Austin Water Sanitary Sewer Program for TMDL Basins

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Austin WATER

March 24, 2022

Presentation Outline

- Overview of Austin Water Clean and TV Program
- Discussion on Sanitary Sewer Overflows
- Discussion on Critical Water Quality Zone
- Sanitary Sewer Overflows in TMDL Basins
- Austin Water's Goals and Objectives for TMDL Basins

Overview of AW Clean and TV Program

AW Clean and TV Program

- It is considered best practice for sewer utilities to regularly clean and inspect sewer mains
- Cleaning is completed through jetting the sewer main with highly pressurized water
- Debris is removed from the system at manholes

AW Clean and TV Program

- Sewer inspection cameras operated on a truck are used to TV inspect lines
- AW uses industry standard NAASCO PACP coding system to record all discovered sewer defects
- The engineering team reviews the codes to evaluate and grade sewer mains

Discussion on Sanitary Sewer Overflows

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Definitions of Sanitary Sewer Overflows and Unauthorized Discharges

Per Texas Water Code Section 26 and TCEQ RG-395:

- An Unauthorized Discharge (UD) is any discharge of wastewater into or adjacent to any water in the state at a location not permitted as an outfall. (TWC Section 26.121)
- A Sanitary Sewer Overflow (SSO) is a type of unauthorized discharge of untreated or partially treated wastewater from a collection system or its components before reaching a wastewater treatment facility. (TWC Section 26.049)

Discussion on Sanitary Sewer Overflows

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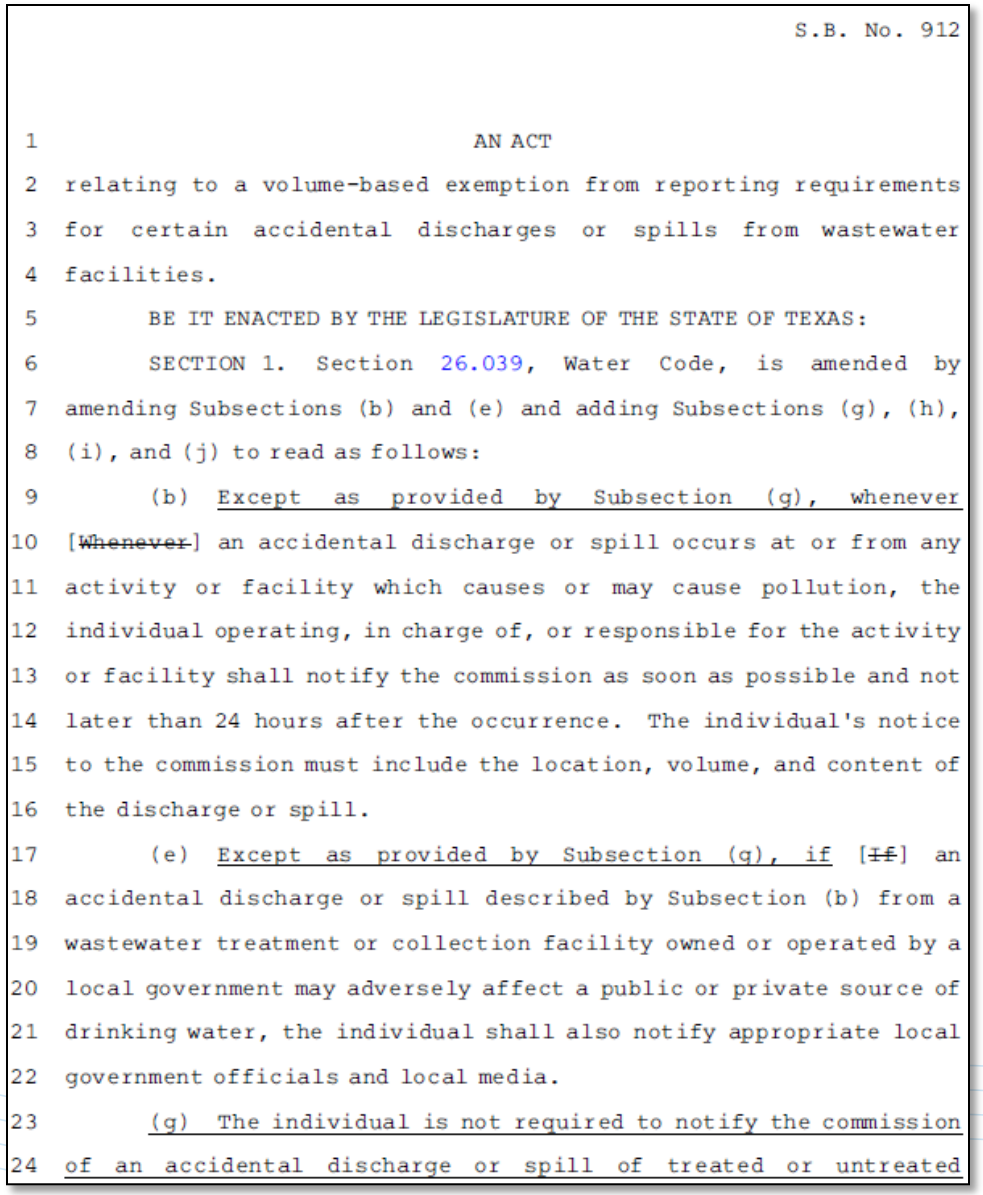
SB 912

- Enacted by Texas Legislation in 2015
- Adopted by TCEQ on May 11, 2016
- Effective on June 2, 2016



S.B. No. 912

AN ACT

relating to a volume-based exemption from reporting requirements for certain accidental discharges or spills from wastewater facilities.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF TEXAS:

SECTION 1. Section 26.039, Water Code, is amended by amending Subsections (b) and (e) and adding Subsections (g), (h), (i), and (j) to read as follows:

(b) Except as provided by Subsection (g), whenever [~~Whenever~~] an accidental discharge or spill occurs at or from any activity or facility which causes or may cause pollution, the individual operating, in charge of, or responsible for the activity or facility shall notify the commission as soon as possible and not later than 24 hours after the occurrence. The individual's notice to the commission must include the location, volume, and content of the discharge or spill.

(e) Except as provided by Subsection (g), if [~~If~~] an accidental discharge or spill described by Subsection (b) from a wastewater treatment or collection facility owned or operated by a local government may adversely affect a public or private source of drinking water, the individual shall also notify appropriate local government officials and local media.

