution and/or stakeholder engagement		86	54%
Designing educational programs		85	53%
Stream restoration		84	53%
Volunteer coordination		82	52%
Water quality monitoring		72	45%
Stormwater BMP Design		72	45%
Influencing policy and/or permit decisions		71	45%
Database development		64	40%
Wetland restoration		57	36%
Social media communication		55	35%
Web development		44	28%
Fundraising		43	27%
Social marketing		38	24%

Table 6 Skill sets paid staff need to be more equipped to perform their roles

Skill		Response #	%
Social marketing		36	28%
Web development		32	25%
Social media communication		25	20%
Influencing policy and/or permit decisions		24	19%
Watershed planning		23	18%
GIS/mapping/surveying		21	17%
Stormwater BMP Design		21	17%
Watershed assessment (e. g. analyzing data)		20	16%
Database development		18	14%
Designing outreach activities		18	14%

Skill Sets of Program Volunteers

Of the programs represented in the survey, 57 had volunteers working in their programs on watershed-related issues. The number of volunteers ranged from 5 to 500, and nonprofits and SWCDs had the highest number of volunteers. Table 7 shows the five most commonly cited skills that program staff identified volunteers as having or needing.

- Water quality monitoring is identified as the most common skill set volunteers have and also a skill set volunteers need.
- Respondents appeared to draw heavily on volunteers for education/outreach and event coordination.

Table 7 Most commonly selected skill sets for volunteers

Skills Volunteers Have			Skills Volunteers Need		
Skill	*n*	*%*	*Skill*	*n*	*%*
Water quality monitoring	29	53%	Social media communication	13	33%
Implementing educational programs	27	49%	GIS/mapping/surveying	12	31%
Implementing outreach activities	24	44%	Grant writing	12	31%
Volunteer coordination	21	38%	Water quality monitoring	11	28%
Event coordination	19	35%	Social marketing	10	26%

Addressing Impaired Waters

Respondents were asked to identify reasons why impaired waters in their coverage areas were not being addressed, with the ability to provide more than one reason. The total number of responses is presented in Figure 4. Respondents were also given the option to select "other" and provide a free response. Free responses were grouped by similarity and are displayed in Figure 5.

- Limited resources available in local government and within the responding program were the most commonly selected reasons for impaired waters not being addressed.
- In the free responses, "lack of resources" was generally described as lack of funding from state and federal governments as well as lack of personnel.
- Ten responses indicated that impaired waters are being addressed.

What is an Impaired Water?

The Division of Water Quality in NCDENR has identified 13,181 surface water assessment units in the state. These units vary in size but can be defined as a reach or area of water (such as a section of an estuary) where water quality is assessed. Based on water quality classifications and data, these assessment units may be listed as "impaired" or not meeting intended uses.

Reasons Why Impaired Waters Are Not Being Addressed

According to respondents, the largest reason for impaired waters not being addressed is lack of resources at all levels of watershed management.

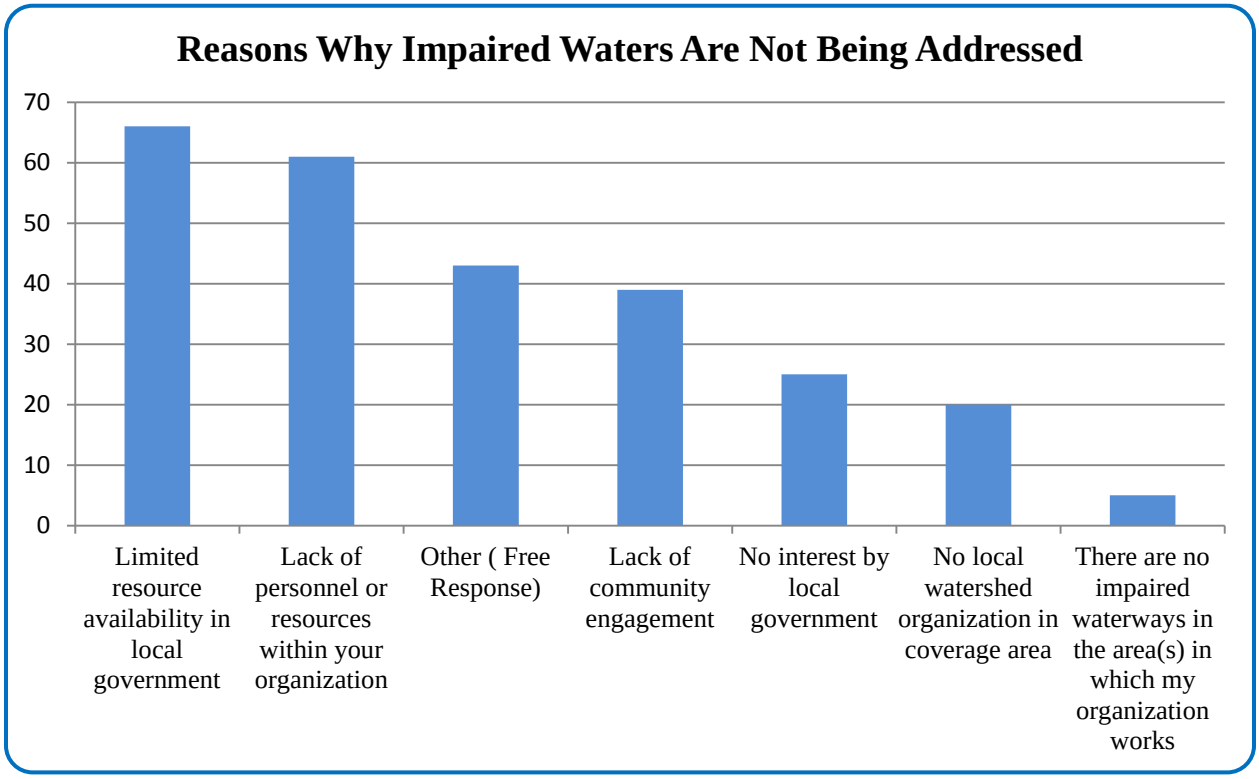


Figure 4 Reasons why impaired waters are not being addressed, multiple choice responses

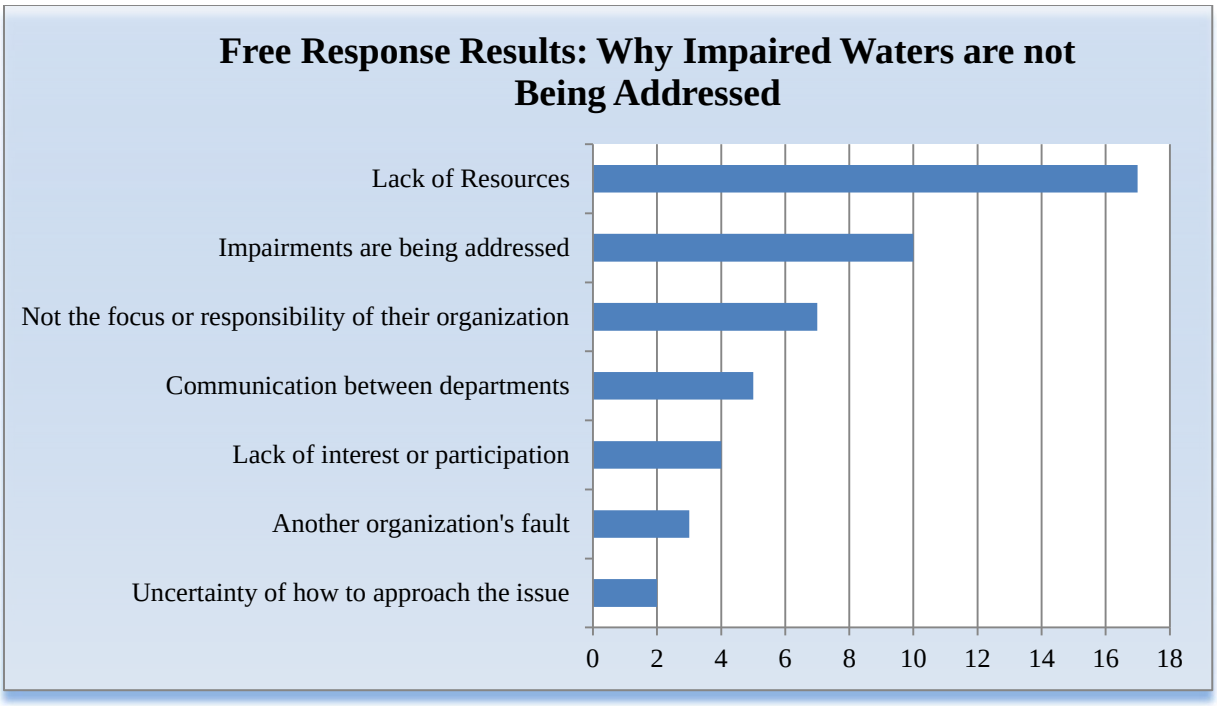


Figure 5 Other reasons why impaired waters are not being addressed, free responses

Audiences

Respondents were asked to identify important audiences for their programs to reach, choosing from multiple choice options. Results are shown in Figure 6. Respondents were also asked to identify, in a free response question, the hardest audiences to reach from among those they indicated as "medium" and "high" importance to reach. There were no differences in audience importance when examined by program classification.

- The two most commonly selected audiences that were identified as important to reach were local government staff and local government elected and appointed officials.
- These two audiences were also listed most often as the hardest to reach audiences (in 36 free responses).
- The four most commonly selected audiences that were identified as important to reach included all levels of government (local, state and federal).
- Other hard to reach audiences cited (number of responses in parenthesis) were general citizenry (33), businesses (30), farmers (26), students and teachers (26), and developers (25).
- Nonprofits were listed as hardest to reach by a few survey respondents, because they had trouble identifying nonprofits that focused on water quality and watershed related issues.
- Local government and SWCDs identified students and teachers as one of the hardest to reach audiences, stating that there are too many schools to reach, and it is difficult to fit into strict curriculum requirements.

High Value Placed on Local Government Participation in Watershed Efforts

Local government staff and local government elected and appointed officials were identified as the most important audiences as well as the hardest audiences to reach.

