CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

Tentative Investigative Order No. R9-2018-0021

Request for Technical and Monitoring Reports to Identify and Quantify the Sources and Transport Pathways of Human Fecal Material to the San Diego River Watershed

March 28, 2018

CALIFORNIA
Water Boards

INTRODUCTION

Mission Statement

"To Preserve, Enhance, and Restore the Quality of California's Water Resources and Drinking Water for the Protection of the Environment, Public Health, and all Beneficial Uses, and to Ensure Proper Water Resource Allocation and Efficient Use, for the Benefit of Present and Future Generations."

INTRODUCTION

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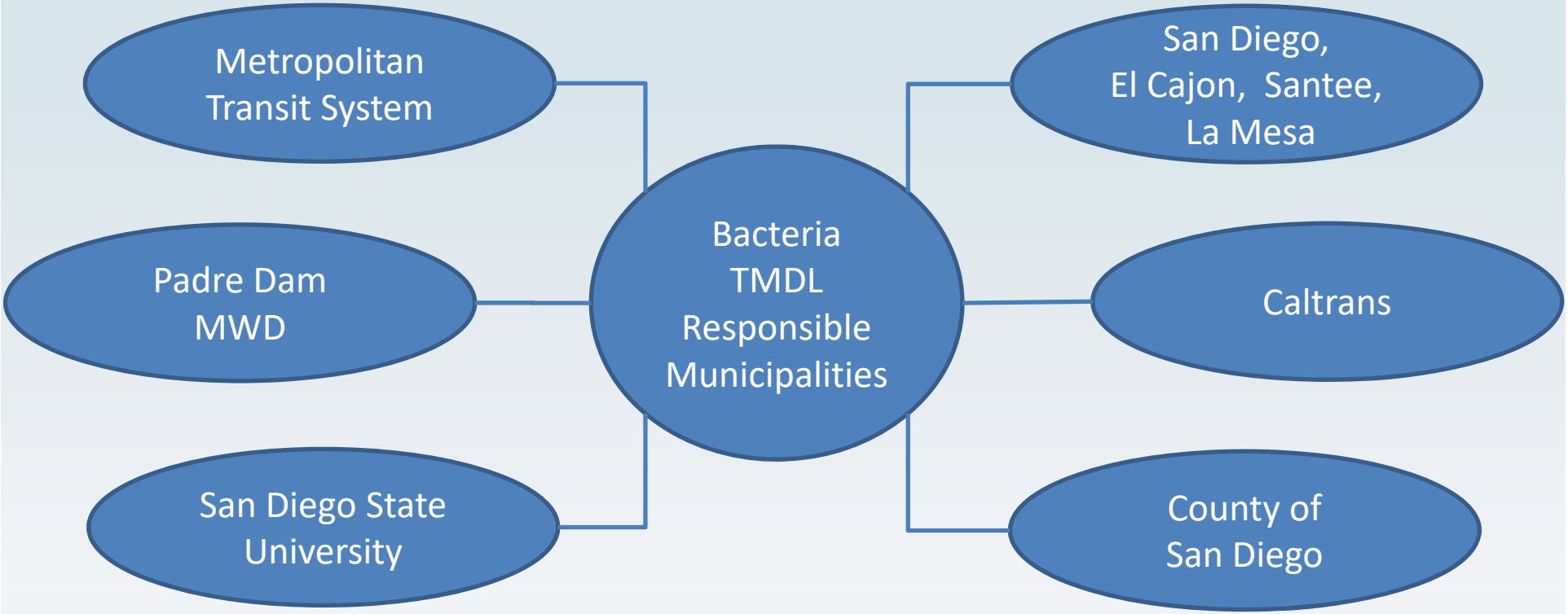
Photo: sandiegouniontribune.com

Photo by Rachel Astete Vasquez (San Diego Water Board)

