Sprinkler Talks. People Listen.

Presentation By:
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Robert Patton

North Fort Bend Water Authority

Houston, Texas

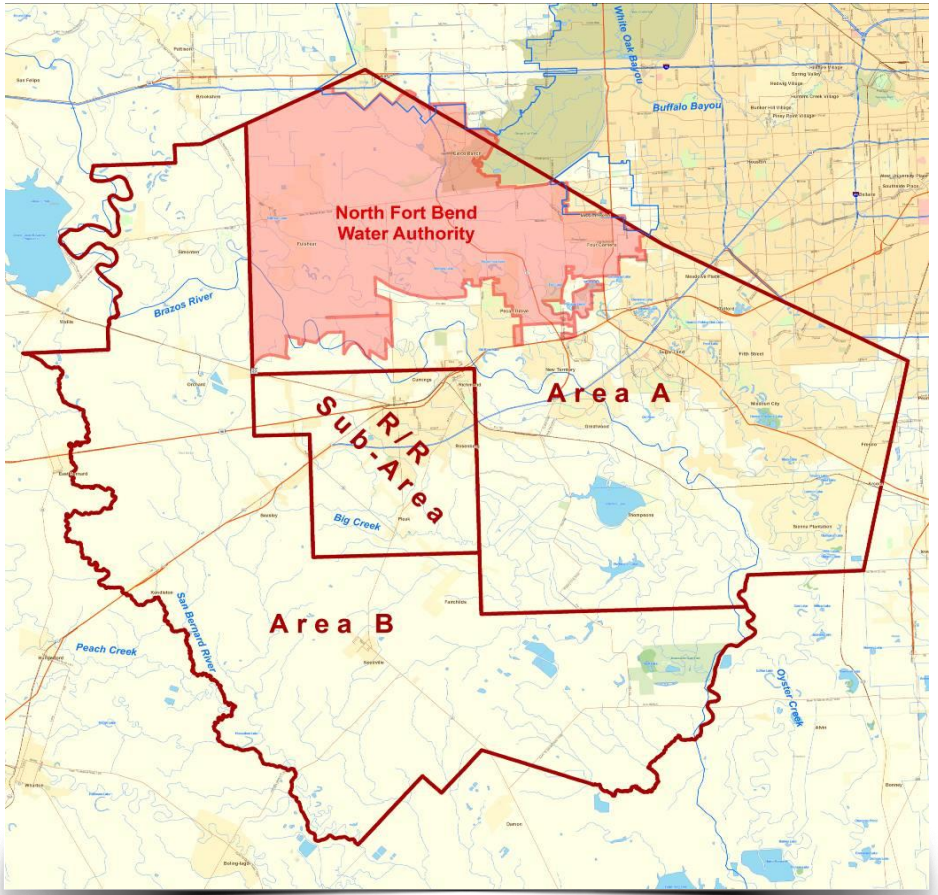
The North Fort Bend Water Authority

Authority objectives:

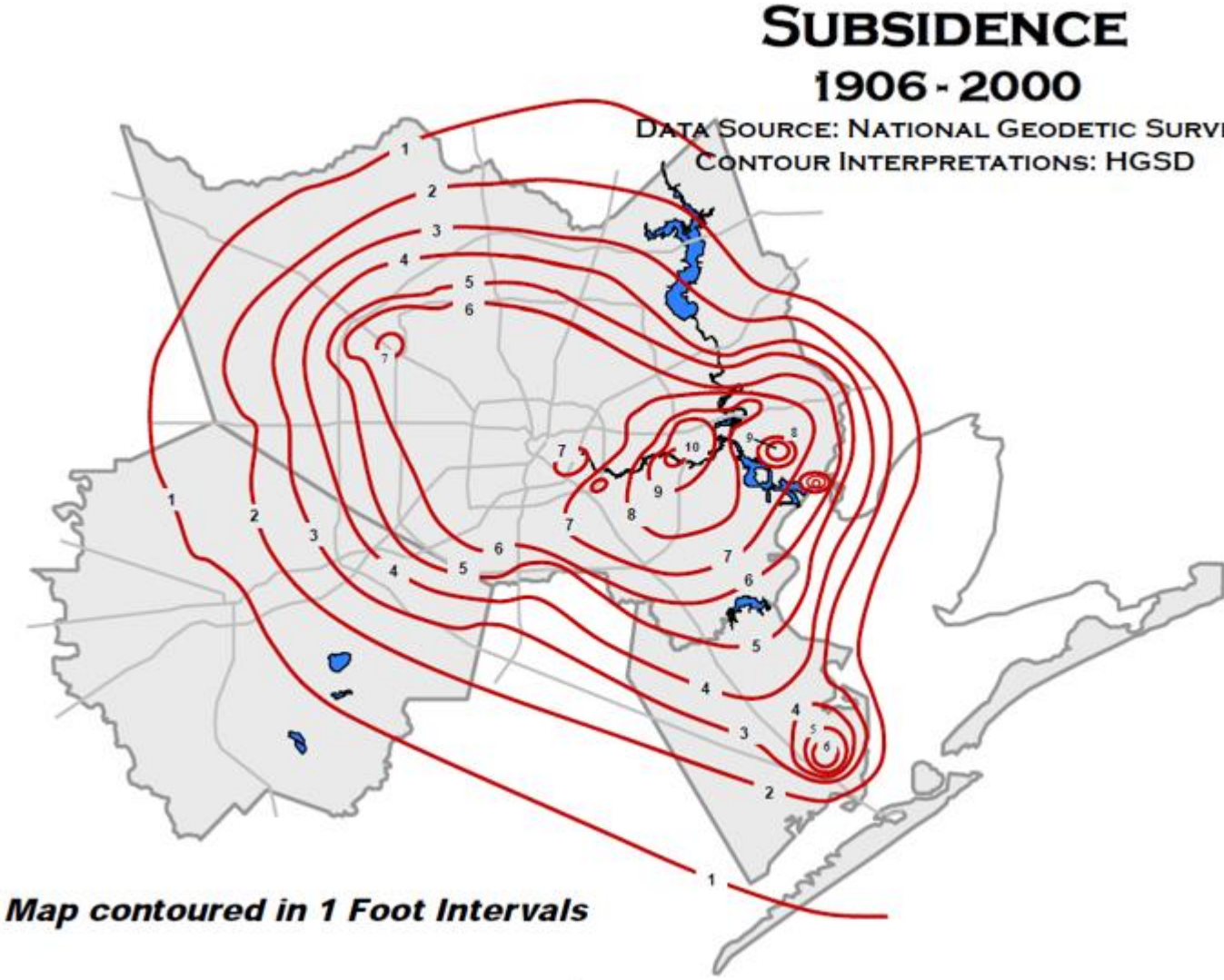
- Facilitate compliance with the Subsidence District's groundwater reduction requirements.
- Acquire, develop, and deliver a long-term supply of potable water from sources other than groundwater (e.g., surface water).
- Allocate costs equally among the Authority's Groundwater Reduction Plan participants.

Authority facts:

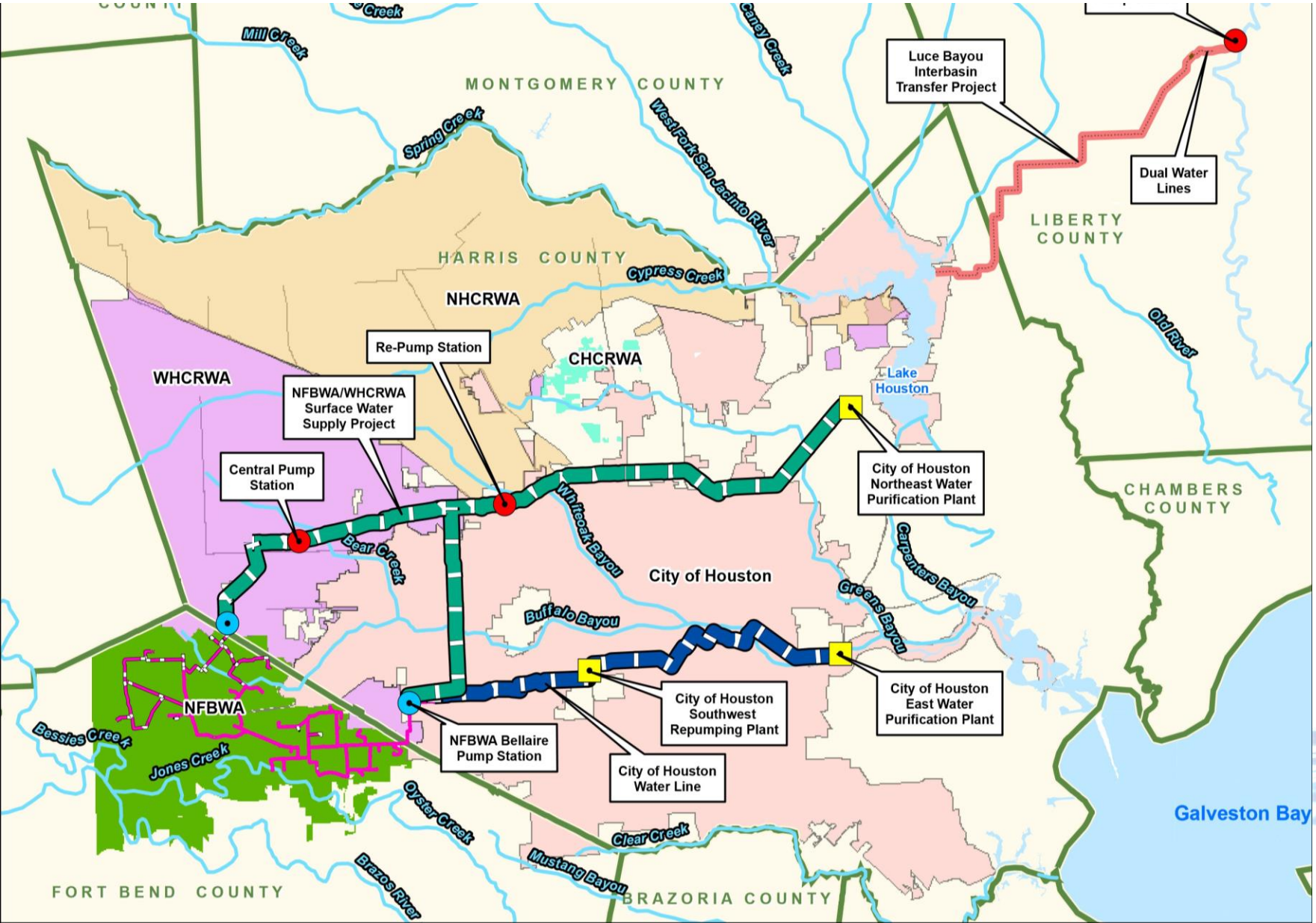
- Encompasses approximately 141 square miles.
- Comprises 83 special districts, and the cities of Fulshear and Arcola.
- Includes approximately 150 permitted wells subject to the Authority's pumpage fee.
- 2017 Usage: 11.7 billion gallons



Subsidence – What Is It?

