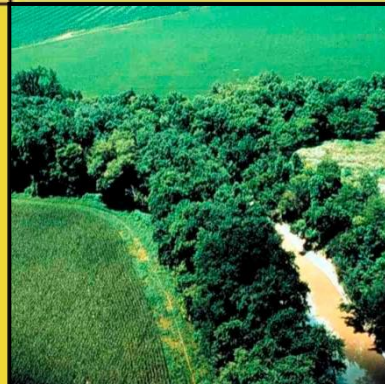


The Eden Area Local Watershed Plan



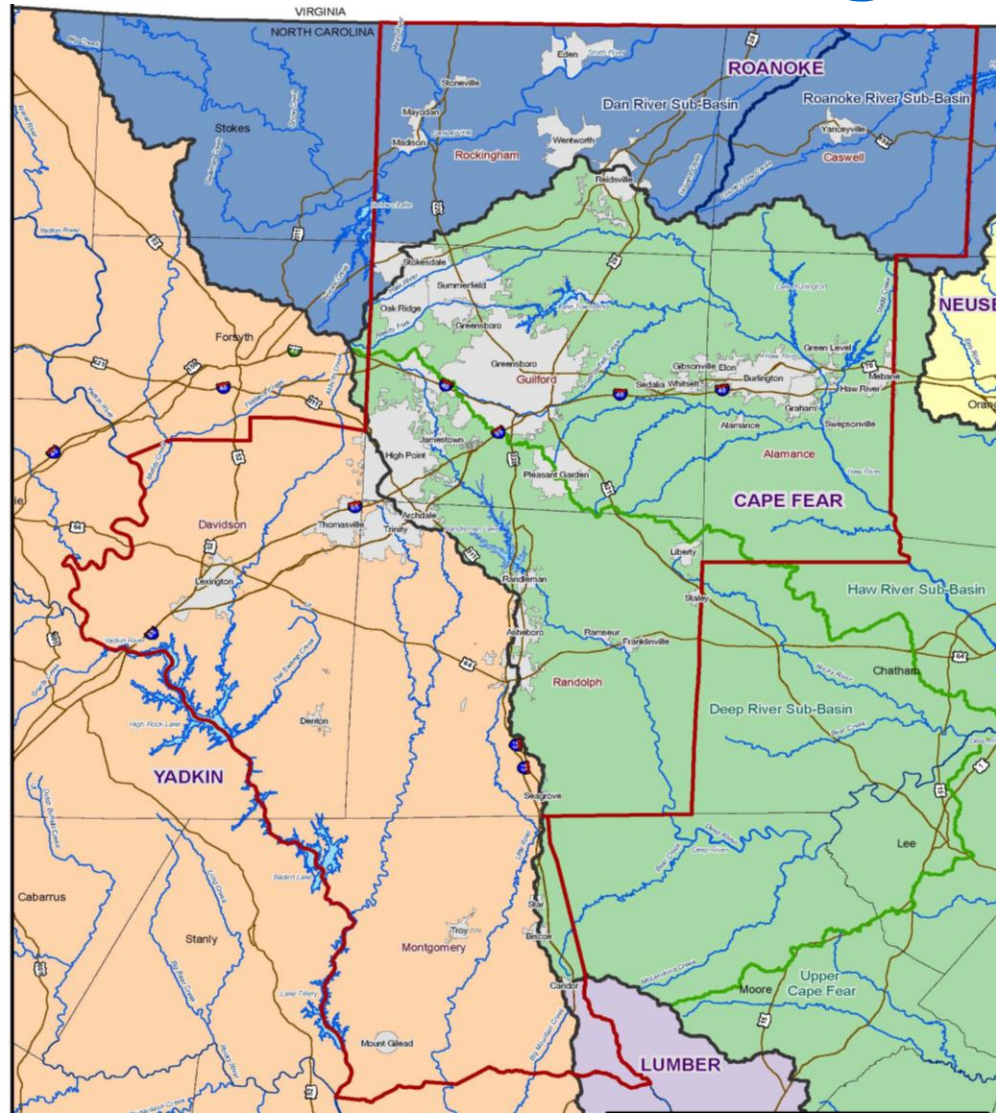
Presented by Cy Stober
Piedmont Triad Council Of Governments





