The meeting will begin shortly

Please mute your microphone until called for questions.

Please disable your video unless you are speaking.

Please enter your name and title in the chat.

Please insert questions in chat or raise hand to speak.

This meeting is being recorded.

Welcome to this public meeting of the

EAST FORK SAN JACINTO RIVER WATERSHED PARTNERSHIP

EPA United States Environmental Protection Agency

Texas Commission on Environmental Quality

H-GAC Houston-Galveston Area Council

August 30, 2023

Meeting Outline

- Welcome and Introductions
- Project Background
- Model Revision Update
- Implementation Strategies
- Next Steps
- Discussion


INTRODUCTION

Who We Are

Texas Commission on Environmental Quality (TCEQ)

lead state environmental management agency

Houston-Galveston Area Council (H-GAC)

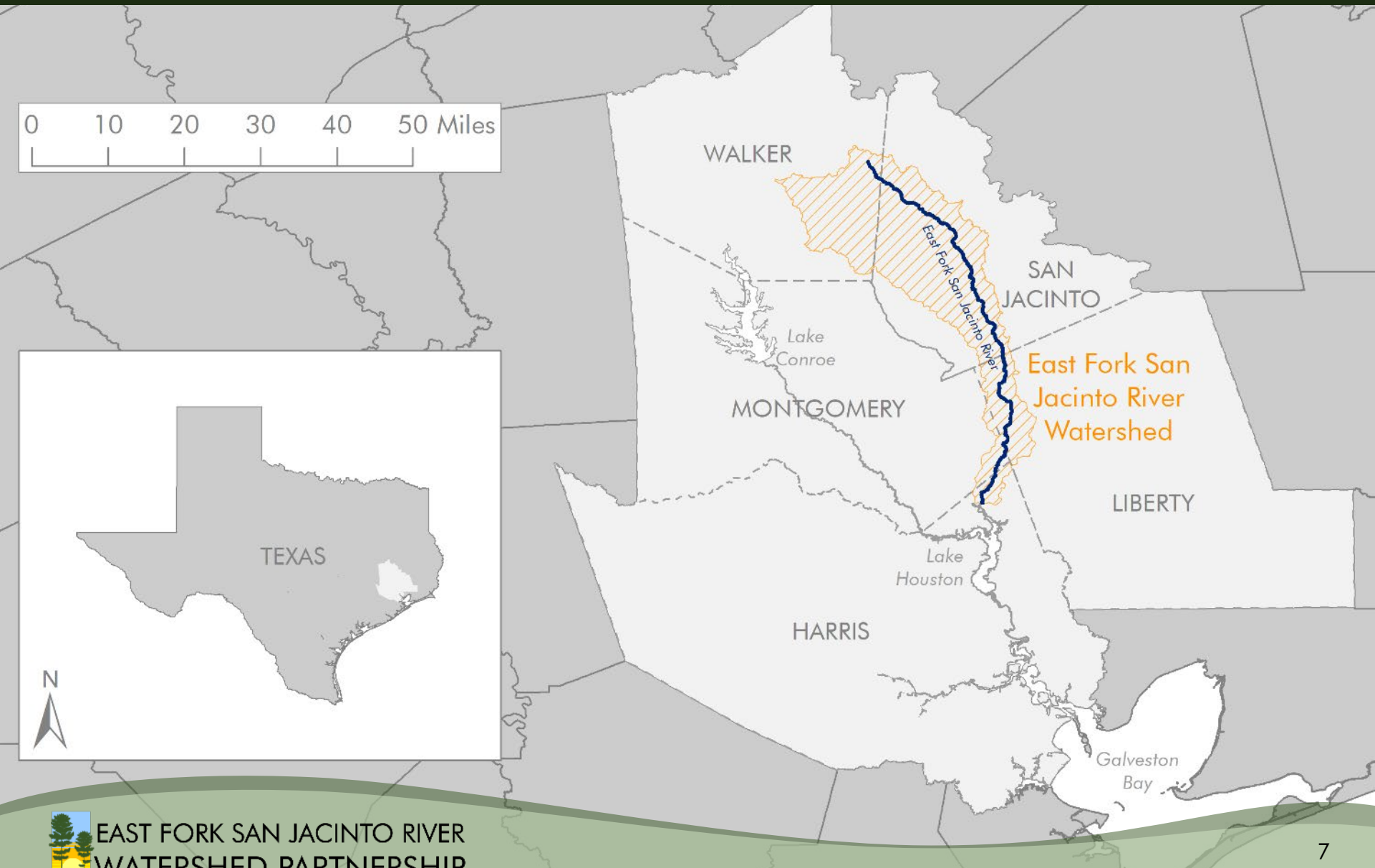
regional council of governments

Watershed Partnership

local stakeholders working with TCEQ and H-GAC to develop and implement a watershed protection plan for the East Fork San Jacinto River watershed

PROJECT BACKGROUND

Where We Work



EAST FORK SAN JACINTO RIVER WATERSHED PARTNERSHIP

Assessing Water Quality

- Statewide monitoring
- TCEQ produces integrated report of results every two years
- Waterways exceeding standards are **impaired**

Why We're Here

Surface water quality in the East Fork San Jacinto River Watershed is impaired due to high levels of fecal indicator bacteria.

