

# Pillar Point Harbor Water Quality Report

San Mateo County Harbor District Board of  
Commissioners Meeting

June 21<sup>st</sup> 2017



# About the RCD

- Formed in 1939 in partnership w/ USDA
- Non-regulatory



Water



Climate



Wildlife



Agriculture

# The Problem

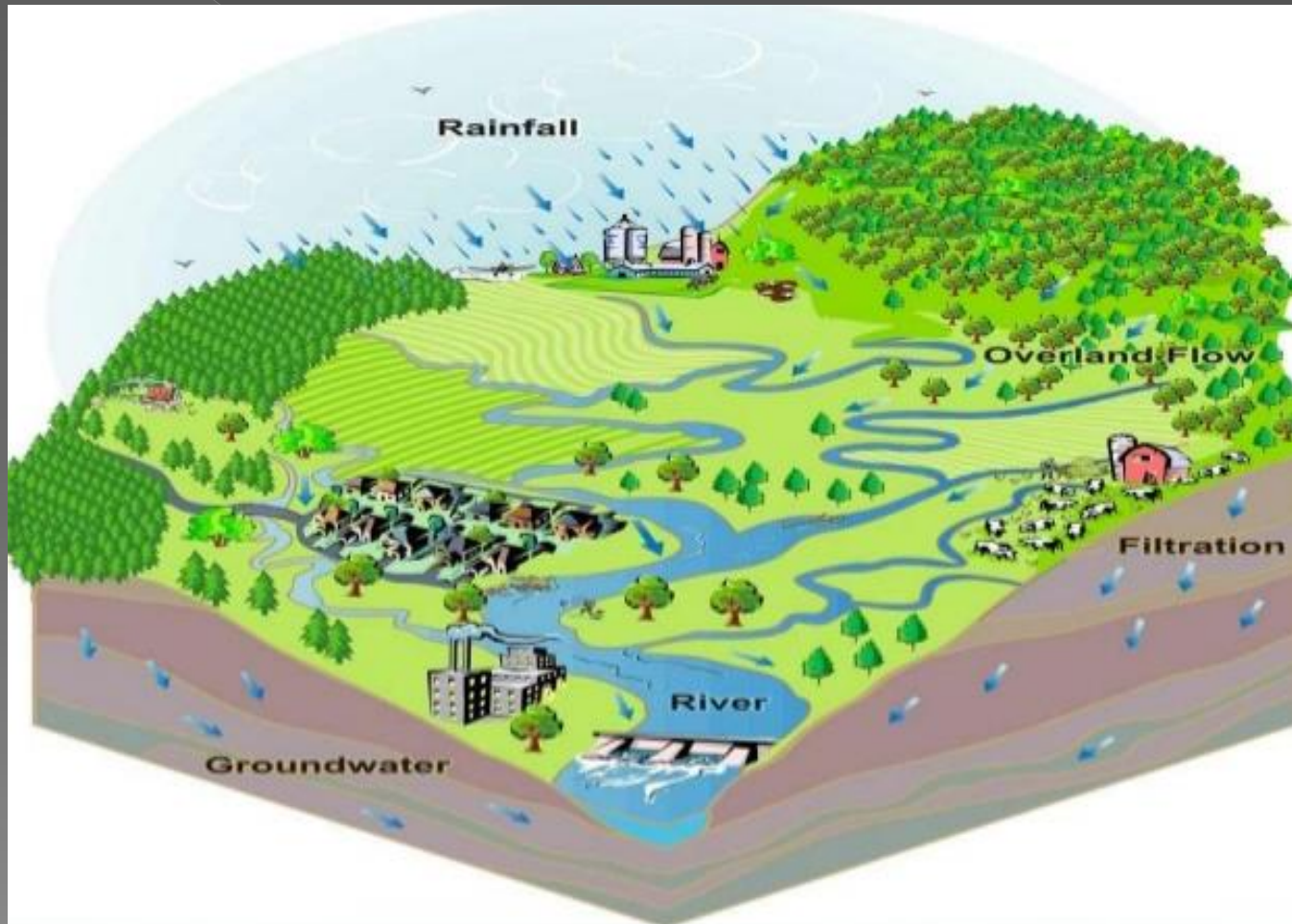
- Bacteria pollution since late 1980s



- 303 (d) list since 2002 and TMDL regulations in 2019

*The health of our waters is the principal  
measure of how we live on the land*

~Luna Leopold





# Who is responsible?

Everyone!