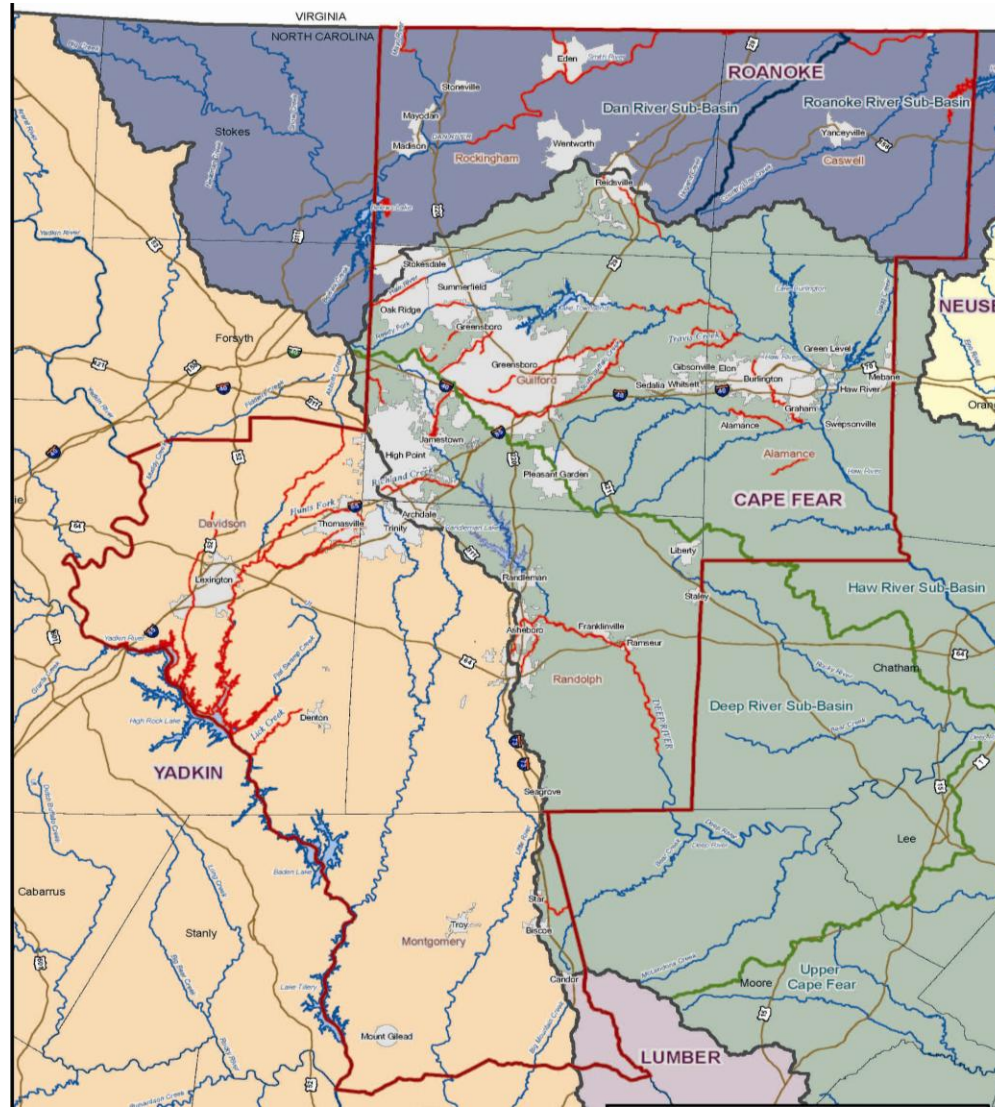


Piedmont Triad Region



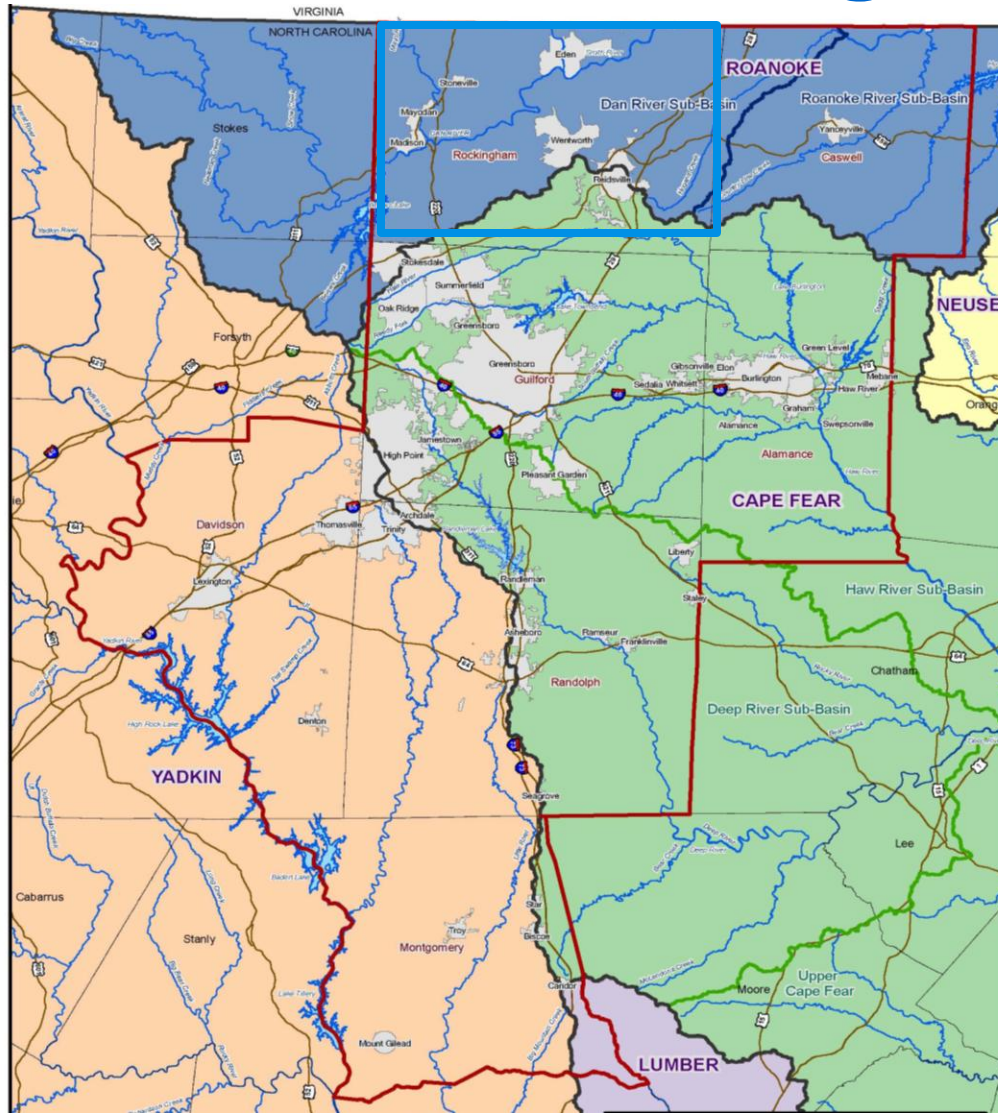


Piedmont Triad Region



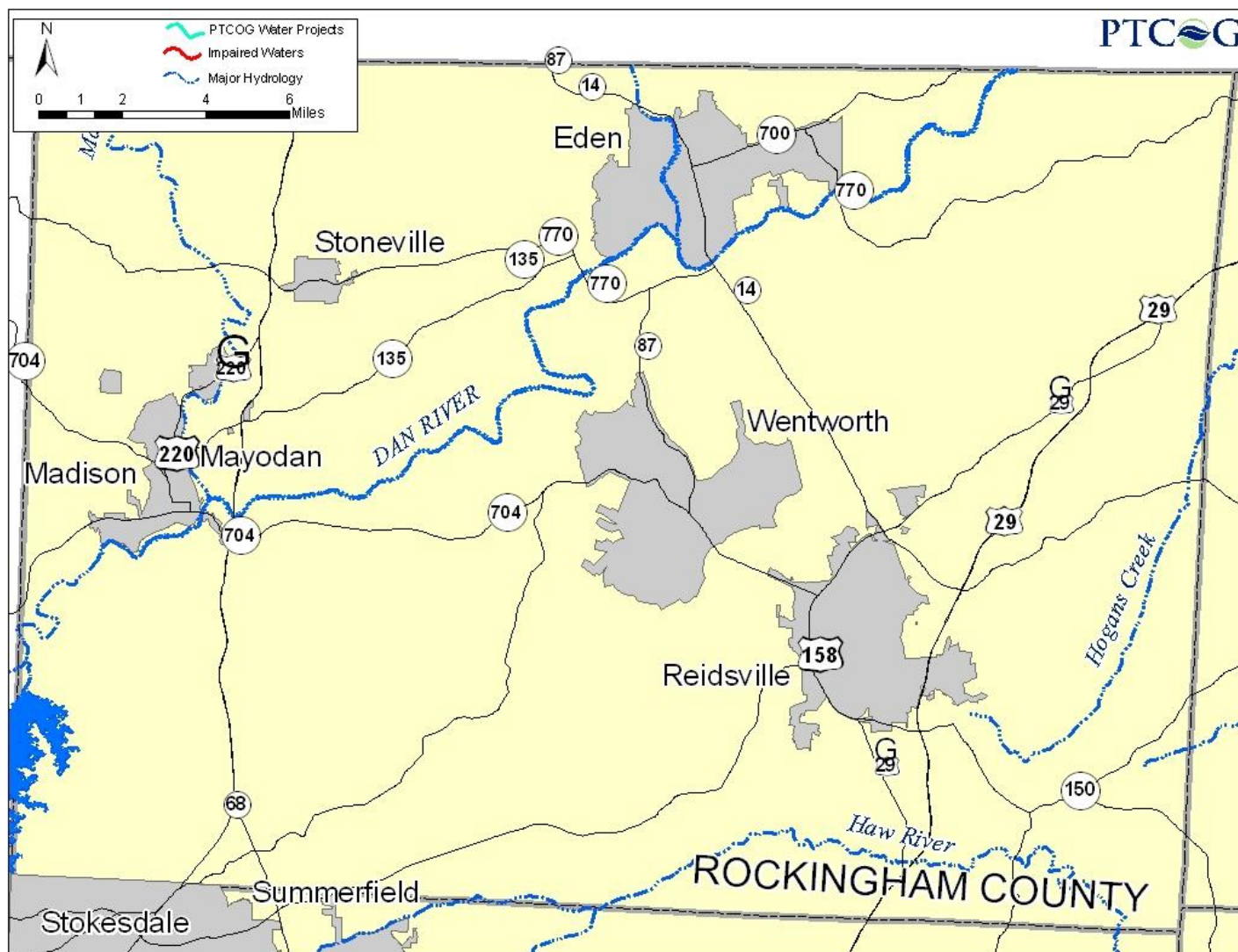


Piedmont Triad Region



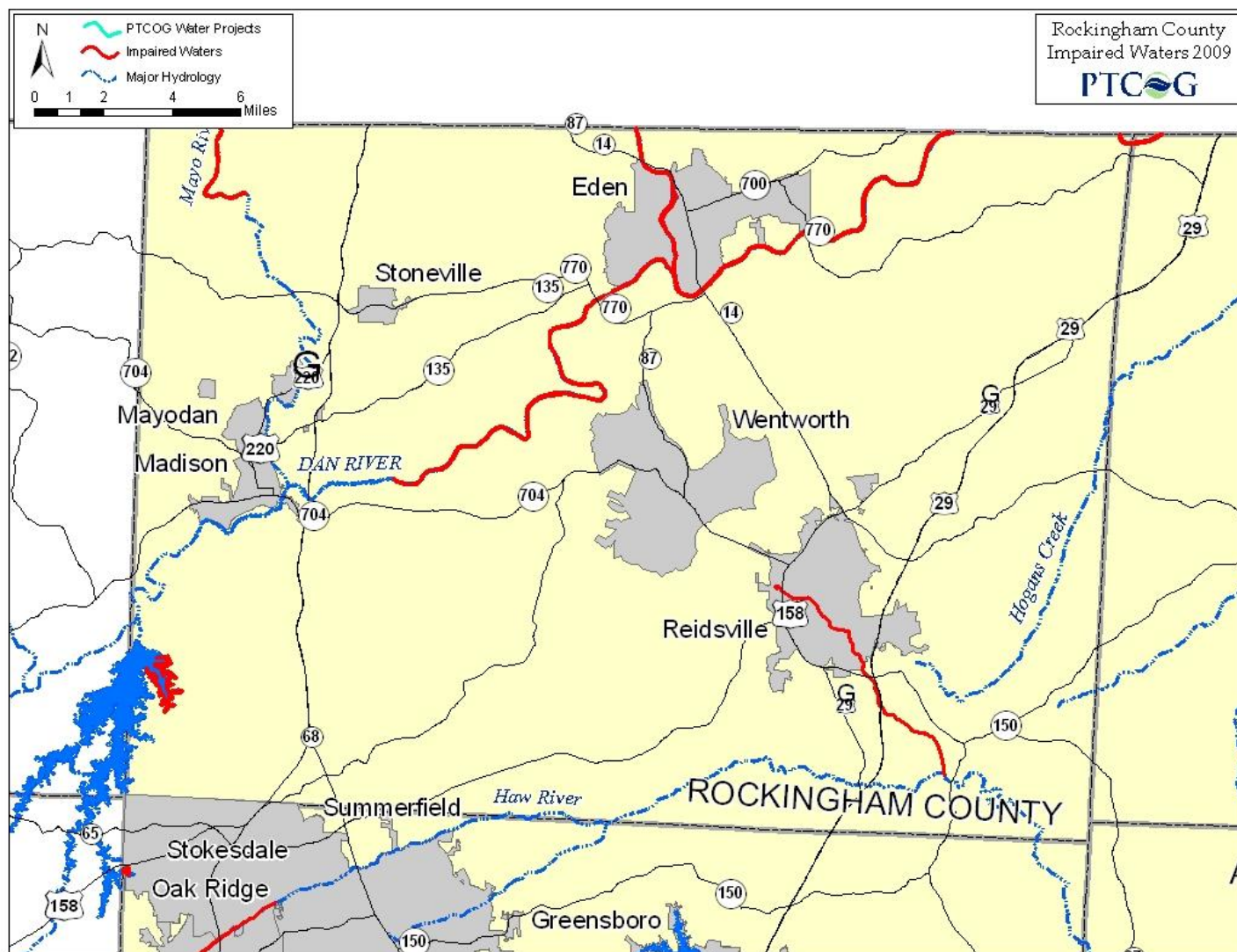


Rockingham County



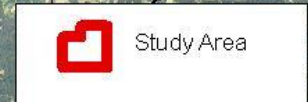
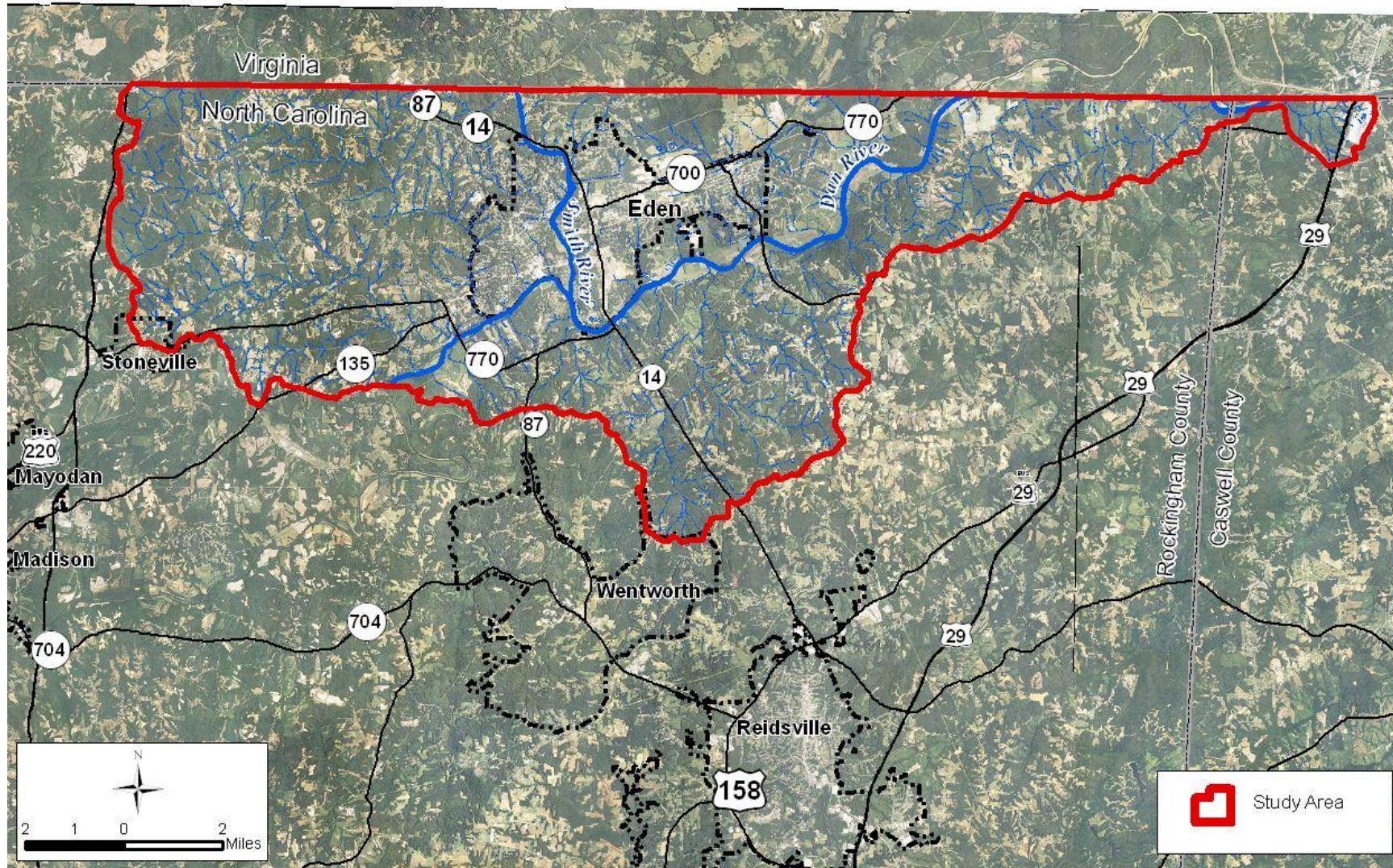


