EAST BAY MUNICIPAL UTILITY DISTRICT

Wet Weather Consent Decree Implementation Update

Planning Committee

January 9, 2018

Agenda

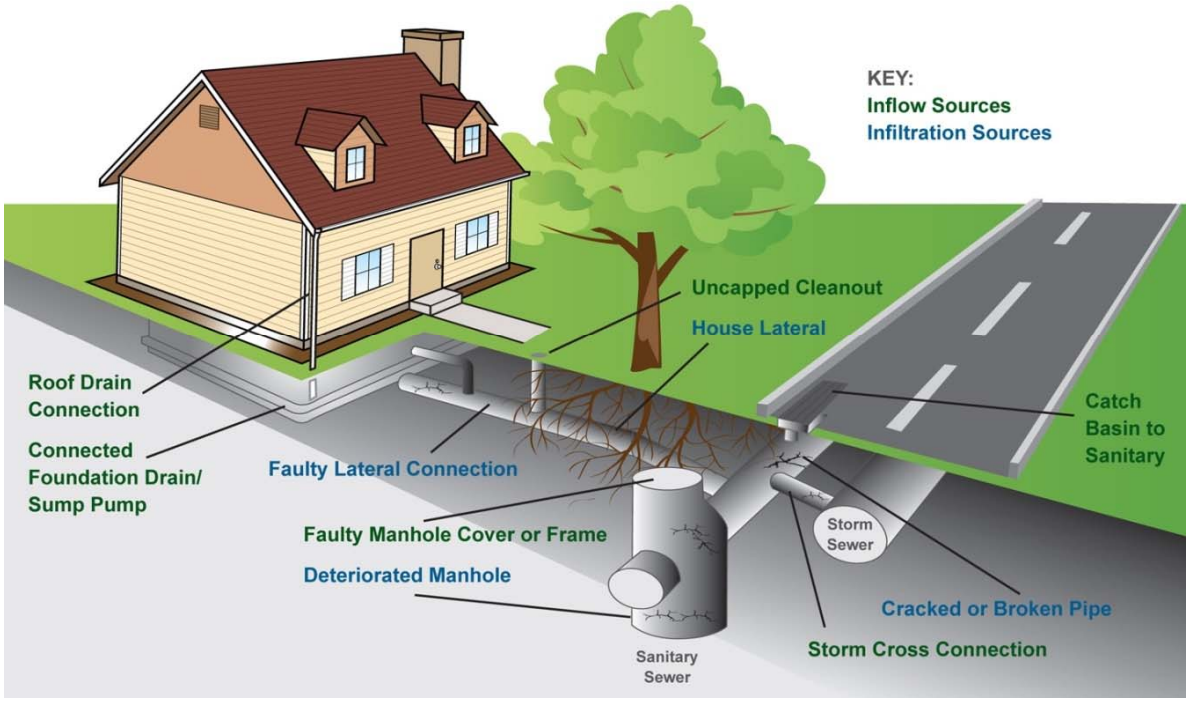
- Background
- EBMUD Work
  - Regional Private Sewer Lateral Program
  - Regional Technical Support Program
  - Capital Projects
- Compliance Progress
- Upcoming Agreements
- Next Steps

Background

- September 22, 2014 – District and Satellite agencies enter into Consent Decree
- Consent Decree designed to remove significant amount of I/I from the collection system, resulting ultimately in cessation of discharge from Wet Weather Facilities (WWFs)
  - Notable shift from historical approach of treatment and/or regional storage
  - If check-in milestones are not met, potential for work to shift towards the traditional approach
- Rehabilitation/repair/replacement to be performed by the responsible party
  - PSLs :: homeowners/business owners
  - Sewer mains/manholes :: Satellite agencies
  - Interceptor System :: District

