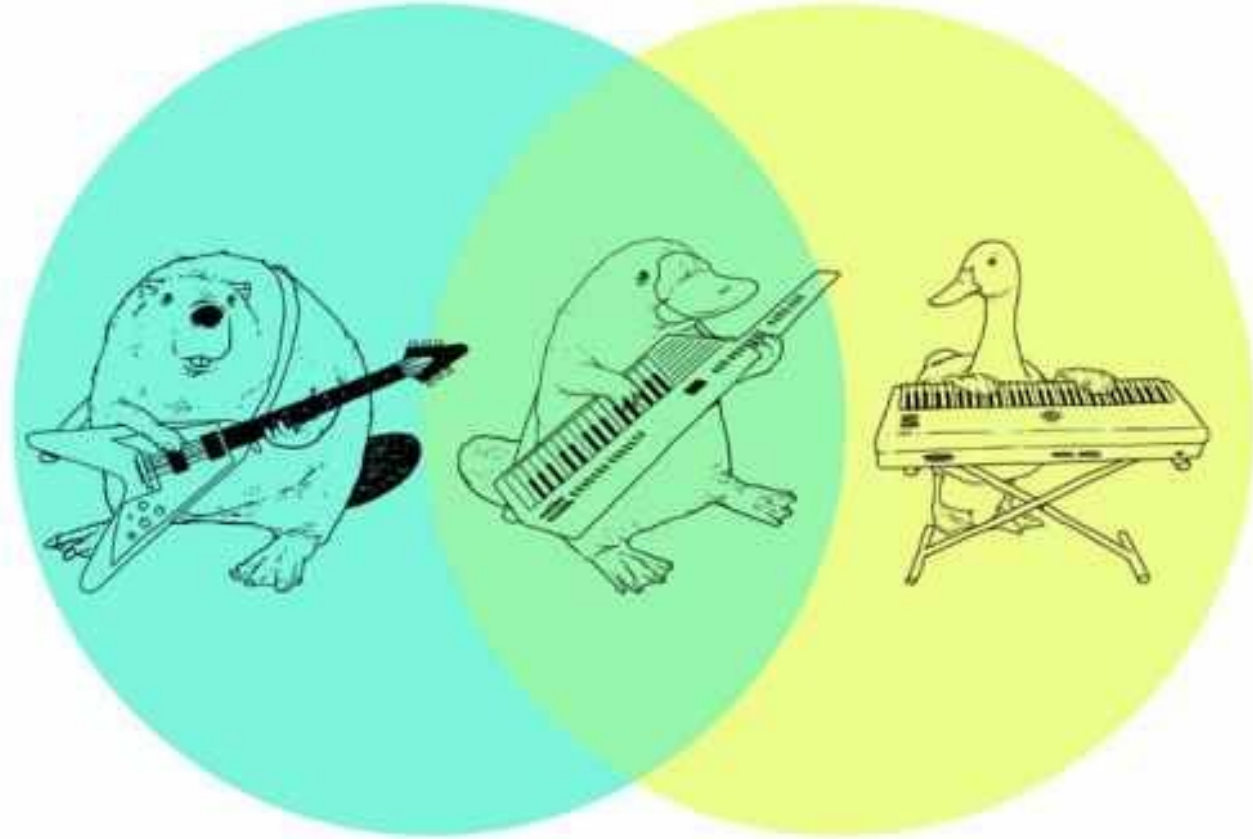


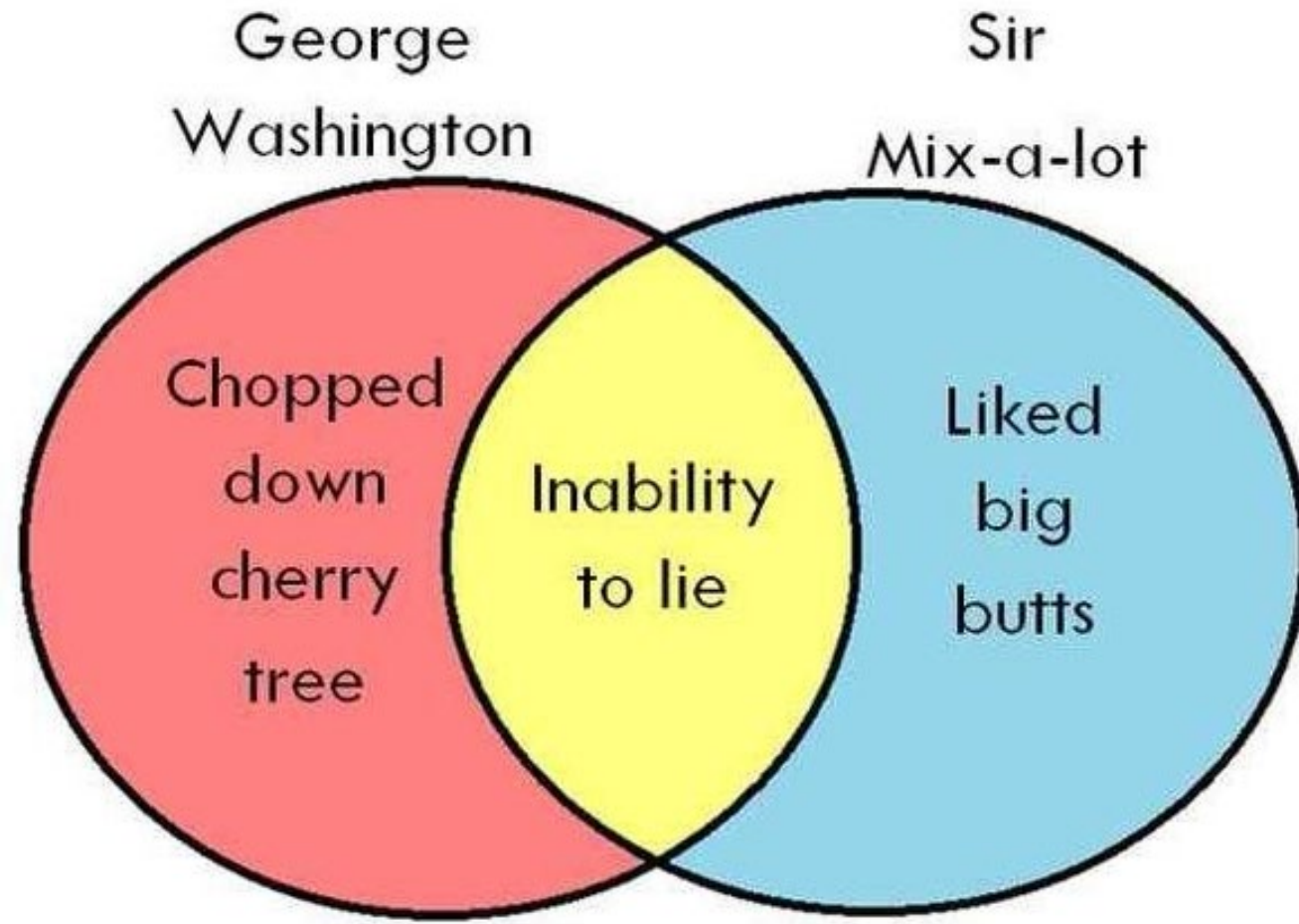


IN THE MIDDLE

Navigating an E.coli TMDL
and an MS4 Permit for the
Present and Future

Candice Owen, P.E.
City of Boulder, Colorado

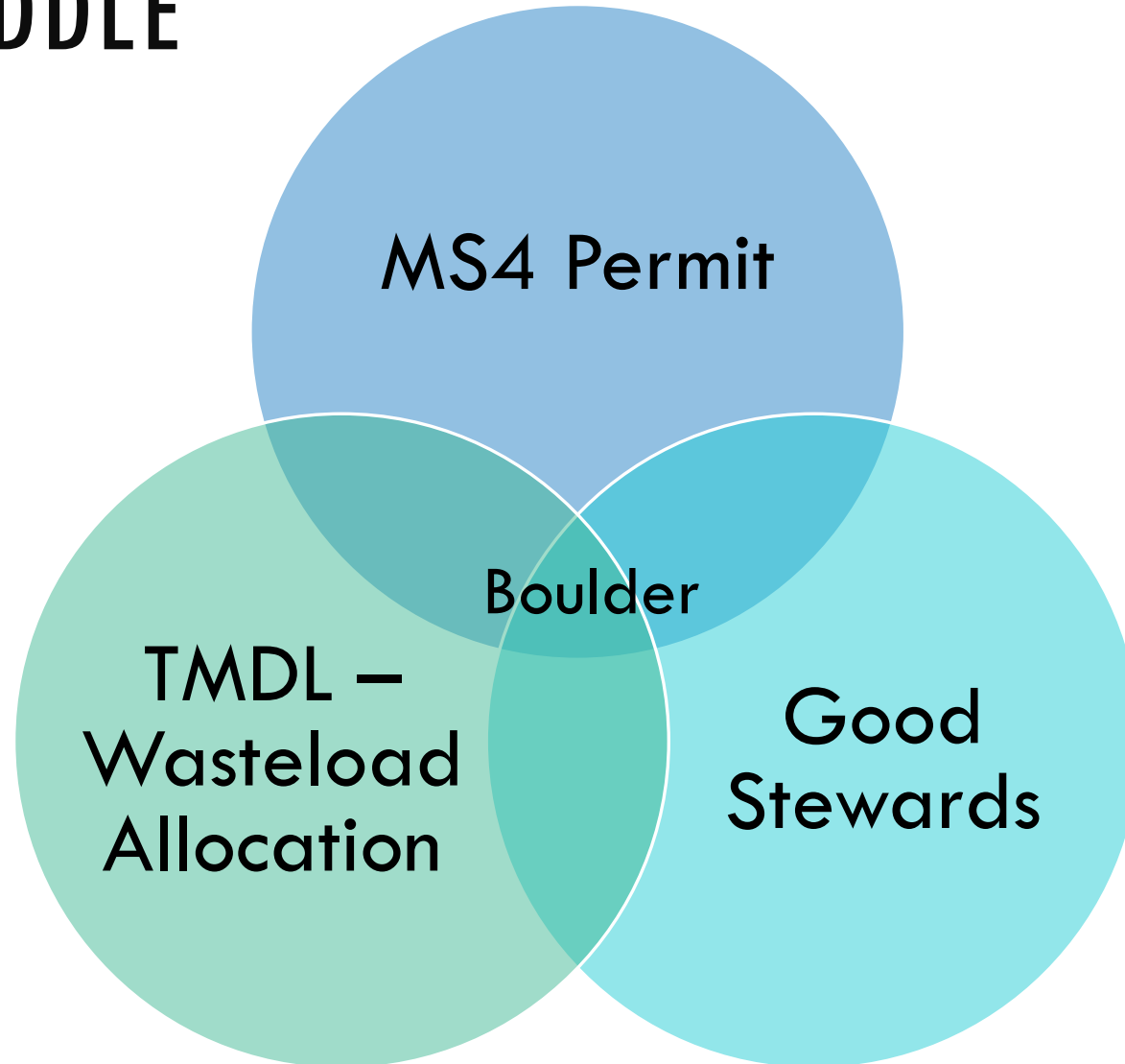






Stephen Wildish

IN THE MIDDLE

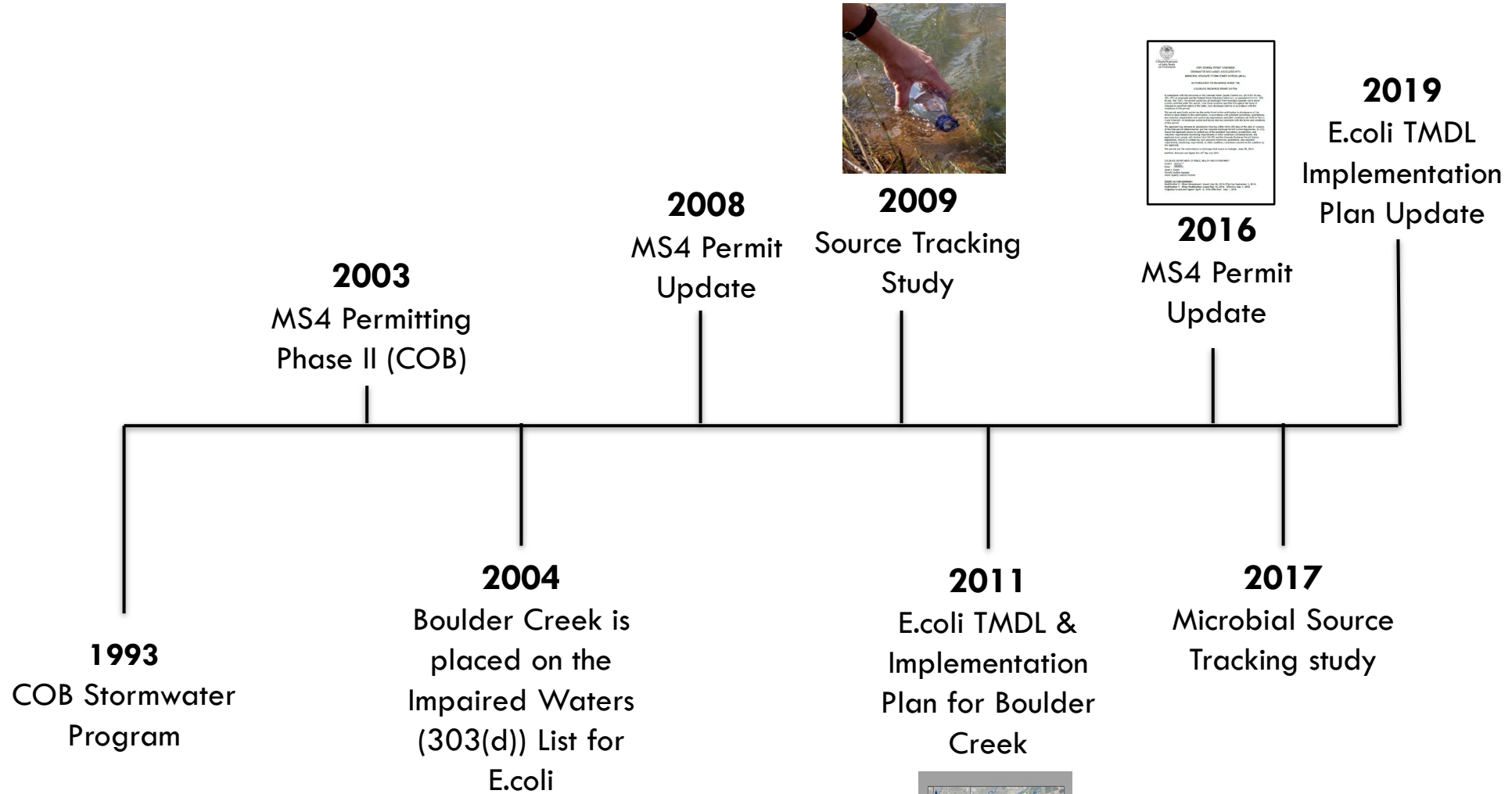


OVERVIEW

- ❖ TMDL & MS4 Requirements
- ❖ Current & Next Steps
- ❖ The Right Questions



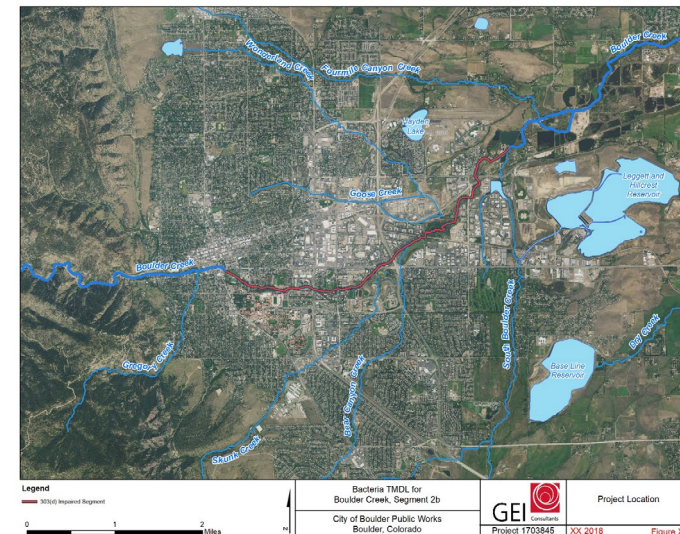
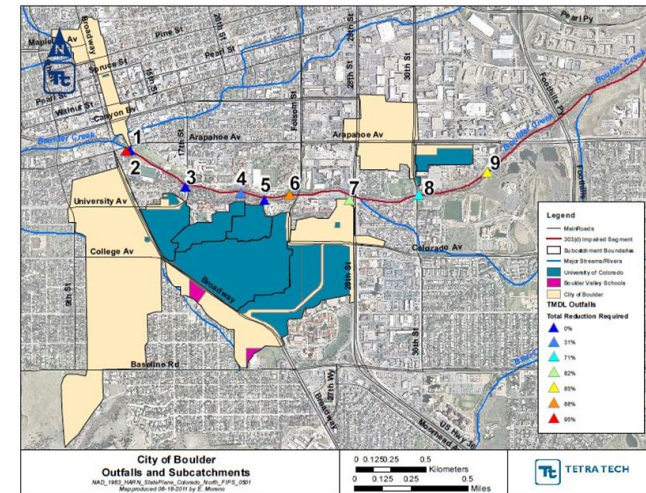
STORMWATER PROGRAM TIMELINE



Boulder Creek, Colorado
Segment 2b:
From 13th Street to the Confluence with South Boulder Creek
Total Maximum Daily Load
Escherichia coli

2011 BOULDER CREEK E.COLI TMDL

- ❖ Third-Party TMDL
- ❖ Instream Flow based
- ❖ WLA based on percentage of land jurisdiction in basin
- ❖ Critical Period (May to October)
- ❖ 9 Outfalls
- ❖ 4 MS4s, 1 WWTP
- ❖ Implementation Plan developed concurrently




PHASE 2 MS4 PERMIT REQUIREMENTS

❖ Annual Reporting

❖ Monitoring Activities

❖ Illicit Discharges

❖ Control Measures



Colorado Department
of Public Health
and Environment

CDPS GENERAL PERMIT COR090000
STORMWATER DISCHARGES ASSOCIATED WITH
MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)


AUTHORIZATION TO DISCHARGE UNDER THE
COLORADO DISCHARGE PERMIT SYSTEM

In compliance with the provisions of the Colorado Water Quality Control Act, (25-8-101 et seq., CRS, 1973 as amended) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq.; the "Act"), this permit authorizes all discharges from municipal separate storm sewer systems certified under this permit, from those locations specified throughout the State of Colorado to specified waters of the state. Such discharges shall be in accordance with the conditions of this permit.