Rockingham County Impaired Waters





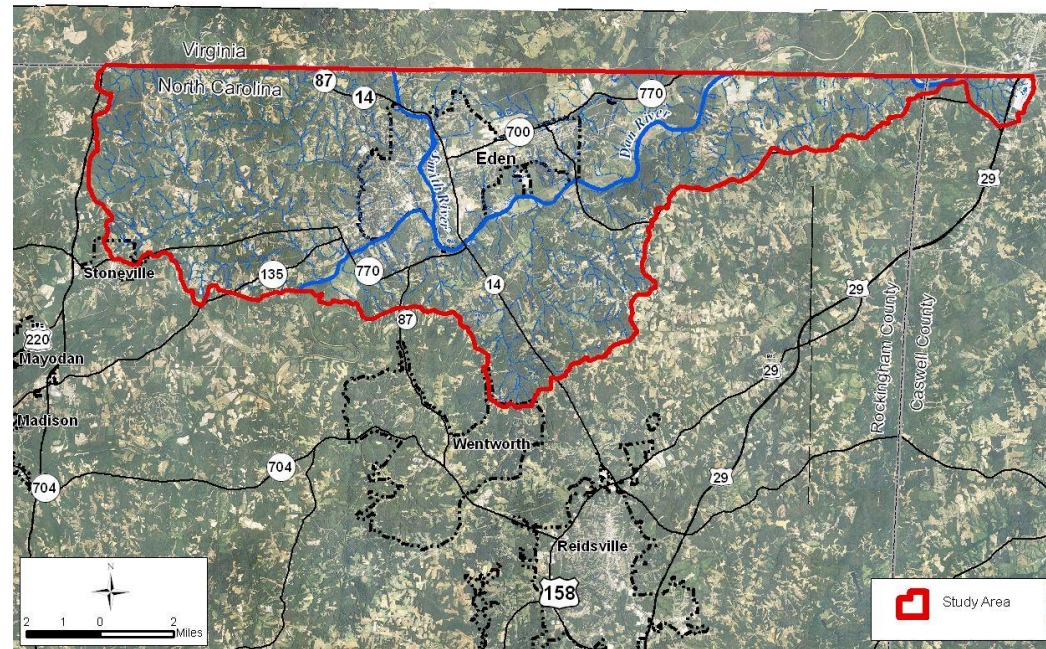
Eden Area Watershed





Eden Area Watershed

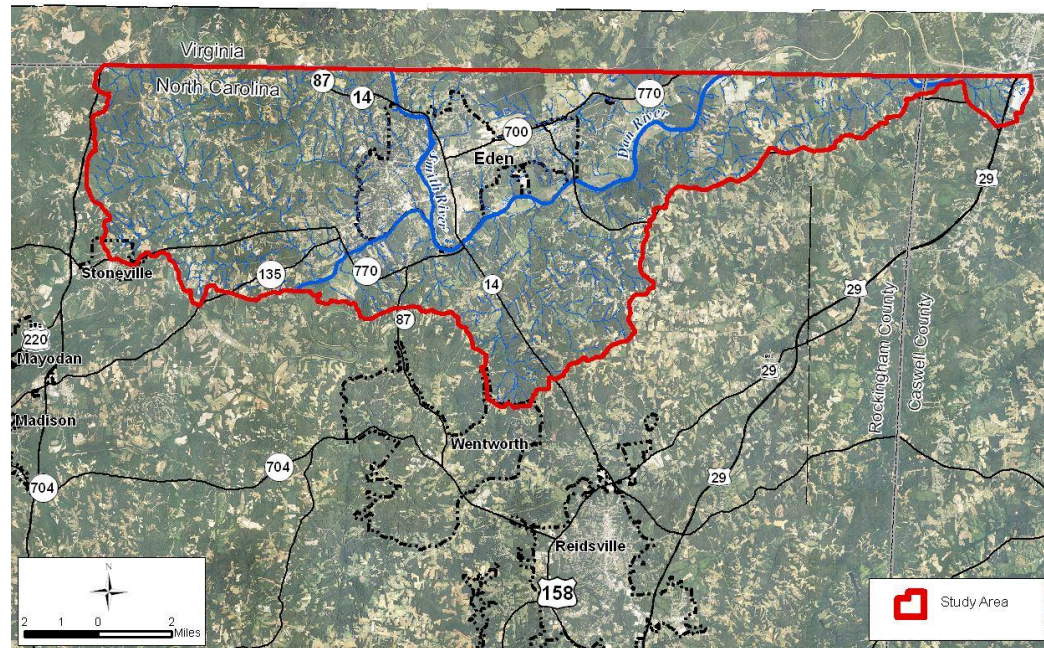
- 119 square miles





Eden Area Watershed

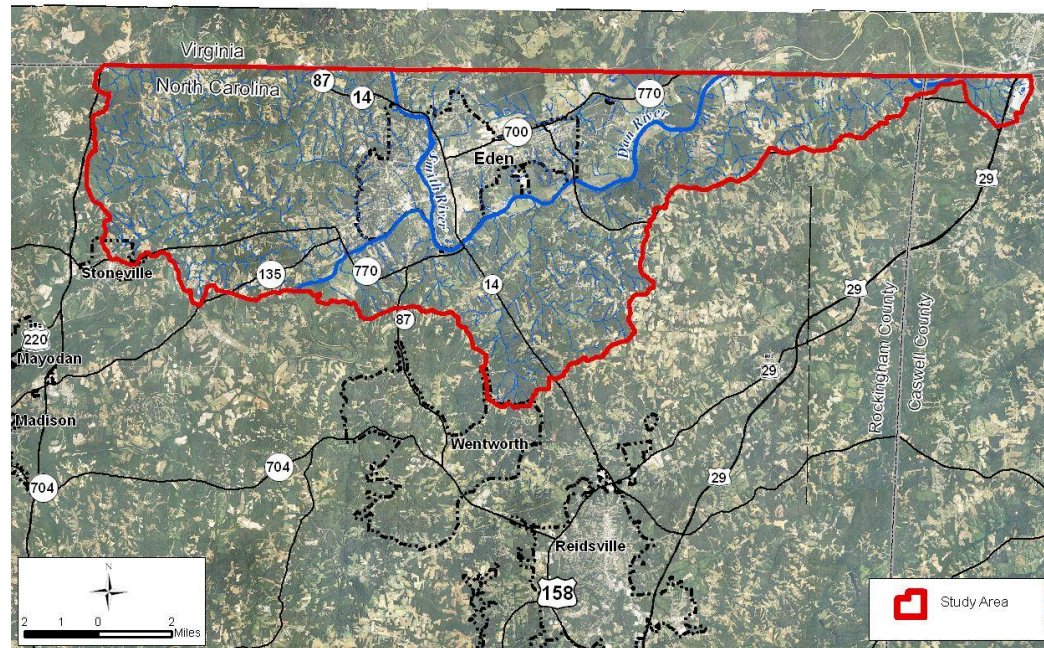
- 119 square miles
- Rockingham & Caswell Counties





Eden Area Watershed

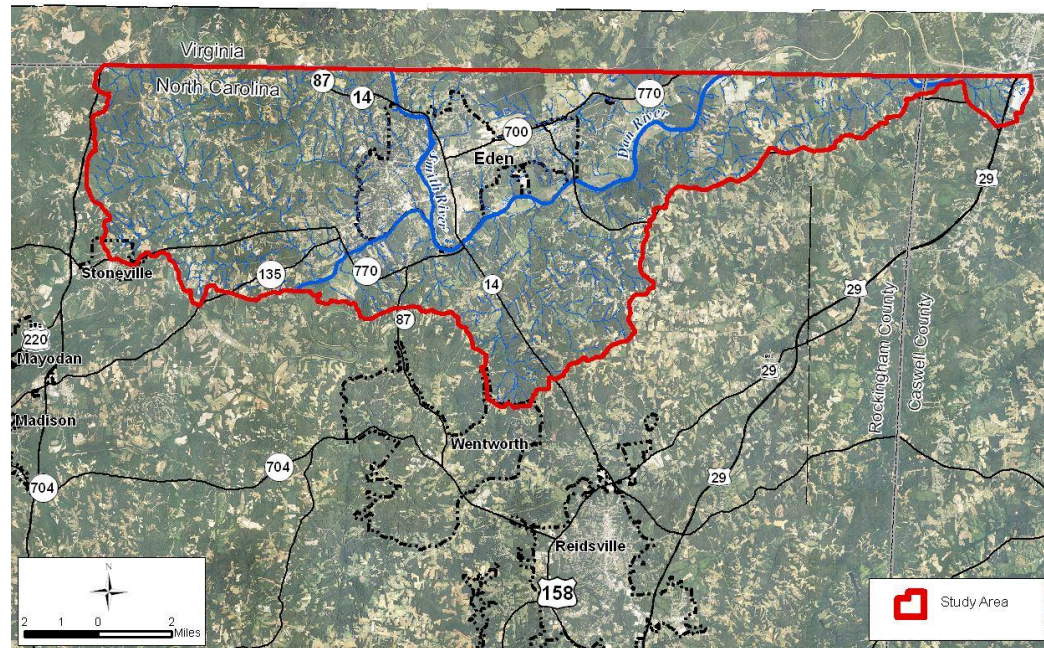
- 119 square miles
- Rockingham & Caswell Counties
 - Mostly forested
 - City of Eden





Eden Area Watershed

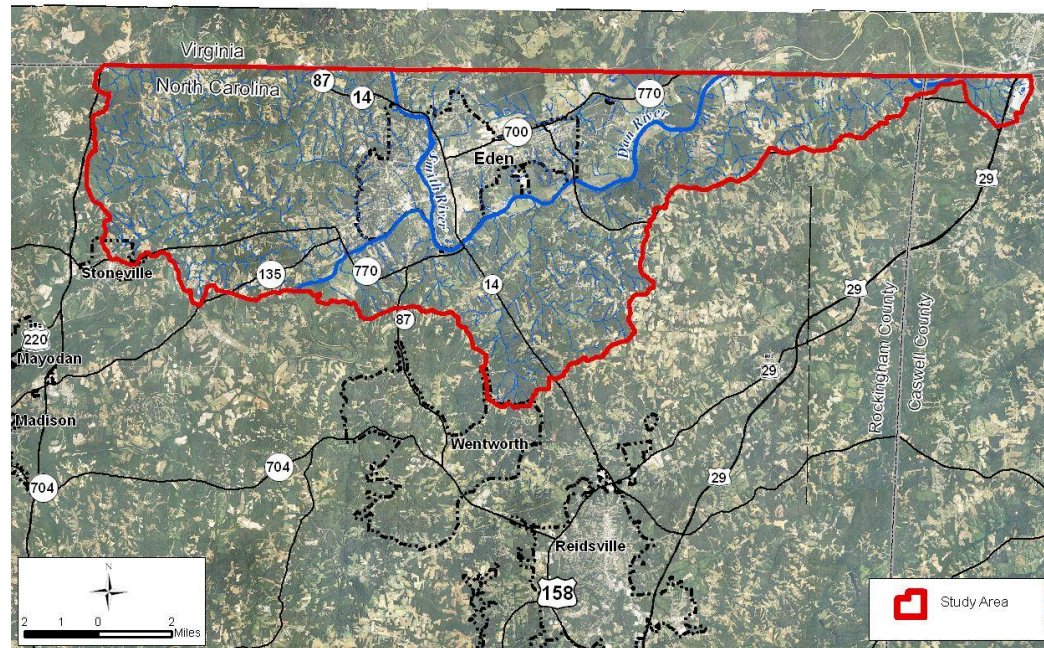
- 119 square miles
- Rockingham & Caswell Counties
 - Mostly forested
 - City of Eden
- Dan River Basin
 - 7 federally-listed species





