

Starting From the Finish Line: A Paradigm Shift for of Stormwater Programs

**CASQA Conference
Nov 5-7, 2012**



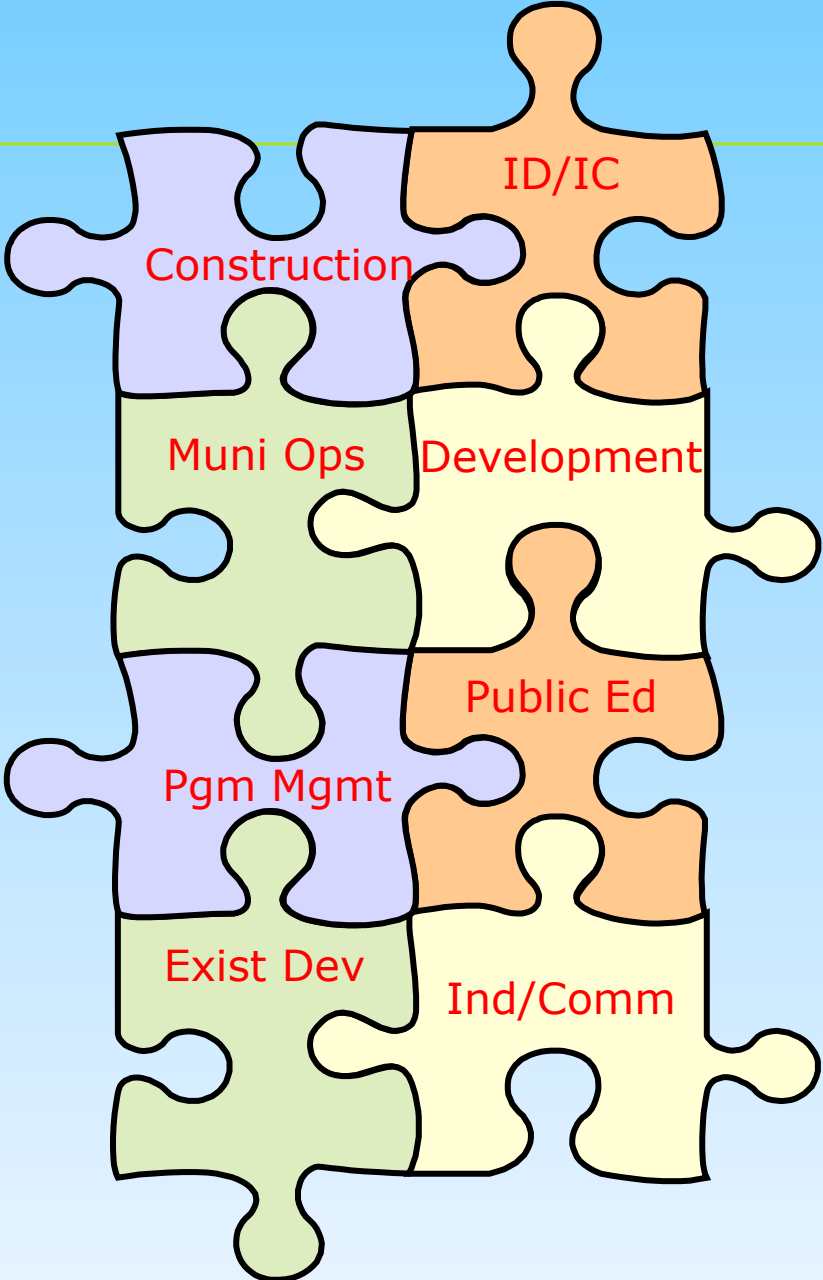
Karen Ashby
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Topics:

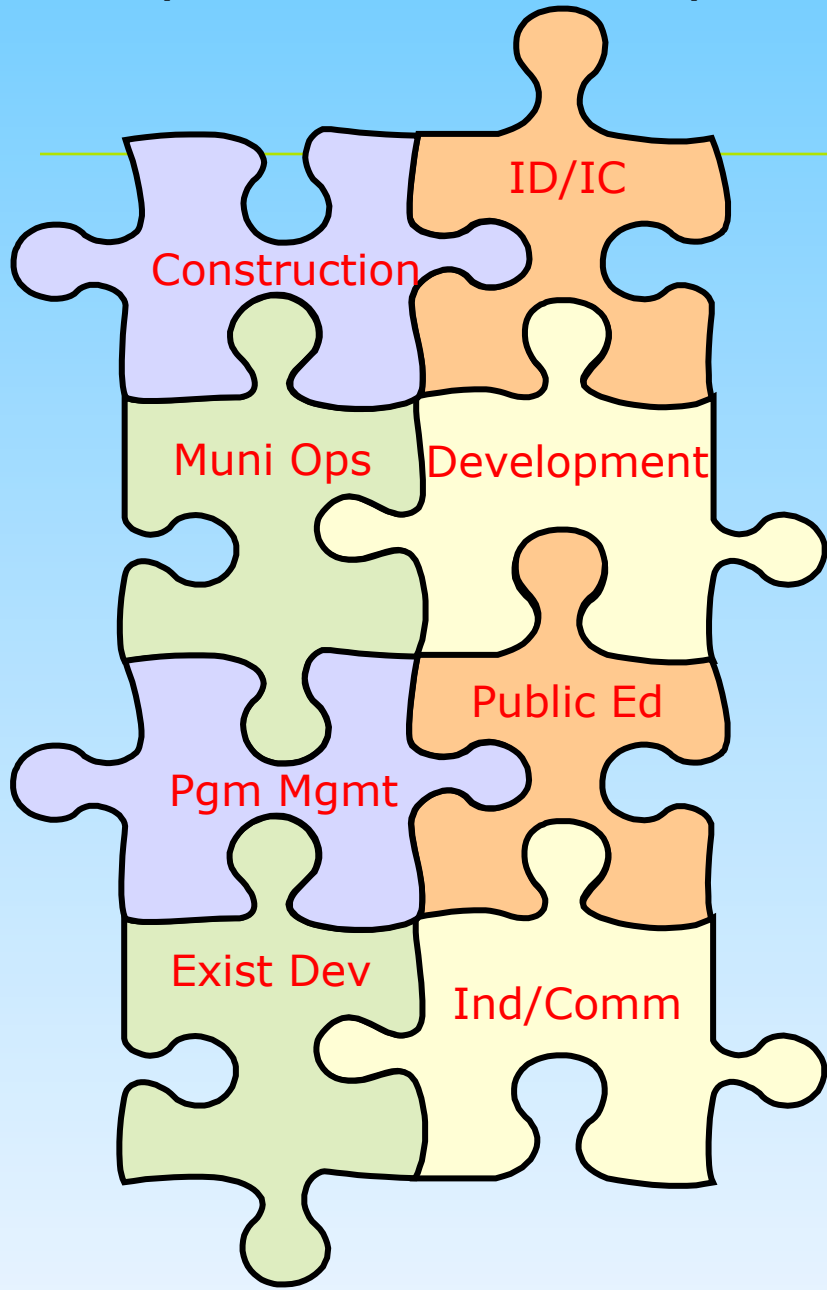
- The Historical Approach for Stormwater Management Programs
- The Paradigm Shift & Current Permits
- Example Application
 - Identification of Pollutants of Concern
 - Program Prioritization
 - Continuation of Baseline Elements
 - Management Questions and Goals

The Historical Approach

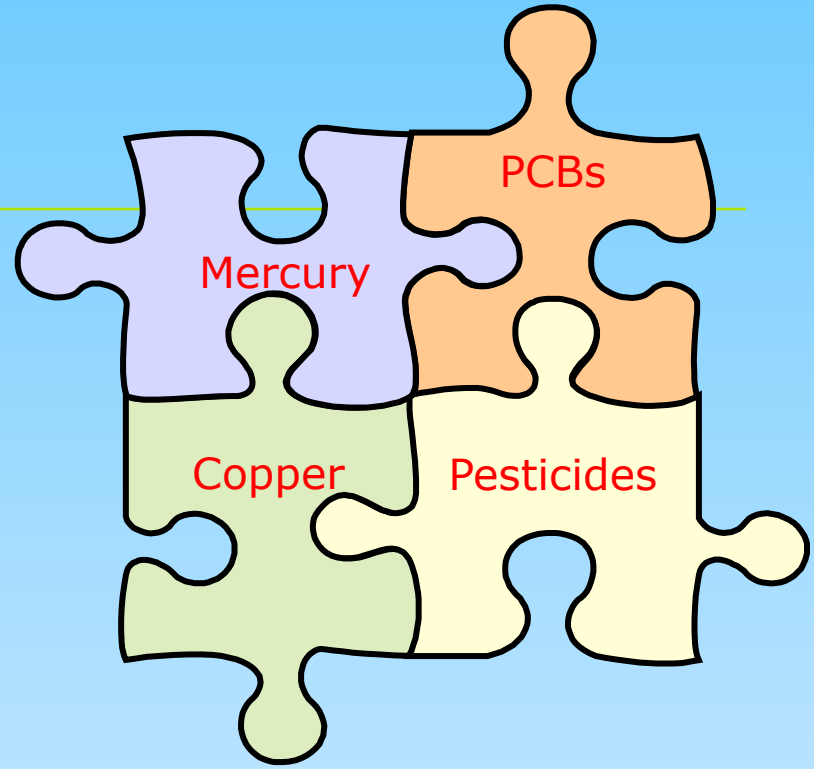
Municipal Stormwater Program (~First & Second Term Permits)



Municipal Stormwater Program (~ Third Term Permits)



