



Port Angeles CSOs City Council Briefing

Port Angeles, WA

January 9, 2012

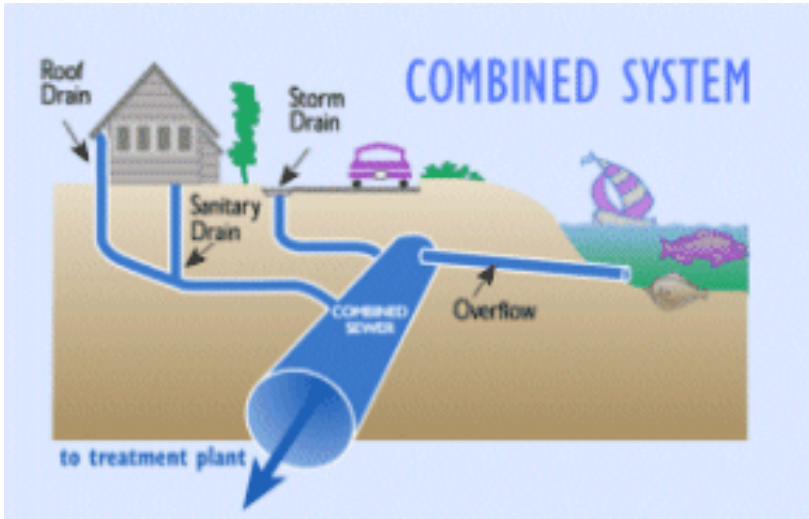
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CSO Presentation Outline

- Some Basics
 - The problem is...
 - Federal & State Law
 - Alternative Approaches
- Port Angeles: 1988-2012
- Seattle and King County
- Questions?

What is a Combined Sewer Overflow?



- Combined Sewer: An pipe that carries both sewage and stormwater
- Overflow Points : A relief valve for high flows
- Common in older construction.



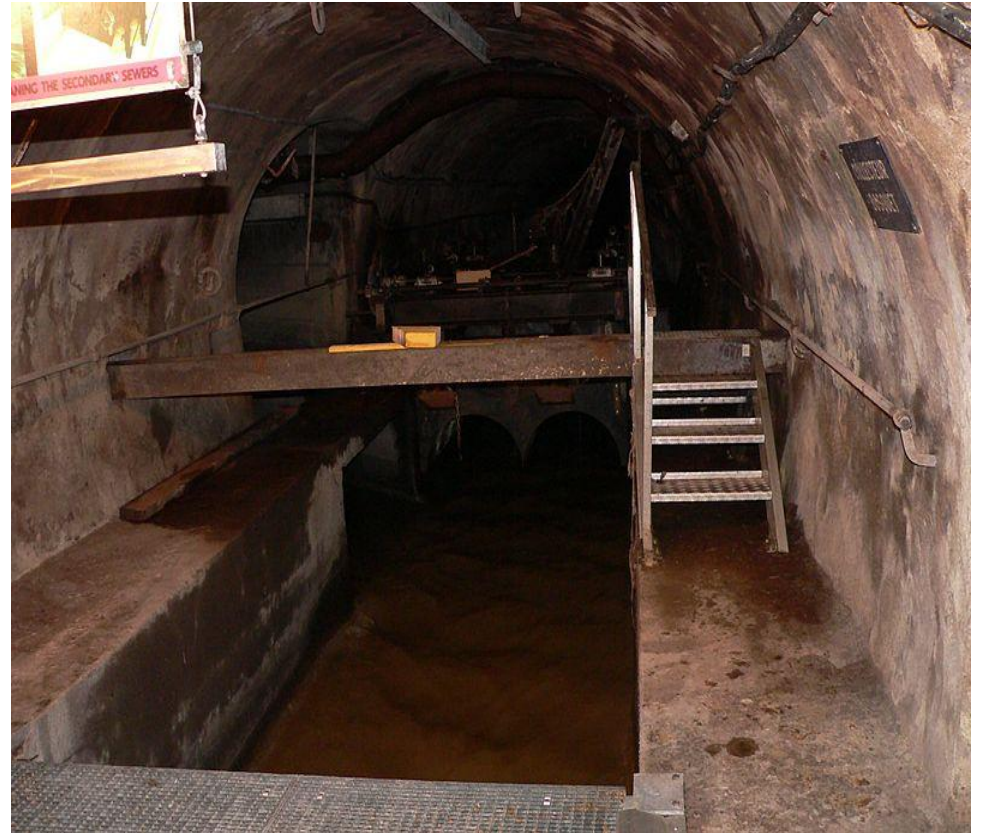
CSOs: A problem because....