Eden Area Watershed

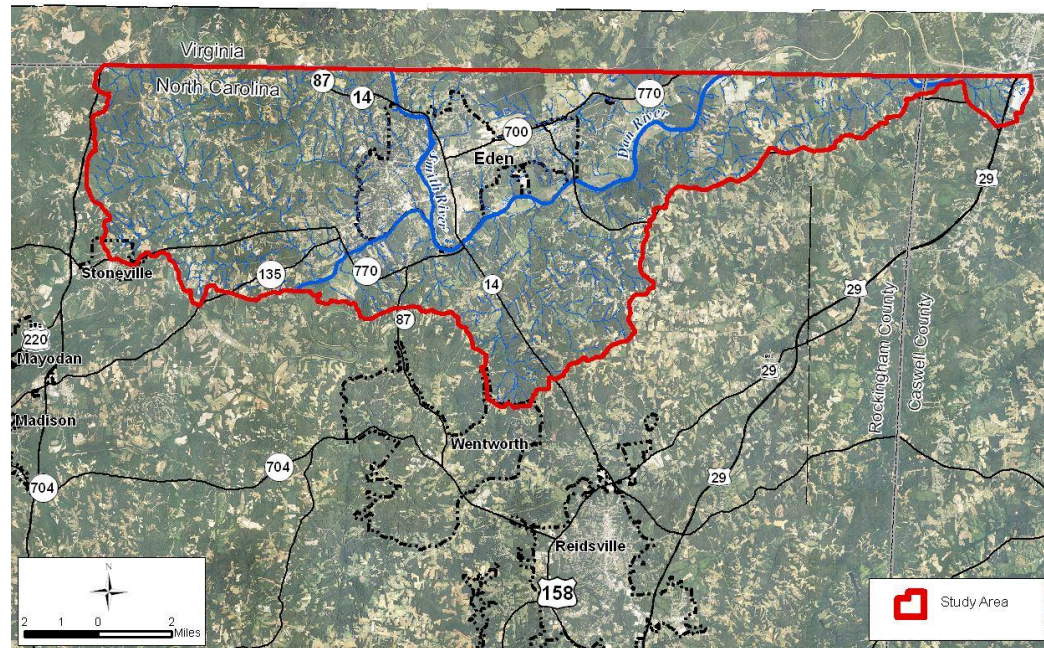
- 2010 303(d) List
 - Dan River
 - Aquatic Life
 - Turbidity
 - Recreation
 - Fecal Coliform





Eden Area Watershed

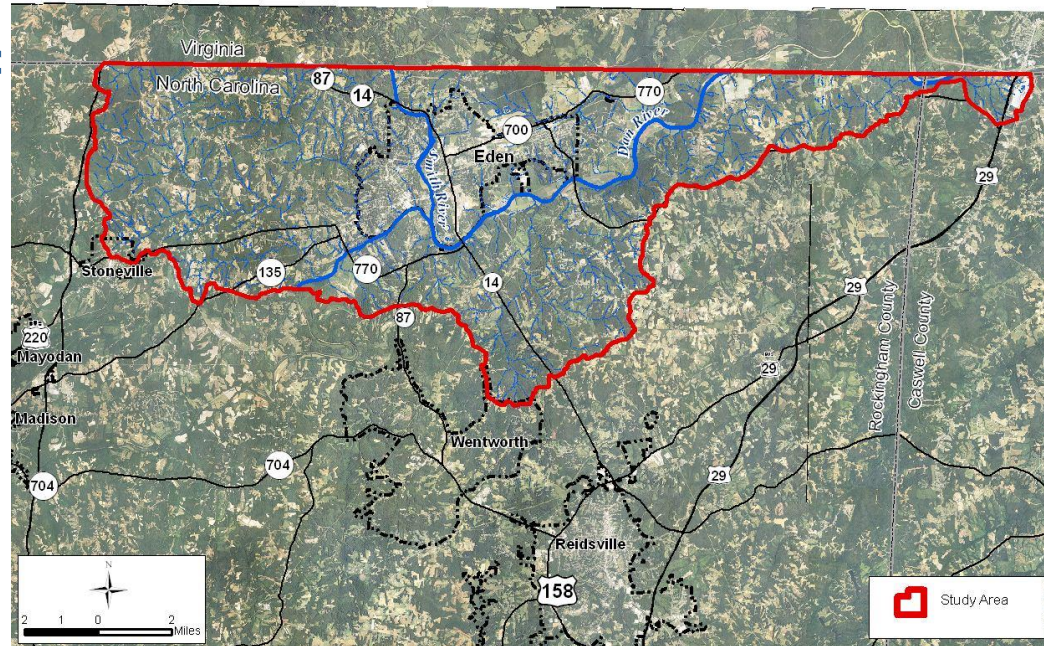
- 2008 Draft 303(d) List
 - Smith River
 - Aquatic Life
 - Poor Habitat
 - Copper
 - Recreation
 - Fecal Coliform





Eden Area Watershed

- History of high levels of metals
 - Iron
 - Copper
 - Manganese
 - Zinc
- Virginia TMDL
- Cotton Spray Mill dam in downtown Eden





Dan River TMDL

- Turbidity study
– 2005

*Total Maximum Daily Load for Turbidity and Fecal Coliform for
Haw River, Deep River, Third Fork Creek, and Dan River in North
Carolina*

Final Report

EPA Approved Date: Jan 11, 2005

Cape Fear River Basin and Roanoke River Basin

Prepared by:
NC Department of Environment and
Natural Resources
Division of Water Quality
Water Quality Section – Planning Branch
1617 Mail Service Center
Raleigh, NC 27699-1617
(919) 733-5083





Dan River TMDL

- Turbidity study
 - 2005
 - 59% reduction in inputs
 - Much of this input due to new development in Stokes and Rockingham Counties
 - Majority of violations during high volume storm events

Total Maximum Daily Load for Turbidity and Fecal Coliform for Haw River, Deep River, Third Fork Creek, and Dan River in North Carolina

Final Report

EPA Approved Date: Jan 11, 2005

Cape Fear River Basin and Roanoke River Basin

Prepared by:
NC Department of Environment and
Natural Resources
Division of Water Quality
Water Quality Section – Planning Branch
1617 Mail Service Center
Raleigh, NC 27699-1617
(919) 733-5083





Eden Area Watershed

- Potential Sources of Impairment



Eden Area Watershed

- Potential Sources of Impairment
 - Urban Growth
 - Primary Discharges
 - Dams
 - Agriculture
 - Forestry Practices
 - Nonpoint Sources
 - Unknown Sources



PTCOG Watershed Restoration Planning

- Address sources of biological impairment & high fecal coliform levels in the Dan River
- Address sources of biological impairment, high turbidity & fecal coliform levels in the Smith River
- Policy, water quality data, field, & land use analyses
- Priority projects, policy recommendations, and programmatic solutions