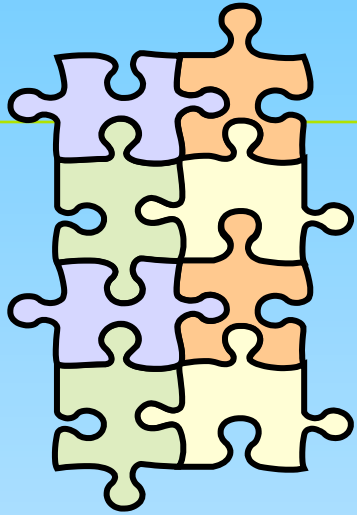
Pollutant of Concern Focus



And/Or



Municipal Stormwater Program

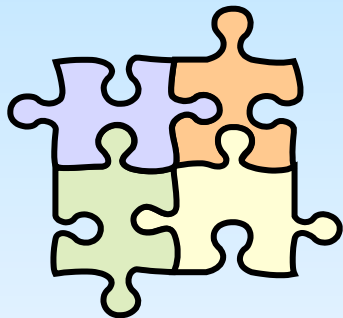


Water Quality Monitoring Program



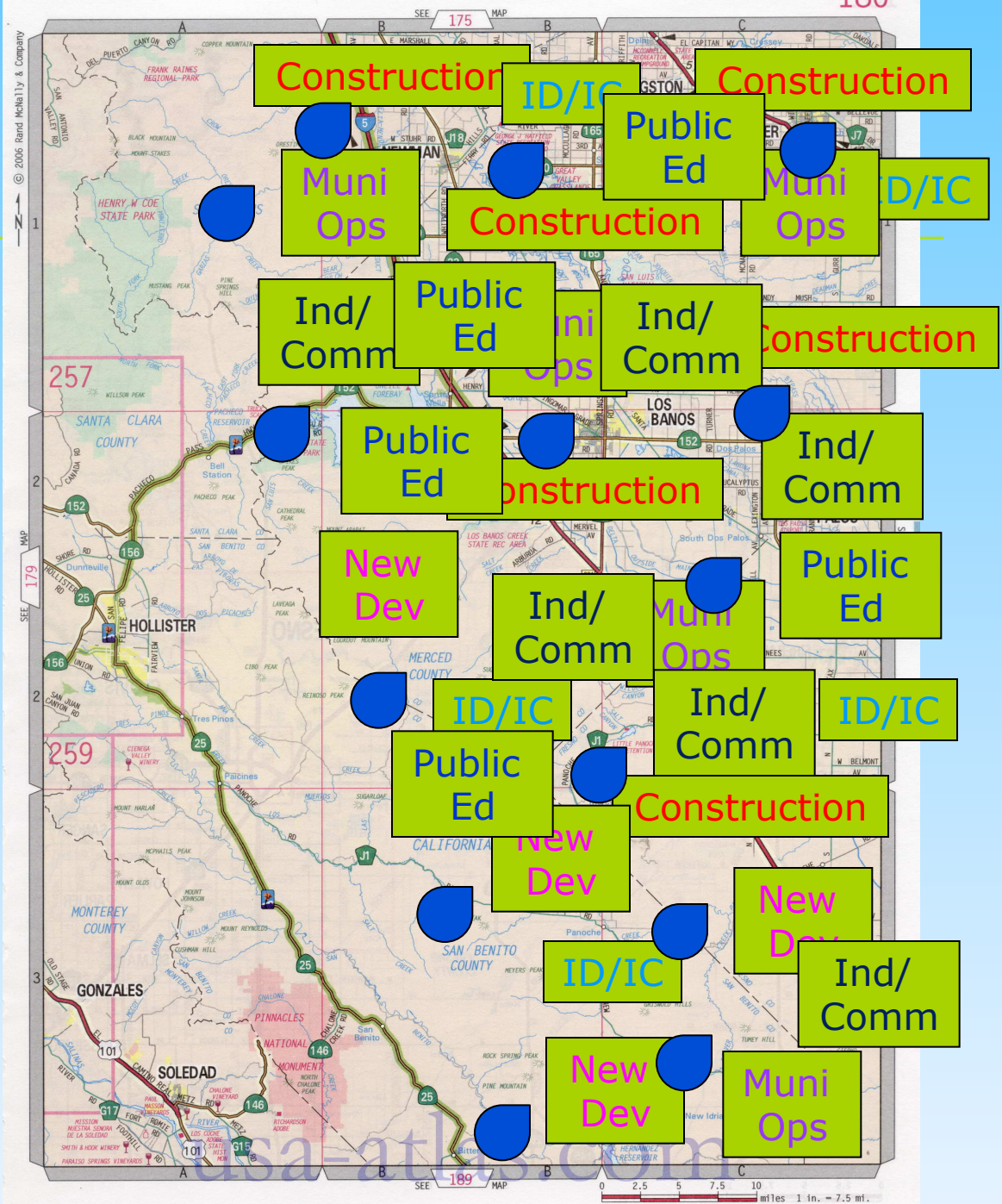
How did our Program do?