# RCD/HD Partnership

- 2014: Completed harbor study
- 2013-2015: Monitored various pollutants
- 2016-current: Investigating sources of bacteria at Capistrano Beach

# Capistrano Beach Investigation

- ◉ Bacteria monitoring harbor, outfalls, upstream
- ◉ Field recon - dry weather flows, observations
- ◉ Stormwater & sewer infrastructure info & maps
- ◉ Historic & current data integration
  - ◉ GCSD, SAM, County
  - ◉ New analysis of harbor study

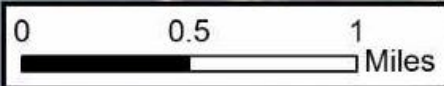
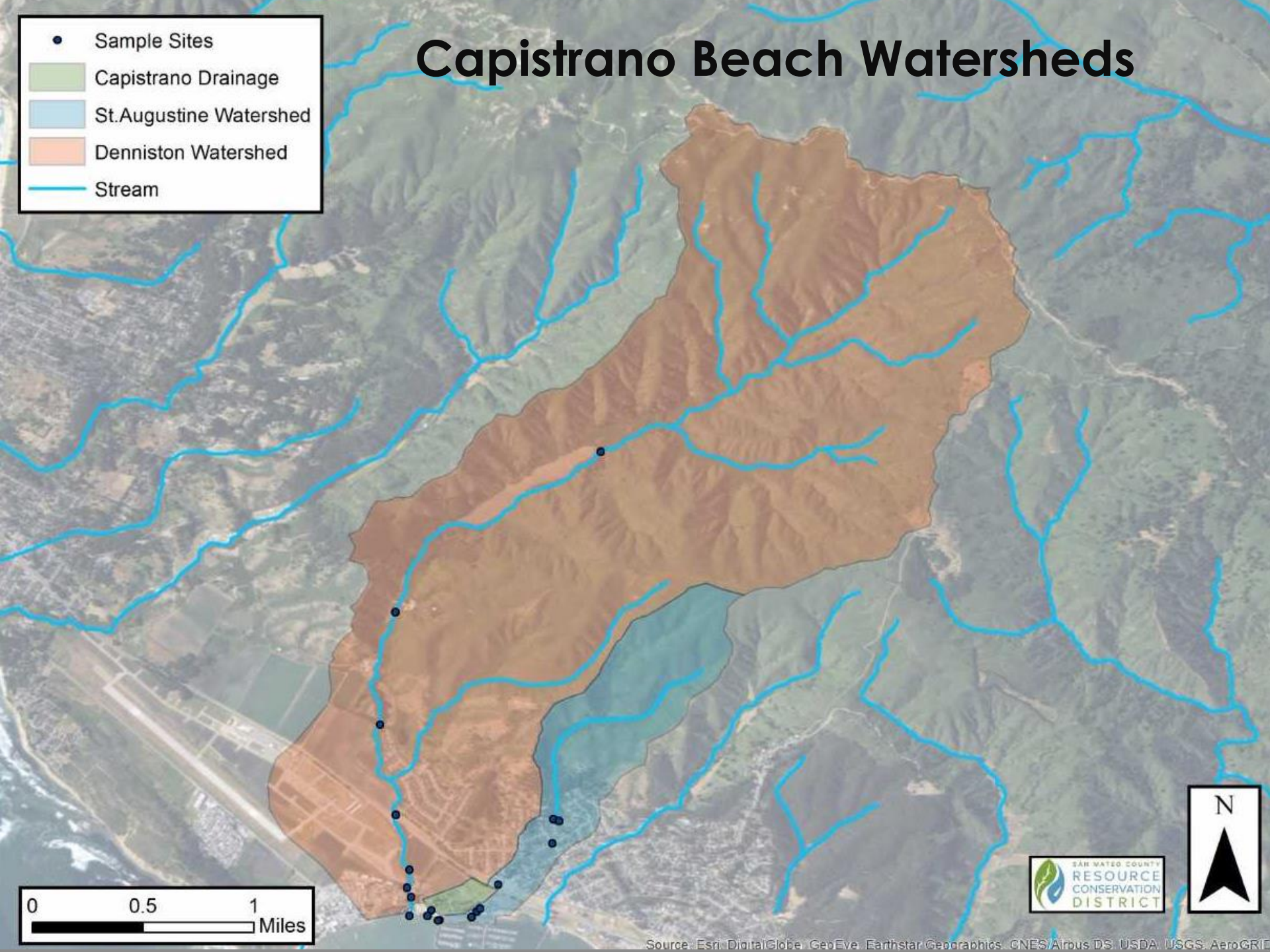
# It's Complicated

