



**EPA Consent Decree
Annual Information Meeting
Regional Wet Weather
Management Plan**

January 24, 2012

Requirements of the Consent Decree

- *“...after providing reasonable notice on its webpage and in a newspaper of general circulation”*
- *“...shall hold an annual informational meeting open to the Localities and the public”*
- *“HRSD shall convey information on the status of the RWWMP, HRSD – Locality cooperation and steps citizens within the Localities can take to protect the receiving waters”*

Objective of the Consent Decree

- “HRSD, working in coordination with the Localities, to fulfill the objectives of the Clean Water Act with a goal of eliminating Sanitary Sewer Overflows (SSOs)”
- The Regional Wet Weather Management Plan will establish the Level of Service for elimination of SSOs



HRSD and the Regional Sewer System

HRSD System

- ~ 430 miles of large diameter force main
- ~ 50 miles of gravity sewer
- 81 pump stations
- 13 treatment plants

Regional Network

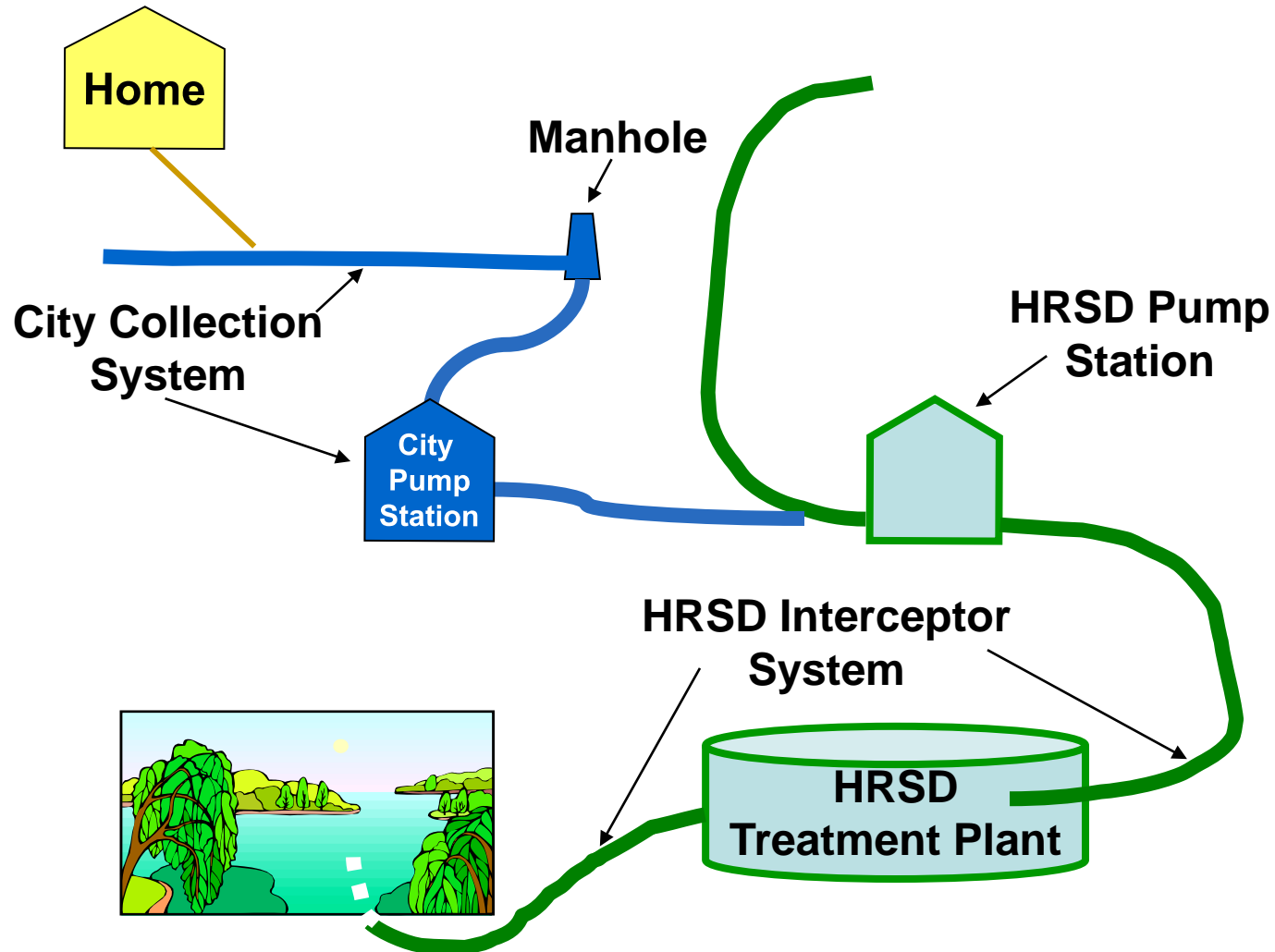
- 1.6 million served
- 5,800 miles of gravity sewer
- 1,500 pump stations
- 1,200 miles of force main

HRSD is Partnered With Localities

Localities in State Order

- Chesapeake
- Gloucester
- Hampton
- Isle of Wight
- James City Service Authority
- Newport News
- Norfolk
- Poquoson
- Portsmouth
- Smithfield
- Suffolk
- Virginia Beach
- Williamsburg
- York County

Regional Sanitary Sewer System



- Participants include EPA, DEQ and localities
- Twice per year in quarters when annual or semiannual reports are not due (July and January)
- Next briefing will be held on January 31, 2012

