

Horry County Focus Group Meeting Notes

North Coast Resilience Project

February 13, 2018 @ 1301 2nd Ave, Conway, SC 29526

Goal: Utilize local knowledge and expertise to identify flood prone areas around the rivers in Horry County.

Outcome: Prioritized list of focus areas and nature based projects to reduce flood potential.

North Coast Resilience Project Overview

Initiated by TNC's regional program that provided training & a collaborative environment for communities in NC, SC, GA & FL

North Coast Summit held in 2016. Steering Committee developed and flooding with an emphasis on riverine areas identified as highest priority.

Work plan created during regional collaborative meeting in Feb 2017. Project goals included:

- better understanding of localized flood risk
- Id opportunities to use nature based solutions to mitigate flood risk
- Provide shovel ready project ideas to municipalities
- Implement at least one on the ground project

Parcel level analysis has been completed for a portion of Horry County by Geoscience Consultants, Inc (Keil Schmid, RPG). Flooding information was hindcasted for Hurricanes Joaquin (2015) and Matthew (2016) and a predicted yearly flooding risk was developed for 2017, 2035 & 2060 at a parcel level. An updated parcel level land cover was also created for Conway. All data, plus supplemental info, will be posted on TNC's resilience website.

- Hindcasted maps developed using
 - Stream gages, primary source
 - Tide station, primary
 - High water marks, secondary source
 - Deployed sensors, secondary
 - Hindcasted water elevation
 - One week after hurricanes satellite
 - No inclusion of waves (run-up), only still water surge
- Predicted flood risk values developed using FEMA, NOAA, EFPA future changes data & 5 meter Digital Elevation Model
- Analysis to be posted on TNC's resilience site as a Community Planner app under the Mapping Portal @ <http://maps.coastalresilience.org/southcarolina/>
- Methodology will be posted to the site under the Projects pages @ <http://coastalresilience.org/project/southcarolina/>

Clemson (Marzieh Motallebi, PhD & Mustapha Alhassan, PhD) will be completing a cost analysis of projects identified during our meeting. Phase I of their work was presented to show example projects from Horry, Georgetown and similar communities with cost for a range of projects. Examples included floodplain restoration, purchased and constructed wetlands, municipal planning, low impact development, federal & local buy outs, living shoreline oyster reef.

The list of focus areas and projects identified during the meeting along with the cost estimates will be provided to the municipalities for use as future funding is solicited or becomes available.

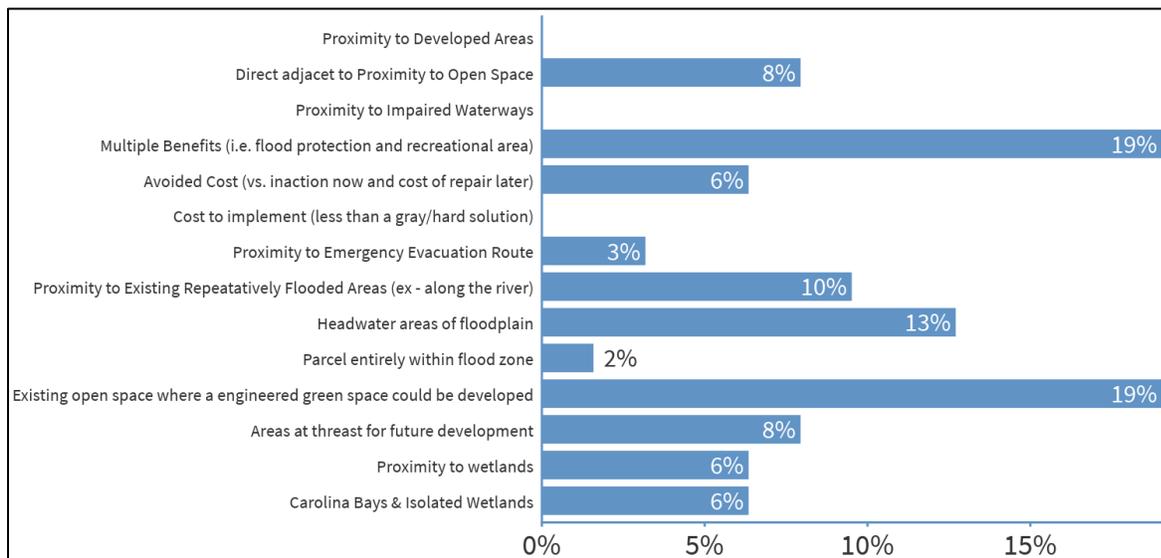
Developing Priorities

Group determined the top priorities we used when identifying focus areas in breakout groups

Review of priorities that came from North Coast presentation at SC American Planning Association meeting (Nov 2017)

List was discussed and edits were made to remove and add priorities. The discussion included removing any reference to vulnerable populations, and adding in areas around headwaters & higher order streams & Carolina bays, in open space plans and wanting to think of areas where a project could be innovative or a new engineered solution for greenspace.

