



The NC Source Water Collaborative

July 14, 2016

Department of Environmental Quality



Rebecca Sadosky & Cy Stober

*NC Public Water Supply Section, Drinking
Water Protection Program*



Source Water Protection Awards

Award Categories

- GW Planning
- GW Implementation
- SW Planning
- SW Implementation
- Education
- Leadership



Source Water Protection Awards



Source Water Protection Award NOMINATION FORM continued

Nominee: _____

Nominee is *(Check all that apply.)* Individual Group Organization Agency Other _____

Which of the following award categories are relevant to the nomination? *(Check all that apply.)*

Surface Water Planning
Surface Water Implementation

Groundwater Planning
Groundwater Implementation

Education
Leadership

Award Category

Nominee Contact:

Name: _____

Title: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

Tel: (____) _____ FAX: (____) _____

Email: _____

Nominee Info

Was the project undertaken in response to an enforcement action? *(Check one.)* Yes No

Where did you hear about the N.C. SWC Source Water Protection Award Program?

We anticipate that Awards will be presented at the North Carolina Water Resources Annual Symposium in association with the Water Resource Research Institute Conference in Raleigh. You do not have to be present to win. If you are unable to attend the awards presentation, we will make efforts to present your award at a time and location that is more convenient for you.

+ 1-page summary
+ Up to 10 pages
supporting materials

Questions?

Rebecca Sadosky • NCDWR Public Water Supply Section
Ph: (919) 707-9096 • Email: Rebecca.Sadosky@ncdenr.gov



Source Water Protection Awards

2015 Nominations	2016 Nominations
10 Nominees	8 Nominees
Multiple nominations for each award category	4 of 6 award categories

- Both years had decent geographical spread, however, the East was slightly underrepresented.