- CSOs contain a potent blend of raw sewage, stormwater, commercial and industrial wastewater
- High concentration of bacteria, metals (copper, lead and zinc), sediment, oxygen demand



CSOs International

- A combined sewer in Paris



In the United States

Combined sewer systems serve roughly 772 communities containing about 40 million people.



In Washington

State Profile

Washington—Region 10

CSO Permits

11

Permitted CSO Outfalls

219

NPDES/Water Quality Standards Authority

Washington Department of Ecology (Ecology)

Online Resources

www.ecy.wa.gov/

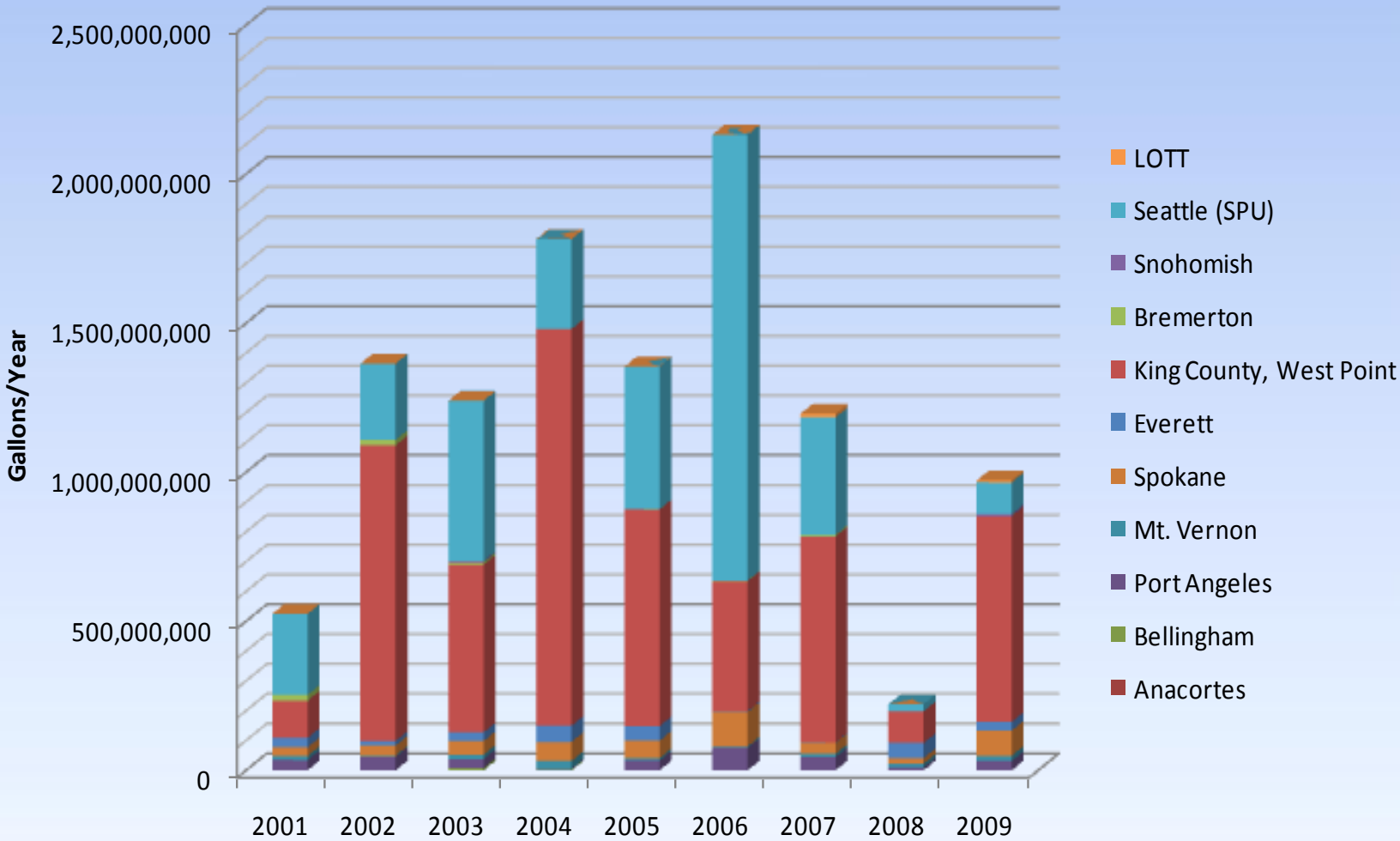
www.ecy.wa.gov/programs/wq/wqhome.html



Washington CSO Permits

Permit Number	Permittee	Number of CSO Outfalls	Number Controlled
WA-002025-7	Anacortes	3	2
WA-002449-0	Everett	13	0
WA-002918-1	KC – West Point	34	~15
WA-002928-9	Bremerton	16	16
WA-003168-2	Seattle	90	~45
WA-002374-4	Bellingham	2	2
WA-002407-4	Mt. Vernon	2	0
WA-002397-3	Port Angeles	4	0
WA-003706-1	LOTT	1	1
WA-002447-3	Spokane	22	3
	Total	189	

CSO Discharge for 11 CSO Permittees



CSO Regulation and Law

State Lead, Federal Oversight

State Law

- CSO Plans and Compliance Schedules in place by 1988 (RCW 90.48)
- Average on 1 discharge per year per outfall (WAC 173-245)
- Provide “Primary Treatment” (Settling).

Federal Law

- EPA CSO Policy 4/19/1994
 - *Nine Minimum Controls*
 - *Long Term Control Plan Implementation*
- Wet Weather Act 2000
 - Codifies federal policy

Nine Minimum Controls



1. Put in place operation and maintenance programs for the sewage collection system
2. ***Maximize use of the collection system for storage.***
3. Review and update pretreatment requirements (for industrial waste).
4. ***Maximize flow to the treatment plant***
5. Eliminate CSOs during dry weather.
6. Control solids and floatables in overflows
7. Put in place pollution prevention programs
8. ***Notify the public when CSOs occur.***
