

Action Plan for Pathogens in the Russian River Watershed

Public Hearing



August 15, 2025

Item # 6



Public Hearing to consider adoption of Resolution No. R1-2025-0030 amending the Water Quality Control Plan for the North Coast Region (Basin Plan) to Establish a Total Maximum Daily Load and Fecal Waste Discharge Prohibition and Incorporate the Russian River Pathogen Action Plan into the Basin Plan

Agenda Item Materials

- Staff summary report
- Presentation slides
- Maps of the watershed and sampling locations
- Pollution vs. Impairment Fact Sheet
- Response to public comment
- Proposed Basin Plan amendment
- Adopting Resolution R1-2025-0030
- Link to the final staff report, including substitute environmental documentation for CEQA

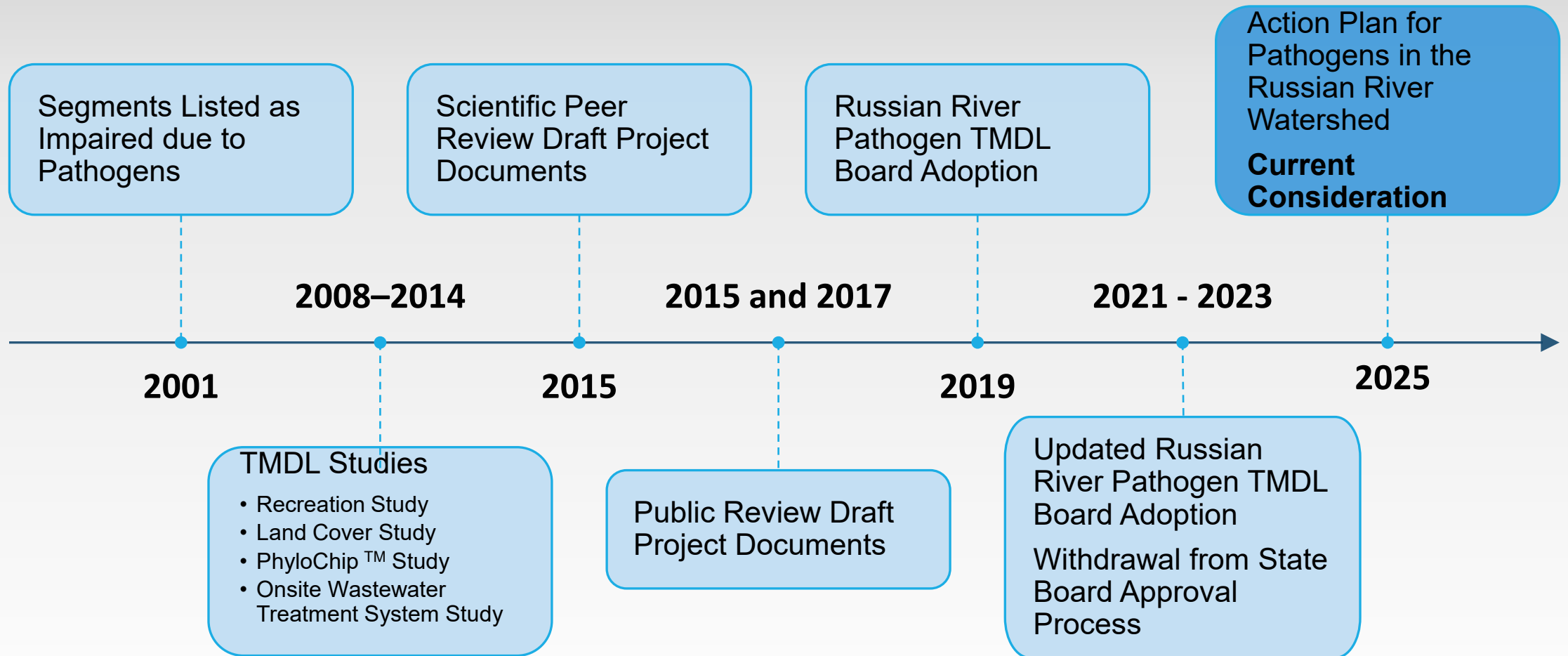


Presentation Outline

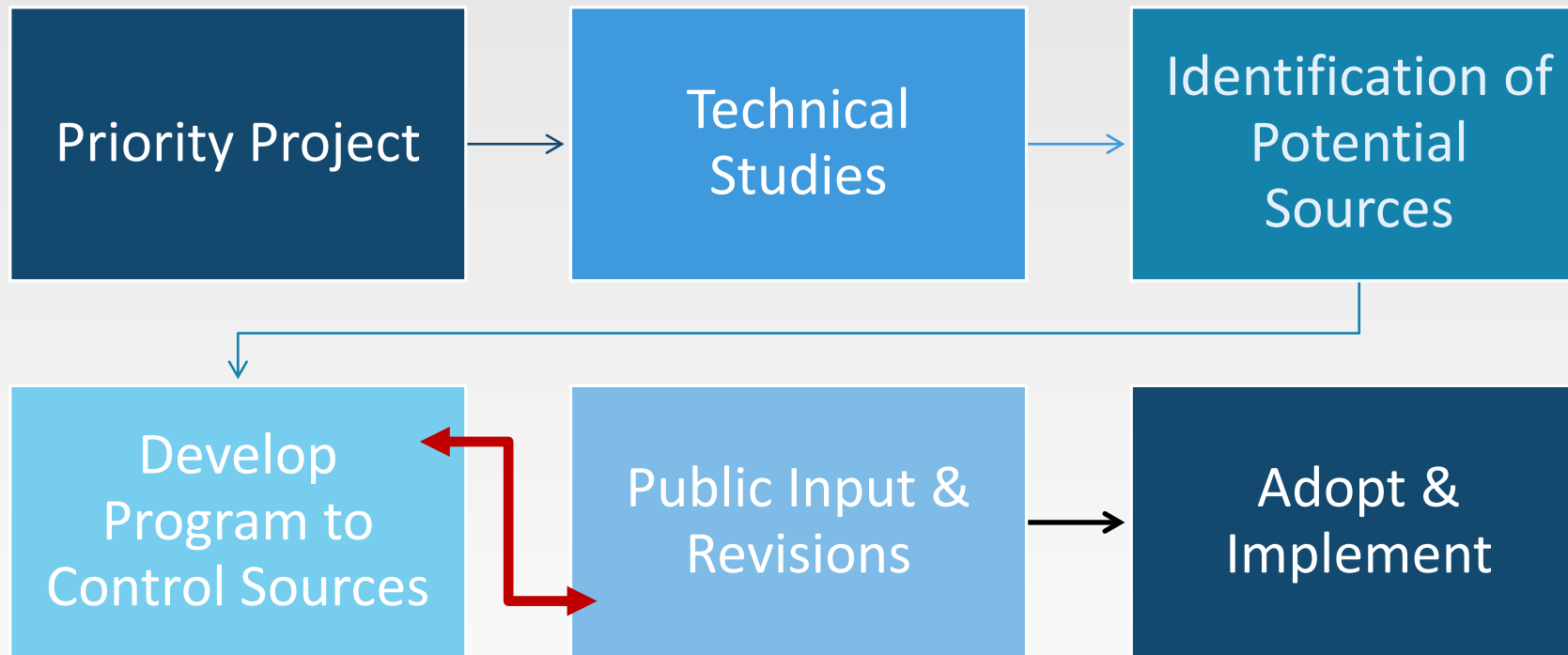
1. Timeline & Process
2. Staff Report Overview
3. Public Engagement
4. 2025 Comments
5. Project Summary
6. Implementation
7. Key Takeaways



