



NC Drinking Water Protection Program

HB 894:

Existing Tools and Resources



NC Drinking Water Protection Program

NC's Source Water Assessment Program (SWAP)

- Delineate source water assessment areas
- Inventory potential contaminant sources
- Determine susceptibility analysis (relative risk)
- Make information available to public

SWAP results updated June 2014

The screenshot displays the NC SWAPinfo web application interface. At the top, there is a Google search bar and navigation links for Go, Bookmarks, Check, AutoLink, AutoFill, Send to, and Settings. Below this is the application title "NC SWAPinfo" and a toolbar with various tools: Refresh, Overview Map, Zoom In, Zoom Out, Pan, Previous Extent, Full Extent, Identify, Query, Locator, Buffer, Select, Clear Selection, Measure, Set Units, SWAP Reports, Print, Contact Us, and Help.

The main content area features a map of North Carolina with a legend on the left side. The legend is organized into several sections, each with a "Visible Active" checkbox and "Show Group" / "Hide Group" buttons:

- Public Water Supply Sources:**
 - Adjacent (Red diamond)
 - Campground (Blue diamond)
 - Community (Yellow diamond)
 - Non-Transient Non-Community (Blue diamond)
 - Transient Non-Community (Green diamond)
- Wellhead Protection Areas:**
 - Wellhead Protection Areas (Light green square)
- Ground Water Assessment Areas:**
 - Ground Water Delineated Area (White square with black border)
 - Ground Water Zone A (White square with dashed black border)
- Surface Water Assessment Areas - Zones:**
 - Watershed Boundary (Blue outline)
 - Protected Area Boundary (WS-IV and V only) (White square with black border)

The map shows a dense distribution of colored points across the state, representing the various water supply sources. A scale bar at the bottom right indicates a distance of 169171 meters. The Windows taskbar at the bottom shows the Start button and several open applications: Think Pad_EQIP - Mic..., Microsoft PowerPoint..., Inbox for jay.frick@n..., and ArcIMS Viewer - Micro... The system clock shows 2:02 PM.

SWAP is used by other agencies to prioritize funding for projects



USDA Natural Resources Conservation Service
North Carolina
United States Department of Agriculture

[Topics](#) | [Programs](#) | [Newsroom](#) | [Contact Us](#)

[About Us](#)

[Browse By Audience](#)

A green leaf with a prominent vein structure is shown, with a faint water drop icon overlaid on it.The seal of the North Carolina Department of Agriculture and Consumer Services, featuring a scale of justice and a sheaf of wheat, surrounded by the text "DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES".

NORTH CAROLINA
DEPARTMENT OF AGRICULTURE & CONSUMER SERVICES

[NCDA&CS Home](#) | [Programs](#) | [Services](#) | [Divisions](#) | [Newsroom](#) | [Search NCDA&CS](#)

