Conserving Virginia's Healthy Waters

Albemarle-Pamlico National Estuary Program
STAC Meeting
January 31, 2012
Pitt County Office Complex
Greenville, NC

Todd V. Janeski
Greg Garman, PhD
Leonard Smock, PhD
Stephen McIninch, PhD
William Shuart
Virginia Commonwealth University
VADCR

What Is VA's Healthy Waters Initiative?

Inter-agency partnership led by VDCR, VCU, and VDEQ

to identify and maintain watersheds with high ecological integrity

- **--High number of native spp, and broad biodiversity; high native predators (fish and insects); presence of migratory fish spp; low incidences of disease or parasites; intact riparian areas and instream habitat and maintain natural flows.**
- **--Provide ecosystem services and social and economic benefits**

Success based upon partnerships with local champions: APNEP, TNC, Conservation Districts, Local govt, etc.

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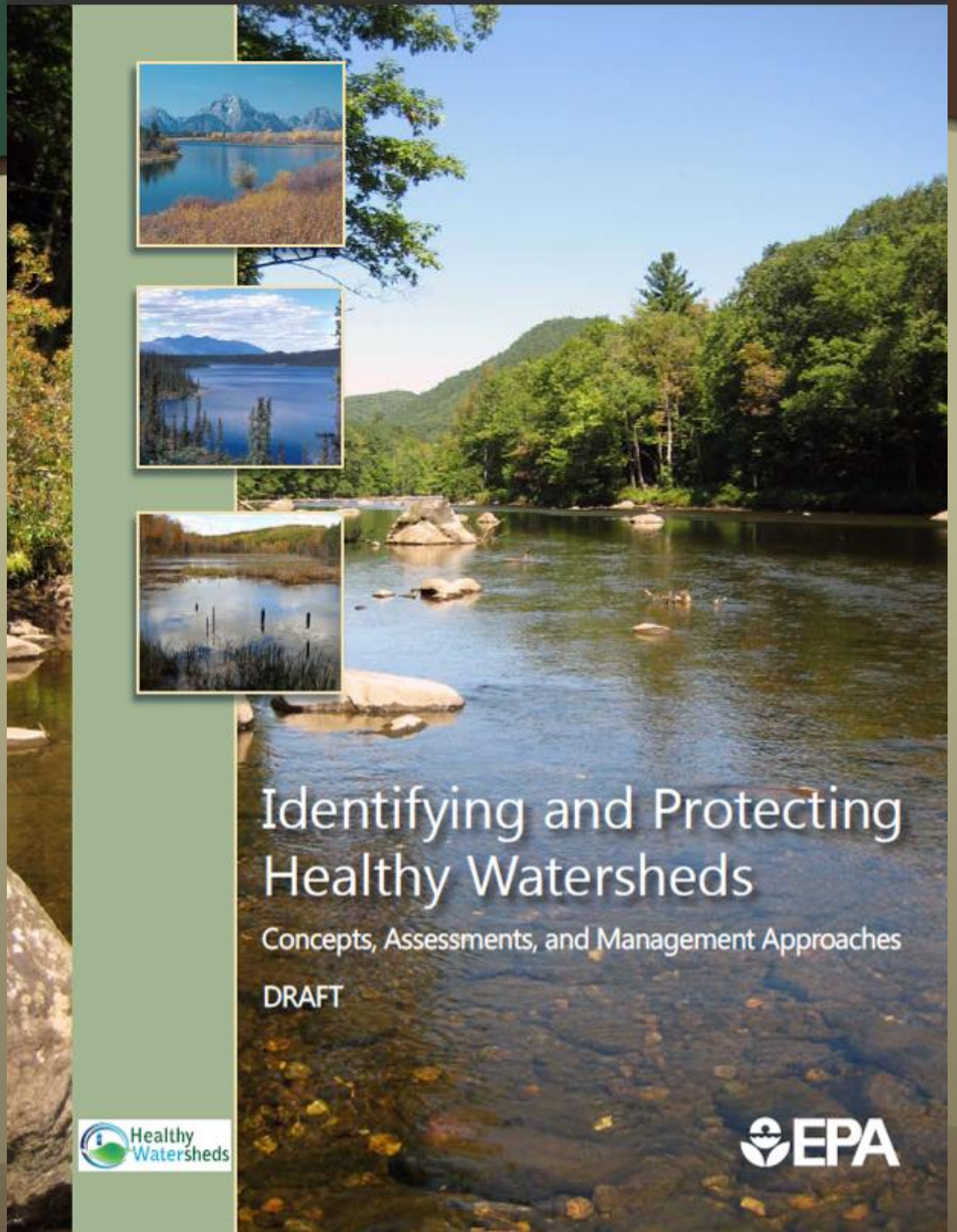
- **Virginia's Healthy Waters Initiative is one of the leading efforts in the nation**

- **Referenced in the new USEPA Healthy Watersheds manual**



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Why Healthy Waters?

- High population growth, rapid rate of land conversion and even higher growth of impervious cover
- Thousands of known WQ impairments
- Restoration is a daunting and expensive challenge
- Declining ecological health
- Healthy Waters = Healthy Bay
- We need to identify and conserve what we have left!

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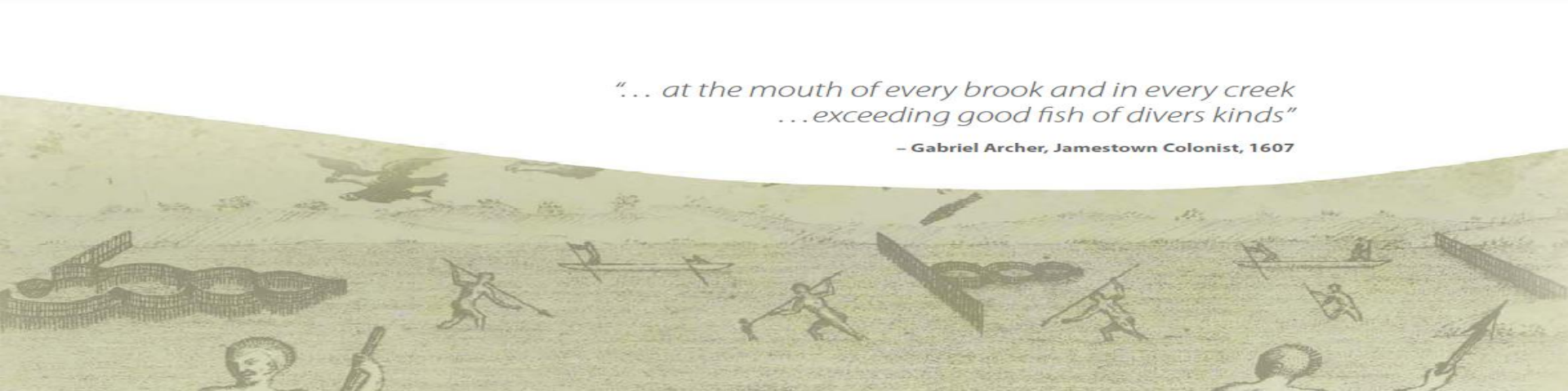
Benefits Of Conservation