PTCOG Watershed Restoration Planning

- Examine the whole watershed and identify areas of pollution



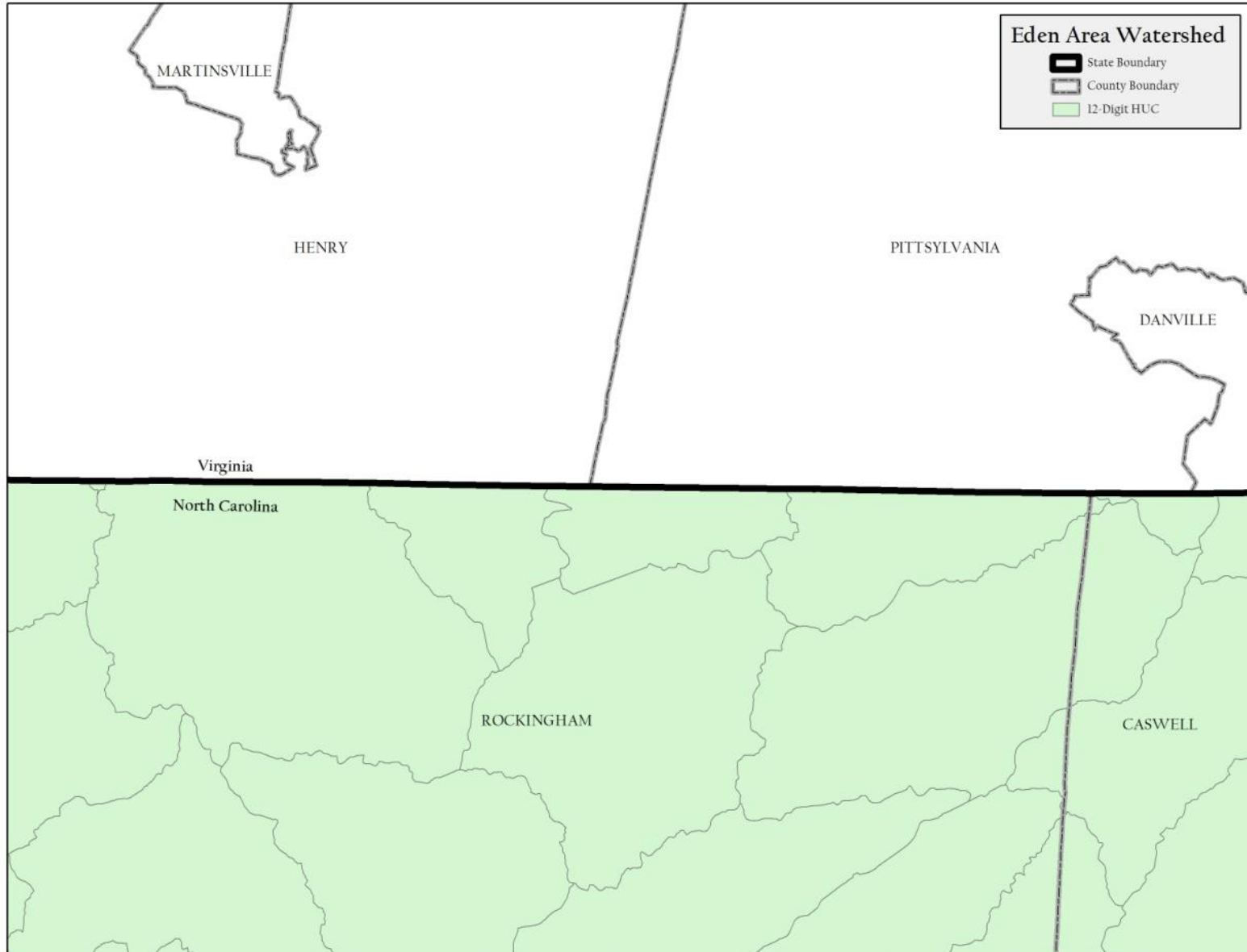
PTCOG Watershed Restoration Planning

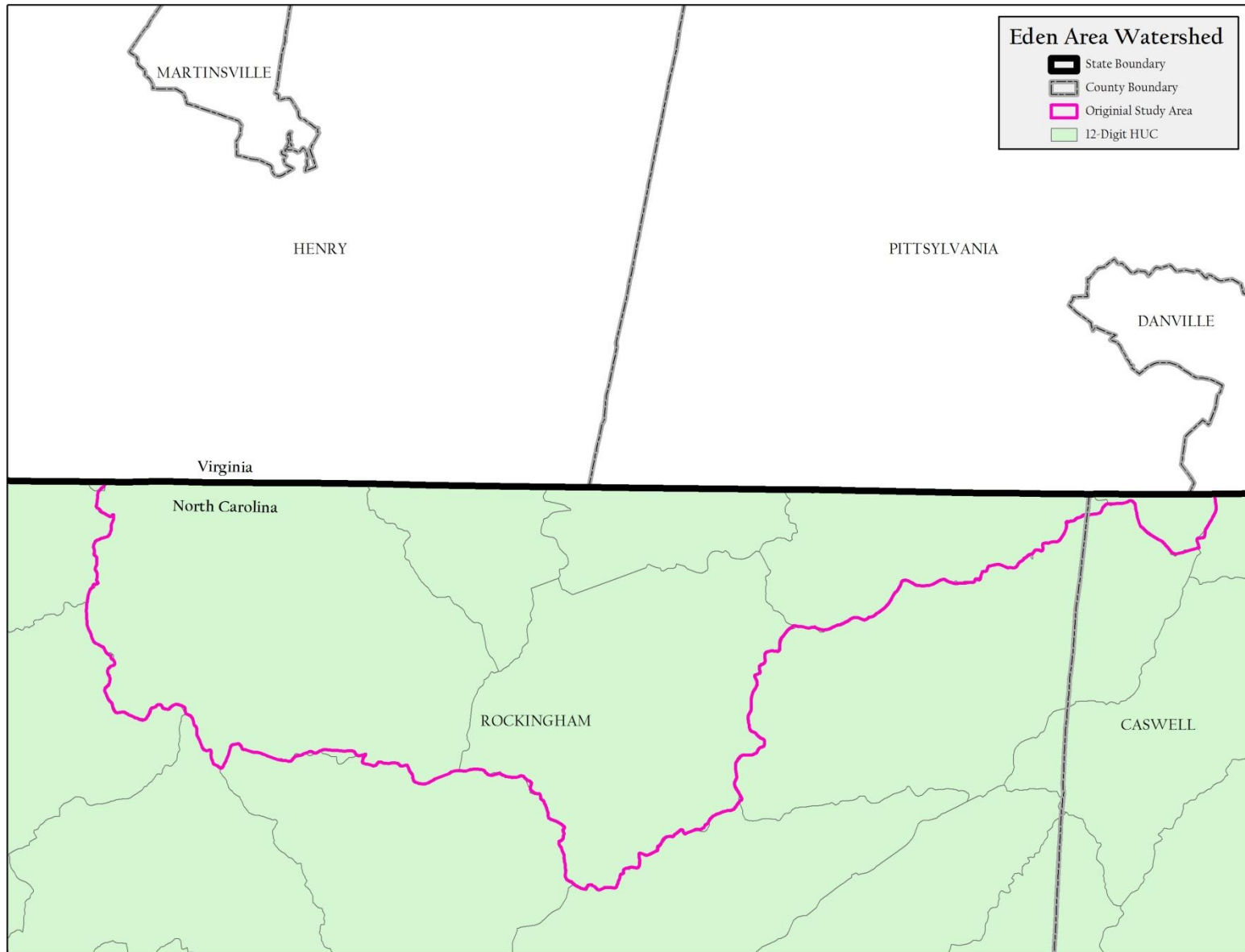
- Examine the whole watershed and identify areas of pollution
 - Field work
 - GIS