- ◉ Water flows across property boundaries
- ◉ Rural vs urban
- ◉ Freshwater vs salt water
- ◉ Bacterial pollution & Microbial Source Tracking
  - Evolving technologies
  - Environmental and human effects (temp, chlorine..)
  - Life-cycle and transport (sediment, creek, pipes)



# Capistrano Beach Watersheds

- Sample Sites
- Capistrano Drainage
- St. Augustine Watershed
- Denniston Watershed
- Stream

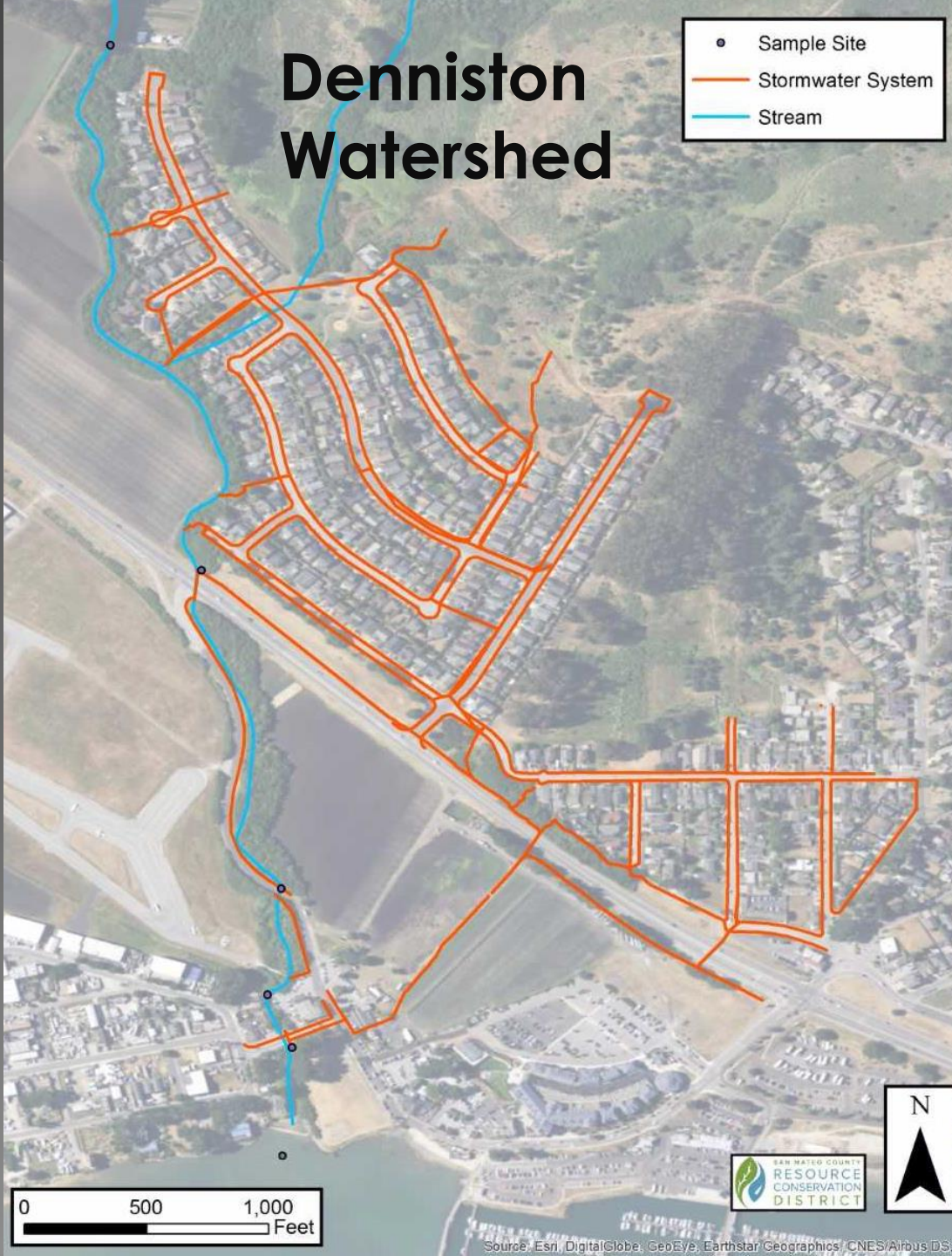


