

# Co-developing Nature-based Solutions in Refugio County, Texas

## Workshop Summary

Friday, January 27, 9 to noon



## Workshop Participants

### Advisory Group

Libby Myers	WISD School Board; Texas Parks and Wildlife Department
Kathryn Tunnell	Coastal Bend Bays and Estuary Program
Amy Ancira	Austwell Town Council
Kaylee Vega	Woodsboro High School Student
Hayden Smith	Anchor QEA
Geron Gowdy	Natural Resources Conservation Service
Mary Afuso	Regional Resilience Partnership of the South Texas Coastal Bend
Ryan Martinez	Regional Resilience Partnership of the South Texas Coastal Bend
Katie Swanson	Mission-Aransas National Estuarine Research Reserve
Joan Garland	Mission-Aransas National Estuarine Research Reserve
April Conkey	Texas Children in Nature
Molly Rooke	Environmental and Community Advocate
Ann Fierova	Community Development Foundation

### Core Team Members

Robert Blaschke	County Judge <i>Ret.</i>
Amanda Fuller	National Wildlife Federation
Arsum Pathak	National Wildlife Federation
Christine (Chris) Hale	Harte Research Institute
Diana Del Angel	Harte Research Institute
Raynaldo De Los Santos	Santos McBain
Hailey Satterwhite Morrow	Santos McBain

### Others

Jennifer Walker	National Wildlife Federation
Dijani Laplace	Harte Research Institute

## **Agenda**

- 9:00 **Welcome and project overview** (National Wildlife Federation)
- 9:10 **Introductions** (full group)
- 9:20 **Vulnerability assessment** (presentation)
- 9:40 **Introduction to Nature-based Solutions** (presentation)
- 10:00 **Break**
- 10:10 **Identify and prioritize Nature-based Solutions** (small groups)
- 11:30 **Closing and next steps** (National Wildlife Federation & Harte Research Institute)
- 11:35 **Questions** (full group)
- 11:45 **Refreshments**

## Workshop Summary

National Wildlife Federation, partnering with Harte Research Institute, Santos McBain, and Refugio County leadership, convened a 3-hour workshop on nature-based solutions at the Refugio Community Development Foundation. This summary provides an overview of the presentations and participant discussions that took place at the workshop. The format of the workshop included a mix of presentations, large group discussions, and small group discussion.

The purpose of the workshop was to engage community experts to facilitate conversations on nature-based solutions and identify a preferred project for the county. This workshop is funded through the *Engaging Communities to Design Nature-based Solutions to Mitigate Climate-related Hazards* grant provided by the National Academies of Sciences and Medicine (NASEM) Gulf Research Program.



### Outcomes

- An understanding of present and future vulnerabilities in Refugio County and compounding socio-economic and environmental concerns.
- An understanding of nature-based solutions, types, case studies and funding opportunities.
- An identification of nature-based projects preferred by the advisory team.
- An identification of priority projects based on the project review in large group discussions.

### Presentation Highlights

#### Vulnerability Assessment

Arsum Pathak, National Wildlife Federation, presented the county-specific findings from the *Vulnerability and Adaptation to Climate Change: An Assessment for the Texas Mid-Coast*. Sea level rise along this region has increased at the rate of 6 mm/year (3 inches/decade) since 1940 and end-of-century projections show a further increase between 3-9 ft depending on the global greenhouse gas estimates. The increase in sea level rise will lead to potential inundation, coastal flooding, increase in storm surge and erosion of wetlands along the county's coastline. Diana Del Angel, Harte Research Institute, shared *maps to demonstrate the area's susceptibility to storm surge and shoreline erosion*.

## Nature-based Solutions

Amanda Fuller, National Wildlife Federation, presented an overview of nature-based solutions. *Nature-based Solutions* are actions to protect, sustainably manage and restore natural and modified ecosystems in ways that address societal challenges effectively and adaptively, to provide both human well-being and biodiversity benefits. Some examples include wetland restoration, living shorelines, riparian buffers, conservation easements, etc. These solutions provide a range of environmental (water quality, wildlife habitat) and socio-cultural and economic (public health, food security, jobs) benefits. The presentation also included a need to center equity in the design and implementation of these approaches and shared best practices and funding opportunities including National Wildlife Federation's *Nature-based Solutions Funding Database* to do so.

## Small Group Discussion Highlights

Following the presentations, participants broke out into small groups to discuss nature-based solutions available for their county. Core team members from the project team were assigned as facilitators to each group. The worksheets developed as part of National Wildlife Federation's *Incorporating Nature-based Solutions into Community Climate Adaptation Planning* were provided to each group member to help facilitate the discussion. The worksheets were based on the Steps to Resilience framework developed through U.S Climate Resilience Toolkit and focused on three steps of the framework:

- *Step 3.* Investigate Options to identify a range of potential nature-based solutions and strategies available to a community.
- *Step 4.* Prioritize and Plan to determine which potential actions are the most appropriate to take, and when those actions should be implemented.
- *Step 5.* Take action to craft specific actions that will be necessary in order to successfully implement the NbS option selected for a specific site within the community.