9. Monitor CSO impacts and controls.

Long Term Control Plan - Elements

- ***Characterize: The Sewer System***
- Consider: Sensitive Areas
- ***Evaluate: Alternatives***
- Consider: Cost and Performance
- Develop: Operating Plans
- Maximize: Treatment at Existing POTWs
- Invite: Public Participation
- ***Schedule: Improvements***
- Monitor: How well it works



Alternatives for Controlling CSOs

- Address the combined flow
 - Construct **storage**
 - Provide satellite CSO **treatment** facilities
- Source Control
 - **Separate** sanitary lines from storm pipes
 - Use **Green Stormwater Infrastructure (GSI)?**

P.A. CSO Planning: 1988-2012

- 1988: CSO plans to be in place, per state law

- 1994: City adopts CSO Plan and proposes
 - ***Controls by 2015 (20 year schedule)***

- ***2003: EPA Inspects, finds:***
 - City is not making progress on Long Term Control Plan
 - City is not implementing Nine Minimum Controls

P.A. CSO Planning: 1988-2012

2004: Ecology issues first order:

- Implement Nine Minimum Controls
- Update CSO Plan

2005: City submits draft plan to Ecology

- City proposes to restart the 20-year schedule
- Ecology: Keep the original schedule.

Port Angeles Planning: 1988-2012

- 2005: Ecology's second order: Update the Plan
- 2006 City adopts 2nd CSO Control Plan
- 2006: Ecology and City agree to implement 2006 CSO Plan (an "Agreed Order")
- 2007-2012
 - Plan Amendment
 - Property Acquisition
 - Financial Assistance
 - Public Works Trust Fund Low Interest Loan
 - Ecology Low Interest Loan (#2 Project Statewide)
 - Getting Ready to Bid Phase 1

Seattle and King County

- Seattle: 1/3 combined system
- King County: “Trunk” lines and treatment
- \$500 million spent on CSOs to date
 - \$385 M for separation (1970’s-1980s)
 - \$134 M for storage (1980s-1990s)
 - Assessment / Planning/ Brightwater (2000s)
- EPA 2009 Order: Nine Minimum Controls