INTRODUCTION

Revised TMDL for Indicator Bacteria



INTRODUCTION

2017-2018 Hepatitis A Outbreak

INTRODUCTION

Homeless Encampments

Photographed by Jamie Scott Lytle. – VoiceofSanDiego.org

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Homeless Encampments

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Homeless Encampments

Photographed by Jamie Scott Lytle – VoiceofSanDiego.org

MEETING AGENDA

Tentative Investigative Order Review

Next Steps

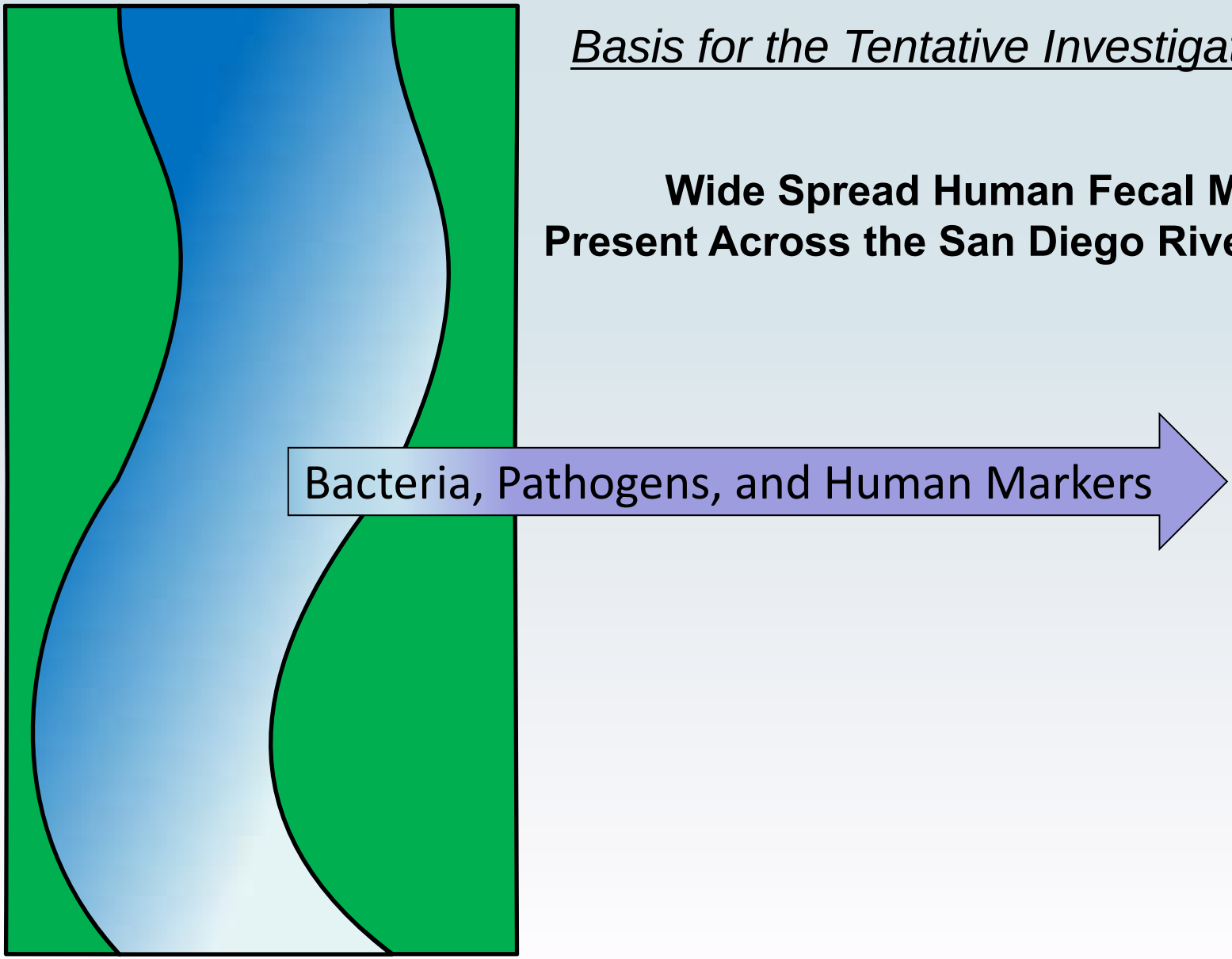
Roundtable Discussion

Closing Remarks

TENTATIVE INVESTIGATIVE ORDER REVIEW

San Diego River – Circa 2015, San Diego River Estuary Clean-up

TENTATIVE INVESTIGATIVE ORDER REVIEW

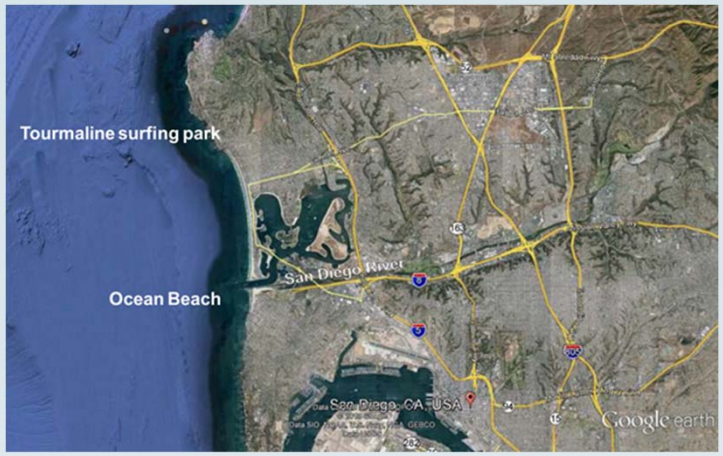


Basis for the Tentative Investigative Order

Wide Spread Human Fecal Material
Present Across the San Diego River Watershed

Scope of Investigation: San Diego River Watershed

Surfer Health Study



- 2014-2015
- 654 Surfers
- 10,081 Ocean Exposures Events
  (Dry and Wet Weather + Record Illness)
- Predominately south of San Elijo State Beach
  (40% at Ocean and Tourmaline Beaches)

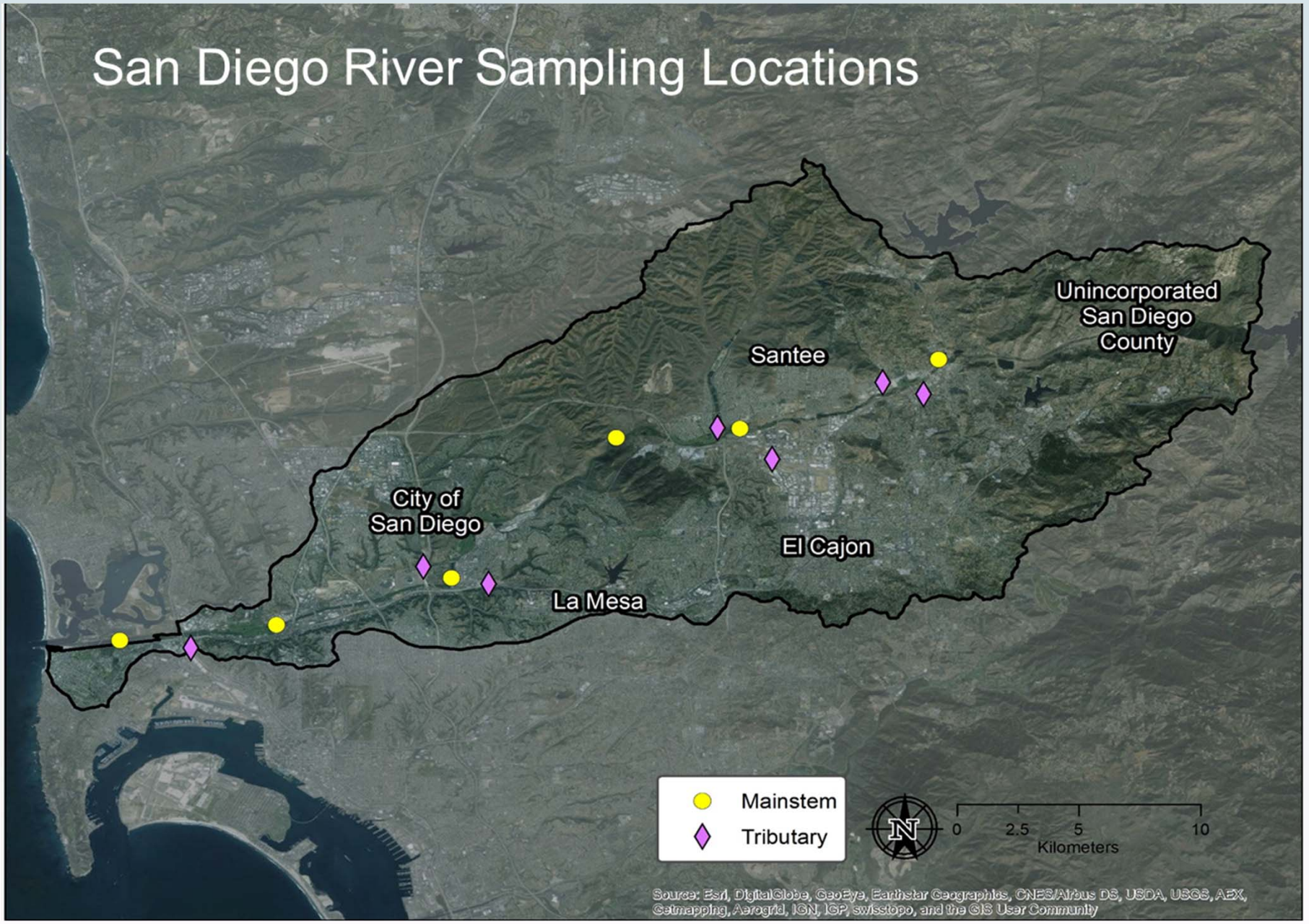
SCOPE OF IMPAIRMENT: SAN DIEGO RIVER WATERSHED

Surfer Health Study

- Gastrointestinal Illness:
  - Increased illness following ocean exposure
  - Further increase of illness following rain events
- Pathogens and Markers in Discharge:

Category		Surfer Health Study	
		Detection Frequncy (N= 23 samples from one station)	Maximum Concentrations (gene copies/100 ml)
Pathogen	Norovirus	96%	495
	Adenovirus	22%	42
	Campylobacter sp.	100%	1136
	Salmonella	25%	14
Human Marker	HF 183	100%	3363

Source: Technical Reports 943, SCCWRP



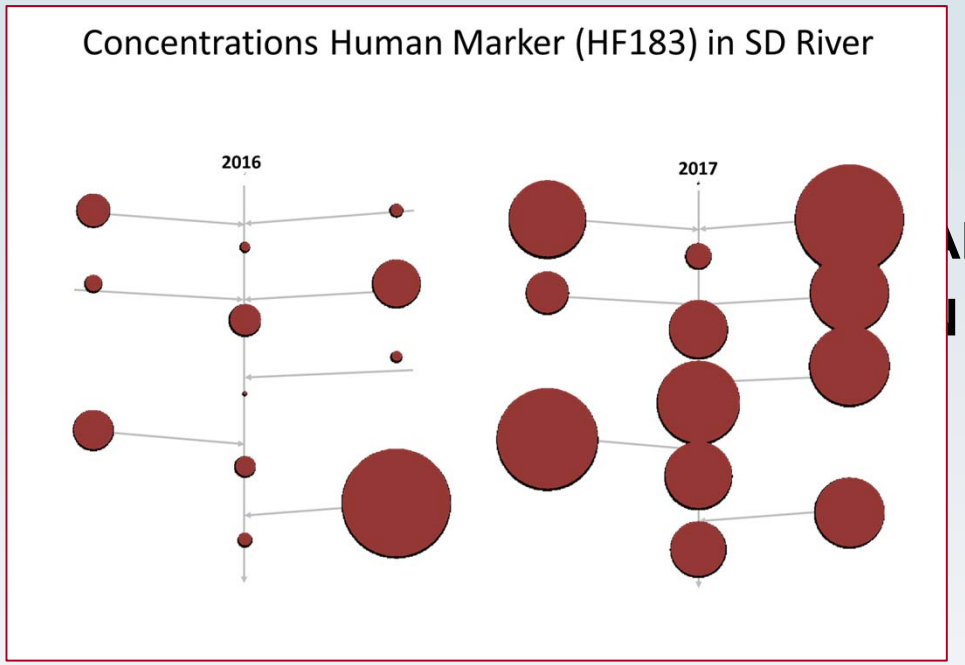
Source: Technical Report 1002, SCCWRP

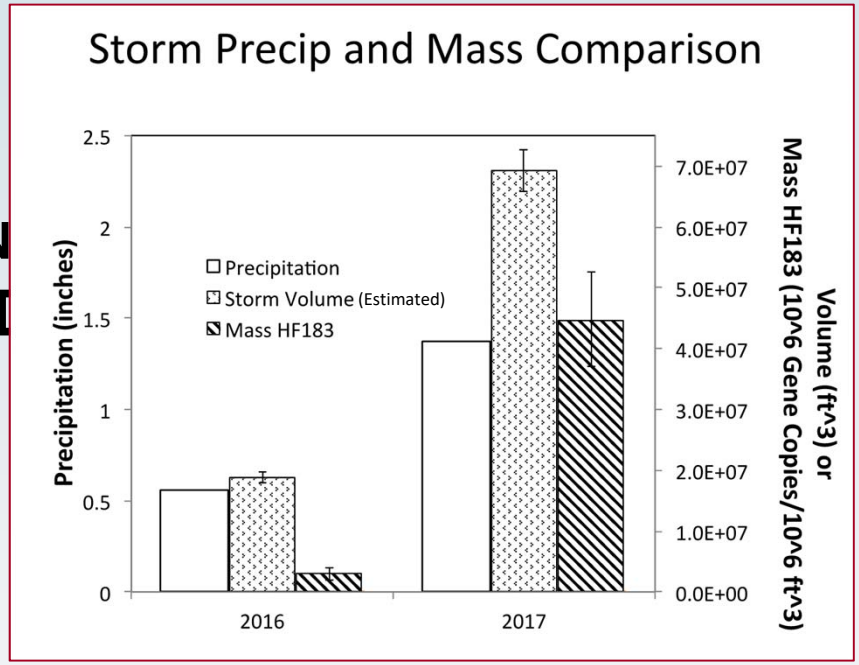
SCOPE OF IMPAIRMENT: SAN DIEGO RIVER WATERSHED

Upstream Microbial Source Tracking Study

- Results *(continued)*:

CONCLUSION



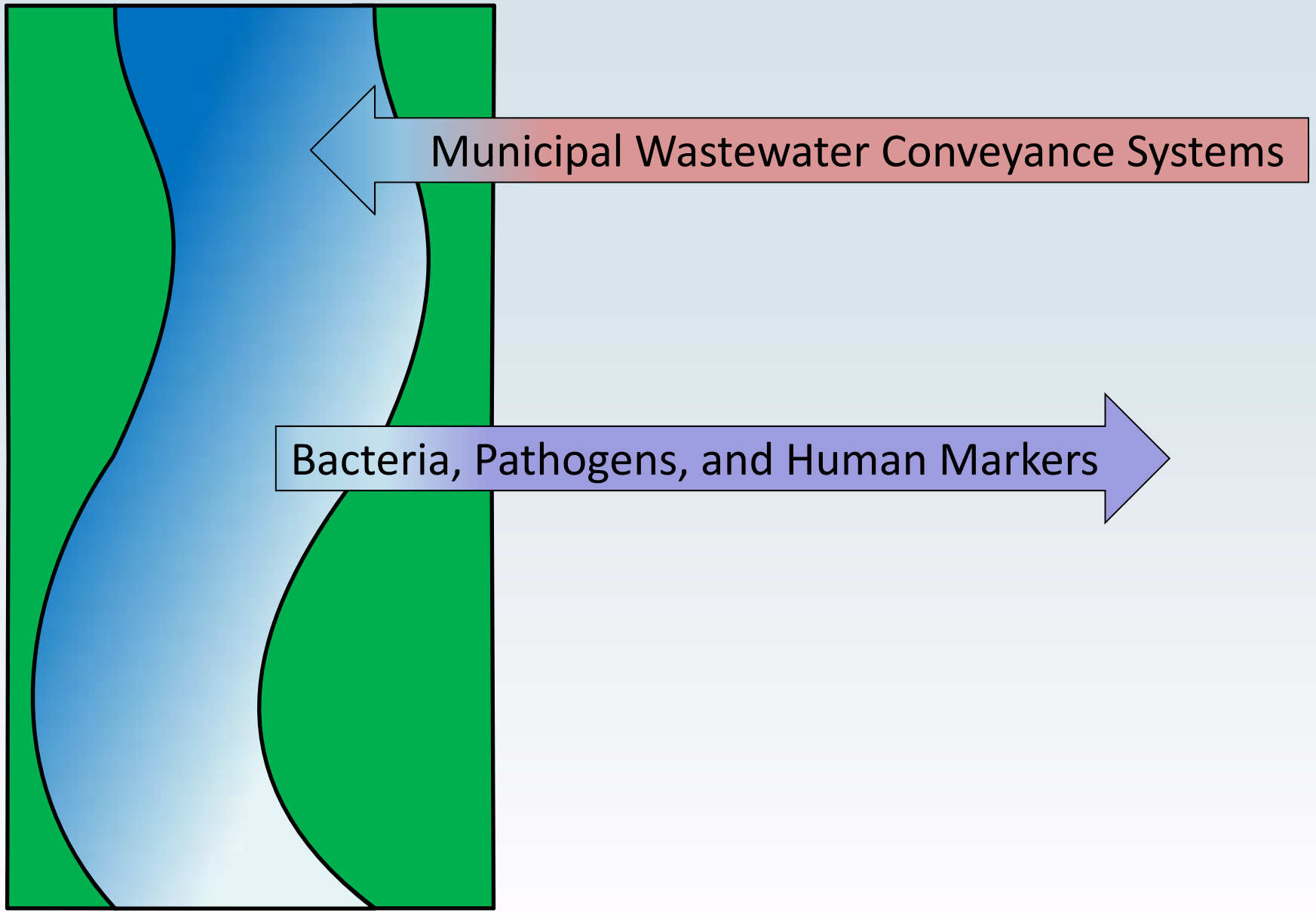


Source: Technical Report 1002, SCCWRP

TENTATIVE INVESTIGATIVE ORDER REVIEW

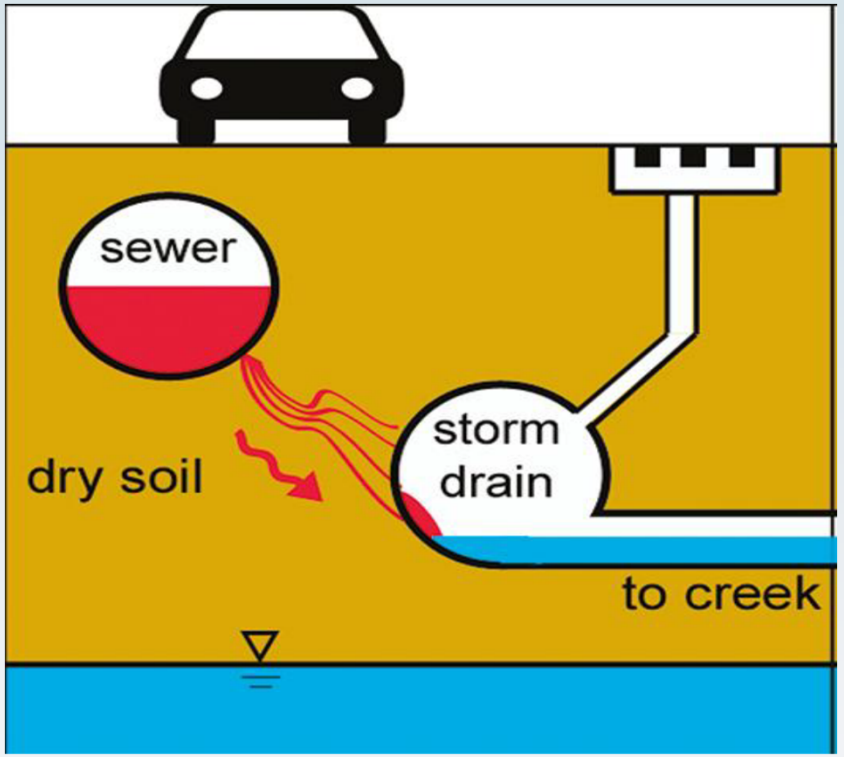
San Diego River – Circa 2015, San Diego River Park Foundation

Tentative Investigative Order Review



POSSIBLE SOURCES AND PATHWAYS

Sanitary Sewer Overflows (SSOs) and Exfiltration



Possible Sources and Pathways

Sanitary Sewer Overflows and Exfiltration

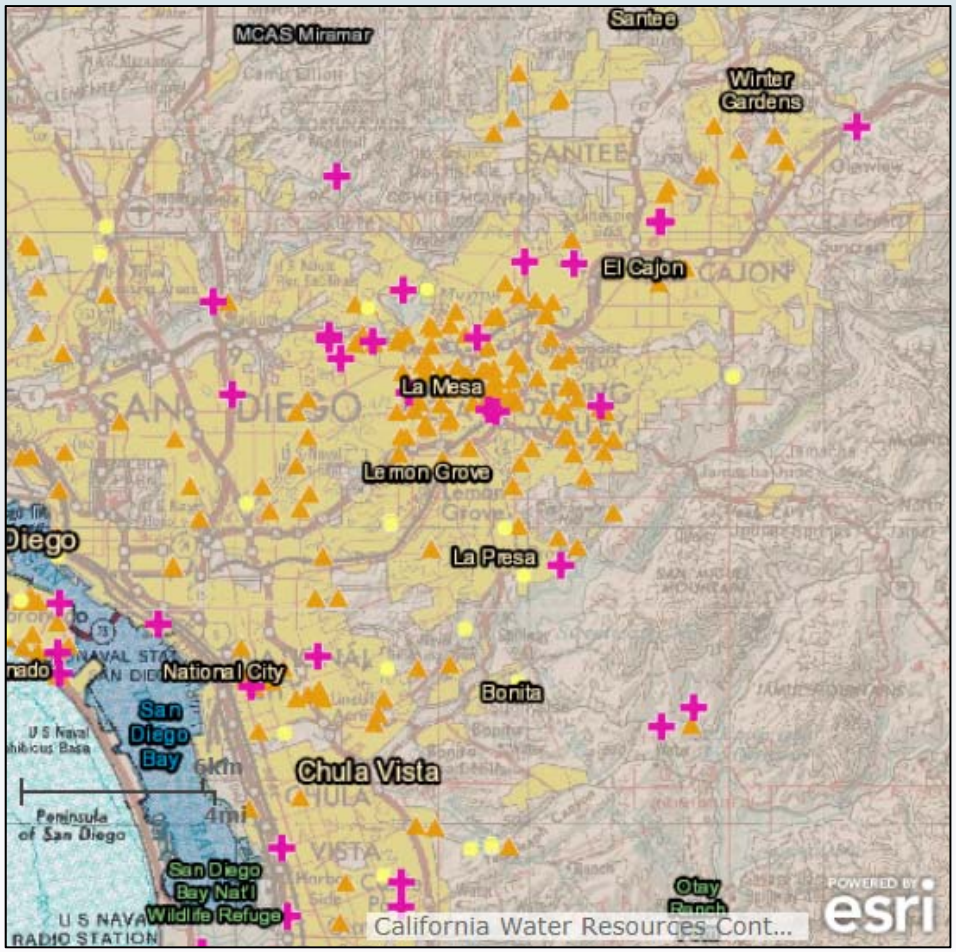
Total Volume of Spills (2013-2017)