(g) The individual is not required to notify the commission of an accidental discharge or spill of treated or untreated

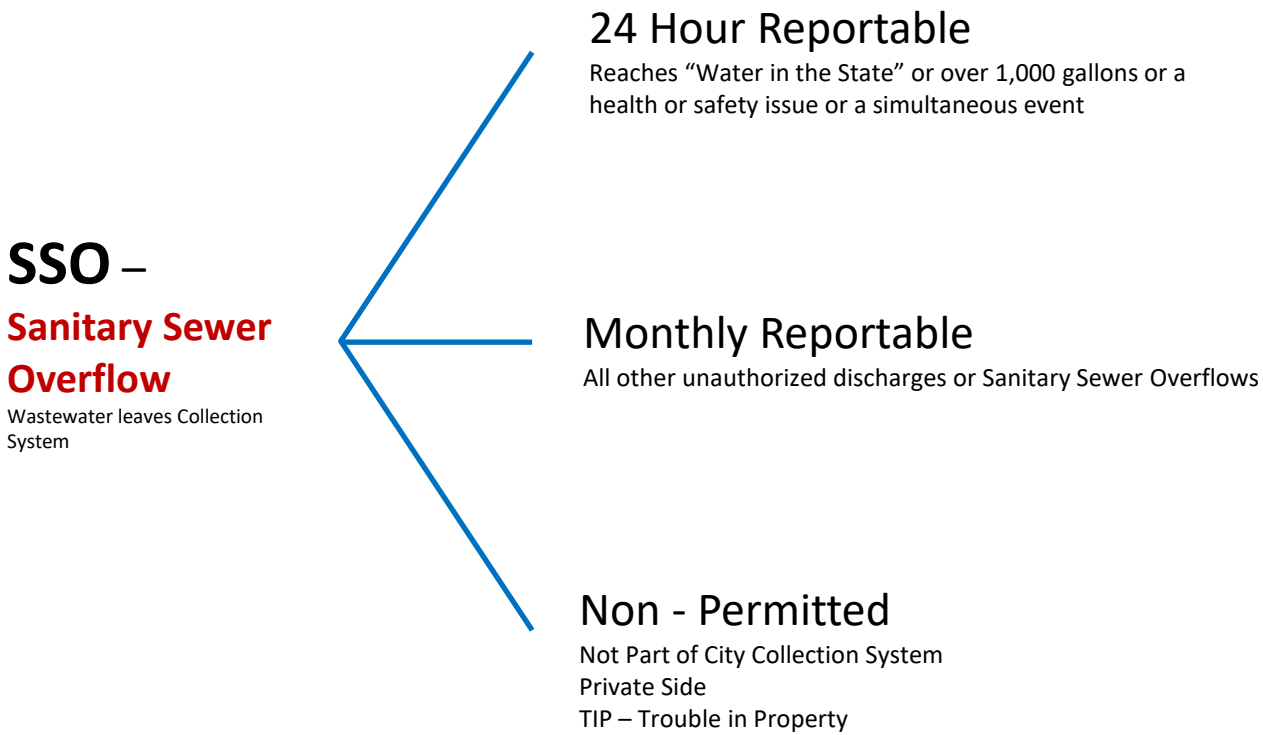
Discussion on Sanitary Sewer Overflows

SB 912 in Simple Terms

- If SSO is less than 1,000 gallons, does not enter water in the state, not a health or safety issue, or a simultaneous event, you can report monthly.
- If SSO is more than 1,000 gallons or enters water in the state or is a human health or safety issue, need to notify TCEQ within 24 verbally and written notice within 5 days.

Discussion on Sanitary Sewer Overflows

SB 912 Graph – Sanitary Sewer Overflows



Discussion on Sanitary Sewer Overflows

Austin Water Performance Measure PM 115

- Number of 24-Hour Reportable Wastewater Overflows Per 100 Miles of Wastewater Lines Per Year

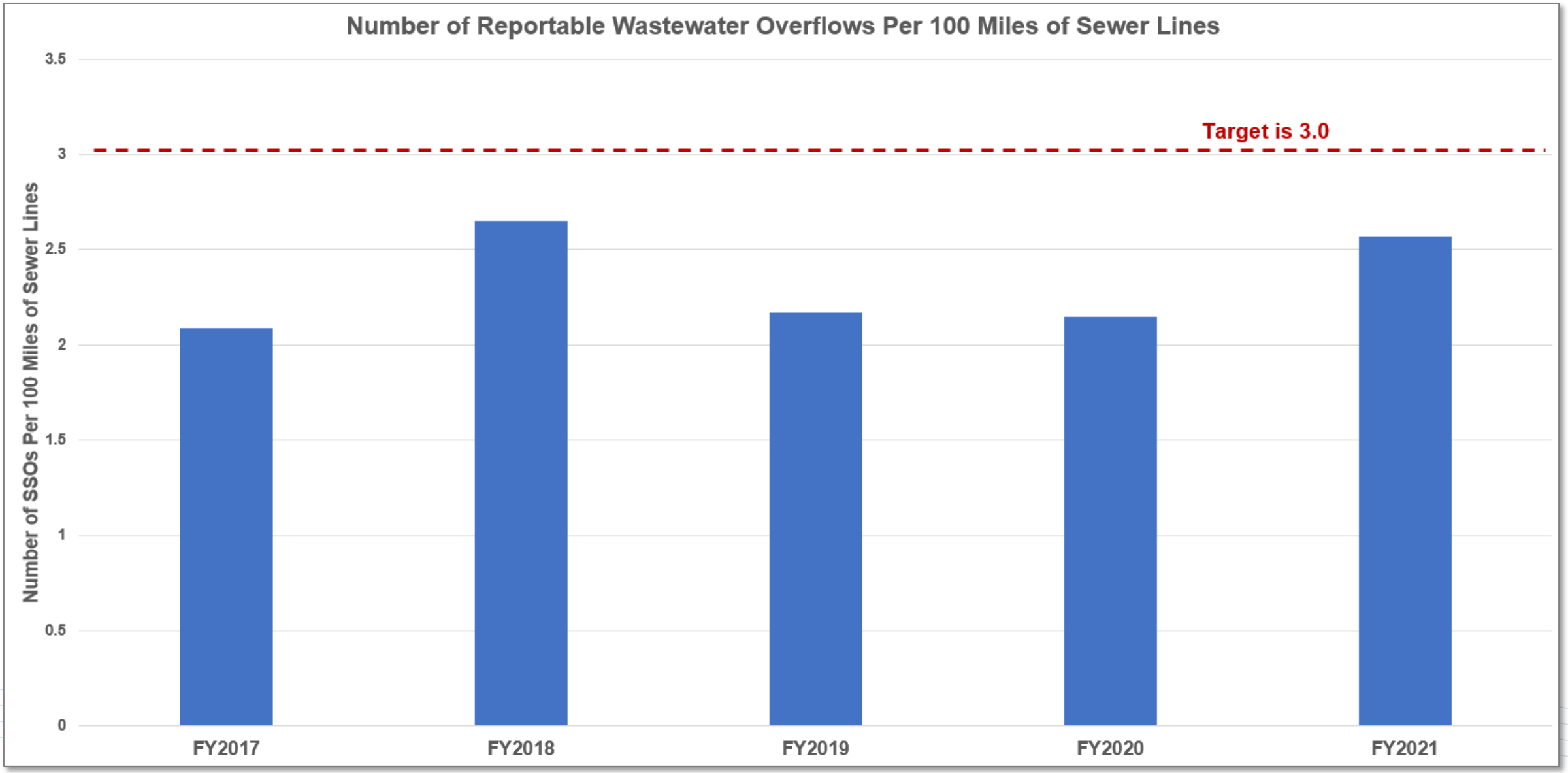
$$\text{PM 115} = \frac{24\ Hour\ Reportable\ Overflows}{Miles\ of\ Wastewater\ Main/100}$$