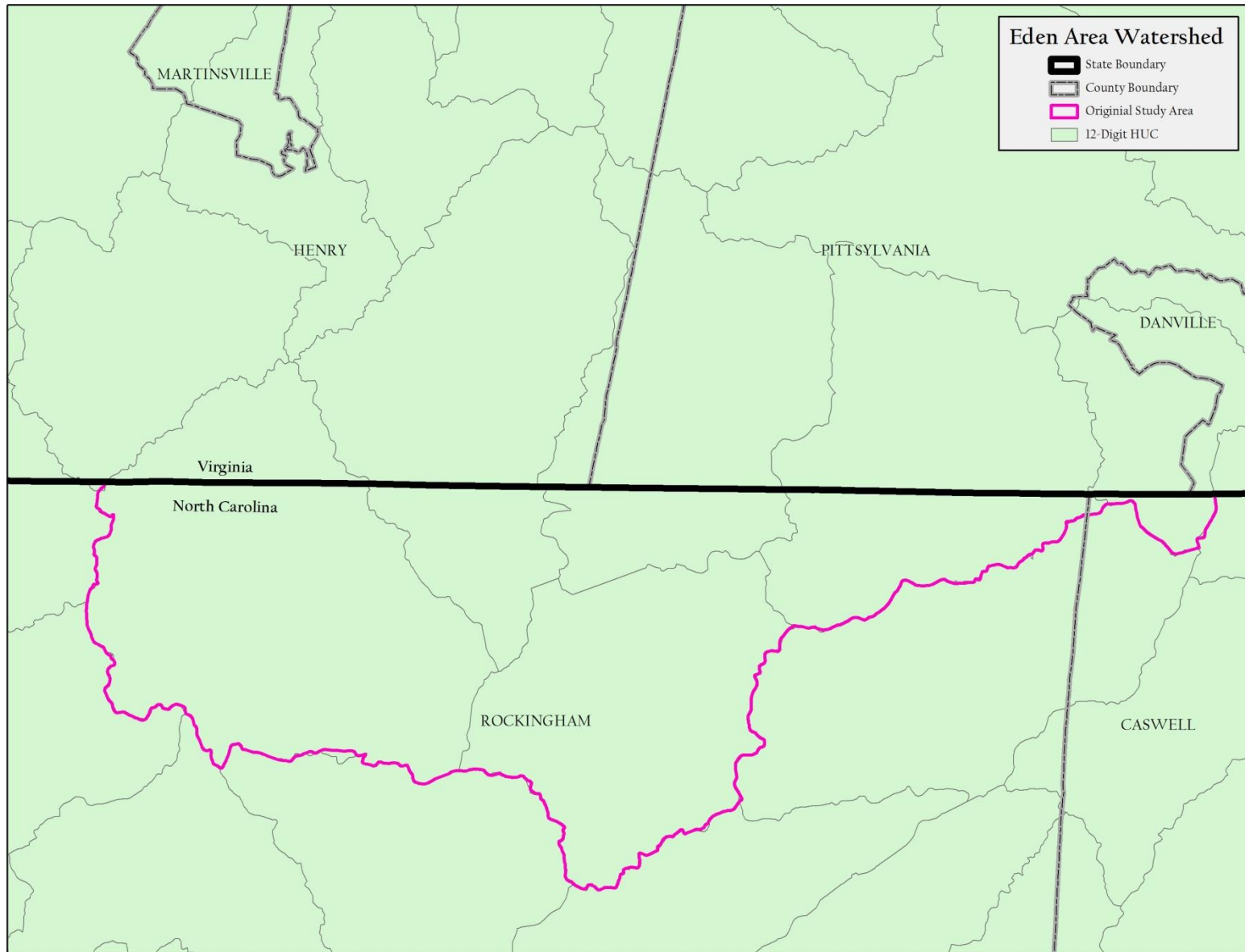


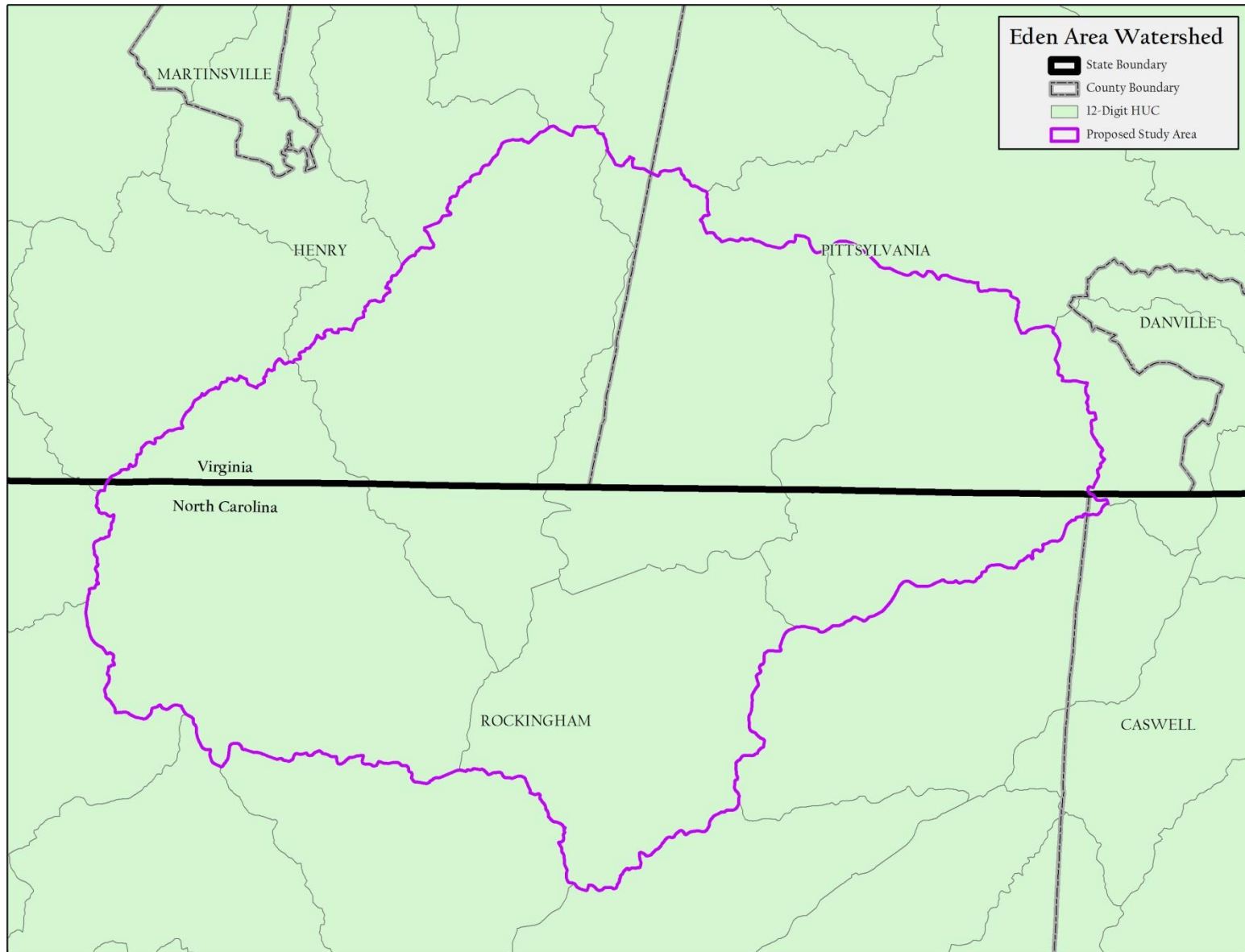
PTCOG Watershed Restoration Planning

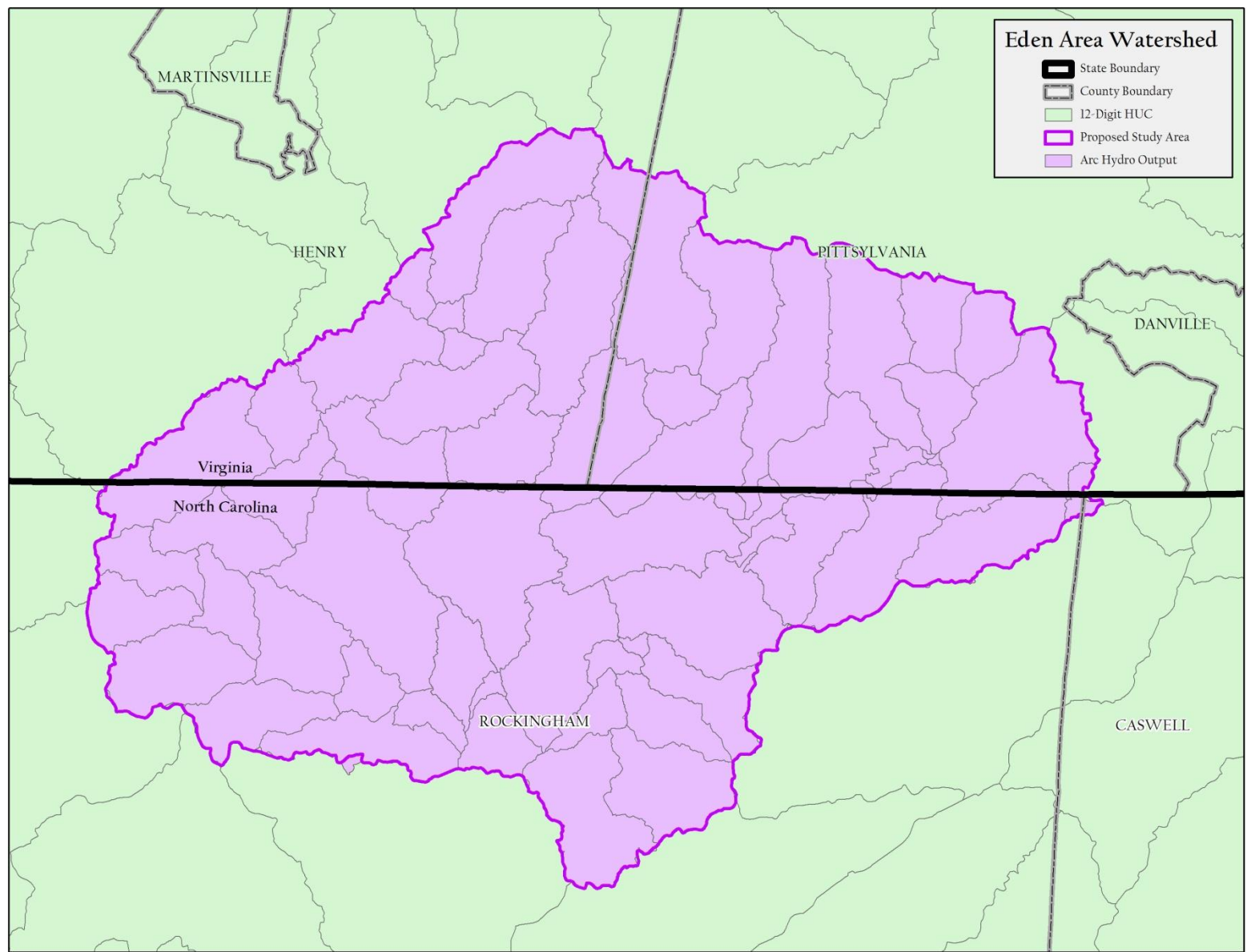
- Examine the whole watershed and identify areas of pollution
 - Field work
 - GIS
- But what is “the whole watershed?”

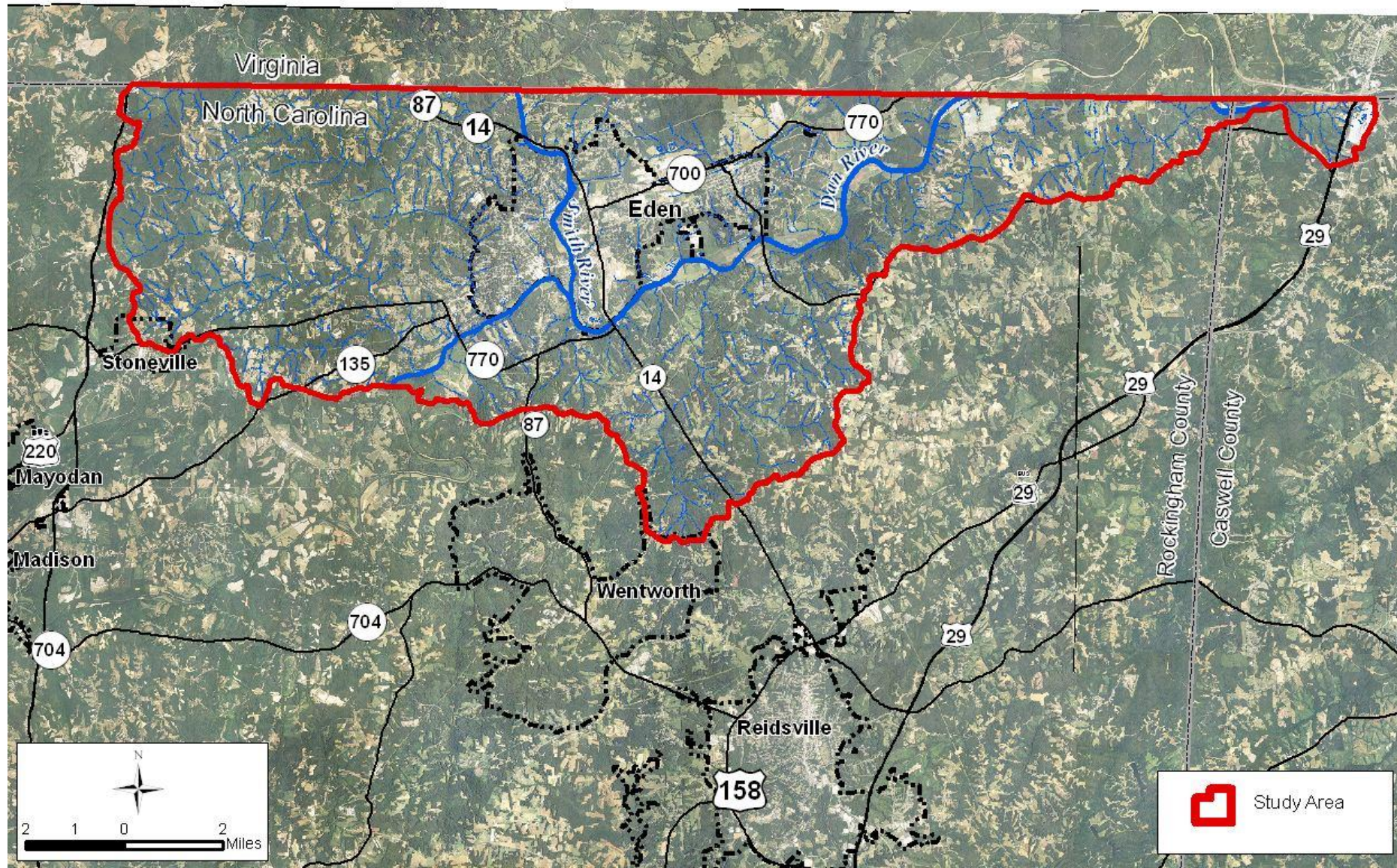












Virginia

North Carolina

87

14

Eden

14

Wentworth

Reidsville

158

Pamlico River

Deep River

Stoneville

135

770

87

Mayodan

Madison

704

704

29

29

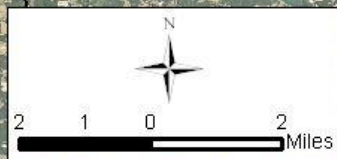
Rockingham County

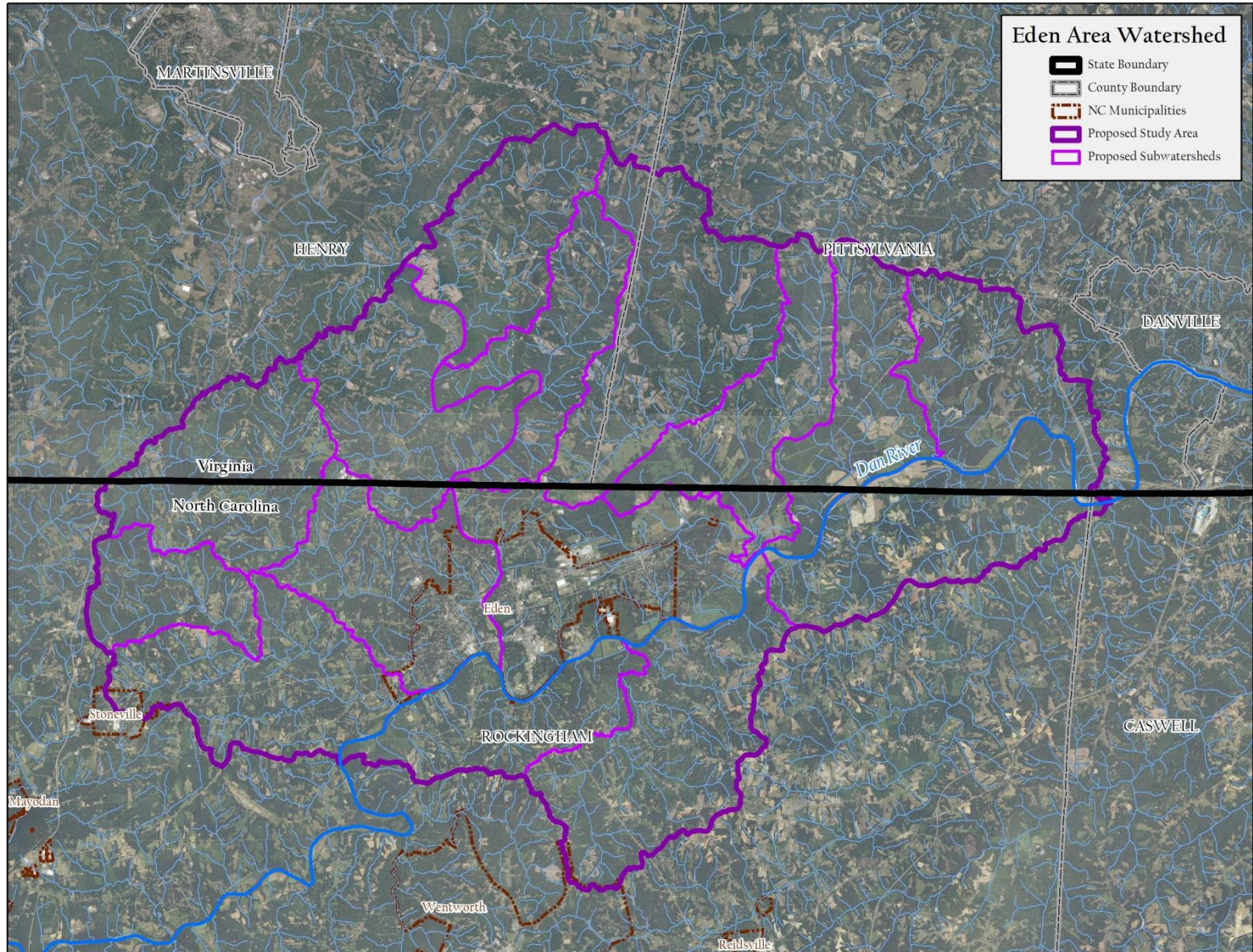
Caswell County

29



Study Area







PTCOG Watershed Restoration Planning

- Examine the whole watershed and identify areas of pollution
- Examine local policy and ordinances for increased watershed protection



PTCOG Watershed Restoration Planning

- Examine the whole watershed and identify areas of pollution
- Examine local policy and ordinances for increased watershed protection
 - What is allowed now?
 - What was allowed?
 - What can fix some of the current problems?