Agency	Volume of SSOs (gal)	Volume of Private Spills (gal)	Number of SSOs	Number of Private Spills
City of SD	7, 667, 091	77,819	136	191
County of SD	908,331	None Reported	9	None Reported
Padre Dam	**654**	**10,395**	**7**	**28**
El Cajon	**1,760**	**28,602**	**8**	**49**
La Mesa	12,910	3,088	73	35
SDSU	5,920	0	4	0

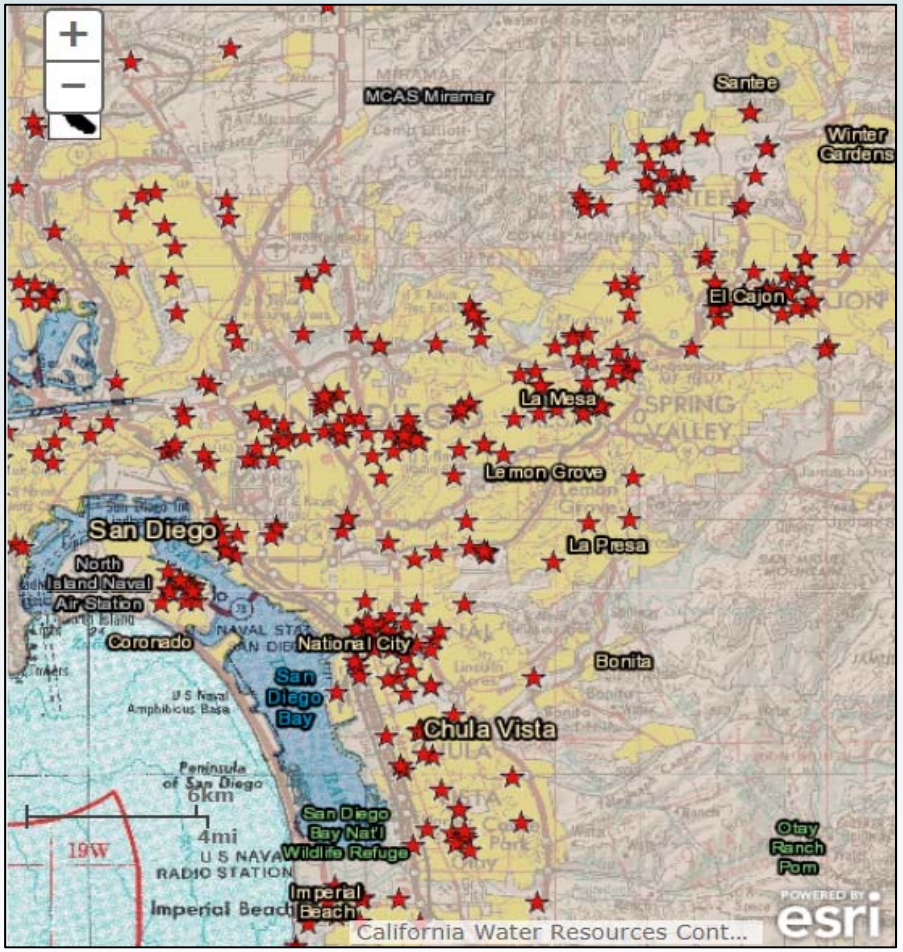
Possible Sources and Pathways

Sanitary Sewer Overflows and Exfiltration

Public SSOs



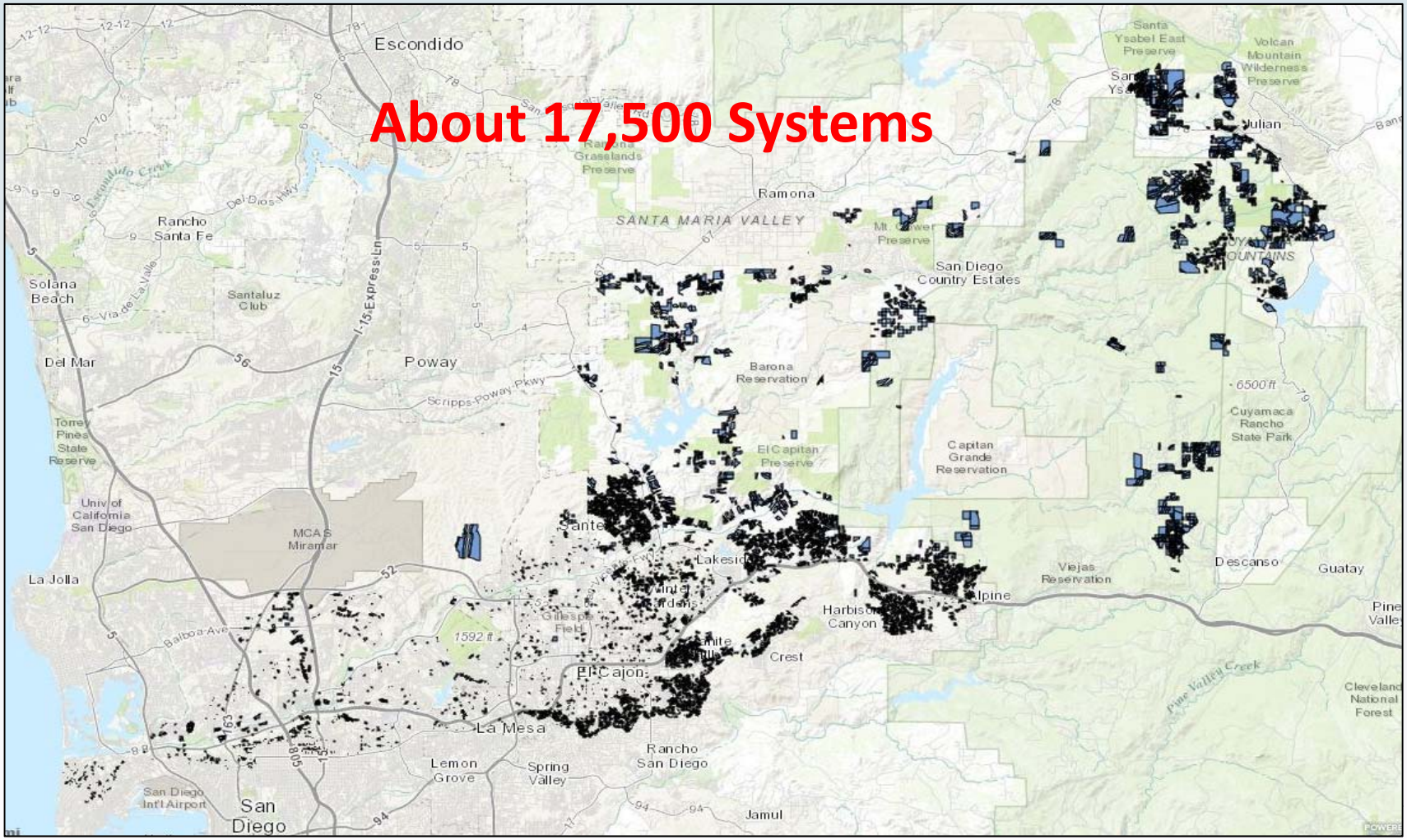
Private Lateral Spills



POSSIBLE SOURCES AND PATHWAYS

Onsite Wastewater Treatment Systems (Septic Systems)

