

Item 5 Coastal Pathogen Source Reduction Strategy

April 2, 2025



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Presentation Outline

- 1. Goals**
- 2. Background**
- 3. Source Identification**
- 4. Source Control**
- 5. Recommendation**
- 6. Useful Information**

Goals of Coastal Pathogen Source Reduction Strategy

- Restore supporting conditions for beneficial uses, and
- Ensure compliance with water quality objectives
- By controlling sources of dog, human, and cattle fecal waste in several impaired and polluted waterbodies in Humboldt, Mendocino, and Sonoma Counties

Coastal Pathogen Source Reduction Strategy = Implementation Plan

Beneficial Uses

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, skin and scuba diving, surfing, etc.



Shellfish Harvesting (SHELL) - the use of water that support habitats suitable for the collection of filter feeding shellfish (e.g., clams, oysters and mussels) for human consumption, commercial or sport purposes.

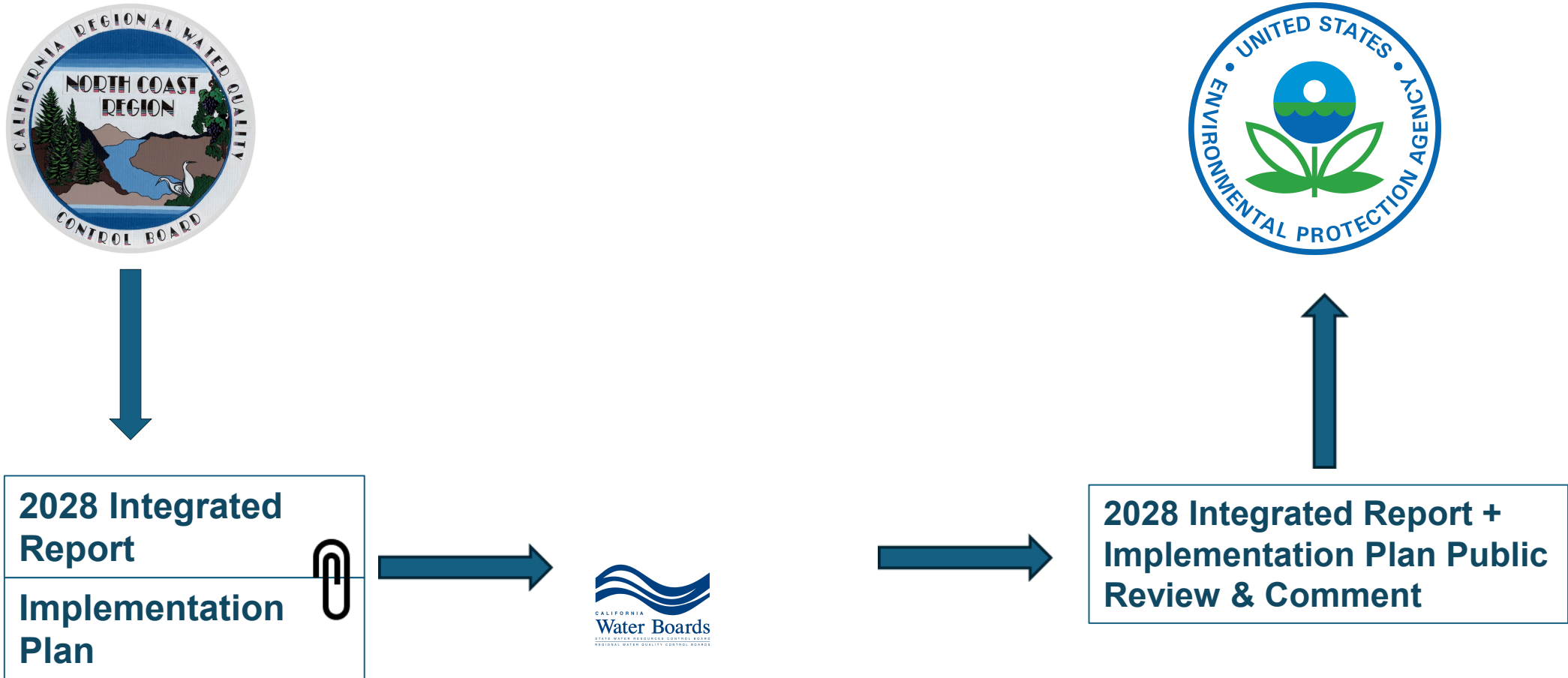


Category 4b Demonstration

Categories for waterbody-pollutant pairs

- 1 All beneficial uses assessed are supported
- 2 Insufficient data
- 3 Insufficient data but beneficial use may be threatened
- 4 Impaired but impairment is being addressed
- 4a TMDL has been completed
- 4b TMDL is not needed because other pollution control requirements are expected to result in the attainment of an applicable water quality objective in a reasonable period of time
- 4c The non-attainment of any applicable objective for the waterbody is the result of pollution and is not caused by a pollutant.
- 5 Impaired and impairment needs to be addressed

