Piedmont Triad Climate Summits

The PTRC held interactive workshop sessions during both days of the 2018 Piedmont Triad Climate Resiliency Summits. Attendees were divided into 5-7 small groups and asked to discuss a number of different questions. Each group worked to identify strengths, opportunities, aspirations and results (SOAR) to assess how well the region is prepared to mitigate impacts associated with climate change and extreme weather. A SOAR analysis is a strategic planning tool that focuses on current strengths and establishes a vision of the future for developing strategic goals. The purpose of these workshop sessions was to engage stakeholders and representatives from across the region on climate issues, identify local best practices and resources, and set goals for the future of climate resiliency planning efforts. The summits also acted as a networking opportunity aimed to increase regional connectivity between agriculture, water resource, and climate professionals. Below is a summary of the workshops results from both days of the summit. Monday's session focused on agriculture, natural resources, stormwater, and flood preparedness while Tuesday's session focused on water supply, wastewater, and drought.

Workshop Results

Monday, May 14th: Agriculture & Natural Resources + Stormwater & Flooding

According to the results of the first day's workshop, the region is doing a great deal to protect our agricultural land and natural resources, mitigate stormwater runoff and prevent flooding. Some of our strengths include stormwater runoff regulations, regional educational workshops, government involvement, change in citizen behavior and regional cooperation. It was decided that our greatest assets in the Piedmont Triad are location, county wide programs, forest services, and state agencies. In addition to all of the positive feedback, we also received a long list of improvements that farmers and natural resource managers could make to better prepare for the impacts of climate change. Some communities do appear to be more at-risk than others, and these include rural and low-income areas as well as downstream communities. Results showed that four barriers need to be overcome in order to be better prepared for the shifting climate. Primarily, the region needs to build consensus around climate related issues and effective solutions, simplify the scientific information, and convey this information to the public in a way that is effective in raising awareness and promoting action. As a result of these lists of both strengths and improvements, some future regional goals were laid out. The group agreed that there is a need for more policy improvements to protect farmers and natural resources. Goals with immediate impact need to be prioritized by updating development ordinances and ensuring that policy makers are

aware of these programs. For more information and the final results of this workshop, see the discussion below.

Strengths

1. As a region, what are we doing well to protect our agricultural land and natural resources and mitigate stormwater runoff and flooding?
    - State level involvement on water resources
    - Strong stormwater runoff regulations
    - Local watershed planning
    - Regional coordination by PTRC
    - Regional cooperation
    - PTRC's Stormwater SMART program (local boards addressing stormwater impacts)
    - Environmental Education and training opportunities
    - Voluntary Agricultural Districts
    - Several existing BMPs on agricultural land
    - Local government involvement
    - Use of green growth strategies are increasing
    - Environmental stewardship is increasing
    - County Soil & Water buffer protection programs

2. What are some of the Piedmont Triad's greatest assets or resources when it comes to protecting agricultural land and natural resources and mitigating stormwater runoff and flooding?
    - Location (less drastic changes in climate and extreme weather projected in the Piedmont Triad)
    - County-wide programs like Soil & Water, Cooperative Ext, etc.
    - NC Forest Service
    - State Agencies (Department of Environmental Quality, Wildlife Resources Commission, etc.)

3. What are some local success stories or best practices from your community?
    - UNC Charlotte conducted a study that examined the correlation between water quality and costs
    - Increasing number of ordinances in place for low impact development (LID)
    - The NC Forest Service worked to restore the long leaf pine using prescribed burn techniques in coordination with the NC Wildlife Resources Commission, US Department of Defense, and the Nature Conservancy

Opportunities

1. Where do you think farmers and natural resource managers could make improvements to better prepare for the impacts of climate change?/ In what ways could stormwater or floodplain managers be better prepared to address these anticipated changes in precipitation and storm frequency?
    - Focus more on soil health
    - Increase the use of cover crops

- Improve riparian buffers & increase no till farming practices
- Help reduce costs to farmers
- Lessen clear cutting
- Increase the conservation of non-developed land/Prevent conversion of farmland
- Increase utilities in rural/agricultural areas to increase business opportunities and increase educational opportunities
- Expand regional cooperation to improve pedestrian infrastructure & transit options
- Promote local food
- Expand education & awareness of different profit models
- Communicate economic value of green/open space
- More long-range planning efforts are needed

2. Are there communities within the region that are more at-risk than others?
    - Rural & low income areas
    - Downstream communities
    - There is a need to model locations of additional vulnerable communities

3. What should be the focus of future regional efforts to improve climate resiliency?
    - Build consensus on climate issues and proposed solutions
    - Bring existing development up to current standards, rather than just focusing on regulating new development
    - Additional policy improvements to protect farmers and natural resources