PTCOG Watershed Restoration Planning

- Examine the whole watershed and identify areas of pollution
- Examine local policy and ordinances for increased watershed protection
- Talk with local stakeholders – including private & public landowners – about working with us



PTCOG Watershed Restoration Planning

- Examine the whole watershed and identify areas of pollution
- Examine local policy and ordinances for increased watershed protection
- Talk with local stakeholders – including private & public landowners – about working with us
 - A number of options in which we can help landowners AND help water quality



PTCOG Watershed Restoration Planning

- Examine the whole watershed and identify areas of pollution
- Examine local policy and ordinances for increased watershed protection
- Talk with local stakeholders – including private & public landowners – about working with us
- **Plan Implementation**



PTCOG Watershed Restoration Planning

- Examine the whole watershed and identify areas of pollution
- Examine local policy and ordinances for increased watershed protection
- Talk with local stakeholders – including private & public landowners – about working with us
- **Plan Implementation**
 - Voluntary
 - NOT a Land Use Plan!



PTCOG Watershed Restoration Planning

- Led by the stakeholders committee



PTCOG Watershed Restoration Planning

- Led by the stakeholders committee
 - All community views *should* be represented
 - More stakeholder involvement = Better watershed plan



PTCOG Watershed Restoration Planning

- Led by the stakeholders committee
 - All community views *should* be represented
 - More stakeholder involvement = Better watershed plan
- 1st Task
 - 2 -5 Priorities for next meeting



Current Water Quality Efforts

- City of Eden
 - Greenway Master Plan
 - Strategic Plan
 - Land Development Plan



Current Water Quality Efforts

- City of Eden
 - Greenway Master Plan
 - Strategic Plan
 - Land Development Plan
- Piedmont Land Conservancy
 - Dan River Watershed Protection Plan
 - Continued ecological conservation & stewardship



Current Water Quality Efforts

- City of Eden
 - Greenway Master Plan
 - Strategic Plan
 - Land Development Plan
- Piedmont Land Conservancy
 - Dan River Watershed Protection Plan
 - Continued ecological conservation & stewardship
- Dan River Basin Association
 - CWMTF grant to conduct intensive water quality testing



Current Water Quality Efforts

- NC Soil & Water Conservation
 - Coordinated efforts in Dan River Basin



Current Water Quality Efforts

- NC Soil & Water Conservation
 - Coordinated efforts in Dan River Basin
- Piedmont Conservation Council
 - Coordination of Roanoke River Communities across state lines



Current Water Quality Efforts

- NC Soil & Water Conservation
 - Coordinated efforts in Dan River Basin
- Piedmont Conservation Council
 - Coordination of Roanoke River Communities across state lines
- Other PTCOG Projects
 - Eden Pedestrian Plan (finished)
 - Eden - Div. of Health Grant for Ordinance Review (Fall 2011)
 - Rockingham County Ordinance Review
- Who Else?



What Do the Rivers Get?



http://www.piedmontland.org/sites/images/dan_river/river-bends-1.jpg



What Do the Rivers Get?

- Watershed Assessment
 - Policy Recommendations



http://www.piedmontland.org/sites/images/dan_river/river-bends-1.jpg



What Do the Rivers Get?

- Watershed Assessment
- Project Atlas
 - Pilot Projects



http://www.piedmontland.org/sites/images/dan_river/river-bends-1.jpg



What Do the Rivers Get?

- Watershed Assessment
- Project Atlas
- Implementation Timeline



http://www.piedmontland.org/sites/images/dan_river/river-bends-1.jpg



What Do the Rivers Get?

- Watershed Assessment
- Project Atlas
- Implementation Timeline
- Better Stewardship
 - Work with stakeholders, other agencies, and landowners



http://www.piedmontland.org/sites/images/dan_river/river-bends-1.jpg



What Do the Rivers Get?

- Watershed Assessment
- Project Atlas
- Implementation Timeline
- Better Stewardship



http://www.piedmontland.org/sites/images/dan_river/river-bends-1.jpg

- Better Water Quality



Eden Area Watershed Timeline

Watershed Characterization (Months 1 - 6)

- Eden Area Stakeholder Meetings & Framework
- Public Outreach & Involvement
- Data Acquisition & Analysis (Land Use, GIS, Policy, etc.)
- Subwatershed Prioritization

Watershed Assessment (Months 6 - 18)

- Field Work: Streamwalk & Windshield Assessments
- Project Identification
- Water Quality Modeling
- Stakeholder Advisement
- Detailed Watershed Policy Analysis

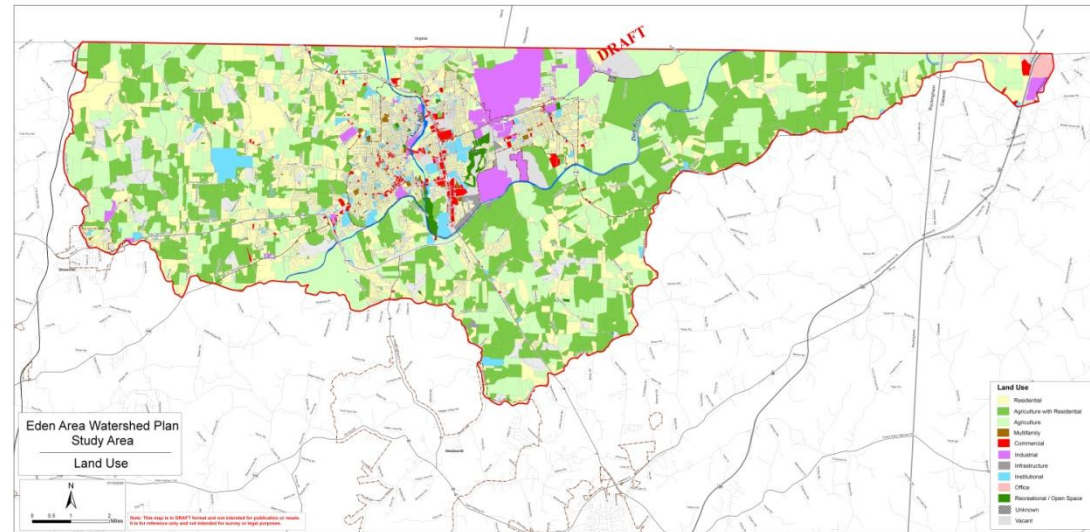
Watershed Restoration Planning (Months 15 - 24)

- Prioritize Identified Restoration or Preservation Projects
- Estimate Load Reduction and Water Quality Benefits of Projects
- Compile Project Atlas
- Recommend Policy & Programmatic Approaches for Improved Water Quality
- Issue an Implementation Timeline For Efficient and Effective Remediation and Sustainable Stewardship
- Present Watershed Planning Products to Stakeholders & Public



Eden Area Watershed Timeline

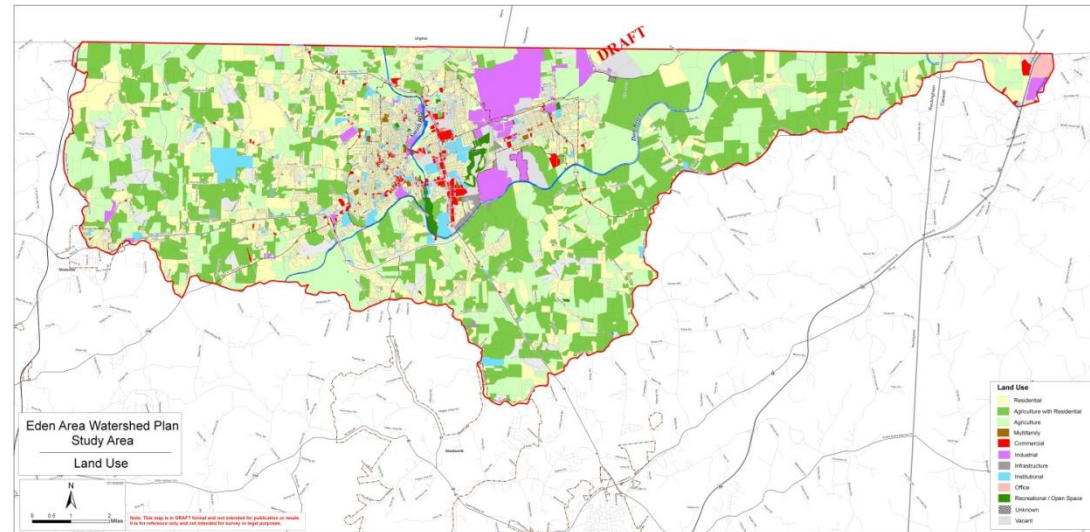
- Watershed Review





Eden Area Watershed Timeline

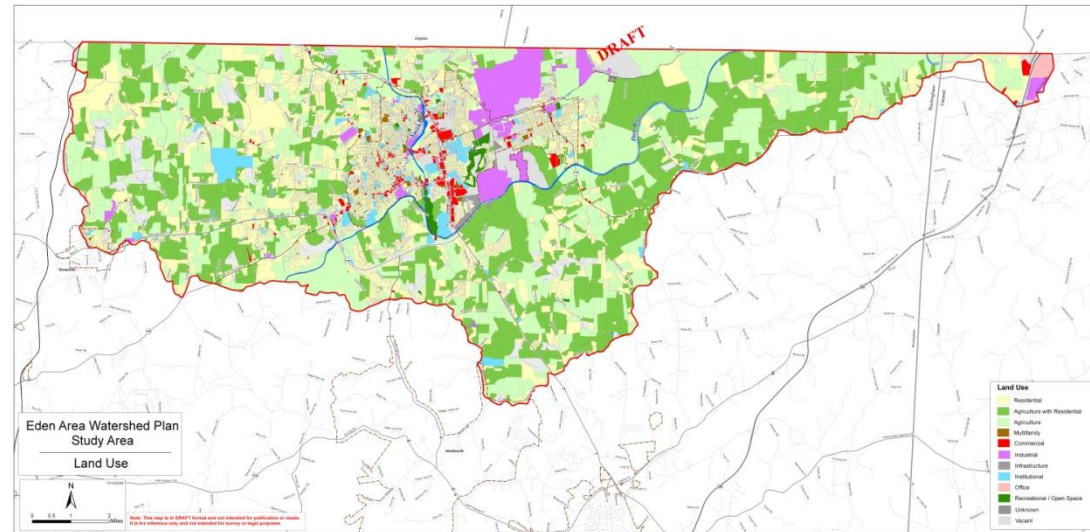
- Watershed Review
 - Now → October
 - Stakeholder Input
 - Policy
 - GIS analysis





Eden Area Watershed Timeline

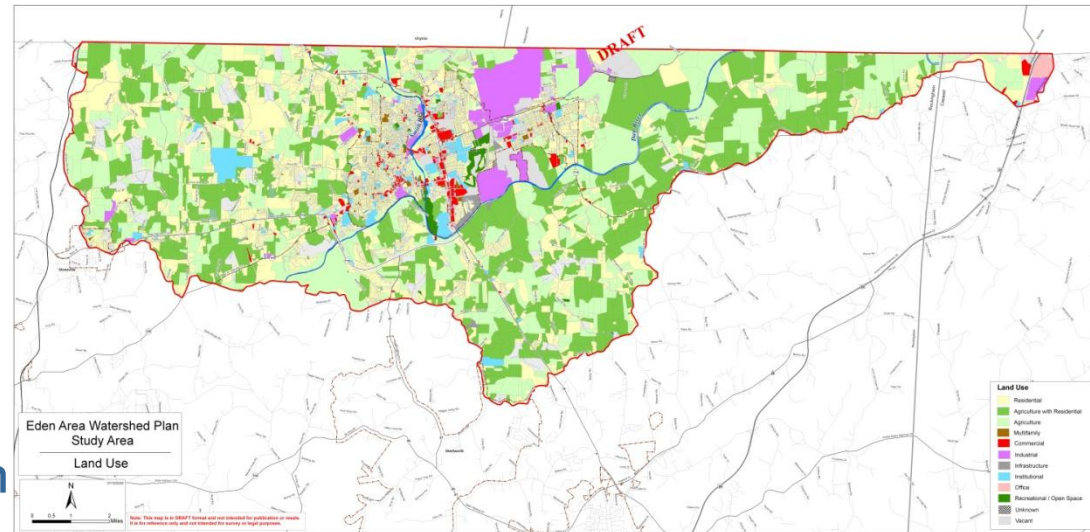
- Watershed Review
 - Now → October
- Public Meetings & Education