- **Its positive**
- **Its proactive**
- **Its effective and cost effective**
- **It is the only way to ensure the long term ecological health of stream, rivers, estuaries**



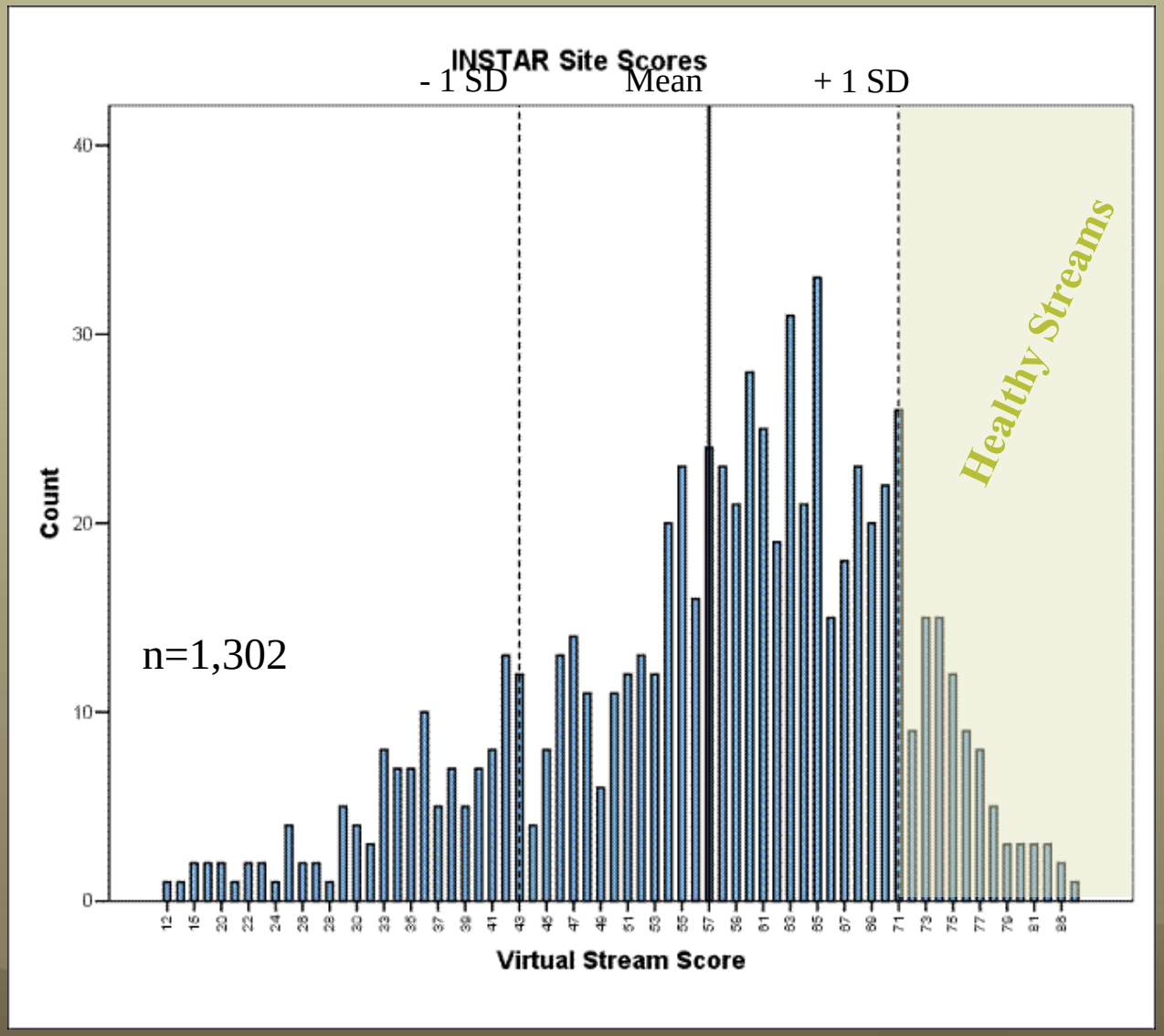
Healthy Waters Development

- Initially relied on Natural Heritage data and fish IBI information (not water quality)
- Advanced to a probabilistic field based multiple metric sampling approach (fish, macroinvertebrates, and habitat) --INSTAR
- Primarily funded by EPA and NOAA
- Objective, statistically-based classification methodology
- Bay-wide coverage with good data density
- Recently added watershed delineations
- Expanding coverage beyond the Bay watershed, into Chowan and Southern Rivers