This permit specifically authorizes the entity listed in the certification to discharge as of the effective dates stated on the certification, in accordance with pollutant restrictions, prohibitions, and reduction requirements and monitoring requirements and other conditions set forth in Parts I, II and III hereof. All discharges authorized herein shall be consistent with the terms and conditions of this permit.

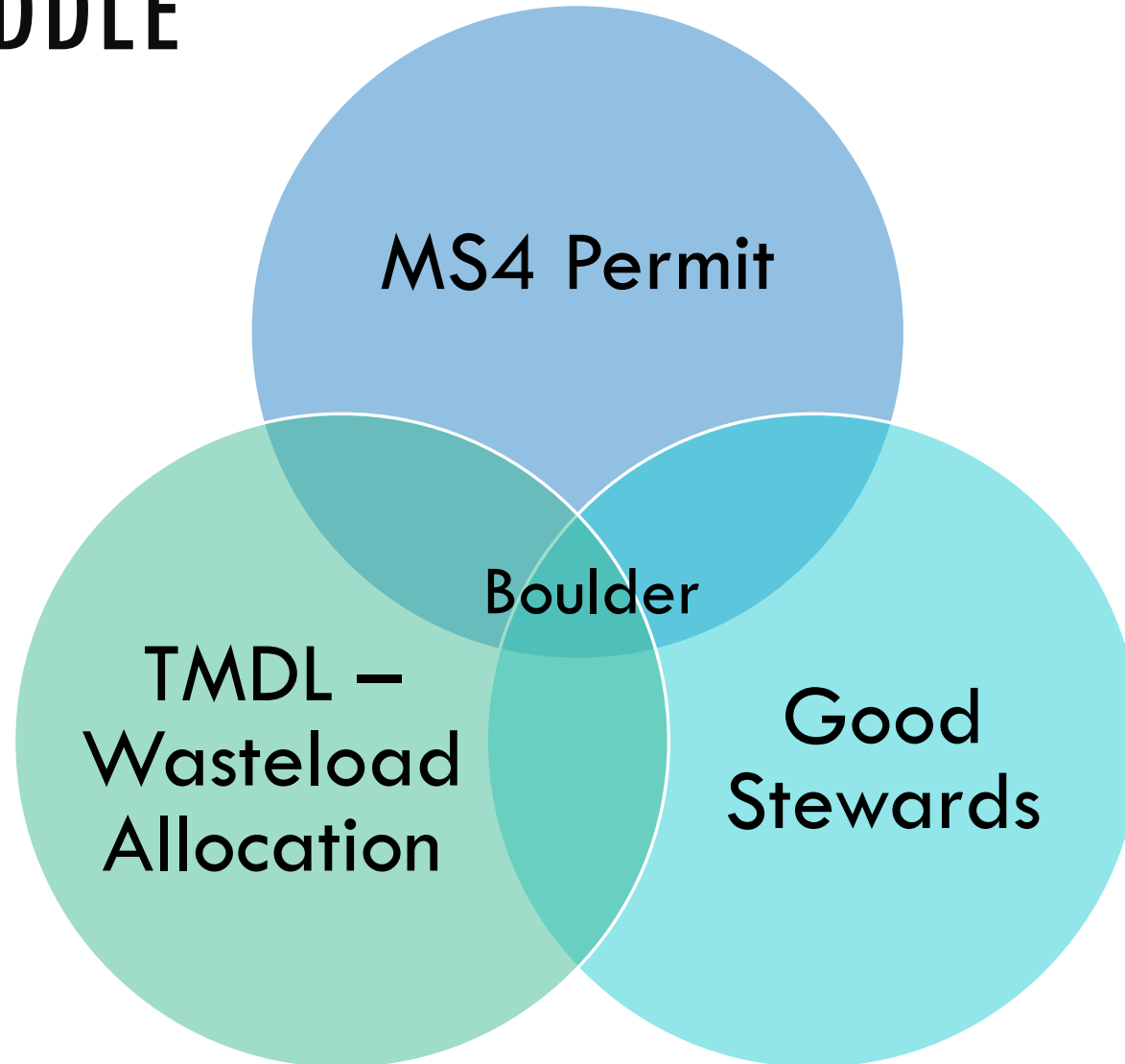
The applicant may demand an adjudicatory hearing within thirty (30) days of the date of issuance of the final permit determination, per the Colorado Discharge Permit System Regulations, 61.7(1). Should the applicant choose to contest any of the pollutant restrictions, prohibitions, and reduction requirements monitoring requirements or other conditions contained herein, the applicant must comply with Section 24-4-104 CRS and the Colorado Discharge Permit System Regulations. Failure to contest any such pollutant restriction, prohibition, and reduction requirement, monitoring requirement, or other condition, constitutes consent to the condition by the Applicant.