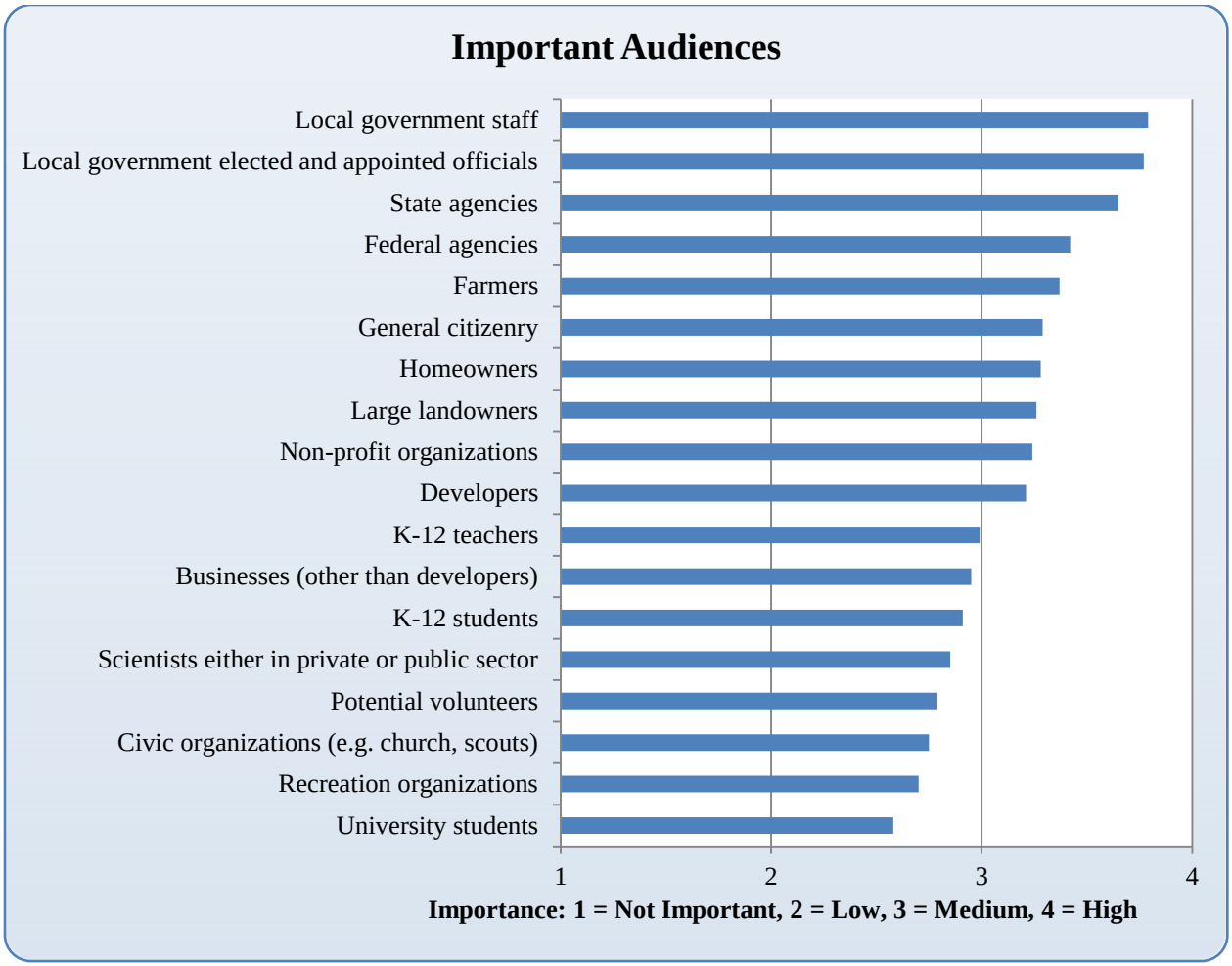


Figure 6 Most important audiences for watershed programs to reach

Training and Programming Needs

Survey respondents were asked, in free response questions, what training and programming that they are currently not providing would they like to provide to their local constituents. Common responses are listed below.

- Reducing stormwater runoff, preventing soil erosion, and addressing backyard streams for home owners and small land owners
- Reducing impacts of stormwater runoff for businesses, elected officials and builders
- Skill building in watershed planning, management and protection
- Education about water quality impacts, stormwater, and watershed protection to all audiences
- Recruiting and empowering volunteers
- Conducting outreach and education

The two preferred training formats were face-to-face interaction and web-based information sharing.

Most Commonly Used Outreach Formats and Most Effective Outreach Tools

Figure 7 represents the most common outreach formats used by programs. Respondents were asked a follow up question to describe, in free response, their most effective outreach tools.

- Outreach formats most often used included websites, public meetings, media and brochures/fact sheets.
- The most effective outreach tool was direct contact (38 responses) which included "word-of-mouth" communication, phone calls, and other personal contact.
- Other effective outreach tools (number of responses listed in parentheses) were meetings (33), websites (31) and newsletters (25).

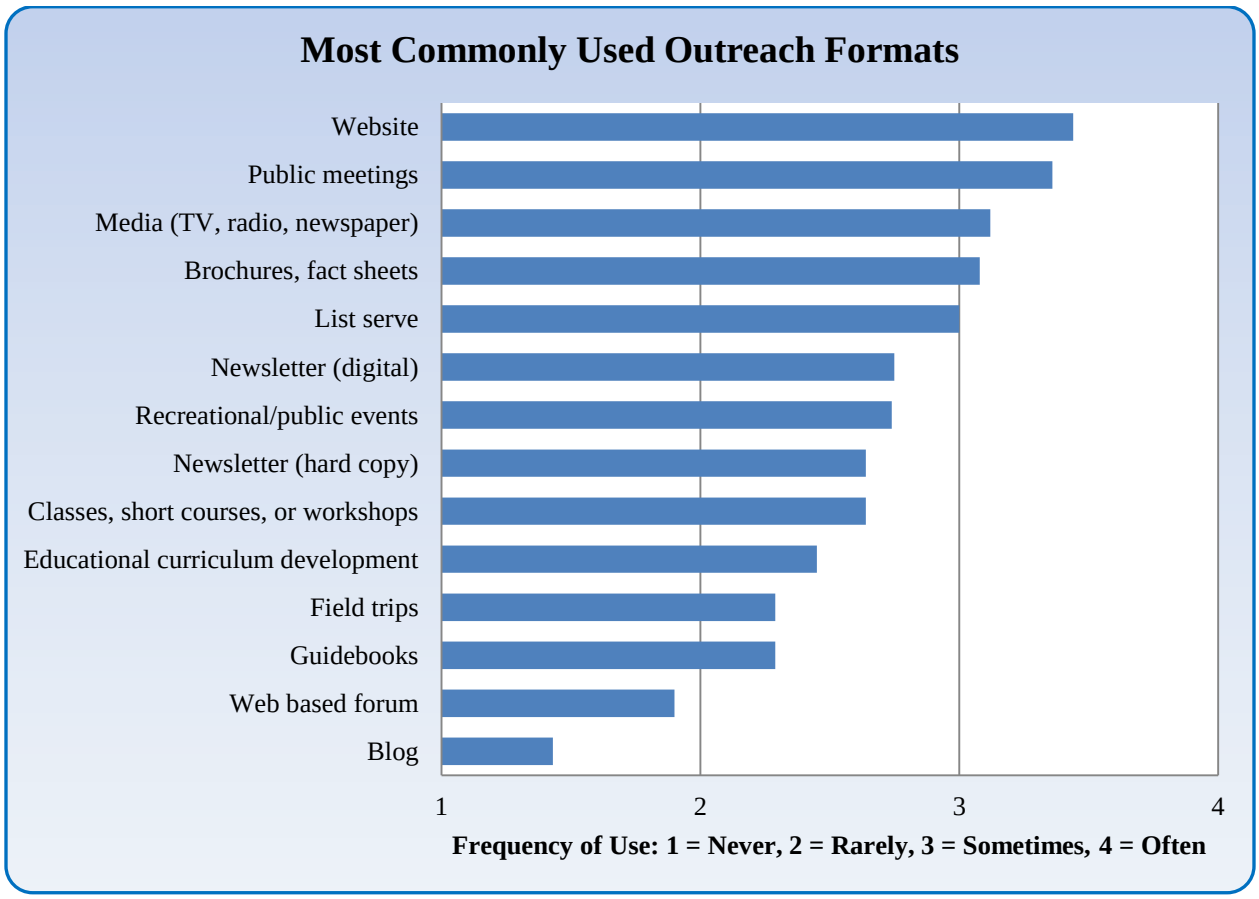


Figure 7 Most commonly used outreach formats

Organizational Development Expertise

Survey respondents were asked whether, assuming adequate financial resources, their programs had the expertise to provide organizational development support to volunteers and watershed related groups in need of training. Respondents were given a list of organizational development activities and asked to rate their expertise for each activity as none, limited, some, or significant. Figure 8 shows the number of respondents who said they had significant expertise in the noted organizational development activities.

- Most significant expertise was identified in financial management, building scientific/technical skills, grant writing, strategic planning, and stakeholder facilitation.

- Topics with least expertise were fundraising planning, fundraising implementation, and membership development.

