

GBRA

Guadalupe-Blanco River Authority

Your Trusted
Water Resource

GBRA.ORG

Region 11: Guadalupe Regional Flood Planning Group Meeting

Wednesday, January 10, 2024
2:00pm

Agenda Item 1

Call to Order

1. Attendance
2. Individuals attending in-person, please sign-in

Welcome

Agenda Item 2

Agenda Item 3

Approval of Meeting Minutes

1. Approval of meeting minutes from September 12, 2023 Region 11 RFPG Meeting.

Meeting Minutes
Region 11 Guadalupe Regional Flood Planning Group Meeting
September 12, 2023 at 2:00 PM

Guadalupe-Blanco River Authority Office (2225 E. Common, New Braunfels, TX 78130) or virtually
https://teams.microsoft.com/l/meetup-join/19%3ameeting_MGIyMDFiMzktMDJhNS00Y2EwLWF1ZjUtMTVkJmJyZTU0YjM1%40thread.v2/0?context=%7b%22Tid%22%3a%22ed04a947-68b2-4156-a6a2-16908f25cfc1%22%2c%22Oid%22%3a%22ad476899-90a4-4d98-85c7-9228da6b1bda%22%7d

Roll Call:

<u>Voting Member</u>	<u>Interest Category</u>	<u>Present (x) / Absent () / Alternate Present (*)</u>
Doug Miller Melissa Reynolds*	<i>Agricultural</i>	X
John Johnston	<i>Counties</i>	X
Lon Shell	<i>Counties</i>	X
Bobby Christmas	<i>Electric Generating Utilities</i>	
Annalisa Peace Bill Barker*	<i>Environmental</i>	X (joined at 2:03pm)
Doug Sethness Jennifer Urban*	<i>Flood districts</i>	*
Matt Koone	<i>Industries</i>	
Joseph Pantalion John Espinoza*	<i>Municipalities</i>	X (joined at 2:08pm)
Ken Gill	<i>Municipalities</i>	
Dr. Kimberly Meitzen	<i>Public</i>	
R. Brian Perkins Charlie Hickman*	<i>River Authorities</i>	X
Tara Bushnoe	<i>River Authorities</i>	X
Gian Villarreal Tami Norton*	<i>Small Business</i>	X
Vacant	<i>Water Districts</i>	
Steven Fonville	<i>Water Utilities</i>	X

<u>Non-voting Member</u>	<u>Agency</u>	<u>Present(x)/Absent() / Alternate Present (*)</u>
Sue Reilly Beth Bendik*	Texas Parks and Wildlife Department	X
Hollie Hischer Bierbauer	Texas Division of Emergency Management	
Jami McCool Kristin Lambrecht*	Texas Department of Agriculture	
Allen Nash	Texas State Soil and Water Conservation Board	
Kris Robles Teresa Williams*	General Land Office	
Ian Blair	Texas Water Development Board (TWDB)	X
Joel Klumpp	Texas Commission on Environmental Quality	
Don Durden	Public	

Doris Cooksey	Region 12 Liaison	
Patrick Brzozowski Scott Hartl*	Region 10 Liaison	

Quorum:

Quorum: **Yes**

Number of voting members or alternates representing voting members present: **10**

Number required for quorum per current voting positions of 15: **8**

Other Meeting Attendees:

Lauren Willis, GBRA (Facilitator)

Velma Danielson, ICF

Ram Mendoza, GBRA (IT)

Alicia Reinmund-Martinez, ICF

Jay Scanlon, Freese & Nichols, Inc.

All meeting materials are available for the public at: <http://www.quadalupeRFPG.org>

AGENDA ITEM NO. 1: Call to Order

Chairman Miller called the meeting to order at 2:00 PM. Lauren Willis called roll of the planning group members to record attendance and a quorum was established.

AGENDA ITEM NO. 2: Welcome

Chairman Miller welcomed members to the meeting. He gave a brief description of the intention of the meeting and reminded the RFPG of the open Water Districts voting position. Lauren Willis introduced the new TWDB project planner, Ian Blair.

AGENDA ITEM NO. 3: Approval of minutes from the June 27, 2023 Region 11 RFPG Meeting.

Chairman Miller opened discussion on approving the minutes from the June 27, 2023 Region 11 RFPG Meeting.

A motion was made by Steven Fonville to approve the June 27, 2023 Region 11 RFPG Meeting minutes. Brain Perkins seconded the motion. The meeting minutes were approved by consensus.

AGENDA ITEM NO. 4: Discussion and potential action to consider additional, region-specific public notice requirements, if any, that might be necessary to ensure adequate public notice in Region 11 per Texas Administrative Code §361.12(a)(3)

Velma Danielson and Alicia Reinmund-Martinez with ICF presented a recap of all public engagement activities during the first planning cycle.

Chairman Miller opened discussion on considering any additional region-specific public notice requirements. No comments were made.

AGENDA ITEM NO. 5: Public General comments (Public comments limited to 3 minutes per speaker)

No public comments were given.

AGENDA ITEM NO. 6: Adjourn

Brian Perkins made a motion to adjourn. The motion was seconded by Steven Fonville. The motion passed by unanimous consent.

The meeting adjourned at 2:27 PM by Chairman Miller.

Approved by the Region 11 Guadalupe RFPG at a meeting held on XX.