Background

“I/I”:
Infiltration
and Inflow



Background

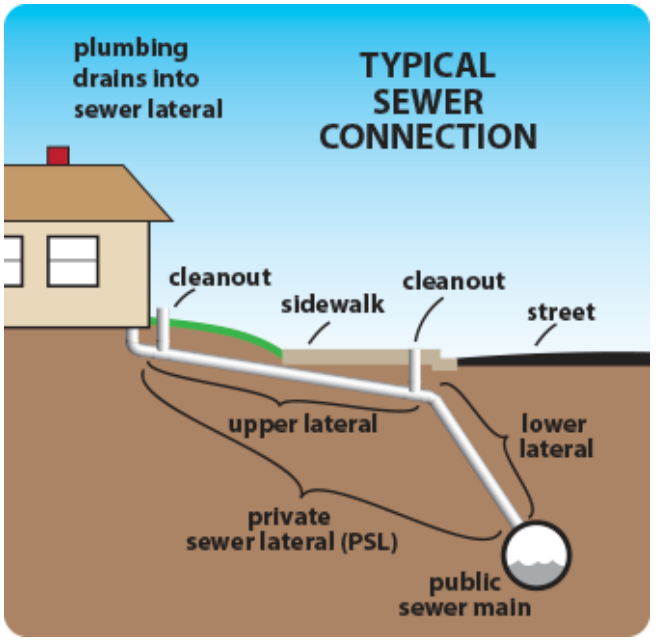
- Effective Period of 22-years
- Key checkpoints throughout
  - Check-in #1 2022
  - Check-in #2 2030
  - Overall compliance 2036
- Failure to meet check-in targets results in, as yet undefined, revised work requirements with significant EPA discretion

EBMUD Work Requirements

- Regional Private Sewer Lateral (PSL) Program
- Regional Technical Support Program (RTSP)
- Capital Projects
  - Urban Runoff Diversion Project
  - Pump Station Q Forcemain Reversal Project

EBMUD Work
Regional PSL Program

- PSL is privately-owned pipe that conveys waste flows from property to publicly-owned sewer mains



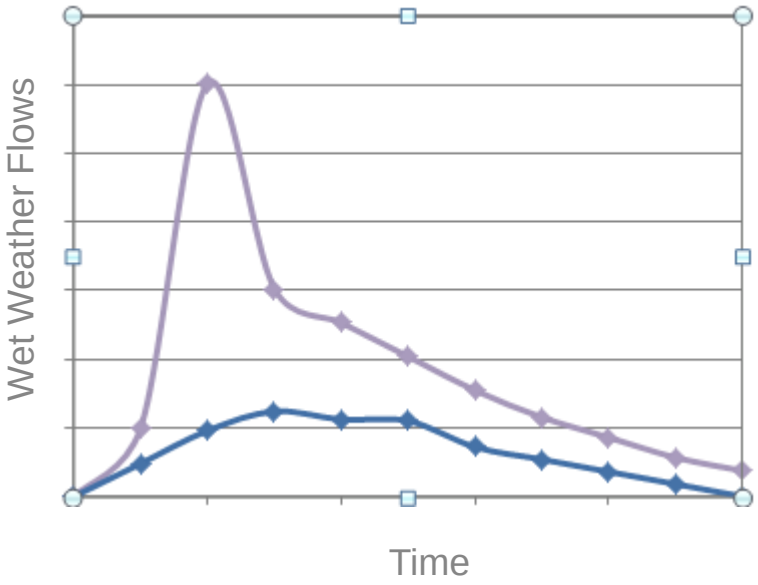
- Collectively, PSLs in the region are equivalent in length to the publicly-owned regional collection system

EBMUD Work
Regional PSL Program

- Regional PSL Program includes all of SD-1, except for the City of Berkeley (which manages its own)
- Ordinance compliance remains high
  - FY2017 compliance of 94% (KPI of 90%)
- Approx. 27,389 certificates issued since 2011
  - 21% of all parcels within program boundaries
- Approx. 370-miles of PSLs certified leak-free

EBMUD Work
RTSP

- Key Challenge
  - Uncertainty regarding WHY the collection system has such a fast response during wet weather
- Program Components
  - Requires minimum of $2M/yr to identify sources of inflow and rapid infiltration
  - EBMUD identifies specific sources of infiltration and inflow
  - Satellite communities pursue source elimination

