

# The Volunteer Water Information Network



Ann Marie Traylor, The Environmental Quality Institute

# VWIN Streamwater Monitoring



## Goals:

- Objective data on water quality in WNC
- Conservation and protection of water resources

## EQI's Approach:

- Trained volunteers collect samples monthly.
- EQI's state-certified lab performs analyses.
- Raw monthly data and annual technical reports are distributed to stakeholders.
- Partners use information to promote water quality improvements and conservation efforts.

# Current VWIN Stakeholders



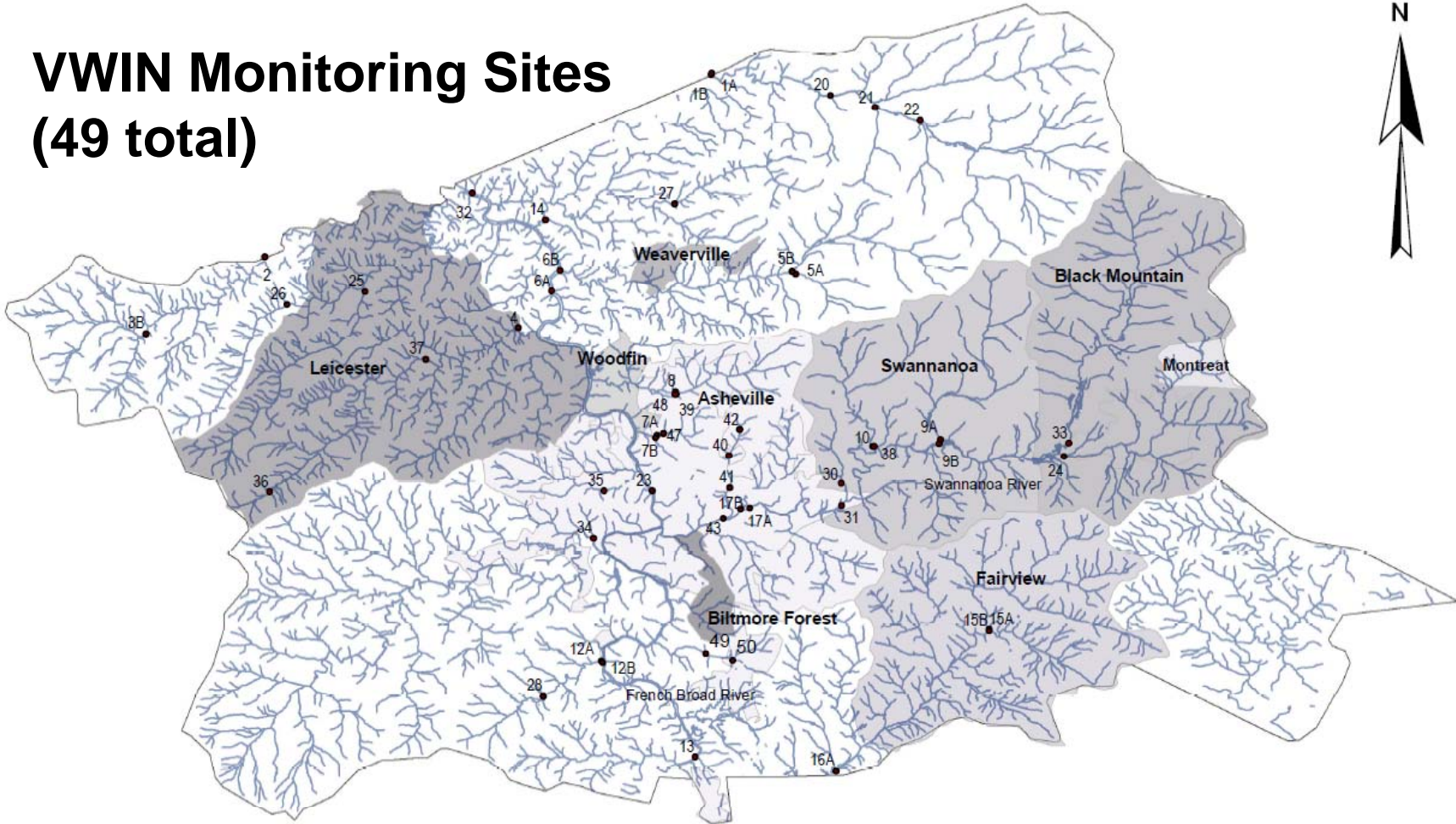
## **BUNCOMBE COUNTY FUNDERS**

- B.C. METROPOLITAN SEWERAGE DISTRICT (\$9,660/year, 24 sites)
- B.C. SOIL AND WATER CONSERVATION DISTRICT (\$8,357/year, 18 sites)
- CITY OF ASHEVILLE, STORMWATER SERVICES DIVISION (\$2,520/year, 6 sites)
- ELISHA MITCHELL AUDOBON SOCIETY (\$350/year, 1 site)

## **REGIONAL ORGANIZATIONS: (in 13 NC Counties)**

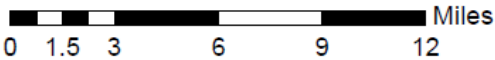
- MADISON COUNTY SOIL AND WATER CONSERVATION DISTRICT (Madison Co.)
- ENVIRONMENTAL AND CONSERVATION ORGANIZATION (Henderson Co.)
- HAYWOOD WATERWAYS ASSOCIATION (Haywood Co.)
- TOWN OF LAKE LURE (Rutherford Co.)
- LAKE JAMES ENVIRONMENTAL ASSOCIATION (Burke/McDowell Co.)
- TOE RIVER VALLEY WATCH (Yancey/Mitchell Co.)
