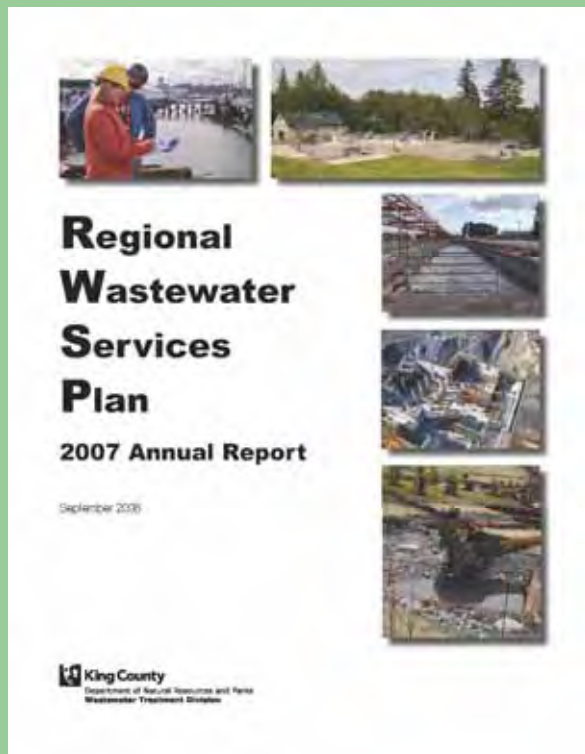


Regional Wastewater Services Plan Implementation in 2007



Metropolitan Water Pollution
Abatement Advisory Committee

October 22, 2008

Today's Briefing

- Highlights of RWSP Program and Project Accomplishments in 2007
- RWSP 2007 Cost Estimates
- Water Quality Monitoring Results

Elements of RWSP Annual Report

- A summary of activities for each major component of the RWSP
- Details on each active RWSP project in the capital budget
- Status of the odor prevention program, including summary of odor complaints
- Summary of previous year's results for the comprehensive water quality monitoring program
- Review of the plan elements, such as water quality, biosolids management, & water reclamation
- Update of anticipated RWSP costs through the year 2030
- Report is due to King County Council and RWQC in September to cover the previous year's implementation

Brightwater Accomplishments in 2007

- Over 98 percent of construction contracts awarded
- Completed construction of the North Habitat area
- Tunnel boring machines launched for construction of East and Central Tunnels