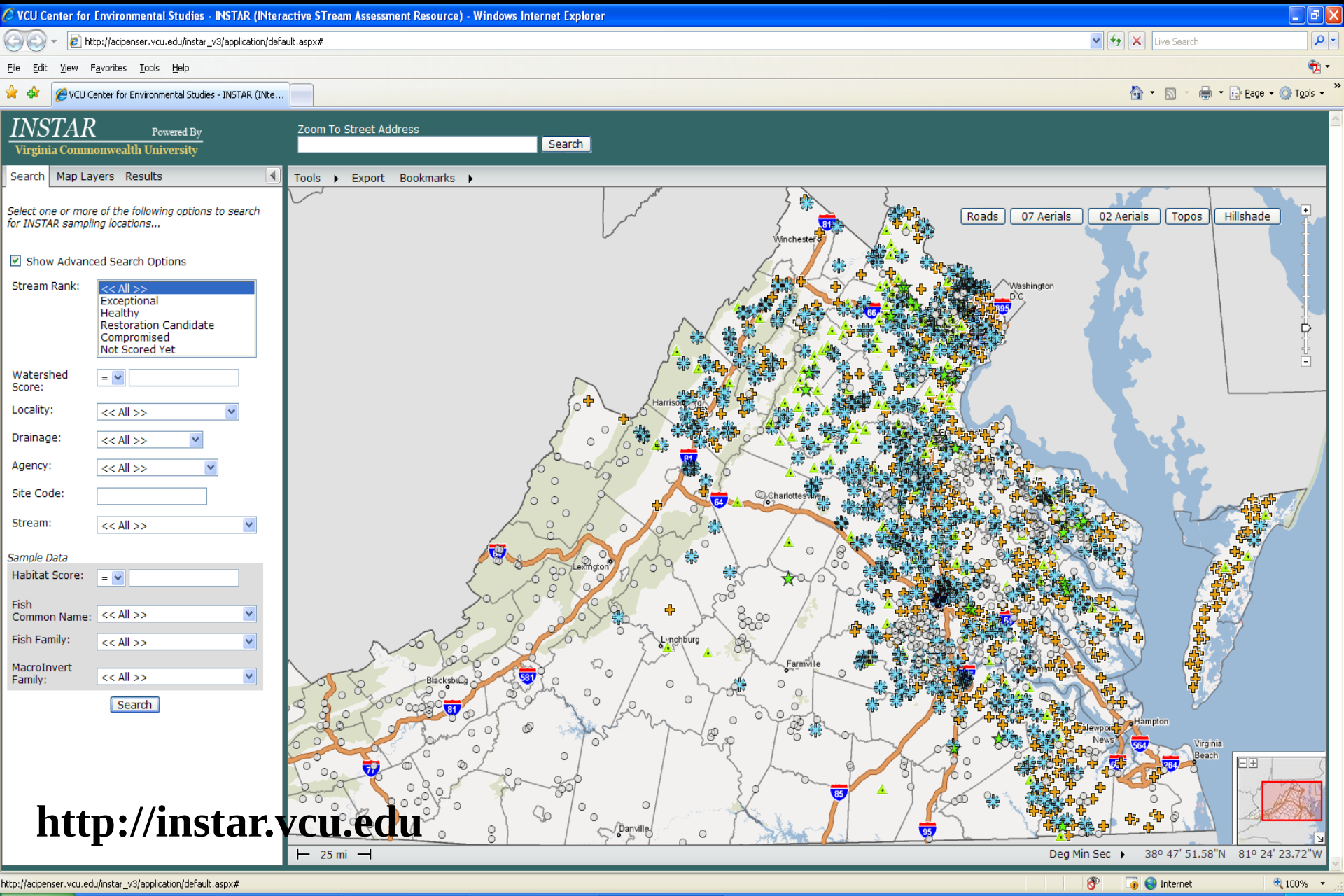
Interactive Stream Assessment Resource (InSTAR)

- Multi-metric ecological assessment - physical condition of streams, habitat, fish and macro invertebrate assemblages
- It uses high quality archival and field collected data through a probabilistic sampling approach
- More than 2500 rivers and streams have been assessed
- All data and the assessment methodology is available on an interactive, searchable website housed by VCU: http://instar.vcu.edu/
- To date, approximately 250 waters have been identified as having high ecological integrity (healthy)

Stream Ecological Integrity Classes



'Healthy' defined as >71% comparable to appropriate regional reference condition


VCU Center for Environmental Studies - INSTAR (INteractive STream Assessment Resource) - Windows Internet Explorer
http://acipenser.vcu.edu/instar_v3/application/default.aspx#
File Edit View Favorites Tools Help
INSTAR
Powered By
Virginia Commonwealth University
Zoom To Street Address
Search
Search Map Layers Results
Select one or more of the following options to search for INSTAR sampling locations...
Show Advanced Search Options
Stream Rank:
<< All >>
Exceptional
Healthy
Restoration Candidate
Compromised
Not Scored Yet
Watershed Score:
Locality:
Drainage:
Agency:
Site Code:
Stream:
Sample Data
Habitat Score:
Fish Common Name:
Fish Family:
MacroInvert Family:
Search
Tools
Export
Bookmarks
Roads
07 Aerials
02 Aerials
Topos
Hillshade
Winchester
Washington D.C.
Charlottesville
Lexington
Lynchburg
Farmville
Blacksburg
Danville
Hampton
Virginia Beach
25 mi
Deg Min Sec
38° 47' 51.58"N
81° 24' 23.72"W
http://instar.vcu.edu

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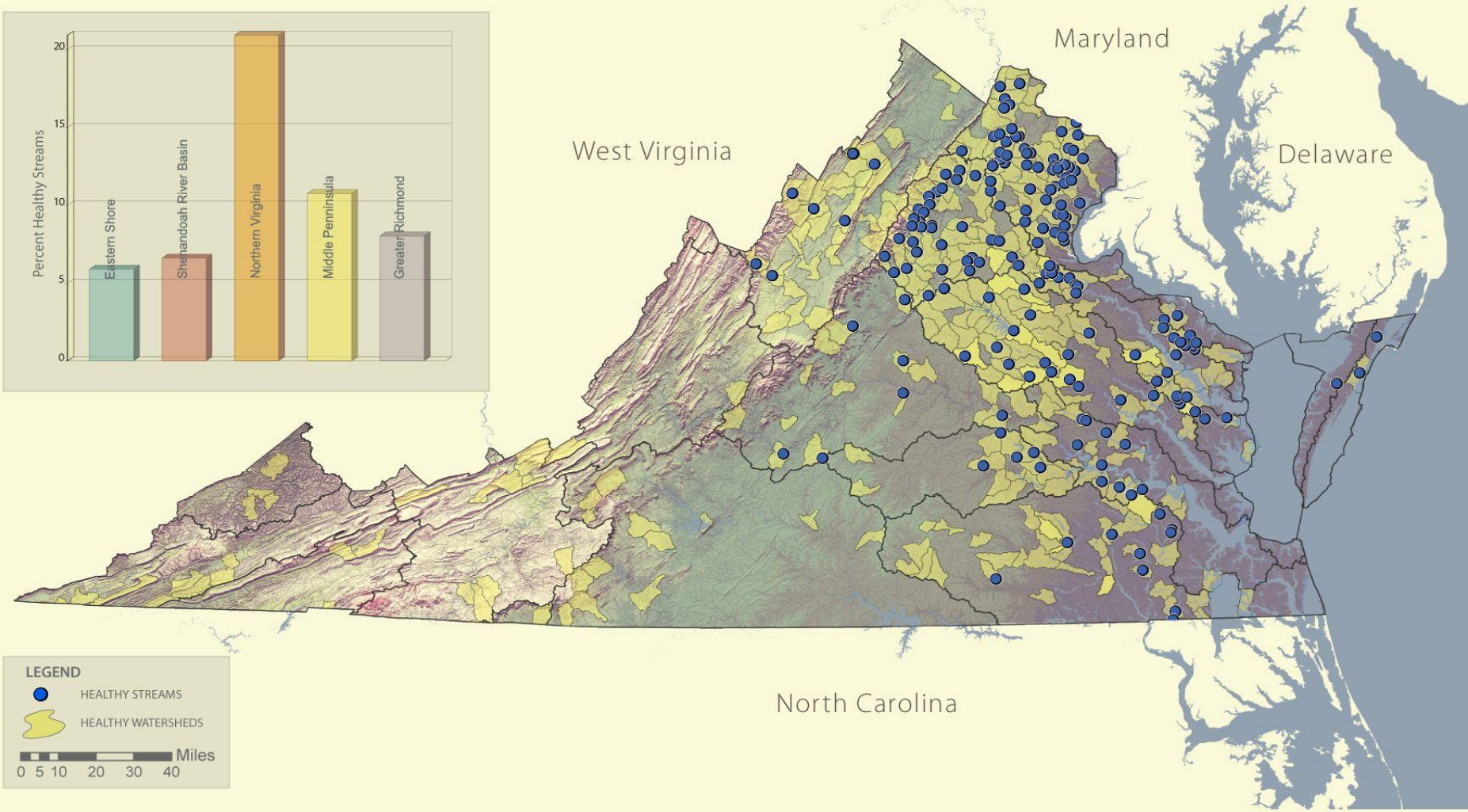
STATUS OF HEALTHY WATERS IN VIRGINIA