Overall Regulatory Status

- Region is in compliance with DEQ Special Order by Consent
- Federal Consent Decree was entered with the court on February 23, 2010
- All Consent Decree required submittals have been on time

Major Consent Decree Compliance Requirements

- Flow, Pressure and Rainfall Monitoring
- Regional Hydraulic Model and Assessment
- Condition Assessment Plan
- Interim System Improvements
- Management, Operations and Maintenance (MOM)
- Regional Wet Weather Management Plan (RWWMP)
- Post RWWMP Implementation Monitoring and Performance Assessment

State Consent Order Overview

Data Collection and Flow Monitoring

- SSO characterization
- Use of existing information
- System mapping
- Flow monitoring
- Rainfall monitoring
- Flow evaluation reporting

SSES Planning

- SSES Basin criteria
- Prioritization

Hydraulic Performance Assessment

- Guidelines for development and application of hydraulic model
- Procedures and standards for calibration and verification

Condition Assessment of Sewers and Pump Stations

- Guidelines for condition assessment
- Assessment standards
- Reporting requirements
- Find and fix guidelines

Rehabilitation Planning

- Rehabilitation resulting from SSES work
- Evaluation of effectiveness I/I reduction

RWWMP

- Capacity assessment
- Level of service selection
- Capacity enhancement solutions
- Affordability

Regional Data Collection Efforts

- Extensive Flow, Pressure and Rainfall Network (greater than 360 measurement instruments) operational since March 12, 2010
- Data Quality Assurance Program is in place
- Final Flow Monitoring Report was submitted with one year of data

- Initial Regional Hydraulic Model Report submitted to EPA/DEQ on November 30, 2010
- Calibration is using rain events from March, May and September
- Regional Hydraulic Model Report submitted on July 31, 2011
- Extensive coordination with localities on model inputs

Condition Assessment Program

- Preliminary Condition Assessment Report approved by EPA
- Program is well underway – four inspection and repair contracts awarded
- Gravity main inspection is complete
- Force main inspection is underway, some challenges to date
- Prompt Repair contract is in place to address severe defects
- First major milestone of November 26, 2011 was met.

Condition Assessment Program

Inspection Type	Performance To Date
Force Main Inspection	
- Level 1 Inspections	134,000 LF
- Reservoir FM Inspection	3,921 LF (included in Level 1 above)
- Level 2 Inspections	12 of 12 required by Level 1
- Group Ferrous Inspections	31,460 LF
Gravity Main Inspection	257,245 LF
Manholes/Structures	1,278 Manholes or Structures

Prompt Repairs Program

- 44 separate sewer system defects have been identified
- 21 Prompt Repair Work Orders have been developed
 - 9 Work Orders are complete
 - 1 Work Order is in progress
 - 11 Work Orders are in permitting / development stages

Interim System Improvements

- Consent Decree includes requirement to complete 33 CIP projects totaling \$140 million by February 23, 2018.
- Several projects completed, many in construction, most of remainder in design
- On track for completion by deadline

Interim Improvements

CD Ref Number	CIP Number	Project Name	Project Status
1	BH-111	Claremont Avenue Pump Station Rehabilitation	Project Complete
2	AT-100	Atlantic Pressure Reducing Station Emergency Generator Replacement	Project Complete
3	AT-113-2	Lake Ridge Interceptor Force Main Section B - Contract 2 (Land)	Project Complete
4	YR-100	Big Bethel Road to J Clyde Morris Boulevard Interceptor Force Main Replacement	Project Complete
5	JR-109-1 & 2A	Williamsburg-James River Connection Force Main Section II and Lucas Creek-Woodhaven Interceptor Force Main Replacements - Phase 1 & 2A	Construction completed and in project close-out
6	YR-108	Route 171 Interceptor Force Main	Project Complete
7	YR-104	Kiln Creek Interceptor Force Main	Project Complete
8	VIP-120	South Trunk Sewer Section F 20-Inch, Section H 8-Inch, and Section H 12-Inch Interceptor Force Main Replacement and Gravity Sewer Chesterfield Blvd. Replacement	Construction Phase

Interim Improvements (Cont.)

CD Ref Number	CIP Number	Project Name	Project Status
9	AT-108	Eastern Branch Sections A & B, Green Run Section C, and 24-Inch Kempsville Road Force Main Replacements	Project Complete
10	VIP-106	North Trunk Sewer Section W 8-Inch and 12-Inch Force Mains and Larchmont Force Mains (Formerly Siphon Lines) Replacements	Design Phase
11	VIP-105	North Trunk Sewer Section R 6-Inch Interceptor Force Main and 10-Inch Gravity Replacement	Construction Phase
12	VIP-104	North Trunk Sewer Section D 24-Inch Interceptor Force Main Replacement	Construction Phase
13	AT-112-1	Hilltop/Point O'Woods Interceptor Force Main Replacement - Phase I	Project Complete
14	AT-112-2	Hilltop/Point O'Woods Interceptor Force Main Replacement - Phase II	Project Complete
15	WB-107	Williamsburg Interceptor Force Main Contract A Replacement	Design Phase
16	BH-100	33rd Street Pump Station Replacement/Rehabilitation	Design Phase

Interim Improvements (Cont.)