North Creek Portal Construction Site



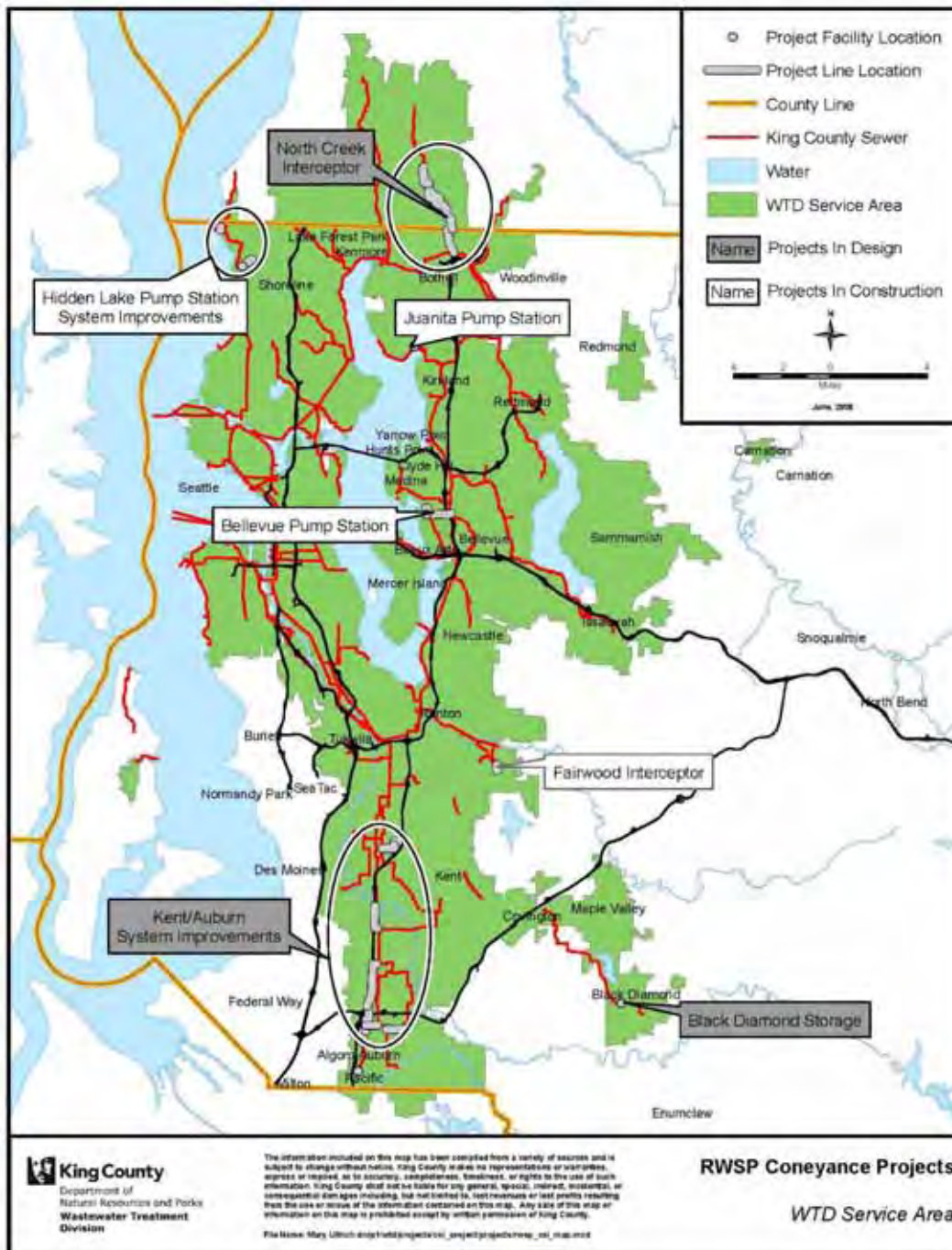
North Habitat Area

Concrete Work for Brightwater Treatment Plant Headworks Building



Conveyance Accomplishments in 2007

- Completed Conveyance System Improvement Program Update
- Continued to implement RWSP conveyance capital projects



Infiltration and Inflow Program Accomplishments in 2007

- Work to implement two to three initial projects under way to test cost-effectiveness of I/I reduction on a larger scale
 - Sewer system evaluation survey work conducted in four project areas (Bellevue, Issaquah, Renton, Skyway)
 - Candidate projects selected in consultation with MWPAAC in September 2008



Schedule, Decisions, and Milestones for Initial I/I Reduction Projects

Combined Sewer Overflow Control Program Accomplishments in 2007



- Project planning and predesign for Puget Sound Beach projects under way
- Began CSO treatment technology pilot program
- Launched real-time overflow status Web site

Sediment Management Program Accomplishments in 2007

- Clean-up of old Denny Way CSO site
 - Completed design for cleanup
 - Dredged and capped the area in November 2007–February 2008
 - Removed 14,000 cubic yards of sediment contaminated with PCBs, hydrocarbons, and mercury and replaced with clean sand and gravel
- Completed draft of Lower Duwamish Waterway remedial investigation



Dredge barge

Local Treatment Plant Accomplishments in 2007

- Upgraded Vashon Treatment Plant operating well
- Carnation Treatment Plant began operating in May 2008



Carnation Wastewater Treatment Plant



Ribbon cutting in June 2008

Biosolids Program Accomplishments in 2007

- 108,000 wet tons produced and recycled
- Used as a soil amendment for a variety of applications:
 - 3,900 acres of wheat in Douglas County
 - 314 acres of canola, 534 acres of hops, and 126 acres of timothy grass (hay) in the Yakima Valley
 - 354 acres of state forestlands and 1,162 acres of Douglas-fir plantations in Hancock's Snoqualmie Forest as part of the Mountains to Sound Greenway Biosolids Forestry Program
- Program was awarded Platinum Level Designation from National Biosolids Partnership for reaching highest achievement of biosolids management and environmental stewardship

Reclaimed Water Program Accomplishments in 2007

- West Point and South plants used 294 million gallons of reclaimed water for landscape irrigation, internal plant reuse, other non-drinking purposes
 - Offsite distribution from South Plant to King Conservation District Wetland Nursery and Fort Dent Park
- Brightwater Reclaimed Water Pipeline under construction
- Completed Feasibility Study
- Research studies under way



Comparison of 2006 and Updated 2007 RWSP Cost Estimates (1999–2030)