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID



# Denniston Watershed

- Sample Site
- Stormwater System
- Stream



0 500 1,000  
Feet



# Denniston Outfall



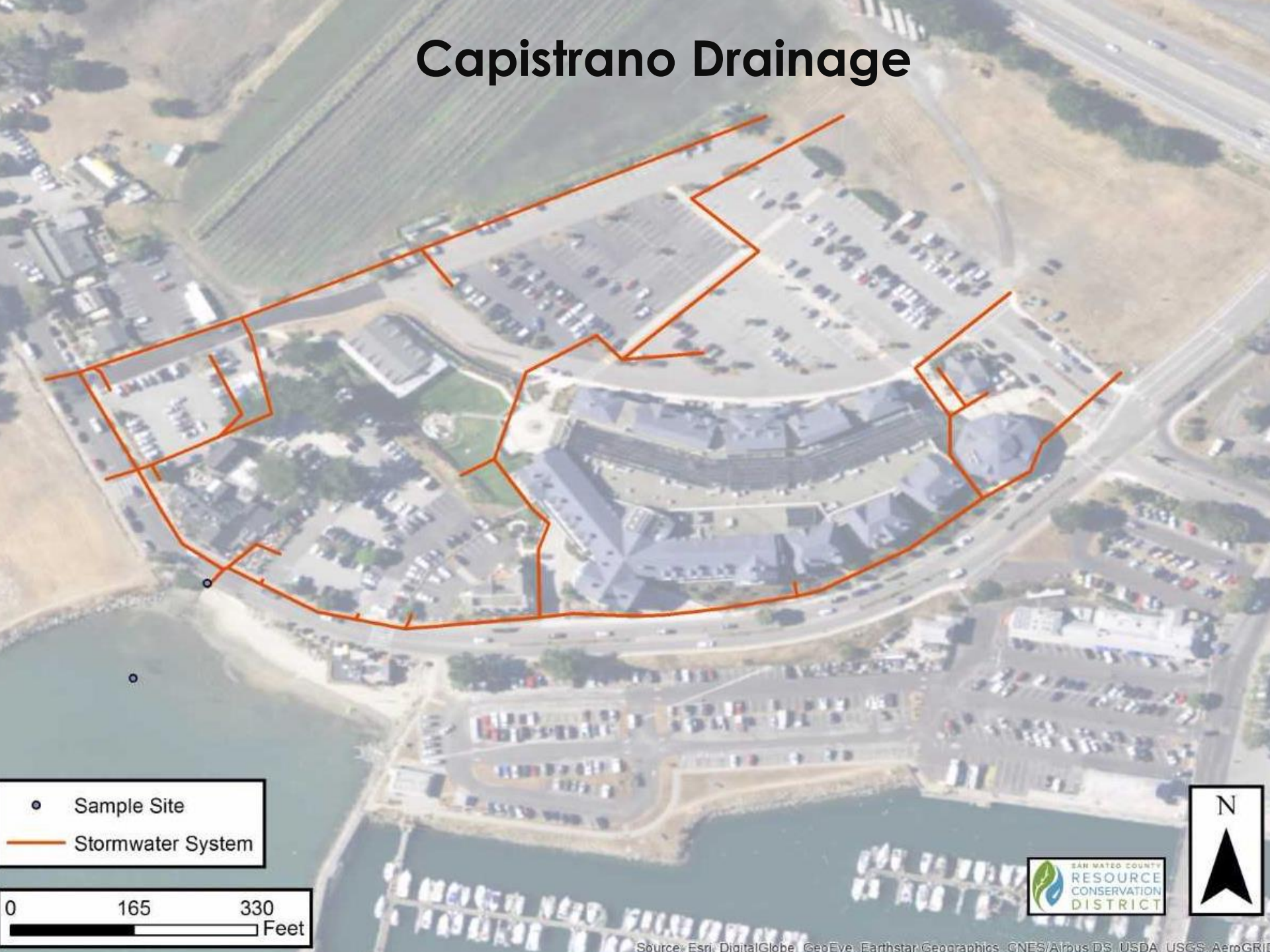


# Denniston Watershed





# Capistrano Drainage



- Sample Site
- Stormwater System

0 165 330  
Feet





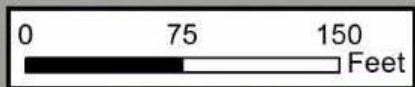
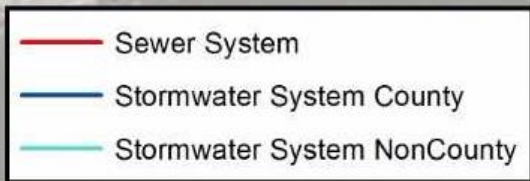
# Capistrano Outfall