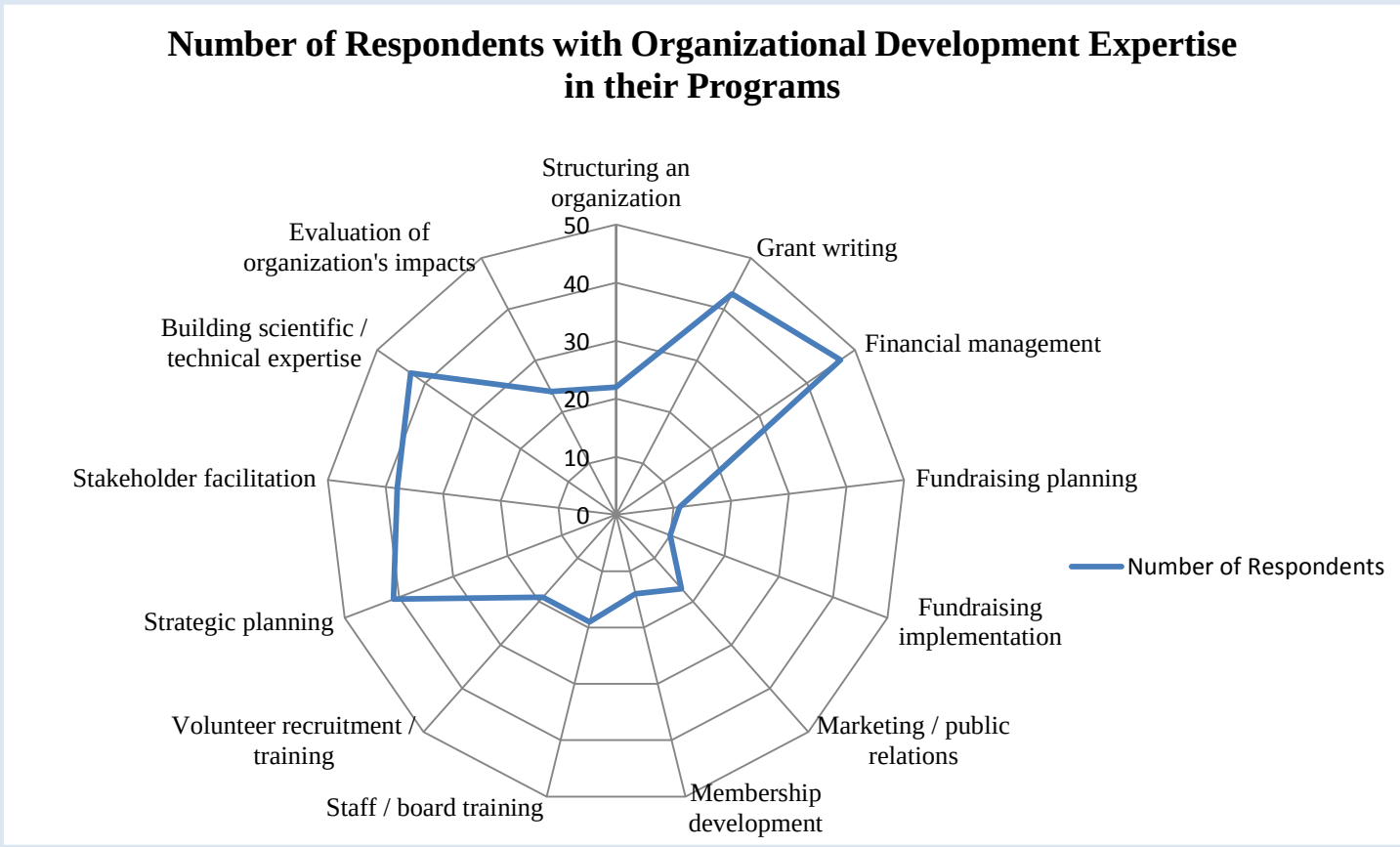


Figure 8 Number of respondents that identified having significant expertise in organizational development skills in their program

Networking

Preferred Methods of Receiving Information

Respondents were asked to indicate their preferred methods of receiving new information. The three methods respondents liked best were in-person training sessions or workshops, face-to-face meetings and websites. The least preferred methods were the social media tools, such as Facebook and LinkedIn.

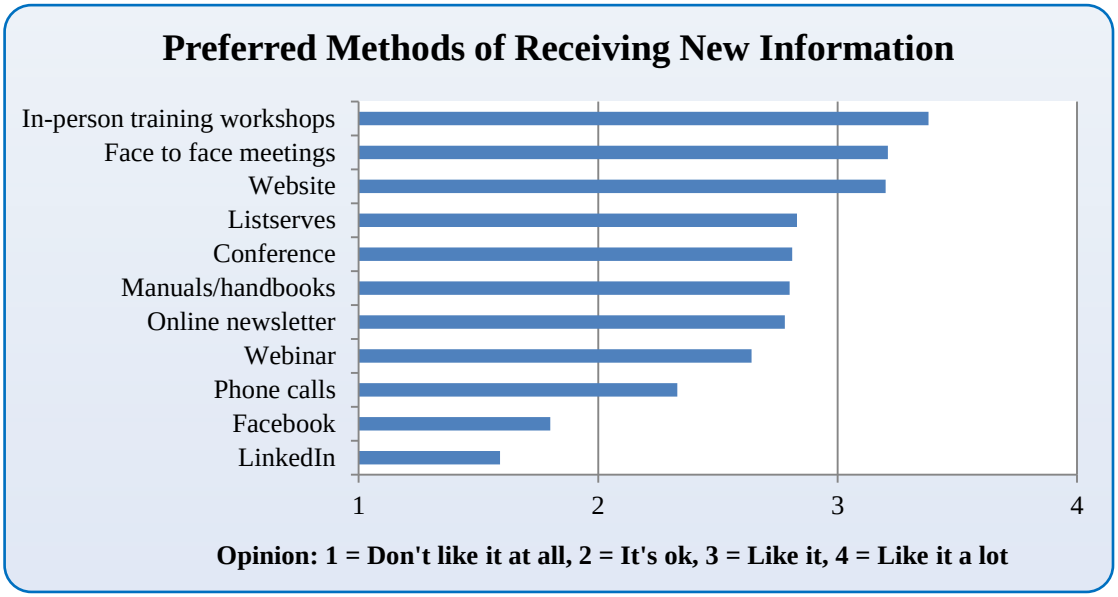


Figure 9 Preferred methods of receiving new information

Watershed Program Networking Tools and Resources

The survey respondents were also asked to rate a list of possible tools or resources that would be useful to their programs. Of the options provided, respondents rated an interactive mapping tool of watershed data and resources as the most useful. The second highest rated was a networking tool for watershed organizations and professionals.

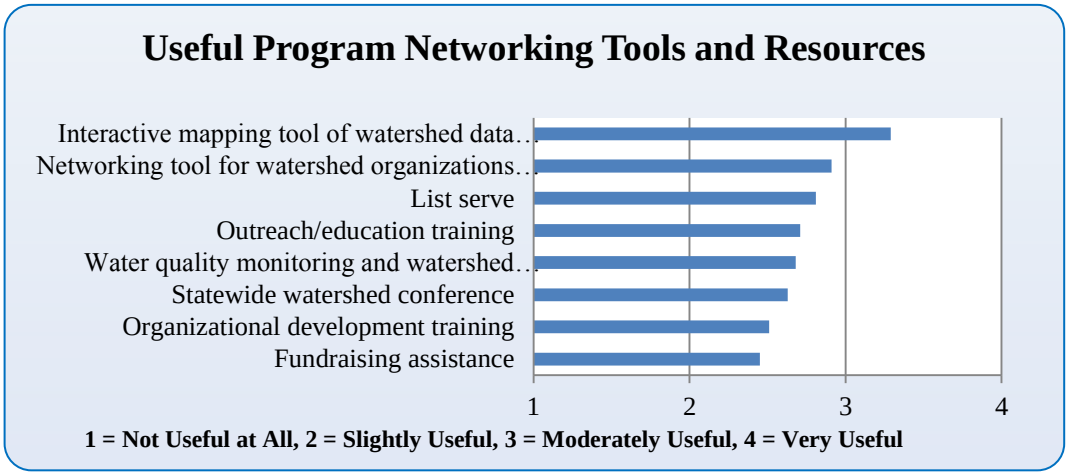


Figure 10 Tools or resources respondents would find useful to their program

Section IV: Discussion

This section is organized according to the research objectives of the study, which included:

- Document existing watershed programs in the state,
- Identify resource and geographical gaps in watershed training and assistance, and
- Define programmatic needs and networking opportunities.

Documenting Existing Watershed Programs in North Carolina

Prior to this assessment, no comprehensive, statewide database of North Carolina watershed programs and professionals existed. As noted above, we have now compiled a database with more than 550 contacts, and this report includes information on 143 watershed programs. These results enable us to characterize existing watershed programming and resources across the state and also identify training and networking needs. Notably, watershed programs from all sectors responded to the survey, highlighting the broad interest in better characterizing watershed programming and needs in North Carolina. Although some programs did not respond and others have yet to be identified, the database and this report, taken together, provide the most comprehensive information available to date.

Resource and Geographical Gaps in Watershed Training and Assistance

In terms of human resources, the survey results showed that watershed professionals in North Carolina believed they had the skill sets needed to address watershed protection. Figure 11 illustrates the geographic spread of watershed management skills as reported by survey respondents (selected from among 22 skills, which are listed in Table 5). In the figure, the size of the dot corresponds with the number of skills reported by a respondent, and the location of the dot corresponds with the physical address of the respondent's program.

Those respondents reporting the greatest number of skills appear to be clustered in three areas: Raleigh-Durham-Chapel Hill, Charlotte-Mecklenburg and the western portion of the state. However, these respondents may be working in other areas as well. For example, state agencies are clustered in Raleigh though staff may work on watersheds in the coastal plain or western portion of the state. This clustering underscores the value of programs that report many skills and are strategically located outside of the clusters, such as the Washington County SWCD and the Richmond County SWCD.

A majority of respondents reported having technical watershed skills, such as GIS/mapping/surveying, natural resource conservation planning, watershed assessment and planning, as well as organizational skills like designing and implementing outreach activities, grant writing, events coordination, and implementing educational programs.