RWSP Element	2006 RWSP Cost Estimates (2006\$ x 1M)	2006 RWSP Cost Estimates (2007\$ x 1M)	2007 RWSP Cost Estimates (2007\$ x 1M)	Cost Change (2007\$ x 1M)
Total RWSP	\$3,137	\$3,207	\$3,264	\$57
Total Brightwater Treatment System^a	\$1,664	\$1,701	\$1,732	\$31
Brightwater Treatment Plant	\$587	\$601	\$623	\$22
Brightwater Conveyance	\$835	\$856	\$861	\$5
Land and Right-of-Way	\$97	\$97	\$102	\$5
Mitigation	\$145	\$147	\$145	(\$2)
Total Treatment & Odor Control Improvements (Non-Brightwater)	\$163	\$167	\$174	\$7
Odor Control at South Plant	\$7	\$7	\$7	--
West Point Odor Control	\$1	\$1	\$2	\$1
West Point Digestion Improvements	\$6	\$6	\$6	--
King Street Regulator Odor Control Project	\$3	\$3	\$5	\$2
South Plant Expansion	\$106	\$109	\$109	--
Vashon Treatment Plant Upgrade	\$20	\$20	\$22	\$2
Carnation Treatment Plant	\$19	\$20	\$20	--
Chinook Wetlands Enhancement			\$3	\$3
Total Conveyance System Improvements (CSI) (Non-Brightwater)	\$754	\$771	\$791	\$20
Completed CSI projects, acquisitions, and planning	\$143	\$143	\$173	\$30
CSI projects in design or construction in 2006	\$197	\$202	\$192	(\$10)
Planned CSI projects, acquisitions, and planning	\$414	\$426	\$426	--
Total Infiltration/Inflow (I/I)^b	\$49	\$49	\$44	(\$5)
Total Combined Sewer Overflow Control	\$444	\$456	\$456	--
CSO Control Projects ^c	\$388	\$400	\$400	--
CSO Planning and Updates	\$6	\$6	\$8	\$2
Sediment Management/Lower Duwamish Superfund	\$49	\$49	\$47	(\$2)
Total Reclaimed Water	\$36	\$36	\$41	\$5
Technology Demonstration (completed in 2004)	\$1	\$1	\$1	--
Future Water Reuse	\$3	\$3	\$6	\$3
Water Reuse Satellite Facility (cancelled in 2003)	\$5	\$5	\$5	--
Reclaimed Water Backbone	\$25	\$25	\$25	--
RWSP Water/WWV Conservation (completed in 2005)	\$1	\$1	\$1	--
Reclaimed Water Comprehensive Plan			\$3	\$3
Water Quality Protection (completed in 2006)	\$16	\$16	\$16	--
Habitat Conservation Plan (HCP)/ Programmatic Biological Assessment	\$8	\$8	\$8	--
RWSP Planning and Reporting	\$3	\$3	\$2	(\$1)

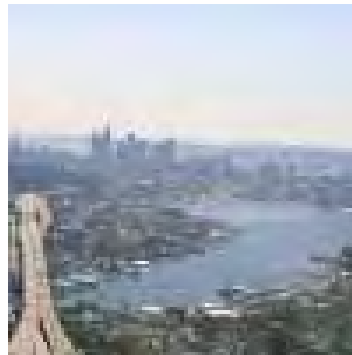
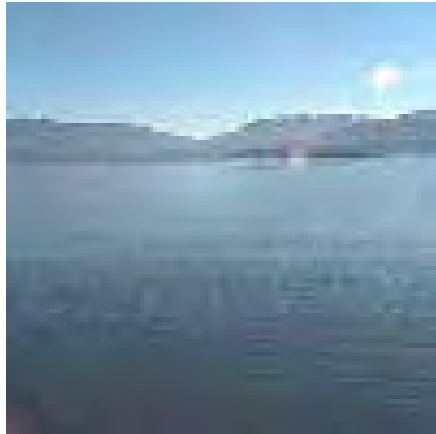
Alternative Way to Present RWSP Costs

- Completed RWSP projects: \$238 million
- Brightwater cost trend update: \$1.8 billion
- RWSP projects in design or construction: \$370 million
- RWSP projects planned for the future: \$935 million