Brian Perkins, SECRETARY

Doug Miller, CHAIR

Region 11 Guadalupe RFPG Chair Updates

Agenda Item 4

Agenda Item 5

Texas Water Development Board (TWDB) Updates

- a. Transition between first & second cycles

Guadalupe Region 11 RFPG Sponsor Guadalupe-Blanco River Authority (GBRA) Updates

Agenda Item 6

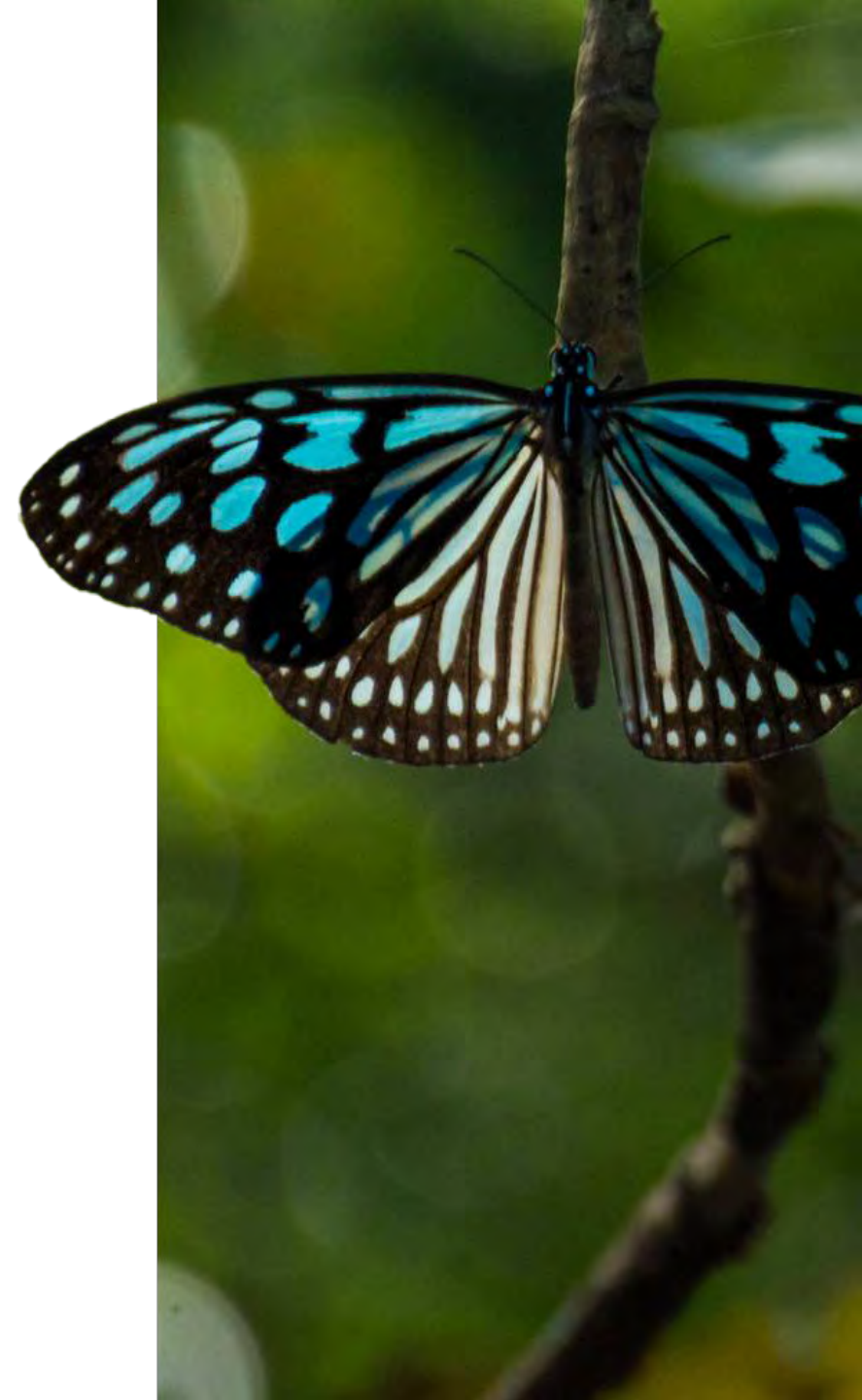
Presentation: Nature Based Solutions for Flood Mitigation

Agenda Item 7

Update for Region 11 Regional Flood Planning Group

NATURE BASED SOLUTIONS (NBS)

for Flood Mitigation



Introduction

- Flood Science and Community Assistance Division
 - 2019-86th Legislature, Senate Bill 500
 - Work with Flood Planning Division
 - Flood Science efforts at TWDB include developing improved flood modeling and mapping statewide as well as performing flood research activities which support statewide flood initiatives.
 - May include development of tools, resources, data, and more.
 - Please reach out if you have any data ideas



Financial Assistance

Water and Flood Planning

Data Collection and Science

Background

Flood Priority Research Program

- 86th Legislature allocated funds to support flood-related efforts, including research on topics of priority regarding funding
- Emerging practice and strategy
 - Need for guidance/more information about implementing these practices as flood mitigation
 - Initial Flood Planning
- Investment in flood infrastructure across the State
 - Opportunity to evaluate best tools in toolbox
 - Data informed decision making about implementing these types of solutions:
 - General understanding and definition
 - Benefits
 - Cost
 - Maintenance needs
 - Performance (specifically in Texas as much as possible)

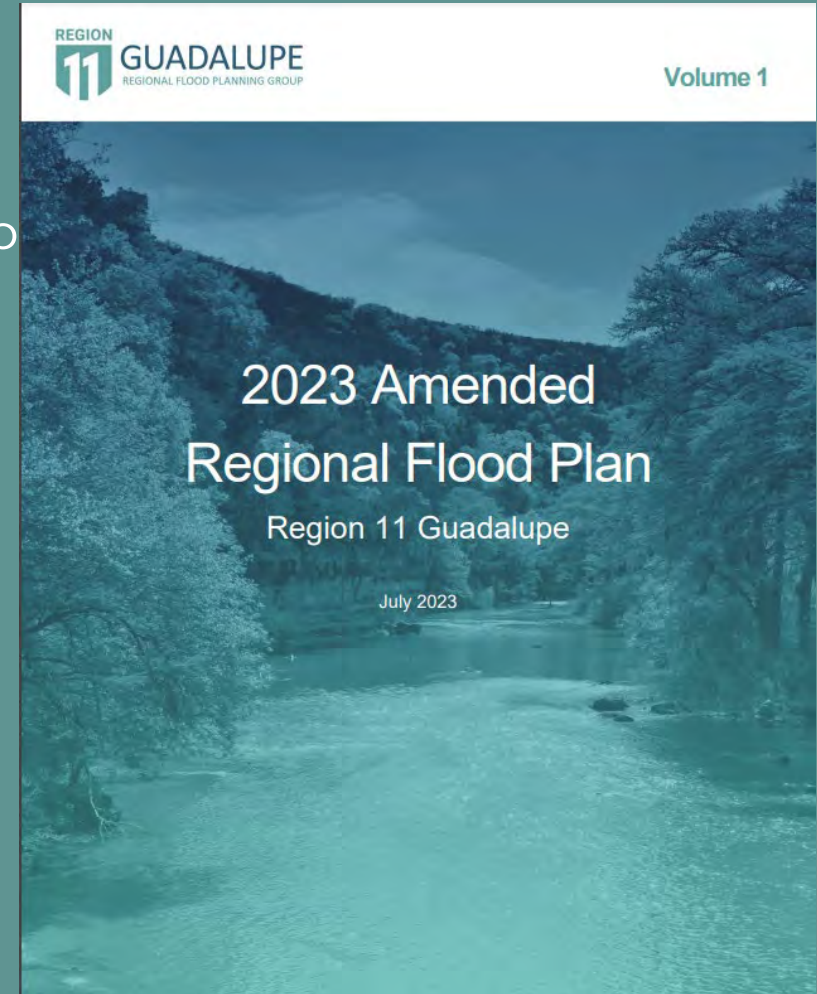


<https://www.twdb.texas.gov/flood/research/index.asp>

2023 Guadalupe Regional Flood Plan

Nature-Based Solutions

- Identified over \$1B funding need to implement FMXs in Region 11
- Established Goal (Short Term-10 yrs and Long Term 30 yrs) to incorporate more NBS FMPs and FMSs
- FMPs for Hybrid Green - Gray Regional Detention Ponds
- FMPs for Recharge and Flood Mitigation Conservation Easement
- Desired Outcome: Promote an awareness of NbS for flood mitigation
- NbS Recommendations:
 - Develop model ordinances for LID, Green Infrastructure
 - Recognize Co-Benefits in funding selection
 - Prioritize preservation and restoration of natural hydrology
 - Consider Incentives for NBS FMPs in TWDB programs
 - Provide Green Infrastructure training and encourage in Flood Mitigation



what are Nature Based Solutions (NBS)?