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How might Healthy Waters data be used?

- Targeting healthy watersheds for Agricultural BMP Cost-Share Program funding
- Updating conservation mapping and disseminating healthy watershed information to coastal localities
- Incorporating healthy waters data into Natural Heritage biological data bases-VEVA
- Connecting healthy waters to the Phase II Bay Watershed Implementation Plan or other conservation plans
- Implement land protection strategies—acquisition, easements, livestock exclusion, etc

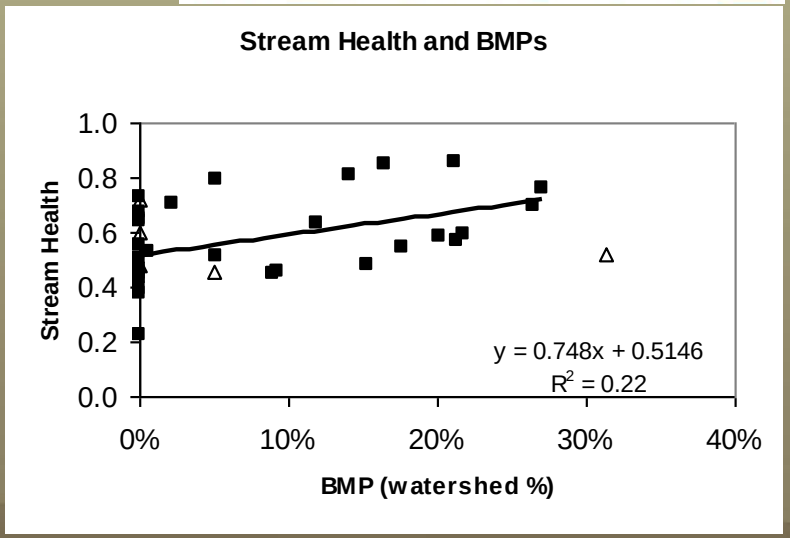
Richmond County, VA

1.) Prioritize streams and watersheds for protection and restoration