Pollutant of Concern (POC) Focus



And/Or





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SEE 175 MAP

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SEE 179 MAP

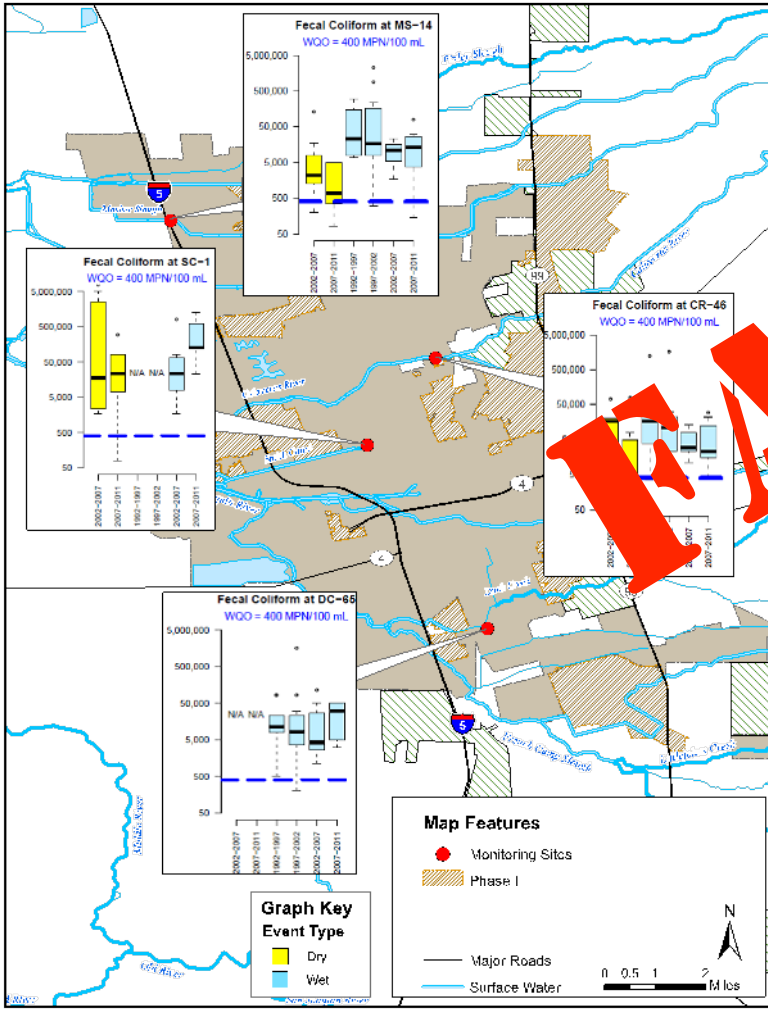
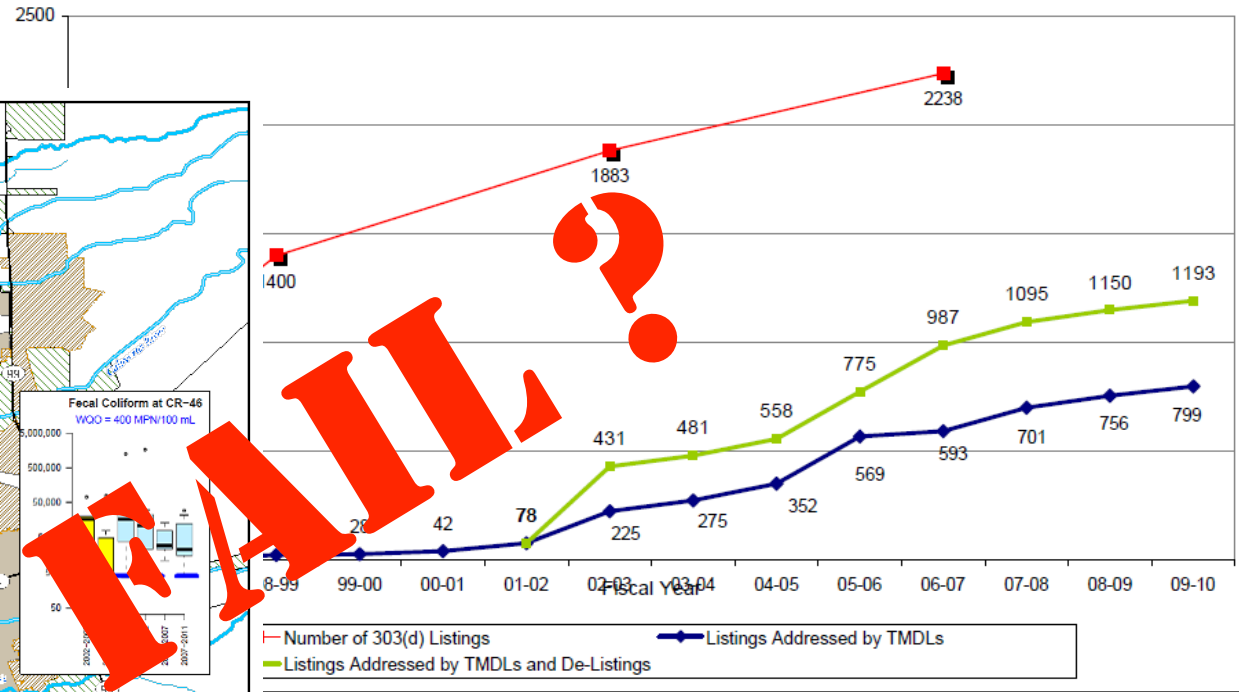
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SEE 189 MAP

0 2.5 5 7.5 10 miles 1 in. = 7.5 mi.

Decreasing the Gap: The Difference Between Number of Listings and Listings Addressed

303(d) Listings and Listings Addressed by TMDLs and De-Listings



waterboards.ca.gov/water_issues/programs/nps/docs/rpt1_1011.pdf

What Can We Do To Affect the Change That We Desire????