# Capistrano Drainage

- Dry season water in County stormwater system
- Unknown and dirty pipes in system- some flow
- Past MST data analysis: human and dog detected



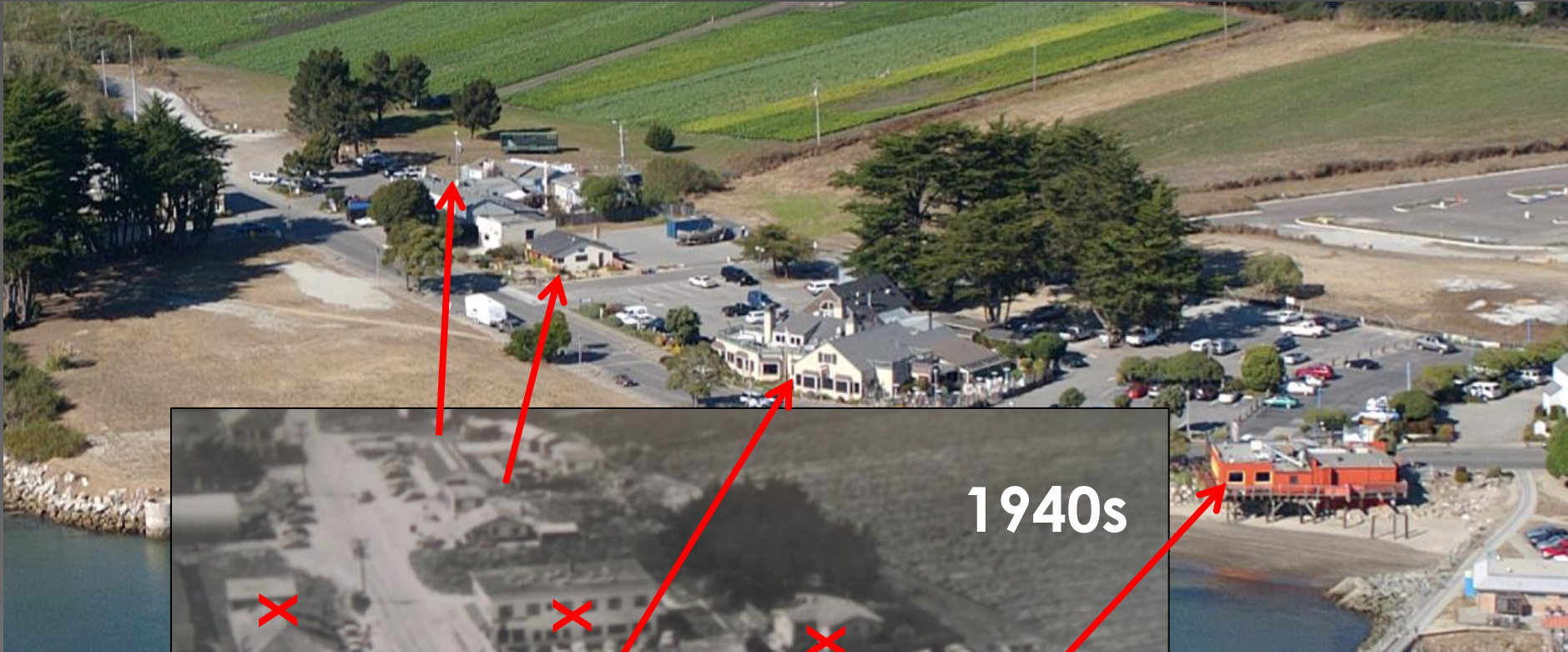
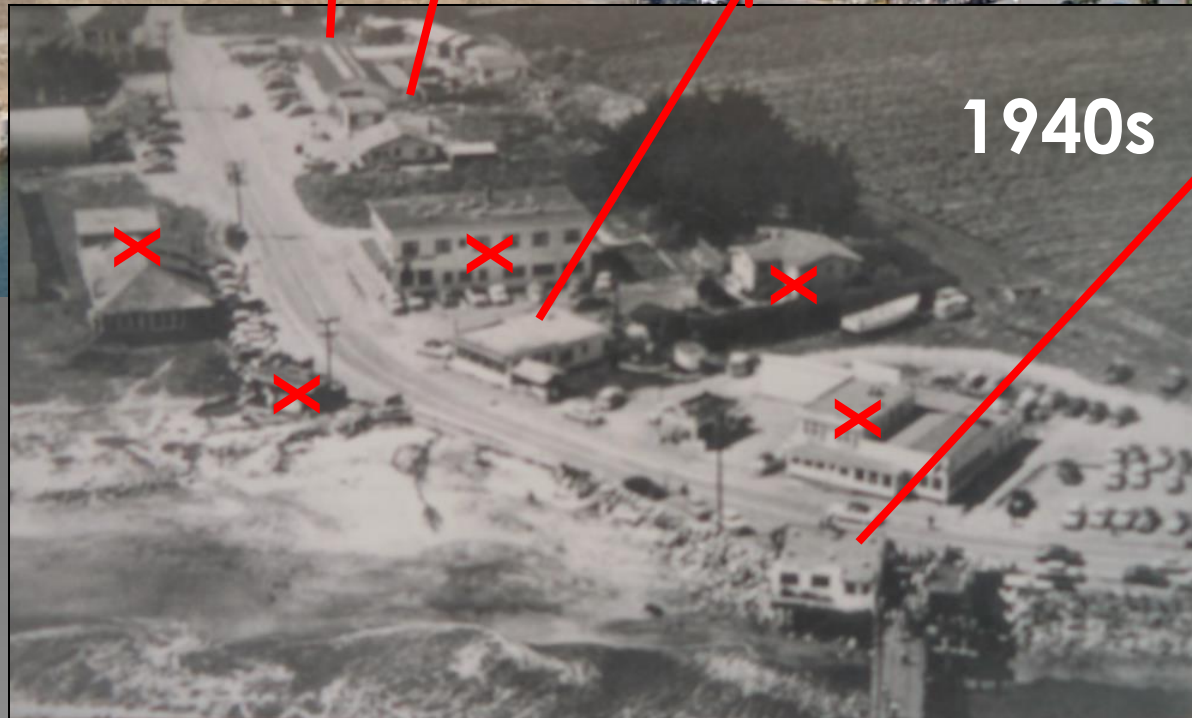


