

# Petaluma River Bacteria TMDL

## Public Workshop and CEQA Scoping Meeting



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April 20, 2018

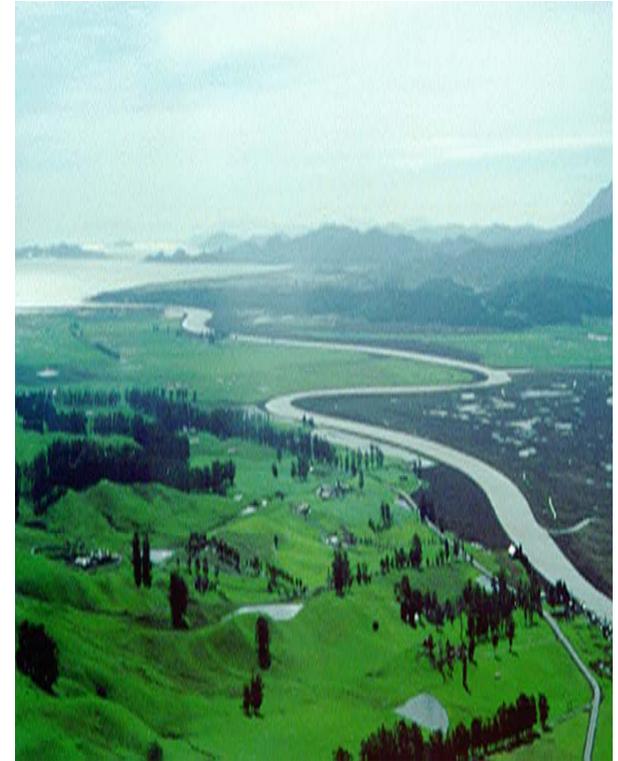
# Meeting Agenda

## Part 1: Bacteria TMDL

- Problem
- Solution (TMDL Plan)
- Bacteria Standards and Data
- Pollution Sources
- Implementation Actions

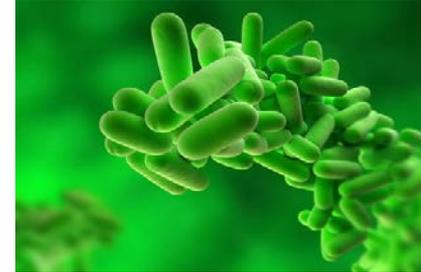
## Part 2: CEQA Scoping Meeting

- CEQA process for TMDLs
- Scope of Environmental Review
- Schedule/Input



# Problem: Excess Bacteria

- River does not meet **bacteria** water quality standards
- Beneficial uses (BUs) of River not protected → **“Impairment”**
- Relevant BUs: Recreational uses
  - Swimming
  - Kayaking
  - Fishing
- No nutrient impairment