NCDA&CS Divisions



Division of Water Infrastructure



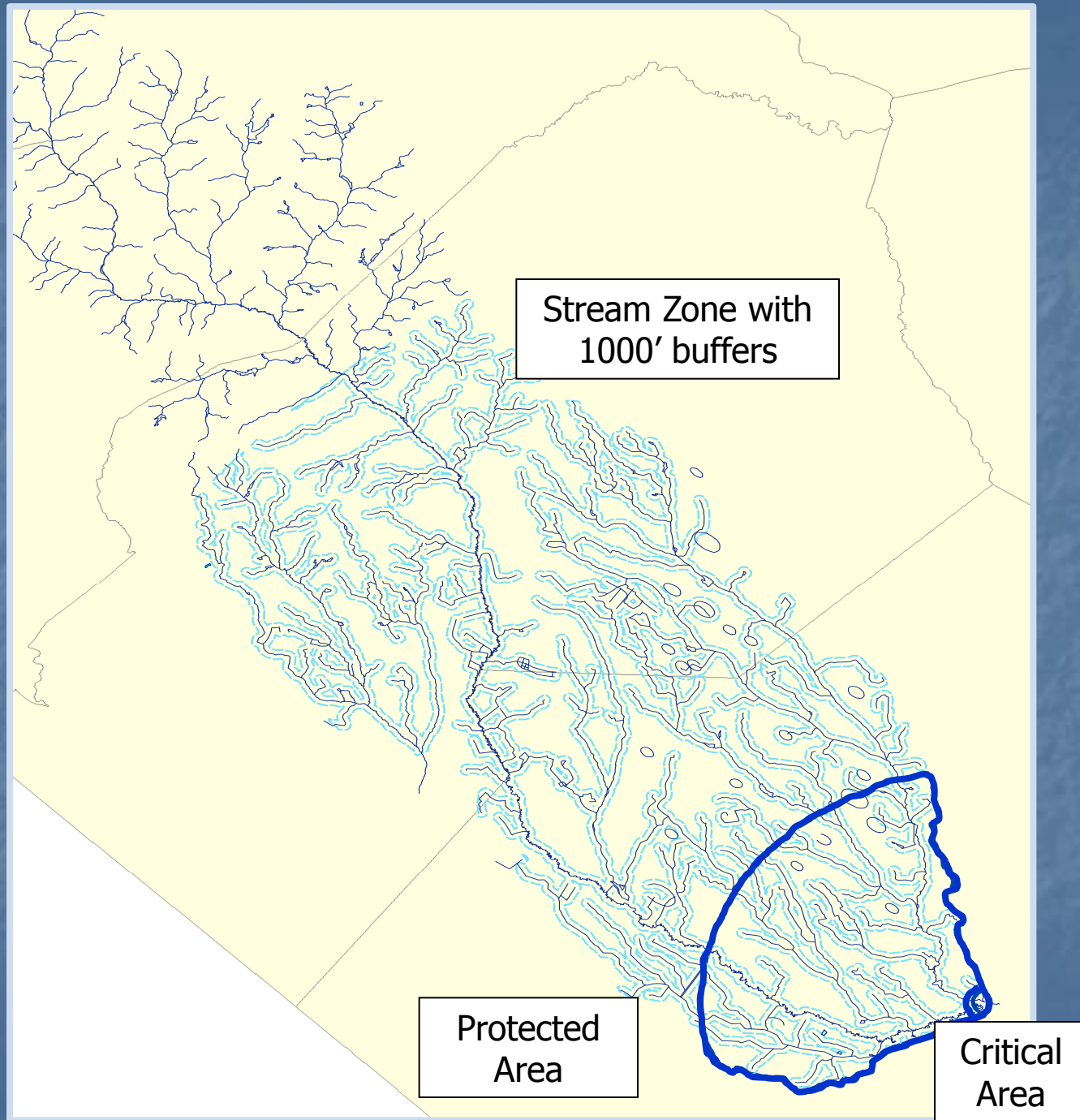
NC Drinking Water Protection Program

Source Water Assessment Area

syns. "priority" or "sensitive" areas

- An area in which protection activities will likely have the most beneficial impact on a drinking water source
- An area in which contamination events will likely have the most detrimental impact on a drinking water source