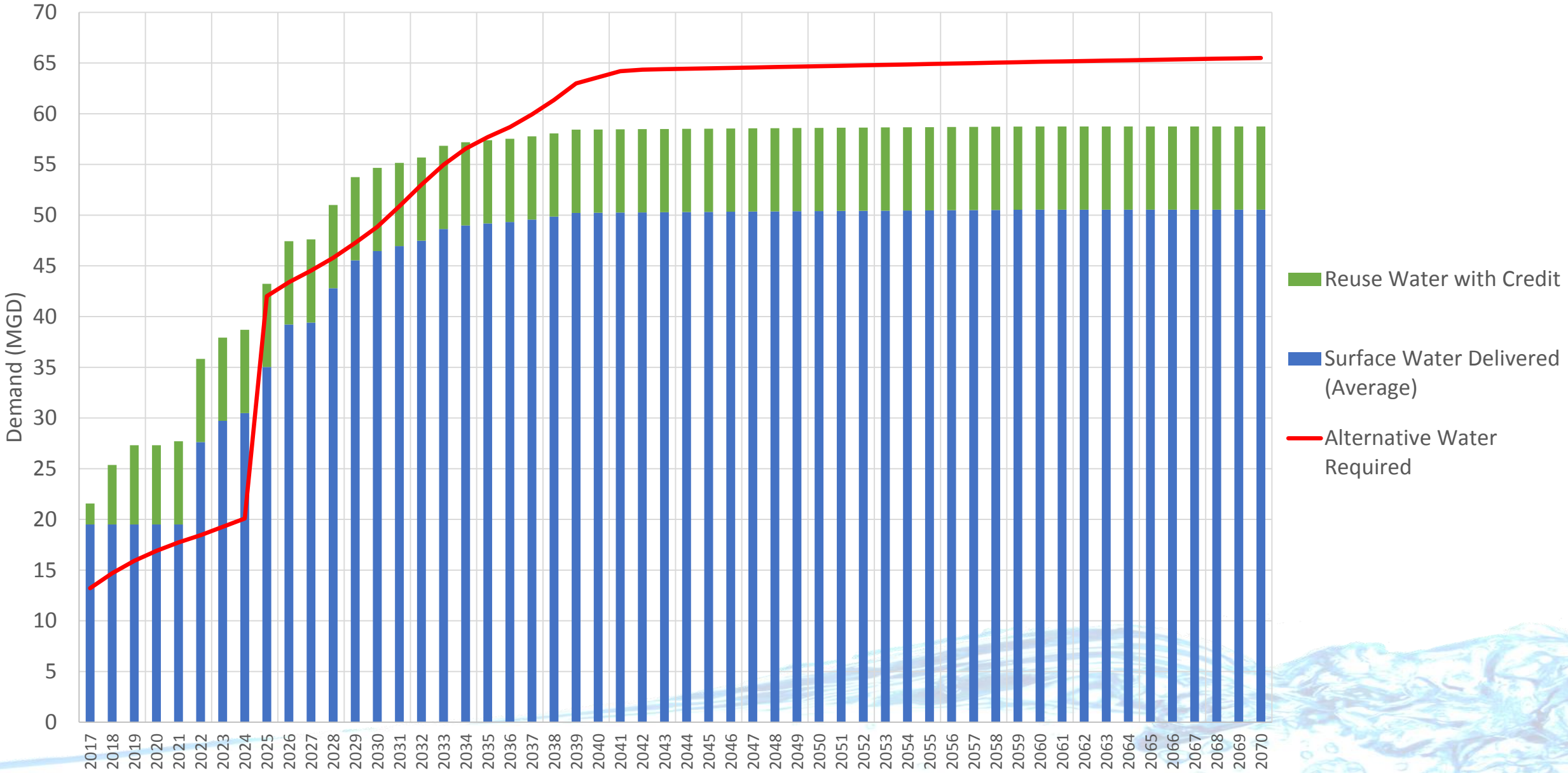


2025 Conversion - Water Supply Projects



- Northeast Water Purification Plant (NEWPP) Expansion - $370 Million
- Surface Water Supply Project - $400 Million
- Luce Bayou Inter-Basin Transfer Project (LBITP) - $56M
- 2025 Water Lines to connect more water plants with surface water supply - $73 Million

Why Should We Conserve?



5%
over the next
5 years

15%
by 2040

Save $400 Million

Traditional Line of Communication

MUD Consultants

Attorneys

Engineers

Operators

North Fort Bend Water Authority

MUD Directors

Residents

New Line of Communication

North Fort Bend Water Authority

MUD Consultants

Attorneys

Engineers

Operators

Residents

MUD Directors

Larry the Talking Sprinkler

- Water conservation mascot
- Social media, radio, TV, billboard, giveaways, bill inserts, digital (Pandora, Spotify, iHeartRadio)
- Spring and Winter newsletter
- Mobile learning lab
- TalkingSprinkler.com