Eden Area Watershed Timeline

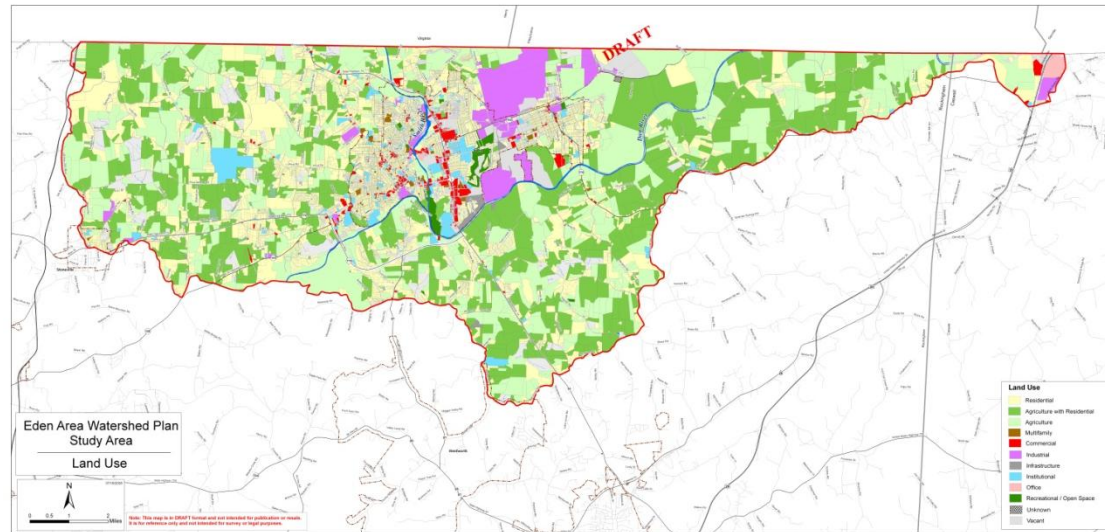
- Watershed Review
 - Now → August
- Public Meetings & Education
 - Now → Summer
 - Open forums for discussion on problem with rivers
 - Public input in what they want done





Eden Area Watershed Timeline

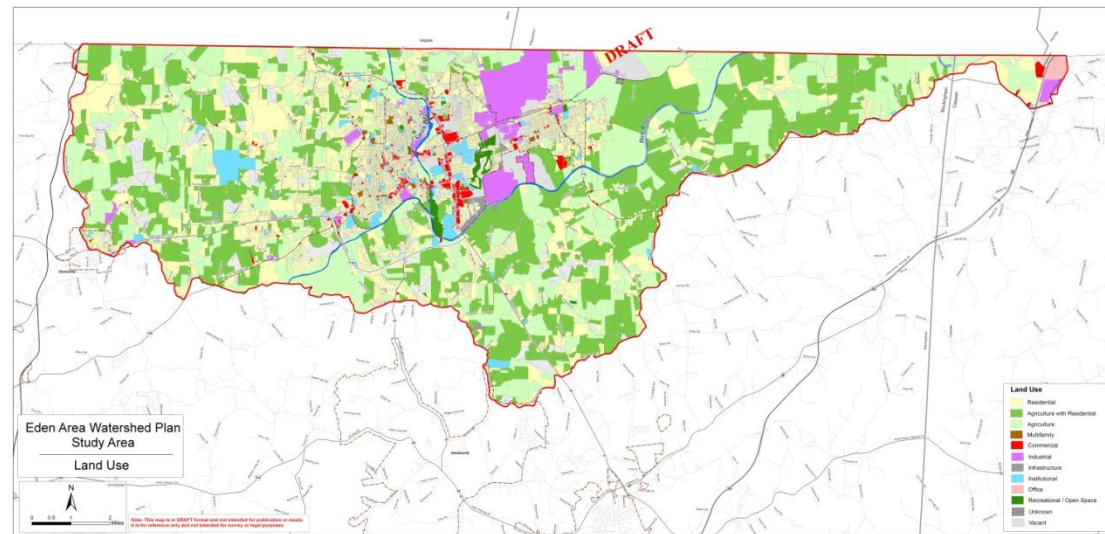
- Watershed Review
 - Now → August
- Public Meetings & Education
 - Now → Summer
- Watershed Analysis





Eden Area Watershed Timeline

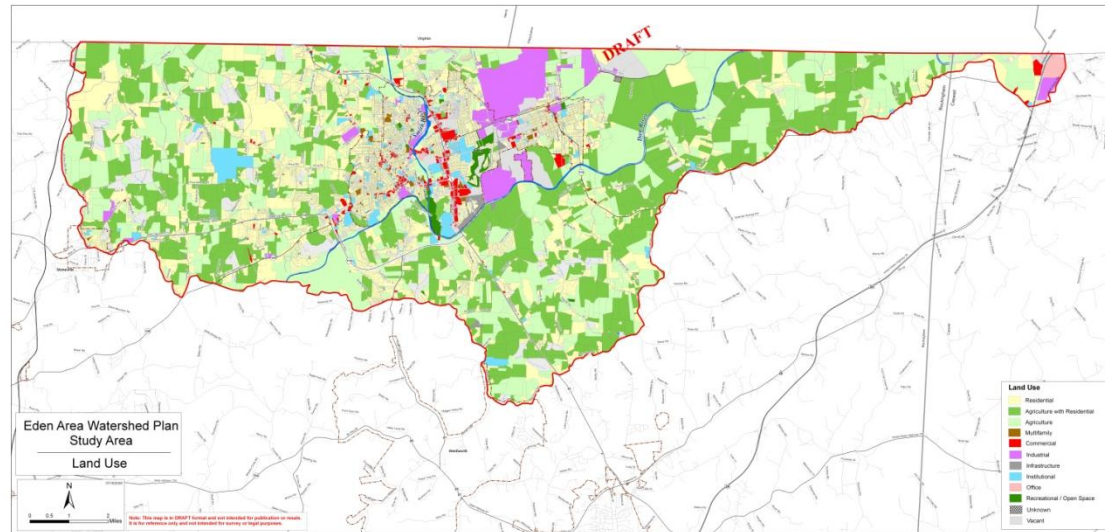
- Watershed Review
 - Now → August
- Public Meetings & Education
 - Now → Summer
- Watershed Analysis
 - Now → October
 - GIS
 - Watershed Pollutant Model





Eden Area Watershed Timeline

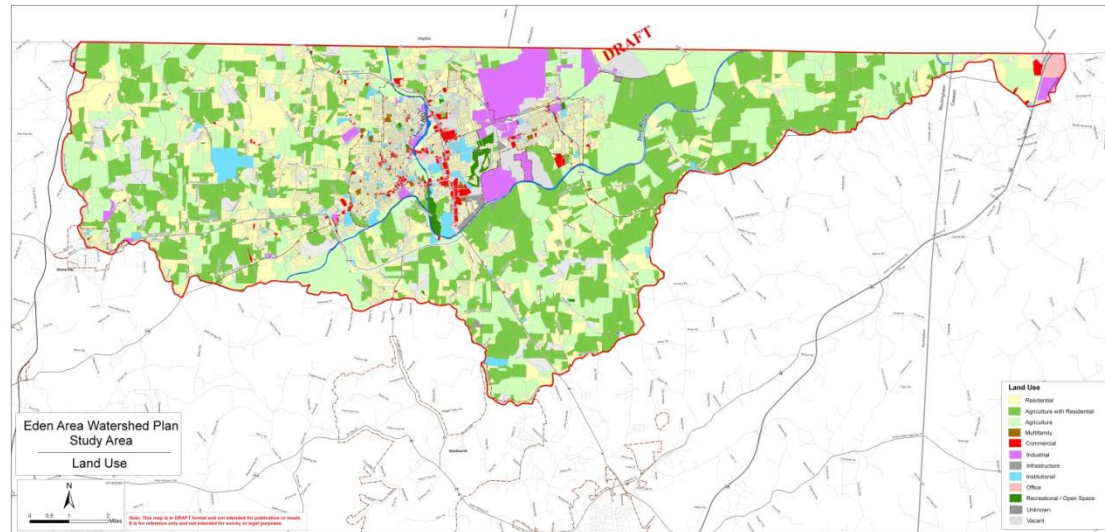
- Field Work
 - January 2012





Eden Area Watershed Timeline

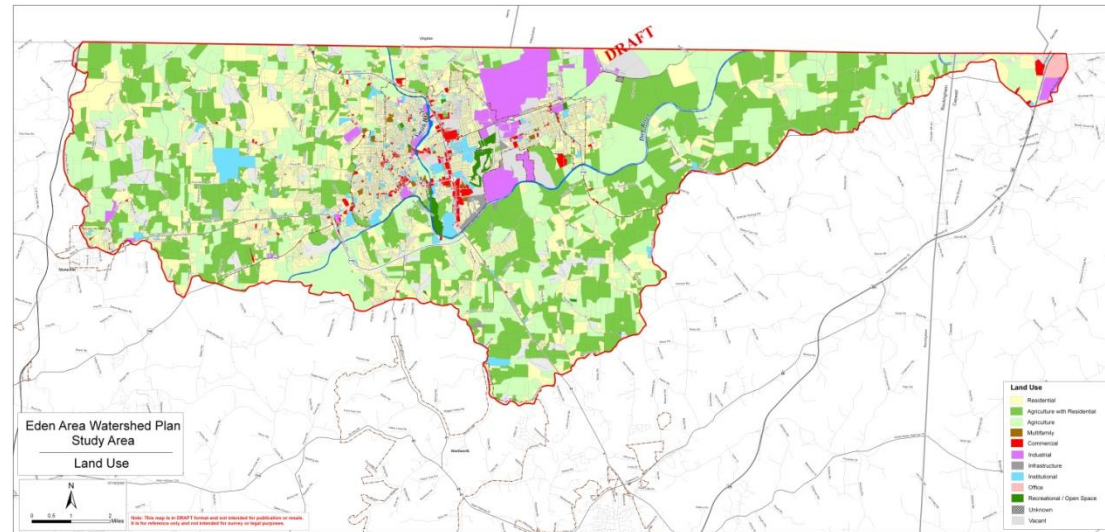
- Field Work
 - January 2012
- Watershed Assessment
 - July 2012





Eden Area Watershed Timeline

- Field Work
 - January 2012
- Watershed Assessment
 - July 2012
- Restoration Plan
 - December 2012





QUESTIONS?

Cy Stober

Water Quality Planner

Piedmont Triad Council of Governments

cstober@ptcog.org

336-294-4960

<http://www.ptcog.org/waterquality.html>