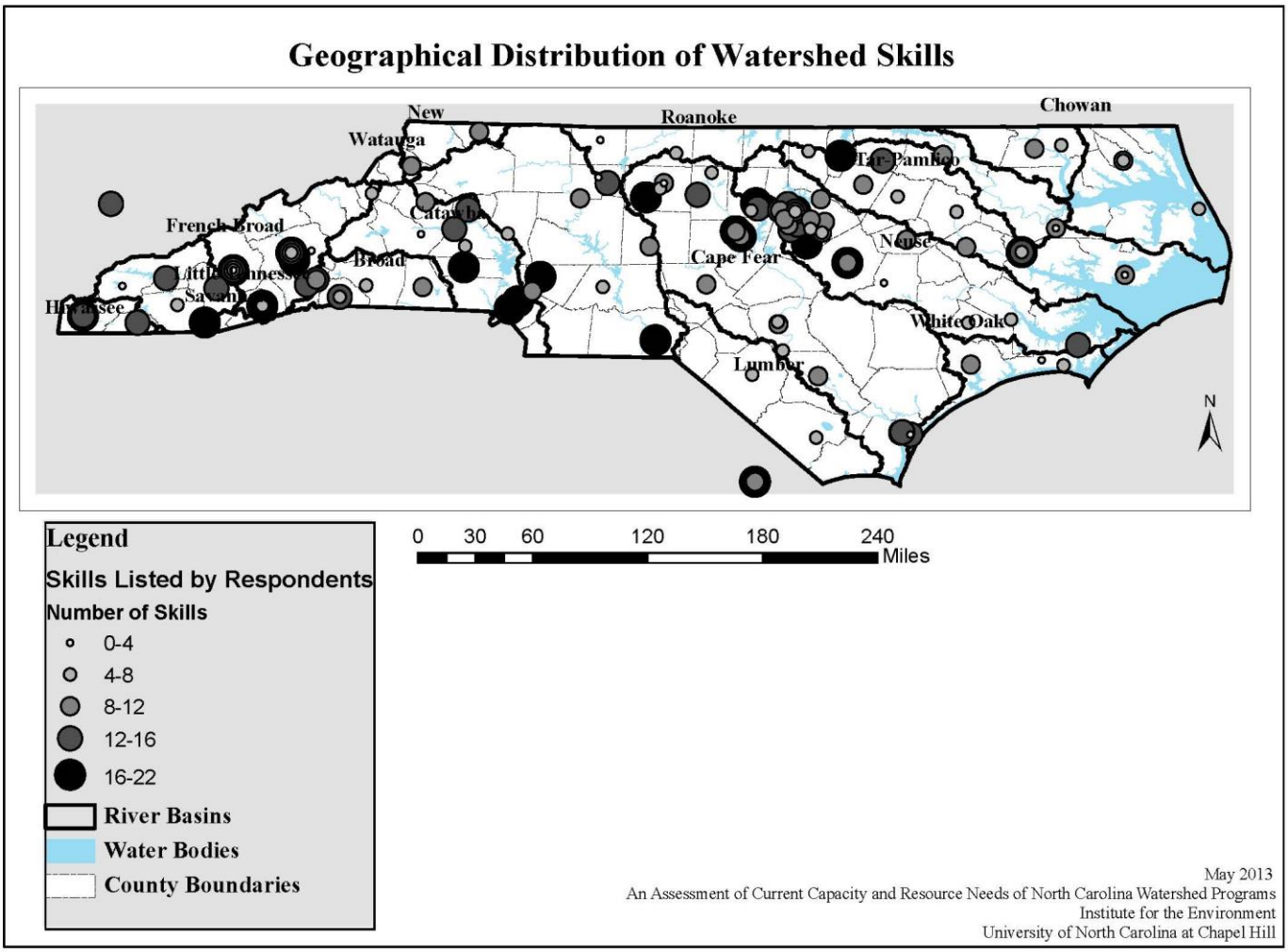


Figure 11 Geographical distribution of watershed skills in NC

Each program delineated its coverage area in different ways, making it difficult to overlay information. For example, a few programs covered entire river basins, but most focused on smaller watersheds or political boundaries (i.e., one or more counties or a municipality). Further, it was impossible, using the survey responses, to spatially map the coverage area of each program. To depict geographical coverage more accurately in the future, the use of smaller, standardized measurement units is recommended.

In any case, geographic coverage does not equate with capacity to address watershed issues. A better measure of capacity would be an assessment of whether impaired waters were being addressed. A majority of the respondents stated that impaired waters are not being addressed. Those respondents most commonly cited limited resources from local government and within their programs as a rationale for the inaction. In the free responses, "lack of resources" was generally described as lack of funding from state and federal government as well as lack of personnel.

Web Site Development and Social Media

As noted above, web site development and social media skills were identified as necessary and useful programmatically but were not among the skills that individual respondents wanted to obtain. In part this may reflect the way that web site / social media responsibilities tend to be structured, with one or two people having primary responsibility unless an organization is larger.

Websites were identified as the most commonly used outreach format and one of the most effective. They were also identified as a preferred method for receiving new information, following in-person workshops and face-to-face meetings. Notably, two popular social media platforms, Facebook and LinkedIn, were among the methods least preferred by respondents.

For social media, results indicated that although respondents did not like to use social media themselves, they saw value in using it to reach their audiences. Interestingly, respondents who showed some preference for social media also indicated that more of their staff had training in social media. It seems likely that those who use it less frequently may do so because they lack the skills to effectively use it. Given these responses and the growing trend towards use of social media, this area may be one to explore in future assessments and trainings.

Addressing Programmatic Needs and Networking Opportunities

After comparing professionals who reported certain skills and others who desired to obtain them (see Table 8), it appears that by partnering, networking and cross-training, programs can fill some of the skill gaps that were identified. The text box, *Opportunities for Partnering and Cross-Training to Address Skill Deficits*, provides specific examples.

Respondents identified two tools that they would find useful to their programs: 1) an interactive map of watershed data and resources and 2) a networking tool for watershed organizations and professionals. Using study data as a starting point, both tools could be developed over time. Given that respondents identified in-person training sessions / workshops and face-to-face meetings as their preferred methods of receiving new information, it seems logical to incorporate an in-person component as well.

Respondents also identified resources they found useful in their watershed work. A list of these resources, in Appendix C, includes programs, organizations and web sites for obtaining North Carolina data and general watershed and stormwater information. These programs also represent substantive content that could be incorporated into the communications tools noted above.

In addition, respondents reported a general need to improve education on water quality impacts, stormwater management and watershed protection. Respondents also indicated that watershed programs need training to improve outreach and education and social marketing.

Opportunities for Partnering and Cross-Training to Address Skill Deficits

The following examples demonstrate how strategic partnerships might be used to address skill deficits across watershed programs. These data are drawn from Table 8 on the following page.

Stormwater BMP Design
Local government and private programs indicated that their staff has BMP skill sets, while CoGs and nonprofits both indicated that they desired these skill sets. SWCD programs are mixed, with some indicating they have the necessary skills while others indicated needing them. Since BMP placement requires dedicated funding and landowner outreach, a partnership between nonprofits (who reported having outreach skills) and local governments (who reported having BMP design skills) may be most beneficial. General knowledge of stormwater BMP design is important for anyone who works on local watershed efforts; however, technical training to engineer and certify BMPs is only required by a subset of people.

Watershed Planning and Assessment
Federal, private and state respondents commonly reported having watershed planning and assessment among their skill sets, while local governments, SWCDs and university-based programs listed these as desired skills. Partnerships and cross-training among these entities could be developed to improve watershed planning and assessment, with federal and state agencies taking the lead.

Influencing Policy and/or Permitting Decisions
Skills relevant to influencing policy and/or permitting decisions were commonly reported by local governments, nonprofits and state programs, although local government respondents were the only ones to rank influencing policy and/or permitting among their top five skill sets. Federal government programs, nonprofits, and SWCDs identified this as a desired skill set. In this arena, state and local governments tend to have direct roles while others, such as nonprofits and SWCDs, typically serve an advocacy role. Enhanced communication and cross-training among these groups could lead to improved understanding of desired policy outcomes and permitting decisions.

Grant Writing
Grant writing is a skill that most nonprofits, CoGs and university-based programs reported having and a skill that local governments identified as a need. Recognizing that local governments may have limited resources in this area, they may benefit from partnering with nonprofits, CoGs and university-based programs to seek grants for local watershed protection.

Outreach Activities
Designing outreach activities was a skill set reported by nonprofits, state programs, and university-based programs, whereas local governments identified this area as a need. However, local governments claimed skills in *implementing* outreach activities, as did state and SWCD programs. Here again, strategic partnerships could bring together those with expertise in designing outreach activities with those who are in a position to best implement the activities.

Table 8 Skill sets by program classification

	Skills Paid Staff Have				Skills Paid Staff Need and Do Not Already Have		
Classification	*Skill*	*#*	*%*		*Skill*	*#*	*%*
Council of Governments (n = 11)	Stakeholder engagement	11	100%	**(n = 7)**	Stormwater BMP design	2	29%
	Grant writing	11	100%		Web development	2	29%
	Natural resource conservation planning	10	91%		Database development	2	29%
	Event coordination	10	91%		Social media communication	2	29%
	GIS/mapping/surveying	9	82%		Other	2	29%
Federal (n = 17)	Natural resource conservation planning	15	88%	**(n = 11)**	Watershed planning	4	36%
	Watershed assessment (i.e. analyzing data)	13	76%		Watershed assessment	2	18%
	Watershed planning	12	71%		Natural resource conservation planning	2	18%
	GIS/mapping/surveying	12	71%		GIS/mapping/surveying	2	18%
	Wetland restoration	9	53%		Influencing policy and/or permit decisions	2	18%
Local Government (n = 13)	Stormwater BMP design	12	92%	**(n = 11)**	Social media communication	3	27%
	GIS/mapping/surveying	11	85%		Watershed planning	3	27%
	Implementing outreach activities	10	77%		Designing outreach activities	2	18%
	Stakeholder engagement	10	77%		Grant writing	2	18%
	Influencing policy and/or permit decisions	10	77%		Implementing educational programs	2	18%
Nonprofit (n=25)	Grant writing	24	100%	**(n=19)**	Social marketing	7	37%
	Event coordination	23	96%		Stormwater BMP design	5	26%
	Volunteer coordination	22	92%		Stream restoration	5	26%
	Fundraising	21	88%		GIS/mapping/surveying	5	26%
	Designing outreach activities	18	75%		Influencing policy and/or permit decisions	5	26%
Private (n = 5)	Water quality monitoring	5	100%	**(n = 2)**	Natural resource conservation planning	1	50%
	Watershed assessment	5	100%		Influencing policy and/or permit decisions	1	50%
	Watershed planning	5	100%		Implementing outreach activities	1	50%
	Wetland restoration	5	100%		Social marketing	1	50%
	Stormwater BMP design	5	100%		Facilitation and conflict resolution	1	50%
State (n = 23)	GIS/mapping/surveying	22	96%	**(n = 17)**	Social marketing	6	35%
	Watershed assessment	20	87%		Social media communication	6	35%
	Designing outreach activities	18	78%		Implementing educational programs	5	29%
	Implementing outreach activities	18	78%		Designing educational programs	4	24%
	Database development	16	70%		Web development	4	24%
SWCD (n = 51)	Natural resource conservation planning	47	94%	**(n = 45)**	Web development	14	31%
	Implementing educational programs	43	86%		Social marketing	13	29%
	GIS/mapping/surveying	37	74%		Influencing policy and/or permit decisions	11	24%
	Implementing outreach activities	35	70%		Water quality monitoring	9	20%
	Event coordination	33	66%		Watershed assessment	9	20%
University-Based Program (n = 16)	Grant writing	15	94%	**(n = 15)**	Social marketing	6	40%
	Implementing educational programs	13	81%		Web development	5	33%
	Designing outreach activities	13	81%		GIS/mapping/surveying	5	33%
	Event coordination	13	81%		Database development	4	27%
	Designing educational programs	13	81%		Watershed assessment	4	27%

Limitations and Lessons Learned

The study team identified several limitations and lessons learned. The first limitation was the lack of a central repository of information on watershed professionals and programs in the state. The survey team responded to this challenge by creating a database to centralize information from many disparate sources. Because the study team relied on internet searches and professional contacts to compile a database, it is still possible that some groups were missed in the process.

Due to a lack of baseline information, creating a survey with clearly defined multiple choice questions and answers was challenging. Yet while free response answers could have captured more information, the demands of qualitative data interpretation would have limited our ability to aggregate and analyze common responses. Fortunately, the baseline data collected through this assessment will inform subsequent surveys.

Many questions asked respondents to speak from a programmatic perspective, without first determining that they were the appropriate representative to do so. Due to the varied nature and organizational structures of participating programs, some respondents chose to speak for the larger organization in which they worked, and others included information only about their specific program within a larger organization. This created inconsistencies that were not anticipated, and in subsequent iterations of this study, we recommend a focused effort to identify a key spokesperson for each organization. However, this challenge underscored the diverse nature of watershed work in North Carolina and the varied responsibilities of watershed professionals and organizations.