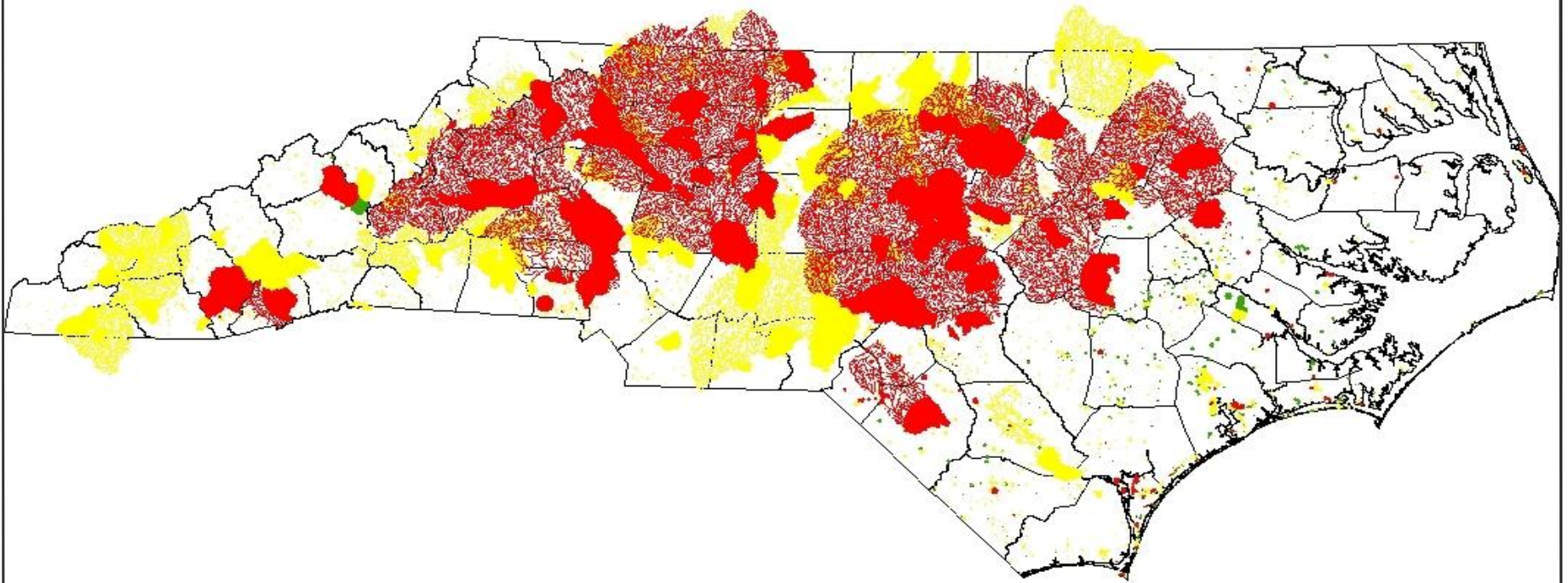
Three
components
of an
assessment
area



NC Source Water Assessment Areas

. . . cover approximately 34% of the state









NC Drinking Water Assessment Areas



Inventory of Potential Contaminant Sources

Includes over 43,600 PCs from 16 state agencies and programs

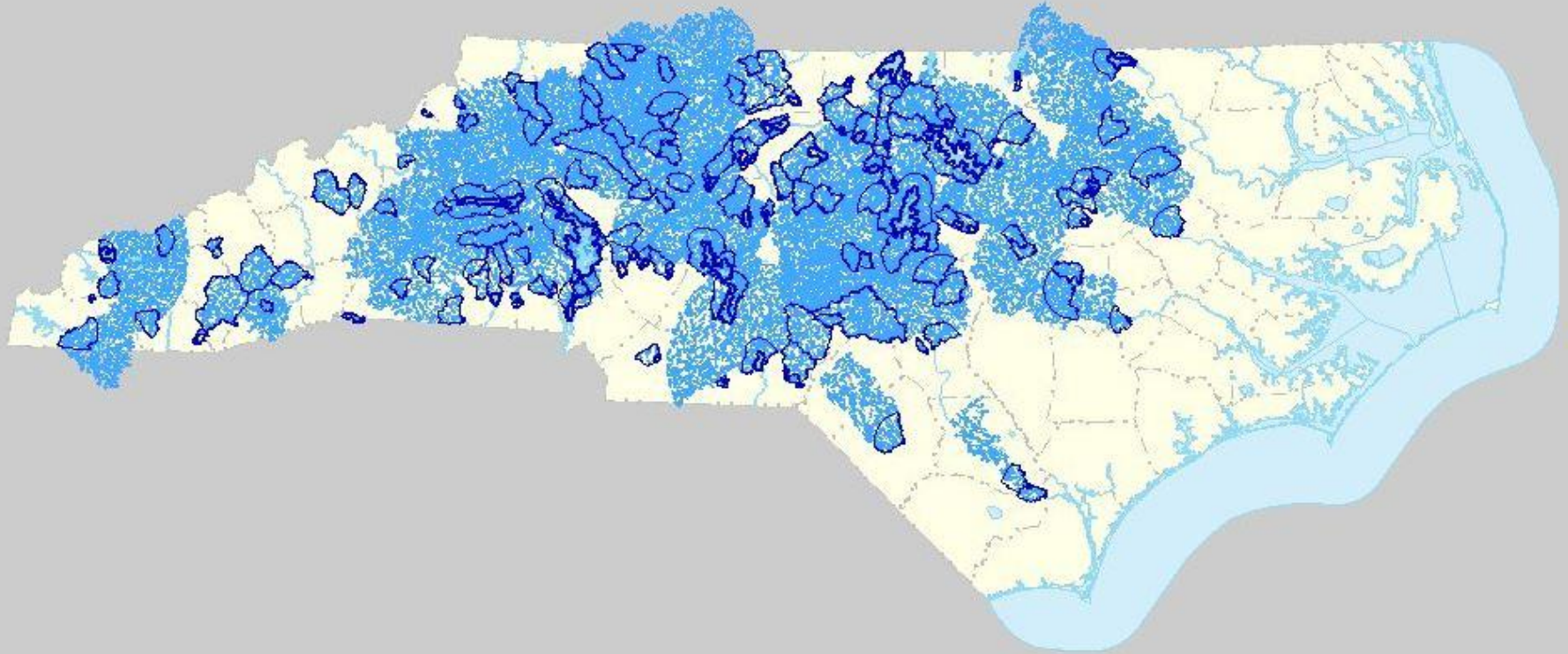
-  Animal Operations
-  CERCLIS Sites
-  National Priority List Sites
-  Non Discharge Permits
-  NPDES Permits
-  Old Landfill Sites
-  PCB Sites
-  Pollution Incidents