Category 4b Approval Process



Impaired and Polluted Waterbodies

Impaired Waterbodies

Humboldt County

- Six REC-1 impaired streams
- Three REC-1 and SHELL impaired beaches
- Three SHELL impaired beaches

Mendocino County

- Five SHELL impaired beaches

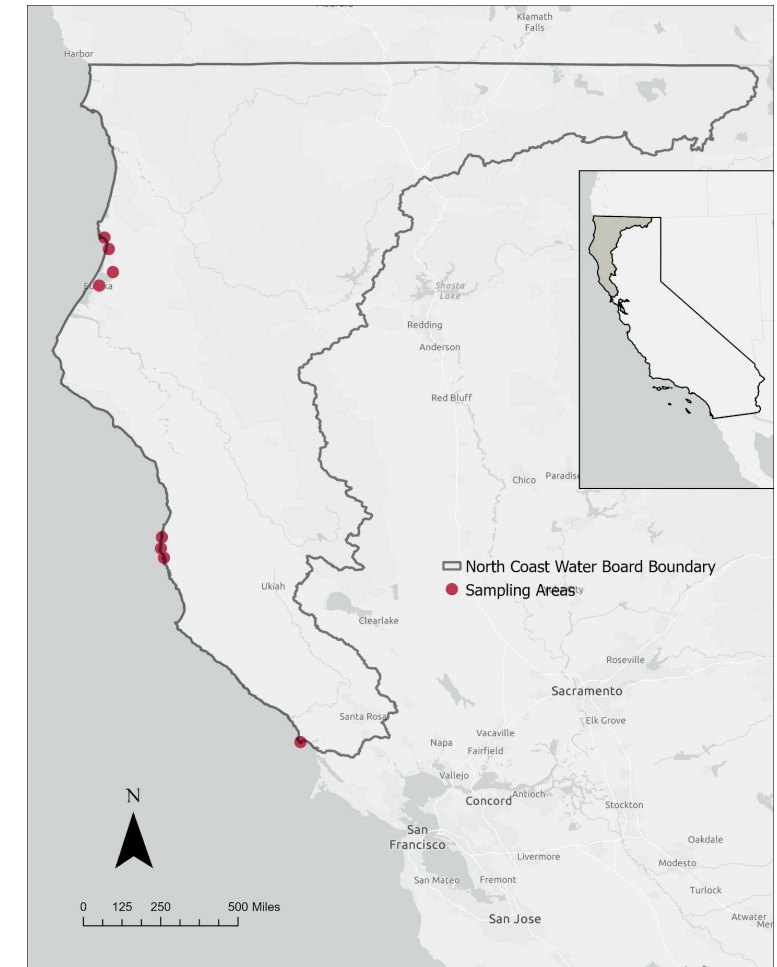
Sonoma County

- One REC-1 and SHELL impaired beach

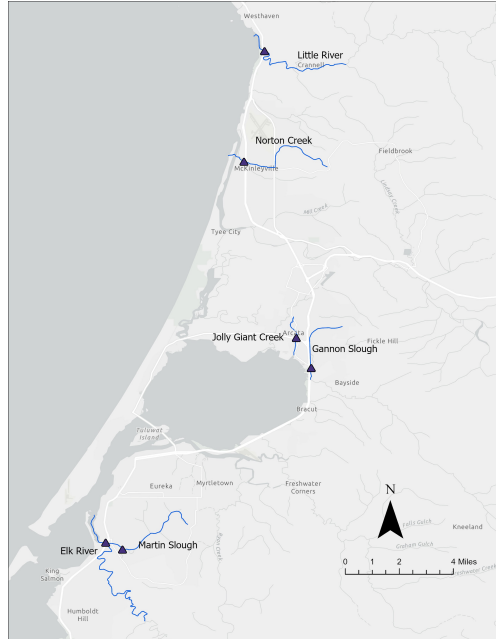
Polluted Waterbodies

Humboldt County

- Thirteen streams not listed as REC-1 impaired with at least one exceedance of the REC-1 objective



