



CITY OF
**West
Linn**

CITY OF WEST LINN
Co-Permittee with Clackamas County

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
(NPDES)
MUNICIPAL STORMWATER SYSTEM ANNUAL REPORT

We, the undersigned, hereby submit this National Pollutant Discharge Elimination System (NPDES) Municipal Storm Water System Annual Report in accordance with NPDES Permit Number 108016. We certify under penalty of law that this document and all attachments were prepared under our direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on our inquiry of the person, or persons, who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of our knowledge and belief, true, accurate and complete. We are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Date 10/21/08



Boris Piatski, P.E.

Env Services Program Manager

Date 10/22/2008



Dennis Wright, P.E.

City Engineering Manager

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1.0 Introduction

The intent of this report is to fulfill Schedule B, requirement 2A of the NPDES permit held by the City of West Linn to date. The contents of this report provide a summary of the activities instituted through the City of West Linn's Storm Water Management Program during this last fiscal year (July 1, 2007 to June 30, 2008).

1.1 Background Information

West Linn is located at the confluence of the Tualatin and Willamette Rivers. The Tualatin River receives approximately 13% of the city's average annual volume of storm water runoff, while the Willamette River receives 87%.

The topography of the city varies from relatively flat areas along the Willamette and Tualatin Rivers to rolling hills covering the western part of the city. Ground elevations vary between 15 feet above mean sea level along the rivers to 760 ft above mean sea level on the top of the hills.

The soils in the area were classified by USDA Soil Conservation Service in 1981. Various types of loam soils cover approximately 90% of the area. Outcrop of bedrock (9%) and open water (1%) The soil types vary from sandy loam to silt clay loam. The dominant soil type is silt loam. The soils are assigned to four hydrologic soil groups (A, B, C, and D) according to their runoff-producing characteristics. Group A is comprised of soils with high infiltration rates when thoroughly wet. Group D is made up of soils with very low infiltration rates. Sixty-four percent of the soils in the city fall into hydrologic soil group C having a low infiltration rate. The rest of the soils are evenly distributed between group B with moderately high infiltration rate and group D with very low infiltration rates. Group A soils are not found in the City.

2.0 Commercial and Residential Areas

Approximately 67% of West Linn's land use type is zoned residential while 7% is commercial/industrial. 12% of land use is unincorporated county land, while 4% is Interstate 205 right-of-way, and 10% is park, open space.

2.1 Maintenance

Currently, the Environmental Services Division of the Public Works Department retains a staff of 9 full time employees:

- 1 Storm and Sanitary Maintenance Supervisor
- 3 Storm Sewer Crew Members
- 3 Sanitary Sewer Crew Members
- 1 Storm & Sanitary Utility Engineer
- 1 Associate Environmental Engineer

Table 2.1-1 summarizes the storm sewer maintenance activities during this last fiscal year.

Table 2.1-1 Storm Sewer Maintenance Activities

System Component	Inspected	Cleaned	Material Removed	Constructed
Storm water pipe	3048 m	282 m	0 m ³	95 m
Catch basins	2488	515	38 m ³	3
Pollution control manholes	163 @ 2 times/yr	163 @ 2 times/yr	23 m ³	0
Detention tanks	27	0	0	0
Headwalls	94 @ 12 times/yr	3 @ 4 times/yr	49 m ³	0
Drainage ditches	1524 m	457 m	23 m ³	0
Bio-swales	18	Grass Cutting	0	0
Water quality ponds	43 @ 6 times / yr	Grass Cutting	0	0

Table 2.1-2 Amount of Material removed from Catch Basins

Reporting Period	Number of CB's Cleaned	Amount Removed (m³)	Average Amount per CB (m³)
1998-1999	675	84.29	0.12
1999-2000	765	92	0.12
2000-2001	965	47	0.049
2001-2002	586	23	0.039
2002-2003	685	34.4	0.050
2003-2004	1000	106	0.11
2004-2005	964	37	0.04
2005-2006	556	31.5	0.057
2006-2007	750	23	0.0307
2007-2008	515	38	0.0742

As shown in Table 2.1-2 the amount of sediment removed from catch basins has varied from an average amount of 0.0307 cubic meters per catch basin last year, to an average amount of 0.12 cubic meters per catch basin in 1998-2000. This year's average was the

within the range on record compared to the average numbers from the past. Maintenance crews inspect the catch basins on a regular basis, and clean only those that require it. The variation can be accounted for by the stochastic nature of storms and the varying levels of development.