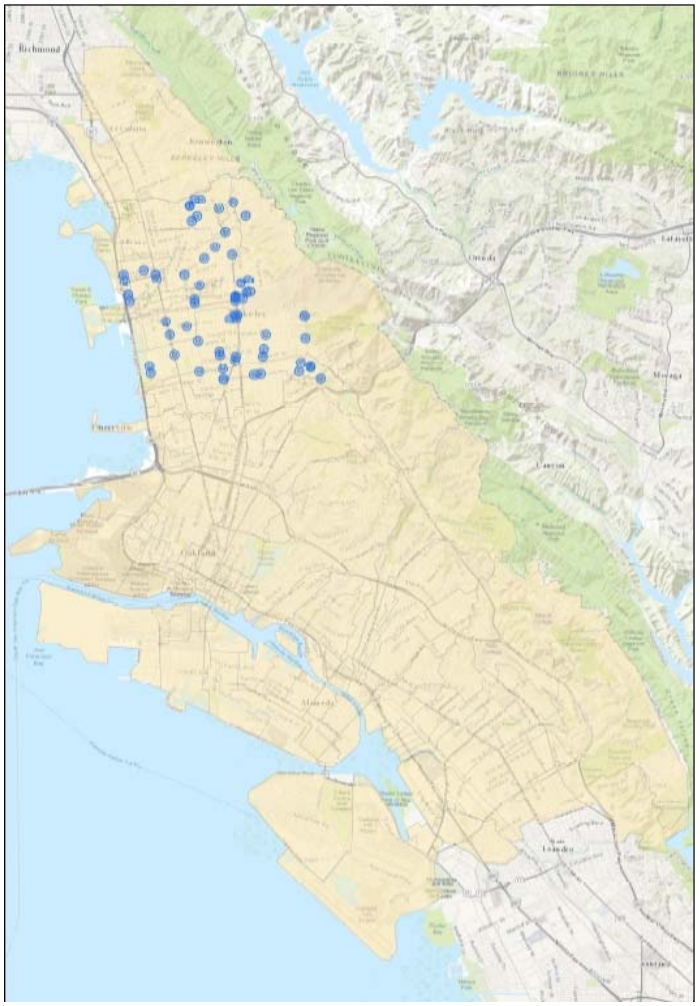


EBMUD Work
RTSP Program Significance

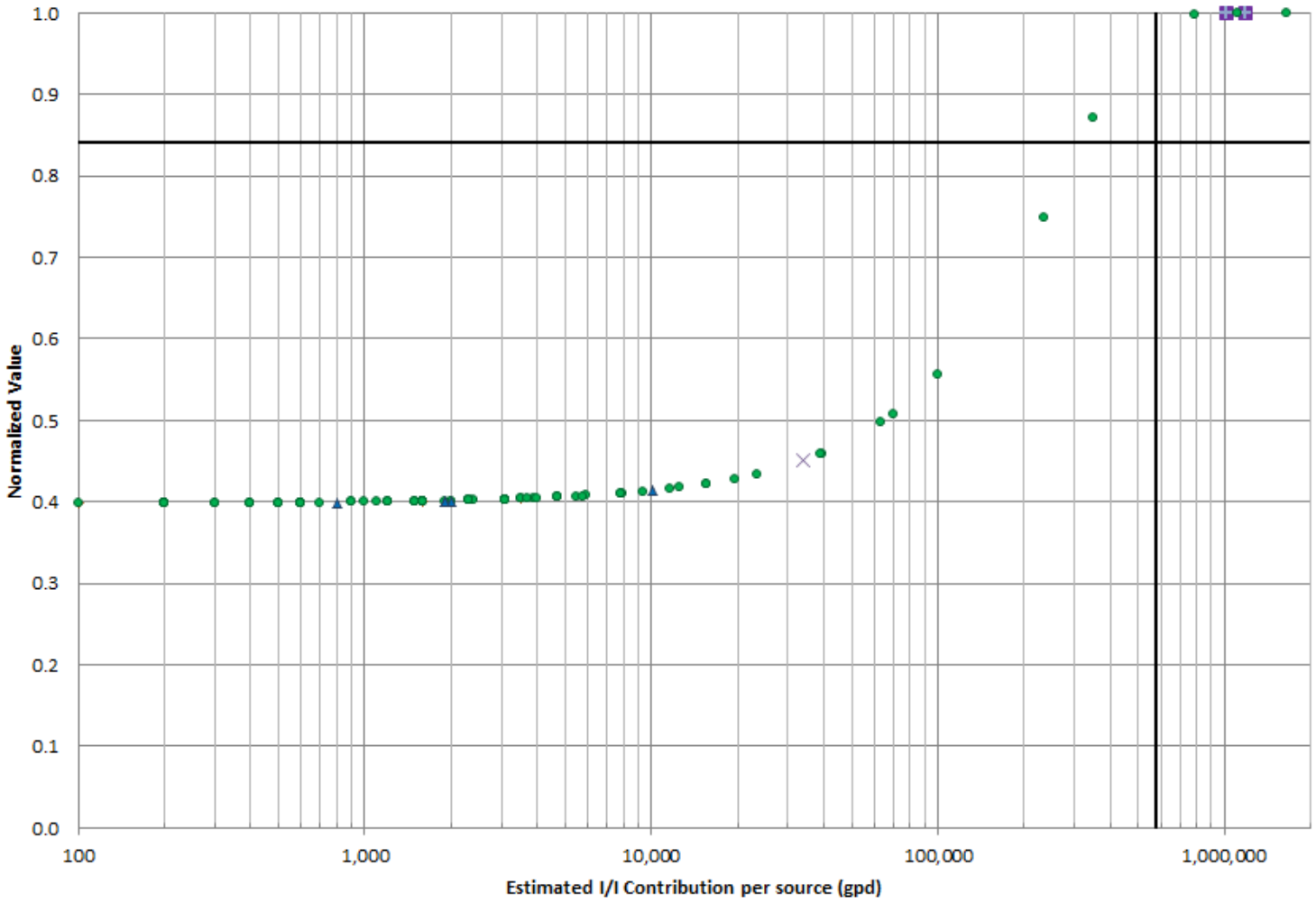
- Technical approach to identify significant flow sources and understand system response to storms
- Supplements satellite mainline sewer rehabilitation and Regional Private Sewer Lateral Program to achieve further flow reductions
- Critical to meet Consent Decree check-in targets and discharge elimination date

EBMUD Work
RTSP Investigations Performed

- Investigation Methodologies Used
  - Flow Monitoring
  - Smoke Testing
  - Closed-circuit television inspection
    - Traditional video and digital photography
  - Manhole inspection
    - Top-side and digital photography
  - Combined Investigations
    - Dye testing with push camera inspection and top-side manhole inspection



EBMUD Work
RTSP Findings to Date



EBMUD Work
Capital Projects

Urban Runoff Diversion Project

- Divert dry weather flow from Alameda County Stormwater pump station in Oakland (~500,000 gal/day)
- Mitigation project for on-going operation of WWFs
- Commissioned in October 2017
- Since testing began, over 112 Mgal diverted to the MWWTP

Pump Station Q Forcemain Reversal Project

- Modify existing facilities to reduce discharges from Point Isabel WWF
- ~1600 feet of new pipe in Berkeley
- To be constructed by September 2020