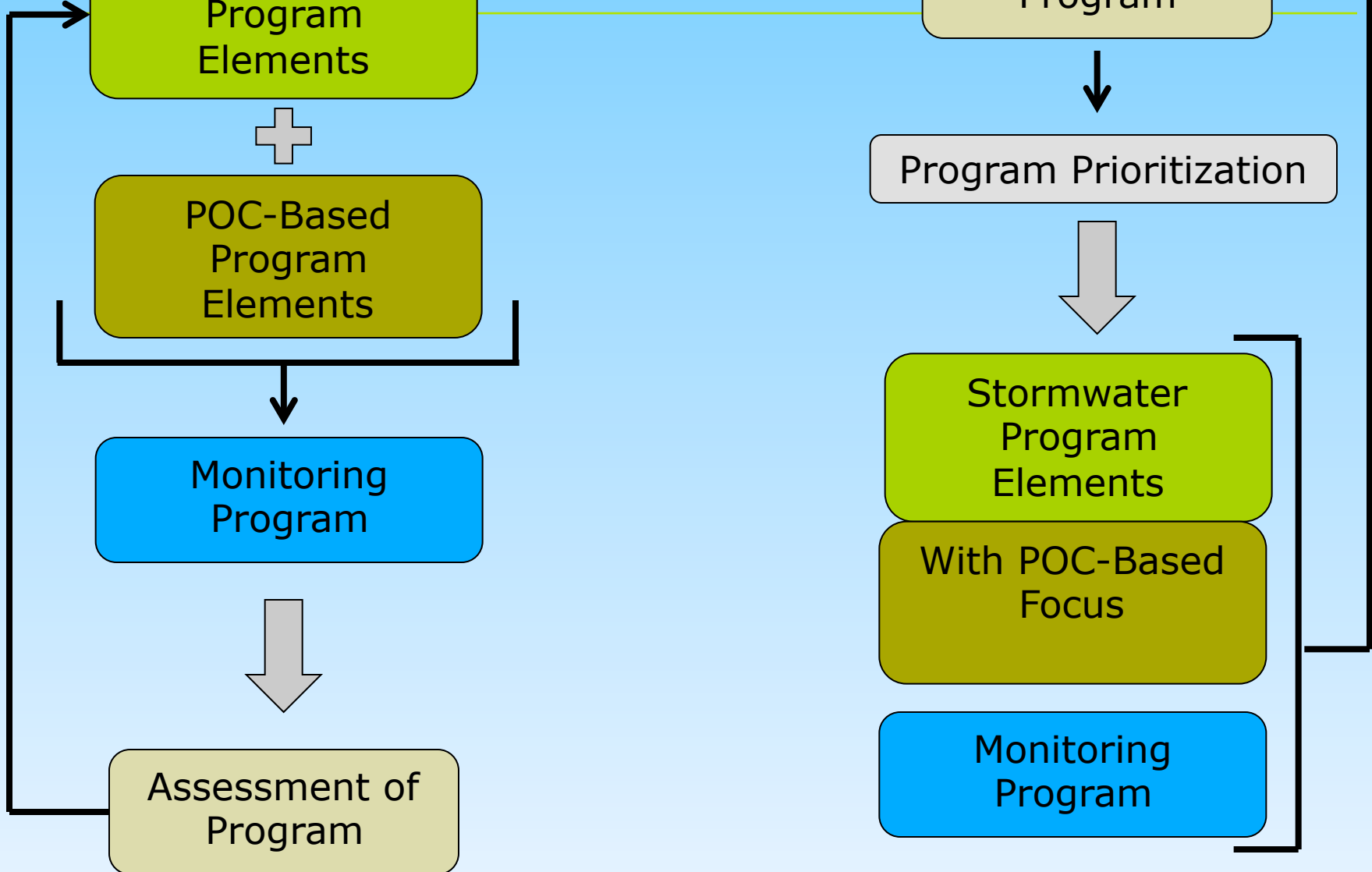
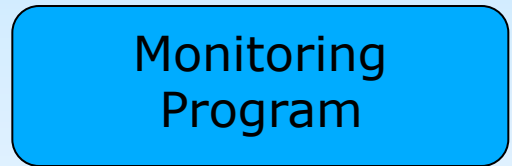
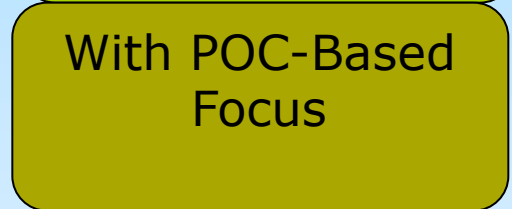
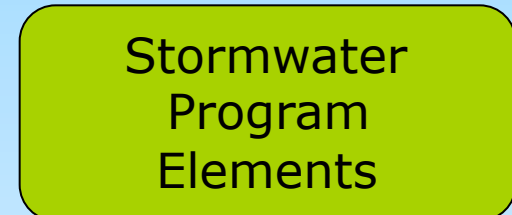
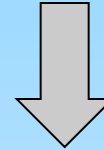
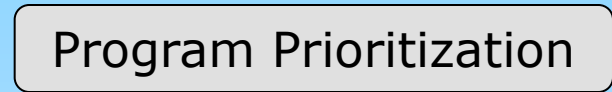
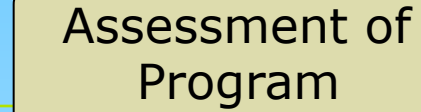
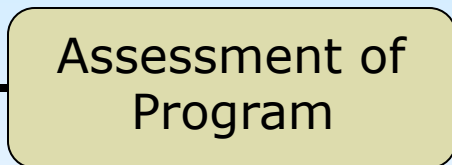
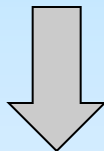
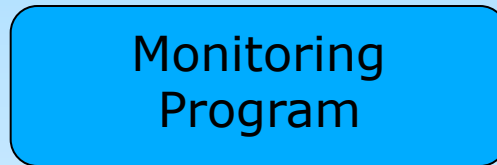
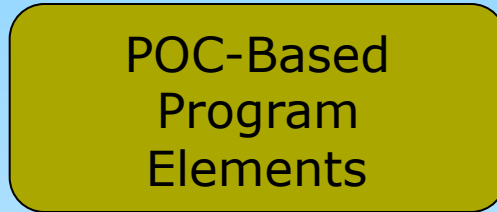
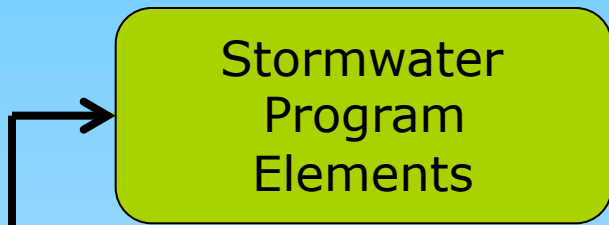
- Can we be more focused in our efforts?
- Can we prioritize our plans & resources?
- What are the pollutants of concern (POCs)?
- What actions directly affect those POCs?
- What are our goals?
- How will we know if we are successful?
- How will we use the results to improve our program?