Bacteria Sources

Human Waste

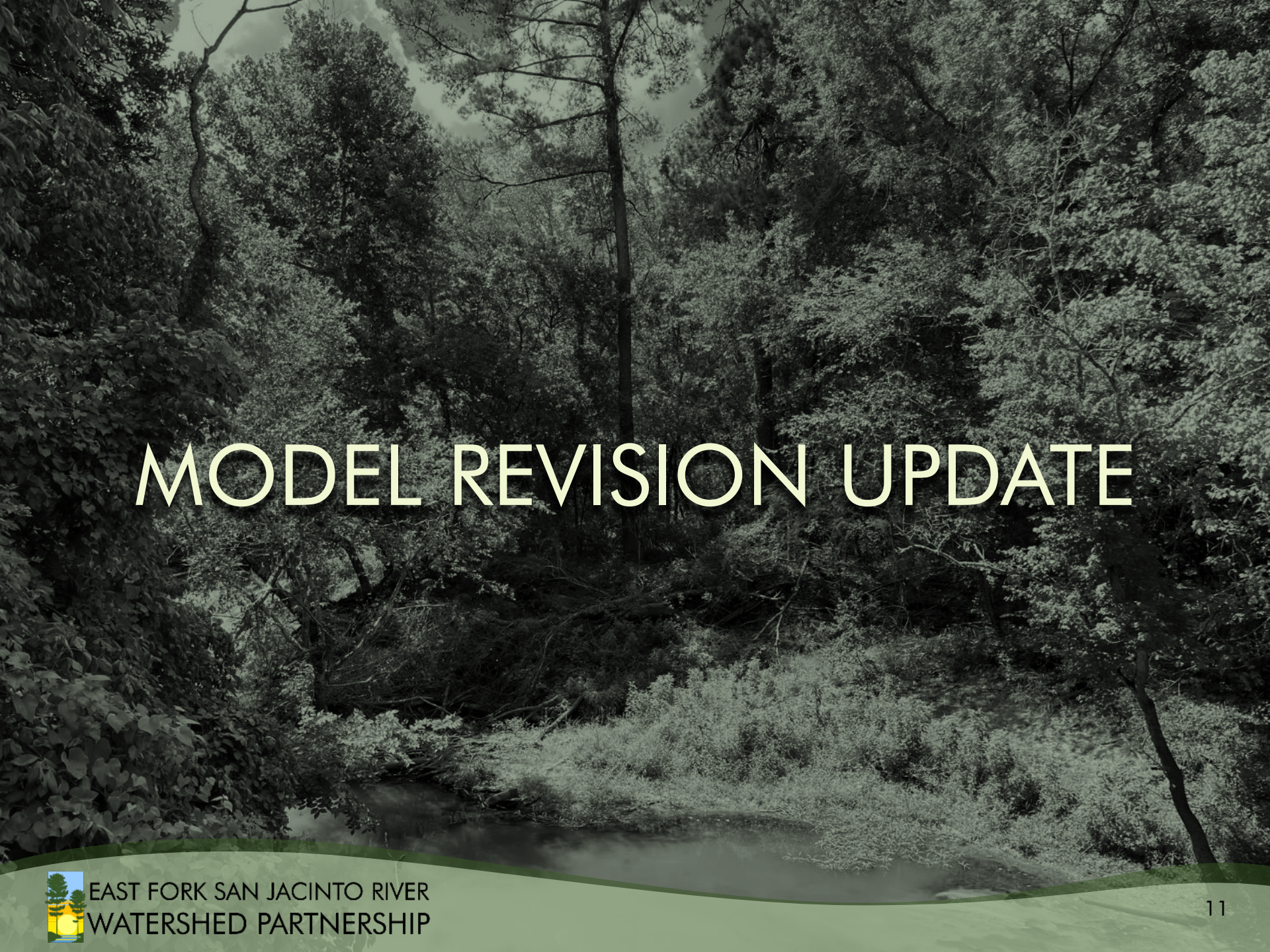
- Wastewater
- Septic/Aerobic Systems
- Illicit Sewage