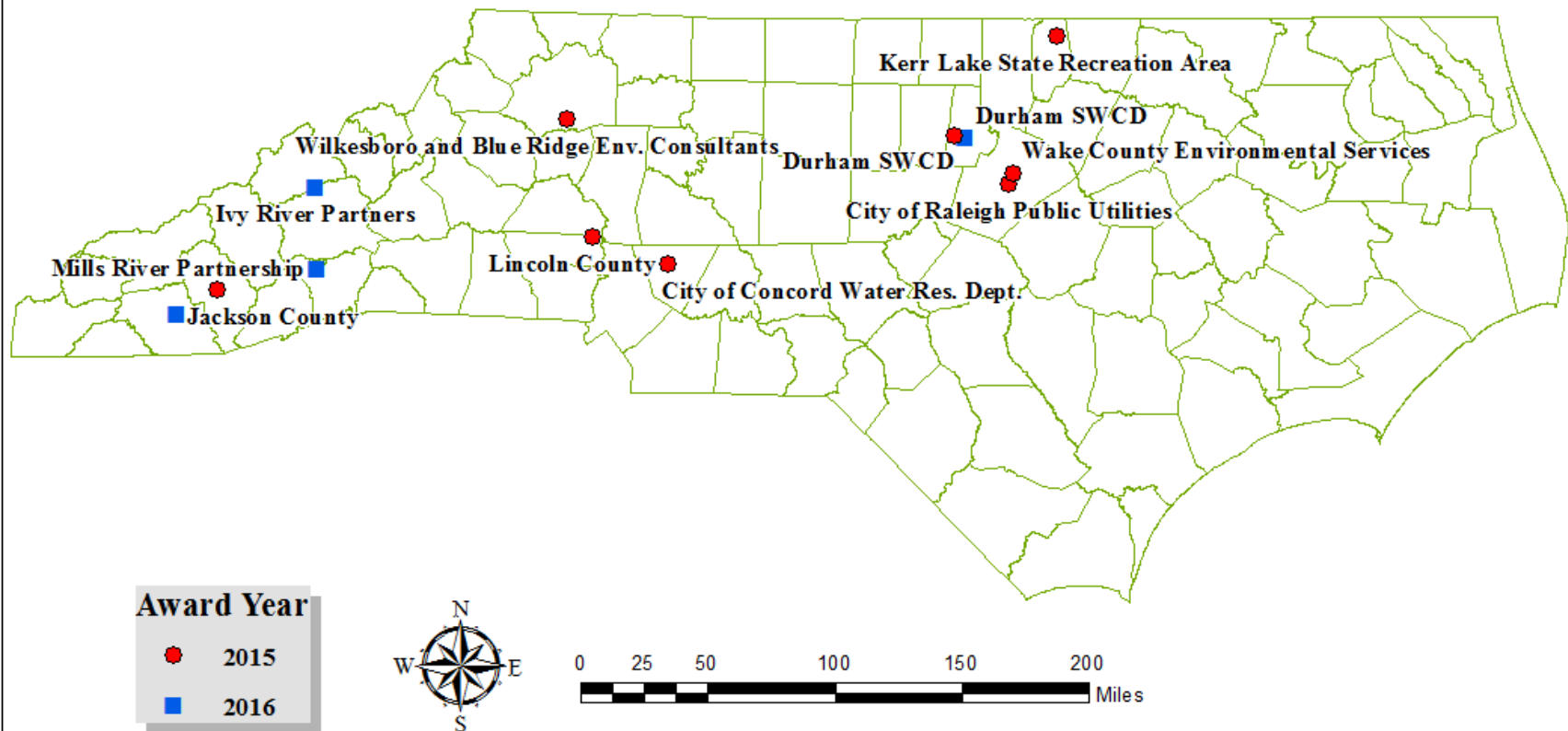
Source Water Protection Awards

2015	2016
8 Awards	4 Awards
4 SW Implementation	1 SW Implementation
2 Education	1 Education/Leadership
2 GW Planning	2 SW Planning

- Awards presented at the Spring WRRRI conference/ NCWRA symposium.



NC Source Water Protection Award Winners



Source Water Protection Awards

Takeaways:

- Need to get the word out
- Focus on the Eastern side of the state
- Emphasis on GW



Source Water Collaboratives Across the US



- NC had the 1st SWC in US
- There are now 7 state-level SWC's in US
 - 3 in eastern US: CT, NC, OH
 - CT has few water supplies and has state-produced SWPP's for them all
 - OH is mostly focused on Lake Erie and on planning/land use
 - Also spoken with IA, ID, & IL



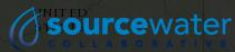
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- Several other regional SWC's serve state-level purposes
 - Salmon Falls Watershed Collaborative
 - Levels of EPA involvement varies