2.) Identify significant living resources

3.) Inform zoning, landuse, and comprehensive planning decisions

And…



Data from Richmond County, VA NFWF Study

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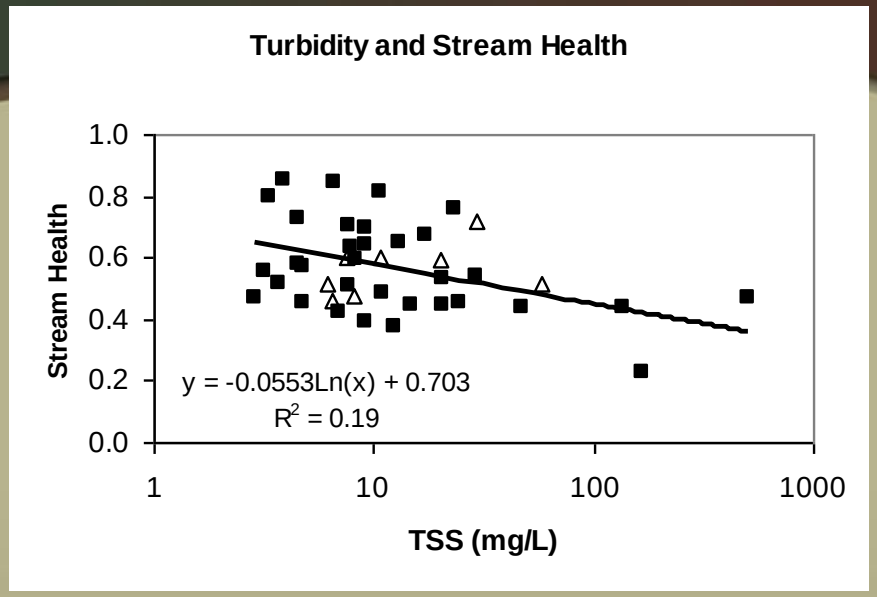
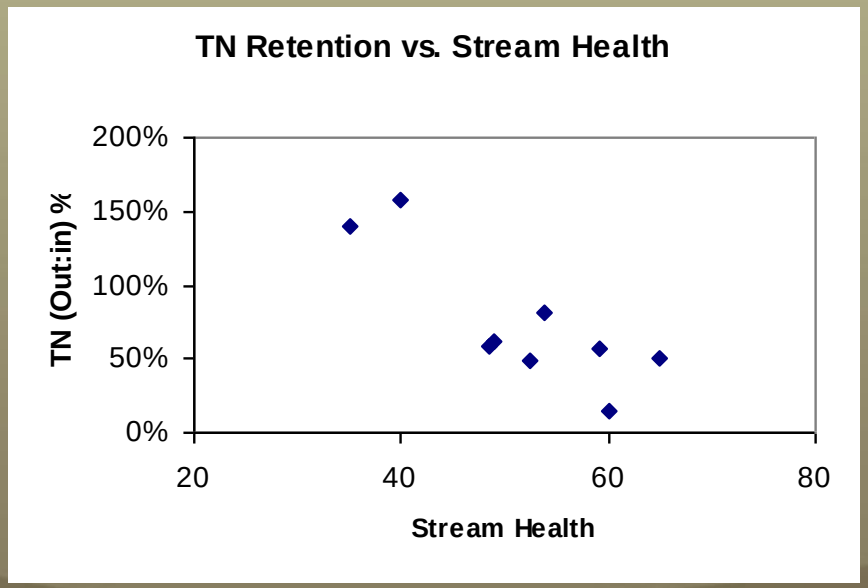
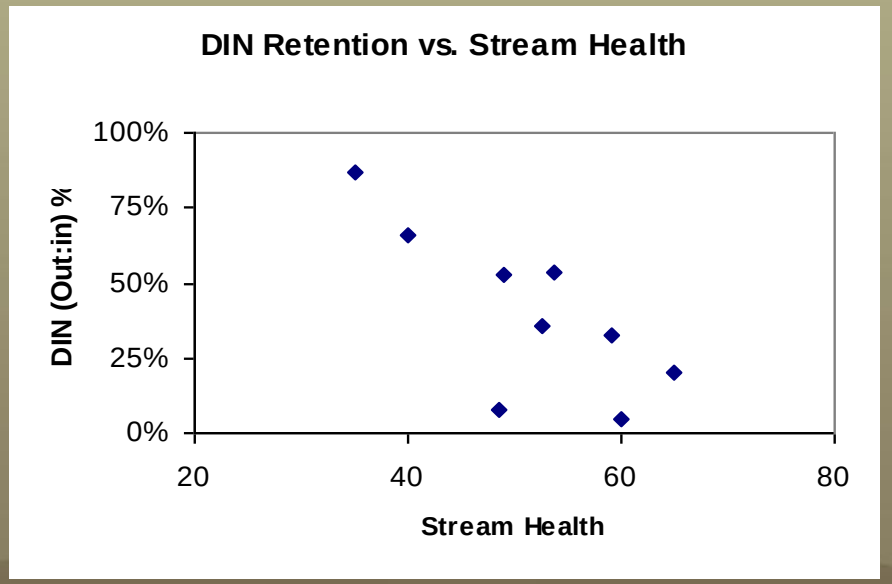
4.) Develop and implement local nutrient and sediment reduction strategies based on identification and protection of Healthy Waters and restoration of the '*mostly* healthy'





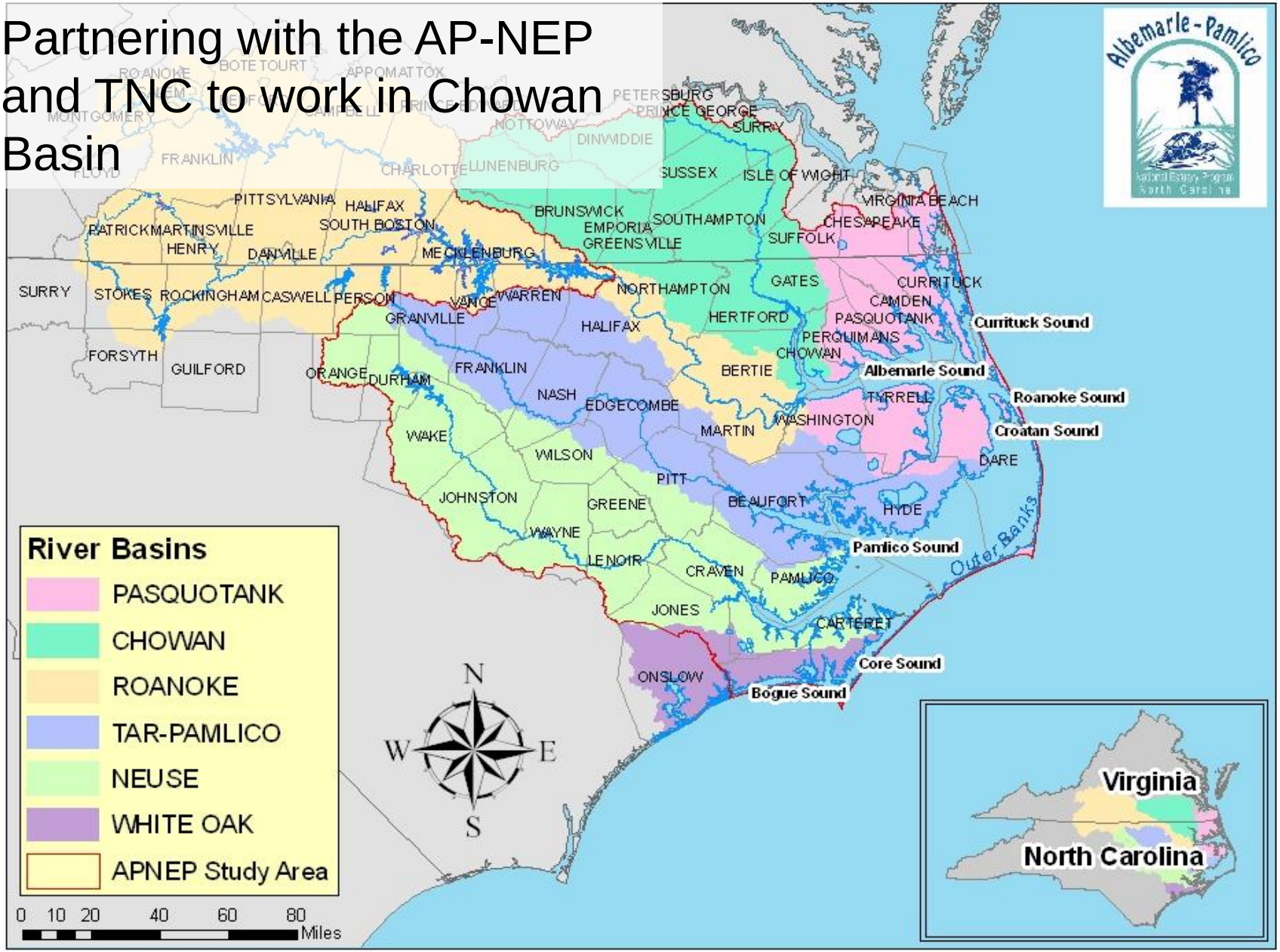


All data from Richmond County, Virginia NFWF Project

What is being done?