Domestic Animal Waste

- Pets
- Livestock

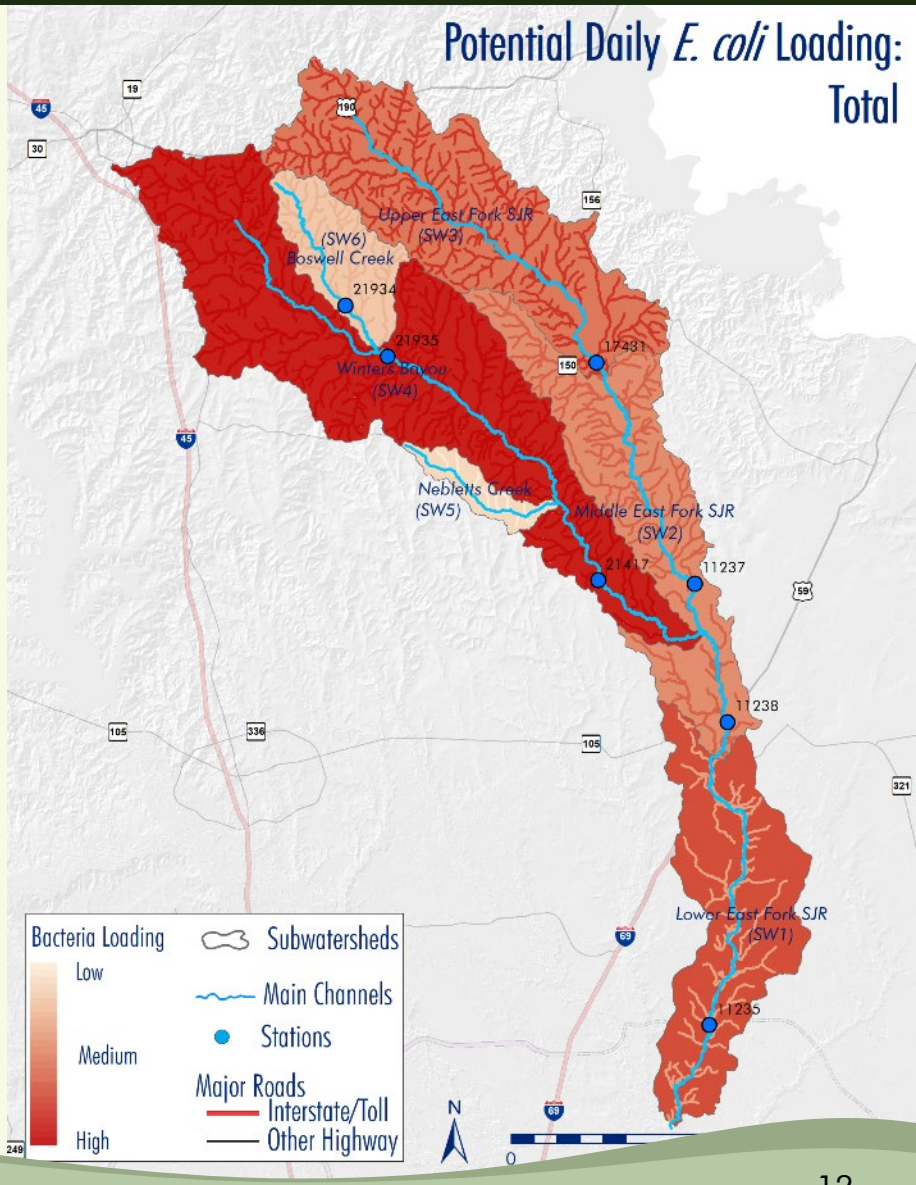
Wildlife and Invasive Species Waste

- Deer and Other Wildlife
- Feral Hogs


MODEL REVISION UPDATE

Bacteria Modeling

- Based on land cover, literature values, and stakeholder observations
- Estimates loads from different sources of bacteria
- Estimates spatial variation
- Estimates changes over time
- Guides implementation decision-making



On-Site Sewage Facilities

First Draft Methods:

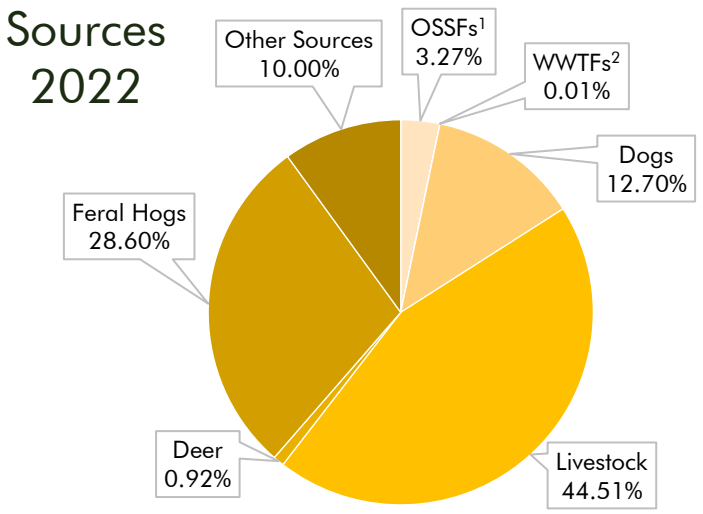
- Used permit data and assumption of unpermitted units based on occupied parcels outside service areas
- Estimated 10% failing

Revision Suggestions:

- Recommend returning to original assumption of 10% failure rate for all (permitted and unpermitted) systems

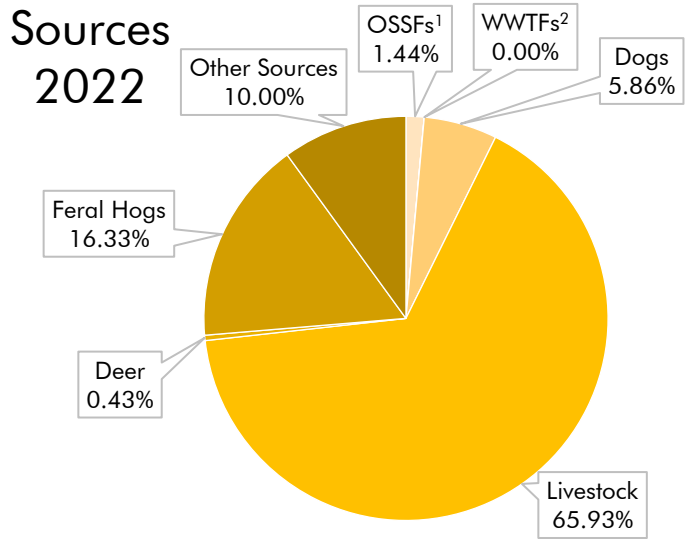
Updated Model Results

FIRST DRAFT



41,322 billion cfu/day
(1.4x growth by 2050)

REVISED



89,474 billion cfu/day
(1.3x growth by 2050)