Project Timeline



Project Process



Components in the Staff Report

- Setting
- Bacteria Standards
- Problem Statement
- Evidence of pollution
- Source Analysis
- Linkage Analysis
- Load and Wasteload Allocations
- Targets and Indicators
- Program of Implementation
- Monitoring
- Public Participation
- CEQA Checklist
- Economic Considerations

Staff Report and Action Plan - Multiple Iterations

Public Review Drafts

- 2015 – significant revisions
- 2017 – significant revisions
- 2019 – minor revisions (adopted by Regional Board)
- 2021 – minor revisions (adopted by Regional Board)
- 2022 – State Board public comment
- 2025 – significant revisions (draft)
- 2025 – further revisions (proposed)



Action Plan Public Outreach & Coordination

Six public review periods

Seven public workshops

Bi-weekly meetings with Sonoma County staff 5+yrs

Quarterly meetings with Mendocino County 5+yrs

Monthly meetings with the Monte Rio Villa Grande citizens advisory group 5+yrs

Statewide OWTS Policy Adoption Process

County regulations public outreach processes for OWTS Local Area Management Programs (LAMPS)

Action Plan Public Outreach & Coordination Continued

April 30, 2025 - Russian River OWTS owners

June 26, 2025 – Citizens Advisory Group (CAG)

July 9, 2025 - Sonoma County Ombudsman

July 16, 2025 - Russian River OWTS owners

August 7, 2025 - Sonoma County Water Agency
& Permit Sonoma staff

2025 draft Action Plan Public Comments

Subject	Response
Public Outreach	Outreach 2015 - 2025
Cesspools and Holding Tanks Prohibition	Removed from Action Plan
Costs for OWTS Upgrades	• Greatest flexibility at local level • Approved LAMPs • Minimum APMP allowed by OWTS Policy