This permit and the authorization to discharge shall expire at midnight, June 30, 2021.
Modified, Reissued and Signed this 26th day July 2016

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
Janet S. 
Kieler
Janet S. Kieler
Permits Section Manager
Water Quality Control Division

PERMIT ACTION SUMMARY:
Modification 2 - Minor Amendment: Issued July 26, 2016 Effective September 1, 2016
Modification 1 - Minor Modification: Issued May 16, 2016 Effective July 1, 2016
Originally Issued and Signed: April 15, 2016 Effective: July 1, 2016

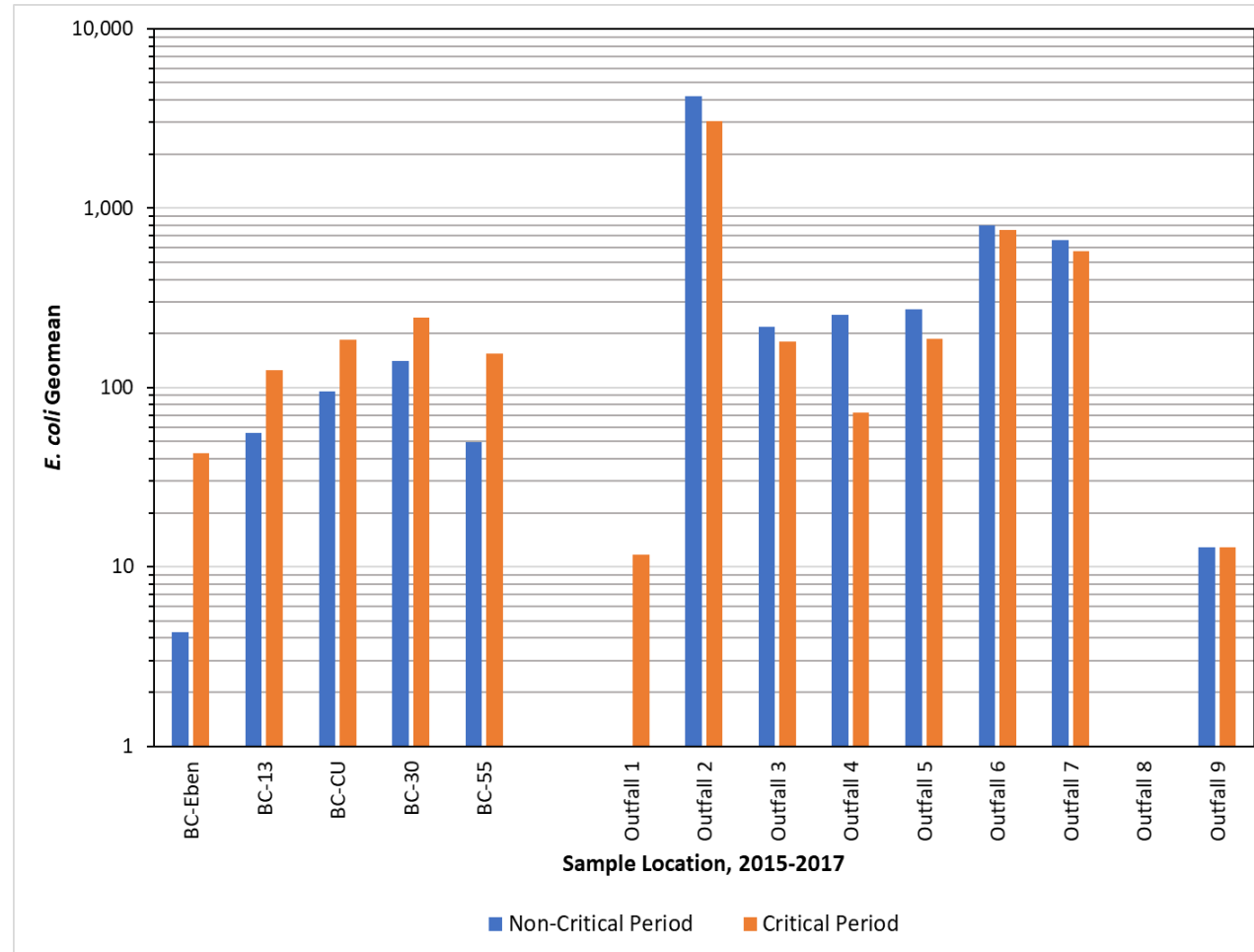
IN THE MIDDLE





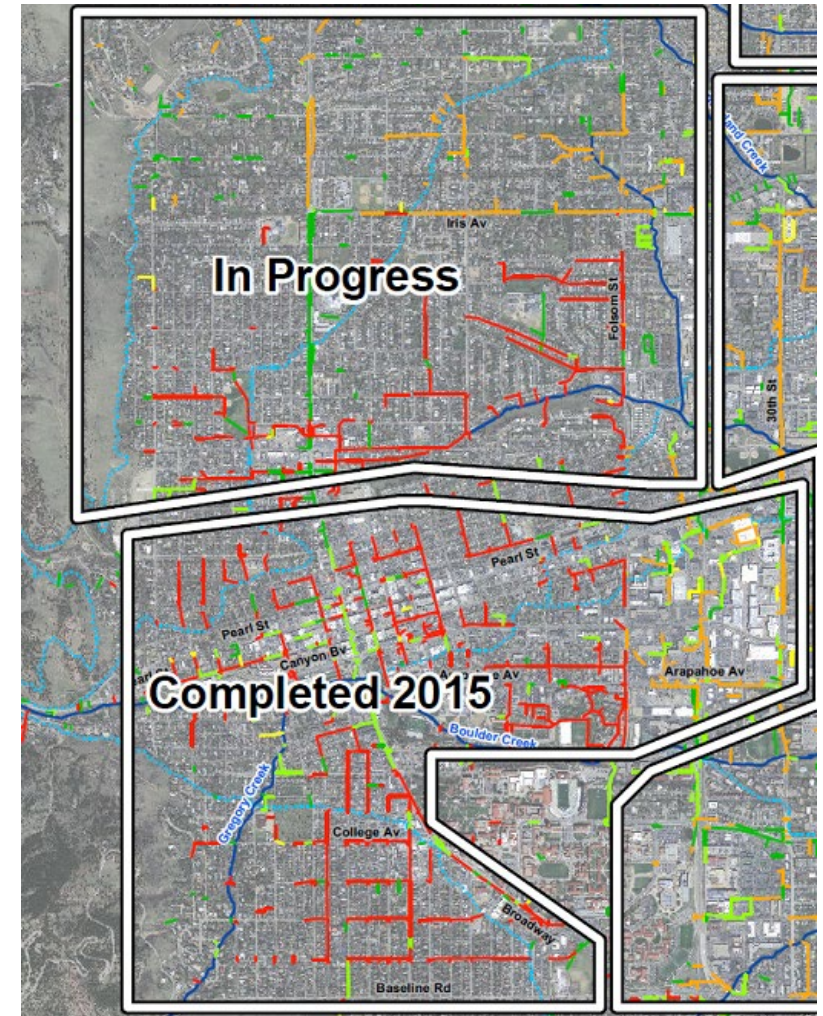
MS4 Permit

TRENDS: CRITICAL VS. NON-CRITICAL



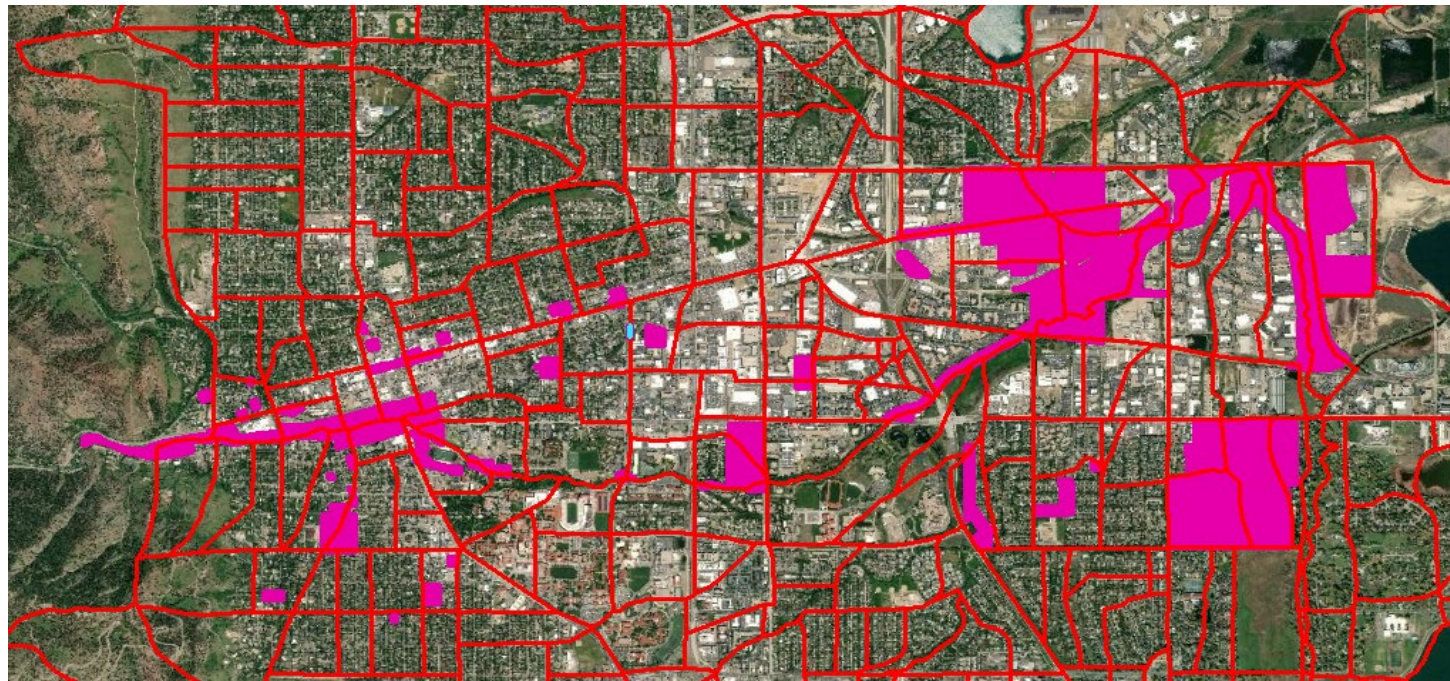
STORM SEWER INSPECTION & CLEANING

- ❖ Boulder Creek System Cleaning Complete in 2016
- ❖ Coordination with CIP Priorities and Findings



GREEN INFRASTRUCTURE

- ❖ Boulder Creek basin focus
- ❖ Best “bang for the buck” on city projects
- ❖ Design Standards updates to require infiltration first





**Good
Stewards**

THE “RIGHT” THINGS TO DO

- ❖ Targeted Education
- ❖ Working with other Departments
- ❖ Green Infrastructure Master Planning
- ❖ Conversations on Homelessness

Doo Good

Pick up dog doo. Protect streams.

Dog doo is more than a nuisance!

IT SPREADS DISEASE

Dog waste carries parasites and bacteria, like Giardia and E. coli, which account for up to **20%** of the pollution in public waterways.

IT HURTS FISH

When they wash into streams, nutrients in dog waste act like a fertilizer, growing algae and reducing oxygen levels.

IT ADDS UP!

Locally, there are **90,000** dogs that make **11,700** tons of waste a year.