The Paradigm Shift & Current Permits

Historical Approach



New Approach



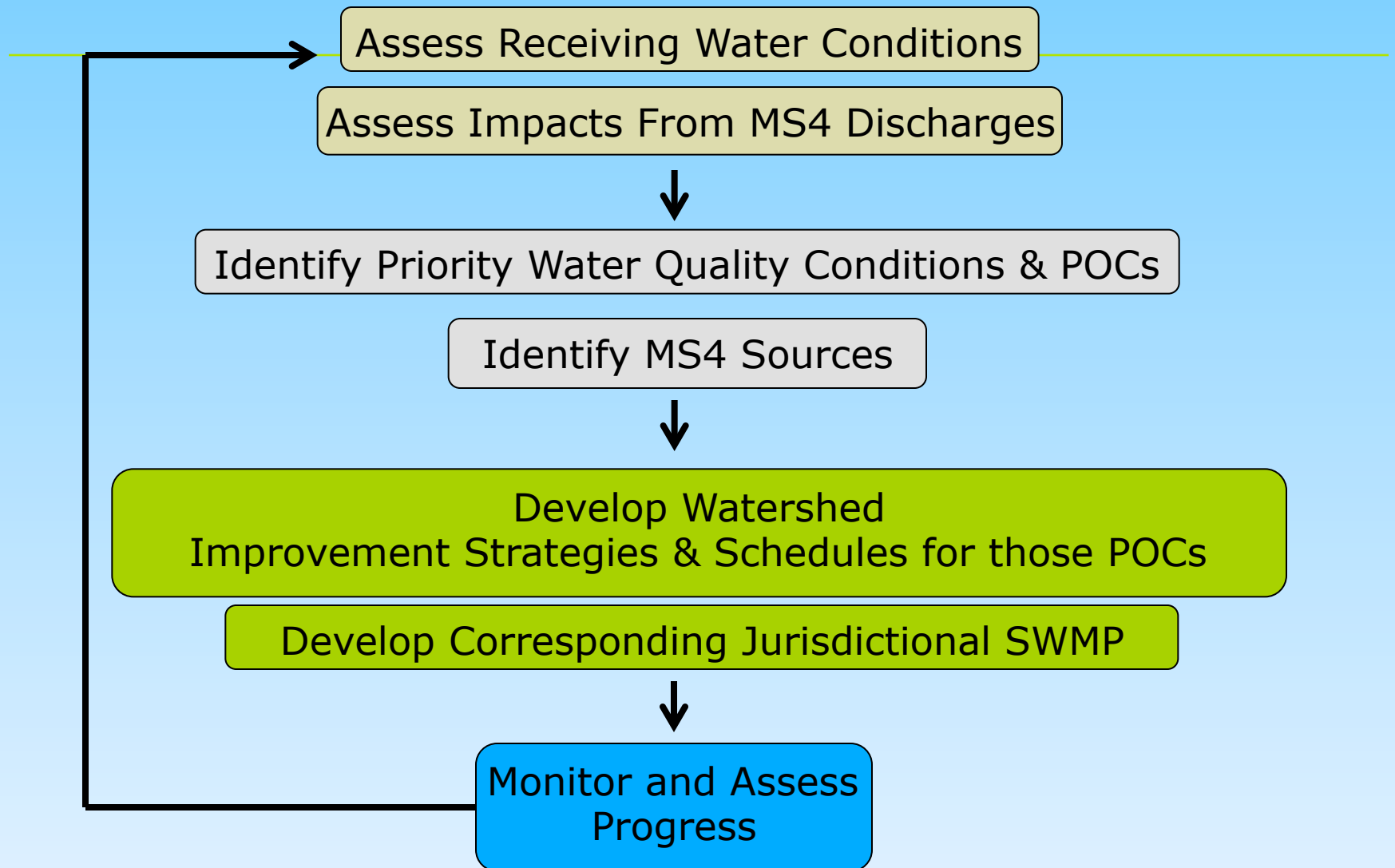
San Diego Regional MS4 Permit (TO R9-2013-0001)

- Development of Water Quality Improvement Plan (WQIPs) – Provision B
 -*This goal will be accomplished through an adaptive planning and management process that identifies the highest priority water quality conditions within a watershed and implements strategies through the jurisdictional runoff management programs to achieve improvements in the quality of discharges from the MS4s and receiving waters.*

Los Angeles MS4 Permit (TO R4-2012-XXXX)