CD Ref Number	CIP Number	Project Name	Project Status
17	VIP-133	Sanitary Sewer System Portsmouth VA Contract A Clifford Street Force Main	Design Phase
18	BH-114	James River Diversion 35th Street Phase III and Boat Harbor Outlet Sewer Relocation I-664 Rehabilitation	Construction completed and in project close-out
19	BH-112	Hampton Trunk Sewer Division A Replacement	PER Phase
20	JR-106	Lucas Creek Pump Station Upgrade	On schedule for PER in 2013
21	VIP-131	South Trunk Sewer Section C-42 inch Force Main Replacement	Construction Phase
21	YR-101	Coliseum Drive Pressure Reducing Station	Construction Phase
22	AB-105	Section W Force Main Replacement	PER Phase
24	JR-100	Center Avenue Pump Station Replacement	Bidding Phase

Interim Improvements (Cont.)

CD Ref Number	CIP Number	Project Name	Project Status
25	VIP-130	Norchester St Pump Station Replacement/Rehabilitation	Design Phase
26	AT-114	Providence Road Pressure Reducing Station Modifications	Design of Interim PRS underway, Final Project on schedule for beginning design in 2014
27	BH-101	58th Street Connecting Sewer Rehabilitation	Design Phase
28	BH-116	Bridge St. Pump Station Replacement/Rehabilitation	On schedule to begin in 2013
29	VIP-132	South Trunk Sewer Section G 36-Inch and 30-Inch Force Main Replacement	PER Phase
30	GN-128	Interceptor Systems Pump Station Control and SCADA Upgrades and Enhancements	Design Phase
31	NP-106	Wilroy Pressure Reducing Station, Pughsville PRS Upgrades, Suffolk PS Upgrades	Design of Wilroy Interim PRS underway. Final Wilroy PRS, Pughsville PRS, and Suffolk PS design in preliminary engineering phase
32	AB-100	Army Base 24-Inch and 20-Inch Transmission Main Replacements	Portion of pipeline completed. Remaining pending design scheduled for 2013
33	JR-108	Normandy Lane Interceptor Force Main Replacement	Design Phase

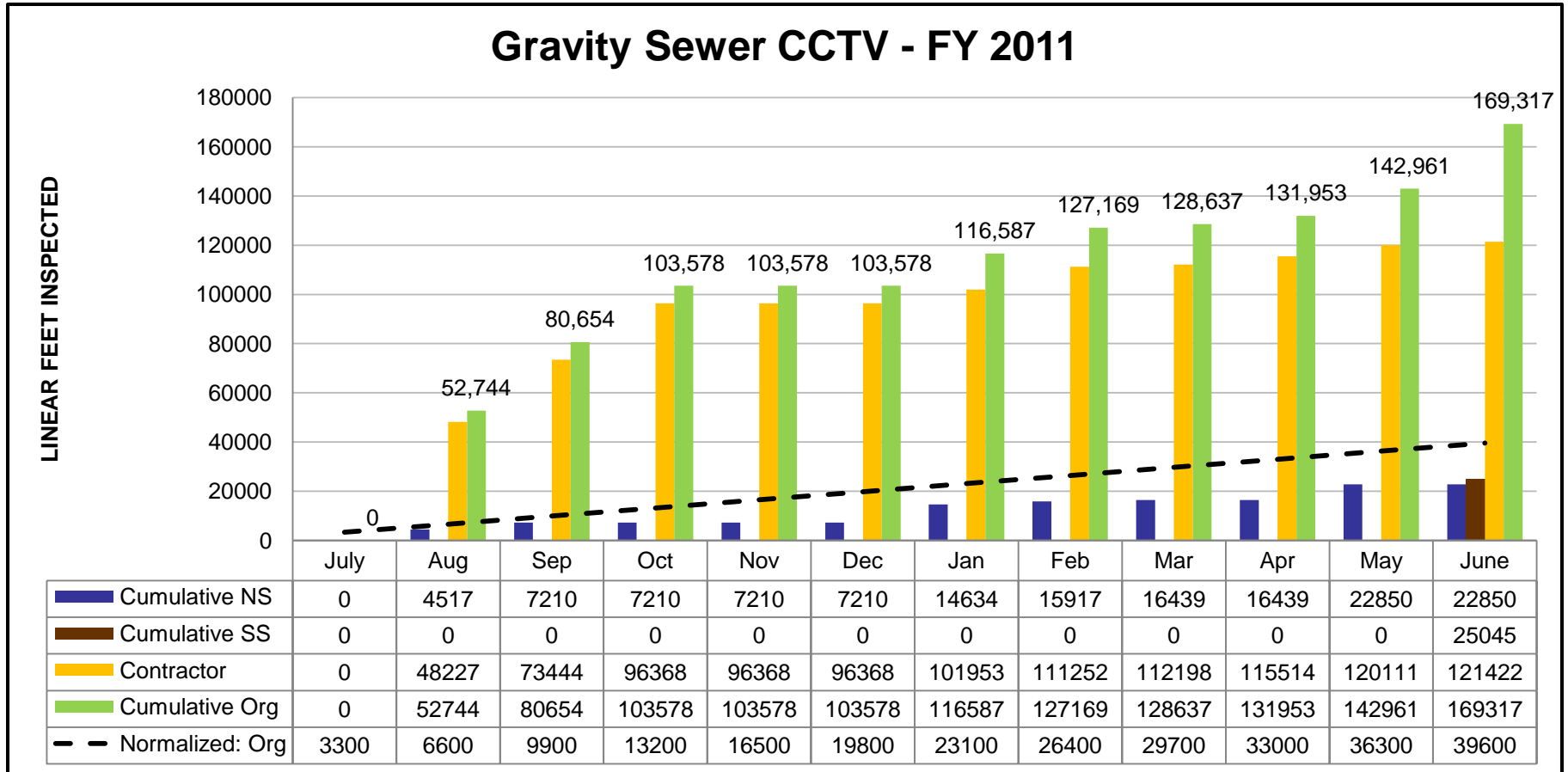
- MOM program approved in 2011
- Implementation of enhancements to existing programs has begun
- Performance measures are being tracked to evaluate the effectiveness of the programs