NBS for Flood Mitigation

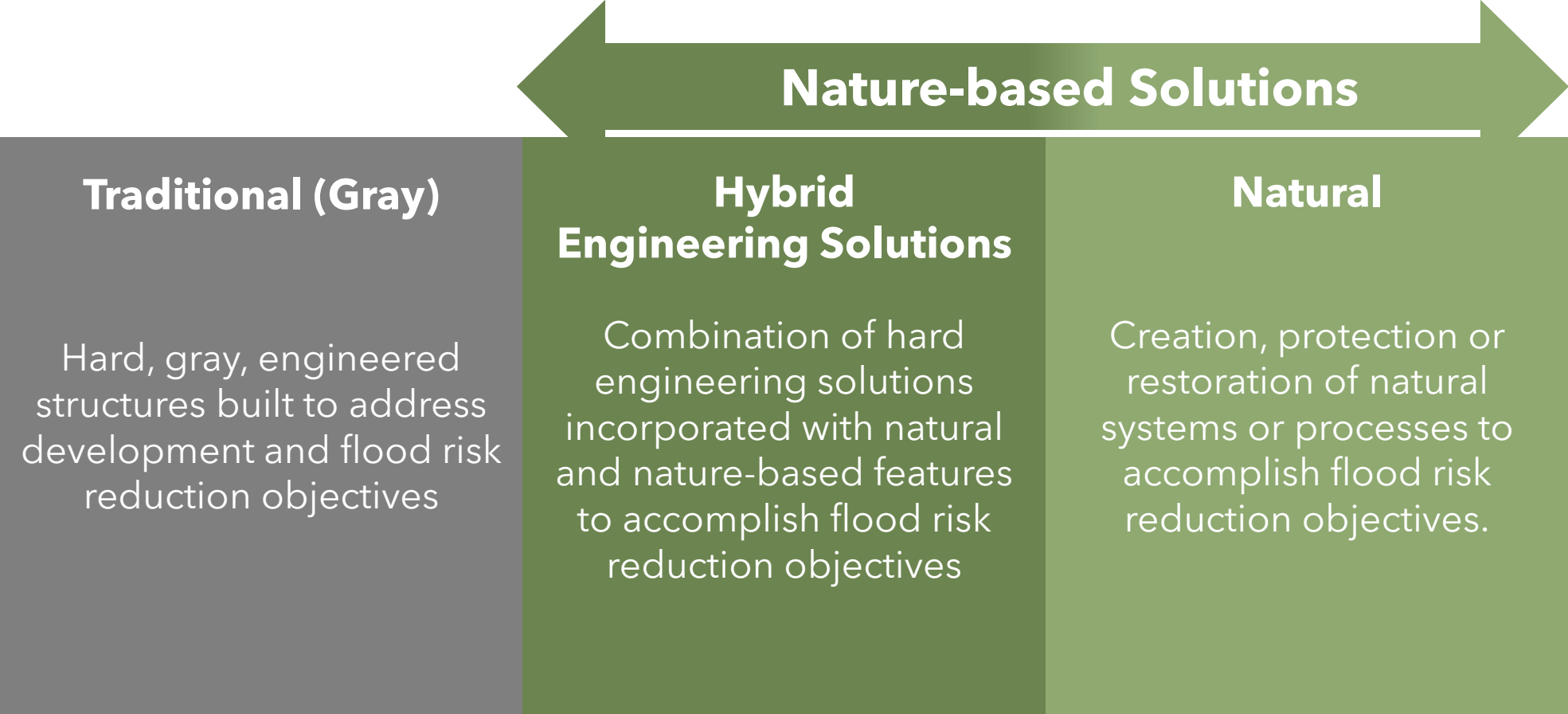
defining NBS

An "umbrella concept"

- Green infrastructure
- Low impact development
- Natural infrastructure
- Green Stormwater Infrastructure
- Natural and Nature-Based Features
- Stormwater Best Management Practices (BMPs)