Section V. Conclusions and Recommendations

Conclusions

This report represents the first characterization of professionals working on watershed protection efforts in North Carolina. Respondents were located throughout the state, with many located in the western portion of the state or clustered in metropolitan areas such as the Triangle area (Raleigh-Durham-Chapel Hill) and Charlotte-Mecklenburg. Many programs reported working in more than one basin, and some had a statewide focus. Although respondents tended to have many years' experience and generally identified watershed professionals in North Carolina as having the skill sets needed to address watershed protection, these skills were not evenly distributed across the state. Partnerships, networking and cross-training should enable programs to fill gaps in technical knowledge and skills, thereby improving watershed services overall.

A majority of respondents reported that impaired waters were not being addressed in their coverage areas due to limited resources available to local governments and within their programs. Given the decreased availability of funds for watershed work, networking and cross-training will also become increasingly important in better utilizing existing resources. In addition, local government participation in watershed efforts was identified as critical to their success, underscoring the need to find ways to actively involve local government staff and elected officials in these issues.

Finally, initial project planning yielded a systematically compiled database that is already proving to be a valuable and growing resource. Converting this database into a searchable, editable online format will enable new data to be added by users over time and will lay the groundwork for an interactive mapping and networking tool that compiles watershed data and resources.

Recommendations

This assessment highlights the potential of a statewide watershed stewardship network to enhance watershed protection in North Carolina. It also emphasizes the need to more effectively engage local governments, enhance watershed outreach and education, and increase funding available to protect local watersheds. Based on what we have learned, the study team recommends the following actions:

- Develop a dynamic searchable website with information on watershed programs and resources across the state. As noted above, the database created for this needs assessment would serve as the basis for such a site. It could not only serve as a centralized platform to improve watershed-to-watershed communication but also promote, and possibly host, training opportunities. Such a website would serve as an information hub for watershed efforts in North Carolina, including among its users all classifications of respondents to this survey as well as program volunteers and individuals interested in learning more about protecting their local waterways.

- Promote partnerships and cross-training among North Carolina watershed professionals to address skill deficits within organizations and in underserved areas of the state. One of many examples of a skill deficit that could be addressed through cross-training is watershed planning and assessment, which often falls to local governments and Soil and Water Conservation Districts who indicated a need for this skill. Federal and state professionals who identified having these

skills could lead such training, which could be conducted using web-based tools or through face-to-face workshops.

Local watershed training focused on capacity building could also be developed for areas of the state lacking coverage and resources. The target audience for this training should be local stakeholders including residents, local government staff, elected officials, civic groups, and small nonprofits. Survey respondents identified the following topics as particularly relevant to these local stakeholders: watershed planning and management, recruiting and empowering volunteers, and conducting outreach and education. Where appropriate, Councils of Government, Soil and Water Conservation Districts, and the Cooperative Extension Service could provide local and regional technical support.

- Engage a variety of stakeholders in developing a statewide watershed stewardship network. Watershed programs from all sectors responded to the survey, reporting a common desire for enhanced networking, collaboration, and cross-training. A logical next step would be to facilitate the identification of shared goals and move towards the founding of a statewide watershed stewardship network.

- Actively involve local government staff and elected officials in management strategies. Respondents placed a high value on local government participation in watershed protection efforts; however, with the exception of the larger local governments that have stormwater NPDES permits, these entities are not necessarily engaged in watershed protection. Research may be needed to determine key factors influencing their lack of engagement and the most effective methods of bringing them into this issue. Potential partners in this outreach include the Councils of Government and the North Carolina League of Municipalities.

- Take advantage of opportunities for face-to-face interactions through local, regional and statewide workshops and conferences. Web-based communication and outreach is a convenient and cost-effective way to reach a large audience. However, developing relationships that will lead to sharing resources and active collaboration on watershed protection efforts requires personal contact. One way to cost-effectively promote face-to-face interaction would be to add watershed-focused training or meetings to existing workshops and conferences addressing water issues (such as UNC-Chapel Hill's annual Water and Health conference and the WRRI Annual Conference).

- Increase education about water quality impacts, stormwater and watershed protection. Many of the responding programs indicated a need for more water quality, stormwater and watershed protection education but staff and resources are limited. Additional research is needed to identify existing educational campaigns in the state and determine their success rate, as well as need for additional materials, messaging and statewide coordination.

North Carolina programs are well positioned to launch a collaborative watershed protection effort, as we already have a number of successful, well-established regional and local programs. Working together, we can meet many of the needs identified in this assessment through enhanced networking, active partnerships, and targeted training and education. These activities can also serve as a foundation for a statewide watershed stewardship network, thereby building new resources for watershed protection.

Appendices

Appendix A: Survey Respondents Listed by Program Classification

Federal
Albemarle-Camden NRCS
Avery, Mitchell, Yancey NRCS, Spruce Pine Work Unit
Beaufort, Dare, Hyde NRCS
Bertie, Tyrrell, Washington NRCS
Bladen NRCS
Brunswick, New Hanover, Pender NRCS
Columbus NRCS
Forsyth, Stokes NRCS
Guilford NRCS
Haywood, Madison NRCS
Nash NRCS
Polk NRCS
Robeson NRCS
Tennessee Valley Authority - Property and Natural Resources
US Fish and Wildlife Service - Asheville Field Office
US Forest Service - National Forests in North Carolina
Wake NRCS
State
NCDA&CS - Division of Soil and Water Conservation
NC DENR - Albemarle Pamlico National Estuary Partnership
NC DENR - Division of Water Quality (DWQ) (3)
NC DENR - DWQ - Use Restoration Watershed Program
NC DENR - DWQ - Stormwater Outreach and Edu. Listserv
NC DENR - DWQ - Planning Section - Nonpoint Source Unit
NC DENR - Division of Water Resources (DWR) (2)
NC DENR - DWR, Public Water Supply Section
NC DENR - Ecosystem Enhancement Program (EEP) (3)
NC DENR - Natural Heritage Program (2)
NC DENR - NC Coastal Reserve & NERR
NC DENR - Office of Env. Edu. and Public Affairs
NC Geological Survey
NC Wildlife Resources Commission - Div. of Inland Fisheries (2)
NC Wildlife Resources Commission - Habitat Conservation
NC Wildlife Resources Commission - Wildlife Diversity Prog.
CoG
High Country Council of Governments
Isothermal Planning & Development Commission
Kerr Tar Regional Council
Mid-Carolina Council of Governments
NC Clean Water Education Partnership (TJ CoG)
Piedmont Triad Council of Government
Stormwater Smart (Piedmont Triad Council of Government)
Triangle Area Water Supply Monitoring Project (TJ CoG)
Triangle J Council of Government -Water Resources Program
Upper Coastal Plain Council of Government
Western Piedmont Council of Governments

County - SWCD
Alamance SWCD
Albemarle-Camden SWCD
Alexander SWCD
Alleghany SWCD
Avery County SWCD
Beaufort SWCD (2)
Buncombe SWCD (2)
Cabarrus SWCD
Caldwell SWCD
Carteret SWCD
Chatham SWCD
Cherokee SWCD
Clay SWCD
Cleveland SWCD
Craven SWCD
Cumberland SWCD
Dare SWCD
Fishing Creek SWCD
Forsyth SWCD
Gates SWCD
Graham SWCD
Granville SWCD
Guilford SWCD
Haywood SWCD
Henderson SWCD
Hertford SWCD
Hyde SWCD
Iredell SWCD
Johnston SWCD
Jones SWCD
Lincoln SWCD
Macon SWCD
Moore SWCD
New Hanover SWCD
Pitt SWCD
Polk SWCD
Randolph SWCD
Richmond SWCD
Rockingham SWCD
Rutherford SWCD
Stanly SWCD
Transylvania SWCD
Wake SWCD (2)
Warren SWCD
Washington SWCD
Watauga SWCD
Wayne SWCD

Local Government
City of Burlington - Stormwater
City of Charlotte-Mecklenburg Storm Water Services Division
City of Oxford
City of Wilmington - Stormwater
Johnston County Stormwater Administrator
Town of Carrboro
Town of Cary Stormwater
Town of Chapel Hill - Stormwater Management Division (2)
Town of Wake Forest - Stormwater
Town of Waynesville
Village of Clemmons - Stormwater
Wake Co. Parks, Rec., and Open Space
Nonprofits
Cape Fear River Watch
Carolina Land and Lakes RC&D
Carolina Mountain Land Conservancy
Catawba Riverkeeper Foundation
Haw River Assembly (2)
Haywood Waterways Association
Hiwassee River Watershed Coalition, Inc
Jackson-Macon Conservation Alliance
NC Coastal Land Trust
NC Conservation Network
Neuse Riverkeeper Foundation, Upper Neuse Office
North Carolina Coastal Federation
Pamlico-Tar River Foundation
River Network
RiverLink
Southwestern RC&D Council
Tar River Land Conservancy
Triangle Land Conservancy
Upper Cape Fear River Basin Association
Waccamaw Riverkeeper
Watershed Association of the Tuckasegee River
White Oak-New Riverkeeper Alliance
Yadkin Riverkeeper
Private
Atkins Global (2)
Duke Energy Corporation
Equinox Environmental Consultation and Design, Inc.
Moffat and Nichol
University Based Programs
Henderson Cooperative Extension
NC Cooperative Extension - Edgecombe County
NC Extension - NC A&T University
NC Sea Grant
NCSU Water Quality Group (3)
Transylvania County Cooperative Extension Center
UNC Charlotte Urban Institute
UNC Institute for the Environment - ERP
Waccamaw Watershed Academy
Watauga Cooperative Extension
Water Resources Research Institute (WRRI)
Watershed Edu for Communities and Officials (WECO) (2)
Western Carolina University, Dept of Geosciences & Nat. Res.