- Target is less than 3.0 per FY

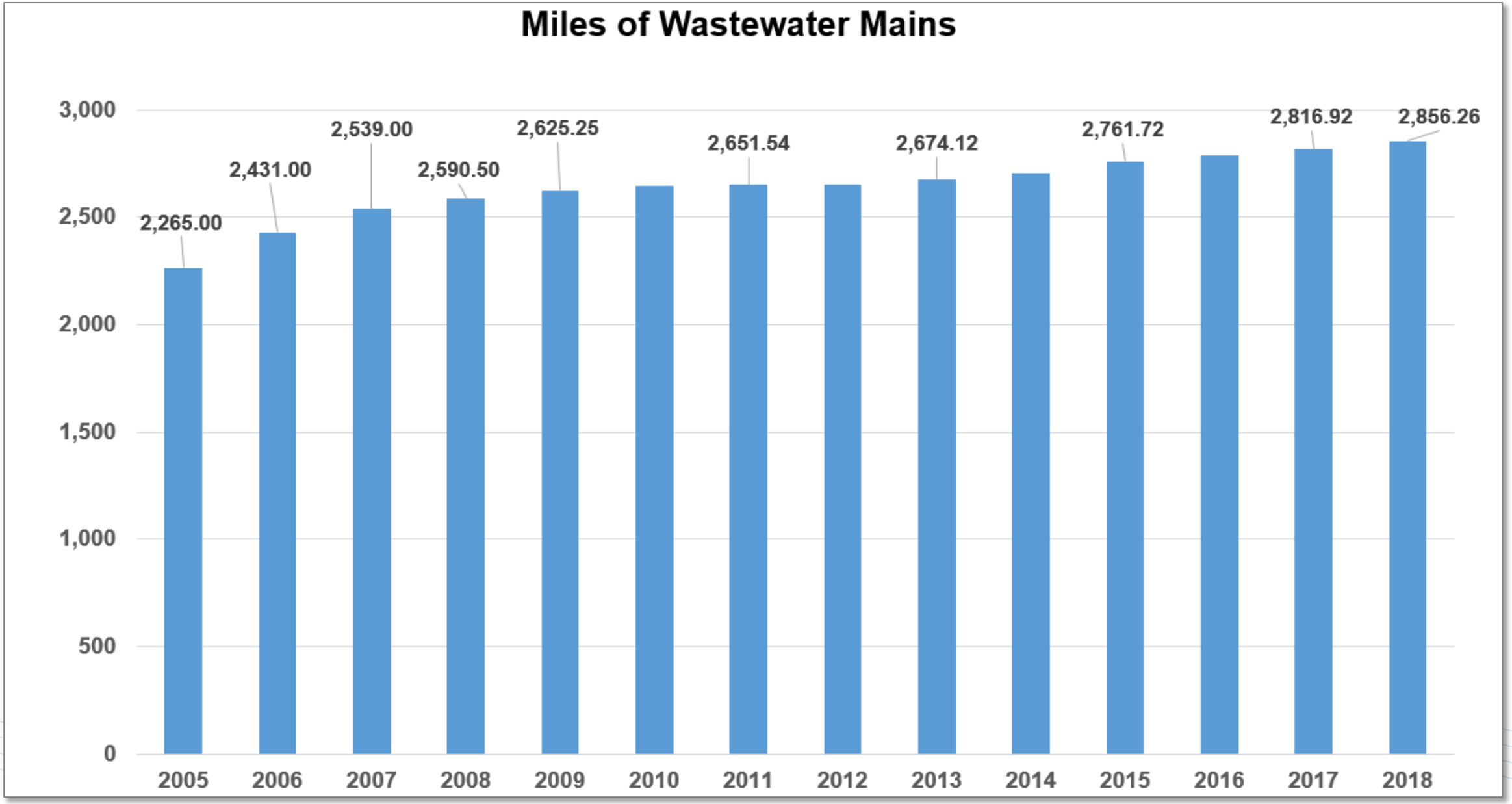
Discussion on Sanitary Sewer Overflows

PM 115 - Number of 24 Hour Reportable Wastewater Overflows Per 100 Miles of Wastewater Lines Per Year					
	2017	2018	2019	2020	2021
Number of Miles of Wastewater Mains	2,816.92	2,866.09	2,899.72	2,930.54	2,953.12
Number of Reportable Wastewater Overflows	59	76	63	63	76
Number of Reportable Wastewater Overflows Per 100 Miles of Sewer Lines	2.09	2.65	2.17	2.15	2.57