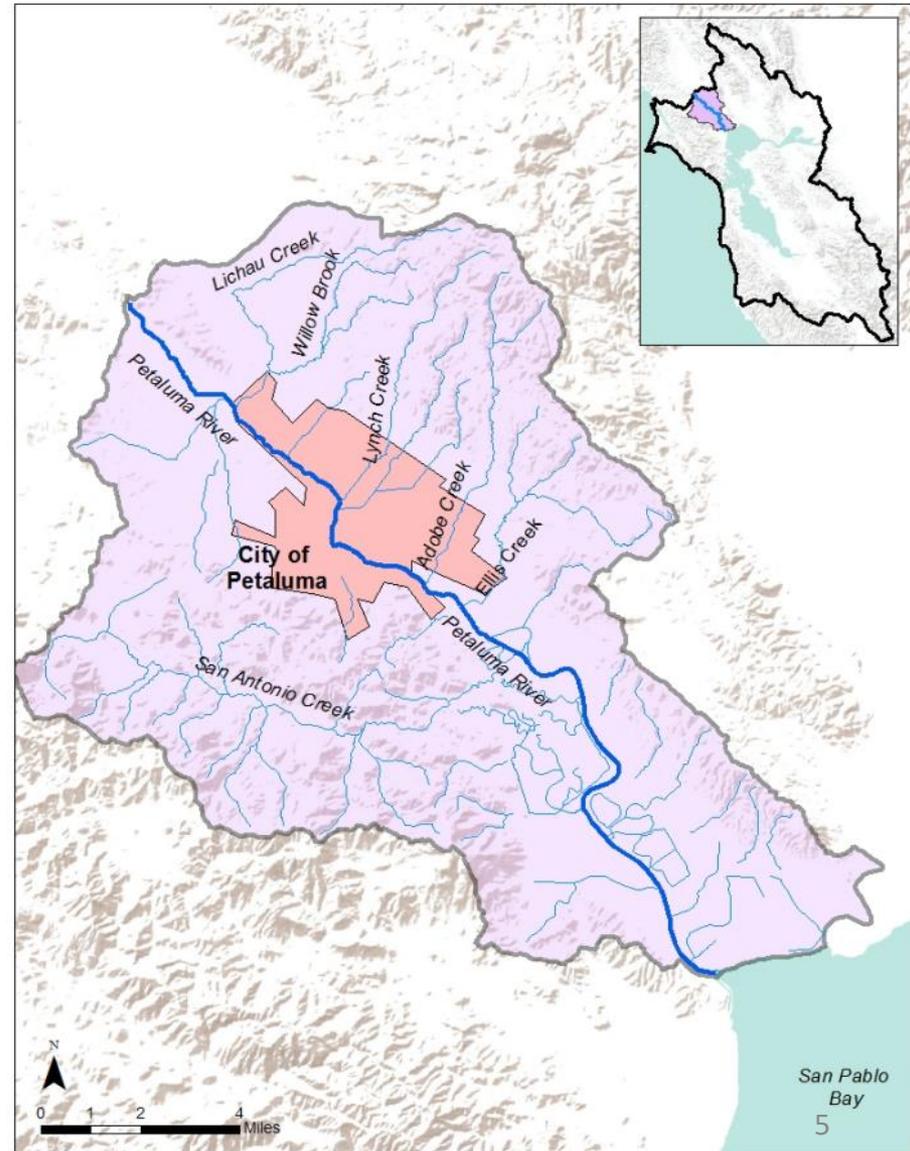
# Solution: Take Actions to Improve Water Quality

- TMDL (“Total Maximum Daily Load”):
  - Water quality improvement plans
  - Identifies pollution sources
  - Sets maximum pollutant limit
  - Devises a plan of action to remedy the water quality impairment (“*Implementation Plan*”)



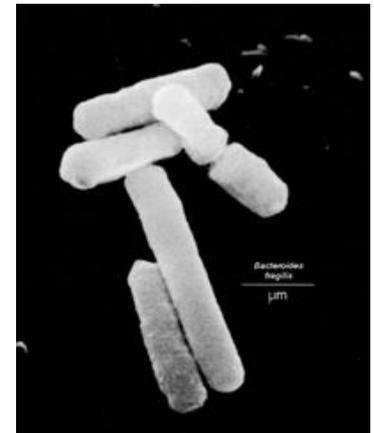
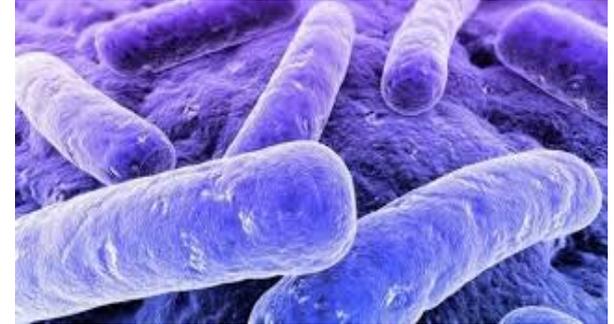
# Geographic Scope

- Project covers the entire Petaluma River watershed (150 square mile)
- Includes all tributaries, e.g., San Antonio Creek
- Tributaries are connected to and discharge pollution into the River



# Bacteria Impairment Assessment

- Fecal Indicator Bacteria (FIB)
  - Indicate presence of fecal pollution
  - Suggest potential presence of pathogenic organisms
  - *E. coli*, *Enterococcus*
- Source-Specific Fecal Bacteria
  - *Bacteroides* bacteria
  - “DNA fingerprinting”
  - Identifies specific source of pollution
    - human, horse, dog, cow, ...