2.2 Planning

All development submittals are reviewed by the planning and engineering departments to insure that all provisions of the Community Development Code, Municipal Code, and Public Works Design and Construction standards are met. Table 2.2-1 summarizes the plans reviewed during this last fiscal year.

Table 2.2-1 Plan Review

Year	Development Type	New	Additions
1998-1999	Commercial	6	42
	Residential	99	130
	Multi-family units	9	-
	Miscellaneous (e.g. grading)	14	-
	Totals	128	172
1999-2000	Commercial	9	74
	Residential	143	106
	Multi-family	10	-
	Misc	25	-
	Totals	187	180
2000-2001	Commercial	2	84
	Residential	130	128
	Multi-family	94	-
	Misc	9	-
	Totals	235	212
2001-2002	Commercial	1	72
	Residential	192	148
	Multi-family	65	
	Misc	20	
	Totals	278	220
2002-2003	Commercial	1	49
	Residential	104	166
	Multi-family	28	
	Misc.	3	
	Totals	136	215
2003-2004	Commercial	1	1
	Residential	75	9
	Multi-family	0	0
	Misc.	3	0
	Totals	79	10

2004-2005	Commercial	4	1
	Residential	43	23
	Multi-family	0	0
	Misc.	0	0
	Totals	47	24
2005-2006	Commercial	3	66
	Residential	74	186
	Multi-family	13	-
	Misc.	16	-
	Totals	106	252
2006-2007	Commercial	7	151
	Residential	71	264
	Multi-family	0	0
	Misc.	35	-
	Totals	113	415
2007-2008	Commercial	2	112
	Residential	76	231
	Multi-family	0	0
	Misc.	15	-
	Totals	93	343

The Community Development Code defines special zoning districts and the uses permitted for each district. Specific overlay zones are identified and exist to protect, conserve, and enhance streams, wetlands, riparian areas and other receiving waters to authorize and regulate the type of activity. Any activity that impacts these protected areas requires a City permit. Table 2.2-2 summarizes the number of overlay zone permits issued within this last fiscal year.

Table 2.2-2 Overlay Permits

Type of permits issued	Number
Wetland / Natural Drainage Way Permits	9
Greenway Permits	3

2.3 Operation and Maintenance of Public Streets

An outside contractor that is overseen by the Environmental Services Division performs street Sweeping. Table 2.3-1 summarizes the street sweeping activity for this last fiscal year.

Table 2.3-1 Street Sweeping/Maintenance

Length of street cleaned	4771 km
Labor hours spent sweeping	860 hours
Number of times each street swept	6
Amount of material removed	1486 m ³
(\$) Spent on Road Maintenance Repair	\$53,000

Table 2.3-2 Amount of Material removed from Streets

Reporting Period	Length of Street Cleaned (km)	Amount Removed (m ³)	Average Amount per km (m ³)
1998-1999	7355	935	0.13
1999-2000	6804	950	0.14
2000-2001	3068	563	0.18
2001-2002	4212	500	0.12
2002-2003	3920	514	0.13
2003-2004	5280	602	0.11
2004-2005	4385	522	0.12
2005-2006	4447	560	0.13
2006-2007	4939	566	0.11
2007-2008	4771	1485*	0.31

As shown in Table 2.3-2 the amount of sediment removed from the streets has varied from an average amount per kilometer of .11 m³ to .18 m³ except for the current reporting period, which was .31 m³. The average amount for all reporting periods since 1998-1999 is 0.15m³/km of street cleaned. *The City signed a contract with a different sweeping company during this permit term. This explains the increase in amounts removed, which according to the city storm/sewer operations manager is due to adjustments made by the new contractor.

3.0 Illicit Connections

The maintenance crew discovers illicit connections primarily during routine field inspections. During this reporting period no illegal connections were identified.

4.0 Spills

There were two sanitary sewer spills in the 2007/2008 reporting period. Those spills were reported to the Oregon Department of Environmental Quality as required by the OARS.

If there is a hazardous material spill within city limits, Tualatin Valley Fire and Rescue's Hazmat 9 regional team are the first responders. Eight members of the team are Haz Mat Certified and receive annual training. Also, one City Staff Member is 40-Hour Haz Mat Certified.

5.0 Industrial Sources

The City of West Linn has an inventory of the industries that contribute storm water runoff to the MS4 system. The inventory is established from the DEQ database available through the DEQ web page. This inventory is used to update City records, prioritize industrial inspections and to assess potential points for illicit discharges and/or connections. The inventory allows the City to investigate future pollutant sources, should an illicit discharge be identified downstream.

During the 2007/2008 reporting period no industrial illicit connections or discharges were identified by the city.

