Protect Land to Protect Water
Case Studies of Watershed Protection

Caitlin Burke, David Lillard, Ed Saxon, Vicki Taylor
October 19, 2019
Protecting Land to Protect Drinking Water

Safe Water Conservation Collaborative
Three WV counties at the confluence of the Potomac and Shenandoah rivers

- Two counties are fastest growing in the state — 1 is among fastest growing in U.S.
- Many residents of Jefferson and Berkeley commute to DC and Baltimore.
- The most successful conservation community in West Virginia
- The collaborative includes water utilities, watershed groups, land trusts, state agencies, and businesses.
- Working in three small watersheds that feed three municipal drinking water supplies.
Building the boat while in the water

- Review the assets — hint, it’s people.
- Ask for help of those who have no time to help.
- Gather to share.
- Learn what they need, then abandon what you thought you knew.
- Create an action plan together that focuses on conservation targeting, education, and policy.
- Keep making the tent bigger.
- Formalize work groups.
A Maturing Regional Conservation Partnership

Emerging 2017-2019

Maturing

Conserving 2019-2020
Collaborative Structure

- **Steering Committee** – Vision, leadership, and guidance
- **Workgroups** – Implementation of objectives
  - Conservation
  - Education & Outreach
  - Best Management Practices (BMP)
- **WV Rivers Coalition** – Coordination, facilitation, & grant administration
- **General Membership** – General support and targeted engagement
2019-2020 objectives

1. **Finalizing a conservation plan** to protect zones and parcels most important for safe drinking water;

2. **Conducting landowner outreach** on opportunities for easements; and for already-eased lands, adoption of best management practices for water quality;

3. **Providing overall coordination** and supporting emerging leadership of the Collaborative to advance implementation of a five-year action plan;

4. **Promoting source water protection policies** that accelerate land conservation to benefit water quality; and

5. **Building the field for land conservation** that benefits water quality beyond the project’s geographical scope through sharing "lessons learned" with other regions and partnerships.
Objective(s)
1. Finalizing a conservation plan to protect zones and parcels most important for safe drinking water;

Priority Tasks
- 0.1.5 Prioritize valuable land to conserve based on Water Quality, Programmatic, and Geographic Indicators
- 1.1.2 Identify parcels through GIS analysis to create an actionable list for direct landowner outreach
- 0.1.4 Present findings to County Commission(s) to educate them about the benefits of land conservation for protecting drinking water

Additional Tasks
- Once a landowner has been engaged, supporting them throughout the easement process

Meeting Schedule
Quarterly (February, May, August, November)
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304-886-2665
WVRivers.org
Regional Collaboration for Source Water Protection
Strategies for Managing Change

Catawba-Wateree Initiative
Clean Water Starts with a Healthy Forest

Victoria Taylor, Program Coordinator for the Catawba Wateree Initiative
The Basin

2 million people
5,000 square miles
225 river miles
11 reservoirs
18 public water utilities
13 hydropower facilities
2 coal or gas fired steam plants
2 nuclear stations
What is changing?

- Population – growing
- Development – spreading
- Climate – warming
- Demands on our water – increasing

Our approach to managing our water must change too
In Partnership with
The Catawba Wateree Water Management Group

Collaborating with:
Katawba Valley Land Trust
Nation’s Ford Land Trust
Western Piedmont Council of Governments
Santee-Lynches Council of Governments
Centralina Council of Governments
SC Rural Water Association

Resource Conservation & Development Councils
Soil and Water Conservation Districts
US Forest Service
Local Governments
Forestry groups
Current Effort – Land/Water/Energy

RTI International: “Quantifying the potential benefits of land conservation in preserving long term water supply to optimize return on investment”

<table>
<thead>
<tr>
<th>Predict changes</th>
<th>Locate “hot spots”</th>
<th>Effects of mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land use</td>
<td>Which land areas are most likely to cause negative impacts to water resources if not protected?</td>
<td>What are the net benefits of land conservation?</td>
</tr>
<tr>
<td>Climate</td>
<td></td>
<td></td>
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<tr>
<td>What is predictable for flow and sediment delivery?</td>
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</tr>
</tbody>
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#Rally2019 LAND TRUST ALLIANCE
Key Finding

Not so surprising

- Land use change (from natural to developed) was the biggest driver of water flow and sediment delivery changes.

- Land use is also the biggest factor we CAN control
How was the study funded?

- Catawba Wateree Water Management Group
- Water Research Foundation
- Duke Energy Water Resource Fund
- Healthy Watersheds Consortium
- Z. Smith Reynolds Foundation

Application: success measures

- Acres conserved – whether by easement or acquisition or ?
- Best practices in place – development, agriculture, forestry
- Erosion and sediment loading
- Ground water retention
Takeaways

• We built a tool to be used in policy and planning decisions in the Catawba Wateree watershed that can serve as a model for other watersheds

• The process connects economic, environmental and social interests

• The “land-water-energy” nexus drives implementation and turns competitive interests into collaborative interests
Savannah River Clean Water Fund

Ed Saxon, PE
Former General Manager of Beaufort Jasper Water & Sewer Authority
Who is SRCWF

