

# Rainwater Harvesting

Hays Trinity Groundwater Conservation District

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JAMES GRIZZARD

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[HARVESTRAIN.COM](http://HARVESTRAIN.COM)



# Outline

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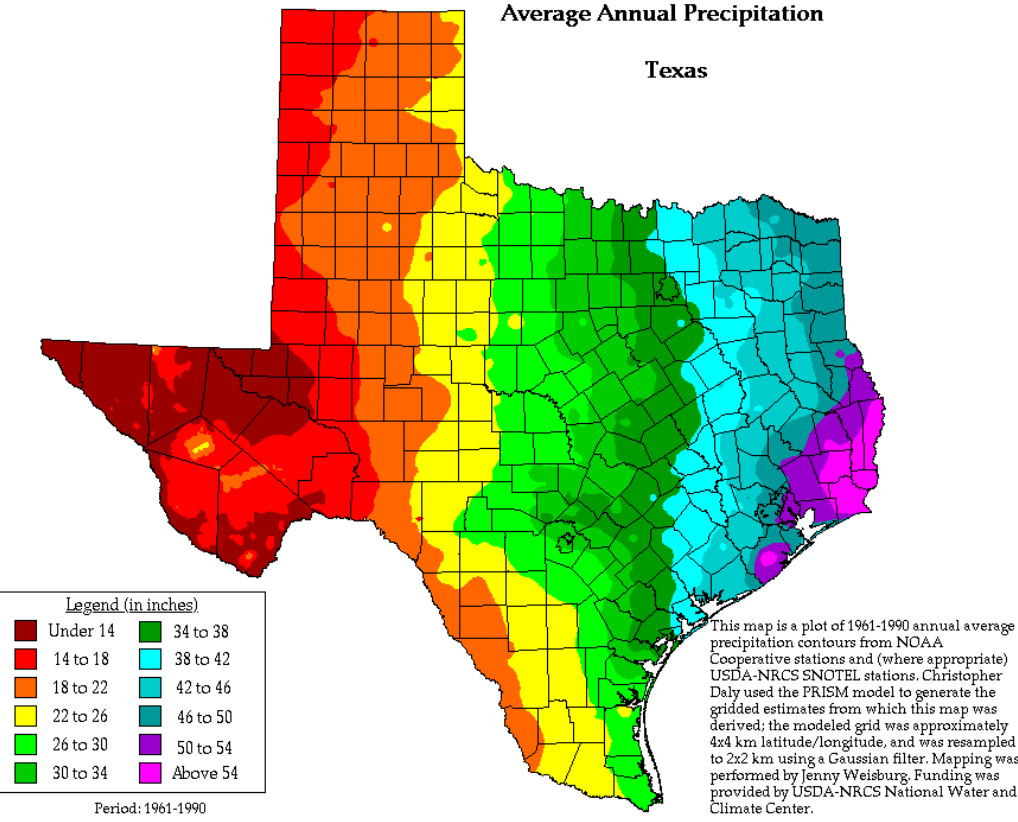
Rainwater Harvesting Basics

Performance in Drought Years

Regulatory Challenges

Discussion

# Potential for Capture – Texas



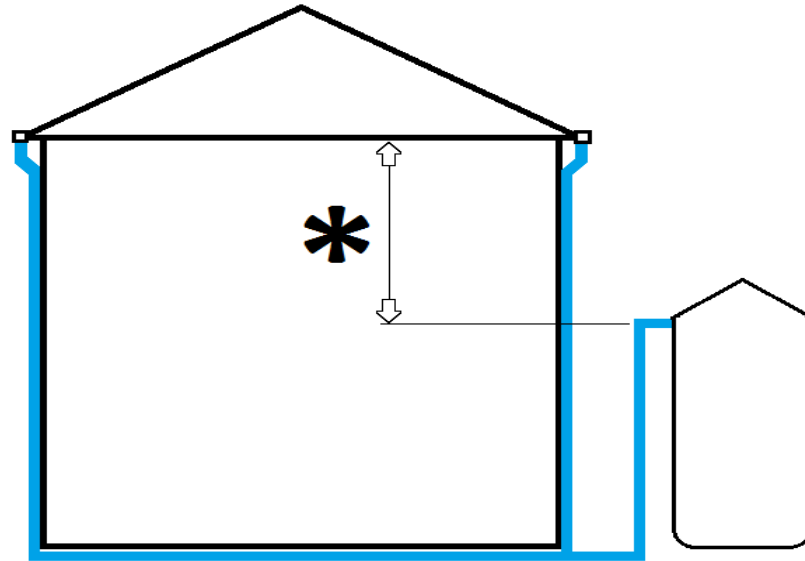
# Rainwater Basics

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## Quick formula for potential rainwater capture