Discussion on Sanitary Sewer Overflows



Discussion on Sanitary Sewer Overflows



Discussion on Sanitary Sewer Overflows

Reducing SSOs

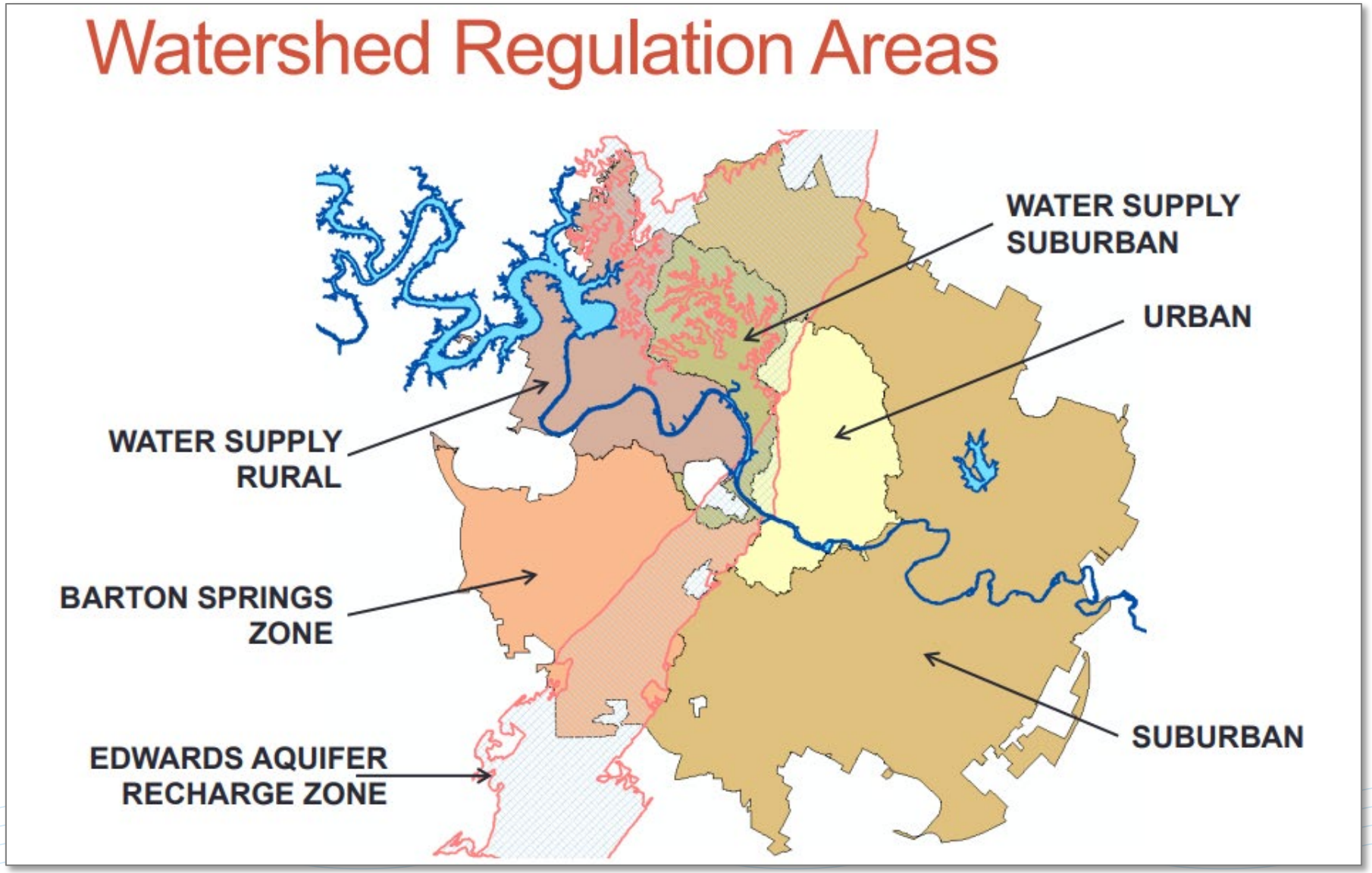
- Focused Cleaning TV Inspection of Wastewater Lines
- Targeted Investigation on SSOs
- Targeted SSES Studies
- Key CIP Projects
- Large Diameter Condition Assessments

Discussion on Critical Water Quality Zone

Discussion on Critical Water Quality Zone

- Since the Critical Water Quality Zone (CWQZ) defines a critical zone to protect water quality, AW proposes to use this area to define a clean and TV inspection area for the Total Maximum Daily Load (TMDL) basins
- The next few slides were taken from a Watershed Protection Department presentation on Watershed regulations

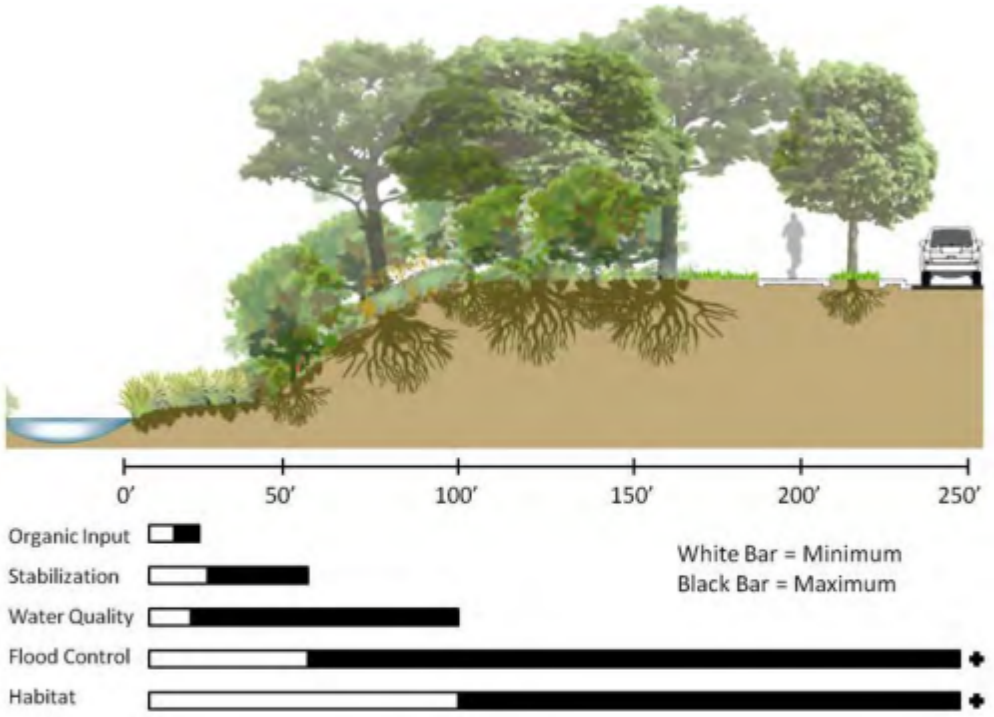
Discussion on Critical Water Quality Zone