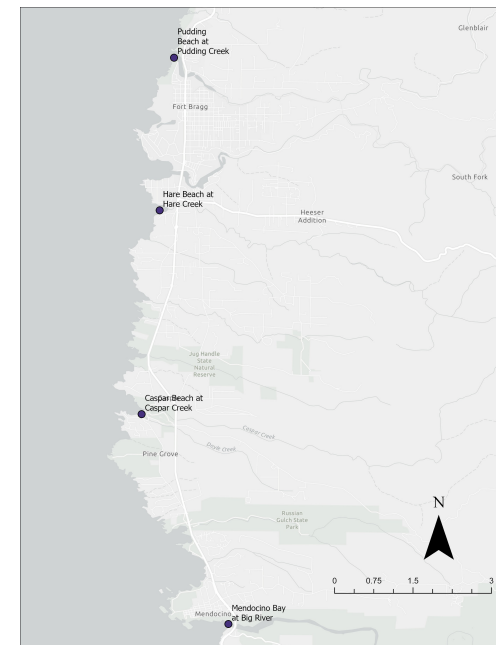
Impaired Waterbodies and Implementation Area



Humboldt County
Impaired Streams



Humboldt County
Impaired Beaches



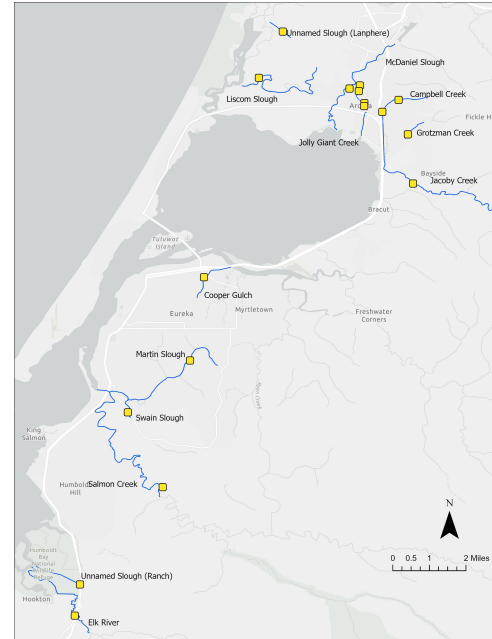
Mendocino County
Impaired Beaches



Sonoma County
Impaired Beach

SEE HANDOUT FOR LARGER MAPS

Polluted Waterbodies and Implementation Area

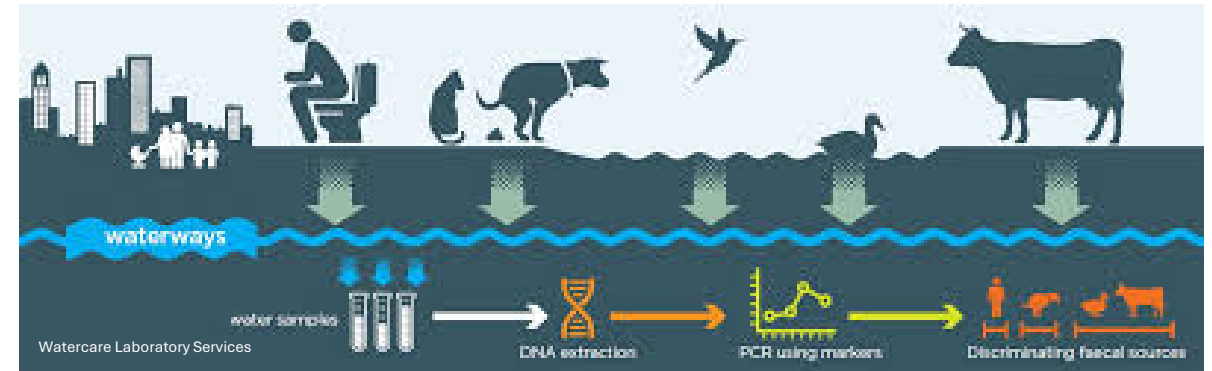


Humboldt County
Polluted Streams

SEE HANDOUT FOR LARGER MAP

Source Identification

- Evaluated several lines of evidence
 - Fecal Indicator Bacteria
 - Microbial Source Tracking
 - Land Cover
 - Land Use
 - Grazing Presence (Dairy or Non-dairy Cattle)
 - Conducted additional studies
- Identified Source Control Measures
 - Discussions & Feedback
 - Regulatory & Non-regulatory Agencies