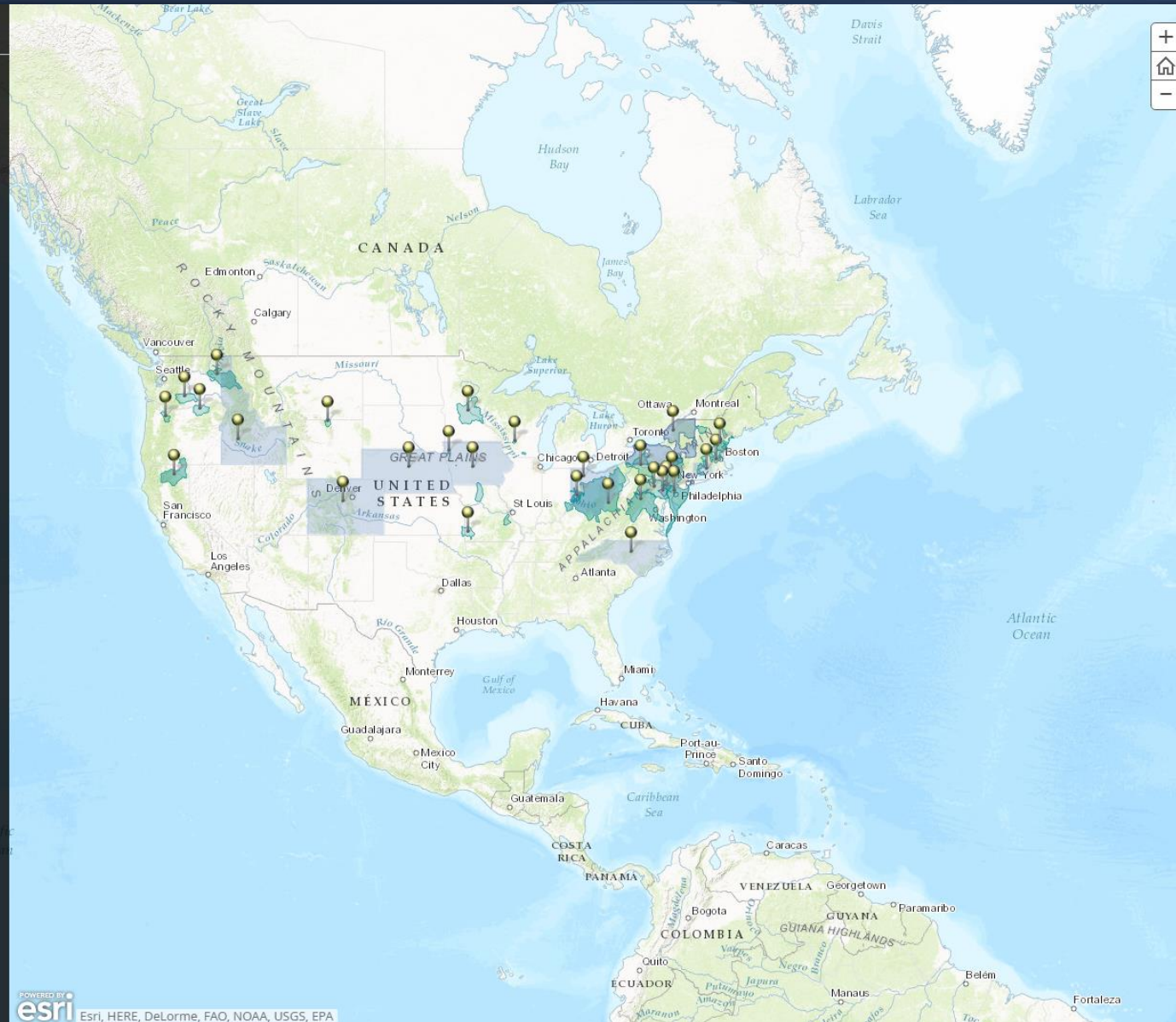


NC SWC History



Source Water Protection Around the Country

Browse local, state, and regional collaboratives



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 - Salmon Falls Watershed Collaborative
 - Levels of EPA involvement varies
- Robust HABs response in Florida
 - CWA/SDWA intersections



Source Water Collaboratives Across the US



Ask FWC About Contact News Calendar Get Involved Sign Up Home

Florida Fish and Wildlife Conservation Commission

Fishing

Boating

Hunting

Licenses & Permits

Wildlife Viewing

Wildlife & Habitats

Research

Education

Conservation

Home : Research : Red Tide : HAB General Information :

What is a Harmful Algal Bloom?

About FWRI

Manatee

Florida Panther

Freshwater

GIS and Mapping

Habitat

Red Tide

Red Tide Current Status

Red Tide FAQ

HAB General Information

What is a Harmful Algal Bloom?

About Florida Red Tides

Red Tide-Related Hotlines and Information Sources

Effects of Florida's Red Tide on Marine Animals

Seafood Poisoning Syndromes Caused by Toxic Algae in Florida

Cyanobacteria in Florida Waters

Learn About Trichodesmium

Taxonomic History of Florida's Red Tide Organism

Tools for Tracking Red Tides

Labs and People

HAB Monitoring

HAB Research

Social Media and Outreach

Saltwater

A harmful algal bloom (HAB) is the proliferation of a toxic or nuisance algae.

A harmful algal bloom (HAB) is the proliferation of a toxic or nuisance algal species that negatively affects natural resources or humans. Scientists prefer the phrase "harmful algal bloom" to "red tide" because blooms are not always red and are not related to the tides.

To further define a harmful algal bloom, let's look at the phrase more closely.

- **Harmful** algal blooms damage the environment because they replace vital food sources, clog fish gills, prevent sunlight from reaching seagrass and contribute to low oxygen "dead-zones" when they degrade. Some HAB species produce potent toxins that can persist in the water and enter the food chain. These toxins can be harmful to humans and animals.
- **Algae** are plantlike organisms. In aquatic systems, most algae are microscopic and cannot be seen by the naked eye, though some such as "sea lettuce" are macroscopic and look like plants. Most microscopic algae are beneficial to natural systems and humans; they produce about half of the oxygen we breathe and serve as the base of the food web in fresh- and saltwater.
- **Blooms** occur when algae reproduce or accumulate far beyond their normal levels for specific geographic areas. Blooms are influenced by chemical, physical and biological factors.

There are several main groups of algae that form HABs: flagellates, diatoms and blue-green algae. Flagellates are single-cell organisms that move about or swim with whiplike appendages called flagella. They can cover up to 20 meters in a day. Diatoms live in glass boxes made of silica, either individually or in chains. Blue-green algae (also called cyanobacteria) are bacteria with plant pigments that can occur individually, or in colonies.





What IS the NC Source Water Collaborative?