FY2011 MOM Program Performance

- 53 metrics were targeted for FY2011
- 43 met or exceeded specified goals
- HRSD met or exceeded all Consent Decree performance measures (6 of the aforementioned)
- 4 metrics will begin tracking in FY2012
- 6 metrics fell short of targets
 - SSO Response Within 2 Hours (98%)
 - SSO Release Initial Notice (95%)
 - Cathodic Protection (84%)
 - Employee Training (pending tracking mechanism)
 - Miss Utility “No Shows” (8 out of 42,863 tickets)
 - CIP Planning/Project Completion (61%)

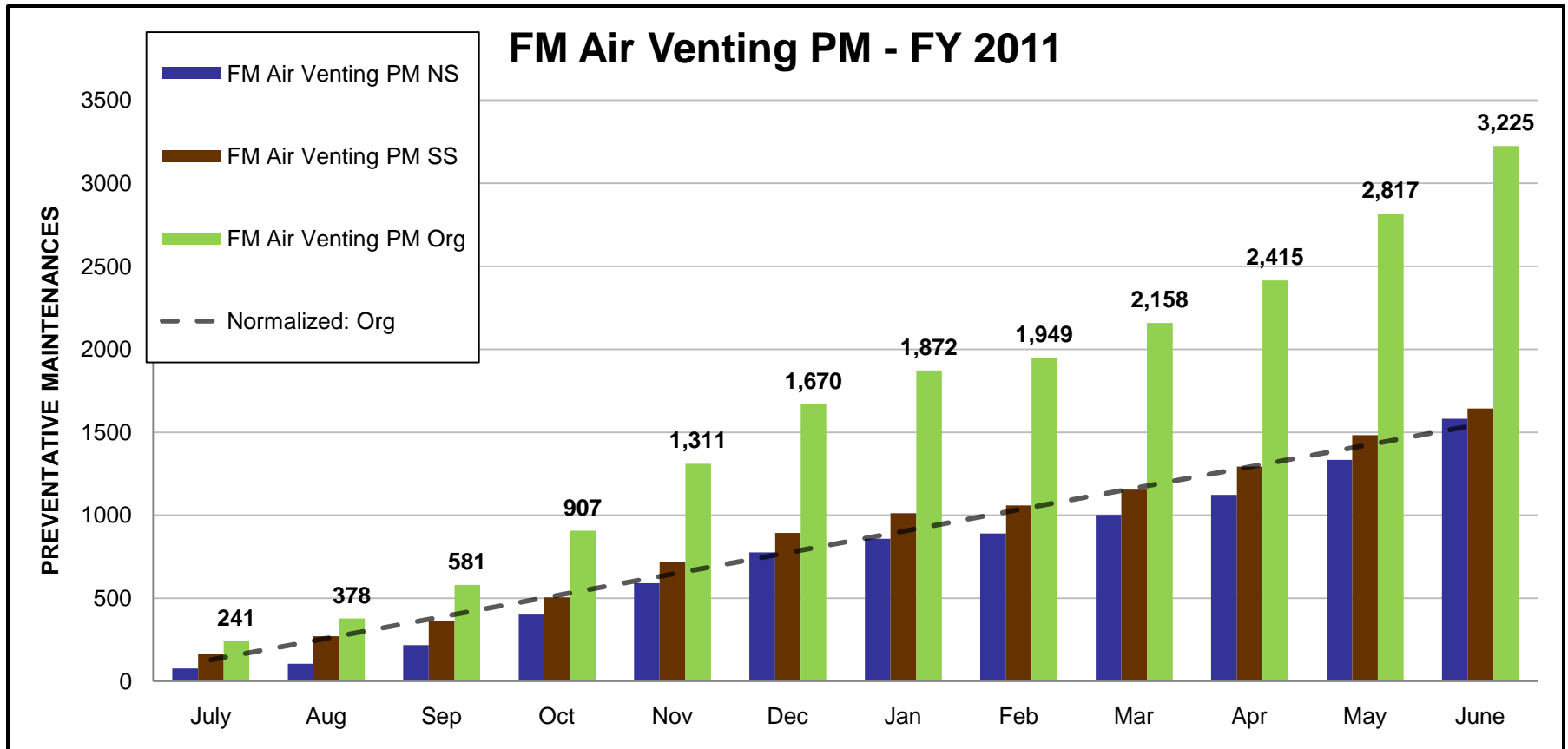
Consent Decree Performance Measures Review