Grunbeck

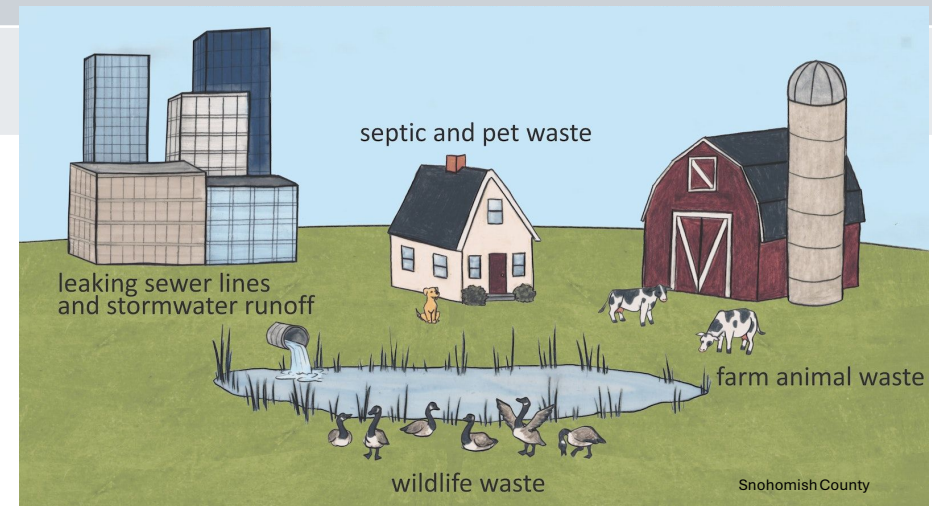


Chatham House

Source Identification

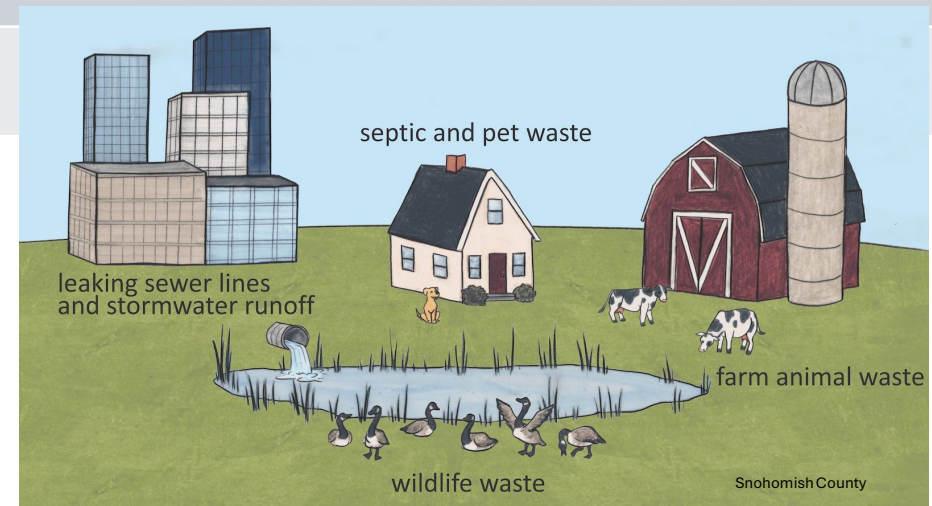
Source Category	Source Contributors
Dog waste	Dog walking, Transient encampments, Residential yards, Dogs accompanying beachgoers
Human waste	Sanitary sewer systems, Onsite Wastewater Treatment Systems, Transient encampments
Cattle waste	Dairy cattle, Non-dairy cattle
Wildlife	Gulls, deer, elk

- # 1 Source – Dog Waste
- # 2 Source – Human Waste



Source Identification

Source Category	Source Contributors
Dog waste	Dog walking, Transient encampments, Residential yards, Dogs accompanying beachgoers
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Wildlife	Gulls, deer, elk



Focus on Anthropogenic Source Control

- Human health risks from anthropogenic feces: significantly higher than from wildlife feces
- Dog, human, cattle fecal sources are controllable



- Anthropogenic sources
 - Dog, human, cattle
- Wildlife sources
 - Gulls, deer, elk

Why Scoop That Poop?