- Continuing to expand the Healthy Waters Program with EPA 319 and NOAA VA CZMA monies
- Conducting State Code Review
- Leveraging and coordinating natural resources management programs and activities
- Providing technical assistance to local governments
- Developing new partnerships!

Partnering with the AP-NEP and TNC to work in Chowan Basin



Chowan Basin Pilot Project

- Advance Virginia interstate watershed and basin activities
- Further expand the partnership with NC on shared watershed activities and Interstate Watershed MOU
- Partner with APNEP to develop a Chowan Basin protection plan:
  - Advancing the APNEP CCMP
  - Identifies and recommends protection of ecologically sensitive resources
  - Provides recommendations for modifying the USEPA Implementation Plan for *protection* as opposed to *restoration*

Chowan Basin Pilot Project

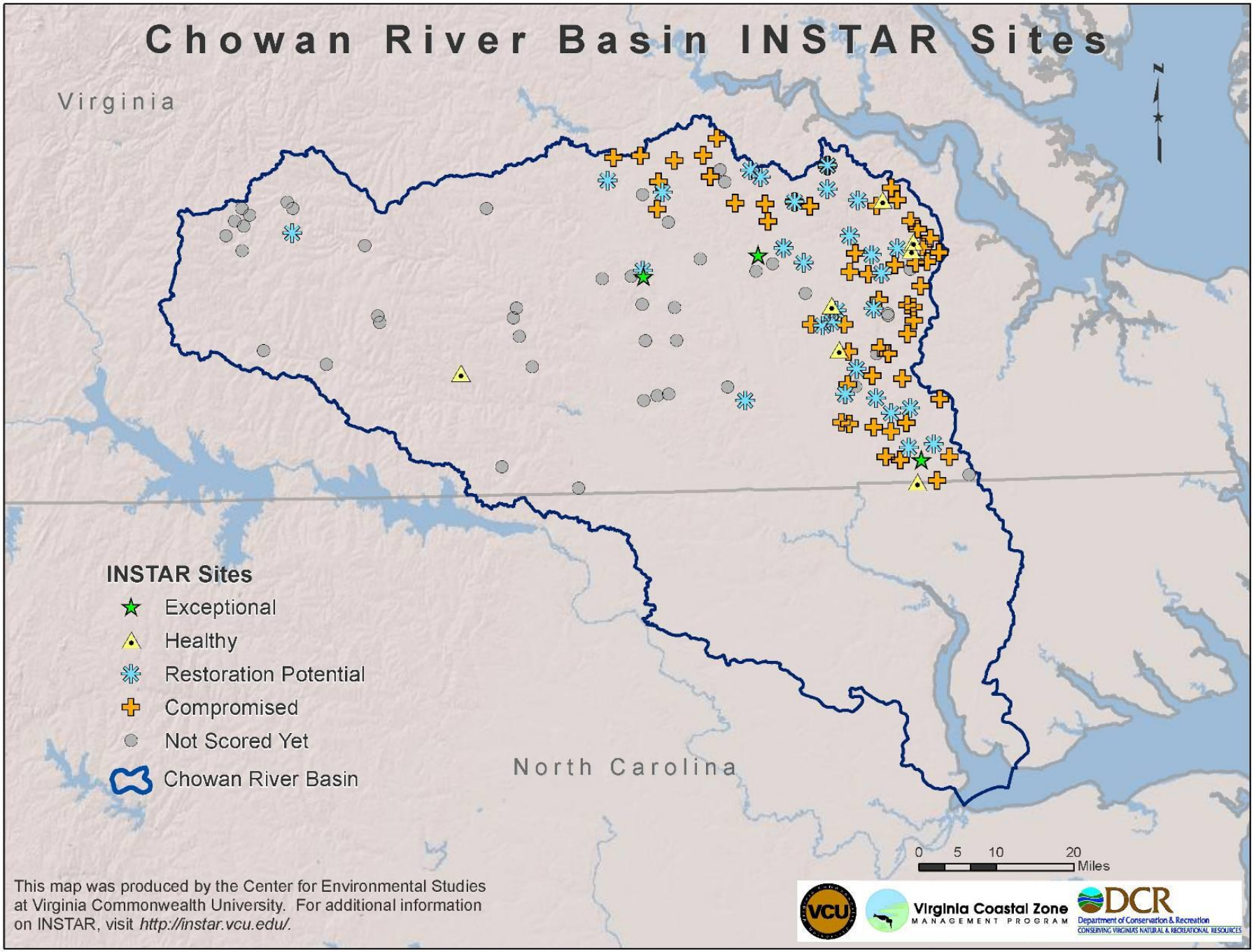
- **Workplan Schedule: Two year duration**

- **Winter 2011/2—Conduct Coarse Scale remote assessment of Chowan**
- **Winter 2011/2—Develop Stakeholder group to provide input to suggest three watersheds in the Chowan Basin (STAC?):**
  - **VA, NC and one shared**
- **Spring-Fall 2012—In-field data collection, in those above listed**
- **Spring-Summer 2012—Begin stakeholder engagement and outreach (CAC?)**
  - **Development of local workgroups to begin data evaluation and consider options**

Chowan Basin Pilot Project

- **Workplan Schedule (Continued):**

- **Winter 2012/3—Data assessment**
- **Spring 2013—Final data collection and begin data integration**
- **Spring 2013—Community and stakeholder outreach/ engagement**
- **Spring-Fall 2013—Development of watershed protection plan for each watershed, including recommendations for modifying the USEPA Implementation Plan for the purpose of protection**
- **Winter 2013—Completion of Project**


Chowan River Basin INSTAR Sites
Virginia
North Carolina
N
INSTAR Sites
Exceptional
Healthy
Restoration Potential
Compromised
Not Scored Yet
Chowan River Basin
0 5 10 20
Miles
This map was produced by the Center for Environmental Studies at Virginia Commonwealth University. For additional information on INSTAR, visit http://instar.vcu.edu/.
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MANAGEMENT PROGRAM
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Department of Conservation & Recreation
CONSERVING VIRGINIA'S NATURAL & RECREATIONAL RESOURCES

