



Watershed Monitoring: Stormwater

March 18, 2022



Background

2020 Texas Integrated Report - Texas 303(d) List (Category 5)			
SegID: 1911	Upper San Antonio River From a point 600 meters (660 yards) downstream of FM 791 at Mays Crossing near Falls City in Karnes County to a point 100 meters (110 yards) upstream of Hildebrand Avenue at San Antonio in Bexar County		
<u>Impairment Description(s)</u>	<u>Category</u>	<u>Year Segment First Listed</u>	
Impaired fish community in water	5c	2006	
1911_08	From just upstream of the confluence with Sixmile Creek to just upstream of the confluence with San Pedro Creek.		
1911_09	From just upstream of the confluence with San Pedro Creek up to the upper end of the segment.		
<u>Impairment Description(s)</u>	<u>Category</u>	<u>Year Segment First Listed</u>	
Impaired macrobenthic community in water	5c	2020	
1911_08	From just upstream of the confluence with Sixmile Creek to just upstream of the confluence with San Pedro Creek.		
SegID: 1903	Medina River Below Medina Diversion Lake From the confluence with the San Antonio River in Bexar County to Medina Diversion Dam in Medina County		
<u>Impairment Description(s)</u>	<u>Category</u>	<u>Year Segment First Listed</u>	
Bacteria in water (Recreation Use)	5c	2010	
1903_01	From the confluence with the San Antonio River upstream to the confluence with Palo Blanco Creek approximately 2.0 km upstream of FM 1937		
1903_02	From the confluence with Palo Blanco Creek approximately 2.0 km upstream of FM 1937 upstream to the confluence with Lower Leon Creek		
1903_03	From the confluence with Lower Leon Creek upstream to the confluence with Medio Creek		
SegID: 1902	Lower Cibola Creek From the confluence with the San Antonio River in Karnes County to a point 100 meters (110 yards) downstream of IH 10 in Bexar/Guadalupe County		
<u>Impairment Description(s)</u>	<u>Category</u>	<u>Year Segment First Listed</u>	
Bacteria in water (Recreation Use)	5c	2004	
1902_01	From the confluence with the Lower San Antonio River in Karnes County upstream to the confluence with Mulifest Creek		
1902_02	From the confluence with Mulifest Creek upstream to the confluence with Pulaski Creek		
1902_03	From the confluence with Pulaski Creek upstream to the confluence with Clifton Branch		

- Impairments include:
 - Bacteria in water
 - Low DO levels
 - Impaired fish community
 - Other physical, chemical and biological impairments



NPS- Pollution



NPS pollution Sources

Sources:

- Fertilizers
- Oils and grease
- Sediment
- Toxic Chemicals
- Bacteria
- Heat

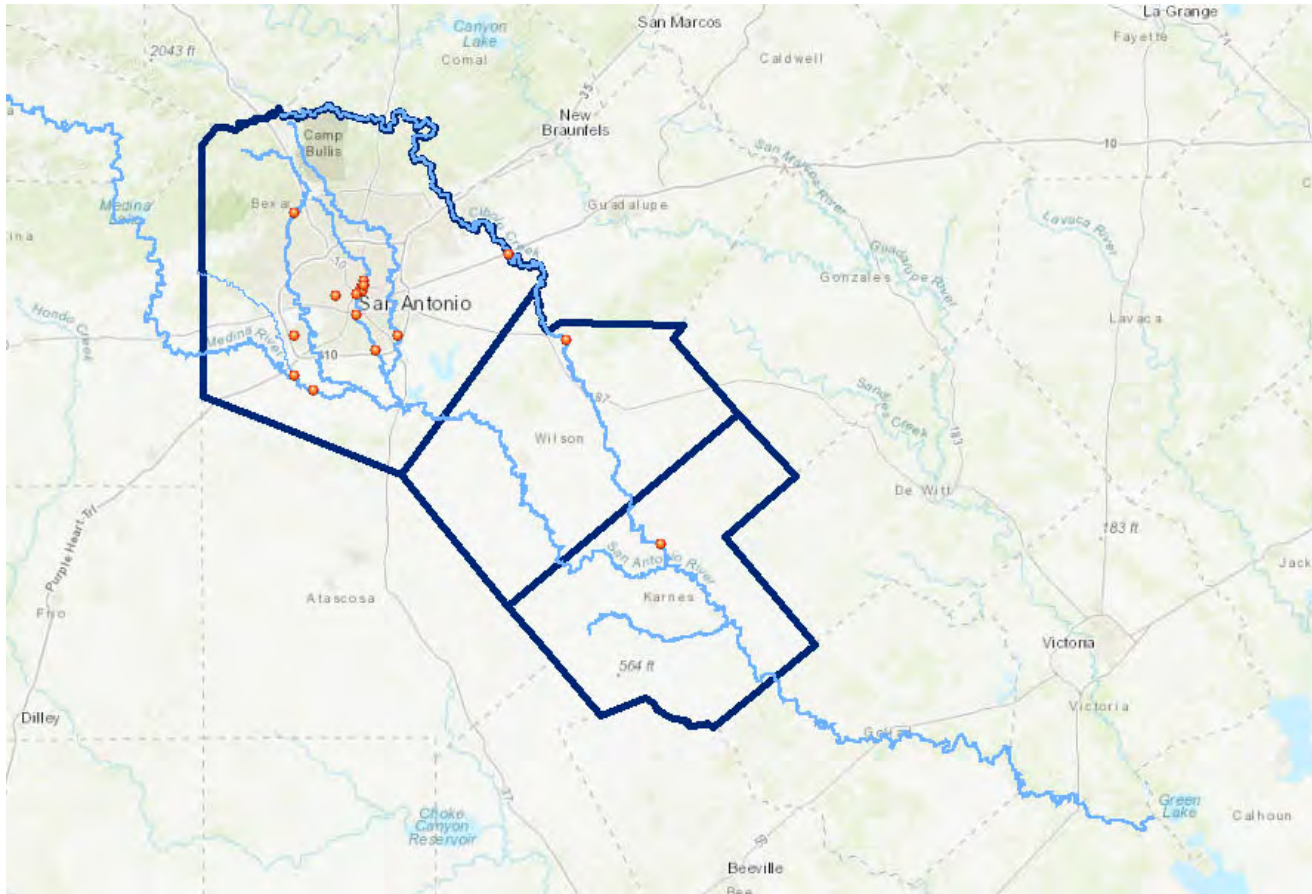


Why monitor stormwater?



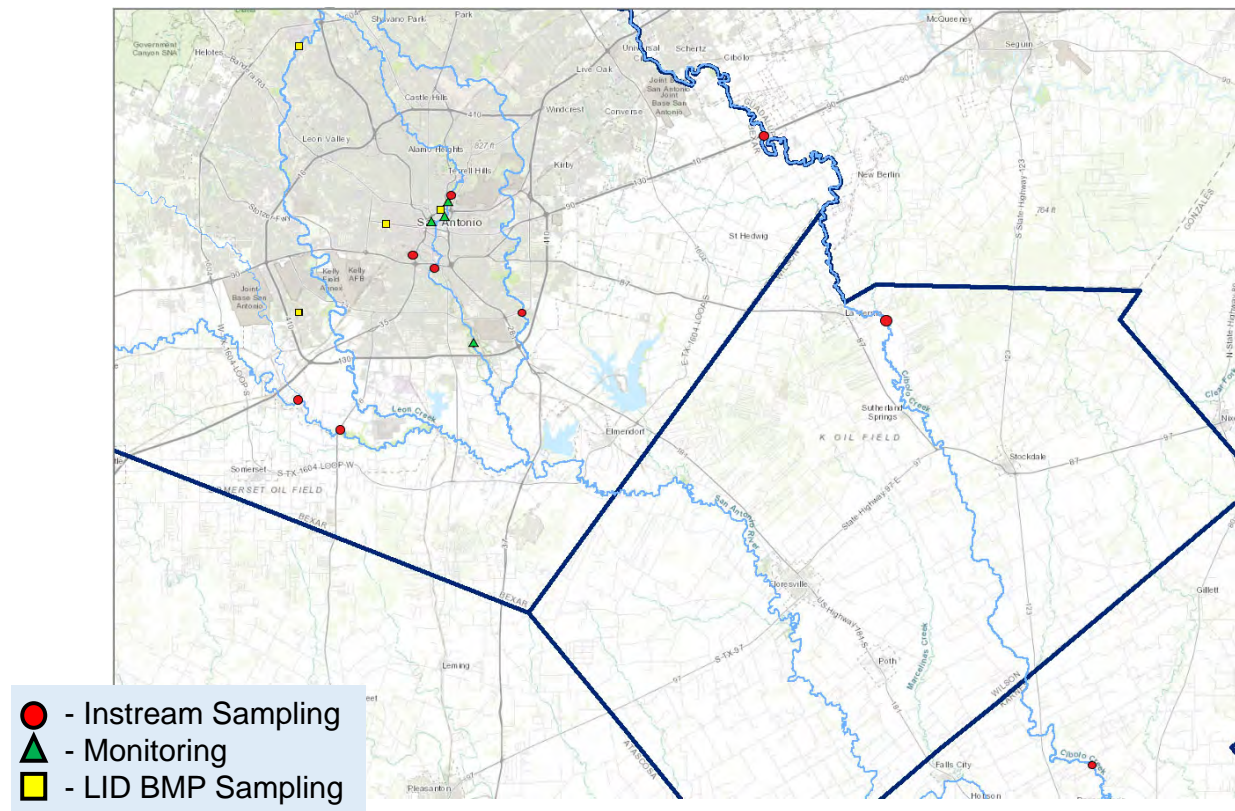
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SARA Stormwater Stations