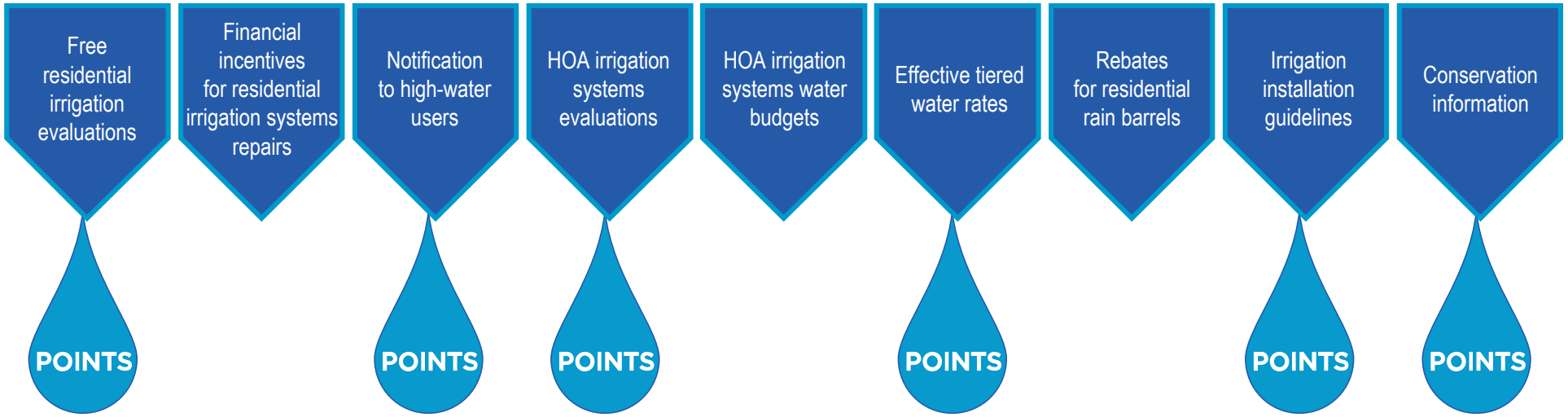
Community Outreach

Media Campaign

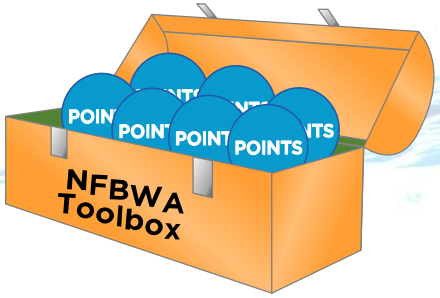
Conservation Committee

- The committee consists of MUD board members, City representatives, irrigators, operators, and developers that live or work in the Authority
- Vision Statement: “To promote efficient water usage and ensure water is available for generations to come”
- The original committee met monthly in 2015 to brainstorm ideas for a way to promote water conservation in the Authority
  - Subcommittees: Education, Incentive, Operations
  - This led to the creation of Larry’s Toolbox