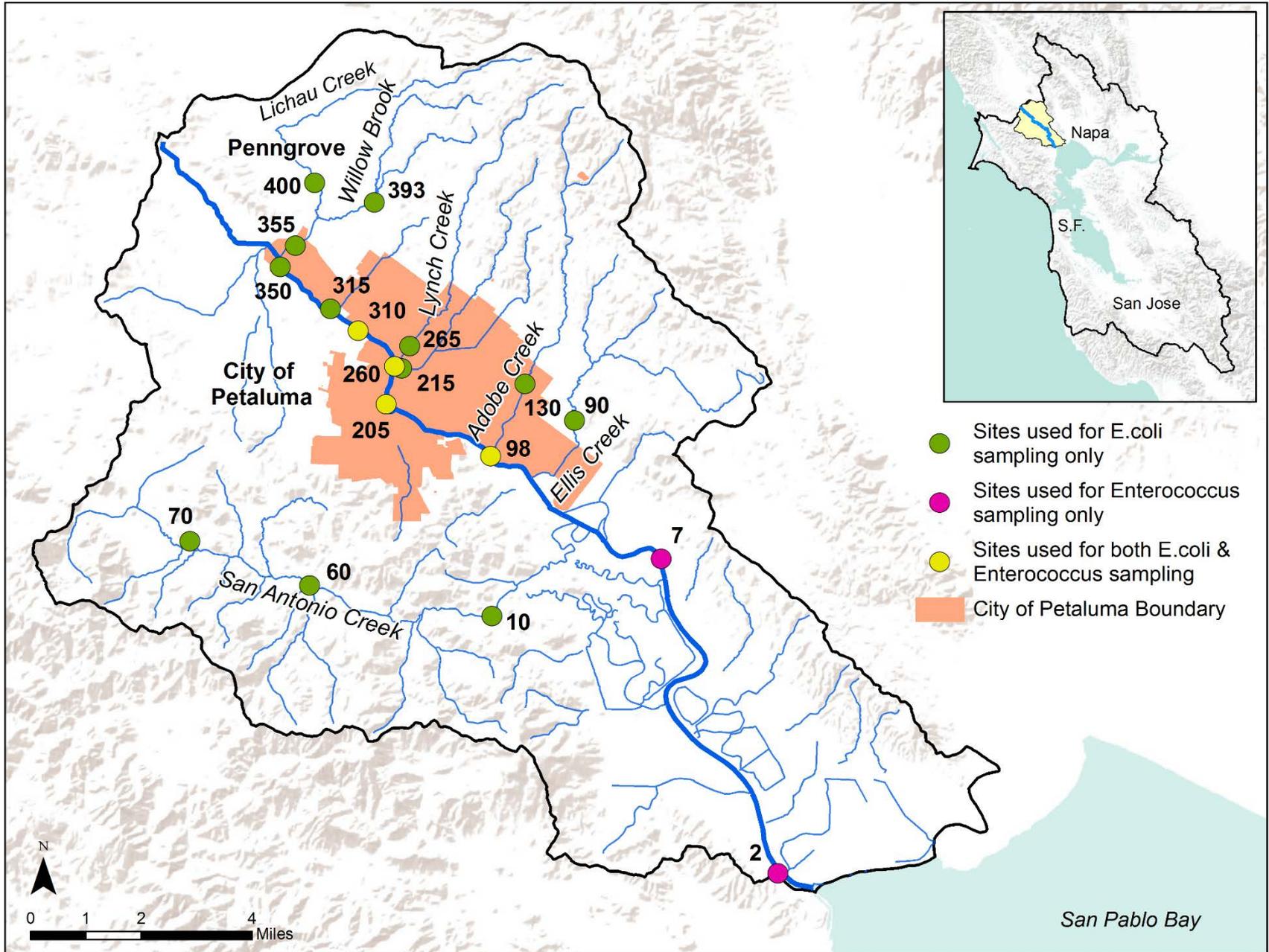


# Bacteria Water Quality Standards (TMDL Targets)

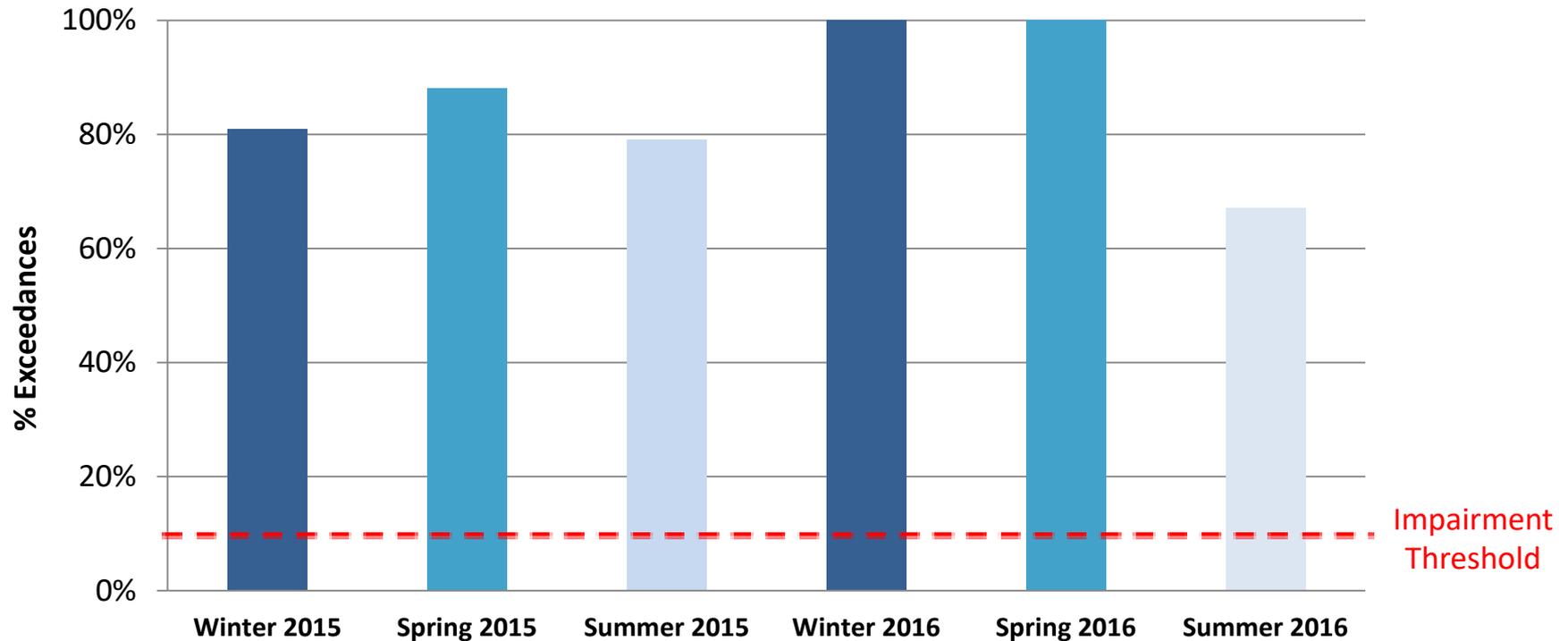
Indicator	Standard	
	Geometric Mean (per 100 mL)	Statistical Threshold Value (per 100 mL)
<i>Enterococcus</i> (estuarine/salt waters)	30	110
<i>E. coli</i> (fresh waters)	100	320

- **Geometric mean value:** for minimum five samples within a six-week period
- **Statistical threshold value:** for single sample values within a 30-day period
  - **Only** used when geometric mean data not available
- **Impairment:** **>10% exceedance** of these standards (*California Listing Policy*)