Action and Watch Lists

Action List – Highest Priority

- Six REC-1 impaired streams
- Four REC-1 & SHELL impaired beaches
- Five SHELL impaired beaches

Watch List – Prioritize after Action List Completion

- Thirteen streams currently not listed for REC-1 impairment but have at least one exceedance of the REC-1 objective

Action List Waterbodies - Streams

Impaired Stream	Sampling Station
Lower Elk River	Highway 101
Martin Slough	Pine Hill Road
Gannon Slough	Highway 101
Jolly Giant Creek	Samoa Boulevard
Norton Creek	Highway 101
Little River	Highway 101

Action List Waterbodies - Beaches

Impaired Beach	Impaired Use	Sampling Station
Humboldt County		
Clam Beach (near Strawberry Creek)	REC-1 & SHELL	Strawberry Creek
Luffenholtz Beach	REC-1 & SHELL	Luffenholtz Creek
Moonstone County Park	SHELL	Little River
Trinidad State Beach	REC-1 & SHELL	Mill Creek
Mendocino County		
Big River Beach at Mendocino Bay	SHELL	Big River
Caspar Headlands State Beach	SHELL	Caspar Creek
Hare Creek Beach	SHELL	Hare Creek
Pudding Creek Beach	SHELL	Pudding Creek
Sonoma County		
Campbell Cove	REC-1 & SHELL	Bodega Bay

Watch List Waterbodies

Polluted Stream	Sampling Station(s)
Campbell Creek	7 th Street; 14 th & Union Streets
Cooper Gulch	Myrtle Avenue & 8 th Street
Elk River	Zanes Road
Grotzman Creek	Bayside Road
Jacoby Creek	Old Arcata Road
Jolly Giant Creek	14 th & M Streets; 7 th & J Streets; 9 th & J Streets; Alliance Road & 17 th Street
Liscom Slough	Jackson Road
Martin Slough	Campton & Fern Streets
McDaniel Slough	Q Street
Salmon Creek	Eel River Drive
Swain Slough	Elk River Road
Unnamed Slough (Lanphere)	Lanphere Road
Unnamed Slough (Ranch)	Ranch Road

Natural Background

Impaired Beach	Impaired Use	Sampling Station
Humboldt County		
Clam Beach (near Mad River mouth)	SHELL	Mad River
Old Home Beach	SHELL	Scenic Drive
Mendocino County		
MacKerricher State Park (near Virgin Creek)	SHELL	Virgin Creek

Source Control Overview

- Source Control focus on dog, human, cattle fecal waste
- Implemented for Action List waterbodies first then Watch List waterbodies
- Use existing regulatory & non-regulatory mechanisms (permits, orders etc.)
- Expect permit/order compliance & compliance overseen by Water Board
- Require reporting & monitoring requirements of existing regulatory mechanisms
- Rely on adaptive management for review and revisions



Murei, et al, STOTEN, 2024

Source Control Entities

Pollution Control Entities

California Department of Parks and Recreation (State Parks)

Humboldt County Division of Environmental Health

Humboldt County Public Works Department

City of Eureka Public Works Department

City of Arcata Environmental Services Department

Trinidad Coastal Land Trust (NGO, Non-profit organization)

Jacoby Creek Land Trust (NGO, Non-profit organization)

Mendocino County Department of Environmental Health

Mendocino Land Trust (NGO, Non-profit organization)

North Coast Regional Water Quality Control Board Southern Agriculture Unit (Dairy Program)

North Coast Regional Water Quality Control Board Enforcement Unit

Dog Fecal Waste Control

Control Measure	Timeline
Phase II Municipal Separate Stormwater System (MS4) Permit	No Later than One Year after Adoption Date of Phase II MS4 Permit
California Code of Regulations Title 14 Sections 4312	Ongoing
Collaborative community building with transient community	Ongoing
Dog waste control and restriction signage	Ongoing
Providing dog waste bags and bins	Ongoing
Prohibition of dogs from parks and trails	Ongoing