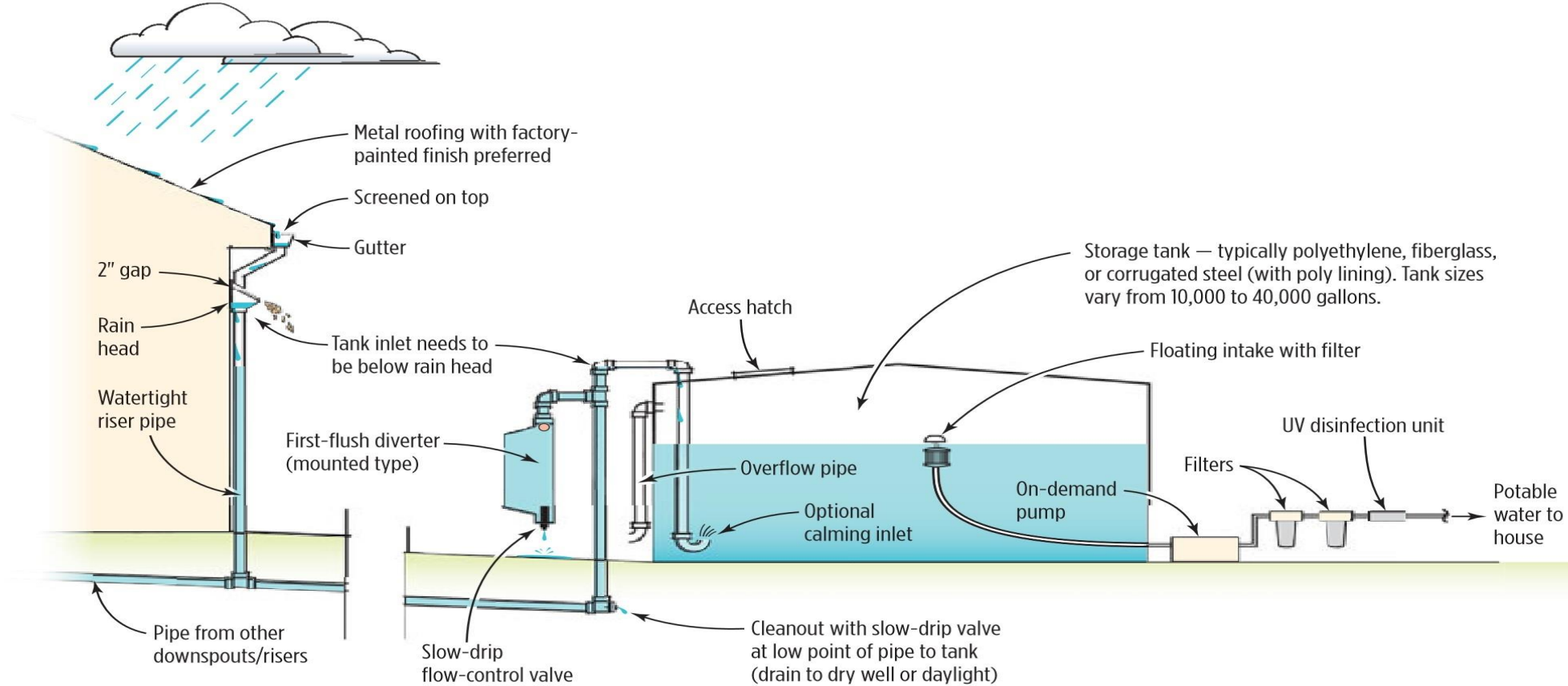
- Square feet of collection surface x .623 = Gallons produced by 1" of rainfall  
(5,000sf x .623 = 3,115 gallons collected)

- “Wet” System vs. “Dry” System?