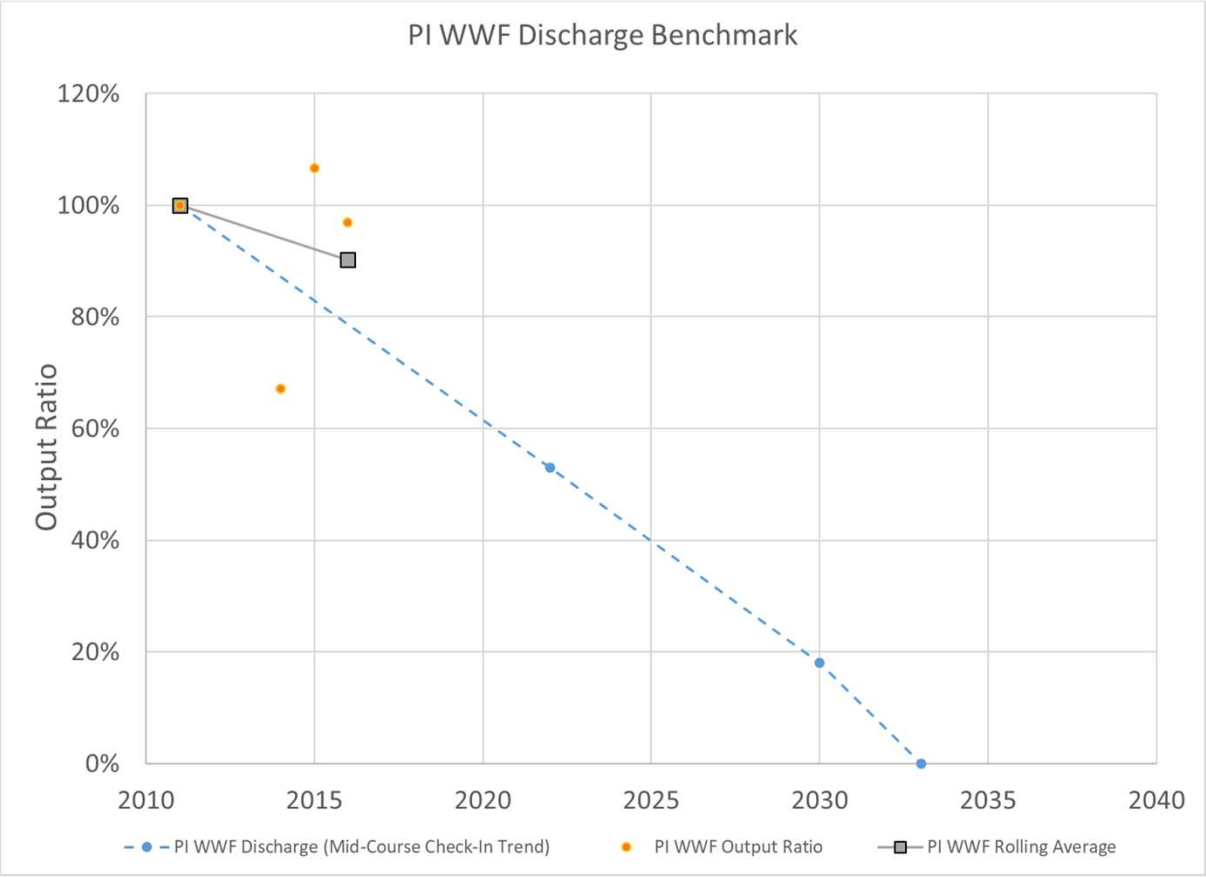
Compliance Progress

- Compliance at check-ins is based on modeled discharge reductions relative to baseline
- Annual modeling is done to assess progress
- Third annual model calibration completed in December

Location	Baseline (Mgal)	FY17 (Mgal)	Influent Volume Reduction
Point Isabel (PI) WWF	26.7	25.6	4.1%
Main Wastewater Treatment Plant (MWWTP) Influent	355.9	345.2	3.0%
San Antonio Creek (SAC) WWF	13.2	11.3	14.4%
Oakport (OAK) WWF	66.2	51.8	21.8%
Total	462.0	433.9	6.1%