Septic Systems in the San Diego River Watershed



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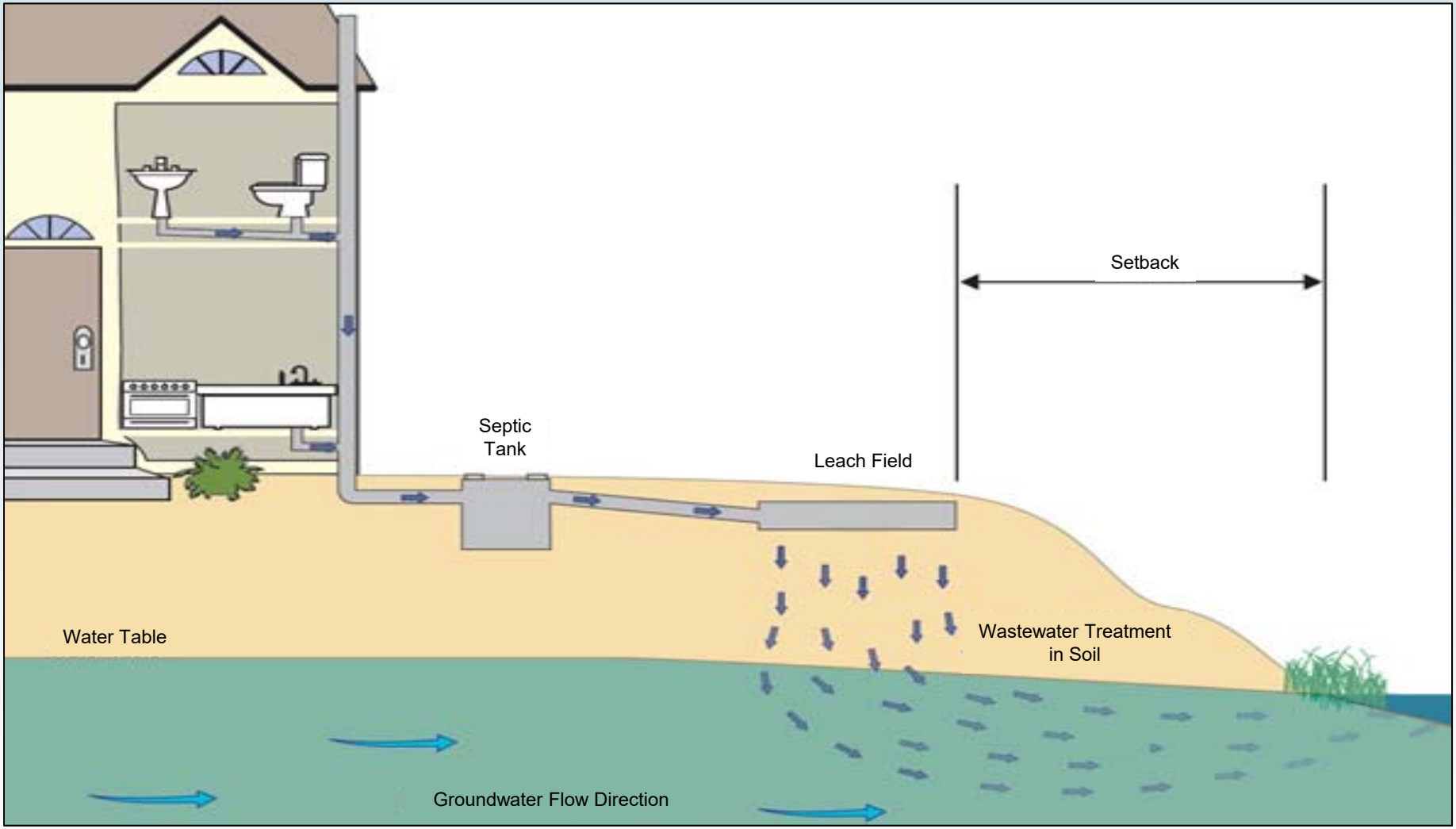
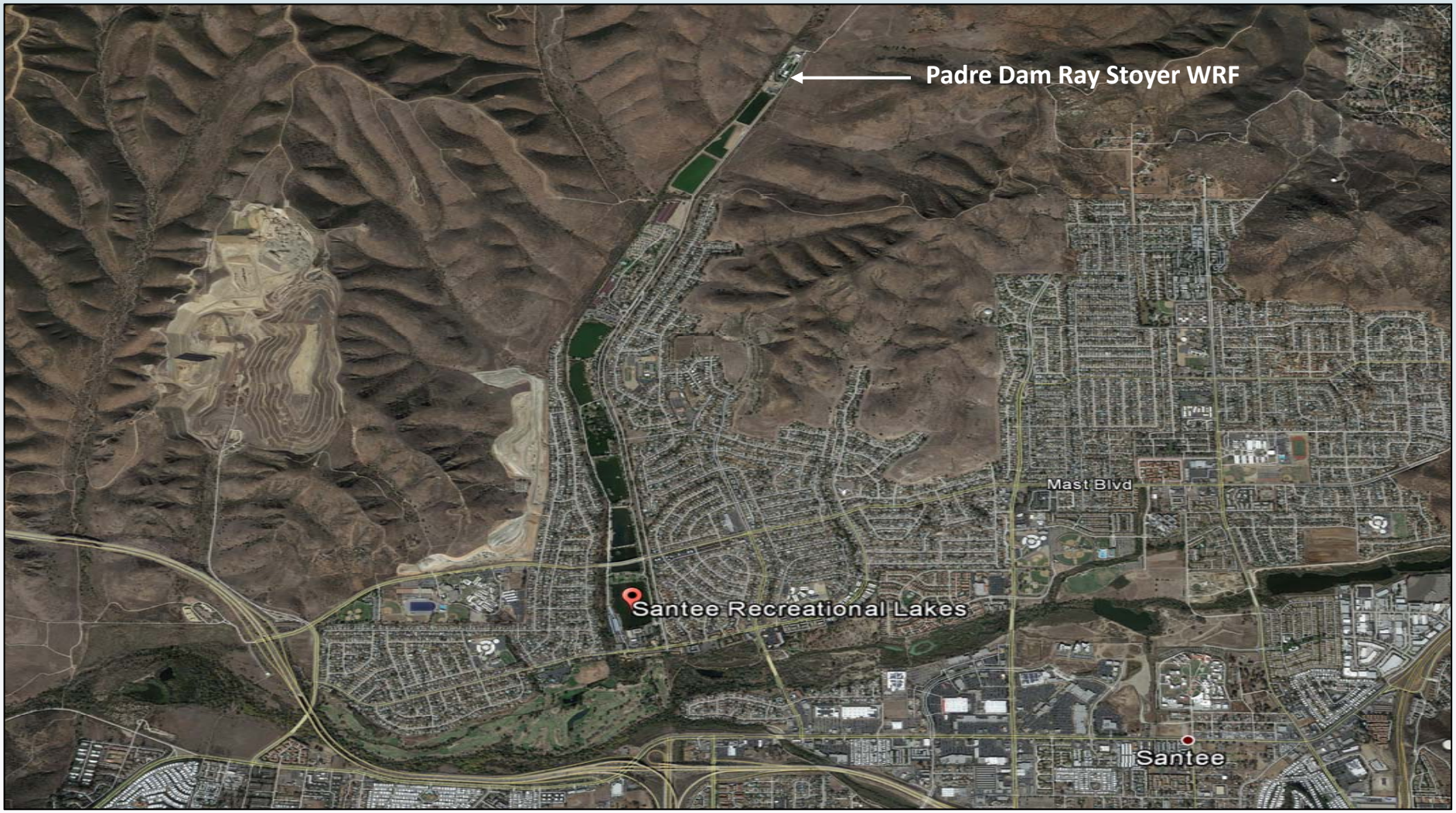