Appendix B: Survey Respondents listed by River Basin

Broad
Buncombe SWCD
Carolina Mountain Land Conservancy
Catawba Riverkeeper Foundation
Cleveland SWCD
Henderson SWCD
Isothermal Planning & Development Commission
Lincoln SWCD
Polk NRCS
Polk SWCD
Rutherford SWCD
Tennessee Valley Authority
UNC Charlotte Urban Institute
Cape Fear
Alamance SWCD
Bladen NRCS
Brunswick, New Hanover, Pender NRCS
Cape Fear River Watch
Chatham SWCD
City of Burlington - Stormwater
City of Wilmington - Stormwater
Columbus NRCS
Cumberland SWCD
Forsyth SWCD
Guilford NRCS
Guilford SWCD
Haw River Assembly
Mid-Carolina Council of Governments
Moore SWCD
NC Clean Water Education Partnership
NC Coastal Land Trust
NC DENR - North Carolina Coastal Reserve
NC Extension - Water Quality Group
New Hanover SWCD
North Carolina Coastal Federation
Piedmont Triad Council of Government
Randolph SWCD
Rockingham SWCD
Town of Carrboro
Town of Cary Stormwater
Town of Chapel Hill - Stormwater Management
Triangle J Council of Government
Triangle Land Conservancy
Upper Cape Fear River Basin Association
Wake Co. Parks, Rec., and Open Space
Wake NRCS
Wake SWCD
Catawba
Alexander SWCD
Avery County SWCD
Avery, Mitchell, Yancey NRCS, Spruce Pine Work Unit
Caldwell SWCD
Carolina Land and Lakes RC&D
Catawba Riverkeeper Foundation
City of Charlotte-Mecklenburg Storm Water Services
Duke Energy Corporation
High Country Council of Governments
Isothermal Planning & Development Commission
Lincoln SWCD
NC Extension - Water Quality Group
UNC Charlotte Urban Institute
Western Piedmont Council of Governments
Chowan
Albemarle-Camden NRCS
Gates SWCD
NC Coastal Land Trust
NC DENR - Albemarle-Pamlico Natural Estuary Program
NC DENR - North Carolina Coastal Reserve
North Carolina Coastal Federation
Pamlico-Tar River Foundation
Upper Coastal Plain Council of Government
Washington SWCD
French Broad
Avery County SWCD
Avery, Mitchell, Yancey NRCS, Spruce Pine Work Unit
Buncombe SWCD
Carolina Mountain Land Conservancy
Haywood SWCD
Haywood Waterways Association
Haywood, Madison NRCS
Henderson SWCD
High Country Council of Governments
Mud Creek Watershed Restoration Project
NC Extension - Water Quality Group
RiverLink
Southwestern RC&D Council
Tennessee Valley Authority,Property & Natural Resources
Town of Waynesville
Transylvania County Cooperative Extension Center
Transylvania SWCD
Western Carolina University
Hiwassee
Cherokee SWCD
Clay SWCD
Duke Energy Corporation
Graham SWCD
Hiwassee River Watershed Coalition, Inc
Southwestern RC&D Council
Little Tennessee
Duke Energy Corporation
Graham SWCD
Jackson-Macon Conservation Alliance
Macon SWCD
Southwestern RC&D Council
Tennessee Valley Authority
Watershed Association of the Tuckasegee River
Western Carolina University

Lumber
Brunswick, New Hanover, Pender NRCS
Columbus NRCS
Cumberland SWCD
Moore SWCD
NC Coastal Land Trust
NC DENR - North Carolina Coastal Reserve
North Carolina Coastal Federation
Richmond SWCD
Robeson NRCS
Waccamaw Riverkeeper
Waccamaw Watershed Academy
Neuse
Beaufort SWCD
Carteret SWCD
Craven SWCD
Granville SWCD
Johnston County Stormwater Administrator
Johnston SWCD
Jones SWCD
Kerr Tar Regional Council
NC Clean Water Education Partnership
NC Coastal Land Trust
NC DENR - Albemarle-Pamlico Natural Estuary Program
NC DENR - North Carolina Coastal Reserve
NC Extension - Water Quality Group
Neuse Riverkeeper Foundation, Upper Neuse Office
Pitt SWCD
Tar River Land Conservancy
Town of Cary Stormwater
Town of Wake Forest - Stormwater
Triangle J Council of Government
Triangle Land Conservancy
Upper Coastal Plain Council of Government
Wake Co. Parks, Rec., and Open Space
Wake NRCS
Wake SWCD
Wayne SWCD
New
Alleghany SWCD
High Country Council of Governments
NC Extension - Water Quality Group
Watauga Cooperative Extension
Watauga SWCD
Pasquotank
Albemarle-Camden NRCS/SWCD
Beaufort, Dare, Hyde NRCS
Dare SWCD
Hertford SWCD
NC Coastal Land Trust
NC DENR - APNEP
NC DENR - North Carolina Coastal Reserve
North Carolina Coastal Federation
Washington SWCD
Roanoke
Alamance SWCD
Fishing Creek SWCD
Forsyth SWCD
Granville SWCD
Kerr Tar Regional Council
NC Coastal Land Trust
NC DENR - APNEP
Pamlico-Tar River Foundation
Piedmont Triad Council of Government
Rockingham SWCD
Tar River Land Conservancy
Upper Coastal Plain Council of Government
Warren SWCD
Washington SWCD
Savannah
Carolina Mountain Land Conservancy
Duke Energy Corporation
Jackson-Macon Conservation Alliance
Macon SWCD
Southwestern RC&D Council
Transylvania County Cooperative Extension Center
Transylvania SWCD
Tar Pamlico
Beaufort SWCD
Beaufort, Dare, Hyde NRCS
City of Oxford
Dare SWCD
Fishing Creek SWCD
Granville SWCD
Hyde SWCD
Kerr Tar Regional Council
NC Clean Water Education Partnership
NC Coastal Land Trust
NC Cooperative Extension - Edgecombe County
NC DENR - APNEP
NC DENR - North Carolina Coastal Reserve
Pamlico-Tar River Foundation
Pitt SWCD
Tar River Land Conservancy
Upper Coastal Plain Council of Government
Warren SWCD
Washington SWCD
Watauga
Avery County SWCD
Avery, Mitchell, Yancey NRCS, Spruce Pine Work Unit
High Country Council of Governments
Watauga Cooperative Extension
Watauga SWCD
White Oak
Carteret SWCD
City of Wilmington - Stormwater
Jones SWCD
NC Coastal Land Trust
NC DENR - Albemarle-Pamlico Natural Estuary Program
NC DENR - North Carolina Coastal Reserve
NC Extension - Water Quality Group
North Carolina Coastal Federation
White Oak-New Riverkeeper Alliance
Yadkin
Alexander SWCD
Cabarrus Soil & Water Conservation District

Caldwell SWCD
Carolina Land and Lakes RC&D
Carteret SWCD
Catawba Riverkeeper Foundation
City of Charlotte-Mecklenburg Storm Water Services
Duke Energy Corporation
Forsyth SWCD
High Country Council of Governments
Iredell SWCD
NC Extension - Water Quality Group
Piedmont Triad Council of Government
Randolph SWCD
Richmond SWCD
Stanly SWCD
UNC Charlotte Urban Institute
Village of Clemmons - Stormwater
Watauga SWCD
Yadkin Riverkeeper
Statewide
Atkins Global
Bertie, Tyrrell, Washington NRCS
Equinox Environmental Consultation and Design, Inc.
Forsyth, Stokes NRCS
Moffat and Nichol
Nash NRCS

NC Conservation Network
NC DENR - Division of Soil and Water Conservation
NC DENR - Division of Water Quality
NC DENR - Division of Water Resources
NC DENR - Ecosystem Enhancement Program
NC DENR - Natural Heritage Program
NC DENR - Office of EE and Public Affairs
NC Extension - NC A&T University
NC Geological Survey
NC Sea Grant
NC WRC - Division of Inland Fisheries
NC WRC - Habitat Conservation Section
NC WRC - Wildlife Diversity Program
NCSU Water Quality Group
Pamlico-Tar River Foundation
River Network
Stormwater Smart
Triangle Area Water Supply Monitoring Project
UNC IE Enivronmental Resources Program
US Fish and Wildlife Service, Asheville Field Office
US Forest Service, National Forests in North Carolina
Water Resources Research Institute (WRRI)
Watershed Education for Communities and Officials

Appendix C: Resources Identified by Survey Respondents

Resources used by Watershed Professionals in North Carolina
Clean Water Education Partnership http://www.nccwep.org/ The Clean Water Education Partnership aims to protect North Carolina's waterways from stormwater pollution through public education and outreach. The Clean Water Education Partnership (CWEP) is a cooperative effort between local governments, state agencies, and nonprofit organizations to protect water quality in the Tar-Pamlico, Neuse, and Cape Fear River Basins. CWEP Partners provide funding and support for CWEP. Cooperators have helped CWEP by providing radio and television spots and images for this website.
Clean Water Management Trust Fund http://www.cwmtf.net/ CWMTF will fund projects that (1) enhance or restore degraded waters, (2) protect unpolluted waters, and/or (3) contribute toward a network of riparian buffers and greenways for environmental, educational, and recreational benefits.
Clean Water Network http://www.cleanwaternetwork.org/ The mission of the Clean Water Network is to work together to protect and restore clean water and wetlands throughout the nation. Through our work we envision a world where our rivers, lakes, estuaries and other waters will be safe for our children to swim in, for aquatic life to live in, and for us all to drink from. Through our collective efforts, our citizenry will be reconnected with the importance of clean water in their lives.
One NC Naturally, Conservation Planning Tool http://www.onencnaturally.org/pages/ConservationPlanningTool.html The Conservation Planning Tool (CPT) consists of assessments and maps that identify, evaluate, and prioritize important natural resources required to maintain healthy and sustainable ecosystems statewide. Six assessments and maps are included in the CPT: Biodiversity/Wildlife Habitat, Forestry Lands, Farmland, Open Space and Conservation Lands, Marine/Estuarine, and Water Services. This planning tool illustrates the locations and conservation values of significant natural resources throughout North Carolina, and has been applied by local governments, state agencies, regional councils of governments, funding programs, and conservation organizations to support land use, conservation, mitigation and transportation planning and decision-making.
NC Ecosystem Enhancement Program http://portal.ncdenr.org/web/eep N.C. Ecosystem Enhancement Program is a NCDENR initiative that restores and protects wetlands and waterways for future generations while offsetting unavoidable environmental damage from economic development.

Environmental Quality Institute (VWIN & SMIE)

http://www.environmentalqualityinstitute.org/

The Environmental Quality Institute (EQI) is a nonprofit environmental research laboratory located in Asheville, NC dedicated to providing objective chemical and biological analyses to help communities, government agencies, and the private sector gain accurate understanding of complex environmental issues.

EPA Section 319 Nonpoint Source Management Program

http://water.epa.gov/polwaste/nps/cwact.cfm

The 1987 amendments to the Clean Water Act (CWA) established the Section 319 Nonpoint Source Management Program. Section 319 addresses the need for greater federal leadership to help focus state and local nonpoint source efforts. Under Section 319, states, territories and tribes receive grant money that supports a wide variety of activities including technical assistance, financial assistance, education, training, technology transfer, demonstration projects and monitoring to assess the success of specific nonpoint source implementation projects.