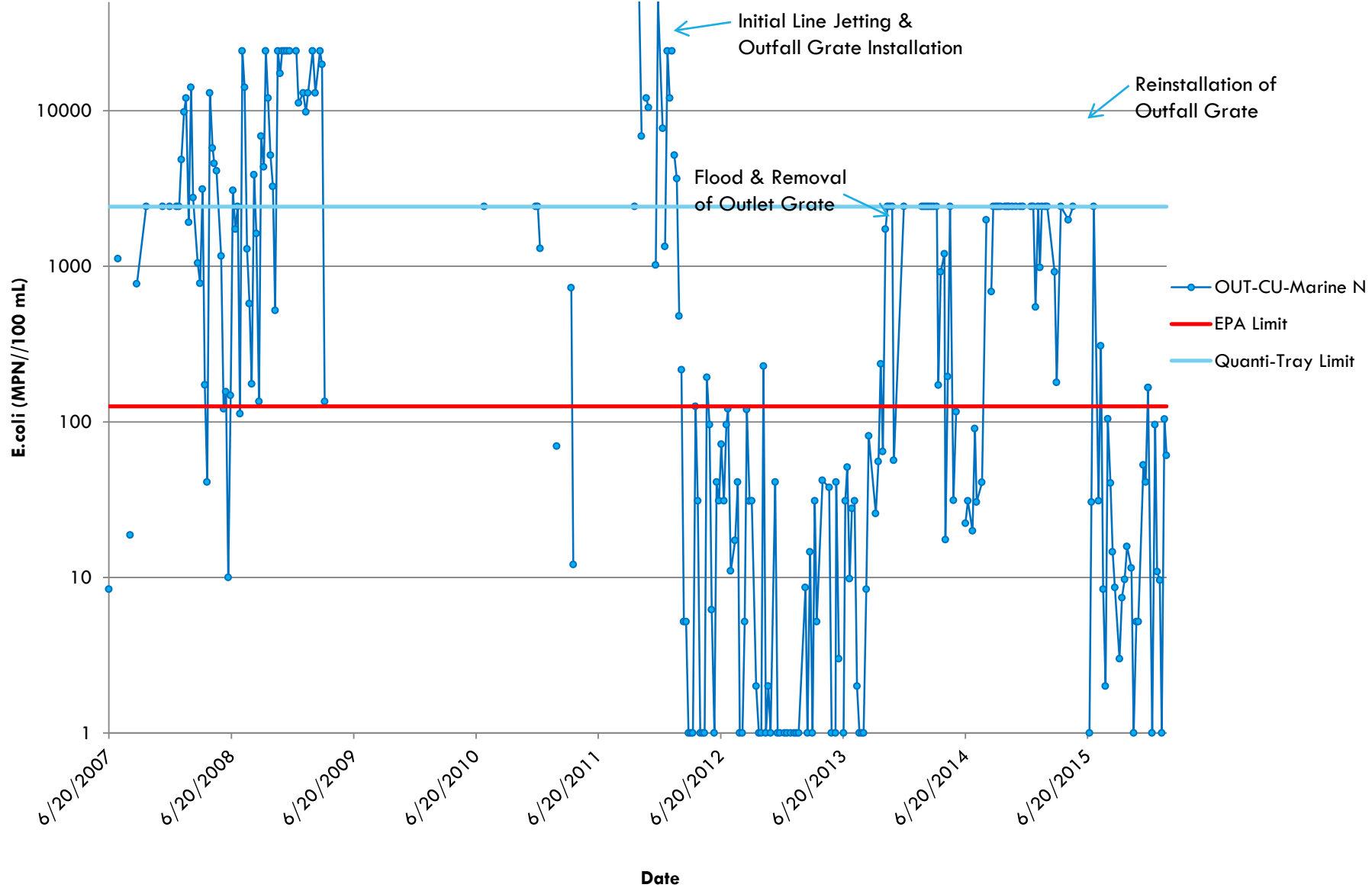
www.KeepItCleanPartnership.org



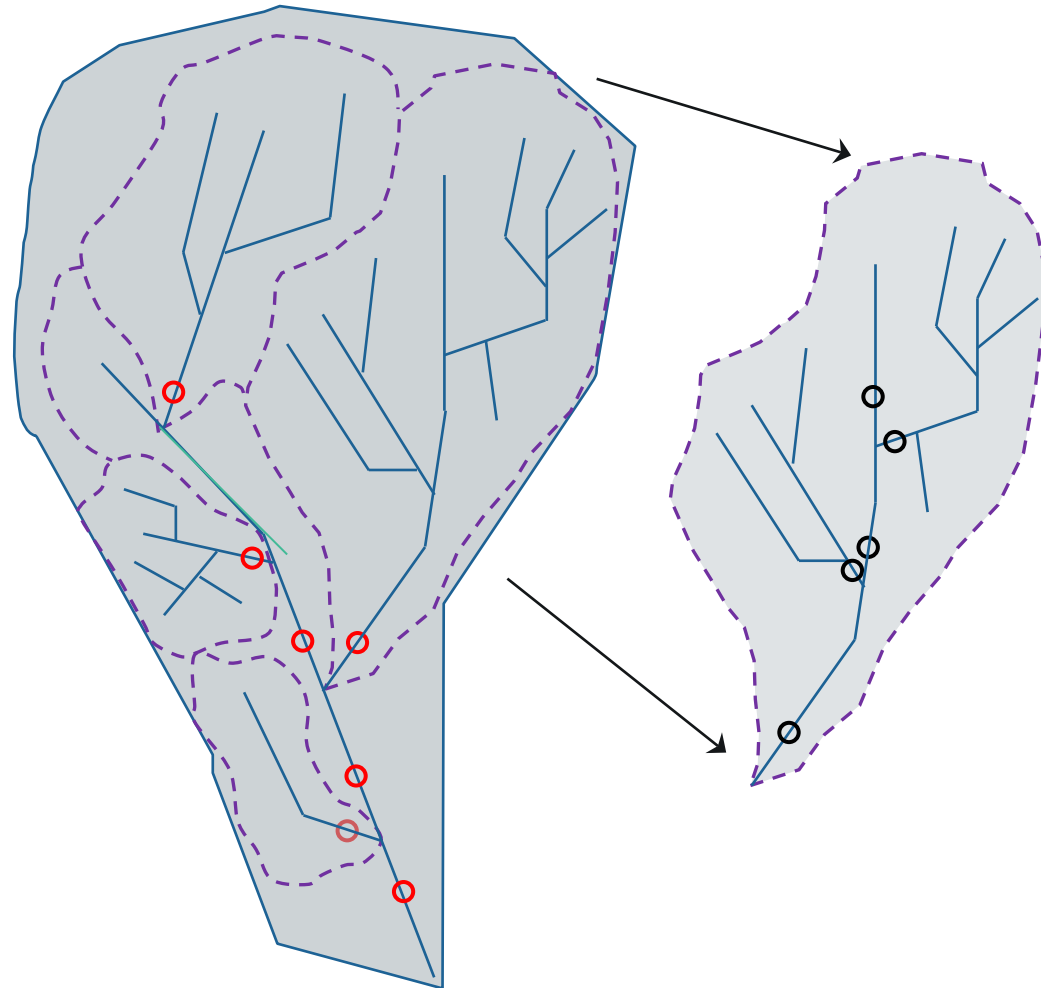
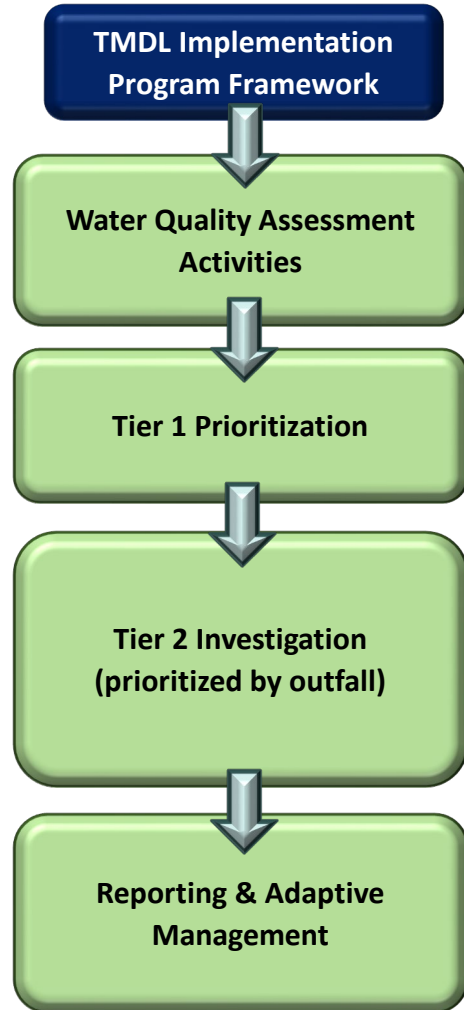