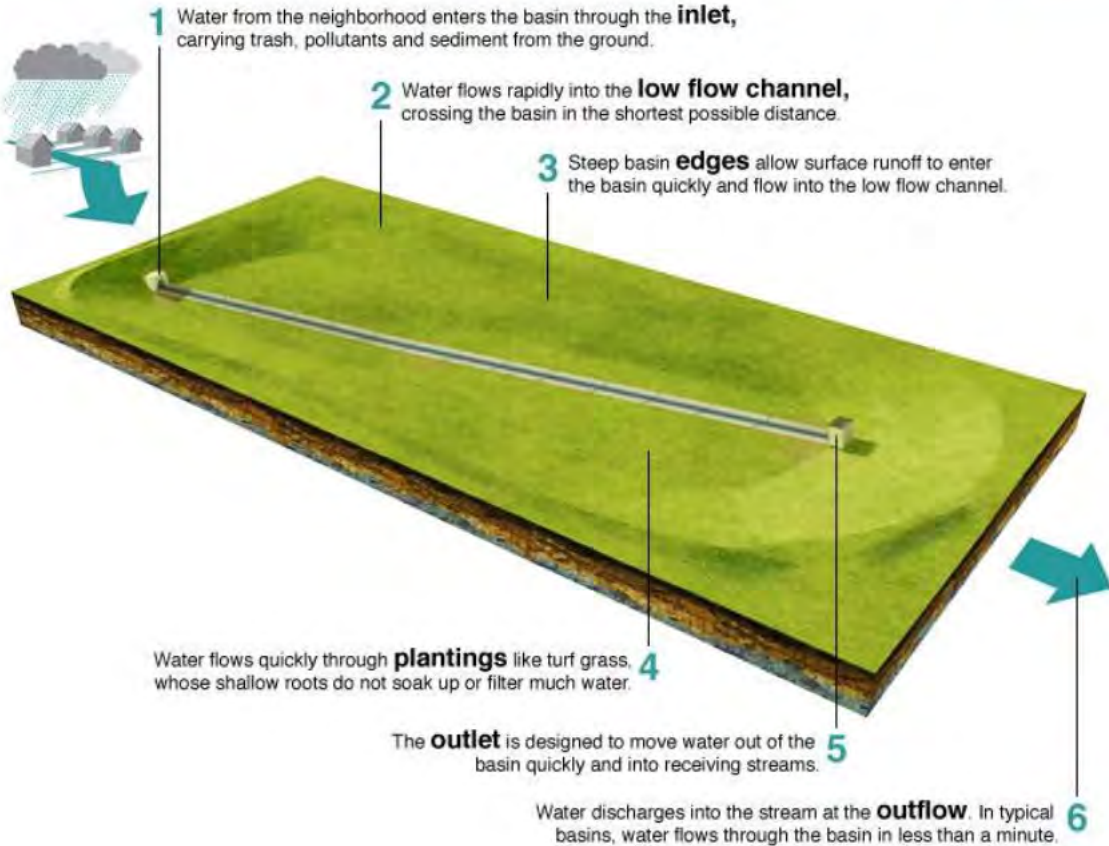


how NBS work for flood mitigation

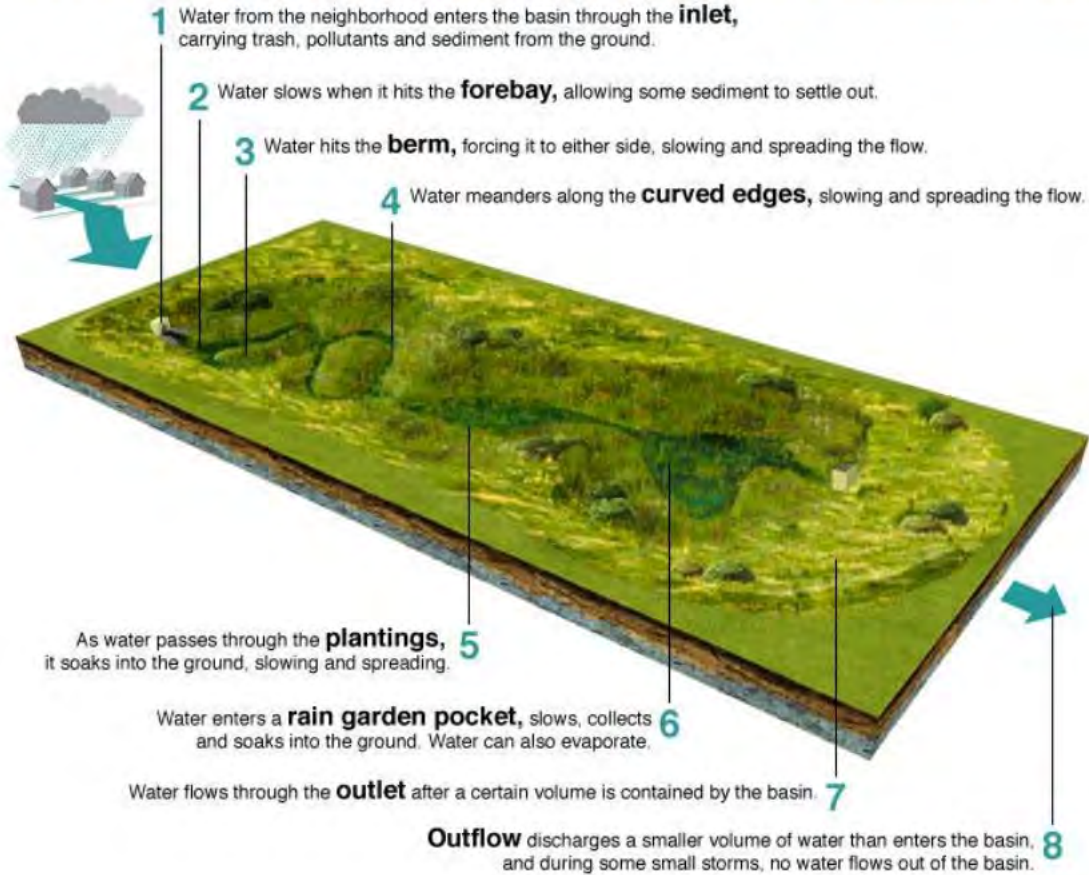


Adapted from the International Guidelines on Natural and Nature-Based Features for Flood Risk Management

What Happens to Stormwater in a Typical Detention Basin?



What Happens to Stormwater in a Retrofitted Detention Basin?



example: detention basin retrofit

Pennsylvania environmental council

Assessment of Historic and Future Trends of Extreme Weather in Texas, 1900-2036

why NBS?

- Texas has the largest number of federally declared natural disasters
- Widespread loss and conversion of natural areas to other land uses, including to impervious surfaces
- Population centers are outgrowing stormwater drainage systems.
- Costs of "gray" solutions are very high.
- Large investment in flood infrastructure coming to Texas communities

2021 UPDATE



TEXAS A&M UNIVERSITY
Office of the Texas State
Climatologist

ASSESSMENT of HISTORIC
and FUTURE TRENDS of
EXTREME WEATHER
IN TEXAS, 1900-2036

how NBS work for flood mitigation

- Nature based solutions **slow, hold, and absorb rainfall**
- Natural areas throughout a watershed **improve flood storage capacity, infiltration, provide filtration and delay flows**
- Natural shorelines are more adaptable to relative sea level rise and **attenuate wave energy**



benefits of NBS

ecosystem services

- Air quality and reduced heat island effect
- Water quality
- Infiltration
- Habitat and biodiversity
- Mental and physical health
- Aesthetics/beauty
- Recreation
- Resource preservation
- **Flood mitigation/resilience**