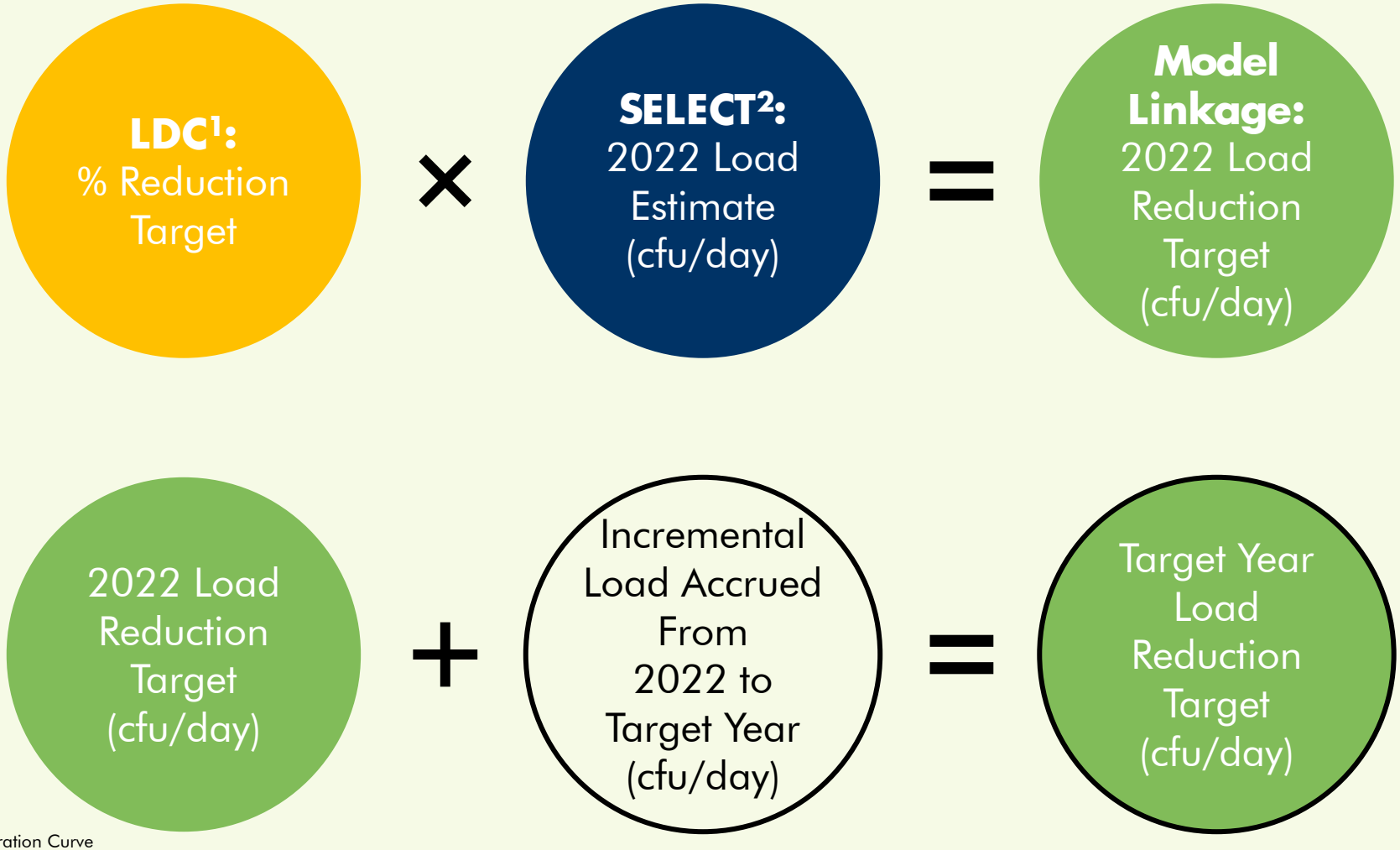
Adjustments made for:
- OSSFs[1] – assume 10% failure for all units
- Livestock – use revised unit load
- Feral hogs – account for population in riparian buffer