- SEVEN LAKES WEST LANDOWNERS ASSOCIATION (Moore Co.)
- FRIENDS OF LAKE GLENVILLE (Jackson Co.)
- WATERSHED ASSOCIATION OF THE TUCKASEGEE RIVER (Swain/Jackson Co.)
- HIWASSEE RIVER WATERSHED ASSOCIATION (Clay/Cherokee Co.)
- GARNER LAKE ASSOCIATION (Shelby Co., TN)

# VWIN Monitoring Sites (49 total)



**Legend**

- Sites
- Rivers & Streams



# Volunteer Sample Collection



# Laboratory Analysis



# Streamwater Parameters Analyzed

- Nutrients - wastewater effluent, septic system drainage, trout farm effluent, and surface runoff from agriculture, yards, and gardens
- pH and Alkalinity - acid deposition and a streams ability to cope with acid inputs
- Turbidity and Total Suspended Solids surface runoff and stream bank erosion
- Conductivity - urban runoff and industrial pollution



# Data Usage

Monthly data sent to stakeholders

## Annual Reports

- Summary statistics (graphs/tables)
- Grades for each site
- Index rating for each site (nutrients/sediment/overall)
- Ranking of all WNC sites
- Trends related to stream flow, time, and seasons
- Benthic invertebrate data from EQI's SMIE project
- Discussion of stream sites

## **Spatial and Temporal Trends of Buncombe County Streams from 1990 through 2012: The Volunteer Water Information Network**