Possible Sources and Pathways

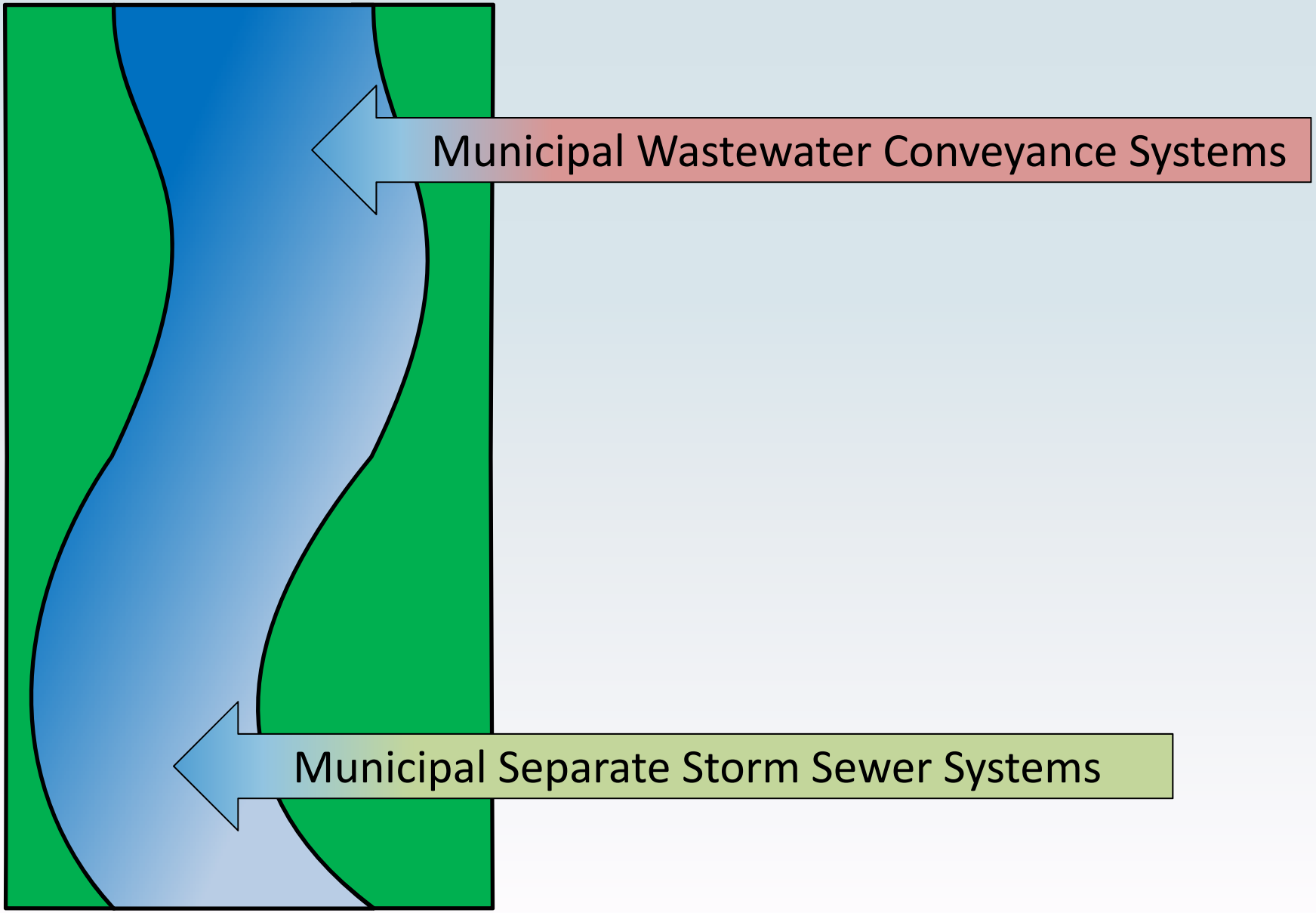
Recycled Water

POSSIBLE SOURCES AND PATHWAYS

Recycled Water



Tentative Investigative Order Review



POSSIBLE SOURCES AND PATHWAYS

Municipal Separate Storm Sewer Systems (MS4)

Order No. R9-2013-0001 (as amended) – *Regional MS4 Permit*

- Copermittee Requirements:
  - Establish legal authority:
    - Prohibit non-storm water discharges
    - Prohibit and eliminate illicit discharges and illegal connections
  - Implement pollutant reduction controls for storm water, to maximum extent practicable (MEP)
  - Comply with Bacteria Total Maximum Daily Load (TMDL) Waste Load Allocations (WLAs)

POSSIBLE SOURCES AND PATHWAYS

Municipal Separate Storm Sewer Systems (MS4)

Order No. 2013-0001-DWQ - *Phase II Municipal Storm Water Permit*

- Permittee Requirements:
  - Establish legal authority:
    - Prohibit non-storm water discharges
    - Detect and eliminate illicit discharges and illegal connections
  - Implement pollutant reduction controls for storm water, to MEP
  - Comply with Bacteria TMDL WLAs

POSSIBLE SOURCES AND PATHWAYS

Municipal Separate Storm Sewer Systems (MS4)