Discussion on Critical Water Quality Zone

Creek Regulations

- Creek Buffers depending upon drainage area and geographic location (Critical Water Quality Zones and Water Quality Transition Zones)
- Open channels preferred
- Water quality and detention ponds
- Restoration criteria established
- Protection of other environmental features (wetlands, springs, seeps, caves, canyon rimrocks)
- Floodplain Modification Criteria
- Erosion Hazard Zone analysis



http://austintexas.gov/department/riparian-restoration

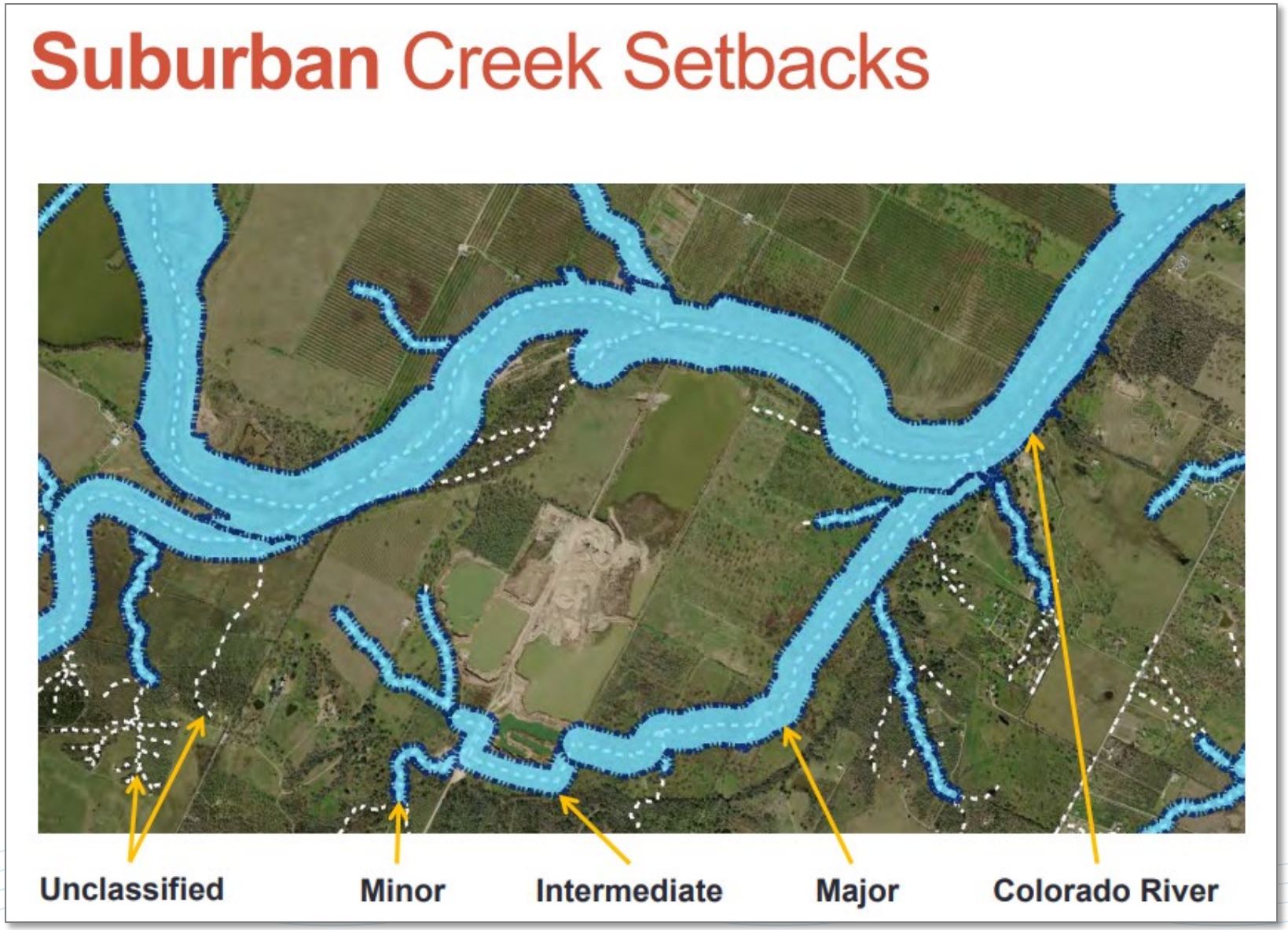
Discussion on Critical Water Quality Zone

Critical Water Quality Zones

Buffers depend upon Drainage Areas and Geographic Location

- **Urban Creeks:** CWQZ same as 100-year-floodplain with 50' minimum and 400' maximum
- **Suburban Creeks** (East): Not tied to Floodplain
  - Minor 64-320 acres of drainage → 100' CWQZ
  - Intermediate 320-640 acres of drainage → 200' CWQZ
  - Major +640 acres of drainage → 300' CWQZ
  - Buffers can be averaged
  - Half CWQZs established to allow more intense use
- **Drinking Water Protection Zone and Barton Springs Zone** (West)
  - Same Creek size categories as Suburban
  - Buffers same as 100-Year-Floodplain, but with min/max setbacks
    - Minor → 50'-100'
    - Intermediate → 100'-200'
    - Major → 200'-300'
  - Barton Creek → always 400' from centerline
  - Water Quality Transition Zones also established, providing additional protections
  - No buffer averaging allowed
  - No half CWQZs
- **Colorado River** established from OHWM → 100-year-floodplain with 200' minimum
- **Lake** CWQZs established from shoreline → 75'-100' depending upon use

Discussion on Critical Water Quality Zone



Discussion on Critical Water Quality Zone

Critical Water Quality Zone Allowances

- Allowable development depends upon Watershed Regulation Area
- Types of uses allowed in CWQZs (depending):
  - Open space
  - Fences
  - Community gardens
  - Multi-use trails
  - Necessary utility line crossings (most direct path through CWQZ)
  - Boat docks/Shoreline access along lake shorelines
  - Athletic fields
  - Green stormwater infrastructure
  - Streets/Sidewalks/Trails depending upon type of street, size of creek, and distance from nearest crossing
- Floodplain Modifications

Sanitary Sewer Overflows in TMDL Basins

Sanitary Sewer Overflows in TMDL Basins

Per Austin Water SSO Manual:

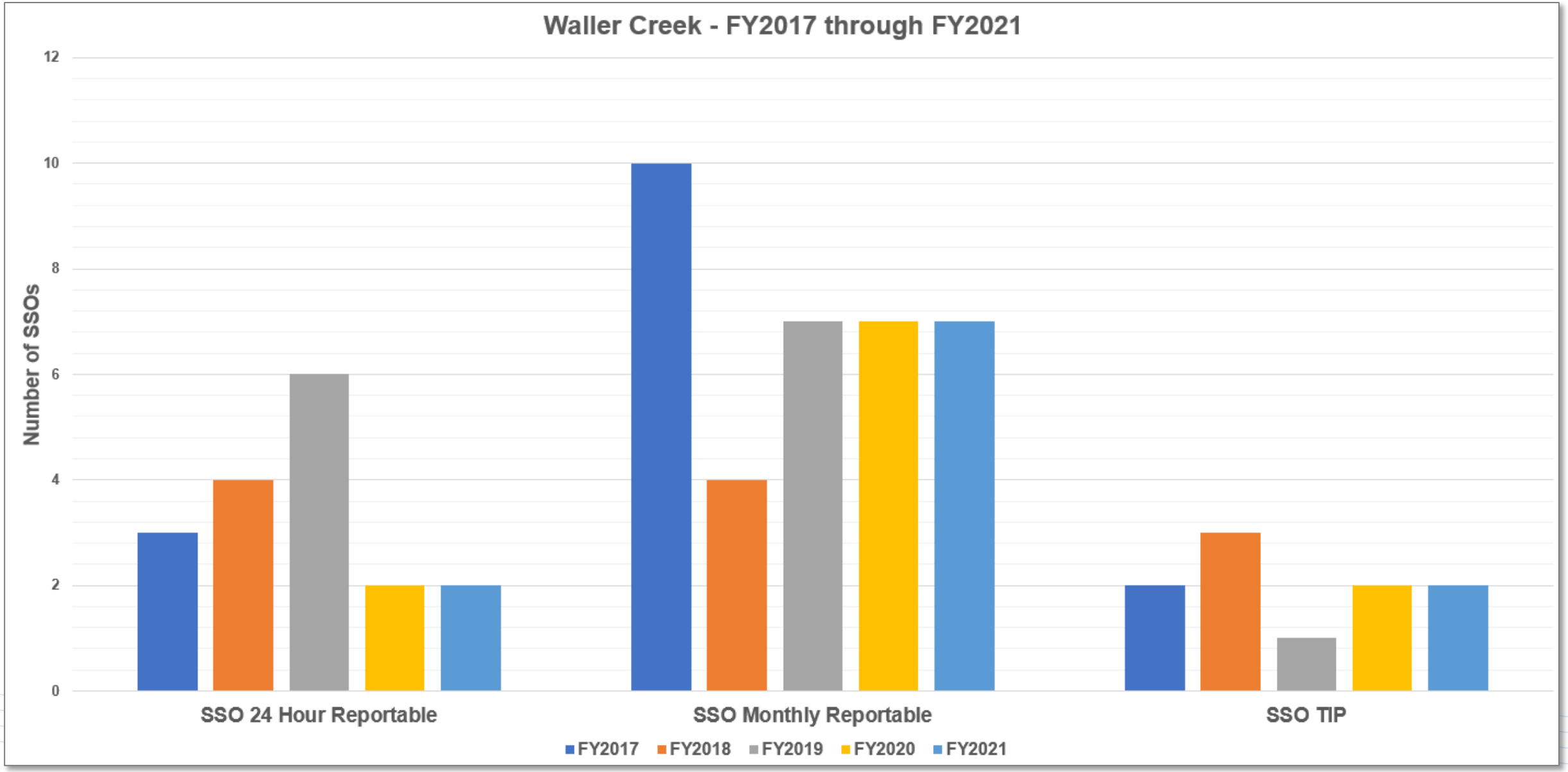
Austin Water (AW) manages the Sanitary Sewer Overflow Response program and provides annual funding to ensure that mitigation operations, maintenance, cleanup, data management, and reporting are performed in accordance with Texas Commission on Environmental Quality (TCEQ), and the United States Environmental Protection Agency (USEPA or EPA) regulatory requirements and are promptly resolved.

Sanitary Sewer Overflows in TMDL Basins

The tables on the next three slides outline the SSOs that have occurred in each TMDL basin:

- Waller Creek
- Walnut Creek
- Spicewood Springs
- Gilleland Creek
- Taylor Slough South

Sanitary Sewer Overflows in TMDL Basins



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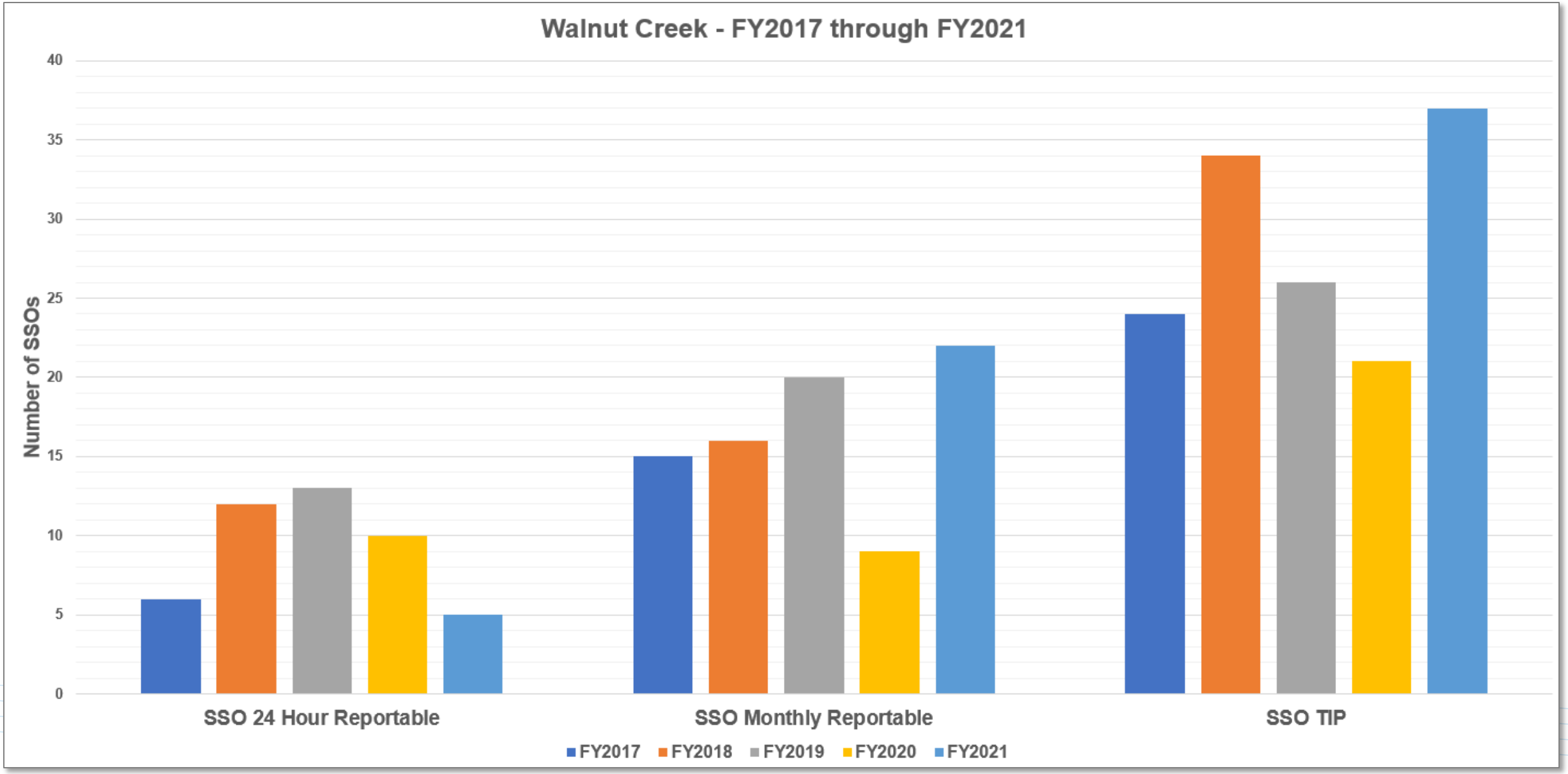