[1]OSSFs – On-Site Sewage Facilities
[2]WWTFs – Wastewater Treatment Facilities

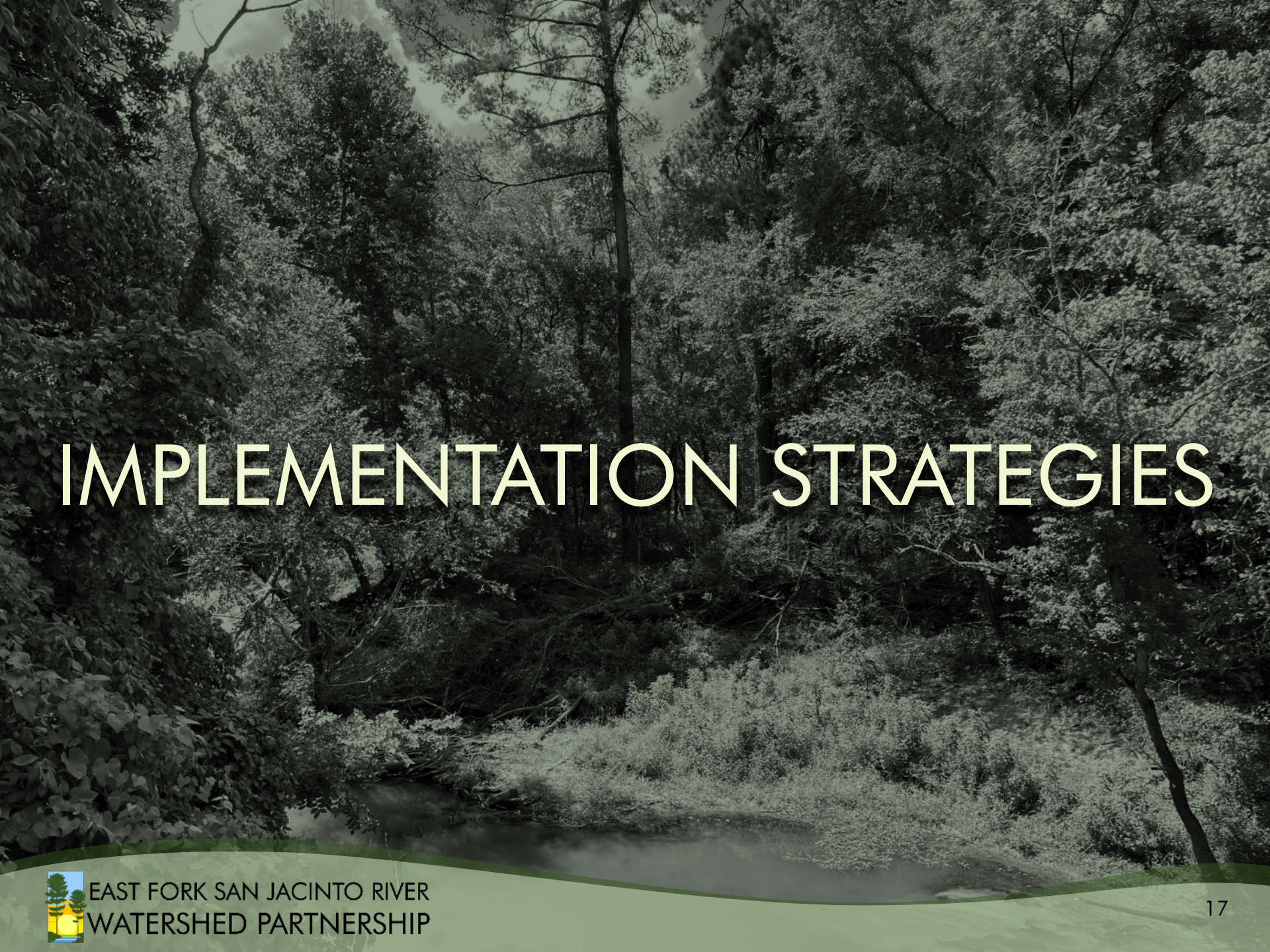
Linking Models With Streamflow

Load Duration Curve Stream Flow Conditions	*E. coli* Load Reduction Estimate		
	Tributaries	Upper East Fork	Lower East Fork
High Flow	70%	86%	83%
Moist Conditions	25%	45%	56%
Mid-Range Conditions		4%	31%
Dry Conditions			1%
Low Flow			
Weighted Average	**36%**	**38%**	**35%**

Reduction Target Calculations



[1] Load Duration Curve
[2] Spatially Explicit Load Enrichment Calculation Tool

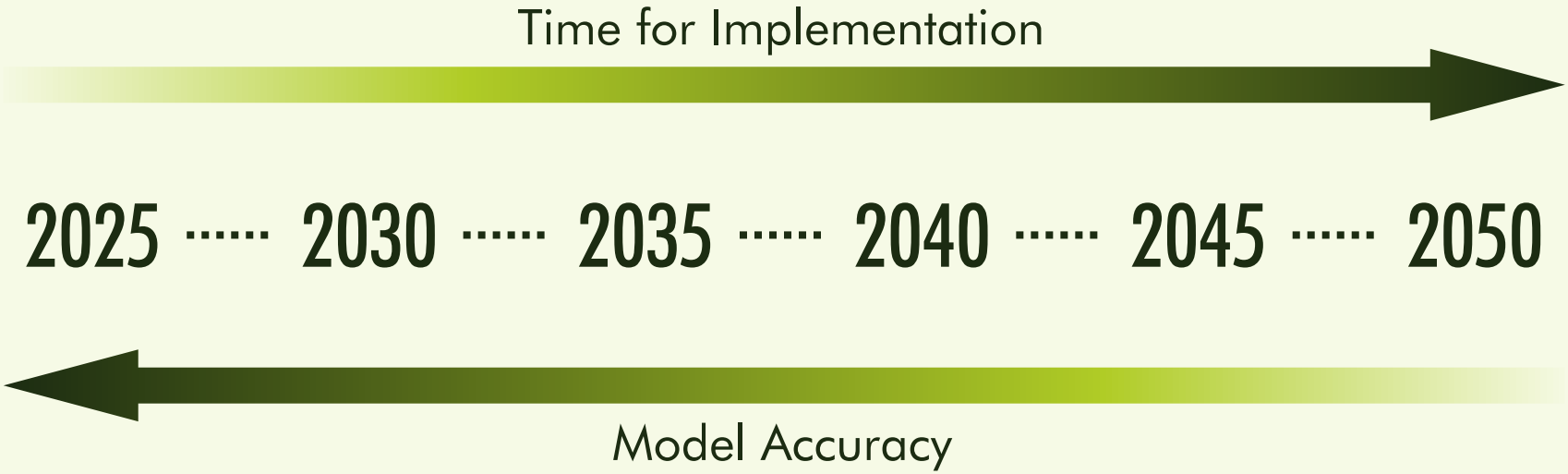


IMPLEMENTATION STRATEGIES

Setting Goals

- Decide on target date for implementation goals
- Select focus areas based on modeling results and stakeholder recommendations
- Discuss best distribution of effort – not required to be proportional to model results