6.0 Erosion Prevention

Within the last fiscal year the City of West Linn has continued to devote time and financial resources towards the erosion control program. All commercial and non-commercial building sites are required to submit erosion and sediment control plans developed in accordance with the December 2000 Clackamas County Erosion Prevention and Sediment Control Planning and Design Manual. Currently, city staff is working with other agencies to update the Erosion Control Manual.

Once, the erosion and sediment control plans are approved; initial, follow-up, and final inspections are required.

A permit application must be submitted for all commercial development sites. Processing procedures were coordinated with the Building and Planning Departments. All applications are reviewed by Engineering, Building, Planning, and Parks staff in weekly development review committee meetings. An erosion and sediment control permit is required prior to, or concurrently with, approval of development that may cause visible or measurable erosion. Before any grading or building permits are released, an approved erosion permit with narrative, and an approved erosion control plan are required. Chapter 31, of West Linn's Community Development Code, addresses erosion control.

During the last fiscal year, staff worked with other storm water agencies to update the December 2000 Clackamas County Erosion Prevention and Sediment Control Planning and Design Manual. The updated manual is expected to be complete in the next permit term.

Currently, the City has a full time employee that is a Certified Professional in Erosion and Sediment Control, and Storm Water Quality. This employee is devoted to plan reviews, inspections, and compliance. Another employee is devoted to erosion control inspections and compliance on a part-time basis. These staff members maintain a record of each inspection and associated enforcement actions and have successfully contributed towards keeping our streams less turbid. Table 5.1 shows the results of new erosion inspections and the number of notices of non-compliance, warnings, and stop work orders

issued for the 2007/2008 reporting period. There were a total of two-hundred and thirty seven new site inspections. Eighty-five sites were approved without conditions upon the first inspection, and Ninety-One sites were approved with conditions upon the first inspection. Sixty-one sites were Not Approved upon the first inspection, therefore, requiring corrections prior to re-inspection. Also, city staff responded to numerous erosion control complaints during this reporting period.

Site Enforcements included Four Warnings, Eight Notice of Non-Compliance, and one Stop Work Order. Permit violations were issued in a three-step enforcement progression as follows:

1st – a written notice of the inspection findings and required corrections. (Warning)

2nd – Should corrections not be implemented, a notice of non-compliance will be issued with the required corrections.

3rd – Should corrections remain un-addressed a **stop work order** will be issued.

Additionally, a **stop work order** may be issued any time a permit violation occurs.

Table 6.1 Erosion Inspections

<u>Number of New Site Inspections</u>	
• Site Inspections Approved upon 1 st inspection	85
• Site Inspections Approved w/ Conditions	91
• Site Inspections Not Approved upon 1 st inspection.	61
Total	237
<u>Erosion Violations</u>	
• Number of Warnings Issued	4
• Number of Notice of Non-Compliance Issued	8
• Number of Stop Work Orders Issued	1
Total	13
<u>Erosion Plan Reviews</u>	
• Number of Plan Reviews (Residential & Commercial)	100

7.0 Public Participation and Intergovernmental Coordination

7.1 Public Participation/ Education

The City of West Linn actively involves local schools, organizations and interested parties in volunteer projects that work toward bettering our natural resources which in turn improves our water quality. The following list is a project summary for the past fiscal year:

- Catch Basin Stenciling as needed.

- Participated as a member of the Regional Coalition of Clean Rivers and Streams (RCCRS), to combine resources in developing an advertising campaign that addresses storm water in the Metro area. Ad prints are included in Appendix C.
- Participated as a member of the Tualatin Basin Public Awareness Committee (TBAC).
- A staff member served on the Clackamas Community College Water Environment School Committee, a committee that organizes and hosts an annual weeklong training session, which focuses on water quality issues.
- Staff members made a presentation to grade school students about Storm Water Quality.
- Staff members held two seminars for approximately 200 8th grade students regarding water quality. Staff presented water quality issues, and then took the students into the field to look at storm water quality bmp's and participate in water quality sampling at Mary S Young Creek.
- Staff members attended several Green Building/Sustainable Storm Water training Courses.
- Staff attended several seminars regarding UIC regulations.
- City staff continued to install signs at water quality facilities to educate the public about pet waste. Also the city participated in TBPAC's pet waste educational program.
- Joined with 17 local agencies to revamp the annual regional Erosion Prevention and Sediment Control Awards Program.
- The Parks Department facilitates on-going wetland enhancement projects, which is located within the Willamette River watershed. These projects include landscaping wetland areas with native plants to improve filtration and overcome noxious vegetation. Students are educated on the role wetlands play in the water quality of the drainage basin and the degrading effects of noxious vegetation. During the 2007/2008 permit period, approximately 1000 native plants were planted, and invasive plants were removed by over 250 volunteers in the following City Parks:
 - Mary S Young
 - Midhill
 - Burnside

Additionally the City provides water quality brochures within the City Hall lobby, the City Library, and on the City's Environmental Services website, as discussed in section 11.2.