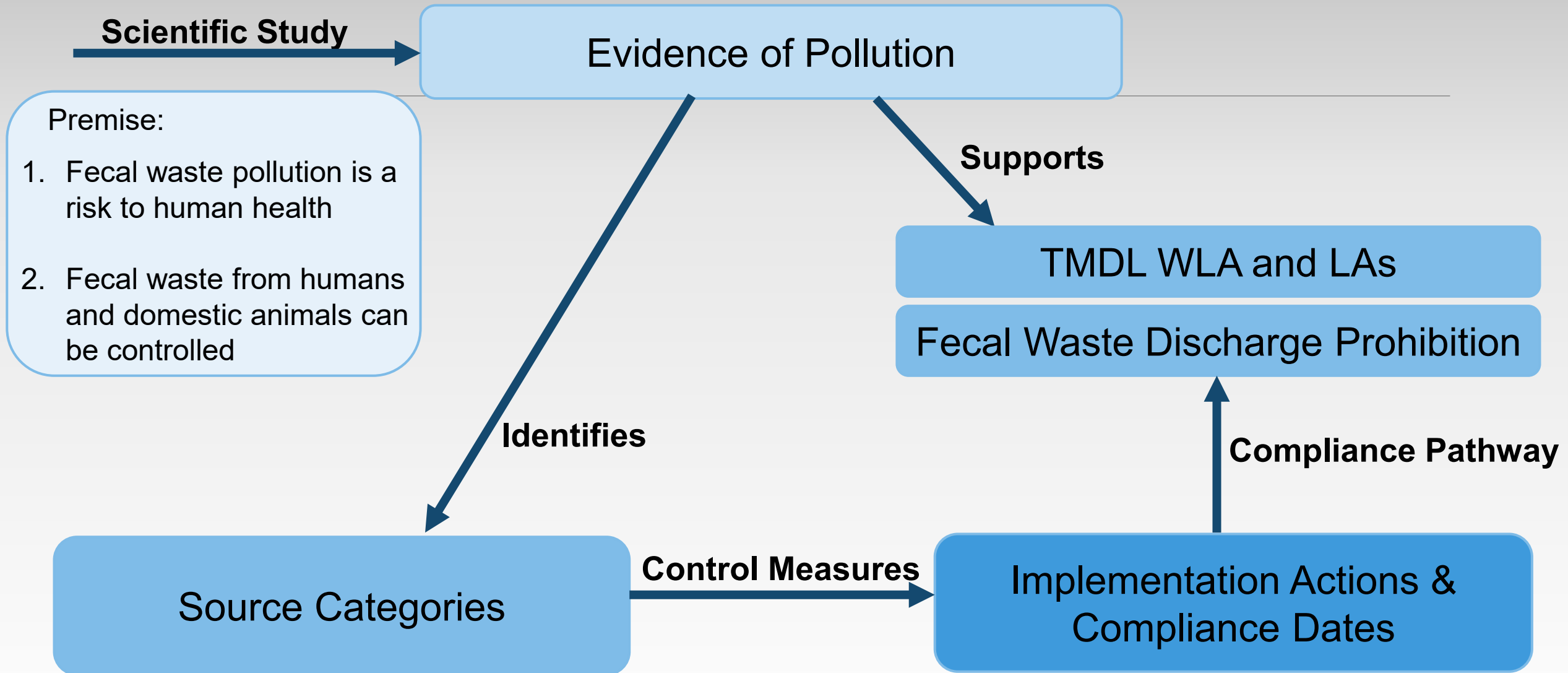
OWTS Costs and Guidance

Monte Rio
Villa Grande
Pilot Feasibility
Study

Sonoma County
Assessment

Russian River
County
Sanitation
District Funding

Basic Structure - Action Plan for Pathogens in the Russian River





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Water Contact Recreation (REC-1) Beneficial Use

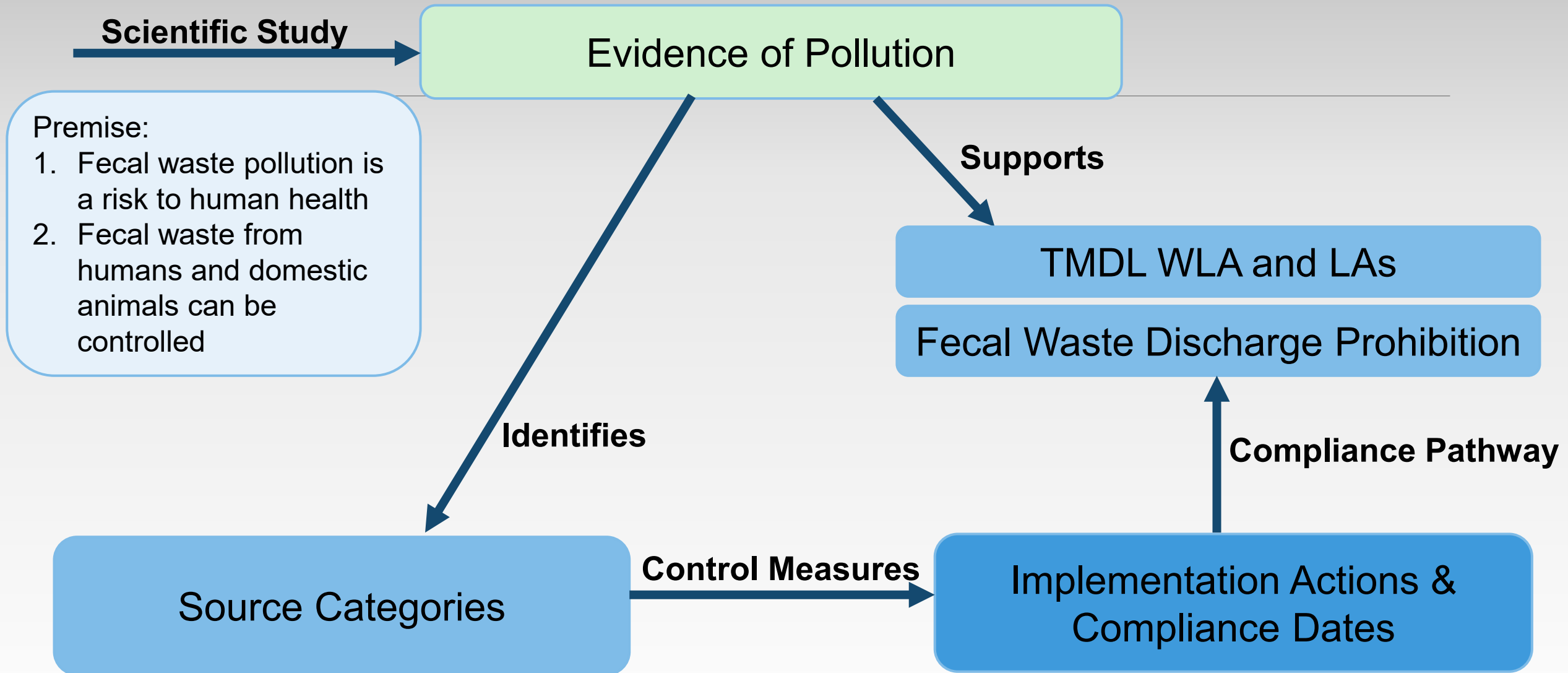


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Water Contact Recreation (REC-1) - the use of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. e.g., swimming, wading, water skiing, fishing, etc.

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Basic Structure - Action Plan for Pathogens in the Russian River