**TMDL –
Wasteload
Allocation**

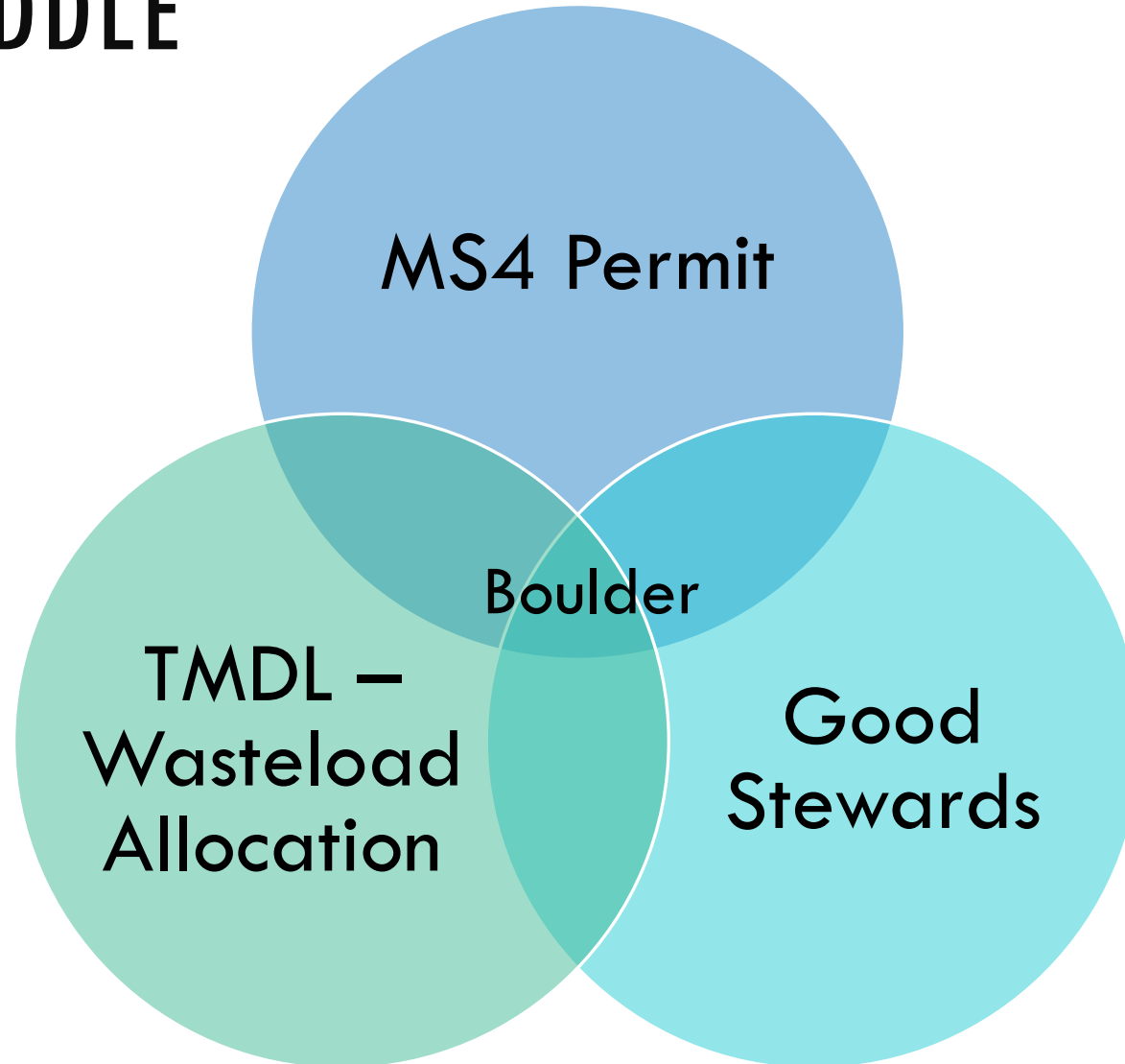
Outfall Marine N E.coli Monthly Concentrations



UPDATED IMPLEMENTATION PLAN



IN THE MIDDLE



ASKING THE RIGHT QUESTIONS

- ❖ Where are the “low hanging” fruits?
- ❖ Are there human health sources that need to be addressed?
- ❖ What is “controllable” and what is not?
- ❖ What can we bring the table for our next permit renewal?





THANK YOU!

owenc@bouldercolorado.gov