types of NBS

- Watershed
- Urban
- Coastal

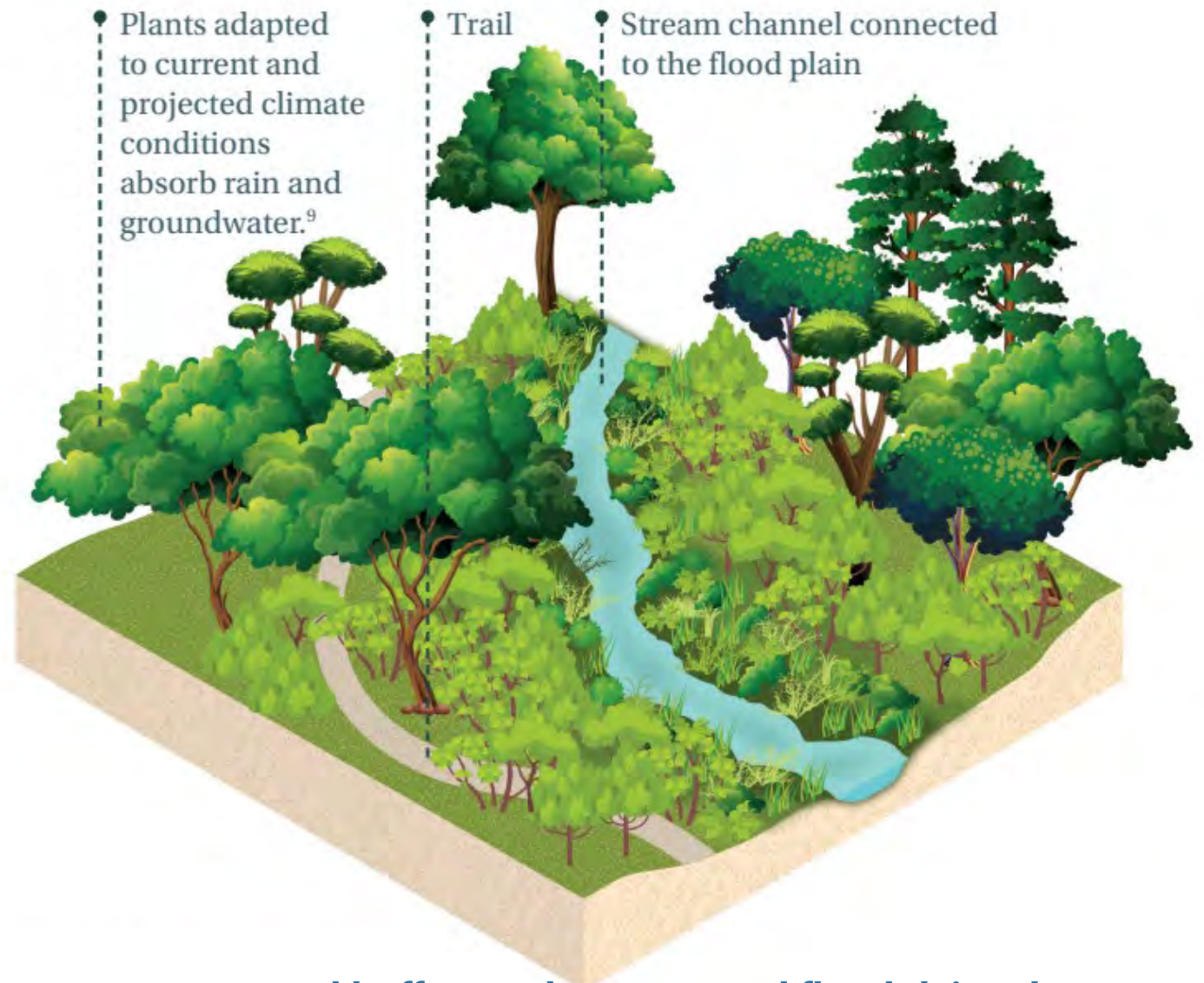
City of Austin Adams-Hemphill Neighborhood Stormwater Park by FNI



watershed

common practices:

- Land conservation
- Floodplain protection/restoration
- Riparian restoration
- Wetland protection/restoration
- Levee setback ("room for the river")
- Greenways
- Habitat management
- Flood bypass

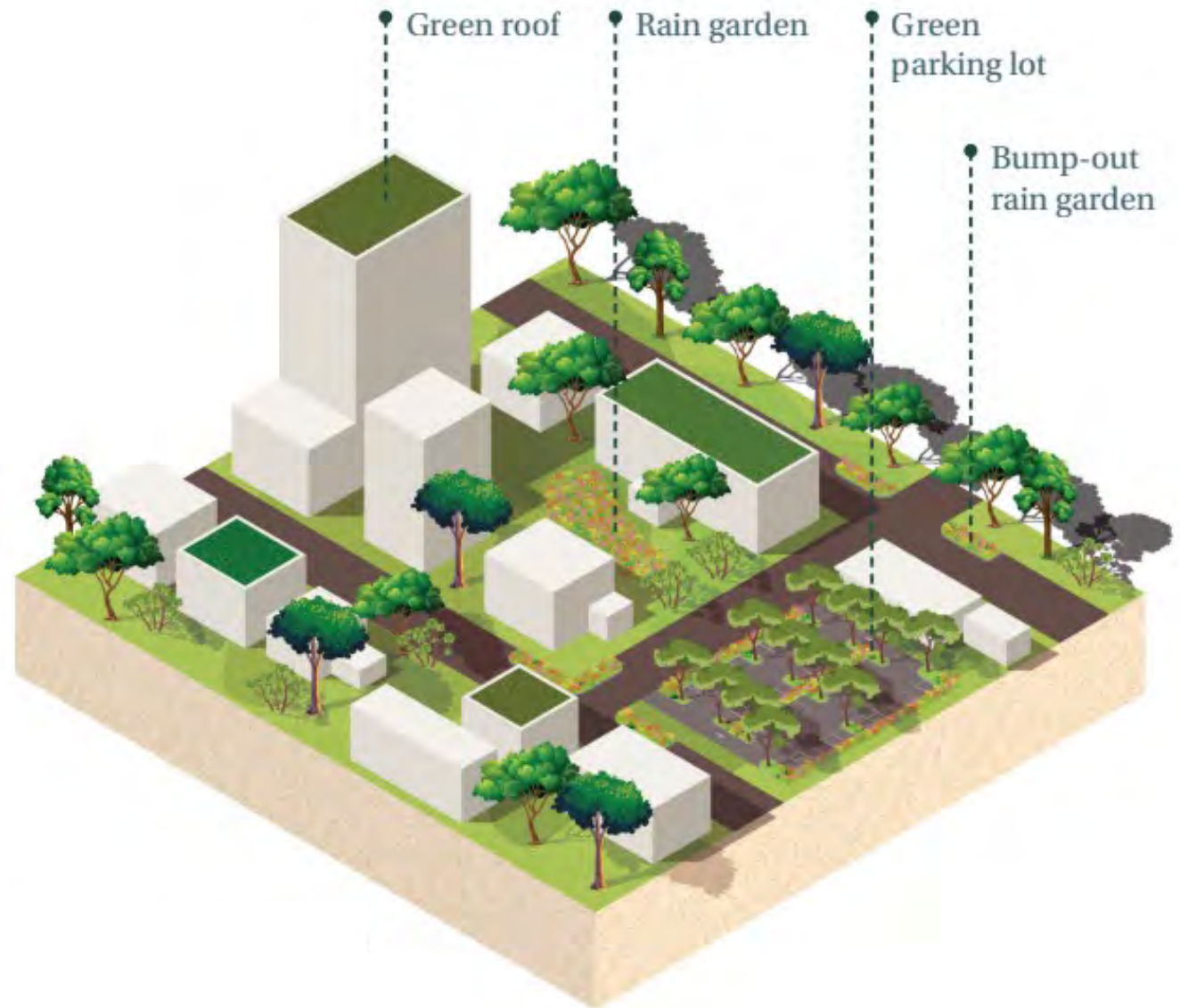


Vegetated buffers and reconnected floodplains slow water and provide flood attenuation

urban

common practices:

- Green Stormwater Infrastructure (GSI)
- Low Impact Development (LID)
- Street trees and tree trenches
- Stormwater parks
- Protected greenspace and greenways
- Urban stream restoration
- Vegetated swales