USGS, Water Resources of North Carolina

http://nc.water.usgs.gov/

These pages are a source for water-resource information collected and interpreted by the U.S. Geological Survey in North Carolina.

Izaac Walton League

http://www.iwla.org/

Founded in 1922, the Izaak Walton League is one of the nation's oldest and most respected conservation organizations. With a powerful grassroots network of more than 250 local chapters nationwide, the League takes a common-sense approach toward protecting our country's natural heritage and improving outdoor recreation opportunities for all Americans.

National Association of Flood & Stormwater Management Agencies

http://www.nafsma.org/

The National Association of Flood & Stormwater Management Agencies (NAFSMA) is an organization of public agencies whose function is the protection of lives, property and economic activity from the adverse impacts of storm and flood waters. The mission of the Association is to advocate public policy, encourage technologies and conduct education programs which facilitate and enhance the achievement of the public service function of its members.

NC office of Environmental Education

http://www.ee.enr.state.nc.us/index.asp

The mission of the NC office of Environmental Education is to encourage, support and promote environmental education programs, facilities and resources in North Carolina for the purpose of improving the public's environmental literacy and stewardship of natural resources through planning, policy development, community involvement, innovative partnerships and collaboration.

NC Source Water Collaborative

http://www.ncwater.org/pws/swap/Collaborative.html

The N.C. Source Water Collaborative is a new statewide partnership to protect drinking water. Founded in December 2011, the N.C. Source Water Collaborative includes participants from nonprofit organizations, university programs, state, local and federal agencies, professional associations, and regional councils of government. The collaborative's intention is to support strategies designed to preserve the lakes, streams, rivers and aquifers used for drinking water and the land that protects and recharges these sources of water.

NC Stormwater Interactive Map

http://portal.ncdenr.org/web/wq/ws/su/sw-permitting-map

NCDWQ maintains an interactive web-based mapping system to help the public determine whether development activities are subject to the post-construction permitting program or other stormwater permitting requirements.

NC Stormwater Outreach and Education Website

http://www.ncstormwater.org/

Stormwater education information from NCDWQ including reports, maps, data, technical assistance and citizen resources.

NC Stream Watch / Project WET

http://www.ncwater.org/Education_and_Technical_Assistance/

The Division of Water Resources administers two environmental education outreach programs, Stream Watch and Project WET (Water Education for Teachers). Stream Watch is a stewardship program whereby local citizens can "adopt" a waterway, or a portion of one, and act on its behalf. Project WET is a K-12 interdisciplinary water education program intended to supplement a school's existing curriculum. The Division also works closely with our Departments' Office of Environmental Education.

NC DENR Division of Water Quality

http://portal.ncdenr.org/web/wq

NC DWQ's mission is to protect and enhance North Carolina's surface water and groundwater resources for the citizens of North Carolina and future generations. This is the main portal entrance to all the resources available online by NC DWQ.

NC DENR Division of Water Resources

http://www.ncwater.org/

NC DWR administers programs for river basin management, water supply assistance, water conservation, and water resources development. DWR conducts special studies on instream flow needs and serves as the State liaison with federal agencies on major water resources related projects. The Division also administers two environmental education outreach programs, Stream Watch and Project WET.

NCSU River Courses

http://www.bae.ncsu.edu/programs/extension/wqg/srp/rivercourse.html

The NC State University Stream Restoration Program offers a series of River Course professional development workshops to serve the needs of environmental professionals, including engineers, ecologists, biologists, hydrologists, geomorphologists, landscape architects, planners and natural resource program managers. Workshop instructors include faculty from the NC State University Department of Biological & Agricultural Engineering (BAE) and associated colleagues. Most courses provide "hands-on" learning experiences with field work in small groups, data analysis, design case studies, and site tours.

NCSU Stormwater Engineering

http://www.bae.ncsu.edu/stormwater/

Their mission is to "learn and teach" stormwater management and cover the three main aspects of a land-grant university: (1) applied research, (2) extension and engagement, and (3) on- and off-campus teaching. Research areas of interest include the function and impacts of stormwater management such as bioretention areas, green roofs, stormwater wetlands, permeable pavements, water harvesting systems, and other innovative treatment practices. Other research areas target maintenance of stormwater systems, watershed and economic impacts of stormwater practices, Low Impact Development (LID), temperature impacts, and mosquito control.

NCSU Stream Restoration Program

http://www.bae.ncsu.edu/programs/extension/wqg/srp/

The NC State University Stream Restoration Program is a team of faculty, staff, and students working to improve water quality and aquatic ecology through research, demonstration projects, and education. We have many partners listed on the About Us page who collaborate on projects and educational opportunities, including our biennial conference.

NCSU Water Quality Group

http://www.bae.ncsu.edu/programs/extension/wqg

The North Carolina State University (NCSU) Water Quality Group is a multidisciplinary team that analyzes and evaluates nonpoint source (NPS) pollution control technologies and water quality programs in North Carolina and nationwide. They are a component of the North Carolina Cooperative Extension Service (NC CES), Biological and Agricultural Engineering Department (Bio&Ag) at North Carolina State University and the N.C. State University's Soil and Water Environmental Technology Center (SWETC).

NC Wildlife Resources Commission (NCWRC) Green Growth Toolbox

http://216.27.39.101/greengrowth/

The Green Growth Toolbox is a technical assistance tool designed to help communities conserve high quality habitats alongside new homes, workplaces, and shopping centers.The toolbox will help your community plan for growth in a way that will conserve your natural assets—fish, wildlife, plants, streams, forests, fields, and wetlands

North Carolina Coastal Federation http://www.nccoast.org/ NCCF provides citizens and groups with the assistance they need to take an active role in the stewardship of North Carolina's coastal water quality and natural resources.
Project L.I.F.T. http://www.projectliftcharlotte.org/ Project L.I.F.T. is a philanthropic initiative composed of leaders from Charlotte's largest community and family foundations. Project L.I.F.T. aims to accelerate the improvement of academic outcomes for children in the Charlotte Mecklenburg Schools West Charlotte Corridor.
Piedmond Triad Water Quality Partnership (PTWQP) http://www.piedmontwaterquality.org/ The Piedmont Triad Water Quality Partnership is a collaboration of eightteen local governments in the Piedmont Triad Region of North Carolina, working together to educate residents about stormwater and water quality issues, including non-point source pollution, regulations, and best management practices.
River Network http://www.rivernetwork.org/ River Network's mission is to empower and unite people and communities to protect and restore rivers and other waters that sustain the health of our country.
Neuse Riverkeeper Foundation http://www.neuseriver.org/riverkeepers/lowerneuseriverkeeper.html Neuse RIVERKEEPER® Foundation protects, restores and preserves the Neuse River basin through education, advocacy and enforcement, in order to provide clean water for drinking, recreation and enjoyment to the communities that it serves.
Southeast Stormwater Association (SESWA) http://www.seswa.org/ The Southeast Stormwater Association was created in response to the ever-increasing demand for information on stormwater management and funding questions so you won't have to "reinvent the wheel" each time you undertake a new project! Their boundaries are co-terminus with those of EPA Region IV and include the states of Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina and Tennessee. With a primary focus on services to stormwater professionals in city and county governments, membership is available to those in state, regional and local governments, the private sector, nonprofit organizations and academia.
TJCOG http://www.tjcog.dst.nc.us/ The Triangle J Council of Governments is a voluntary organization of municipal and county governments in North Carolina's Region J (Chatham, Durham, Johnston, Lee, Moore, Orange and Wake counties). It is one of 17 regional councils established in 1972 by the General Assembly to aid, assist, and improve the capabilities of local governments in administration, planning, fiscal management, and development.

USGS Water Resources

http://water.usgs.gov/

Water is one of six science mission areas of the U.S. Geological Survey (USGS). Water's mission is to collect and disseminate reliable, impartial, and timely information that is needed to understand the Nation's water resources.

Water Words that Work

http://waterwordsthatwork.com/

Water Words That Work, LLC helps nature protection and pollution control organizations professionalize and modernize their communications. Water Words That Work can serve as a coach, a consultant, or as full-service advertising agency.

Waterkeeper Alliance

http://www.waterkeeper.org/

Waterkeeper Alliance provides a way for communities to stand up for their right to clean water and for the wise and equitable use of water resources, both locally and globally. The vision of the Waterkeeper movement is for fishable, swimmable and drinkable waterways worldwide. Their belief is that the best way to achieve this vision is through the Waterkeeper method of grassroots advocacy.

Water Environment Research Foundation

http://www.werf.org/

The Water Environment Research Foundation, formed in 1989, is an independent scientific research organization dedicated to wastewater and stormwater issues. They are a nonprofit organization that operates with funding from subscribers and the federal government. Subscribers include wastewater treatment plants, stormwater utilities, and regulatory agencies.

Appendix D: Watershed Needs Assessment Survey

You are invited to participate in a research study on watershed stewardship and capacity-building training in the state of North Carolina. The purpose of this survey is to create a comprehensive picture of the resources and geographical coverage of watershed-based programming in the state and identify resource gaps and challenges. We hope that the data we collect will also inform future resource development and local watershed capacity building. The survey is 25 questions and should take you approximately 15-20 minutes to complete. The link you received in the email is unique to you only and cannot be forwarded. If there is someone you know who should take the survey that may not have received it, please type their contact information in the last question on this survey or contact [name of study coordinator]. Your answer for each question will be saved when you hit the forward button. You are allowed to return to previous questions to edit if necessary. Because your survey link is unique to you only, you may start and finish the survey at different times. Your answers will be saved. Thanks for your participation. Results of this survey will be distributed to all participants in a report in a few months.

This survey is being sent to a variety of watershed organizations that provide services, resources, and/or training to citizens, groups, and professionals who conduct watershed restoration and protection activities throughout North Carolina. Included in this group are non-profits, NCDENR, SWCD/NCRS, Cooperative Extension agents, stormwater municipalities and Councils of Government, among others. The first series of questions in this survey will help us gather general characteristics of your organization.

Q1 Please provide your organization's name. Be as specific possible, listing your organization and then adding your division, unit or program. For example, list NCDENR - Ecosystem Enhancement Program or Town of Chapel Hill - Stormwater Management Division. For the remainder of this survey, "organization" listed in any question will refer to your answer to this first question.

Q2 Which description best fits your organization?

- ❍ Local government
- ❍ State agency/organization
- ❍ Non-profit/community-based
- ❍ Academic organization
- ❍ Private consulting/business
- ❍ Other (please list) _____

Q3 Approximately how many years has your organization been involved in watershed related efforts? (Please only enter a number.)

Q4 Which of the following priority topic areas fall under your organization’s mission? (Please check all that apply.)