7.2 Intergovernmental Coordination

The City of West Linn continues to be a member of the following intergovernmental water quality groups.

- Tualatin Basin Designated Management Agency (TB-DMA)
- Tualatin Basin Public Awareness Committee (TB-PAC)
- Regional Coalition for Clean Rivers and Streams
- Water Environment Services, Clackamas County (NPDES co-applicant)
- Oregon Association of Clean Water Agencies (ACWA)
- Regional Erosion Prevention and Sediment Control Awards Program Committee

These groups involve some level of time and financial commitment on behalf of the City and in one form or another work towards increasing the public awareness of water quality issues and improving the effectiveness of the storm water programs.

7.3 Pesticide Use

The City spent approximately \$1200 on herbicides that were applied to public owned property during the 2007/2008 permit period, by state licensed applicators. Seven employees received Oregon Applicators training.

8.0 Capital Improvements

Within this last fiscal year the City of West Linn did not complete any storm system capital improvement projects due to budgetary constraints.

Although, as a result of public improvements, two rain gardens were installed in public right of way. One is a retrofit project while the other is part of a new residential development. Please see the photos below.

Photo 8.1. Rain Garden Retrofit.



Photo 8.2. Rain Garden in new residential subdivision.



9.0 Environmental Services Storm Water Program Expenditures

A summary of the estimated total storm water expenditures and funding sources for the 2007/2008 reporting period is as follows:

Table 9.1-1 2007-2008 Funding Sources and Expenditures

<u>Funding Sources</u>	
• Charges for Services	\$562,000
• SDC Reimbursement Fees	\$10,000
• Interest	\$23,000
• Transfer from other Funds	-
• Misc	\$6,000
Total	\$601,000
<u>Expenditures</u>	
• Personal Services	\$433,000
• Materials and Services	\$176,000
• Capital Outlay	\$25,000
• Transfers	\$255,000
Total	\$889,000

Total estimated storm water expenditures and funding sources anticipated for the 2008/2009 reporting period are as follows:

Table 9.1-2 2008-2009 Funding Sources and Expenditures

<u>Funding Sources</u>	
• Charges for Services	\$608,000
• SDC Reimbursement Fees	\$32,000
• Interest	\$16,000
• Transfer from other Funds	-
• Misc	-
Total	\$656,000
<u>Expenditures</u>	
• Personal Services	\$347,000
• Materials and Services	\$270,000
• Capital Outlay	-
• Transfers	\$252,000
Total	\$869,000

Beginning in the 2007/2008 reporting period, the West Linn Finance Department changed the way that expenditures are reported. This was due to different accounting methodologies used in the way that the sanitary sewer and storm utility funds are reported. Professional and Admin Services costs were added to the expenditures total.

The Finance Department has assured that the Environmental Services fund is healthy and that the inequity shown will be corrected in the future.

10.0 Monitoring

10.1 Water Quality Sampling

The City continued its water quality-sampling program, to become more familiar with the water quality in the two major watersheds located within West Linn. Beginning in the 2007/2008 permit cycle, West Linn implemented the comprehensive clackamas county storm water monitoring plan as required by Schedule B of the NPDES MS4 Permit (number 101348).

The following parameters are currently being recorded:

- Conductivity
- pH
- Dissolved Oxygen
- Temperature
- Copper
- Lead
- Zinc
- Total Suspended Solids
- Hardness
- Nitrate
- Ammonia
- Orthophosphate
- Total Phosphorus
- E.Coli

Beginning in the 2007/2008 permit cycle the above parameters were adjusted as a result of the implementation of the Comprehensive Clackamas County Stormwater Monitoring Plan.

Composite Grab samples are collected at the 4 selected stations shown in Figure 9.1. Locations 1 and 2 are within the Willamette watershed while locations 3 & 4 are located in the Tualatin watershed. These stations have stream level gauges that are monitored during the wet period. The sampling will be useful in determining problem areas and program effectiveness. The results for sampling during the 2007/2008 reporting period are shown in Table 9.1.