Gravity Sewer Inspections; 39,600 linear feet per year



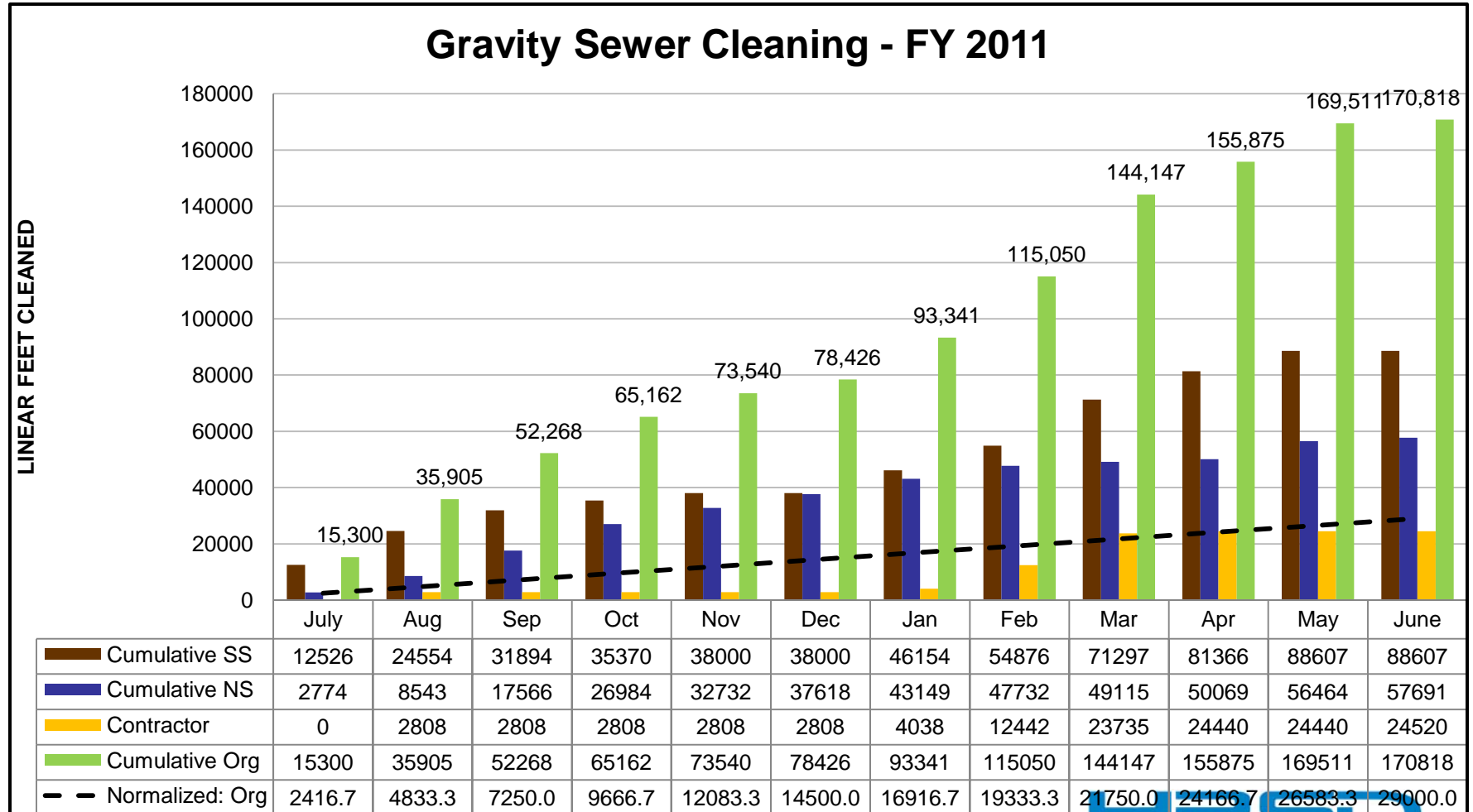
Consent Decree Performance Measures Review (Cont.)

Air Release Valves preventative maintenance; 1,550 performed per year



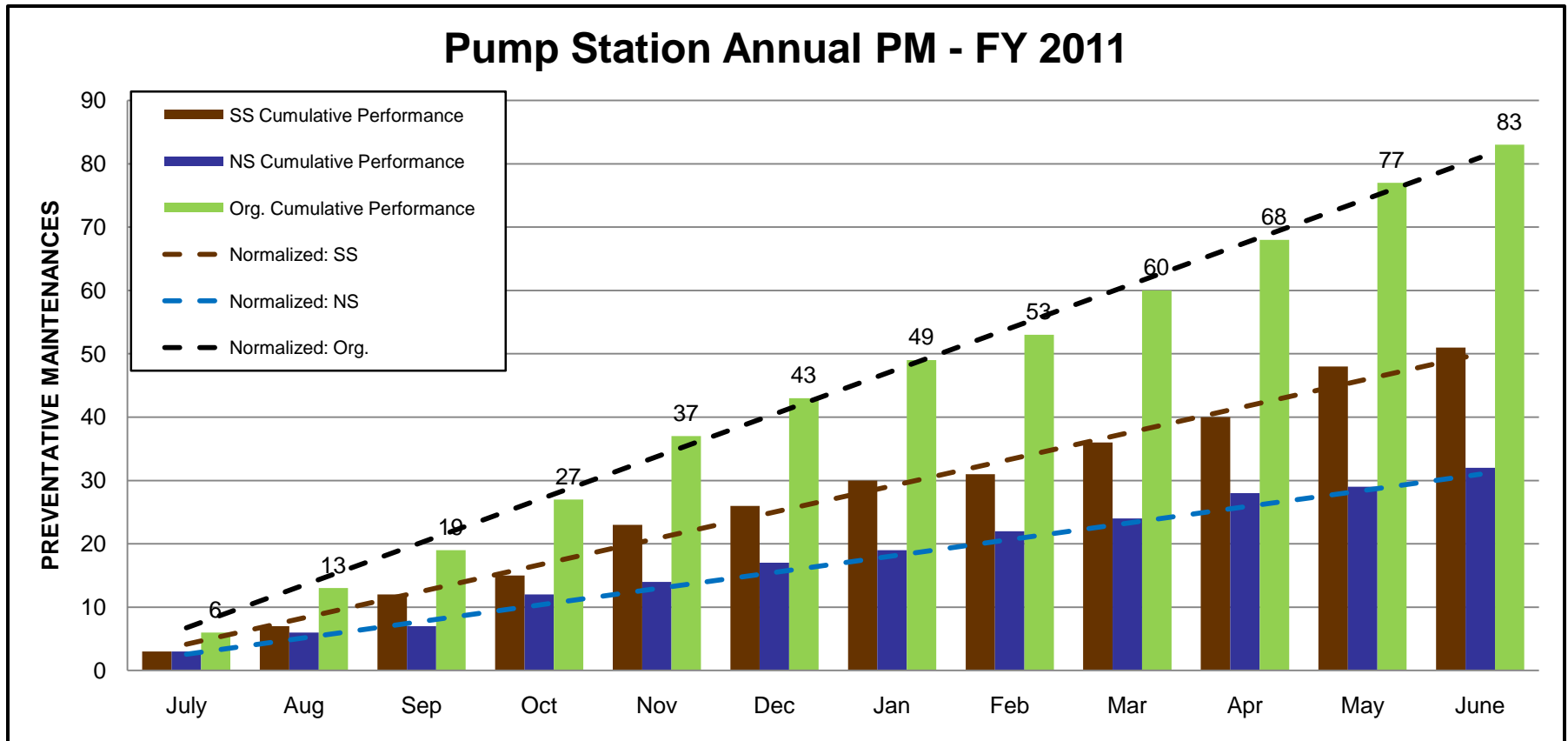
Consent Decree Performance Measures Review (Cont.)