4. Are there any barriers that need to be overcome in order to be better prepared for a shifting climate?
    - Simplifying/filtering existing information and resources
    - Consensus building
    - Improving communication/messaging
    - Increasing awareness of climate related issues

<u>Aspirations</u>

1. Considering the strengths and opportunities listed, what are some goals for the region or your community moving forward?
    - Limit development in rural areas
    - Incentivize infill development & mitigation of development impacts
    - Increase green space
    - Increase the amount of resources and funding available to small farmers
    - Provide incentives to larger farms to be more sustainable
    - Increase funding for Cooperative Extension and Soil & Water agents to provide high quality education to farmers
    - Have more cooperative agreements between developers & downstream farmers to use stormwater as an asset
    - Improve overall sense of community & shared responsibility
    - Continue education and advance education programs

- Establish common ground between urban & rural areas to form partnerships
- Continue to rethink how land planning & econoomic development works from the ground up with citizens
- Promote trail connections between communities and develop funding
- Promote land preservation in perpetuity
- Increase public benefits & programs with public and private partners

2. How should these goals be prioritized?
    - Goals with most the immediate impact should be prioritized first

3. What strategic initiatives would support these goals?
    - Update development ordinances
    - Make policy makers aware of these programs

<u>Results</u>

1. How can we tangibly define climate resiliency in terms of natural resource protection and stormwater and flood management?
    - Rate of vegetation adaption
    - Protection/survival of existing species
    - Flexibility/Ability to adapt programs and policies
    - From a forestry standpoint, plan plantings that are more tolerant to drought & flooding
    - Increase bio-diversity on farms and w/ natural resources (both planned and native/non-disturbed areas)
    - Less property/land loss and FEMA claims, larger percent of people utilizing recommendations, recognizing the need & having the mind-set. For stormwater, lower cost from high water events & fewer sewer overflows.
    - By incorporating the value of open space
    - By sustaining water supply levels and quality during variable weather
    - The number of rain gardens/recapture systems
    - The number of active farms/farmland
    - Soil rehabilitation acres/the amount of active soil
    - By increasing the use of SNAP benefits at farmers markets
    - By getting young people excited about farming as a viable business

2. What resources are needed in order to achieve our resiliency goals?
    - Funding
    - There is plenty of data available. Now we need to focus on implementing strategies to improve climate resilience.
    - We need to quantify the benefits of green infrastructure for developers

3. What meaningful measures would indicate that we are on track in terms of meeting our goals?
    - Removing impaired waters from the 303(d) impaired waters list

Tuesday, May 15th: Water Supply/Wastewater/Drought Summary

The results from day two on water supply were similar to those from the previous day of workshops. A lot of strengths were discussed within the region and state to ensure there is enough clean water for the future. Some strengths include existing interbasin transfers, infrastructure improvements, education and outreach efforts, planning, and economic potential. For water management, the Triad's greatest assets include an established interconnected system, strong availability of professionals, and the USGS Water Watch. These assets may be utilized in order to ensure water security for our area in the future. Once again, there are also some challenges presented in this case based on precipitation and water availability in our area. Some of these include better economic analysis, a need for updated treatment technology, especially to address emerging contaminants, and additional regional planning. Particular areas of the Triad that were concluded to be more at risk are urban and expanding areas, areas with nutrient overload, and areas with smaller water systems and no reservoirs. In order to begin preparing for a climate shift, there are a few barriers that need to be overcome including a current lack of regulations, public perception of climate change, funding and education. Considering the strengths and barriers that were discussed, many realistic goals for the Piedmont were laid out during this workshop. The region aims to increase the amount of reclaimed water, proactive stormwater controls, protection of headwaters, and planning for rural areas. It was concluded that resources should primarily be focused in infrastructure upgrades, education of the public, planning, regionalization of wastewater treatment, and additional stormwater utility fees. For more information on strategic initiatives and the final results of this workshop, see the discussion below.

<u>Strengths</u>

1. What are we doing well within the region (or as a state) to ensure that there is enough clean water to meet the needs of future generations?
    - Learning lessons from previous droughts
    - Recognizing that we need to do better
    - Strong interconnectivity between regions & towns (interbasin transfers)
    - Improving infrastructure as a state
    - PTRWA Randleman Reservoir providing water to Triad Region
    - Public education, outreach, and training opportunities on water issues
    - Economic potential
    - Sharing of tools for long-term planning & management
    - Planning ahead with water supply projects
    - Rebuilding of Salem Lake
    - Available capacity (water surplus)
    - Proactive watershed protections
    - Extended buffers (particularly at Randleman Reservoir)

2. What are some of the Piedmont Triad's greatest assets or resources in terms of water management?
    - Established interconnected system
    - Strong availability of investigative scientist and professionals (university/state/federal)
    - USGS Water Watch – real-time info on groundwater levels