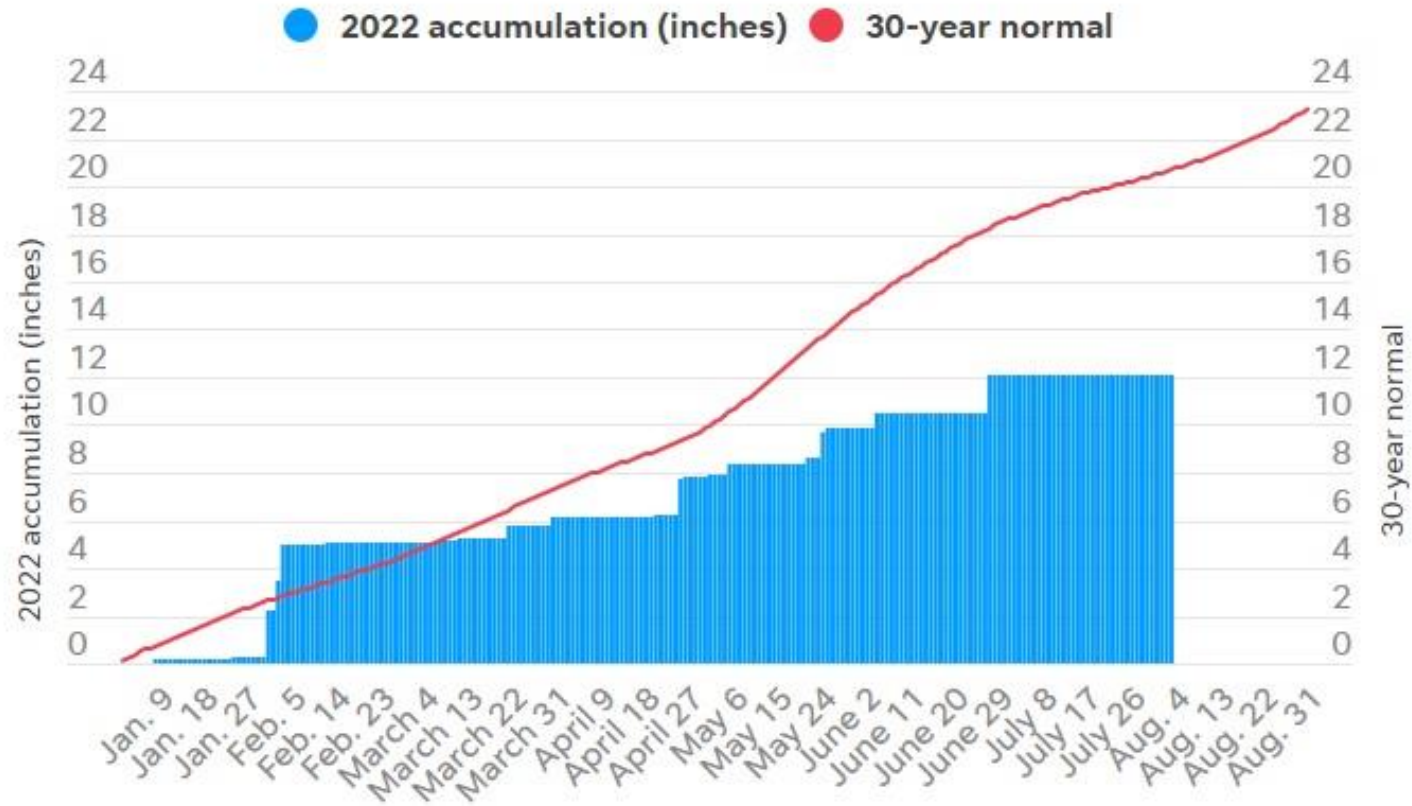


# Potable Supply - more than meets the eye

## Wet-Pipe System to Remote Tank for Potable Water



# Whew, It's Hot and Dry, Y'all!



# Whew, It's Hot and Dry, Y'all!

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## Temperature

- Average Temp in July 2022: 90.8 degrees (5.2 degrees higher than average)
- Hottest May, June, and July on record

## Precipitation

- 12.13" of rain to date. (8.4" below average)

# So, How's Your Tank Doing?

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Harvest Rain conducted a quick survey of customers to ask a simple question: “How has your rainwater supply held up during this year’s drought?”

- 32 Responses
- 5 have called for water delivery
- 18 report tank at ~20% capacity
- 9 report tank at 40% capacity or higher.



# Regulatory Challenges

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## High Hazard Backflow Prevention

- Primarily a concern in retrofits
- Can make systems cost prohibitive
- Affects unrelated water supply on property

## Surface Water Treatment Standards

- Rainwater classified as Surface Water

## Cross Connection Limitations in Plumbing Code

- Rainwater used inside of structure necessitates disconnecting all fixtures from Public Water Systems

# Impact of Current Regulatory Challenges

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## Small Hill Country Businesses Forced to Choose

- Wedding Venues, Wineries, RV Parks classified as Public Water System (PWS)
- Augmented delivered water systems disallowed
- Treatment Standards for Rainwater as primary source for PWS are extreme

## Residential Mixed-Use / Augmented Supply Configuration Limits

- Separate plumbing is costly and nearly impossible for retrofit
- Solving one “problem” creates a Problem

# Sustainable Site Development

## Rainwater Harvesting

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“Integrated Water Management and Conservation Development: Alternatives for the Central Texas Hill Country” (Butler, 2004)



**Conventional  
Scenario**



**Light Blue  
Scenario**



**Deep Blue  
Scenario**

<http://www.hillcountryalliance.org/uploads/HCA/IntergrativeWaterManagement.pdf>

# Discussion / Q&A

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