Questions?

http://www.dcr.virginia.gov/healthywaters
http://instar.vcu.edu

Todd Janeski
VA Healthy Waters Initiative Program Manager
Virginia Commonwealth University at the
Virginia Department of Conservation and Recreation
tvjaneski@vcu.edu
todd.janeski@dcr.virginia.gov
804.371.8984

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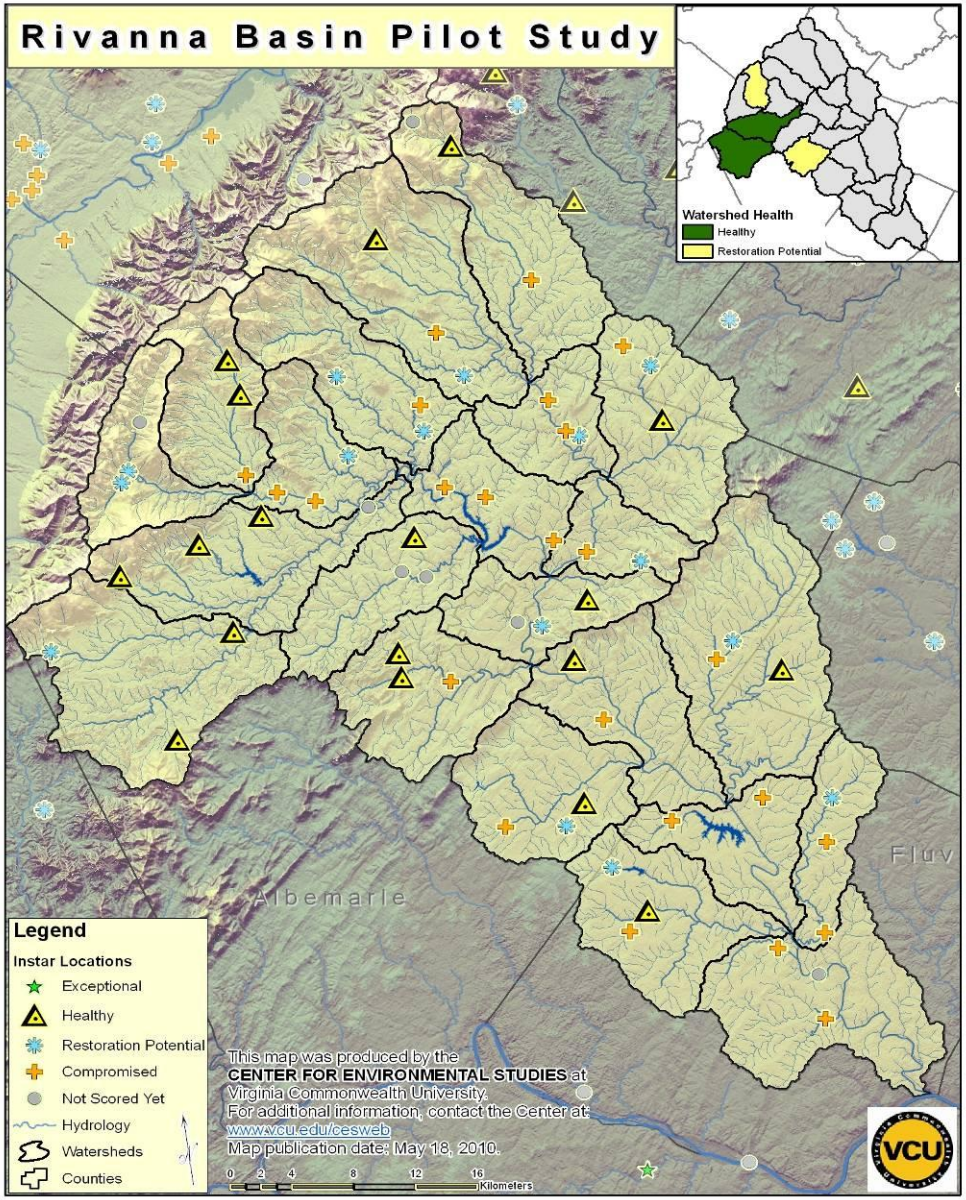
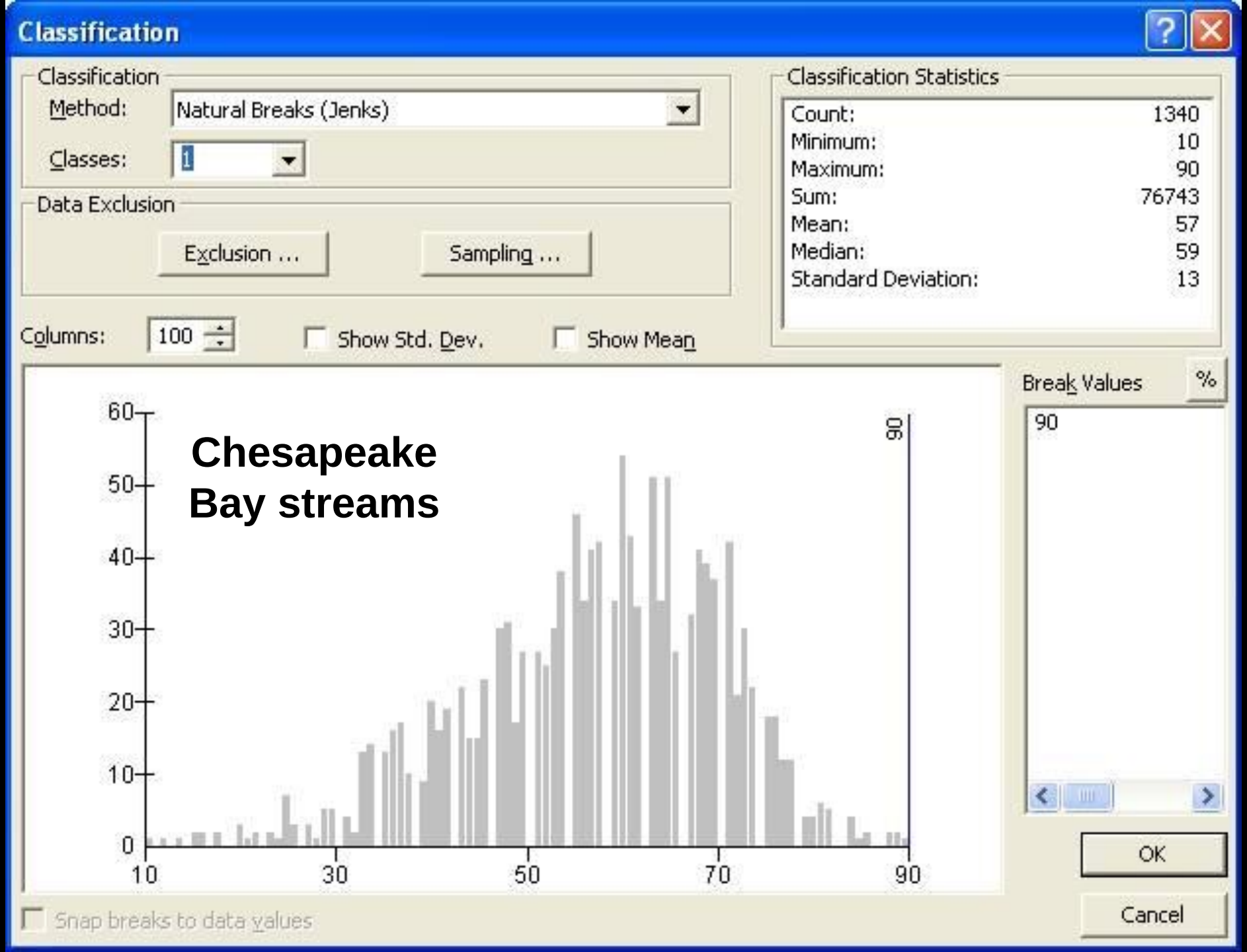
Rivanna Basin
Charlottesville, VA