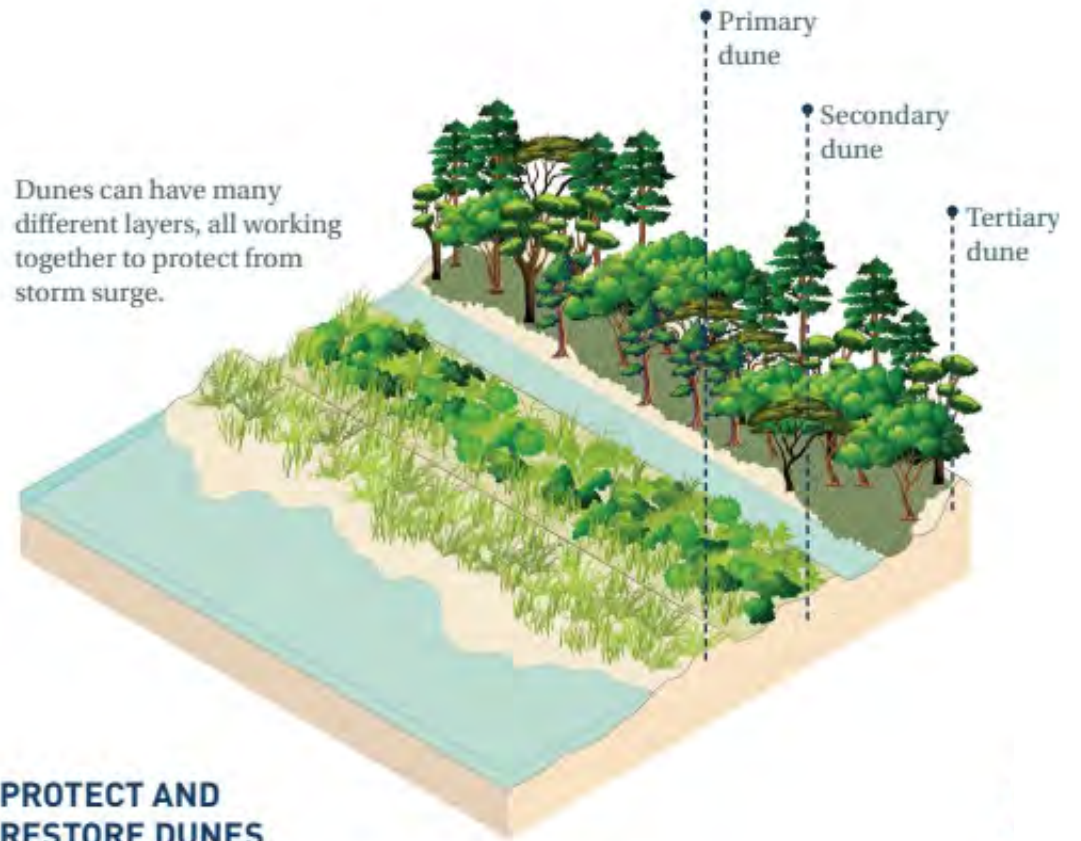
In developed areas bioswales, rain gardens, green roofs and other GSI or LID practices reduce runoff volume and peak flows.

[Disaster-Resilient Design Concepts \(epa.gov\)](http://epa.gov)

coastal

common practices:

- Coastal wetlands protection/restoration
- Living shorelines
- Land conservation
- Beach and Dunes restoration
- Waterfront Parks
- Channel Restoration
- Oyster Reef Restoration



PROTECT AND RESTORE DUNES

Dunes that are stabilized by native vegetation protect nearby communities from storm surges.

Dunes that are stabilized by native vegetation protect people and infrastructure from storm surges

NBS for flood mitigation

Guidance Manual for Texas



project goals

01

Synthesize guidance on the use of nature-based flood mitigation solutions into a **single, statewide manual** for Texas communities.

02

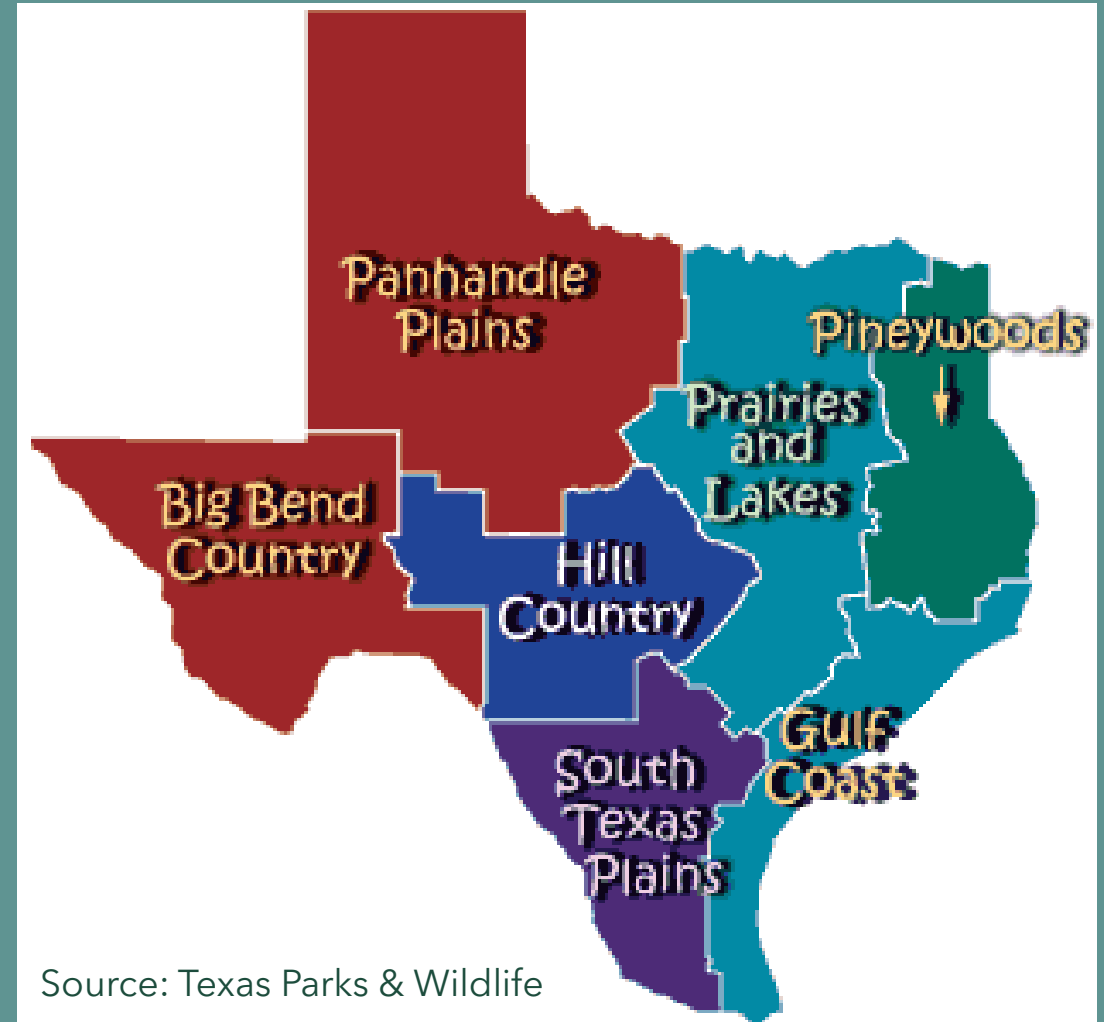
Focused guidance that considers the efficacy of NBS in Texas to support flood planning efforts and help guide Texas communities to **better understand and utilize** these approaches.