- Formed in 2014 with MOU signed by 5 bi-state water/ww utilities with support from several conservation groups, mainly TNC
- Utilities fund $1M/yr for a 3 yr initial period
- Works directly with land conservation partners to conserve land & promote
- Diverse investors and partners: Water utilities, foundations, state/federal, other non-governmental organizations, etc.
Partnerships With Water Utilities

BEAUFORT - JASPER WATER & SEWER AUTHORITY

SAVANNAH

CITY OF SAVANNAH

COLUMBIA COUNTY GEORGIA

A COMMUNITY OF PRIDE • A COUNTY OF VISION • ENDLESS OPPORTUNITIES

WATER IS LIFE

AUGUSTA UTILITIES

NORTH AUGUSTA

SOUTH CAROLINA'S RIVERFRONT

LAND TRUST ALLIANCE
Lower Savannah River Basin

- Area – Thurmond Dam to the Atlantic Ocean - 2.8M Acre watershed
- Currently 78% forest cover
- Supplies potable water to over 550,000 people (1.5M total basin)
- 245k acres protected by public/private easements/purchases
- Another 255k acres (SRS & Fort Gordon) likely to remain forested
- Basin Parcels have been prioritized based on potential impacts on water quality – 210k acres Priority 1 & 960k Priority 2
Land Priority Map
Recent Successes

• **Groton Plantation**
  13,868 Acres – 4,273 ac Priority 1 & 2
  Largest private conservation easement in SC
  10 miles of Savannah Riverfront Protected
  SRCWF provided $535,000

• **Big Snooks**
  297 acres all Priority 1
  SRCWF provided $50,000

• **Funding Partners**
  SC Conservation Bank
  National Fish & Wildlife Foundation
  Walmart’s Acres for America Program
  The Longleaf Alliance
“Savannah River conservation dramatically extends protected corridor”

Front Page Article 10/7/2019 Post & Courier BY BO PETERSEN

• The vast Groton Plantation near Allendale features seemingly endless groves of wetlands and timber along the Savannah River. It’s just been put into conservation easement.

• The 13,868 acres make up one of the largest single tracts ever to be protected by private owners in the state.

• More intriguing, they are considered a linchpin in an emerging corridor of protected properties along the 150-mile lower stretch of the river that is beginning to rival — and connect to — the championed ACE Basin on the South Carolina coast.

• The funders also include the Beaufort-Jasper Water Authority, which pulls from the Savannah downstream. Authority General Manager Joe Mantua called it one more way to ensure clean, reliable water for customers.
Additional Support for the SRCWF

- Gaylord and Dorothy Donnelley Foundation
- National Fish and Wildlife Foundation
- Wells Fargo Foundation
- Knobloch Family Foundation
- R. Howard Dobbs, Jr. Foundation
- U.S. Endowment for Forestry and Communities.
- The Longleaf Alliance through a Landscape Scale Restoration grant from the USDA Forest Service to the Georgia and South Carolina Forestry Commissions.
Challenges and Lessons Learned

- Five participating water utilities have different needs and priorities
- Utilities need to spend funds within a fiscal year may not sync with unpredictable timing of land conservation projects
- Finding match dollars for utility funding
- Local land trust priorities may not overlap with water quality priorities
- Initial prioritization of 1.7 million acres needs refining to manageable conservation priorities
A Partnership between Local Governments and Land Trusts to Protect and Provide Clean Water

Caitlin Burke
Program Coordinator
Upper Neuse River Basin
Provides water to over 600,000 people and growing
Partners

- Conservation organizations
- Local governments
- Natural resource professionals
Conservation Planning

Water Sources and Conveyances
- Protect Headwater Streams
- Support connected high quality water features
- Protect stream bank buffers

Uplands
- Protect uplands and pervious areas
- Protect areas with minimal impervious surface
- Protect uplands with forest cover

Infiltration and Retention
- Promote infiltration and retention through wetland protection
- Promote filtration through floodplain protection
- Protect groundwater recharge areas

Vulnerable Areas
- Protect wet/hydric areas
- Protect steep slopes
- Protect highly erodible soils
# Program Accomplishments

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
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<tbody>
<tr>
<td>Properties conserved</td>
<td>120</td>
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<tr>
<td>Acres protected</td>
<td>10,714</td>
</tr>
<tr>
<td>Miles of stream buffered</td>
<td>116</td>
</tr>
<tr>
<td>Pounds/year of nitrogen avoided</td>
<td>5,871</td>
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<tr>
<td>Pounds/year of phosphorous avoided</td>
<td>1,083</td>
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<tr>
<td>Value of property protected</td>
<td>$94,755,360</td>
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<td>Value donated by landowners</td>
<td>$22,932,670</td>
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<td>Invested by Raleigh</td>
<td>$14,673,515</td>
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<td>Raleigh leverage ratio</td>
<td>$7 : $1</td>
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Lessons from the Upper Neuse: Keys to Success

- Supportive Leadership
- Effective Partners, Partnership
- Adaptive, Responsive
- Dedicated Revenue
Lessons from the Upper Neuse: Challenges

- Sufficient funding
- Regulatory uncertainty
- Measuring water quality benefits of conservation and restoration
- Telling the story
- Making the connection to climate resilience