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Types of Stations



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Site Selection/Builds



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Instream Station

Medina River at SH16

- Automatic sampler
- Collects water directly from stream
- Hydrograph sampling



Instream Station



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Low Impact Development BMP Station



Lake Elmendorf BMP

- Bioswale/Bioretenention
- Inlet sample Vs Outlet sample
(street runoff)
- Event Mean
Concentration(EMC)
Composite Sampling





Inlet sampler

Outlet sampler



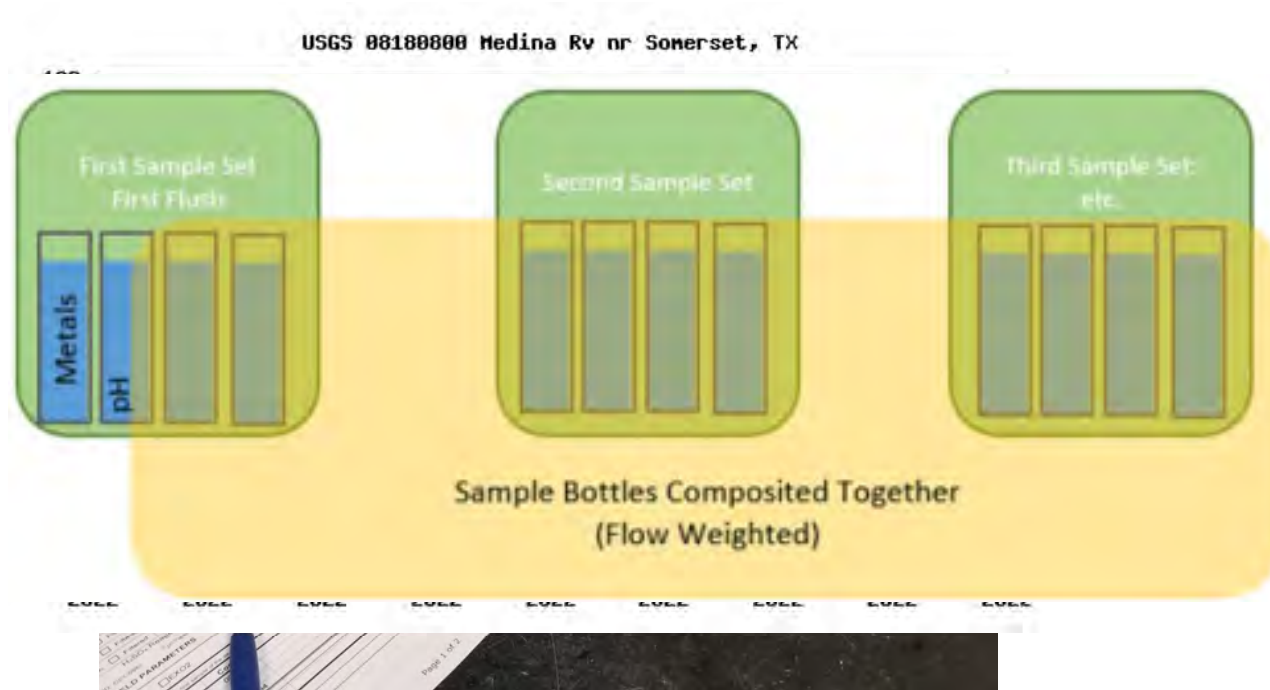
Monitoring Station (no sampling)