3. What are some local success stories or best practices from your community?
    - OWASA reusing water, as well as conducting a supply vs demand study
    - When Greensboro & Winston-Salem faced a water shortage due to drought, they were able to obtain an emergency permit because the Fed., state, & local partners collaborated in a time of need
    - West Wake is reclaiming water
    - Winston-Salem is gaining additional water source
    - Greensboro, Winston-Salem, Reidsville have an intake interconnection
    - Mega-site preparation
    - Available funding sources (CDBG & Revolving Loan Fund)

<u>Opportunities</u>

1. Based on the precipitation and water availability data presented today, what are our greatest anticipated challenges in terms of water security and wastewater treatment? How can we reframe these as opportunities?
    - Getting more concrete data on water availability
    - Using different materials in new piping
    - Upgrading utility systems to prevent loss (20% sometimes lost to leaks)
    - Making infrastructure last longer (new & existing)
    - Reaching vulnerable populations before disaster arises
    - Lack of surface and groundwater monitoring
    - Economic analysis of planning scenarios
    - The ability to assemble
    - Need for updated treatment technology (emerging contaminants)
    - Keeping up maintenance & operation of systems
        - Limited resources, regulatory challenges & new rules, infrastructure deterioration, capacity expansion
    - Asset management (especially buried assets)
    - Wastewater to the east of High Point is close to capacity
    - Headwaters of Cape Fear limits expansion of WWTP options & regulation
    - Need for additional regional planning
    - Improving cyber security
    - Interbasin transfer with Charlotte

2. Are there particular areas of the Triad (watersheds) that may be more at risk than others?
    - Urban & expanding areas
    - Areas with impoundments, nutrient overload
    - High residential growth areas have water quantity concerns. High commercial growth areas have water quality concerns
    - Smaller towns/systems that do not have reservoirs

3. Are there any barriers that need to be overcome in order to begin preparing for these anticipated shifts in climate?
    - Lack of regulations
    - Public perception
    - Educating decision makers so that they can make fact-based decisions
    - Uncertainty
    - Money/Available resources (including staff)
    - Politics
    - Education

Aspirations

1. Considering the strengths and opportunities you just discussed, what are some realistic goals or steps that local communities could begin taking to improve water security and wastewater facilities?
    - Better access to information across departments & divisions
    - Better use of technology
    - More comprehensive planning and having those plans taken seriously (especially in rural areas)
    - Economic analysis to give cost metric implications to decision makers
    - Better support of high ESG rating companies
    - Maintaining forest cover
    - Protecting headwaters
    - More proactive in stormwater controls (next generation controls)
    - Assess existing structures
    - Reclaim water
        - Policies & programs to incentivize with funding for collaboration and planning
        - Industries & universities may be able to be customers outside direct service area
        - Legislation or local system to use direct & indirect re-use
        - Chatham Park incorporating purple pipe into residential development
        - Durham & Cary could share how much they have saved from water reuse
    - Assess future demands
    - Better water conservation notices
    - Improving wastewater capacity and developing new treatment technology

2. Where should resources primarily be focused?
    - Stormwater utility fees for rural communities
    - Infrastructure upgrades
    - Planning (seek planning grants/loans)
    - Regionalization of wastewater/water treatment
    - Educating the public

3. What strategic initiatives (projects, programs, etc) could help support these goals?
    - Conservation easements
    - Riparian buffers
    - Regional planning

Results

1. How can we tangibly define resiliency in terms of water supply? How about for wastewater treatment?
    - Lower per capita use of water
    - Number of drought emergencies
    - Retrospective analysis of previous unexpected storm events compared to future events
    - Cost of treatment to meet current/future demand & regulations
    - Supply vs demand projections (if supply > demand)
    - Emergency water supplies as backups
    - System capacity & pull size
    - Discharges to streams & decreasing water levels
    - Amount of flooding

2. What meaningful measures would indicate that we are on track to achieving our goal of improving water security and wastewater treatment?
    - Higher rate of implementation (follow through)
    - Land use cover
    - Conservation methods
    - Surface and groundwater levels
    - Delisting impaired waters
    - Flattening loss of water (unaccounted)
    - Flattening demand (system & use)
    - Expanding storage for large rain events
    - Look at improving report of water use outside water supply areas
    - Require collaboration between economic development, land planning & utilities (use & expansion)

3. What resources are needed to support the goals, next steps, or strategic initiatives that were discussed under “aspirations”?
    - Regulations for agricultural practices and forestry
    - More data to refer to and compare
    - Make data accessible
    - Money, especially smaller communities
    - Legislative support
    - Enforcement of regulations
    - Educated planners & the newest technology
    - Education
    - Better regional connectivity