Selecting a Target Date

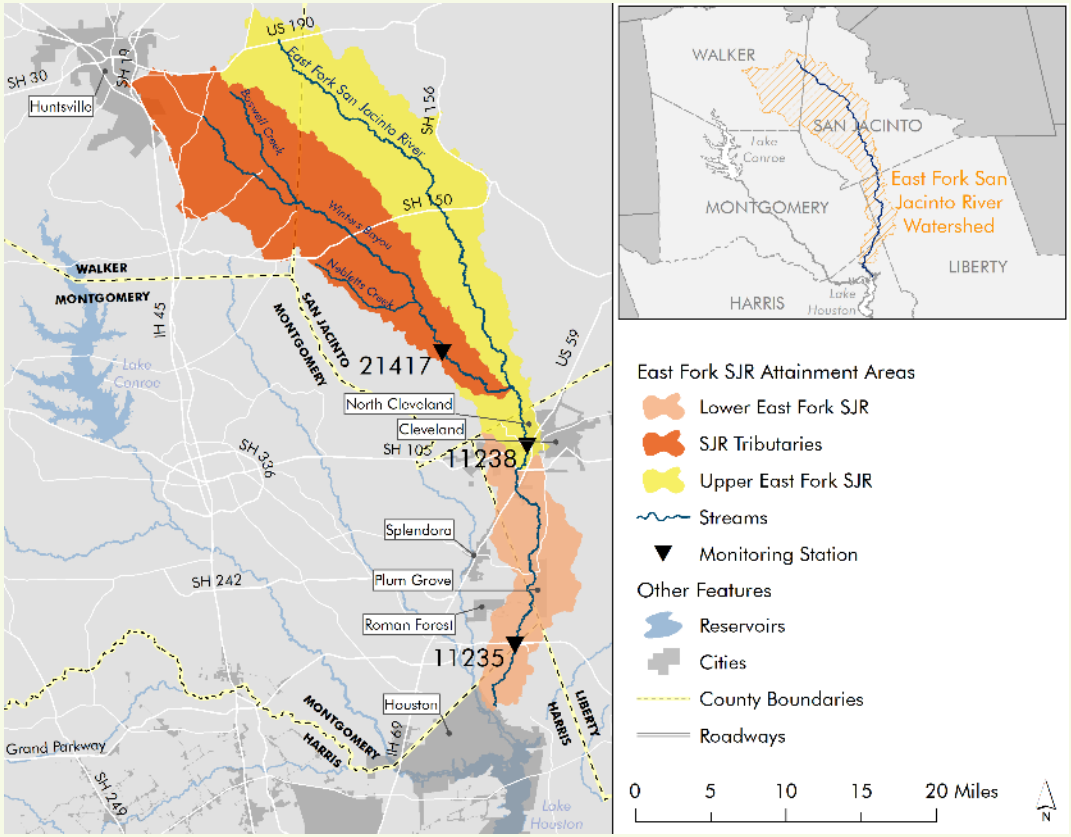


POLL QUESTION 1:

What year should be the target for completing the implementation measures in the watershed protection plan? ***Choose only one***

- ❍ 2035
- ❍ 2040
- ❍ 2045

Where To Focus



- Different pressures affect different parts of the watershed
- Implementation measures can be customized in different areas for more effective results
- H-GAC suggests focusing on three major attainment areas

POLL QUESTION 2:

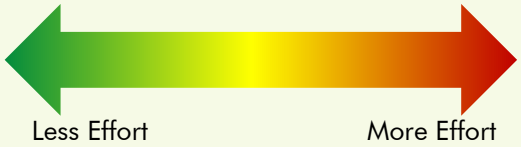
Are the three suggested attainment areas appropriate subdivisions of the watershed?
Choose only one

- Yes
- No, there should be more
- No, there should be fewer

Unit Reductions

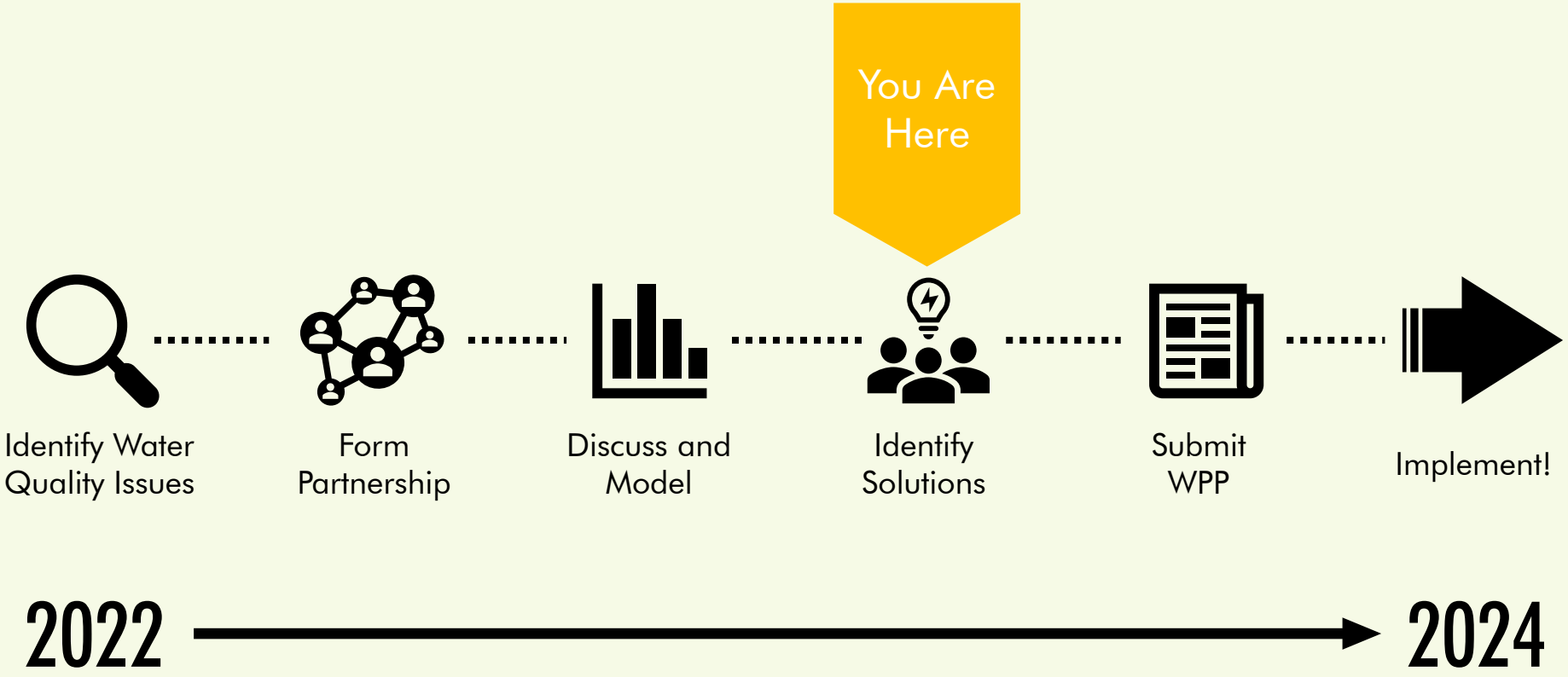
Source	Unit Reduction Target by 2040		
	Tributaries	Upper East Fork	Lower East Fork
OSSFs[1]	21	41	348
WWTFs[2]	<1	<1	<1
Dogs	115	278	2,097
Cattle	1,548	843	207
Horses	145	140	66
Sheep and Goats	177	97	24
Deer	443	407	158
Other Sources	NA	NA	NA
Feral Hogs	654	594	243