Order No. 2012-0011-DWQ (as amended) – *Caltrans MS4 Permit*

- Caltrans Requirements:
  - Prohibit non-storm water discharges
  - Implement pollutant reduction controls for storm water, to MEP
  - Comply with Bacteria TMDL WLAs

Possible Sources and Pathways

Homeless Encampments

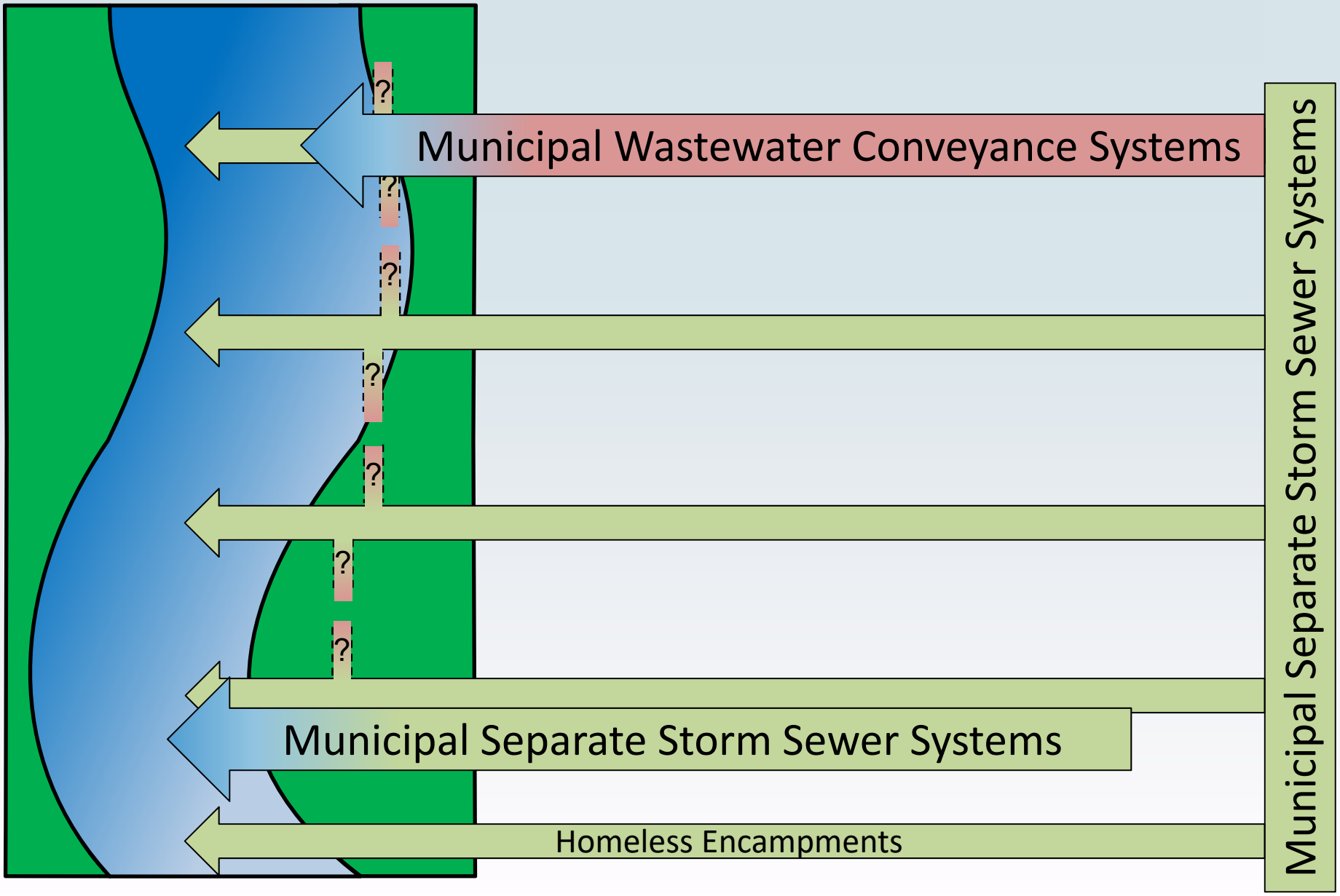
- 116 encampments (290 individuals) – Santee to Mission Valley
- Present challenge to Cities, County, Caltrans, SDSU, and MTS

Source: KPBS – Katie Schoolov

Source: Mission Times Courier – Doug Curlee

- Potential to defecate outdoors, introducing human fecal material to watershed

TENTATIVE INVESTIGATIVE ORDER REVIEW



TENTATIVE INVESTIGATIVE ORDER REVIEW

San Diego River – Circa 2017, Allan Ferguson

POTENTIAL CONTRIBUTING DISCHARGES

	Storm Water				Wastewater				
	MS4 Phase 1	MS4 Phase 2	MS4 Caltrans	Homeless	SSOs	Private Laterals	OWTS	POTWs	Recycled Water
City of El Cajon	X			X	X	X			
City of La Mesa	X			X	X	X			
City of San Diego	X			X	X	X			X
City of Santee	X			X					
Co. of San Diego	X			X	X	X	X	X	
Padre Dam MWD					X	X		X	X
Ramona MWD								X	X
Metro. Transit Sys.		X		X					
San Diego State		X		X	X				
Caltrans			X	X					

Tentative Investigative Order Review

San Diego River – Circa 2015, Nicholas McVicker

TENTATIVE ORDER NO. R9-2018-0021

Purpose

- Identify and quantify relative contributions of suspected sources of human fecal materials
- Determine transport pathways of human fecal material
- Evaluate effectiveness of current management measures

TENTATIVE ORDER REQUIREMENTS

Requirements

- Develop an Investigative Study Work Plan:
  - Confirm actual sources or pathways to the San Diego River and tributaries
  - Identify loading rate(s) of each known source
  - Identify the circumstances causing discharges of each known source
  - Assess the effectiveness of program implementation to prevent discharges of human fecal material

TENTATIVE ORDER NO. R9-2018-0021

Requirements (*continued)*

- Prepare semiannual progress reports:
  - Describing progress towards study goals
  - Providing reporting period analytical results
  - Describing reporting period study activities
  - Identifying modifications to the Investigative Study Work Plan
  - Identifying study delays encountered and anticipated
- Prepare Investigative Study Final Report

Tentative Investigative Order Review

San Diego River – Circa 2017, Matthew Bowler

TENTATIVE ORDER REQUIREMENTS

Compliance Schedule

- July 1, 2018 – Investigative Study Work Plan submittal
- August 29, 2018 – Initiate Investigative Study
- 2019, 2020, 2021, and 2022 - Semiannual Progress Report submittals
  - July 15th and January 15th of each year
- June 30, 2022 – Investigative Study Final Report submittal

ANTICIPATED NEXT STEPS

- April 2018– Release Tentative Investigative Order for public comments
- May 2018 – 30-day public comment period closes
- Late May - June 2018 – Anticipate issuance of final Investigative Order

ROUNDTABLE DISCUSSION

CALIFORNIA
Water Boards