**Future Focus Area**





# Historic Infrastructure

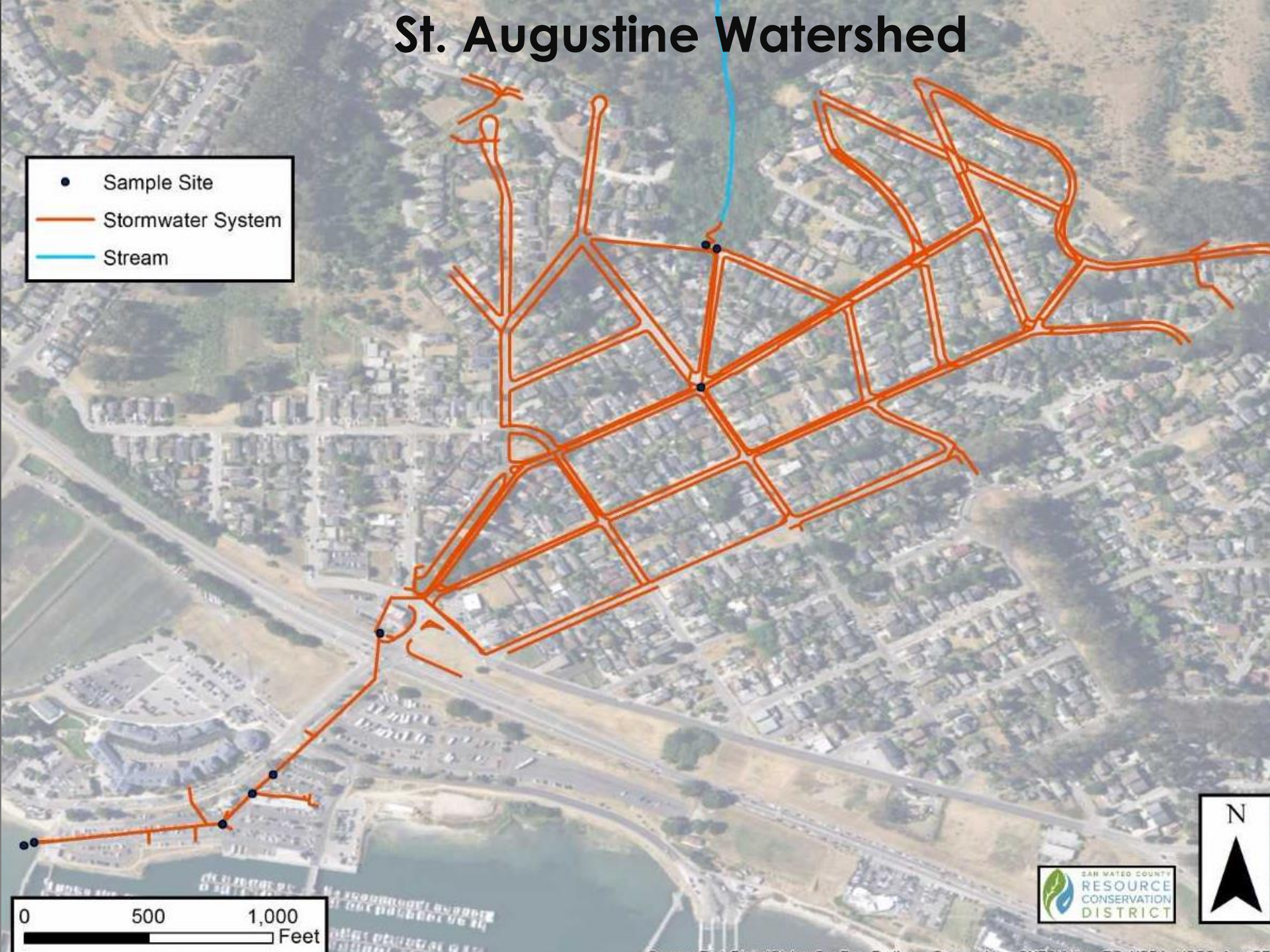








# St. Augustine Watershed





# St. Augustine Outfall



# St. Augustine Watershed

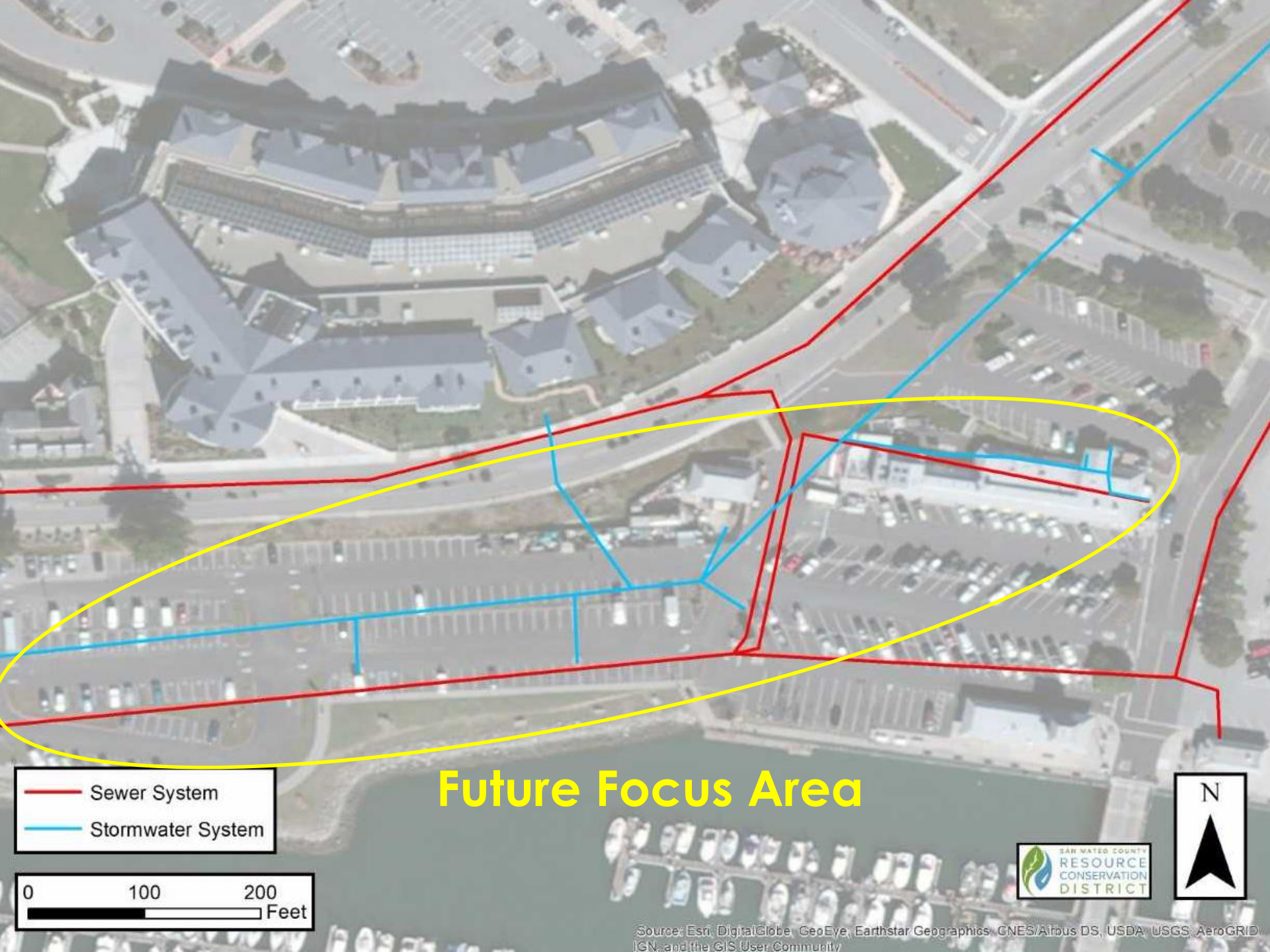
- Higher bacteria downstream in lower Harbor District parking lot
  - > Unknown HD pipes w/ low flow
- Upstream sites high bacteria during rain – raccoons, dogs on trails, residences
- Past MST data analysis: human & dog detected