Larry's Toolbox



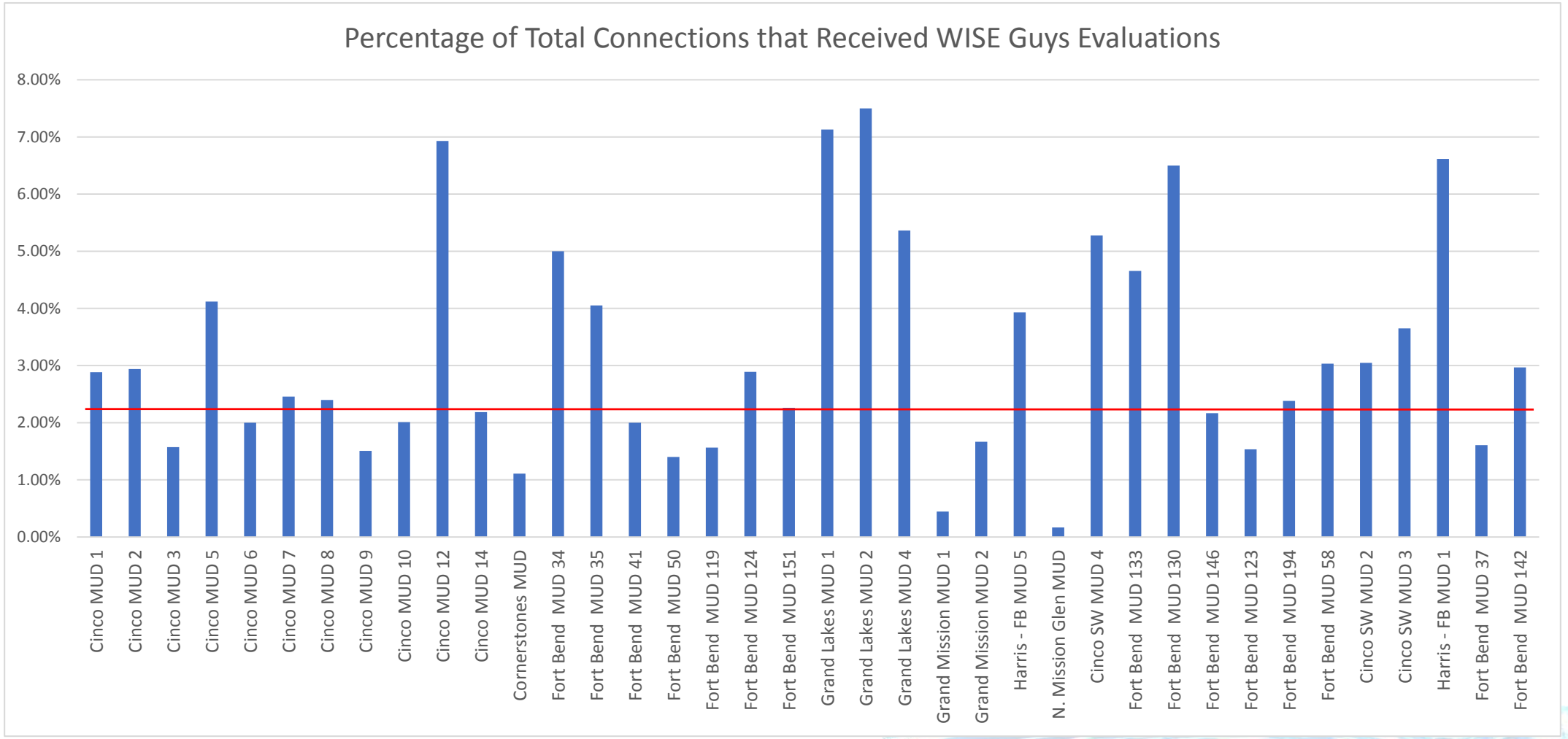
7 points = 10¢ per 1,000 gallons



Resident Irrigation System Evaluation

- Resident irrigation system evaluations performed by licensed irrigators
- Authority will provide bill inserts
- 2 points
- Goal: 2% of all residential connections must receive an evaluation
- **1,450 evaluations in 2016**
  - **80% increase from 2015**

Resident Irrigation System Evaluation



Resident Irrigation System Upgrades

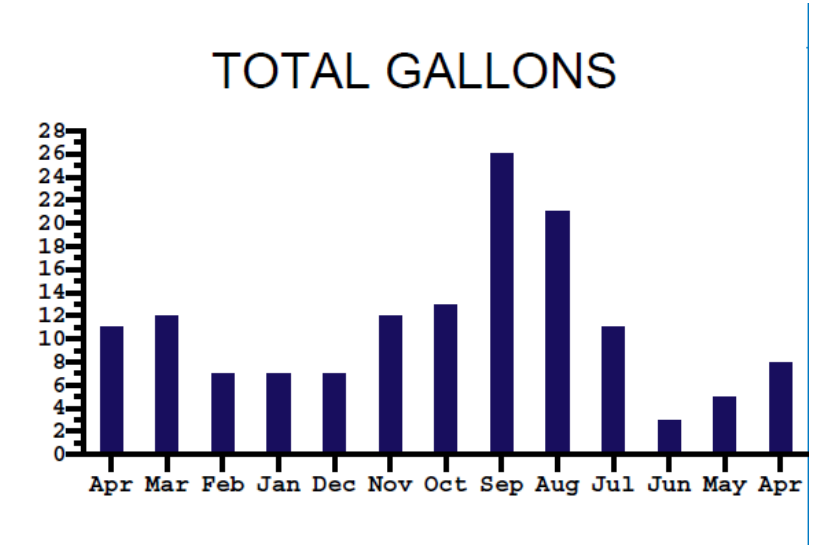
- Upgrades are eligible for a 50% rebate, up to $200.
- Funded by Participant
- Authority will provide a rebate form and list of approved upgrades
- 3 points
- Goal: Must distribute $600 in rebates
- **$1,675.74 worth of rebates were distributed in 2016**

High Water User Notification

- The participant will notify residents who are the top water users
  - Set a gallon threshold or
  - Percentage to designate top users
- The Authority will provide a form letter that participants may use
- Participant must provide usage for the high users
- 2 points
- Goal: Must provide proof that monthly notifications were sent
- **Over 24,000 letters were sent out in 2016**

Conservation Information

- The Authority will provide conservation information for the participant to provide to residents.
- Post information to website, social media, newsletter, etc.
- Print residents monthly usage history on water bills
- 1 Point
- Goal: Provide proof that the information was distributed to residents



Let's Celebrate National Drinking Water Week May 1st - 7th

As we toast to National Drinking Water Week around the country, don't forget to practice water conservation both inside and outside the home.