-  RCRA Gen./Trans. Facilities
-  RCRA TSD Sites
-  Septage Disposal Sites
-  Soil Remediation Sites
-  Solid Waste Facilities
-  Tier II Sites
-  UIC Permits
-  UST Permits

North

W

E



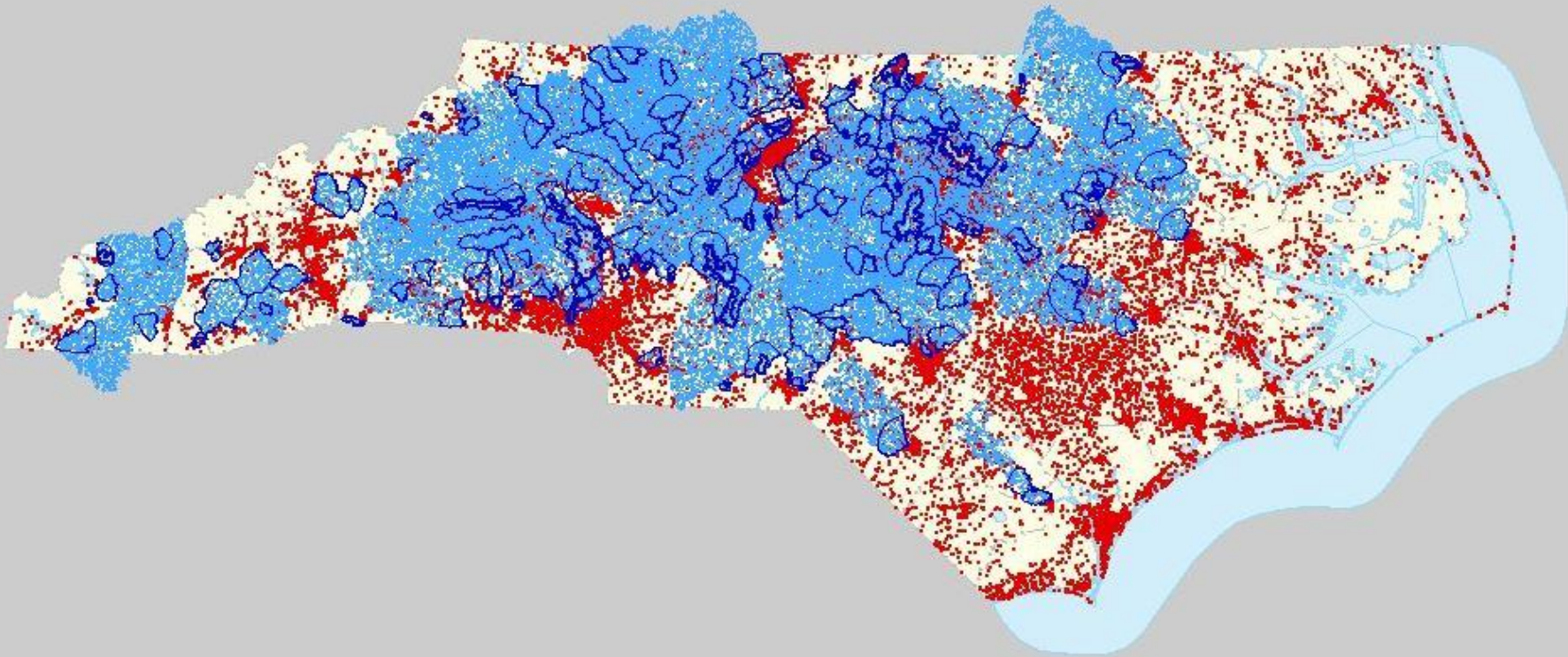
South



North

W