[1]OSSFs – On-Site Sewage Facilities
[2]WWTFs – Wastewater Treatment Facilities

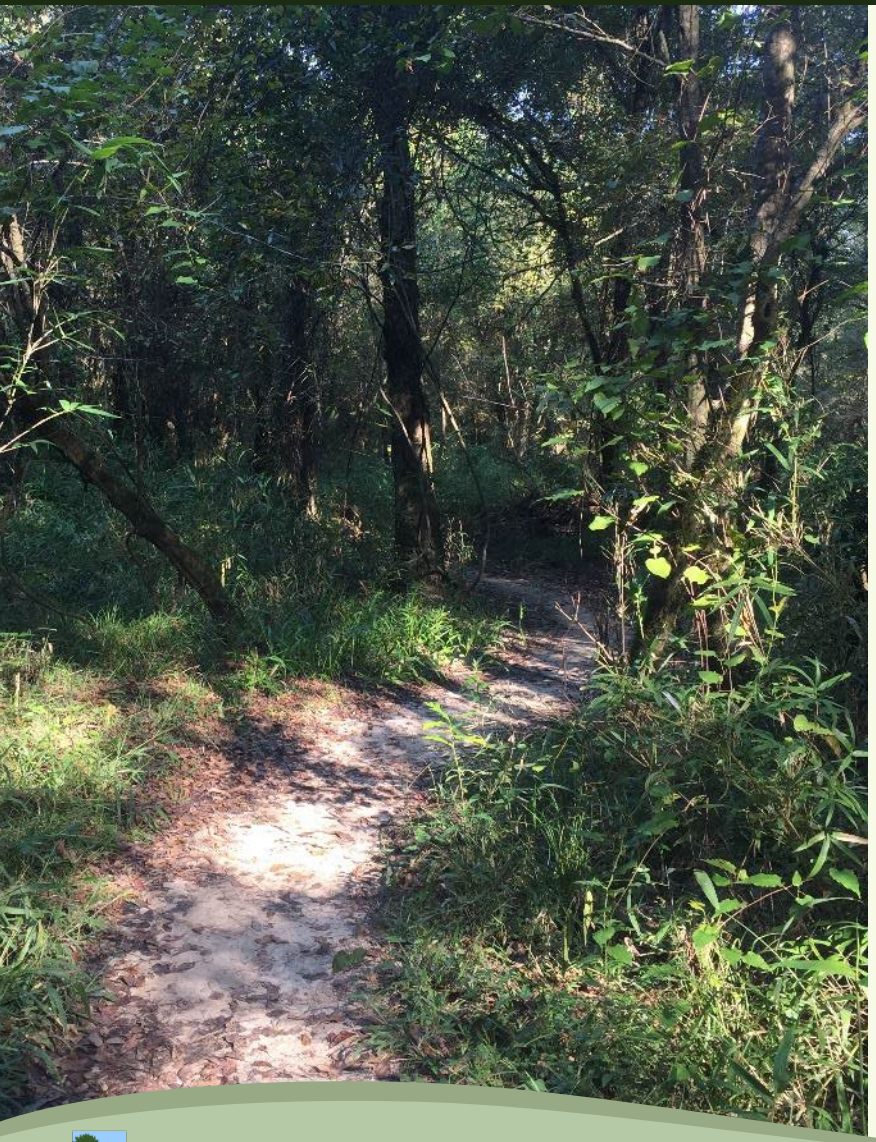


NEXT STEPS

Timeline


You Are Here
Identify Water Quality Issues
Form Partnership
Discuss and Model
Identify Solutions
Submit WPP
Implement!
2022
2024