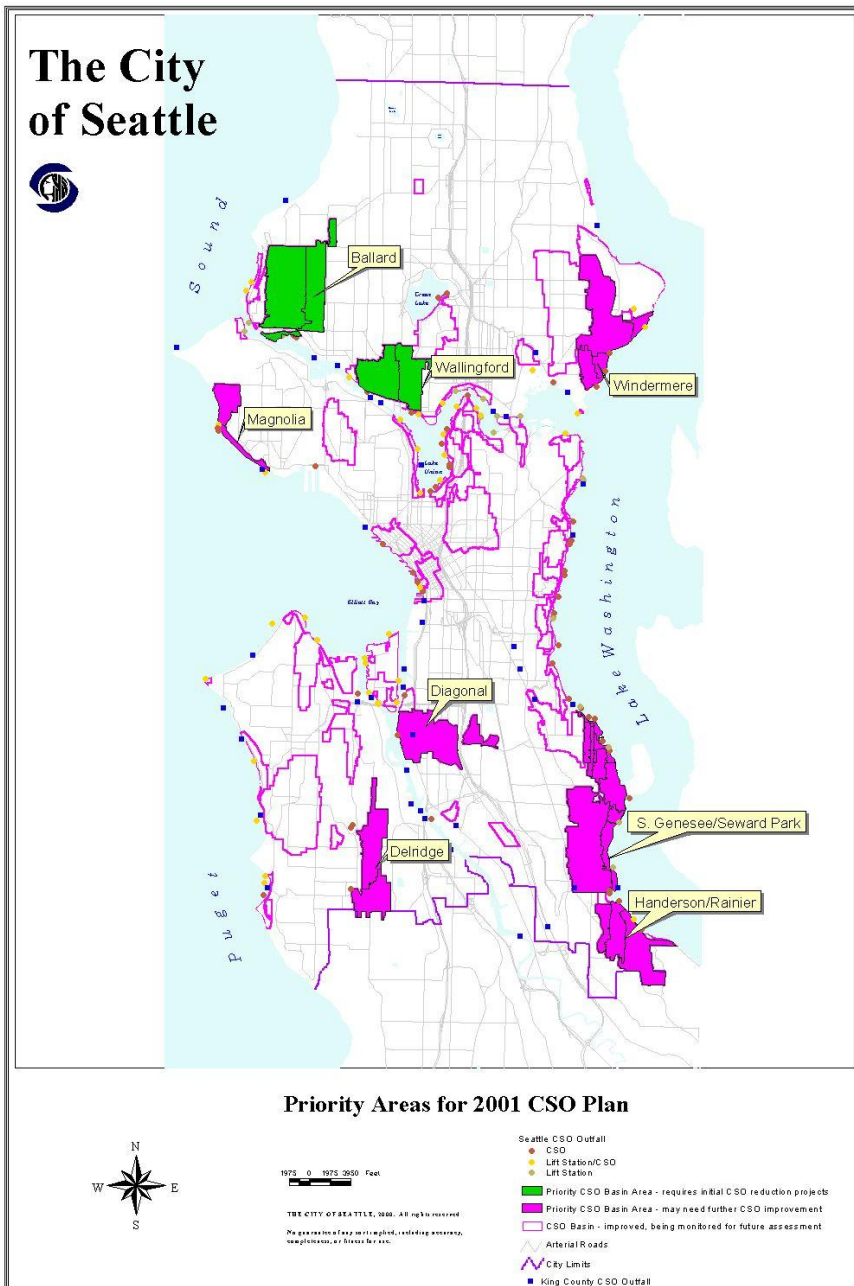
Seattle and King Co.



- Seattle: 90 CSOs
- King County: 34 CSOs
- About ½ controlled
- Future:
 - GSI for small volumes in Seattle
 - Storage/Treatment for large volumes in Seattle and King County

Seattle 2010 Plan

- 13 Project Areas
- 2010-2015 Focus
 - 4 Storage Projects
 - 9 GSI Projects
 - \$150 - \$200 M?
- 2010 - 2025
 - \$330 M Total



King Co. 2011 Proposal

- Storage and Treatment (9 projects)
- Focus on Duwamish River
- Includes GSI “where possible”
- \$700 M



Seattle / King Co. Complexities



- Coordination:
 - Seattle collects
 - King Co. treats
- Size
 - Seattle: 13 Project Areas, \$300 M
 - King Co: 9 Projects, \$700M
- Harbor Island, Duwamish River Superfund Sites

Seattle to start removing rain gardens gone bad

By Vanessa Hose, Seattlepi.com staff

Published 08:55 p.m., Wednesday, August 24, 2011 © Seattle Post-Intelligence

- In the News: Ballard pilot project goes awry
- Issue with GSI:
 - Time: A block by block reconstruction of city streets
 - Neighborhood Acceptance
 - Cost



GSI – Seattle Projects

- Still an important element of Seattle's plan for small flows
- 2001 Street Edge Alternative (SEA) Pilot (left)





Closing Thoughts on Port Angeles


We know this is a tough issue for the city.

Storage instead of separation:

- \$40 M vs. \$180 M

Now instead of later:

- Construction, loan costs are low now.



Questions & Answers