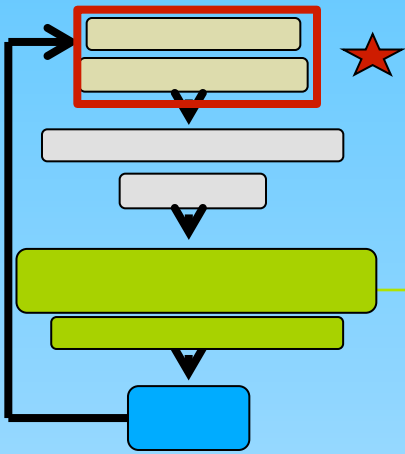
- Development of Watershed Management Programs – Provision C
 - *.....allow Permittees the flexibility to develop Watershed Management Programs to implement the requirements.....on a watershed scale through customized strategies, control measures, and BMPs....where applicable, through each Permittee's storm water management program and/or collectively by all participating Permittees through a Watershed Management Program*

San Diego and Los Angeles Region Approaches



Example Application

Assess Receiving Water Conditions & MS4 Discharges

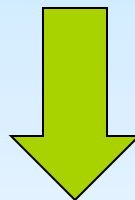


“Cause or Contribute” Evaluation

- Evaluate Reports of Water Quality Exceedances
- Summarize the RWQEs for Permit Period
- Establish Benchmark for POC Identification
- Identify the Samples that Exceed the Benchmark

Evaluate Listings/TMDLs

- Evaluate TMDLs (Developed/Upcoming)
- Evaluate 303(d) List



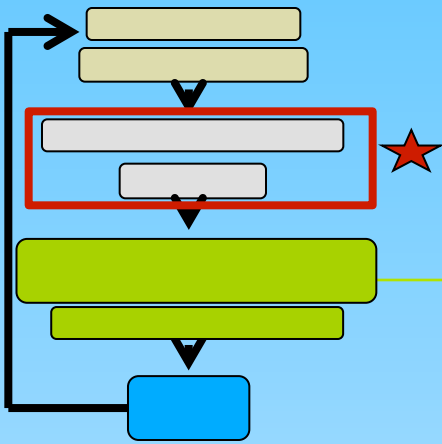
Identify Priority POCs and Sources of POCs

Table 1. Potential Sources of Mercury

Sources and Activities
Residential
<ul style="list-style-type: none">Household productsImproper disposal of mercury-containing products
Industrial
<ul style="list-style-type: none">ChemicalsCombustionManufacturingProduction
Commercial
<ul style="list-style-type: none">Dental officesHospitalsLaboratoriesMedical clinicsSecondary schoolsUniversitiesVehicle service facilities
Other Sources
<ul style="list-style-type: none">Atmospheric depositionLegacy sources (i.e., mining)

■ Priority POCs

- E.Coli
- Fecal Coliform
- Chlorpyrifos
- **Mercury** →



Identify Priority POCs and Sources of POCs (Cont' d)

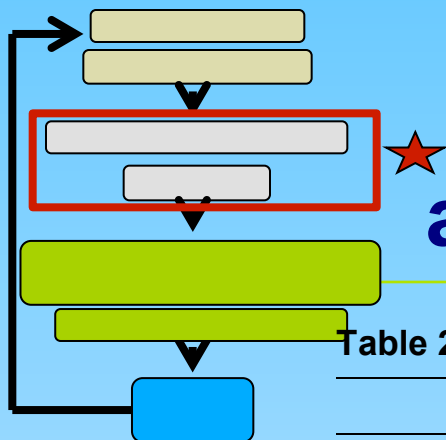
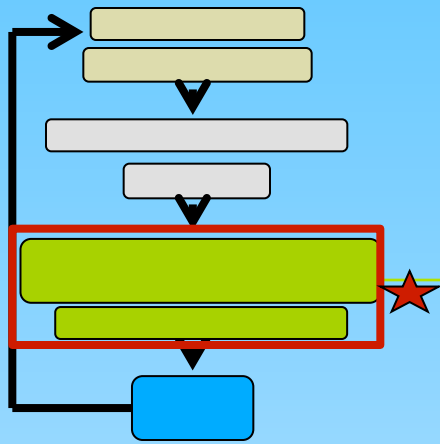


Table 2. Common Mercury-Containing Products for Consumer and Commercial Uses

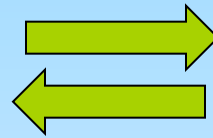
Product Type	Mercury-Containing Products
Consumer Products	
Household Items	Airflow/thermostat controls, antique instruments (barometers, mirrors, organs), appliances, button cell batteries, clothes irons, light switches, latex paint, tilt switches, fluorescent light bulbs
Medical Pharmaceutical Products	Thimerosal (preservative in vaccines, antibiotics), contact lens solution, dental amalgam, thermometers, ear and eye drops, skin cream
Automotive Parts	Switches in pre-2003 cars: light switches, heated car rear windows, acceleration sensors, school bus braking systems; switches in new cars' navigation screens and HID headlights
Commercial Products	
Medical Products	Antibiotics, batteries, alarms, blood pressure cuffs, hearing aids, pacemakers, scales, ultrasound, tubes, vaccines
Electrical Products	Tilt switches, security systems, pressure controls, silent light switches, temperature control, thermometers, laptop computers, computer monitors
Manufacturing Products	Laboratory reagents (i.e., mercury chloride, mercury iodide, mercury nitrate, Hitachi Chem Analyzer reagent, Golgi's, Takata's reagent)