Water Quality Management & Compliance in 2007

- South, West Point, and Vashon Plants in compliance with NPDES permits
 - South and West Point plants earned NACWA Gold Peak Performance Award and Platinum Peak Performance Award
- 21 SSOs in 2007; majority occurred during extreme storm event of December 3-4
- 268 untreated CSO events recorded in 2006–07; 43% below established baseline (reporting year is June-May)
- 71 treated CSO events in 2006-07; 50% occurred during two storms in November and December 2006
- Source control programs continue to be effective and keep pollutants out of wastewater system

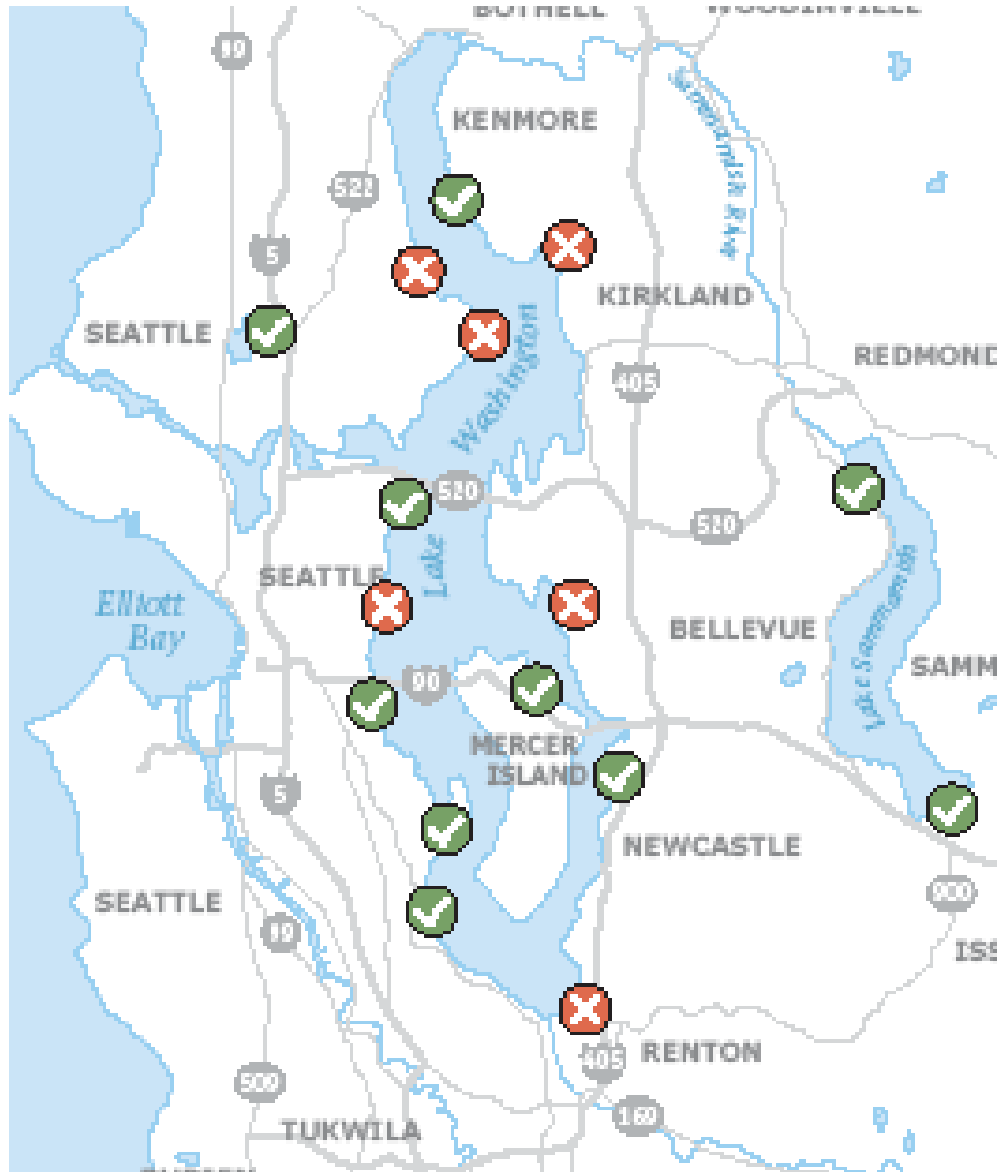
Water Quality Monitoring Results for 2007