Compliance Progress
Point Isabel WWF

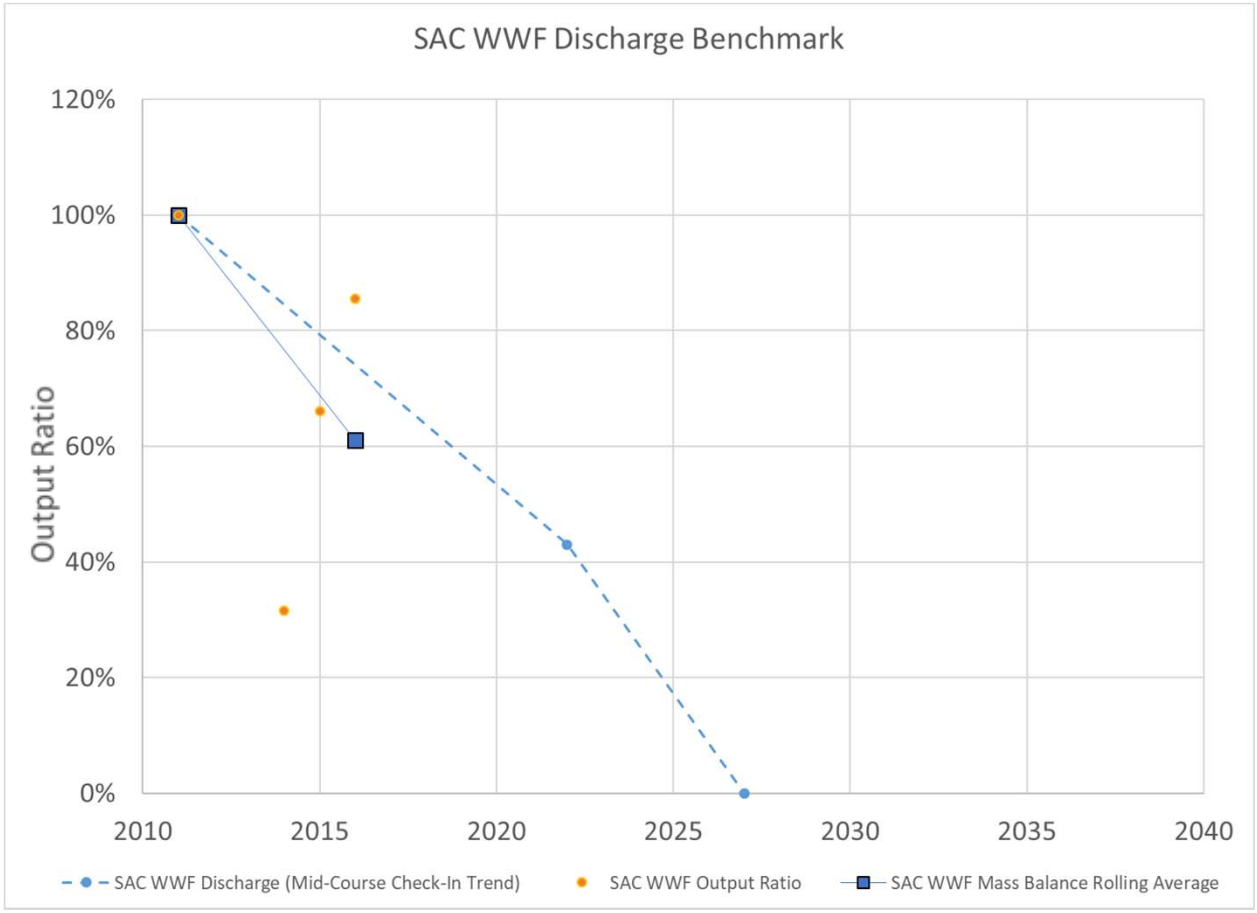
Output Ratio = modeled current discharge / modeled baseline discharge



PI WWF is at risk of not being in compliance at the Check-in in 2022

FY17 Three-Year Average Output Ratio – 0.90 (10% reduction)