Once the list was finalized, voting on top priorities was done via Poll Everywhere.



The top 4 priorities were selected to use when identifying our focus areas during the break out group work that followed. (1) Multiple benefits (2) Existing open space (3) Headwater areas & (4) Proximity to existing repetitively flooded areas.

Focus Area Identification

Attendees were pre-selected to divide into three breakout groups and identify geographic focus areas using 2035 flood prediction maps and based on the top 4 selected priorities.

Breakout Group 1: Joy

Laila Johnston	American Rivers
Mary Catherine Hyman	Conway City Planner
Ashley Cowen	Horry Co Senior Planner
Brett Morgan	Waccamaw COG
Keil Schmid	Geo Science Consultants
Mustapha Alhassan	Clemson Univ
Maria Whitehead	Open Space Institute

1. Westmoreland (6 votes) – 501 Buisness/opportunity to conserve

- a. Conway Conservation Corridor
- b. Repetitive flooding
- c. Waccamaw River Park adjacent
- d. Blackwater Recreation area adjacent
- e. Multiple stakeholders/connections
- f. Low hanging fruit
- g. Partial funding received
- h. Direct development threat (ex. Already denied sand mining)
- i. Traditional conservation tract

2. Little Pee Dee Expansion Area (5 votes) – scoping for CRS & Refuge Expansion

- a. Refuge expansion tract
- b. Fee title ownership
- c. Headwater floodplain
- d. Opportunity to add to refuge

3. Upper Waccamaw Expansion Area (4 votes) – refuge expansion

- a. Refuge expansion tract
- b. Opportunity to add to refuge
- c. Benefits: flood mitigation & CRS opportunity
- d. FEMA buyouts within area

4. Lake Busbee (2 votes) – offline storage potential, expensive, complicated

- a. Santee Cooper “restoration plan”
- b. Will be sold in future
- c. Flood mitigation potential since higher elevation
- d. Engineering opportunity

5. Brown Swamp/Kingston Lake (7 votes) – needs different design regulations, could a watershed analysis be useful to id a potential project??

- a. High potential for annual flood risk and gets worse with future scenarios
- b. Residential areas
- c. Commercial along Main & 701
- d. Co emergency Mngt building (floods)
- e. Not a low income area

6. Waites Island (3 votes) – not discussed in larger group

- a. Potential for conservation to avoid risk
- b. Risk model indicates high potential for flooding
- c. Need more info in North Myrtle
- d. Didn't hear much about flooding here in last storm, but seems there are routine issues
- e. Repetitive impact from King Tides & adding river impacts makes it worse

7. Riverstone (8 votes) – potential to have input via consultant/county in conceptual phase for type of restoration (would need to provide specific info to Horry for suggestions)

- a. Already purchased by Horry Co for wetland mitigation
- b. Opportunity for future restoration
- c. 3,700 acres
- d. All isolated wetlands so not represented well on model
- e. Contribute to CRS
- f. Headwater area

Breakout Group 2: David

Stephen Johnson (North American Land Trust)

Craig Sassar (USFWS)

Sarah Hartman (TNC)

Dave Fuss (Horry Co Stormwater)

Chris Hernandez (USFWS)

1. Crabtree Swamp

- a. Combination of buy-out and green-space engineering
- b. Has a lot of ground work done already. Previous grants through USFWS
- c. Previous buyouts in 1999.
- d. Mix of residential and commercial
- e. This is a large drainage easement. Has flooding from upper (rainwater) and river flooding.
- f. Previous grants did some habitat enhancement also (planting)
- g. Good candidate for a project because of lots of planning that has been done and possible funding for some of the work
- h. Landowners are challenging to work with
- i. Neighborhood scale – possible opportunity to replicate elsewhere.