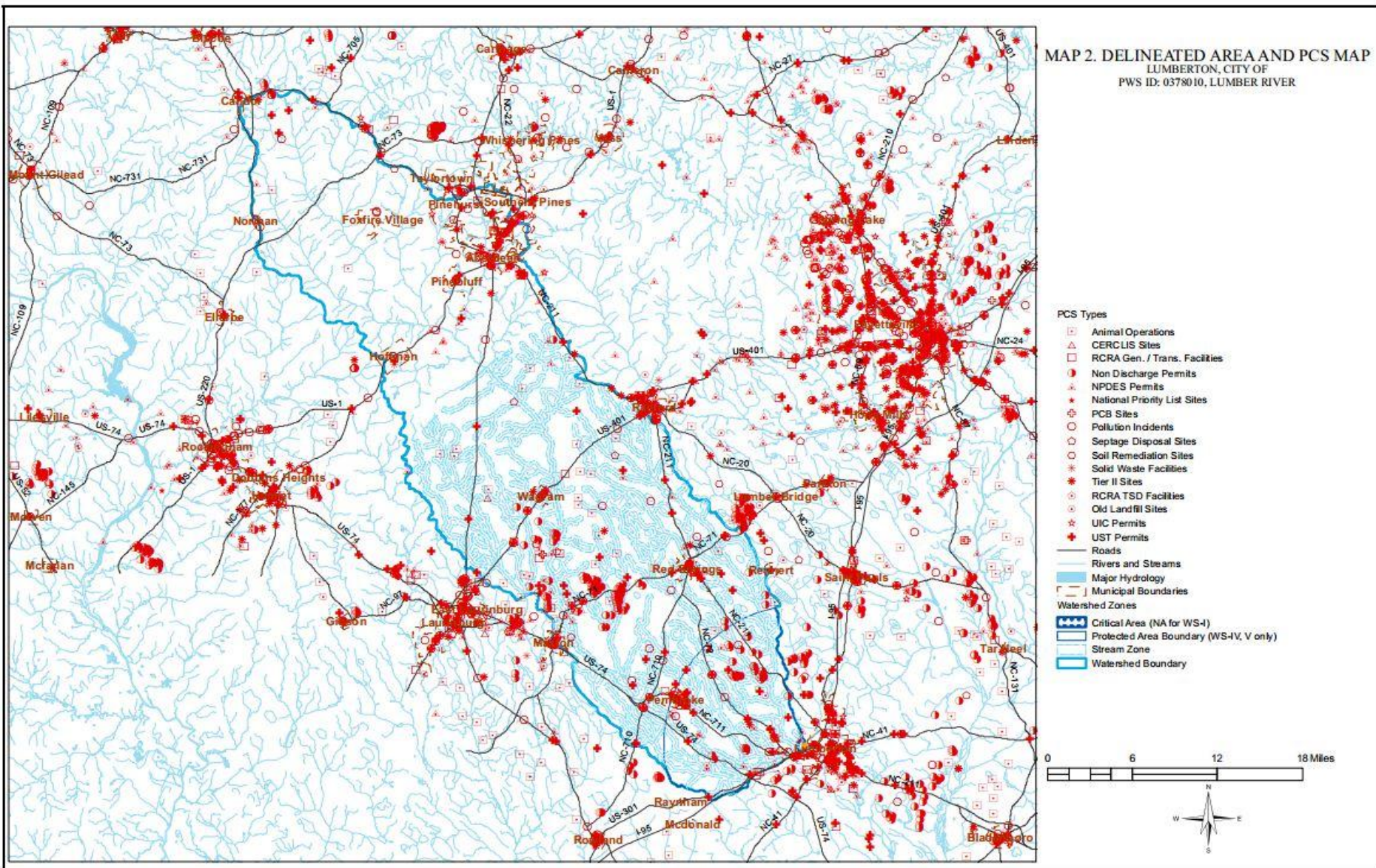
E



South



Lumberton assessment area with PCSs





NC Drinking Water Protection Program

Susceptibility Analysis

- An indicator of relative risk
- Adds another way to prioritize activities
- Reported as a categorical ratings:



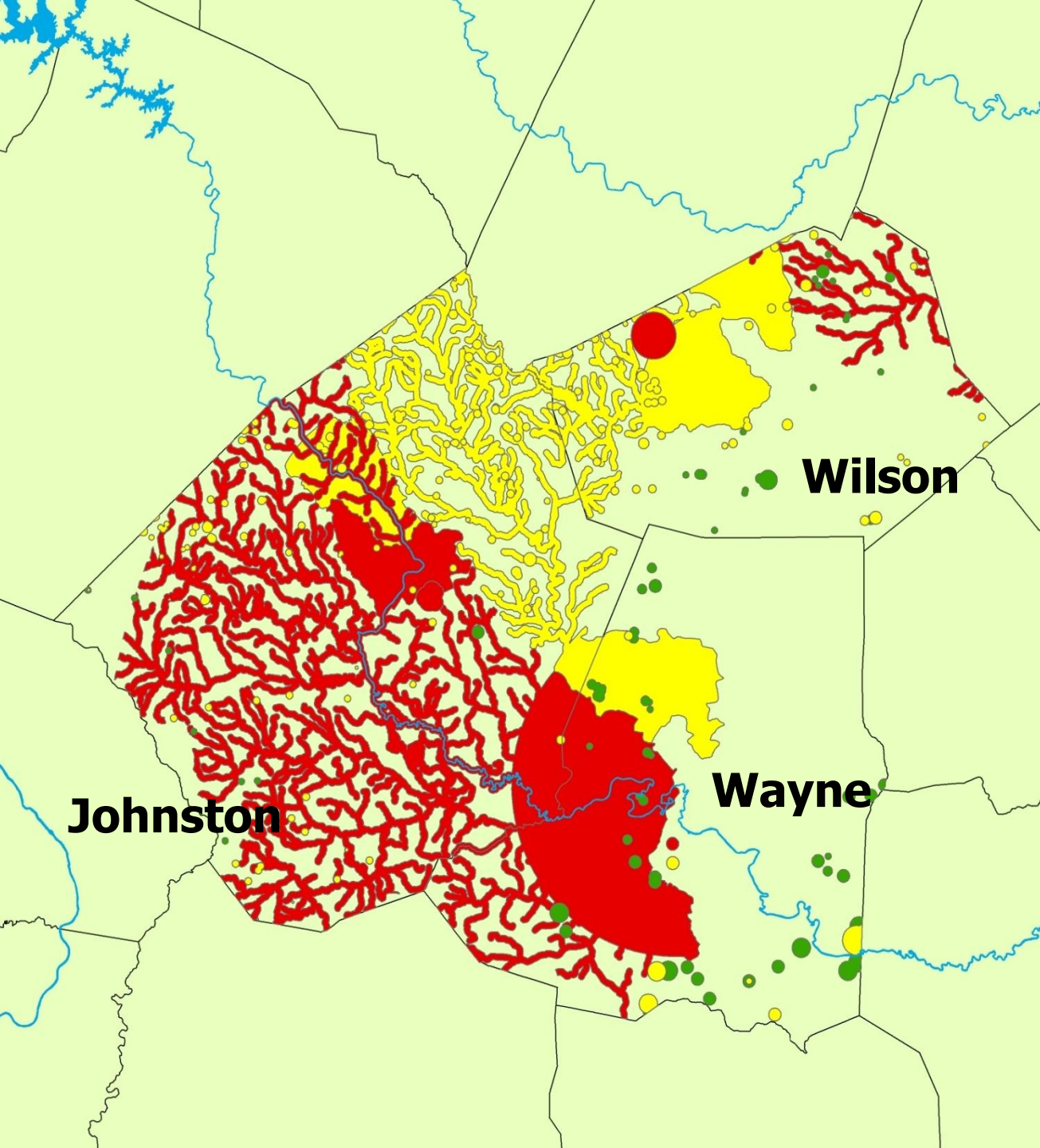
Higher Susceptibility






Moderate Susceptibility



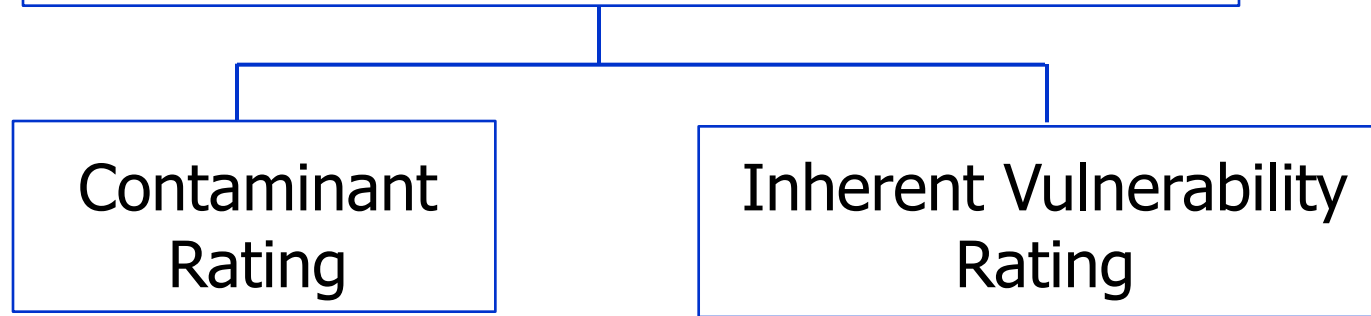
Lower Susceptibility



Susceptibility Analysis

-  Higher
21% of state
-  Moderate
13% of state
-  Lower
0.6% of state

Determining Susceptibility Ratings



Susceptibility Ratings combine contaminants with vulnerability

Contaminant Rating	Inherent Vulnerability Rating		
	Higher	Moderate	Lower
Higher	H	H	M
Moderate	H	M	M
Lower	M	M	L

Determining Susceptibility Ratings

Contaminant
Rating

Inherent Vulnerability
Rating

Watershed
Classification

Intake
Location

Watershed
Characteristic

Raw Water
Quality

Determining Susceptibility Ratings

Contaminant
Rating

Inherent Vulnerability
Rating

Watershed
Classification

Intake
Location

Watershed
Characteristic

Raw Water
Quality

Annual
Precipitation

Land
Slope

Land
Use

Land
Cover

GW
Contribution

Methods of Rating Unsaturated Zone and Watershed Characteristics of Public Water Supplies in North Carolina