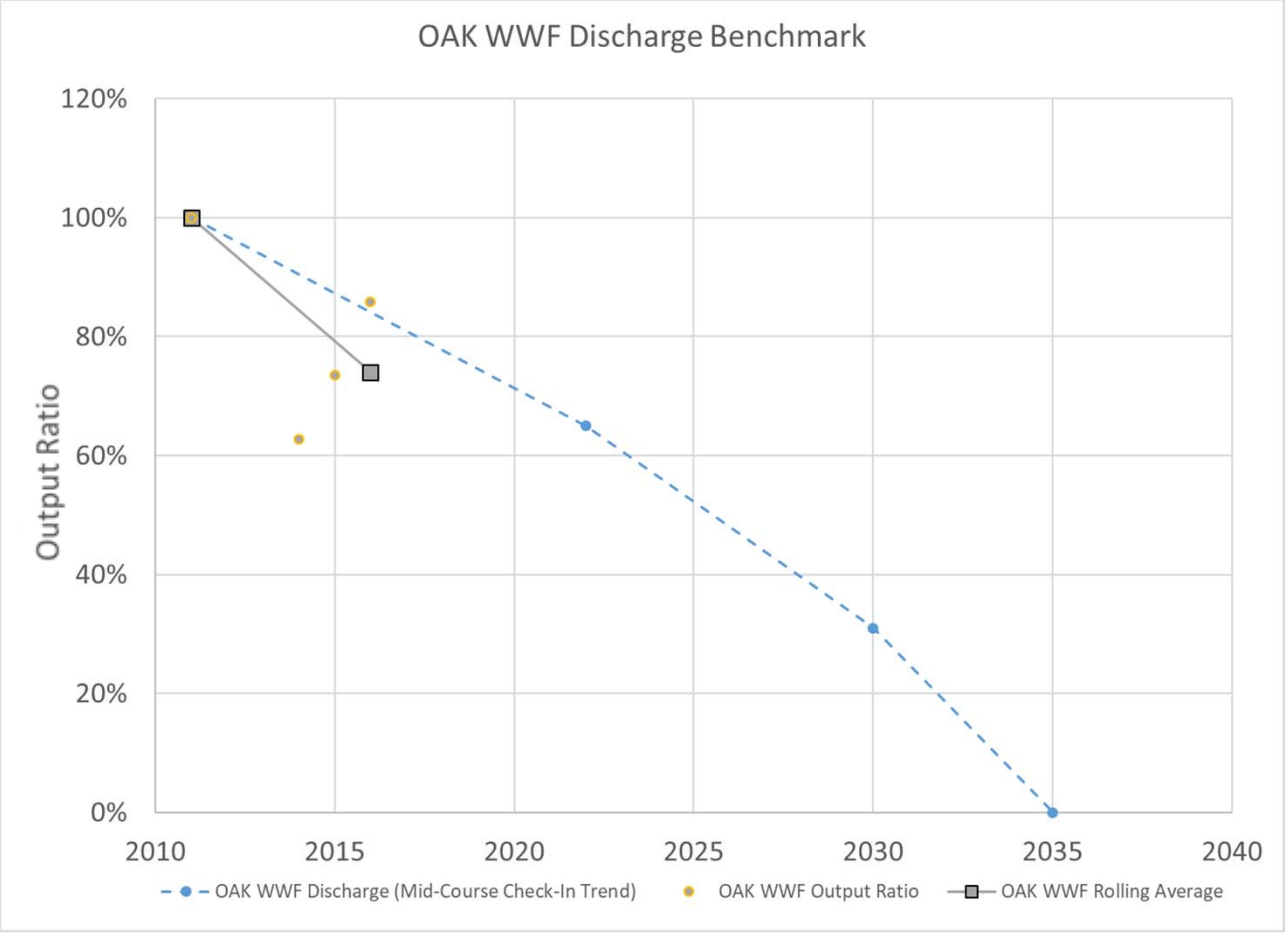
Compliance Progress
San Antonio Creek WWF



SAC WWF is currently on pace with the Consent Decree benchmarks

FY17 Three-Year Average Output Ratio – 0.61 (39% reduction)

Compliance Progress
Oakport WWF



OAK WWF is currently on pace with the Consent Decree benchmarks

FY17 Three-Year Average Output Ratio – 0.74 (26% reduction)

Compliance Progress
Summary

- Premature to draw conclusions based on three data points
- Groundwater levels appear to influence results
  - Three years to date include among the driest and wettest on record
- District has installed 375 meters this wet season to better delineate areas of good and poor performance
- Continued vigilance will be needed to meet check-in

Upcoming Agreements

- Pump Station Q Forcemain Reversal Contracts
  - February 2018 – North Interceptor Relief Sewer (SD-400)
  - May 2018 – Virginia Street Relief Structure (SD-401)
- Summer 2018:
  - New Joint Exercise of Powers Agreement for Regional Collaborations
  - Side Agreement to document how the Consent Decree defendants address potential disagreements as part of check-in process
    - Includes Roles & Responsibilities for continued implementation of Regional PSL Program

Next Steps

- Continue to implement and refine RTSP
  - Data analysis
  - Field work
  - Evaluation of technologies
- Continue implementation of Regional PSL Program and Capital Projects
- Continue to monitor performance regarding flow reductions and prepare for the 2022 check-in