Ann Marie Traylor  
Steven C. Patch

The Environmental Quality Institute

Technical Report No. 2013-02

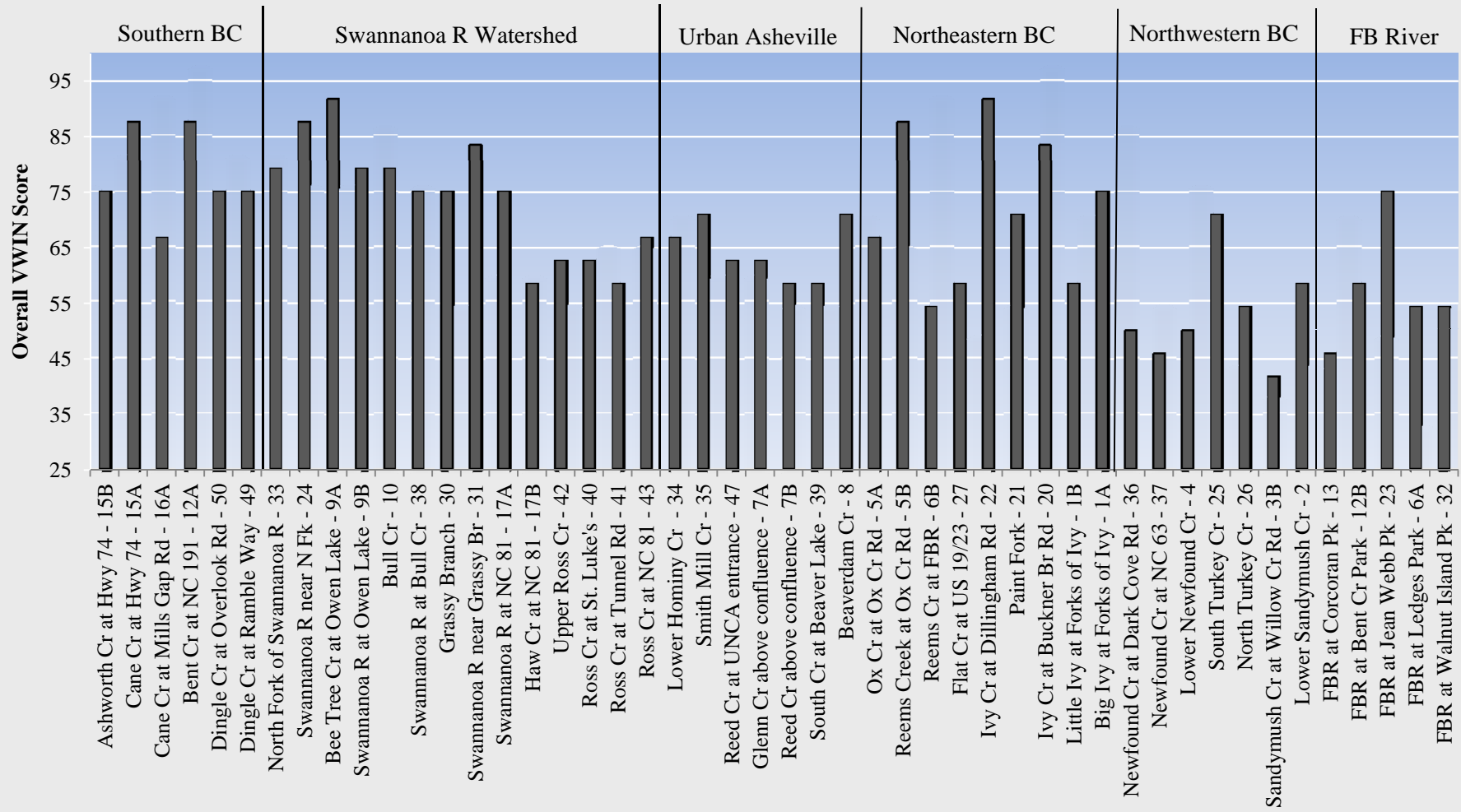
February 2013



This project is funded by the Buncombe County Metropolitan Sewerage District, the Buncombe County Board of Commissioners, and the City of Asheville's Stormwater Services Division



# Overall VWIN Scores for Buncombe County Monitoring Sites



# Financials

	<u>Commercial lab</u>	<u>VWIN</u>
Cost per site/year :	\$780	\$464
Annual cost for 20 county-funded sites:	\$15,600	\$8,357
Sample collection included:	No	Yes
Data analysis included:	No	Yes

VWIN revenue, including Buncombe County funds, are primarily used for general operating expenses, such as staffing, rent, utilities, and supplies.



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**Special thanks to:**

Buncombe County Commissioners

Buncombe County SWCD

Buncombe County MSD

City of Asheville, SSD

Regional Partners

Dedicated, reliable volunteers!