Develop Watershed Plan & Corresponding JURMP/SWMP

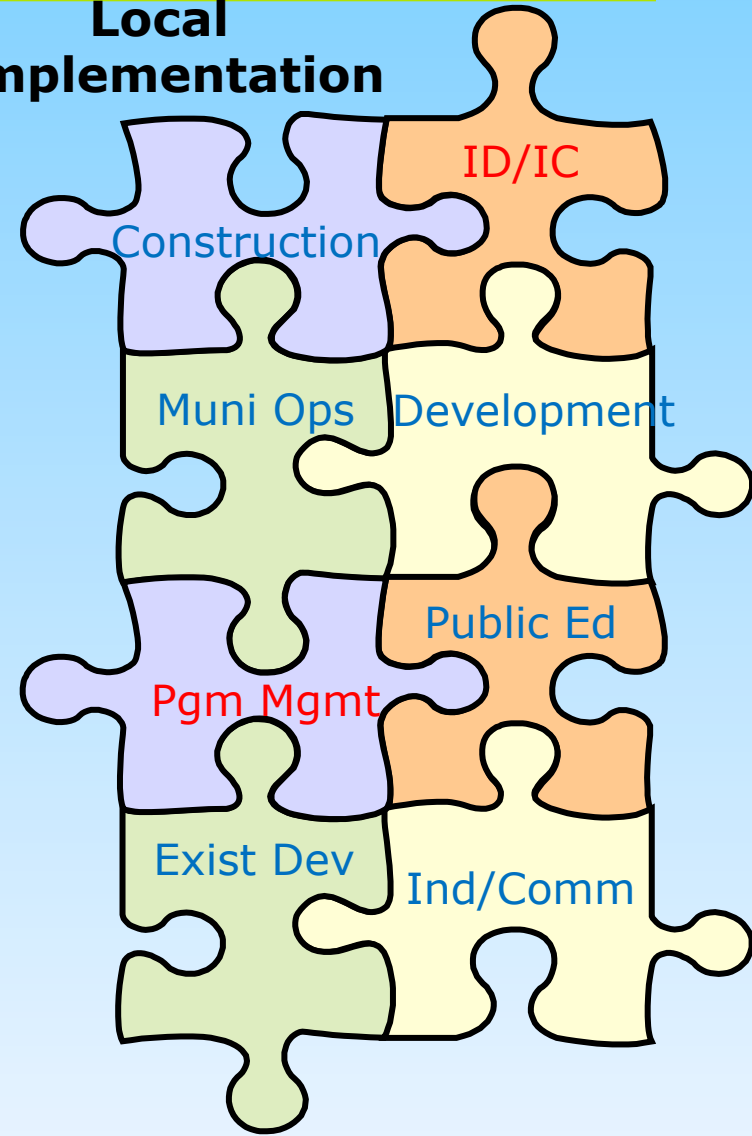


Watershed Planning

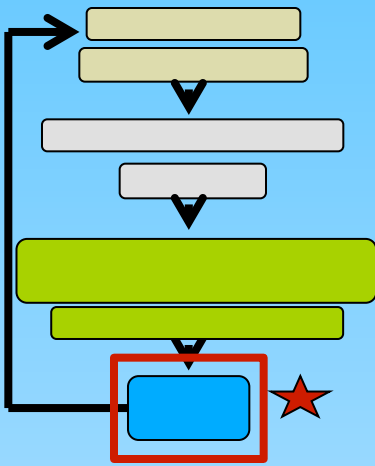
- Identification of POCs
- Identification of Sources
- ID Potential Strategies/Activities
 - Regional
 - Local
- Goals
- Monitoring/Assessments
- Schedules



Local Implementation



Monitor and Assess Progress



Example Mercury-Related Management Questions & Goals

- Are impacted waterways meeting the TMDL targets for methylmercury as specified in the applicable TMDL(s)? [**Environmental – OL6**]
- Are the urban stormwater dischargers a significant source of total and/or methylmercury to the receiving waters? Are there other sources that are major contributors? [**Environmental – OL5**]
- Are the Permittees meeting the load allocations for methylmercury as specified in the applicable TMDL(s)? [**Environmental – OL5**]
- Are the Permittees effectively implementing BMPs that target mercury and/or prevent the creation of methylmercury? [**Programmatic – OL2-4**]

Monitor and Assess Progress (Cont' d)

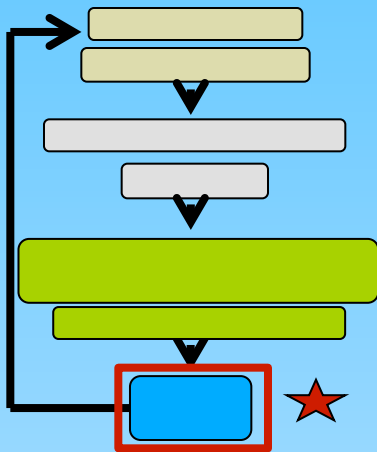


Table 3. Example Management Questions, Goals and Metrics

Program Activity	Example Management Question	Example goals	Example data/information to be collected
Providing outreach through a public education, outreach, and participation program designed to reach residential, commercial, and industrial users or sources of mercury-containing products or emissions	Is the general public aware of the need to properly dispose of mercury-containing products at the local household hazardous waste (HHW) facility?	80-100% of the residents are aware of the need to properly dispose of mercury-containing products at the local HHW facility.	Survey results using questions regarding awareness of proper disposal and existence of HHW facility Identify the source(s) of information for the residents (public service announcements (PSAs), brochures, community events, HHW facility, etc.)

Thank You!!

For Questions

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