Short Term Goals



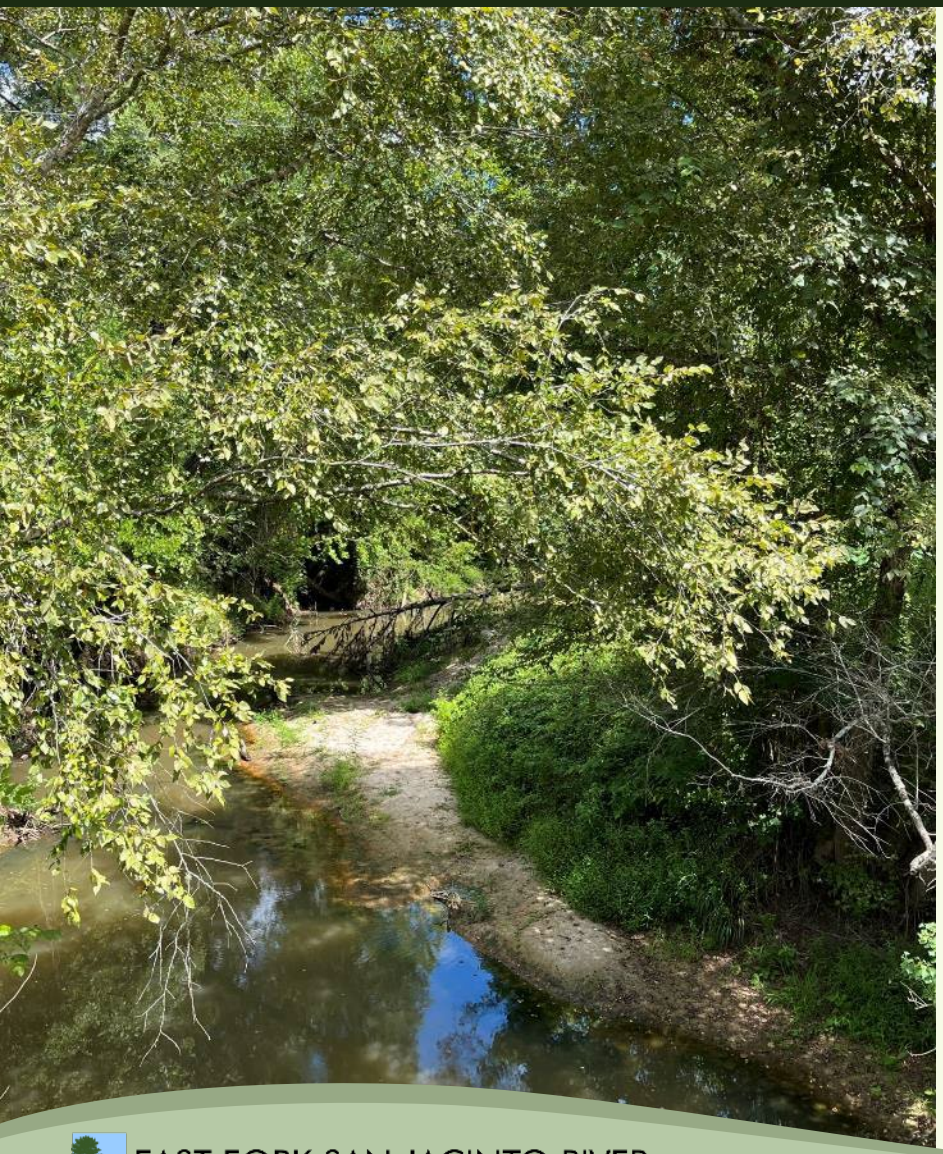
- Next Partnership meeting in early October to flesh out details of implementation
- H-GAC will begin drafting the WPP based on stakeholder feedback
- One-on-one meetings with stakeholders

POLL QUESTION 3:

Would you prefer to review sections of the WPP as they are written, or after the first draft is complete? ***Choose only one***

- ❍ Sections
- ❍ Complete Draft

How Can We Help?



- Tell us about your projects and organizations!
- Tell us how we can:
  - Amplify
  - Collaborate
  - Coordinate

DISCUSSION & QUESTIONS

Rachel Windham
713-993-2497
rachel.windham@h-gac.com

3555 Timmons Lane, Suite 120
Houston, TX 77027

www.eastforkpartnership.com

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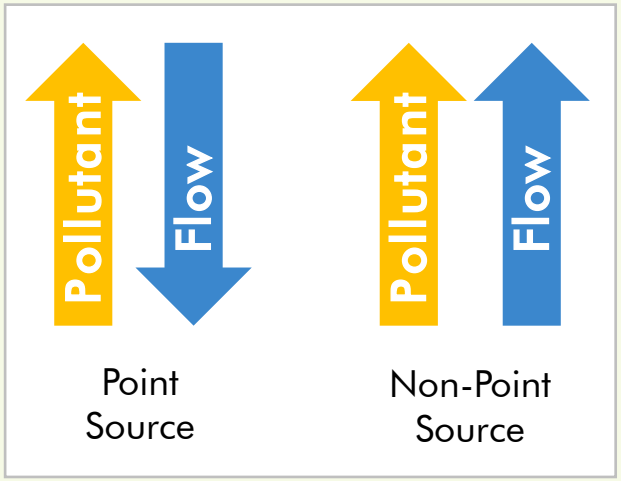
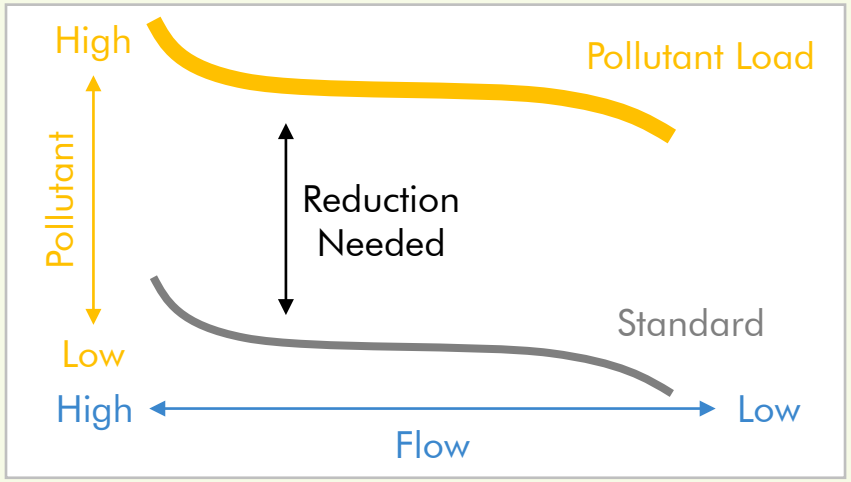
Houston-Galveston Area Council

EAST FORK SAN JACINTO RIVER WATERSHED PARTNERSHIP

SUPPLEMENTAL SLIDES

Relationship To Streamflow





Achieving the Reduction Target

Target Year Load Reduction Target (cfu/day)

- Reduce loads from each source proportional to respective contribution to the target year load;
- Reduce loads from each source subjectively; or
- Reduce loads from each source proportional to respective contribution to the 2022 load estimate

Representative Units

- During modeling process, load contributed by each unit varies with proximity to waterway
- When calculating number of units to address based on reduction targets, reduction target divided by maximum load per unit (assume buffer areas prioritized in implementation)