By Jo Leslie Eimers, J. Curtis Weaver, Silvia Terziotti, and Robert W. Midgette

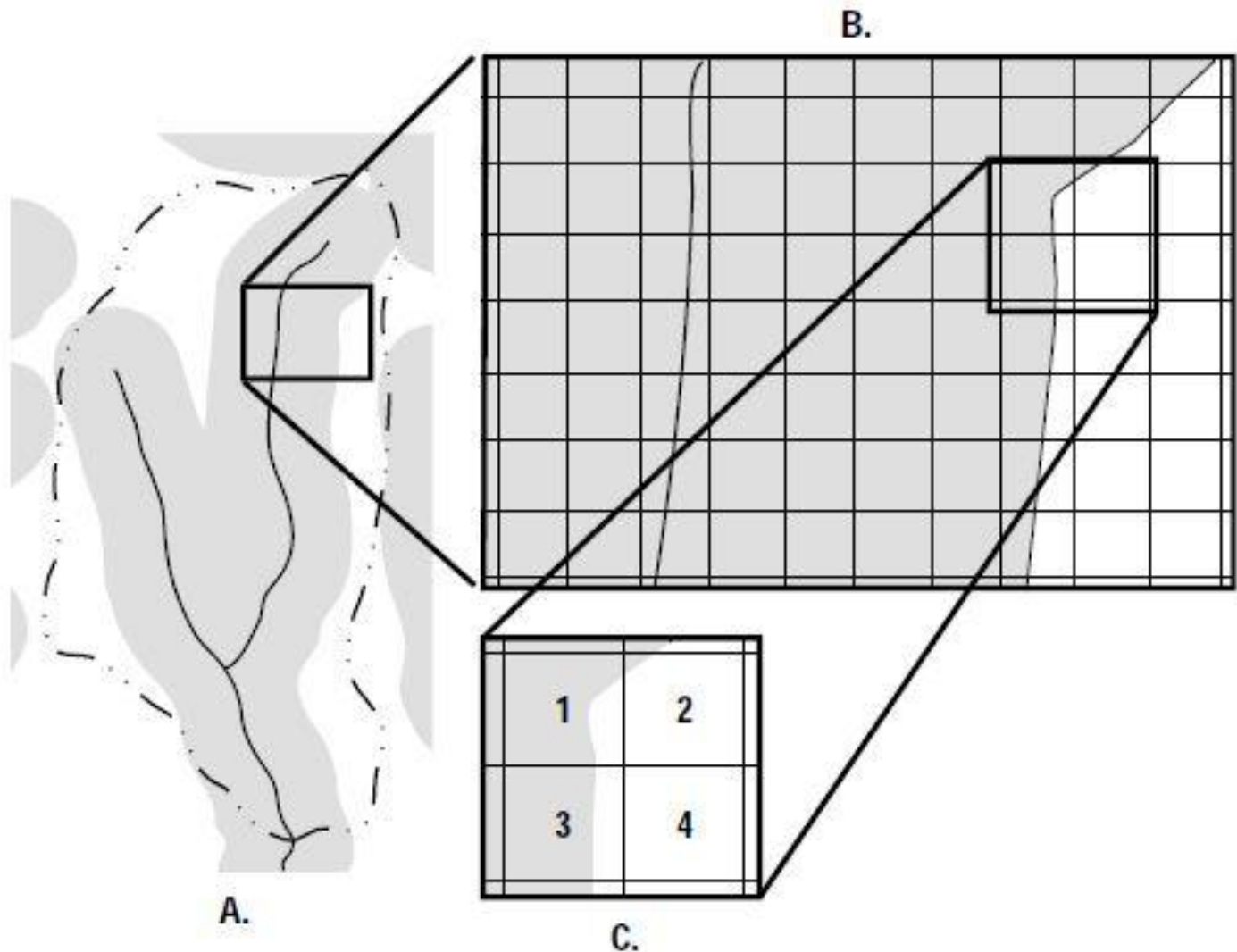
U.S. GEOLOGICAL SURVEY

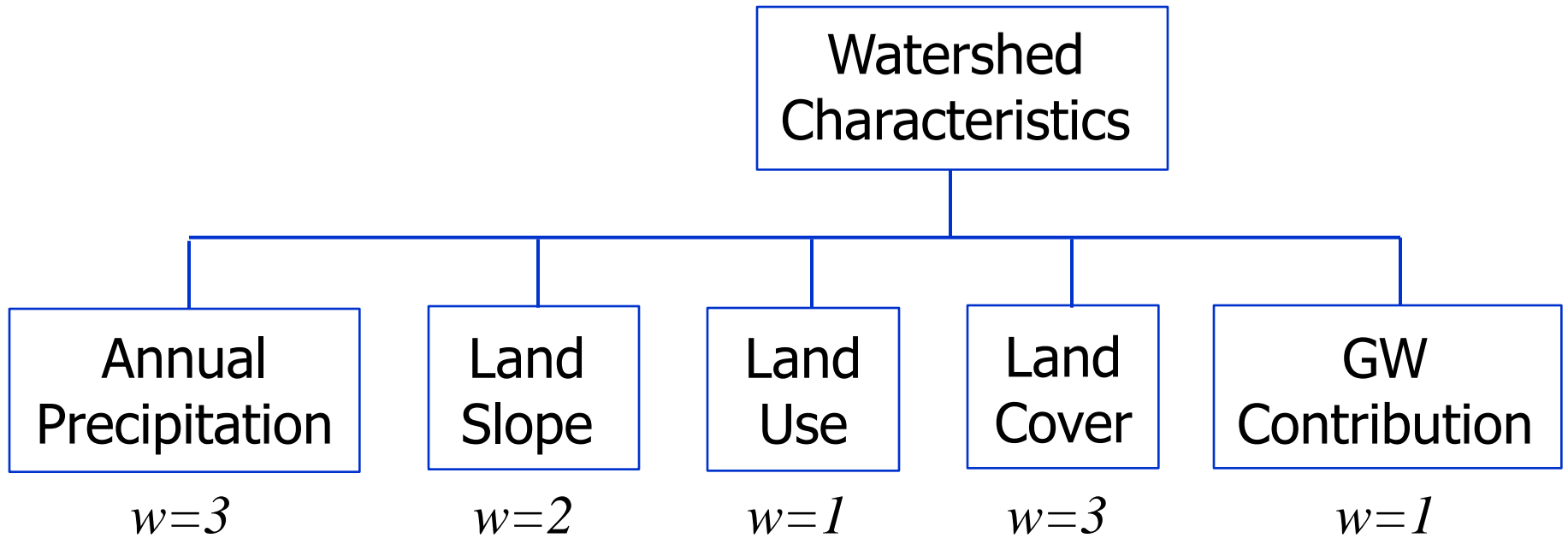
Water-Resources Investigations Report 99-4283

Prepared in cooperation with the

Public Water Supply Section of the Division of Environmental Health,
North Carolina Department of Environment and Natural Resources

USGS developed a GIS-based overlay-and-index method





Grid cell rating:

$$R_i = \sum_{l=1}^5 (w_l \times r_l)$$

Average grid cell calculation:

$$\frac{\sum_{l=1}^n R_l}{n}$$

Packaging and Delivery:

Detailed SWAP reports are available online

NCDENR

Division of Water Resources

[HOME](#) [CONTACTS & STAFF LISTING](#) [PUBLIC WATER SUPPLY](#) [WATER PLANNING](#)

Search DWR... 

[WATER QUALITY PERMITTING](#) [WATER QUALITY REGIONAL OPERATIONS](#) [WATER SCIENCES](#)

Please enter a Public Water Supply system name:

Partial names are acceptable ex. TOWN

[Get Report](#)

Note: Search results open in a new window. If you have trouble viewing the results, **pop-up blockers** may be preventing this window from opening.



Adobe Acrobat Reader 5.0 or higher is required to properly view the SWAP reports.

Click on the "Get Acrobat Reader" button to download the latest version of Adobe Acrobat Reader.



Source Water Assessment Program Report
for
MOUNT PLEASANT, TOWN OF (WSACC)
Community Water System

Introduction: What is a Source Water Assessment?

The North Carolina Division of Water Resources, Public Water Supply (PWS) Section is responsible for implementing the Source Water Assessment Program (SWAP) and completing assessments for all public drinking water supplies in the state. The 1996 amendments to the Safe Drinking Water Act provided federal support and required states to conduct assessments of all public water systems. A source water assessment is a qualitative evaluation of the potential of a drinking water source to become contaminated by the identified potential contaminant sources (PCS) within the delineated area. In North Carolina there are more than 10,000 public water supply sources that were assessed by the state. The PWS Section has gathered information for each water supply and developed a process for completing the assessments. This process is summarized in the next few pages and detailed in Section 6 of this report.

This report provides a summary of the results for the **Source Water Assessment** for your drinking water source(s).



NC Drinking Water Protection Program

Recap: existing tools and resources
...updated and in place to support HB 894

- What tools exist to support HB 894?
- How is SWAP data relevant to SWP planning?
- How is information provided to the public?

Questions?