Gravity Sewer Cleaning; 24,600 linear feet per year



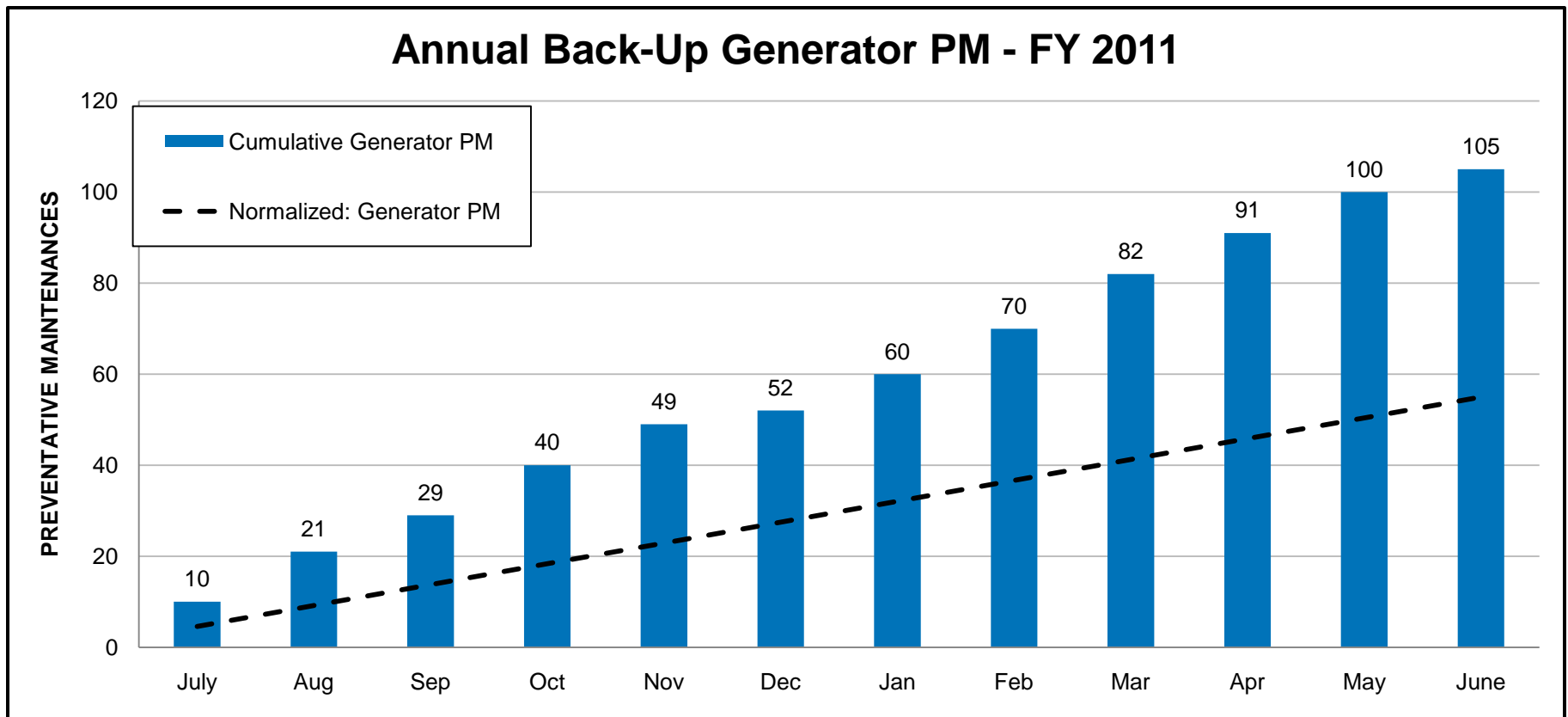
Consent Decree Performance Measures Review (Cont.)