- Simple design and structure
- Monitors field parameters only
- Data available on Hydrosphere data platform



Sampling Logistics and Analytes

- Sampling coordination
- Hydrograph vs
Composite Sampling
- Tested Analytes

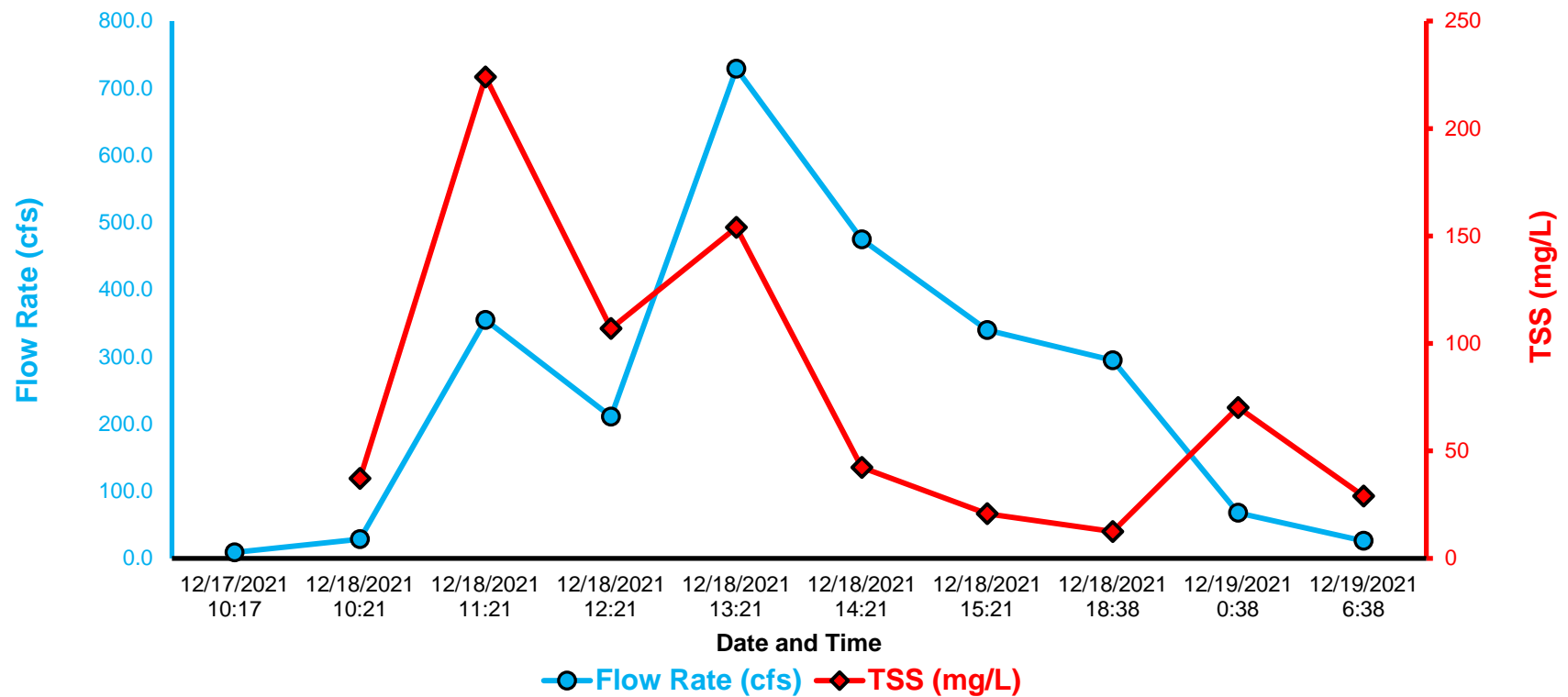