Ongoing Environmental Assessment

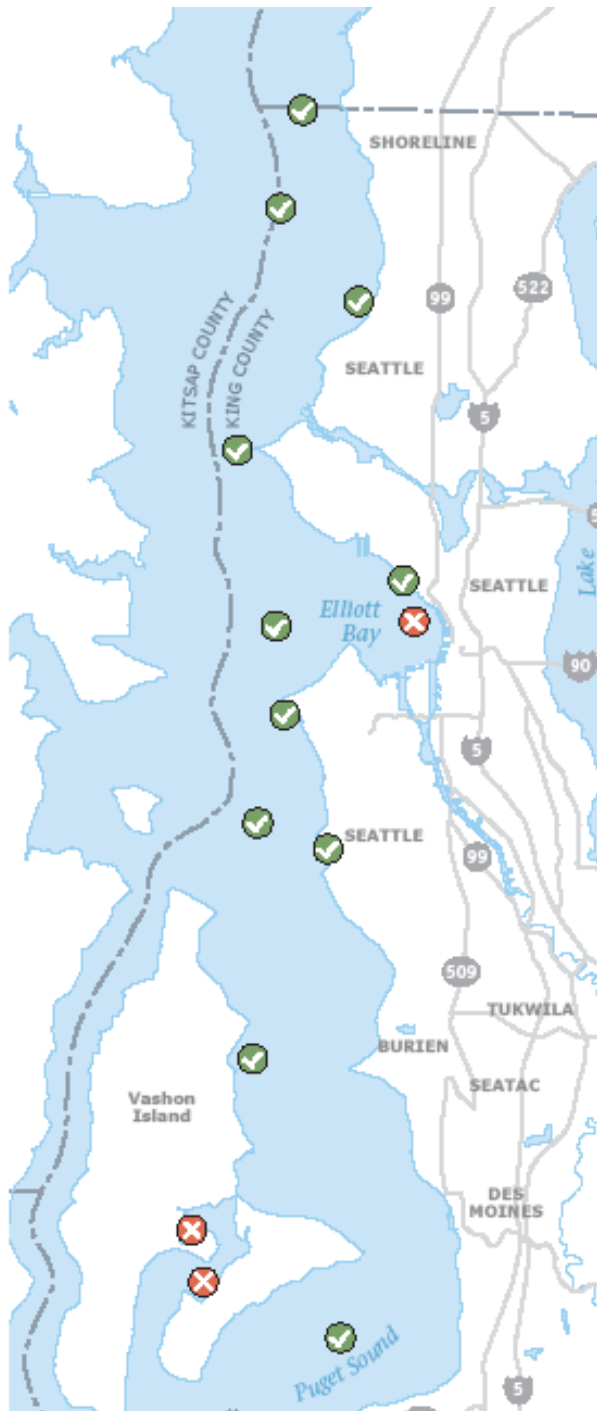
- Reporting water quality monitoring results as part of RWSP requirements
- Track the health and quality of King County's waters
- Assess impacts of county operations
- Variety of scientific monitoring programs in lakes, streams, rivers, estuaries, and Puget Sound

2007 Fecal Bacteria at Freshwater Swimming Beaches



- 100% of samples met target in Lake Sammamish and Green Lake
- 90% of samples met target in Lake Washington
- Red X's show where targets were not met

2007 Marine Water Column Water Quality



- Quartermaster at high concern due to very low oxygen levels and high nutrient loading
- Elliott Bay at moderate concern

(a)



(b)



2007 Fecal Bacteria in Marine Waters:

(a) Ambient
(b) Near Outfalls

- All sites met standards in 2007

Data Management

- Ongoing improvements to data management
- Data available on web for most monitoring programs
- Ongoing coordination with other jurisdictions and state and federal agencies

Monitoring and RWSP information

- Swimming Beach website
 - <http://dnr.metrokc.gov/wlr/waterres/swimbeach/default.aspx>
- Marine Monitoring website
 - <http://dnr.metrokc.gov/wlr/waterres/marine/>
- Stream Flow Monitoring website
 - <http://green.kingcounty.gov/wlr/waterres/hydrology/default.aspx>
- Stream Water Quality Monitoring website
 - <http://green.kingcounty.gov/WLR/Waterres/StreamsData/>
- Major Lakes Monitoring website
 - <http://dnr.metrokc.gov/wlr/waterres/lakes/index.htm>
- Small Lakes Monitoring website
 - <http://www.metrokc.gov/dnrp/wlr/water-resources/small-lakes/data/default.aspx>
- RWSP website
 - <http://dnr.metrokc.gov/wtd/rwsp/rwsp.htm>