TMDL Studies

Russian River Watershed

Conducted
2008 to
2014

Watershed Studies

Recreation study

Land cover study

PhyloChip™ study

OWTS study

Affirmed

Sources and potential sources of fecal waste

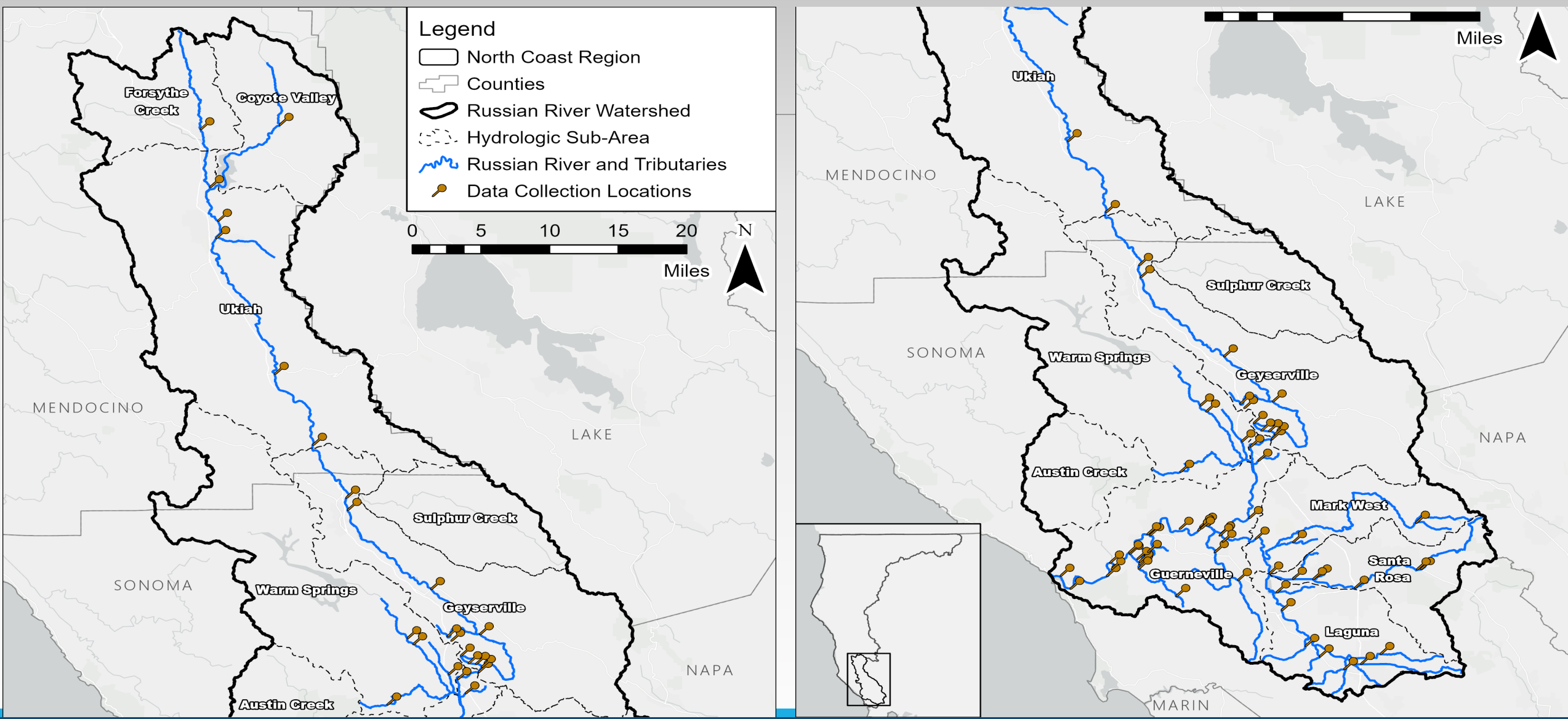
Evidence of pollution

Impairment vs. Pollution

Impairment: When a pollutant in a waterbody surpass established regulatory limits, indicating that water quality does not support certain uses

Pollution: When waste or harmful substances are added to a waterbody and unreasonably affect uses like swimming, drinking, or fishing

Sample Locations Within the Russian River Watershed



Evidence of Pollution

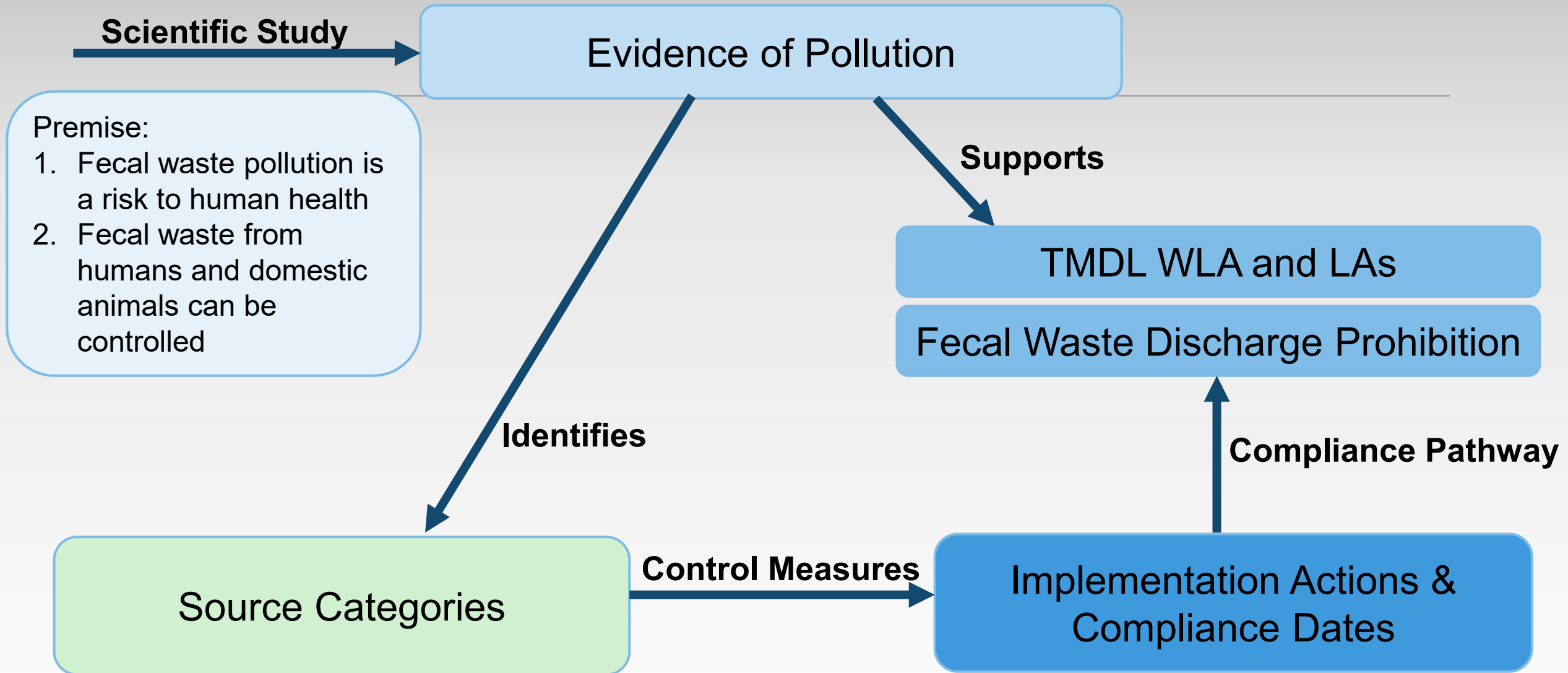
Assessment on station-by-station level:

- *E. coli* fecal indicator bacteria (FIB) in freshwater
- Enterococcus FIB in freshwater and saline waters
- Human and bovine *Bacteroides*, genus found in gastrointestinal systems
- DNA microarray PhyloChip™ for detecting DNA of pathogenic bacteria

Public health advisories for popular beaches

TMDL Study -- Land Cover Assessment

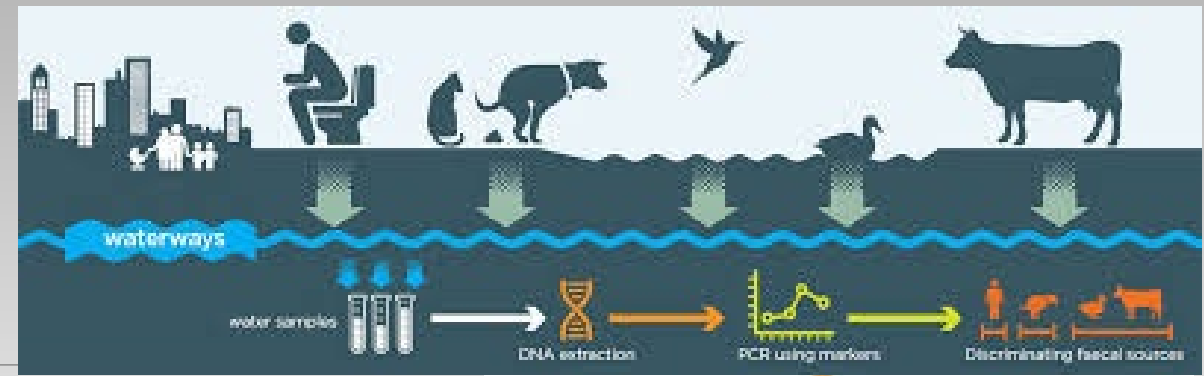
Basic Structure - Action Plan for Pathogens in the Russian River



Source Identification

Evaluated several lines of evidence

- Land Cover
- Land Use
- Fecal Indicator Bacteria
- Microbial Source Tracking
 - Human Bacteroides
 - Bovine Bacteroides



Watercare Laboratory Services



Chatham House



Sources of Human Fecal Waste Material

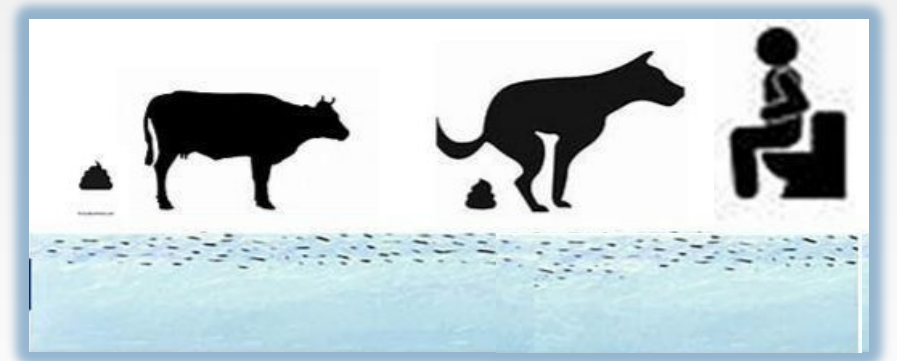
- Treated Municipal Wastewater
- Sanitary Sewer Systems
- Wastewater from Percolation Ponds and through Spray Irrigation
- Biosolids and Biosolids Storage Areas
- Runoff from Water Recycling Projects
- Runoff from sites that receive discharges of waste to land
- Leaking or failing Onsite Wastewater Treatment Systems (OWTS)
- Recreational Water Uses and Users
- Homeless and Illegal Camping
- Stormwater Runoff