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- NCSWC Mission Statement:

“We facilitate collaborative approaches and creative solutions for drinking water protection through identification and implementation of complementary objectives, stewardship, education and outreach, and leveraging of resources.”



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- HB894

This bill, which was passed in its final form on August 11, 2014, mandates the development and implementation of source water protection (SWP) plans for "every supplier of water operating a public water system treating and furnishing water from surface supplies" (§ 130A 320 (c)). To date, SWP planning has occurred throughout the state on a voluntary basis and has followed a template recommended by US EPA. The intent on HB 894 is to expand on this template, with particular emphasis on emergency response protocols. The resulting SWP plans will allow local water systems to identify proactive and emergency response strategies best suited to their individual situations and concerns. (From NCDWR website: <http://www.ncwater.org/?page=583>)



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- SWAP Reboot

Source water assessments... allow the state to systematically address issues of potential contamination of public water supplies using existing data from established environmental programs. The SWAP plan is intended to act as a "lens" through which the state can assess priorities in other programs while focusing on the protection of drinking water as a primary goal in water quality management. (From NCDWR website: <http://deq.nc.gov/node/83033>)

The “reboot” will revisit all inputs, presumptions, and calculations of “inherent vulnerability” and “potential contamination source” data that compose a public water system’s Susceptibility Rating.



NCSWC Stated Priorities





NCSWC Stated Priorities

- **Key focus of first year of NCSWC**
 - 08/31/12 Meeting
- Produced the Awards and Education work groups
- Revisited in 2014

NCSWC Stated Priorities

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RS, AW, BM, KS, TG, HD, CP, AA, JF, PB	10	Develop a source water protection education package that can be personalized/customized at a local level. (4)	Lisa Corbitt, Christy Perrin, Holly Denham, Dale Threatt-Taylor, Cy Stober, Beth McGee, Evan Kane, Patrick Beggs
AK, SB, TG, HD, BE, JM, AA, JF, GJ	9	Cooperate with the NC American Planning Association to target and educate local planners and promote source water protection through land-use management. (5, 6 & 20)	Phil Trew, Jeff Marcus, Cy Stober
AK, PT, TH, BM, SB, TG, HD, CP	8	Identify and/or develop source water protection cost benefit analysis tools. (24)	Tom Hill, Beth McGee, Amy Keyworth, Julie Elmore
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JV, ND, AW, TH, BM, BE	6	Collect information on projects that received priority funding points from existing source water protection partners (i.e. CCAP, EQIP, CWMTF, and CWSRF). Show the outcomes of these projects. (15)	Rick Seekins, Julie Ventaloro, Adriene Weaver, Tom Hill, Beth McGee, Ed Buchan, Julie Elmore
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JV	1	Increase awareness of the location of drinking water sources through use of signs. (13)	Phil Trew
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GJ	1	Identify data related to ground water protection and make it available. (17)	
		Explore/develop an awards program as an incentive (25) *	Lisa Corbitt, Julie Ventaloro, Phil Trew, Christy Perrin

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Awards program	Long time to dev. governing documents
Branding/Logo	No tangible output from main group (creative)
Broad Representative/Collaboration	No statewide output - talk more than do
Voluntary	I don't know what we are trying to accomplish
Clearinghouse for SW Plans	Meetings necessary if no project
Learn/Network	Need database of other projects going on.
	\$ resources from DENR needed to drive
	What makes this group different group different from others?
	Would like more members to actively participate
	Outreach needed for local officials

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NCSWC Education Packet

- What Has Been Done?
 - Focus on NCSWC Awareness
 - Postcard (01/14)
 - Primer (01/14)



NCSWC Education Packet



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Working together to protect your drinking water



NCSWC Education Packet

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SOURCEWATER PROTECTION IN NORTH CAROLINA

The term “source water” refers to streams, rivers, springs, lakes, and groundwater that are used for drinking. Protecting water at the source is an important way to ensure the health of people, ecosystems and economies. Ensuring safe and plentiful sources of drinking water is best accomplished by taking a multi-barrier approach, in which implementing source water protection strategies is the first step.

Approximately half of North Carolina’s population obtains their drinking water from groundwater, whereas the other half relies on surface water. Our state has a diversity of challenges in ensuring the health and cleanliness of its drinking water sources. Differences in land use, topography, hydrology, economics, and demographics all present different realities and challenges for residents of the state’s Coastal Plain, Piedmont, and Mountains. Population growth and land use changes are straining limited supplies of high quality groundwater and surface water.