Annual Pump Station preventative maintenance; 81 performed per year



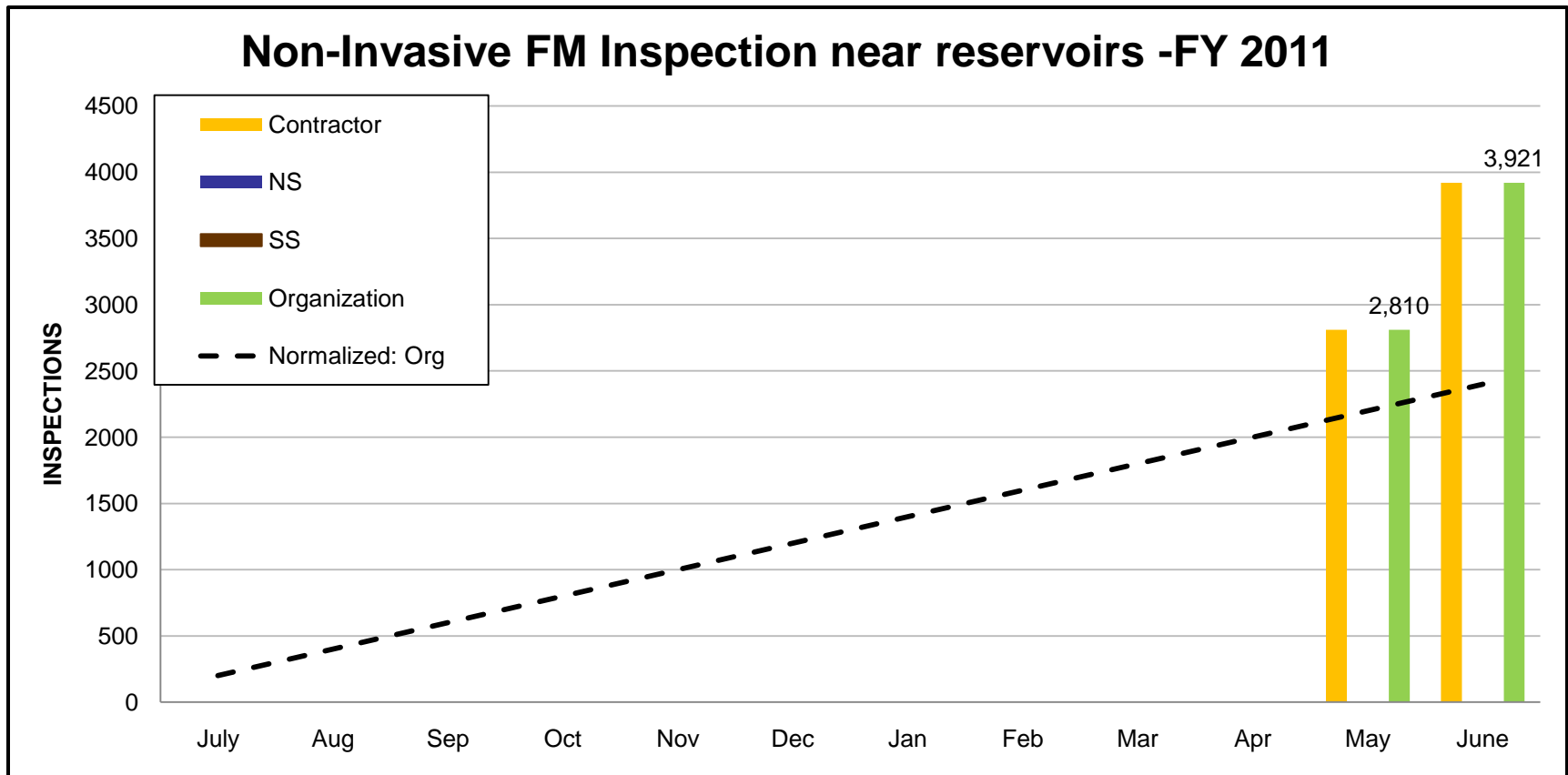
Consent Decree Performance Measures Review (Cont.)

Annual Generator preventative maintenance; 55 performed per year



Consent Decree Performance Measures Review (Cont.)