Sources of Domestic Animal and Farm Animal Waste Material

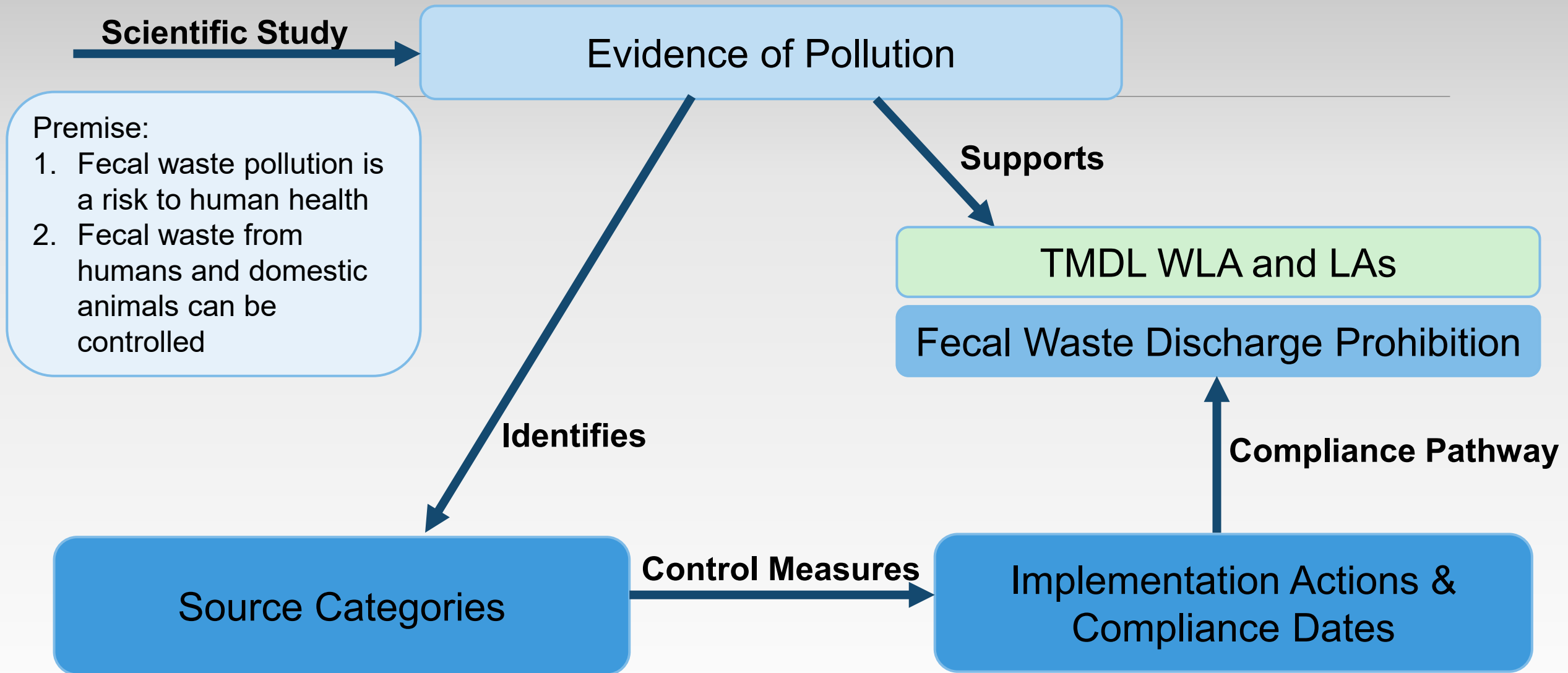
- Pet Waste
- Manure from Non-Dairy Livestock and Farm Animals
- Manure from Dairy Cows

Key Takeaways: Source Categories Identification

- Human and domestic animal fecal waste all found across all landcover types
- Higher levels in areas with OWTs
- Higher levels in wet weather



Basic Structure - Action Plan for Pathogens in the Russian River



Total Maximum Daily Load (TMDL)

TMDL = maximum level of a pollutant the waterbody can receive

TMDL = wasteload allocation (WLA) + load allocation (LA) + margin of safety (MOS)

WLAs and LAs assigned for each source category

TMDL = Statewide bacteria objective given as a concentration of the fecal indicator bacteria *E. coli* in freshwaters and enterococcus in saline waters

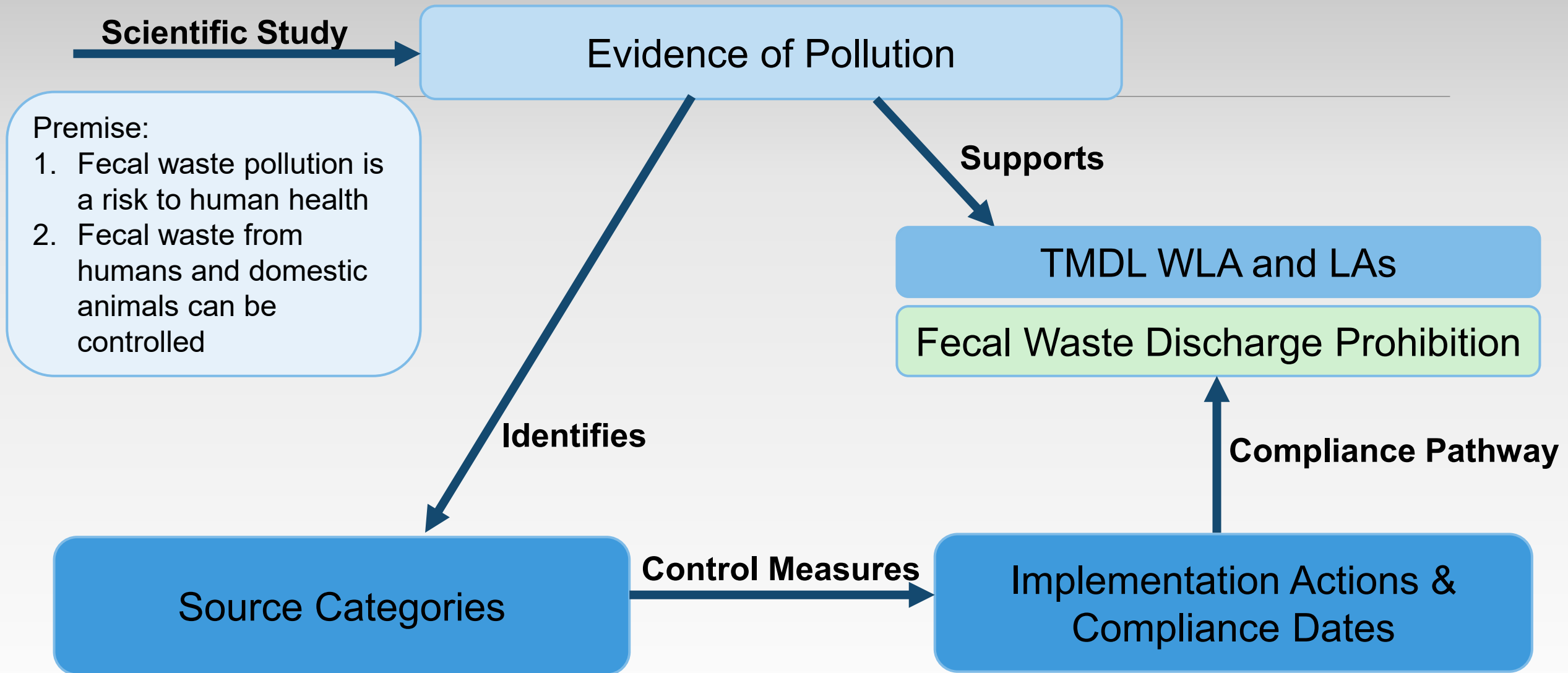
Waste Load Allocations (WLAs): Point Source