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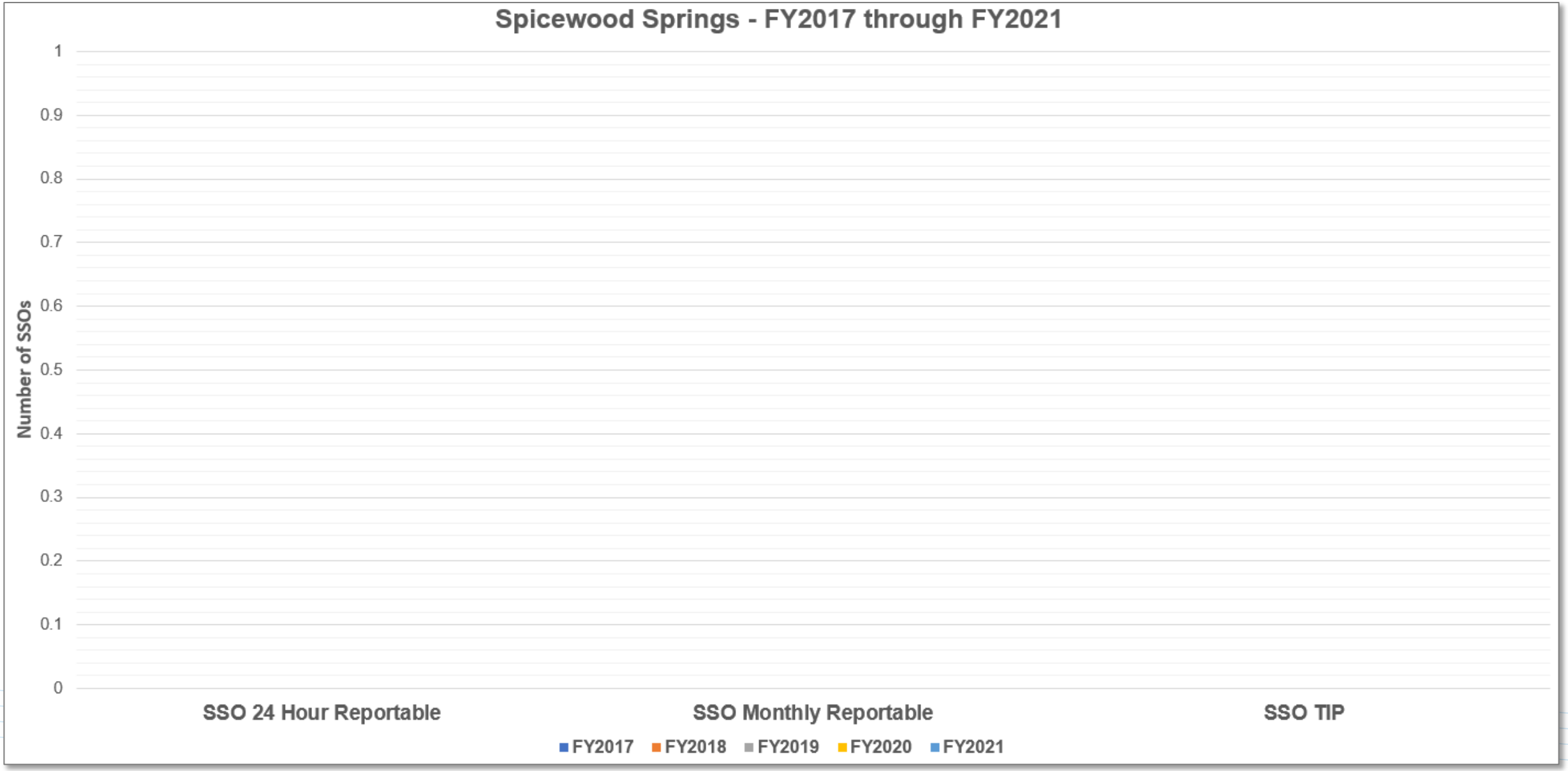

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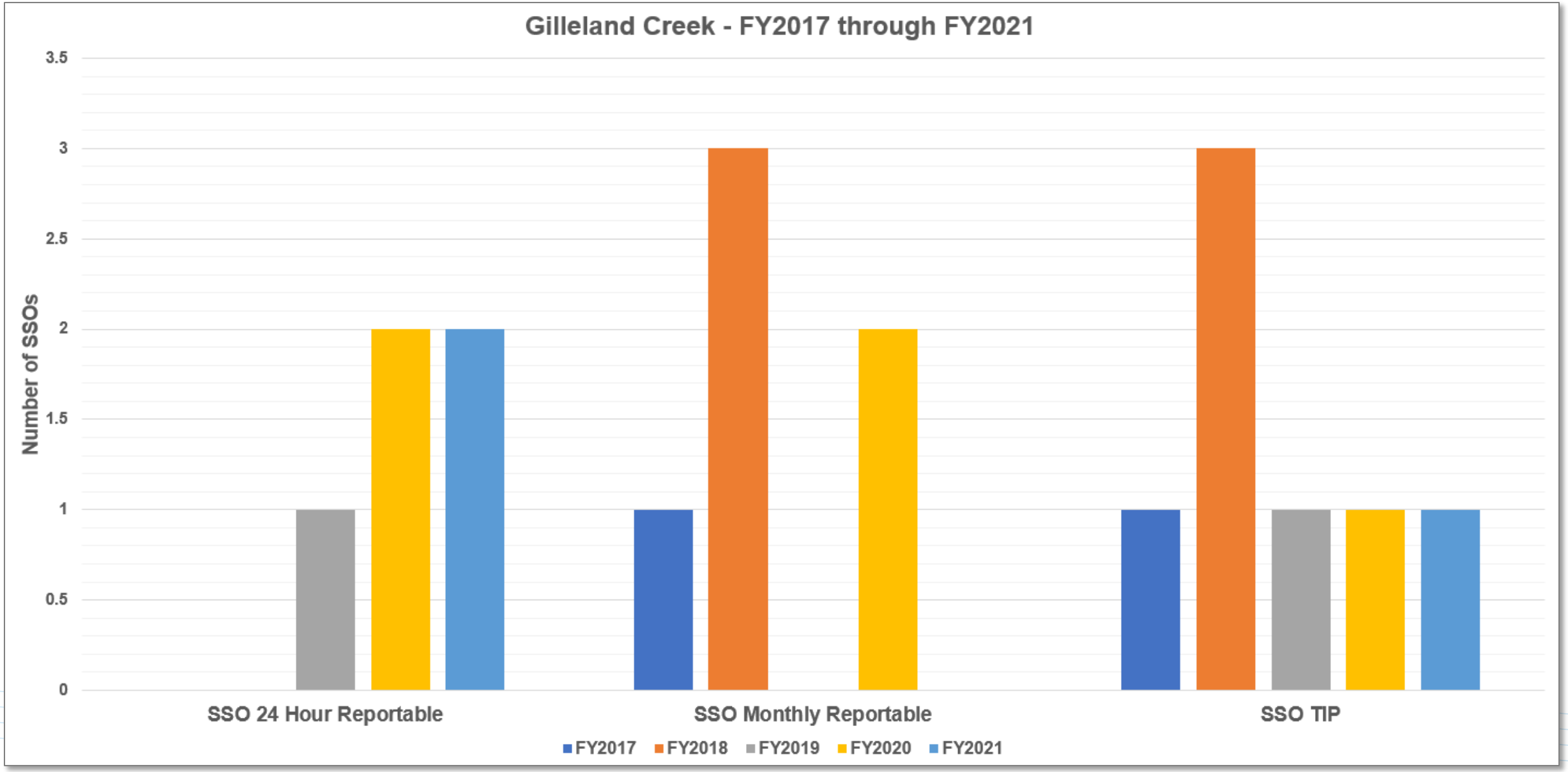