Classification
Classification
Method:
Natural Breaks (Jenks)
Classes:
1
Data Exclusion
Exclusion ...
Sampling ...
Classification Statistics
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Maximum: 90
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Mean: 57
Median: 59
Standard Deviation: 13
Columns:
100
Show Std. Dev.
Show Mean
Chesapeake
Bay streams
60
50
40
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10
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70
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90
Break Values
%
90
OK
Cancel
Snap breaks to data values

Classification

Classification

Method: Natural Breaks (Jenks)

Classes: 1

Data Exclusion

Exclusion ...

Sampling ...

Classification Statistics

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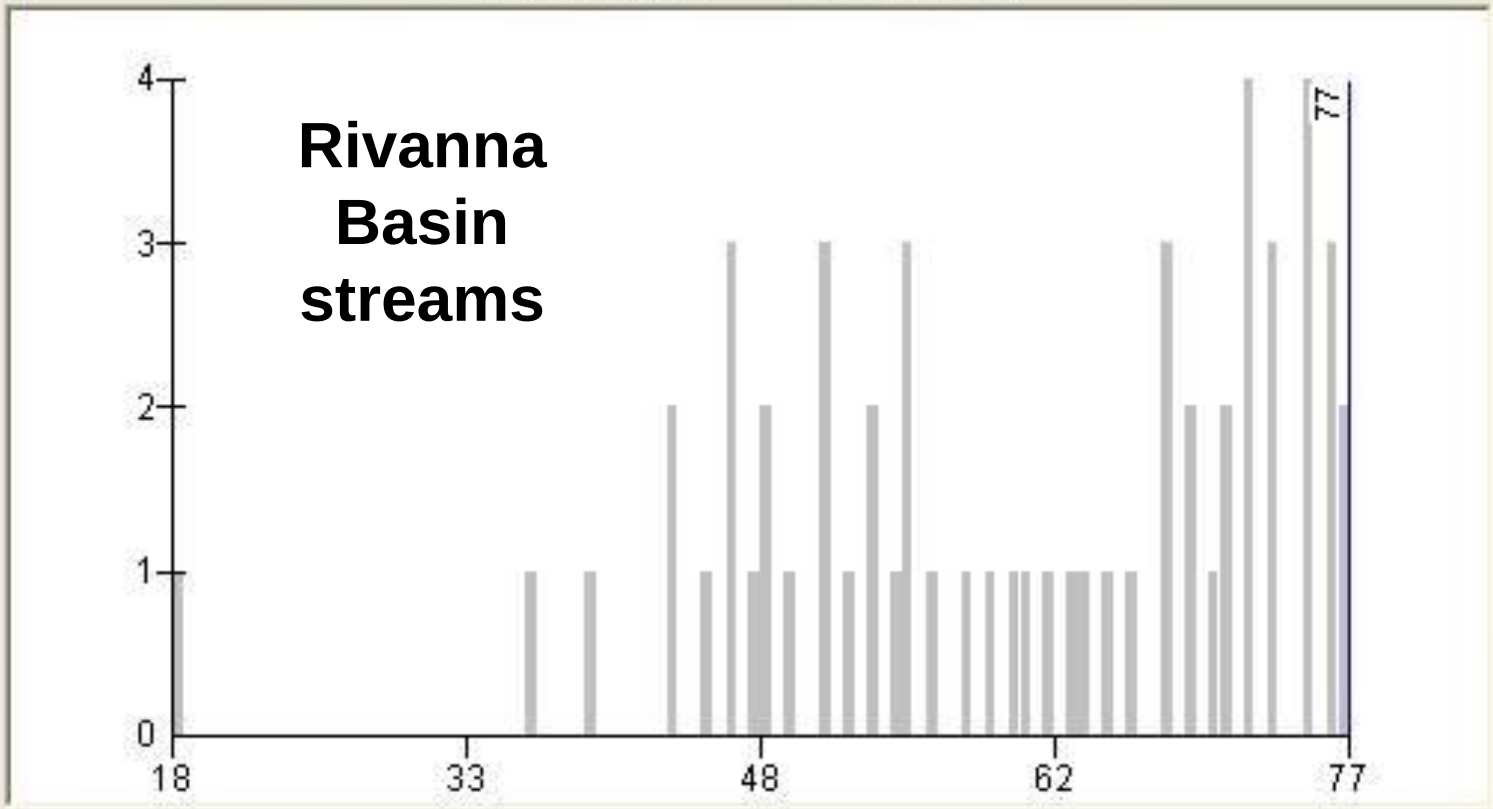
Mean:	60
Median:	62
Standard Deviation:	13

Columns: 100

Show Std. Dev.

Show Mean



Break Values

%

77

OK

Cancel

Snap breaks to data values