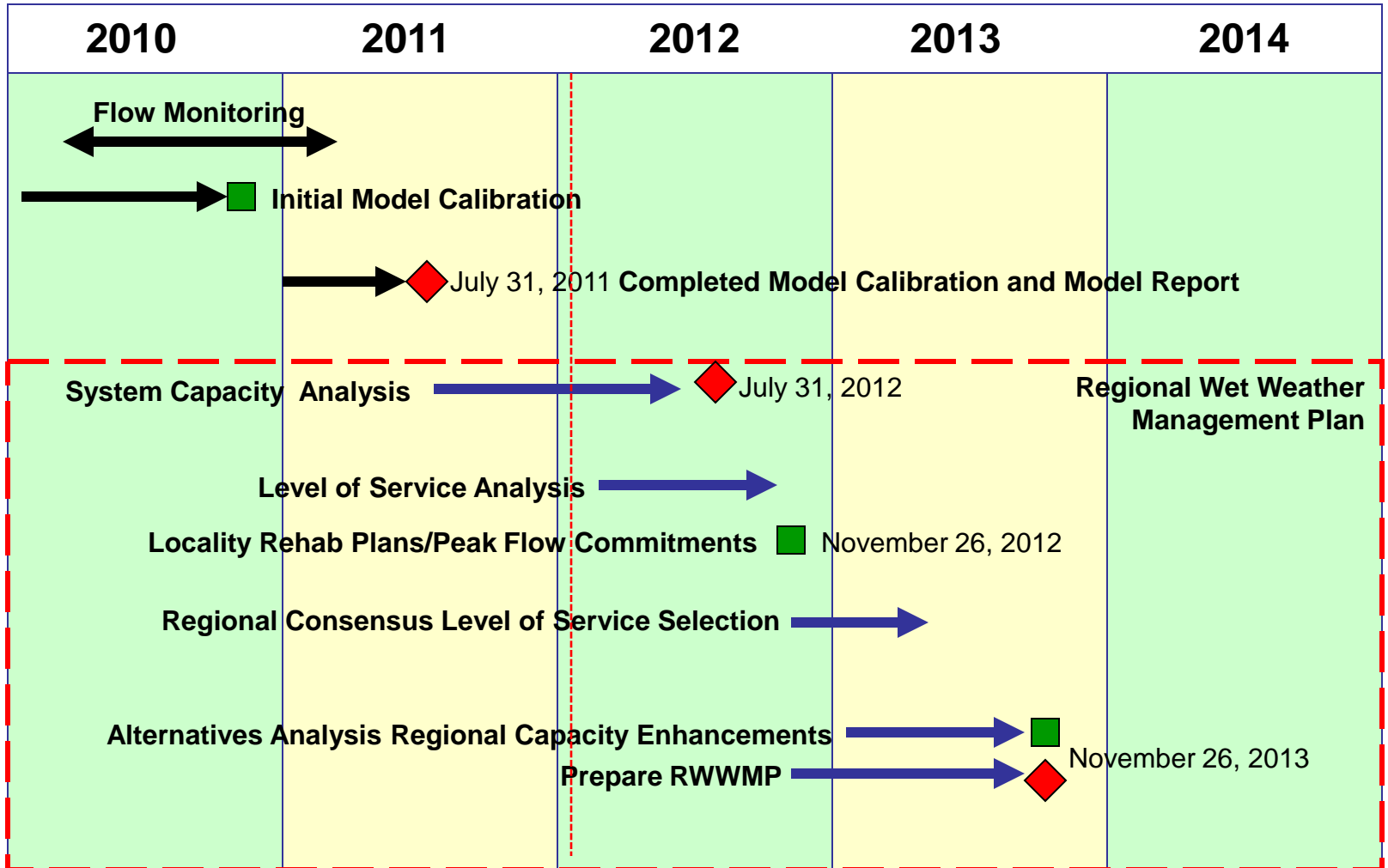
Non-invasive Force Main Inspection (near reservoirs); 2400 LF per year



- Extensive coordination will be necessary with localities
- RWWMP will establish the projects, costs and schedule to address capacity challenges to a selected level of service
- Approved RWWMP will be incorporated into the Consent Decree by reference
- RWWMP development schedule is very tight

- Regional Hydraulic Model achieved final calibration
- Pilot storage project under construction
- Capacity assessment is underway
- Extensive locality coordination is ongoing on facility data, wet weather flow parameters, modeling approaches and rehabilitation planning

Consent Decree RWWMP Development Schedule



◆ Consent Decree Submittal

■ SOC Submittal

Short Term Wet Weather Operational Plan

- Purpose of the Plan is to identify how to get the most capacity out of the existing system
- Final EPA/DEQ comments are being addressed

- Purpose of the plan is to document SSO response, reporting, recordkeeping and resolution practices
- Updated Plan approved by EPA/DEQ

SSO Response Plan

	2010 SSOs	2010 Volume (gallons)	2011 SSOs	2011 Volume (gallons)
HRSD	59	3,378,912	35	725,785
Localities	446	~4,363,667	361	~3,150,447

2010 HRSD SSOs of Unknown Volume: 3

2011 HRSD SSOs of Unknown Volume: 13

Major Rain Events 2010: 1/25, 2/6, 3/30, 5/19, 6/22, 7/29, 9/26, 9/30

Total Rain near ORF: 53 inches

Major Rain Events 2011: 5/18, 7/4, 7/25, 8/26, 9/23

Total Rain near ORF: 55 inches

Coordination with Localities

- Ongoing meetings of Capacity Team, Locality Team, Private Property I/I Abatement Committee, Model Users Group and Locality Modeling Committee
- Ad hoc committees with HRSD and locality representatives are reviewing key SOC deliverables
- HRSD providing GIS, flow, pressure and rainfall data to localities

- Annual newsletter (second due out before February 23, 2012)
- Annual public informational meeting with public notice (January 24, 2012)
- Public outreach regarding overflows
 - *“...a public outreach program to inform the public of any SSO Outfalls within the Regional SS System, the possible health and environmental effects of SSOs and that recreational activities, such as swimming, should be limited as a result of such SSOs.”*

Reporting Requirements

- Second annual report was submitted November 1, 2011 for period through June 30, 2011
- Semi annual report is due May 1, 2012 for period of July 1, 2011 through December 31, 2011

Steps Citizens Can Take to Protect Receiving Waters

- Report Sanitary Sewer Overflows – Call your local utility department
- Inspect home, yard and sewer service pipes to ensure separation between storm and sanitary systems
- Practice proper disposal of pharmaceuticals, food wastes and kitchen grease – minimize use or eliminate garbage disposal
- Reduce stormwater runoff by using rain barrels, rain gardens and establishing a buffer

Steps Citizens Can Take to Protect Receiving Waters (Cont.)

- Improve water quality by raising oysters
- Limit synthetic fertilizer and other lawn chemical applications – use natural products like compost
- Pick up animal waste
- Avoid feeding wildlife
- Support “No Dumping” and use boater pump out facilities

Questions?