This message is brought to you by Larry the Talking Sprinkler and the North Fort Bend Water Authority. For more information, please visit www.talkingsprinkler.com

HOA and Golf Course Irrigation System Evaluations and Water Budgets

- 5 Authority funded evaluations, and 10 Authority funded water budgets per year
- HOA or golf course must include usage data
- These programs are worth 2-4 points (see flow chart in guide document)
- Goal: Provide proof of evaluation or water budget

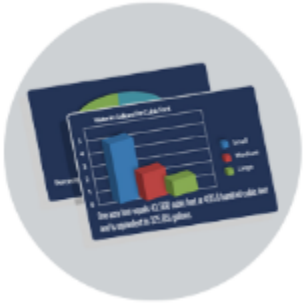
Meter Number	Annual Water Budget	2012-2016 Average	% Variation
47499837	6,196	15,400	40%
47499833	6,196	24,600	25%
47762774	6,005	8,200	73%
47890057	2,478	0	N/A
47600760	NO IR	0	N/A
47740263	6,196	11,400	54%
47669060	2,288	4,000	57%
47669056	2,288	4,800	48%
47499958	2,669	5,000	53%
52868436	6,196	72,000	9%
45725168	6,196	22,800	27%
13040084	256,049	4,723,060	5%
49347995	8,912	29,440	30%
13175056	15,727	208,740	8%
49347994	394,040	86,560	455%
49347990	6,196	53,260	12%
70139302	6,196	860,980	1%
60436906	1,889,028	1,033,800	183%
49853790	6,196	37,240	17%
10356469	6,196	31,048	20%
49853798	6,196	41,720	15%

HOA and Golf Course Irrigation System Evaluations and Water Budgets

Low Head Drainage - A large number of irrigation heads have low head drainage which seeps onto impervious material causing a potential liability issue and is a direct waste of water (Fig.'s 4 and 5).

Obstruction of heads - Irrigation heads do not irrigate intended plant material because there are obstructions prohibiting the stream of water (Fig 6).

Effective Water Rates



- The participant will evaluate and set an effective tiered rate
  - Use AWWA's M1 Chapter 4
  - Appendix C or AWE's forecasting model
- 3 points
- Goal: Must be effective and provide proof that new rate was implemented
- **12 MUDs adopted a new rate order that promotes conservation**
  - **4 MUDs used the AWE Sales Forecasting and Rate Model to create the new rate order**
  - **8 MUDs did an independent analysis of their usage to determine what tiers and associated costs would promote conservation**
  - **5 MUDs changed their rate after their original rate structure was determined to be inadequate**

Rain Barrels

- Rain barrels must be distributed to residents in the MUD
- Must be HOA approved
- The participant must fund the rain barrels
- This program is worth 2 points
- Goal: A minimum of 3 rain barrels distributed
- **47 rain barrels were distributed in 2016**

Irrigation Permits

- Participant will choose to implement TCEQ Chapter 344 – Landscape Irrigation Code
- The Authority will produce the ordinance and contract with a consultant to administer the permits and inspections
- This program is worth 2-5 points
- Goal: This program must be implemented

Percent Developed	Points
75% - 99%	2
50% - 74%	3
25% - 49%	4
<25%	5

The Authority awarded points for programs that were not included in the Guide Document but worked to promote conservation

- Smart Meter Program – **adopted as new initiative for 2018 program**
- Retrofit of irrigation meter to water conscious equipment, and training for contractors who work with equipment
- Irrigation Specifications
- Irrigation Management Protocol Manual
- Irrigation System Mapping

Outstanding Larry's Toolbox Participating MUD

- 2016 Award Winner: Fort Bend MUD 146
- **18** total points!