A variety of techniques can be implemented to protect source water, including:

- **development and implementation of protection plans,**
- **land conservation,**
- **watershed assessment and restoration,**
- **establishment of local ordinances, and**
- **education/outreach campaigns.**

NC Source Water Collaborative

Working together to protect your drinking water

1611 Mail Service Center • Raleigh, NC 27699-1611
Phone: 919-707-9098
swap@ncdenr.gov • www.ncswc.org

NCSWC Education Packet

- What Has Been Done?

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- Postcard (01/14)
- Primer (01/14)
- Drafted Grant Proposal (01/14)

NC Source Water Collaborative Proposed Project to Solicit Local Government Outreach and Engagement Services of Councils of Governments

Scenario A:

The COGs would engage in a robust recruitment effort to engage local government staffs and officials regarding the efforts of the SWC to better ensure adoption of SWC materials for outreach. The COGs will also work with their memberships to realize some planning and implementation needs. The proposed project could last anywhere from 18 – 36 months, and would proceed in the following steps (roughly):

- An initial survey to gauge local government staff and officials' interest in being a regional focus group to give feedback to the SWC.
- Development of a regional focus group within each COG region with a demonstrated interest in the SWC's efforts based upon survey responses and the knowledge of COG staffs. This will ideally be a group that is representative of all significant drinking water supplies within the COG regions.
- 2 -3 meetings/year with the focus group in which feedback on SWC efforts – especially the development of SWC outreach materials – is gathered for delivery at the SWC meetings. Minutes will be recorded.
- Development of progress with one or more of the focus group members in each COG region to engage their constituents and elected officials on drinking water supply needs, including, but not limited to, public water supply watershed planning, concentrated outreach efforts, infrastructure assessments and use of programs such as Climate Ready Utilities to improve performance and efficiency, and development of new policies or ordinances. The only obligated deliverable from these efforts would be finalization of SWC outreach materials to be distributed statewide and have the support of all focus groups.
- A follow-up survey with all local government public water supply stakeholders on their awareness, interest, and/or support in the SWC's efforts, especially the finalized outreach materials.
- Annual COG roundtable conversations that compare efforts and discuss skill-sharing and lessons learned. Differences in geography, history, and community values for water quality will be considered.
- Annual report to the grantor and SWC on the status (progress?) of the project.

This proposed project would allocate \$10,000- \$15,000 per COG annually, with an additional \$6,000/year for the lead COG administering the grant.

- What Has Been Done?

- Focus on NCSWC Awareness

- Postcard (01/14)
 - Primer (01/14)
 - Drafted Grant Proposal (01/14)
 - Brainstorming (02/13)

- Issues

- What is “source water protection”?
 - Identification and education of benefits
 - Accessible and actionable recommendations

- Ideas

- Package that supports grant-funded projects (CWMTF, CDBG, etc.)
 - Survey of current understanding of “source water protection”
 - Work with pilot communities to better institute source water protection in the community and its value of water (ground and surface supplies) for multiple uses



• So What Next?

Initials of Person	# of Votes	Initiative Description (Initiative #)	Volunteers
RS, AW, BM, KS, TG, HD, CP, AA, JF, PB	10	Develop a source water protection education package that can be personalized/customized at a local level. (4)	Lisa Corbitt, Christy Perrin, Holly Denham, Dale Threatt-Taylor, Cy Stober, Beth McGee, Evan Kane, Patrick Beggs
RS, AW, CP	3	Disseminate unified messages from the SW Collaborative that demonstrate broad support for SWP and that spark education and action. (1)	Rick Seekins, Adriene Weaver, Cy Stober, Evan Kane
AA	1	Determine the information needs of public utility managers with respect to source water protection (outreach materials for customers, for example) and respond to those needs. (12 & 14)	Ed Buchan
JV	1	Increase awareness of the location of drinking water sources through use of signs. (13)	Phil Trew

- So What Next?
 - What?
 - Why?
 - Who?
 - How?
 - Where & When?





Thank You!

Questions?

Cy Stober
Source Water Assessment
Program Manager
cy.stober@ncdenr.gov
919-707-9070

Sean McGuire
Geographic Information
Systems Specialist
sean.mcguire@ncdenr.gov
919-707-9104

Rebecca Sadosky
Drinking Water Protection
Program Coordinator
rebecca.sadosky@ncdenr.gov
919-707-9096

Gale Johnson
Wellhead Protection Program
Manager
gale.johnson@ncdenr.gov
919-707-9083

*Department of Environmental Quality
Division of Water Resources*





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