# Petaluma Watershed Sample Sites

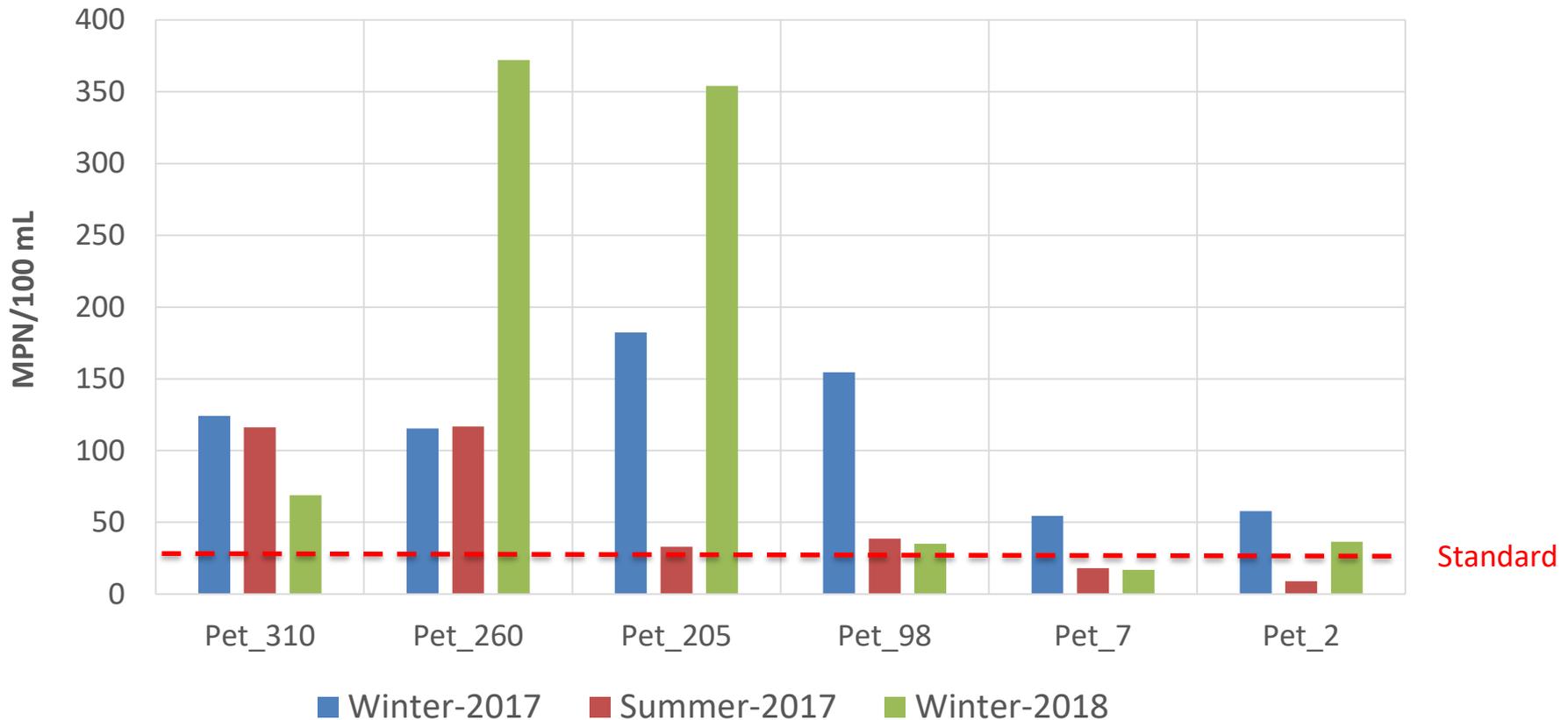


# Percent Exceedances of *E. coli* Geometric Mean Standard By Season



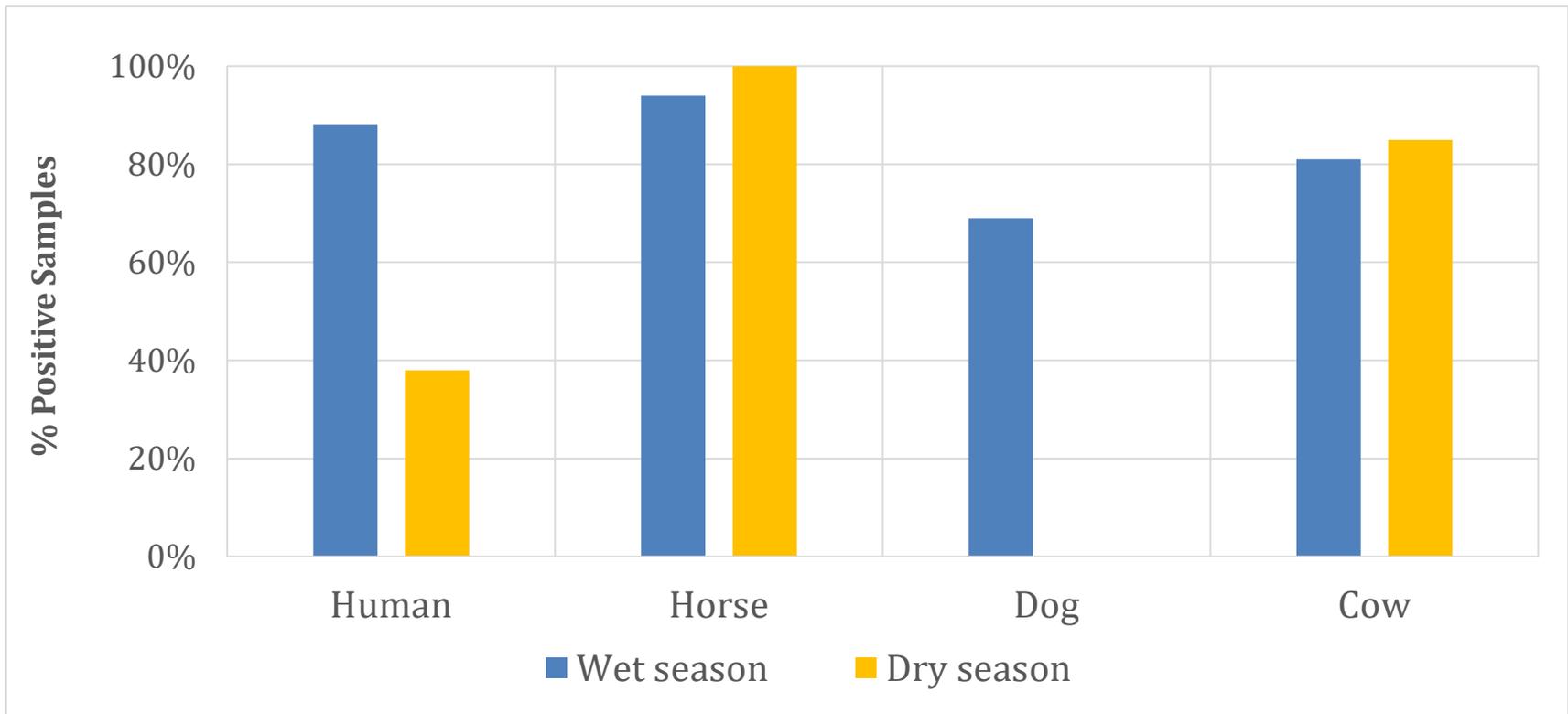
- Significant exceedances of geometric standard
- Higher in wet season than dry season (2016)

# Geometric Mean of *Enterococcus* By Season



- *Enterococcus* sampling in tidal section of main stem
- Most stations exceed standard during all three seasons
- Levels decrease towards bottom of watershed

## Source Identification-*Bacteroides* Results



- Two rounds of sampling (February, June) 2016
- All four Host-specific *Bacteroides* were detected
- Higher wet season “hits” than dry season hits for some

# Potential Bacteria Sources

Source Category	Potential Sources
Human Waste	Wastewater treatment plant
	Sanitary sewer collection systems
	Private sewer laterals
	Septic systems
	Vessel marinas
Animal Waste	Homeless encampments
	Livestock - confined animal facilities (dairies, horse facilities)
	Livestock - grazing lands/operations (cattle, sheep ranches)
	Domestic pets (dogs)
Wildlife	
Municipal Stormwater Runoff	Runoff from residential, commercial, and urban recreational areas

# Implementation Plan

Source	Actions	Responsible Party
Wastewater plant	Comply with existing permit	City of Petaluma (City)
Sanitary sewer systems	ID & repair problem areas near river; Impl. private lateral program	City, Sonoma & Marin Counties (Counties)
Septic systems	ID & repair faulty systems adjacent to river and streams	Counties
Vessel marinas	ID & repair problems, provide adequate waste handling capacity	Marina Owners
Homeless camps	Prevention and clean up measures, provide restrooms	City, Caltrans
Confined animal facilities	Comply with existing permit measures	Dairy and horse facility owners/operators
Grazing lands/operations	Comply with upcoming permit measures	Cattle and sheep ranch owners/operators
Domestic pets	Public education, install signs and waste bags/bins	City and Counties
Stormwater runoff	Stormwater management actions, public education	City and Counties

# Questions?



# PART 2:

## Petaluma River Bacteria TMDL California Environmental Quality Act **(CEQA) Scoping Meeting**

April 20, 2018



# Purpose of This Meeting

- Hear your comments on the **scope** of our **environmental analysis**
- Do you foresee **any significant** adverse environmental **impacts** from this TMDL?
- Provide comments on environmental analysis **today** or by **May 21, 2018**