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Human Fecal Waste Control

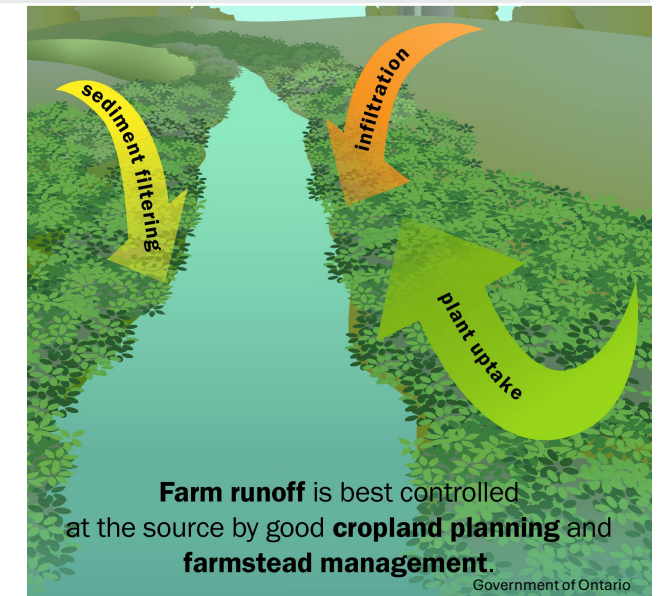
Control Measure	Timeline
Phase II Municipal Separate Stormwater System (MS4) Permit	No Later than One Year after Adoption Date of Phase II MS4 Permit
Sanitary Sewer Systems General Order	No Later than One Year after Acceptance Date of 2028 Integrated Report by USEPA
County Local Agency Management Programs (LAMP) – OWTS Policy	No Later than One Year after Acceptance Date of 2028 Integrated Report by USEPA
California Code of Regulations Title 14 Section 4324	Ongoing
Inflow and Infiltration Construction Project	Ongoing
Transient Housing Unit Construction & debris cleanup	Ongoing
Connection building with transient communities	Ongoing



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Cattle Fecal Waste Control

Control Measure	Timeline
The General Waste Discharge Requirements for Dairies in the North Coast Region	Inspect No Later than One Year after Acceptance Date of 2028 Integrated Report by USEPA
Enforcement Action at Non-dairy Grazing Operations	Some ongoing, others as needed



Monitoring, Reporting, and Adaptive Management

Monitoring, Reporting & Evaluation

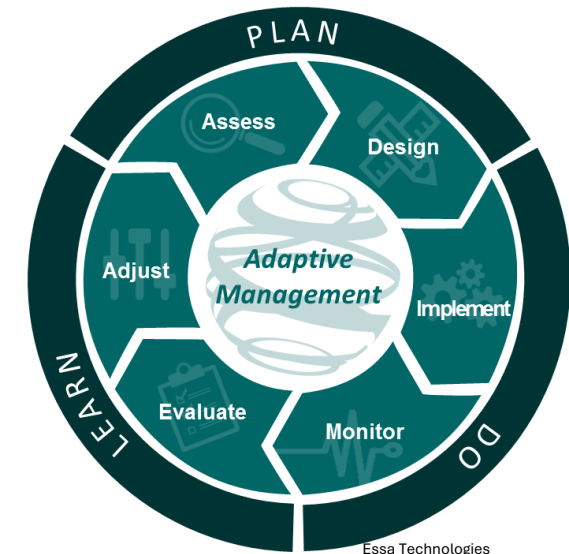
- Monitoring & Reporting per requirements of permits/orders
- Annual BeachWatch data collection
- All monitoring data submitted to CEDEN database

Measure Effectiveness

- Permit/Order compliance expected & overseen by Water Board
- Submitted data evaluated under Integrated Report process
 - Listing/Delisting decisions

Review Mechanisms

- Adaptive management to review/revise mechanisms



Recommendation

Adopt resolution no. R1-2025-0010

**Supporting Submittal of the Coastal Pathogen Source Reduction
Strategy to the State Water Resources Control Board to Include as Part
of the 2028 Integrated Report**

Useful Information

Coastal Pathogen Project Webpage (Announcements, Email Subscription)

- https://www.waterboards.ca.gov/northcoast/water_issues/programs/tmdls/coastal_pathogen/

State Water Resources Control Board (Board Meeting Calendar)

- https://www.waterboards.ca.gov/board_info/calendar/index.html

2028 Integrated Report Public Comment Period (State Water Resources Control Board)

- January – April 2027

Contact Information

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