Thank you Harbor District Staff!







— Sewer System

— Stormwater System



Future Focus Area



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



<b>Recommendations</b>	<b>Partners and Leverage</b>
<b>Inspect stormwater &amp; sewer lines in priority areas then repair if needed</b>	HD, RCD, County, GSD
<b>Dye test connections &amp; drains if needed (ex: wash areas, toilets, sinks)</b>	HD, RCD, GSD Business/property owners
<b>Clean stormwater system on Capistrano Rd (not just catch basins &amp; outfall)</b>	County
<b>Education, outreach, assistance to businesses &amp; residences (watersheds, pet waste, best practices etc)</b>	NRCS, SAM, County, HD, RCD
<b>Water quality sample collection as needed and data integration</b>	Surfrider (Yacht Club Fundraiser), HD, RCD
<b>Microbial Source Tracking</b>	C/CAG (Water Pollution Prevention Program), HD, RCD
<b>Develop remediation measures and best management practices</b>	NRCS, C/CAG, HD, RCD

# Inspection Recommendations

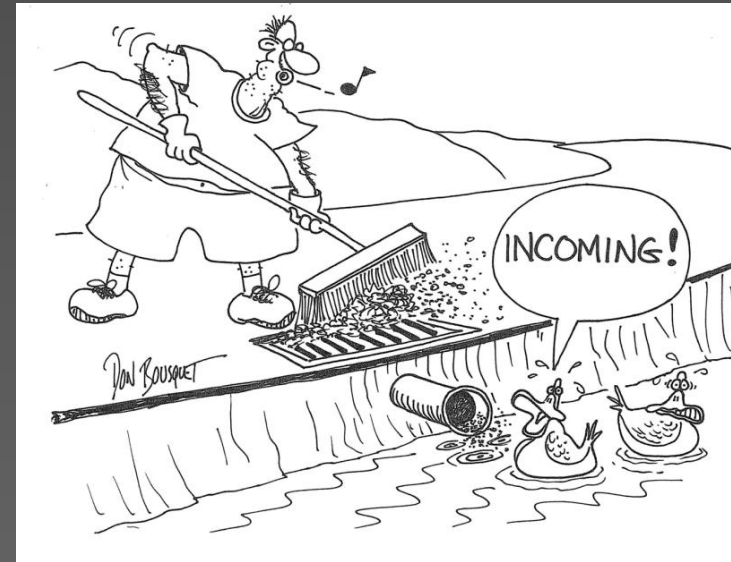
— Sewer System  
— Stormwater System

0 250 500  
Feet



# But Keep in Mind

- We are focusing on the most **persistent** bacteria sources that have the **most impact**
- There may still be bacteria in the harbor
  - Inputs from a complex and dynamic watershed (wildlife, periodic dumping, pets, etc.)
  - Harbor dynamics (circulation, tides, sediment, biofilms, legacy bacteria, etc.)





Thank you!

Questions?



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