03

The manual is **not intended to research, test, or develop wholly new approaches** but rather to recommend best practices already developed by others as preferred best practices for regions of Texas.

research considerations

- 7 Eco-Regions of Texas
- Varying magnitudes of flooding
- Varying flood mitigation benefits
- Recommend best practices for regions of Texas



Source: Texas Parks & Wildlife

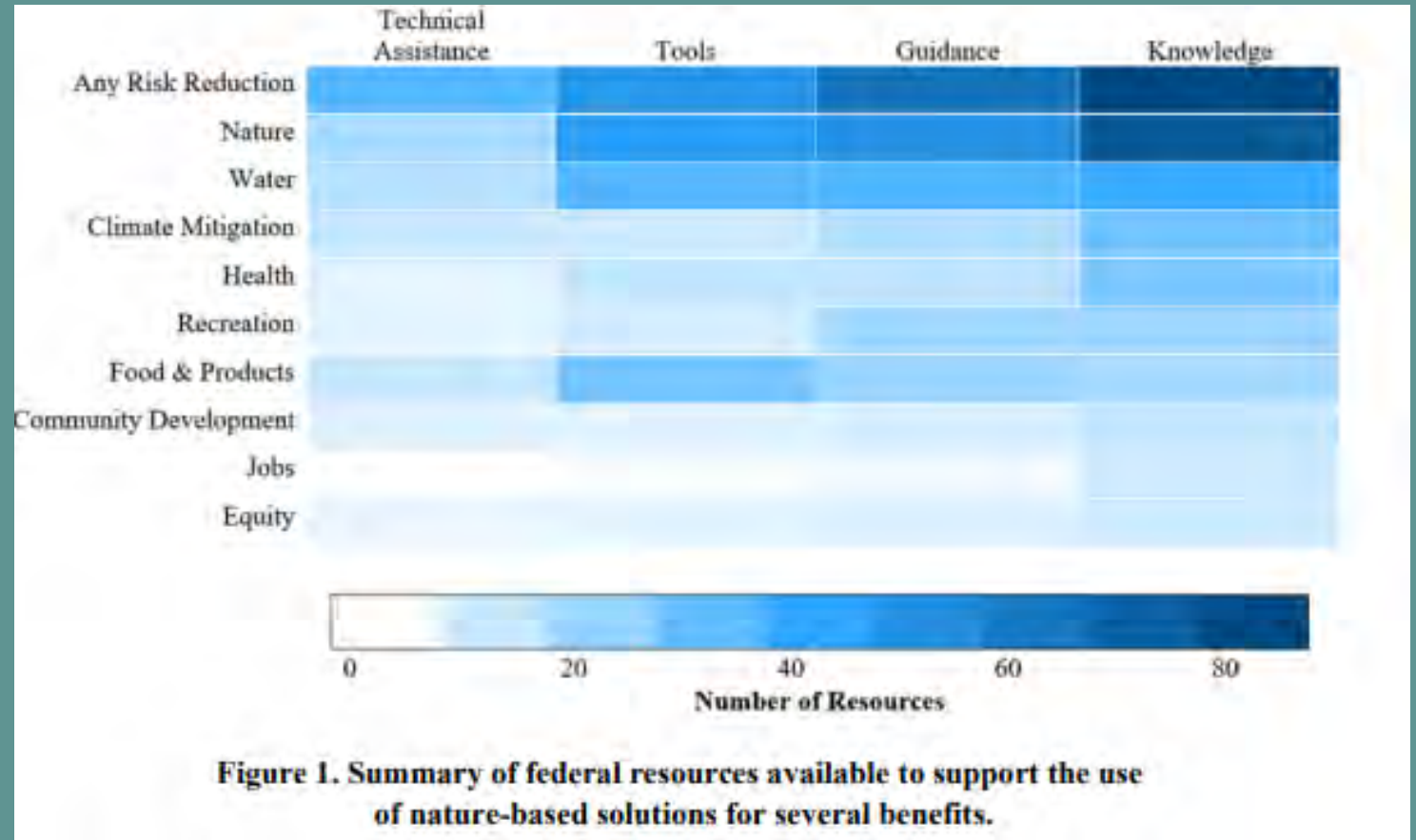
research overview

Survey & Interviews

- Non-elected community officials
- Practitioners
- Academia
- Non-government organizations/non-profit entities

Literature Review

- National, international and Texas
- Ecoregion coverage
- Topic coverage



White House Council on Environmental Quality, 2022 Nature-Based Solutions Resource Guide

interviews: summary

key challenges & barriers:

- Lack of awareness about NBS benefits:
“People don’t know”
- Financial constraints “Time is money;
Money is money”
- Lack of skilled workforce
- Status quo/mono-functional planning for
infrastructure
- Operations and maintenance
- Political and cultural boundaries
- Unique conditions and physical
constraints

Opportunities:

- Understand the **value proposition**
 - “Show me that they work”
 - Quantify and demonstrate benefits
- Work **across boundaries** (political, physical, social,
cultural, professional)
 - Incorporate multiple benefits and multidiscipline
 - **Monofunctional to multifunctional**
 - Broad stakeholder engagement
- Integrate **life-cycle planning**
- **Build capacity and capability**
- Implement **policy & incentives**
 - Design to flood
 - Floodplain regulations
 - Multiuse land facilities

survey: summary

key challenges & barriers:

- Rapid current and future development in Texas
- NbS are rarely defined or considered for flood mitigation
- Lack of technical understanding or expertise among decision-makers
- Lack of general awareness
- Resistance to change
- Lack of technical expertise among developers and practitioners
- Lack of funding
- Difficulty incorporating NbS into existing planning processes

opportunities:

- Provide **region-specific** guidance
- Address opportunities for NbS to provide **multiple community benefits** in addition to flood mitigation
- Engage **multiple and diverse stakeholders**
- Understand various levels of **risk tolerance**
- Document **performance over time/performance measures** for flood risk
- **Build the workforce**
- Provide **life-cycle cost** information
- Understand the intersection and opportunity for **water supply and conservation**

survey: Region 11- Case Studies

- **Case Studies identified:**
- Edwards Aquifer Habitat Conservation Plan
 - City of San Marcos
 - Comal County
 - City of New Braunfels
- City of Victoria Guadalupe River Restoration Project
- The Green Alley Initiative
- San Marcos Urban Tree Canopy.
- Greater Edwards Aquifer Alliance Resources on Managing Stormwater



EAHCP Annual Report 2021

literature review: summary

- Open-source literature scan identified 150+ references for consideration
- References were reviewed to identify the topics and ecoregions discussed
- Developed catalog of topics and ecoregions discussed in each reference
- Literature was rescanned for connection to emerging themes identified in the survey and interviews
- Gaps in available literature are being identified

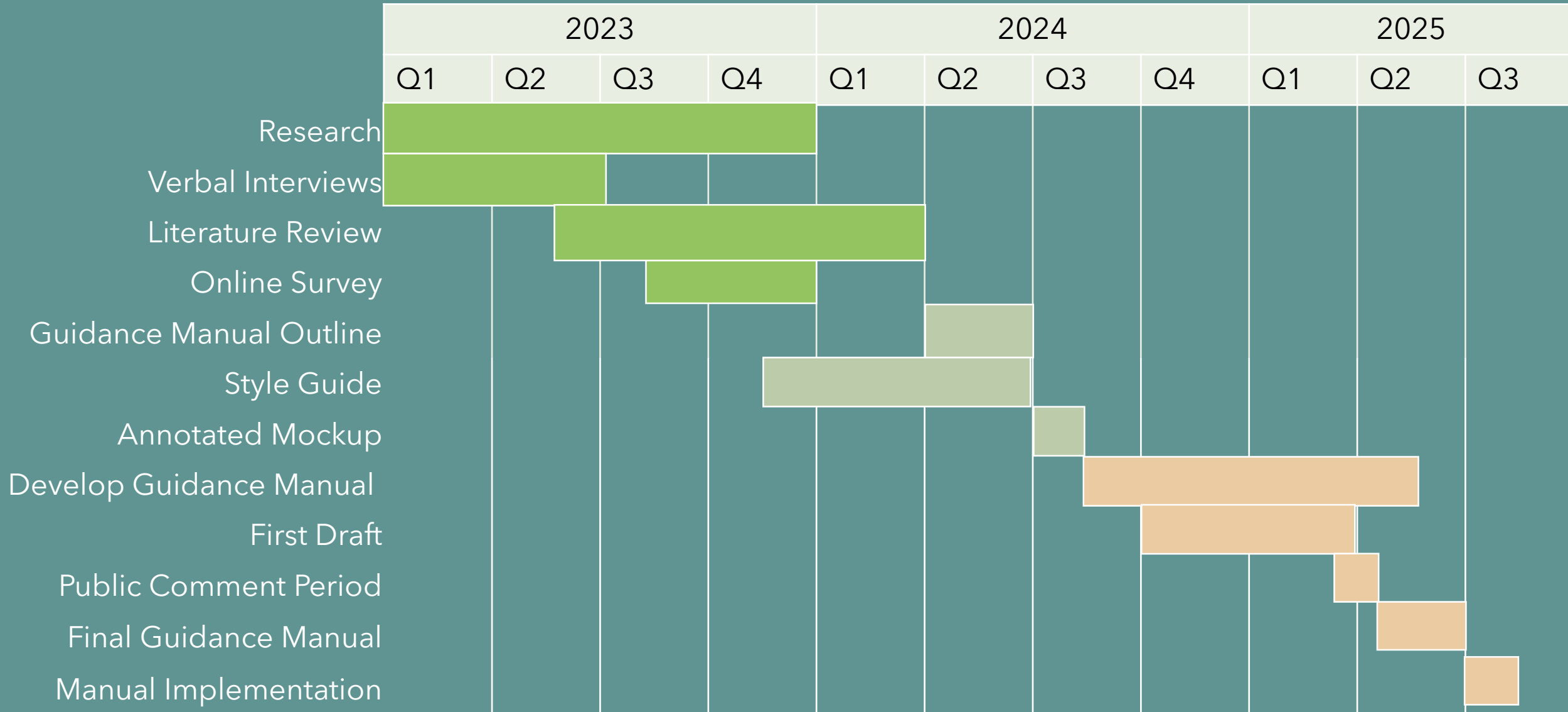
research: next steps

Finalize key themes and topics

Finalize literature review

Decision framework	Benefits and co-benefits	Barriers and/or challenges	Quantifying benefits	Type and suitability by ecoregion	Cost effectiveness and efficacy
Planning, design, and construction considerations	Regulation, policy, and incentives	Operations and maintenance	Funding	Systems thinking	Life-cycle planning
Adaptive management	Working across boundaries	Multi-stakeholder engagement	Building capacity and capability	Risk tolerance	Water supply and conservation

schedule



thank you!

Feel free to reach out to either of us if you have any questions, comments, or feedback.

Kelley Rich, PE, CFM | Flood Modeling

Water Science & Conservation | Texas Water Development Board

512-475-1557 | kelley.rich@twdb.texas.gov



Agenda Item 8

Consider nominating and potential action electing RFPG Officers for 2024 (Chair, Vice Chair, Secretary and two members-at-large)

Discussion and potential action regarding Region 11 Amended Flood Plan.

Agenda Item 9



Technical Consultant Update

Guadalupe Regional Flood Planning Group

January 10, 2024

Item 9



Agenda

- TWDB Request for Information

TWDB Request for Information #1

- **Received November 7, 2023**
 - Level 1 comments: must be addressed
 - Level 2 comments: not required to be addressed
- **Comments included:**
 - GBD and GIS Feature Classes: Reconciliation and clarification
 - Map 11: Printing error
 - Tables: Printing error, Reconcile with GDB, Add “total” row
 - Text: Request to add in-text references to figures
- All documents were resubmitted on/before November 20, 2023

TWDB Request for Information #2

- **Received December 19, 2023 (follow up from RFI #1)**
 - One level 1 comment: replace “Y” with “Yes” Entities Feature Class
 - One level 2 comment: reconcile Critical Facility Count in Table 5
 - Three response clarifications
 - Two new “Entities” Feature Class Comments: removed duplicates

- Revised Exhibit C Tables and GDB submitted on December 20, 2023

2024 Look Ahead

Meeting	Milestones / Goals
April	TBD
July	TBD
October	TBD
December	TBD

Consider date and agenda items for next meeting.

- a. Wednesday, January 10th
- b. Wednesday, April 3rd (Texas Water 2nd week of April)
- c. Wednesday, July 10th
- d. Wednesday, October 9th

Public general comments – limit 3 minutes per person

Agenda Item 11

Adjourn

Agenda Item 12