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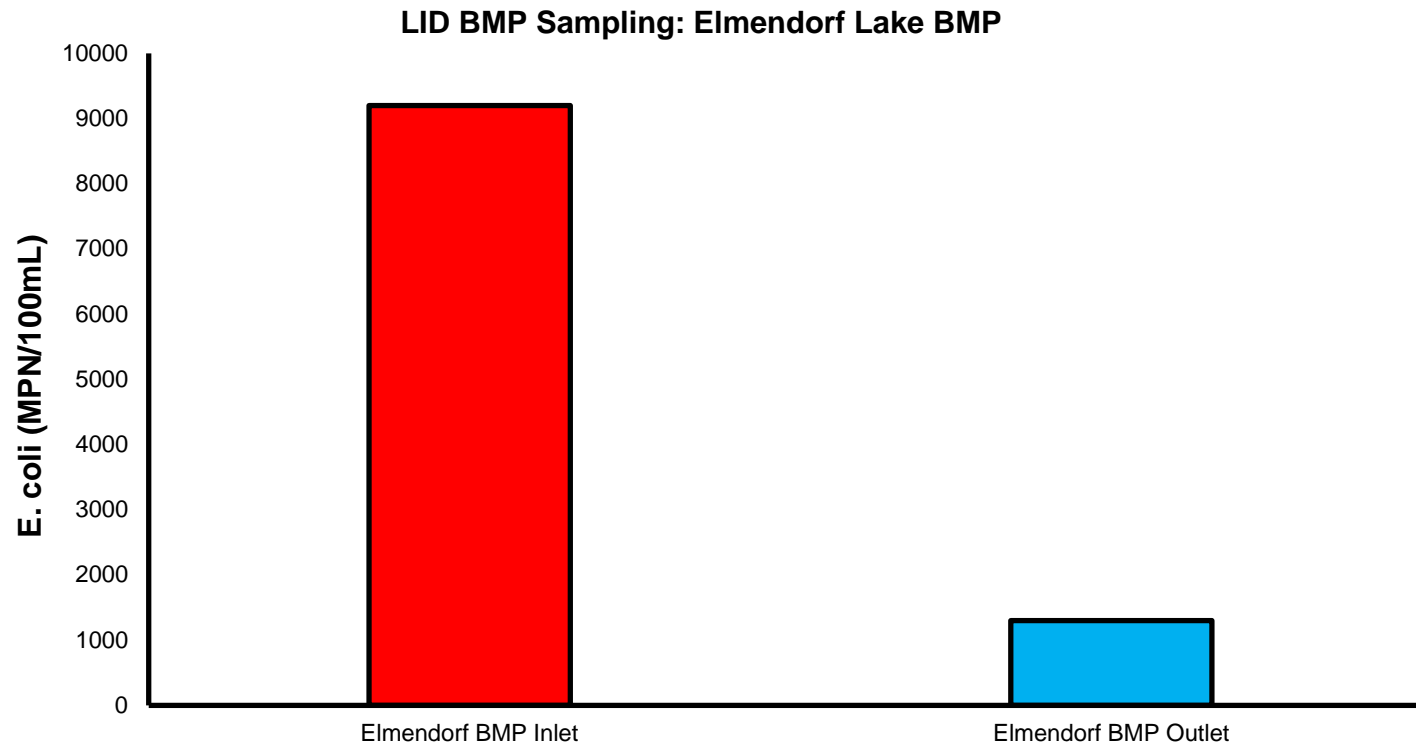
Preliminary Data Visual

Hydrograph sampling: SAR at Mitchell



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Preliminary Data Visual



Future of Stormwater



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Questions?