Source Category	Waste Load Allocation (WLA)
Municipal Wastewater Discharge to Surface Water	REC-1 Objective
Municipal Stormwater	REC-1 Objective
CalTrans Stormwater	REC-1 Objective
Dairies and Confined Animal Feeding Operations Discharge to Surface Water	REC-1 Objective

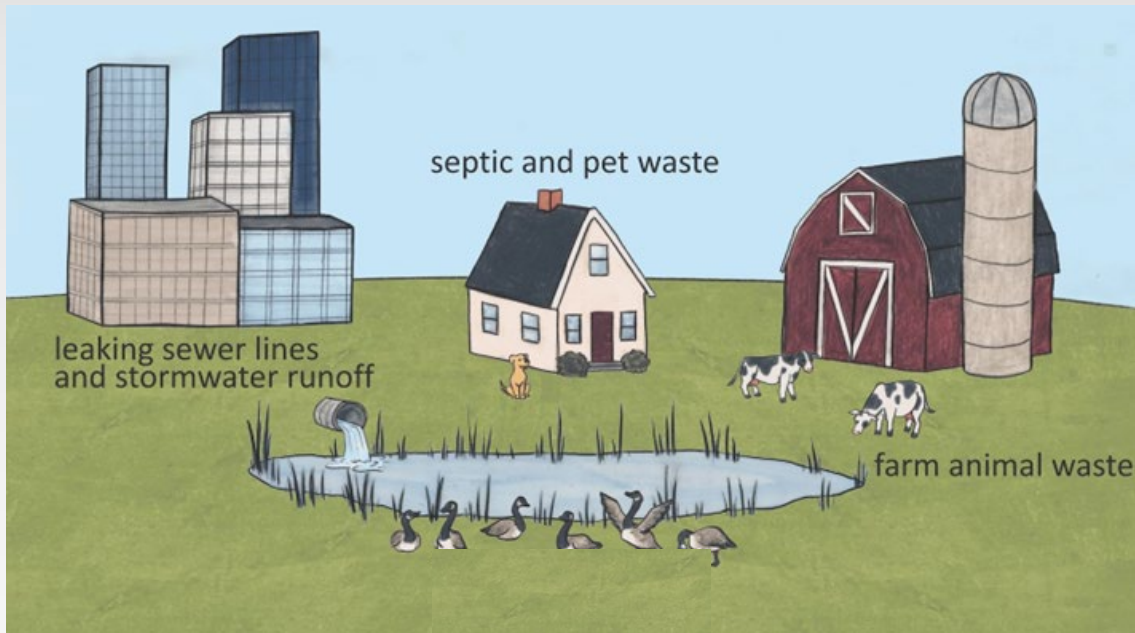
Load Allocations (LAs): Non-Point Source

Source Category	Load Allocation
Municipal wastewater discharge to land (WDR)	0
Sanitary Sewer Systems	0
Land Application of Biosolids	0
Recycled Water Irrigation Runoff	0
Large OWTS	0
Individual OWTS	0
Recreational Water Use and Users	0
Homeless Encampments and Illegal Camping	0
Non-dairy Livestock and Farm Animal Waste	REC-1 Objective
Dairies and CAFOs not subject to NPDES permit	REC-1 Objective