# Environmental Review Process

- The “project” is:
  - Amendment of our Basin Plan to incorporate TMDL & its Implementation Plan
  - This process is called “Basin Plan Amendment” (BPA)
- Water Board’s Basin Planning Process is a “Certified Regulatory Program”:
  - Exempt from EIR, Neg. Dec., or Initial Study
  - Instead → will prepare an Environmental Checklist
  - Include checklist in BPA approval packet

# CEQA Requirements

TMDL is intended to benefit the environment

- Identify potential adverse environmental impacts that could result from actions taken in response to TMDL
- Discuss alternatives to the “project”
- Identify mitigation measures to reduce severity of potential impacts
- Provide full public disclosure of documents and decision-making process

# Effects To Consider Under CEQA

## Will Consider:

- Direct and indirect physical changes in the environment
- Such as impacts from:
  - excavation & grading
  - minor construction
  - waste handling & disposal
- Short-term and long-term impacts

## Will not consider:

- Speculative changes
- Changes that would occur regardless of the TMDL
- Changes with effects already considered

# Environmental Checklist Topics

- Aesthetics
- Agricultural resources
- Air quality
- Biological resources
- Cultural resources
- Geology/soils
- Greenhouse gas emissions
- Hazards & hazardous materials
- Water quality & hydrology
- Land use/planning
- Mineral resources
- Noise
- Population/housing
- Public services
- Recreation
- Transportation/traffic
- Tribal cultural resources
- Utilities/service delivery systems

# TMDL's Environmental Effects

Sources	Implementation Actions	Likely Environmental Effects
<b>Sanitary sewer; septic systems</b>	ID, repair, replace existing infrastructures	Minor grading and excavation in existing roadways or already disturbed areas
<b>Sanitary sewer</b>	Control tree roots	Possible removal of mature trees
<b>Vessel marinas</b>	Install new sewage pump-outs or porta potties	Minor construction
<b>Grazing lands</b>	Measures to restrict animals from creeks	Installing fences in riparian habitats
<b>Confined animal facilities</b>	Measures to divert clean runoff from manure areas and to manage manure	Minor grading and construction to install roofs, gutters and berms. Manure holding structures and management measures
<b>Stormwater Runoff</b>	Measures to manage pet waste	Installing small waste bins and signage
<b>Stormwater Runoff</b>	Construct facilities to detain, infiltrate and treat stormwater	Grading, earthmoving, and possible revegetation to construct facilities

# Examples of Possible Impacts

- Installing fences to restrict animal access to streams may have adverse impacts on wildlife migration corridors
  - Include mitigation measure so fences are designed to restrict livestock but allow wildlife access
- Sewer line repairs or construction of stormwater facilities could cause construction-related noise
  - Limit construction in time and intensity to meet local noise ordinance requirements



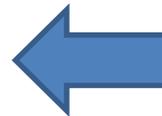
# Likely Level of Impact

- There are four levels of impacts to consider:
  - Potentially Significant
  - Less Than Significant with Mitigation Incorporated
  - Less Than Significant
  - No Impact
- **Not anticipating any “potentially significant impacts”**
- Construction-related Air Quality Impacts:
  - Minor, temporary air quality emissions from local repairs and construction would result in short term “less than significant impacts”
- Using example above, livestock exclusion fencing may cause Biological Resource impacts:
  - “Less than significant impact with mitigation incorporated”

# Project Schedule

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CEQA Scoping Meeting



**We are here**

CEQA Comments-May 21, 2018

Proposed TMDL, Environmental  
Checklist-Fall 2018

Public Review & Comment-Fall 2018

Water Board Hearing-Spring 2019

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# Submit CEQA Scoping Comments:

By May 21, 2018

**To: Farhad Ghodrati**

S.F. Bay Water Board

1515 Clay Street, Suite 1400

Oakland, CA 94612

**[FGhodrati@waterboards.ca.gov](mailto:FGhodrati@waterboards.ca.gov)**



Project web page:

[http://www.waterboards.ca.gov/sanfranciscobay/water\\_issues/programs/TMDLs/petalumabacterianutrienttmdl.shtml](http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/petalumabacterianutrienttmdl.shtml)

# Questions?