2. Busby Lake and Surrounding area

- a. Cooling lake for Santee Cooper. Its future is uncertain.
- b. Unknowns about soil contamination. Need to test dirt.
- c. DHEC agreed to a closure plan that did not require any cleanup by Santee Cooper. No fishing or recreation allowed. Water is no longer being pumped into the lake. City of Conway was not consulted on its future.
- d. High profile. Some public concern over long-term management
- e. Dikes and undersized water conveyance under road causes flooding issues.
- f. There is a large potential here but challenges are large and probably not able to be a fast solution

3. Lee's Landing (along river)

- a. Buy-outs
- b. Spent 3 weeks underwater
- c. Houses on stilts

4. Savannah Bluff (along river)

- a. Buy-outs
- b. Spent weeks underwater

5. Cherry Point (Coastal – Cherry Grove)

- a. Buy-outs
- b. Flooding due to SLR
- c. Costly properties

6. Murrells Inlet

- a. Buy-outs
- b. SLR high tide flooding
- c. Low development future

7. Socaste – ICW

- a. Buy-outs
- b. River backs up from Bucksport
- c. Possibly lower cost buy-outs than some of the other areas

Breakout Group 3: Liz

Marziah Motallebi	Clemson Univ
James (Trapper) Fowler	DNR Wildlife Biologist and Regional Property Manager
Justin Park	Ducks Unlimited
Pam Dawson	Horry Co Parks & Open Space Chair
Leigh Kane	Horry Co Planner
Cara Schildtknecht	Waccamaw Riverkeeper
Christine Ellis	Winyah Rivers Foundation

1. **Tilly Swamp/Middle Waccamaw Area**
 - There are some buyouts in the area that could be available for restoration
 - Water quality issues in the area
 - Open space that has been identified within the subdivision that has a hydrological connection all the way to the large piece of land the County just bought for mitigation
 - Smith Lake – also a part of this larger Middle Waccamaw Area

2. **The Hwy 90/905 corridor are the biggest threat for development and are most important for maintaining habitat and corridors**
 - The County is buying a large tract for mitigation restoration near Hwy 90

3. **Socastee Greenway**
 - Many repetitive flood properties; potentially an opportunity for water retention project

4. **Rosewood Community**
 - New FEMA flood maps put them in the flood zone
 - Have multiple repetitive loss properties
 - Low income area

5. **Kingston Lake Watershed**
 - Crabtree Swamp area
 - Multibenefits – Conway blueway connection?
 - Where is the problem within this area? Will help us focus in on a smaller area.

6. **Westmoreland Tract**
 - Adjacent to Singleton Tract, Historic Rice Fields, buyouts
 - Could be an “easy win” and a domino effect to allow for refuge expansion

7. **Savannah Bluff**
 - Buyouts, still have house pads and no trees

Nature Based Project Identification

The group discussed the focus areas identified, there issues and potential projects that could be implemented. This list is being provided to Clemson so they can create a cost analysis that will be provided to Horry County and Conway.

Discussions since the meeting have highlighted the need for a **county wide Flood Mitigation Plan**.

- Refuge Expansion
 - Financial Scoping
 - Middle Waccamaw, ~~Lee's Landing~~, Westmoreland – 501 Business, Westmoreland – Savannah Bluff, ~~Lake Busbee~~ & Little Pee Dee tracts

- Watershed assessment
 - Riverstone, Kingston lakes, Crabtree swamp, Socastee & Middle Waccamaw

- Hydrologic connections and opportunity for enhancement of water quantity and quality projects & conveyance
- Pricing on Westmoreland for easement
 - 2 tracts – 501 Business & Savannah Bluff
- Crabtree Swamp
 - County match for Army Corp feasibility study - \$170K needed for match
 - Id potential project location & implement a floodplain restoration project similar to those in the past.
 - [bike/pedestrian trail along the banks of Crabtree](#)
- Lake Busbee
 - Test the contaminants in the submerged sediments
 - Remove the contaminated sediments (if needed)
- Savannah Bluff – reforest the FEMA Buyout lots along the bluff
- Rosewood
 - Engineering contract to develop a list of LID projects specific for this area
 - Clemson could also provide examples of LID unit cost from similar small residential communities

List of Attendees:

Laila Johnston	American Rivers
Mary Catherine Hyman	City of Conway
Marziah Motallebi	Clemson University
Mustapha Alhassan	Clemson University
Jared Bramblett	Davis & Floyd
Trapper Fowler	Department of Natural Resources
Justin Park	Ducks Unlimited
Keil Schmid	Geoscience Consultants
Pam Dawson	Horry County
Leigh Kane	Horry County
Dave Fuss	Horry County
Ashley Carroll	Horry County
Stephen Johnson	North American Land Trust
Maria Whitehead	Open Space Institute
David Bishop	The Nature Conservancy
Sarah Hartman	The Nature Conservancy
Eric Krueger	The Nature Conservancy
Joy Brown	The Nature Conservancy
Liz Fly	The Nature Conservancy
Chris Hernandez	US Fish & Wildlife Service
Craig Sasser	US Fish & Wildlife Service
Brett Morgan	Waccamaw Council of Governments
Cara Schildtknecht	Waccamaw Riverkeeper
Christine Ellis	Winyah Rivers Foundation