Basic Structure - Action Plan for Pathogens in the Russian River



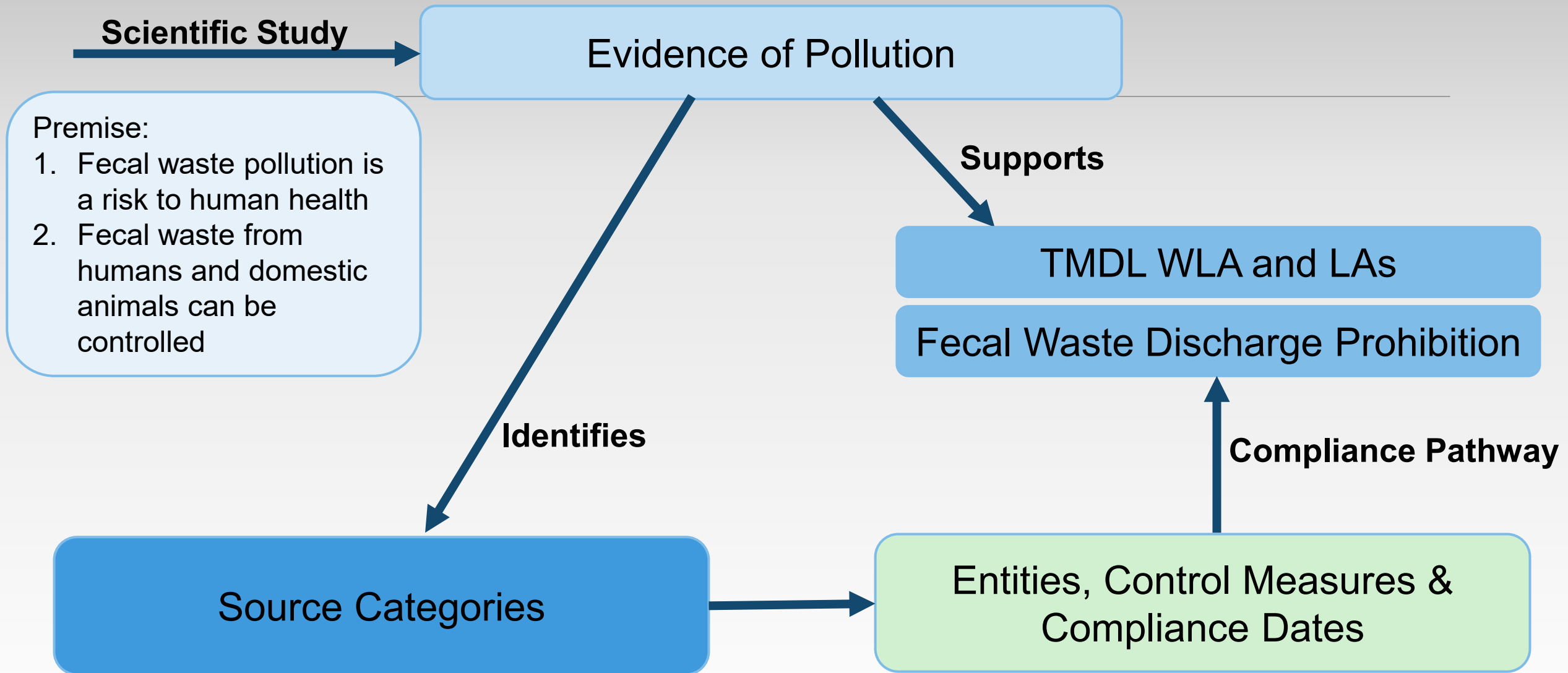
Fecal Waste Discharge Prohibition



Discharges of waste containing fecal material from humans or domestic animals to waters of the state within the Russian River Watershed are prohibited.

Examples of domestic animals include, but are not limited to, cows, horses, cattle, goats, sheep, swine, poultry, dogs, cats, or any other animal(s) in the care of any person(s).

Basic Structure - Action Plan for Pathogens in the Russian River



Source Control Entities - Government

Responsible Entity	Responsible Entity
Airport-Larkfield-Wikiup Sanitation Zone	County of Mendocino
Calpella County Water District	County of Sonoma
Caltrans	Forestville Water District
City of Cloverdale	Geyserville Sanitation Zone
City of Cotati	Graton Community Service District
City of Healdsburg	Hopland Public Utility District
City of Healdsburg	North Coast Water Board
City of Rohnert Park	Occidental Community Service District
City of Santa Rosa	Russian River Community Service District
City of Santa Rosa	Sonoma State University
City of Sebastopol	Sonoma Water
City of Ukiah	Town of Windsor

Source Control Entities – Government and Private

Responsible Entity

Entities applying biosolids as a soil amendment

Entities under the Storm Water permits (MS4)

Entities with storage pond discharges to surface water

Entities that collect, treat, and dispose of or recycle treated effluent

Owners and operators of animal facilities, livestock production, other similar agriculture operations

Owners and Operators of Cow Dairies and Confined Animal Feeding Operations

Owners and operators of Onsite Waste Treatment Systems

Control Measures Overview

All Sources	Implement adequate treatment and/or best management practices to prevent the discharge of fecal waste material from humans or domestic animals from entering a water of the state either directly or indirectly
National Pollutant Discharge Elimination System (NPDES)	Comply with all fecal waste/pathogen-related provisions
Waste Discharge Requirements (WDRs) and waivers of WDRs	Comply with all fecal waste/pathogen-related provisions
Local Agencies	Implement the terms of the Memorandum of Understanding between the North Coast Regional Water Quality Control Board and relevant local agencies to address fecal waste From homeless encampments and recreational water use
Non-dairy livestock	(a) Develop and implement an Executive Officer-approved Ranch Management Plan or (b) Comply with all fecal waste/pathogen-related provisions of an applicable non-dairy livestock WDR or waiver of WDRs
Existing, new, and replacement Onsite Waste Treatment Systems (OWTS)	Report Cesspools, Holding Tanks, and Seepage Pits, comply with an approved LAMP and applicable WDRs or waivers of WDRs

OWTS Implementation

Statewide OWTS Policy Components

- Maintain proper function and assure adequate treatment and disposal
- Local Area Management Programs (LAMPs)
- Advanced Protection Management Areas (APMPs)

Regional Components

- Compliance with Fecal Waste Discharge Prohibition
- North Coast Water Board Watershed Wide Assessment
- Report Cesspools, Holding Tanks, and Seepage Pits
- Basic Operational Inspection and Professional Inspection (only if requested)

Monitoring and Reporting

Monitoring and Reporting

- Per requirements of permits/orders
- Russian River Regional Monitoring (R3MP)
- Data submitted to publicly accessible databases

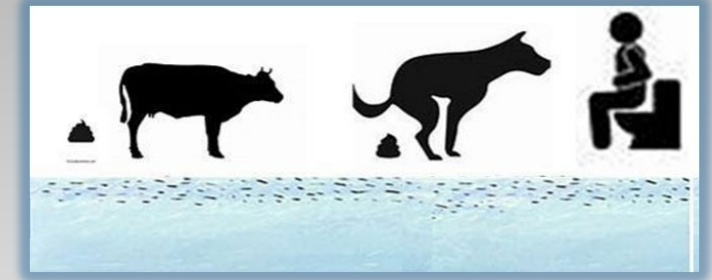
Measure Effectiveness

- Compliance overseen by Water Board staff
- Data evaluated under Integrated Report process

Review Mechanisms

- Adaptive management

Key Takeaways: Source Control



- Human, and domestic animal fecal waste control
- Regulatory & non-regulatory mechanisms
- (permits, OWTS Policy, MOU, etc.)
- Monitoring & reporting through existing mechanisms
- Adaptive management

- Protect REC-1 beneficial use
- Evidence of pollution
- TMDL = Statewide Objective
- Fecal Waste Discharge Prohibition
- Applies to all potential sources
- Provides pathways to compliance

Action Plan Key Takeaways



Staff Recommendations

Adopt Resolution R1-2025-0030

1. Approving and adopting the CEQA substitute environmental documentation for this project
2. Amending the Basin Plan
 - Add Action Plan
 - Remove regional OWTS program
3. Forwarding the Basin Plan amendment to the State Water Board to consider approval

Action Plan for Pathogens in the Russian River Watershed Team and Contact Information

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Questions and Comments