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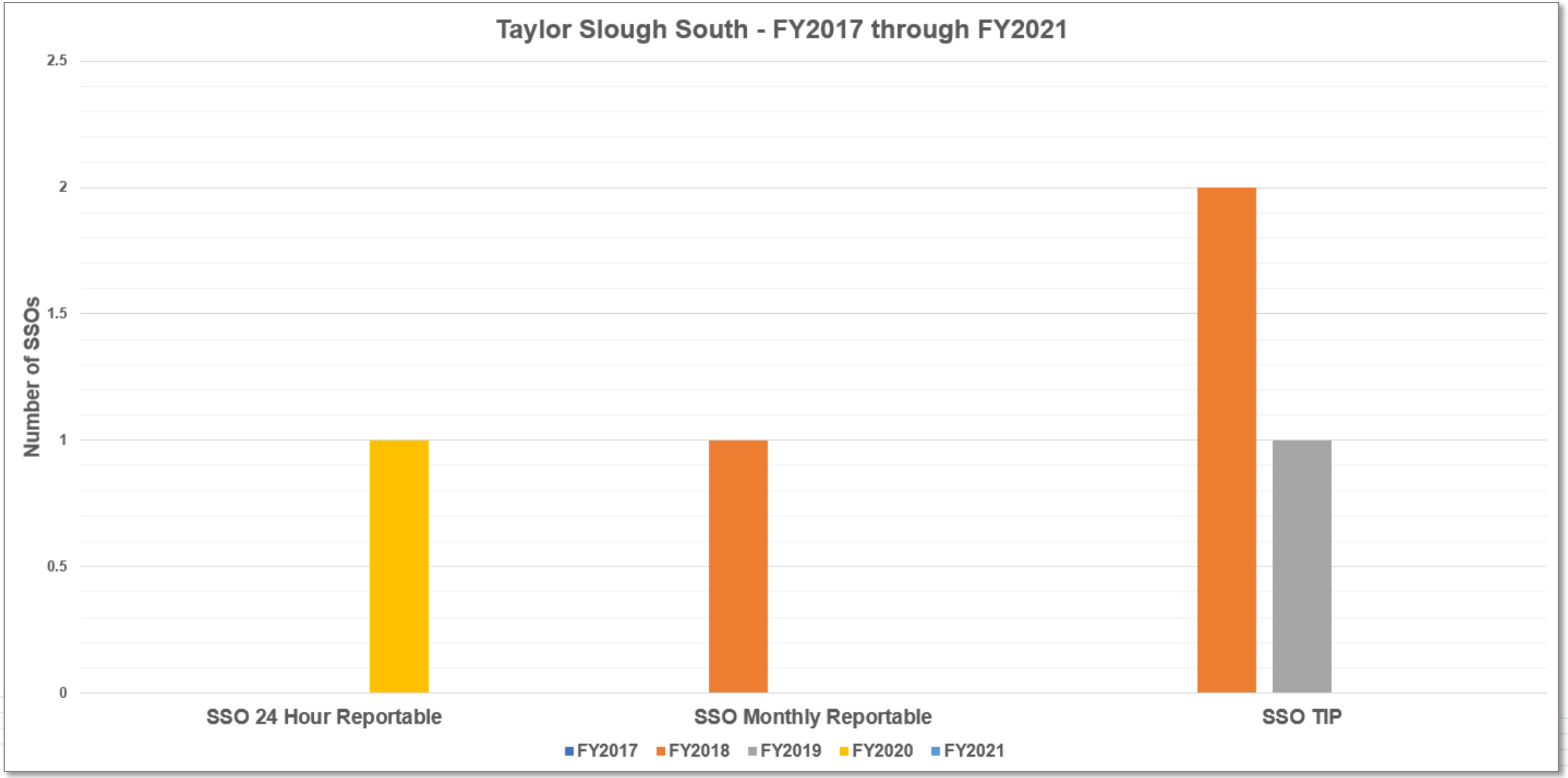

Austin Water's Goals and Objectives for TMDL Basins

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- Austin Water's program for TMDL basins includes clean and TV inspection for all pipes that are directly in or touch the CWQZ
- Austin Water will extend inspections to all in-between mains and segments 10" and larger
- Inspections completed since 2018 are considered new and count towards the inspection goal

Austin Water's Goals and Objectives for TMDL Basins

MCM 3 Illicit Discharge Detection and Elimination
Overflows and Infiltration (Wastewater Pipelines)

Activity/BMP	Quantifiable Target	Deadline	Department
MSI inspection pipes of lines 24" and larger in the CWQZ in Gilleland Creek, Spicewood Springs, Taylor Slough South, Waller Creek, and Walnut Creek.	Approximately 129,000 linear feet	By September 30 of 2024	AW
TV Inspection of the sewer pipes in the CWQZ in Gilleland Creek and Spicewood Springs	Approximately 39,500 linear feet	By September 30 of 2022	AW
TV Inspection of the sewer pipes in the CWQZ in Taylor Slough South and Waller Creek	Approximately 36,600 linear feet	By September 30 of 2023	AW
TV Inspection of the sewer pipes in the CWQZ in Walnut Creek	Approximately 555,000 linear feet	By September 30 of 2026	AW

Questions and Comments