Each small group completed a summary sheet to share notes and reflections with the entire advisory group. The summary questions included:

- List potential nature-based projects and their locations.
- Evaluate the possible NbS option through guiding questions and describe the appropriateness of preferred project(s).
- Identify 2-3 action steps for implementation and opportunities for advisory group engagement for each action.
- List the specific desired outcomes for this NbS project.

### **Group 1: Amy Ancira, Mary Afuso, Ann Fierova, Hayden Smith**

*Facilitator: Raynaldo De Los Santos*

This group identified three projects: Black Point Bayside Living Shoreline, Mission River Living Shoreline, and Hynes Bay Restoration. With their small group, the group discussed:

- Need for intense planning and project definition before taking action

- Continuing getting community feedback and respecting the culture with community buy-in

**Group 2: Robert Blaschke, Ryan Martinez, Libby Myers, Kathryn Tunnell**

*Facilitator: Arsum Pathak*

This group identified two projects: N. Woodsboro Green Infrastructure and E. Refugio Stormwater Management. With their small group, the group discussed:

- Need to address flood concerns in NE Refugio through a retention pond project
- Lions/Shelley Park re-designed with educational stormwater features to enhance nature-based components, mitigate flooding
- Inland flooding in Woodsboro can be mitigated using the football field as retention pond/public park and improving water quality through education/outreach, highlighted that this is a private property
- NbS can attenuate overflows of municipalities sewage plant

**Group 3: Molly Rooke, Katie Swanson, Kaylee Vega**

*Facilitator: Chris Hale*

This group identified two projects: Coastal Prairie Restoration at Fennessey Ranch and Black Point Boat Ramp. With their small group, the group discussed:

- Need to reduce risk to communities through fire management, prescribed burning, and other land management techniques to preserve the coastal prairie habitat
- Conducting community outreach through NERR educational opportunities, understanding long-term community, and school groups engagement, and environmental benefits and monitoring for them, to build community buy-in
- Boat ramp project to restore habitats (oyster, salt marshes) and increase recreational access and use, decrease storm impact risk to communities and increase public use access

**Group 4: April Conkey, Joan Garland, Geron Gowdy**

*Facilitator: Diana Del Angel*

The group identified two projects: Bayside Green Infrastructure and E. Bayside Flood Mitigation. With their small group, the group discussed:

- Need to emphasize the Bayside area as potential for development and population growth, recreation etc. increases
- Part of Bayside good for nature park and restoration through acquisition to provide buffer as the communities grow
- Concerns on landownership and the potential to do the project under a million dollars
- Other things to consider include projects near roads as TXDOT property

Two additional projects - Levee Removal at the confluence of San Antonio and Guadalupe rivers and Policies for Development on Coastal Land - were also suggested as one of the group members.

Project	Number of Votes	Group
Hynes Bay Restoration	2	1
Mission River Living Shoreline	5	1
Black Point Bayside Living Shoreline	10	1
N. Woodsboro Drainage Green Infrastructure	7	2
E. Refugio Stormwater Management	5	2
Fennessey Ranch Education Component for Ranch Owners	4	3
Black Point Boat Ramp	-	3
Bayside Green Infrastructure	4	4
E. Bayside Flood Mitigation	-	4
Levee Removal (confluence of San Antonio and Guadalupe Rivers)	1	4
Policies for Development on Coastal Land	-	4

## Large Group Discussion and Dot Polling Highlights

Each group shared reflections on their identified projects with the entire group followed by a dot-polling activity to vote on their top three preferred projects. Some common themes that emerged during the report-outs include:

- All four groups expressed an interest in the Bayside area through different project ideas to mitigate flood concerns and increase recreational opportunities.
- Group members were interested in enhancing education and eco-tourism opportunities through any nature-based project.
- Several projects will require private landowners' willingness and support and members highlighted the need to include them at the table.



Group members were asked to select their preferred projects and 11 group members participated in a dot polling activity to select their top three projects. The projects with highest votes were: Black Point Bayside Living Shoreline (10 votes), N. Woodsboro Drainage Green Infrastructure (7 votes), Mission River Living Shoreline (5 votes), and E. Refugio Stormwater Management (5 votes).

## Next Steps

Following the workshop, the core team met virtually on 1/31 to review the workshop findings and project ideas. The core team talked through each of the top four projects and decided to focus on top three projects: Black Point Bayside Living Shoreline, Mission River Living Shoreline, and E. Refugio Stormwater Management. The team strategically decided to skip N. Woodsboro Drainage Green Infrastructure Project because of previous experience with landowner unwillingness that might be difficult to influence during this project's duration. The core team decided to continue refining the top three projects and develop them in a way that aligns with advisory team selection and is appropriate for the funding scope and timeline. Some next steps include:

- Select project through continued community buy-in and vetting
- Conduct community outreach through surveys (Harte Research Institute)
- Prepare proposal (Santos McBain)
- Review and finalize proposal in Workshop #2 (Core Team and Advisory Group)