- ❑ Watershed restoration
- ❑ Stormwater management
- ❑ Citizen/stakeholder engagement
- ❑ Education & outreach
- ❑ Research/data collection
- ❑ Advocacy
- ❑ Land/habitat conservation
- ❑ Other (please list) _____

This next series of questions will help us understand more about staff and volunteers in your organization.

Q5 How many paid staff members does your organization have who work at least 10 hours a week on watershed related issues?

Q6 What skill sets do paid staff in your organization currently possess? (Please select all that apply.)

- ❑ Water quality monitoring
- ❑ Watershed assessment (i.e., analyzing data)
- ❑ Watershed planning
- ❑ Natural resource conservation planning
- ❑ Wetland restoration
- ❑ Stormwater BMP Design
- ❑ Stream restoration
- ❑ GIS/mapping/surveying
- ❑ Event coordination
- ❑ Volunteer coordination
- ❑ Influencing policy and/or permit decisions
- ❑ Designing educational programs (defined as products or services associated with formal learning, such as curriculum development or professional development. Ensures distribution of factual information)
- ❑ Implementing educational programs
- ❑ Designing outreach activities (defined as products or services that involve contact with the public or particular segment of a population to inform, excite interest and arouse curiosity. A systematic attempt to provide services beyond conventional means)
- ❑ Implementing outreach activities
- ❑ Social marketing (defined as a planned process for influencing behavioral change using traditional marketing principles for the purpose of societal benefit instead of commercial profit)
- ❑ Grant writing
- ❑ Fundraising
- ❑ Web development
- ❑ Database development
- ❑ Social media communication
- ❑ Facilitation, conflict resolution and/or stakeholder engagement
- ❑ Other (please list) _____

Q7 Below are the skill sets for paid staff that you did not select. Which of these do you think paid staff need to be more equipped to perform their roles in your organization?

Q8 If applicable, how many volunteers does your organization have who work on watershed-related issues/activities? (Please enter 0 if your organization does not have volunteers.)

Q9 What relevant watershed-related professional skill sets do your volunteers have?

Q10 Below are the skill sets for volunteers that you did not select. Which of these do you think volunteers need to be more equipped to perform their roles in your organization?

Q11 This next series of questions will help us to understand more about the watershed in which your organization works.

Q12 Within which river basin(s) does your organization work? (Please select all that apply.)

- ❑ My organization works in the entire state
- ❑ Broad
- ❑ Cape Fear
- ❑ Catawba
- ❑ Chowan
- ❑ French Broad
- ❑ Hiwassee
- ❑ Little Tennessee
- ❑ Lumber
- ❑ Neuse

- ❑ New
- ❑ Pasquotank
- ❑ Roanoke
- ❑ Savannah
- ❑ Tar-Pamlico
- ❑ Watauga
- ❑ White Oak
- ❑ Yadkin

Q13 If your organization focuses on a specific region or sub-watershed in the river basins you named above, please provide the name(s) of the watershed(s).

Q14 Are there impaired waterways within the area in which your organization works that are not being addressed? If so, please check all the reasons below that apply.

- ❑ Lack of personnel or resources within your organization
- ❑ No local watershed organization in coverage area
- ❑ No interest by local government
- ❑ Limited resource availability in local government
- ❑ Lack of community engagement
- ❑ There are no impaired waterways in the area(s) in which my organization works
- ❑ Other _____

This next series of questions will help us to learn more information about the activities that your organization conducts.

Q15 Which of these activities is your organization currently involved in?

- ❑ Monitoring/assessing conditions
- ❑ Developing watershed-related plans
- ❑ Conducting cleanups (i.e., debris removal)
- ❑ Conducting restoration activities
- ❑ Land conservation
- ❑ Influencing policy and/or permit decisions
- ❑ Collaborating with other organizations/agencies
- ❑ Educational programs/materials
- ❑ Designing/implementing outreach
- ❑ Technical training
- ❑ Providing skill building training to local watershed stakeholders
- ❑ Leading outdoor activities (e.g., paddling, hiking, etc.)
- ❑ Publishing newsletters
- ❑ Developing technical publications
- ❑ Grant writing
- ❑ Providing matching dollars for agency funding
- ❑ Soliciting donations from membership or other individuals
- ❑ Soliciting donations from foundations
- ❑ Consulting
- ❑ Lab services
- ❑ Other (please list) _____

Q16 How important is it for your organization to reach the following audiences?

	Not important (1)	Low importance (2)	Medium Importance (3)	High Importance (4)
Non-profit organizations	❍	❍	❍	❍
State agencies	❍	❍	❍	❍
Federal agencies	❍	❍	❍	❍
Scientists, private or public sector	❍	❍	❍	❍
Local government staff	❍	❍	❍	❍
Local government elected and appointed officials	❍	❍	❍	❍
Homeowners	❍	❍	❍	❍
K-12 teachers	❍	❍	❍	❍
K-12 students	❍	❍	❍	❍
University students	❍	❍	❍	❍
Potential volunteers	❍	❍	❍	❍
Civic organizations (e.g., churches, scouts)	❍	❍	❍	❍
Farmers	❍	❍	❍	❍
Developers	❍	❍	❍	❍
Businesses (other than developers)	❍	❍	❍	❍
Recreation organizations	❍	❍	❍	❍
General citizenry	❍	❍	❍	❍
Large landowners	❍	❍	❍	❍
Other	❍	❍	❍	❍

Q17 Of the audiences that you rated as medium or high importance, which are most difficult to reach? Why? As a reminder, you rated the following groups as Medium [list] and the following as High [list].

Q18 How much does your organization rely on the following formats to reach your audience?

	Never (1)	Rarely (2)	Sometimes (3)	Often (4)
Newsletter (paper)	❍	❍	❍	❍
Newsletter (digital)	❍	❍	❍	❍
Website	❍	❍	❍	❍
Listserv	❍	❍	❍	❍
Web based forum	❍	❍	❍	❍
Blog	❍	❍	❍	❍
Brochures, fact sheets	❍	❍	❍	❍
Guidebooks	❍	❍	❍	❍
Public meetings	❍	❍	❍	❍
Classes, short courses, or workshops	❍	❍	❍	❍
Field trips	❍	❍	❍	❍
Educational curriculum development	❍	❍	❍	❍
Public media (e.g., TV, radio, newspaper)	❍	❍	❍	❍
Recreational/public events	❍	❍	❍	❍
Other	❍	❍	❍	❍

Q19 What are your organization's most effective outreach tools?

Q20 What programming/training would you like to provide to your local constituents that you currently are not providing?

Q21 If provided the financial resources to do so, does your organization have the expertise to provide the following organizational development activities to volunteers and watershed related groups in need of training?

	None (1)	Limited (2)	Some (3)	Significant (4)
Developing & structuring an organization (e.g., board governance, policies, bylaws)	❍	❍	❍	❍
Grant writing	❍	❍	❍	❍
Financial management (e.g., budgets, reporting, grant management)	❍	❍	❍	❍
Fundraising planning	❍	❍	❍	❍
Fundraising implementation (e.g., capital campaigns, events, corporate development)	❍	❍	❍	❍
Marketing/public relations	❍	❍	❍	❍
Membership development	❍	❍	❍	❍
Staff/board training	❍	❍	❍	❍
Volunteer recruitment/training	❍	❍	❍	❍
Strategic planning	❍	❍	❍	❍
Stakeholder facilitation	❍	❍	❍	❍
Building scientific & technical expertise	❍	❍	❍	❍
Evaluation of your organization's impacts	❍	❍	❍	❍
Other	❍	❍	❍	❍

Q22 Which of the following tools, resources, or assistance would be most useful to your organization?

	Not useful at all (1)	Slightly useful (2)	Moderately useful (3)	Very useful (4)
Statewide watershed conference	❍	❍	❍	❍
Organizational development training	❍	❍	❍	❍
Outreach/education training	❍	❍	❍	❍
Water quality monitoring and watershed assessment training	❍	❍	❍	❍
Fundraising assistance	❍	❍	❍	❍
Networking tool for watershed organizations and professionals	❍	❍	❍	❍
Interactive mapping tool of watershed data and resources	❍	❍	❍	❍
Listserv	❍	❍	❍	❍
Other	❍	❍	❍	❍

Q23 What is your opinion about each of the following methods of receiving new information?

	Don't like it at all (1)	It's ok (2)	Like it (3)	Like it a lot (4)
Website	❍	❍	❍	❍
Listservs	❍	❍	❍	❍
Online newsletter	❍	❍	❍	❍
Phone calls	❍	❍	❍	❍
Face-to-face meetings	❍	❍	❍	❍
Facebook	❍	❍	❍	❍
Webinar	❍	❍	❍	❍

Conference	❍	❍	❍	❍
In-person training workshops	❍	❍	❍	❍
Manuals/handbooks	❍	❍	❍	❍
LinkedIn	❍	❍	❍	❍
Other	❍	❍	❍	❍

Q24 How familiar are you with the following resources or programs? (Please add programs and resources you use that we might not have listed here.)

	Never heard of it (1)	Heard of it, but haven't used it (2)	Used it some (3)	Used it a lot (4)
WECO	❍	❍	❍	❍
Center for Watershed Protection publications	❍	❍	❍	❍
Cooperative Extension	❍	❍	❍	❍
Soil and Water Conservation Districts	❍	❍	❍	❍
DWQ Basinwide Plans	❍	❍	❍	❍
WRRI	❍	❍	❍	❍
UNC-Institute for the Environment	❍	❍	❍	❍
NC NEMO	❍	❍	❍	❍
NC Conservation Network	❍	❍	❍	❍
EPA Watershed Website	❍	❍	❍	❍
NC Sea Grant	❍	❍	❍	❍
Abermarle-Pamlico National Estuary Prog.	❍	❍	❍	❍
Other	❍	❍	❍	❍

Q25 We are interested in learning how watershed efforts are being funded in North Carolina. Please check any or all of the following funding sources below that your organization has received in the past three years that supports watershed-related efforts.

- ❑ General Donations
- ❑ Bequests
- ❑ Membership Dues
- ❑ City/County budget
- ❑ State grants/funds
- ❑ 319 grants
- ❑ Federal funds (other than 319 grants)
- ❑ Foundations
- ❑ Business/industry grants
- ❑ Fee for service
- ❑ Special events
- ❑ Stormwater utility
- ❑ Other _____

If there is someone you believe we should survey that might not have received one (such as a colleague or new program that we may not be aware of) please provide their name and email contact information.

If you'd like to review your responses or make any changes, please do so now by clicking the back arrow. Clicking the forward arrow will submit your survey and you will not be able to make any further changes.

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U.S. EPA Surf Your Watershed (online) http://cfpub.epa.gov/surf/locate/index.cfm