A composite sample from each location is collected during storm events. During routine sampling, one grab sample from each location 1 through 3 is collected. A sample is not collected at Location #4 due to lack of water in the system during dry periods

In the past, the sampling location names in the annual report were not consistent with the location names in Table B-1 of the Permit. The names that were reported were that of the street that crosses the stream rather than stream names. The sampling locations that were reported are the correct locations. Therefore, this report identifies the locations using the stream names, to be consistent with Table B-1.

Furthermore, the City contributed its annual share for the USGS Tualatin River flow monitoring station at river mile 1.8.

Figure 10.1 Sample Locations

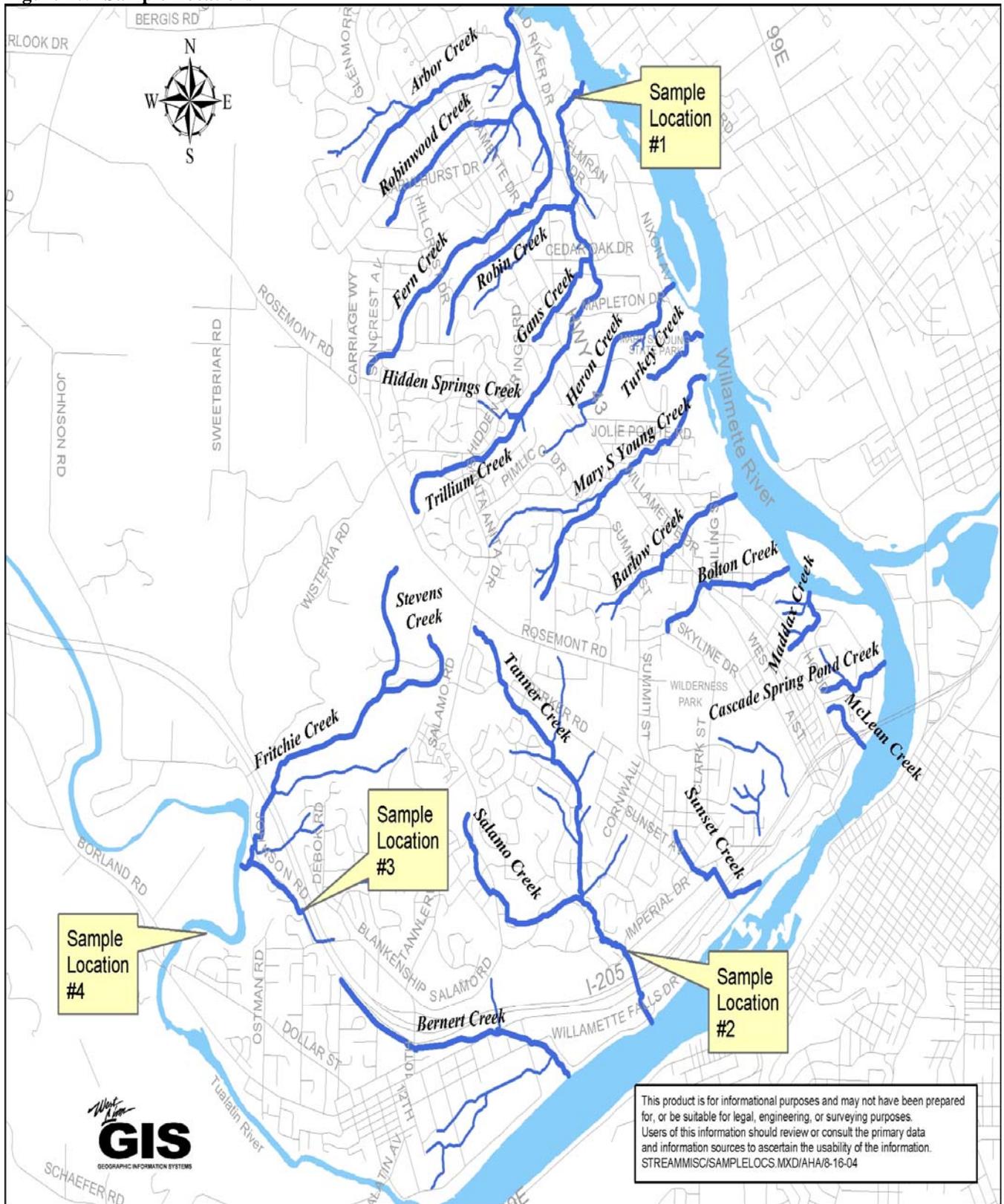


Table 10.1 2007/2008 Storm Water Quality Sampling Results

Sample Date/Time	Sample Type	Result Value	Analyte Units	Analyte Name	Location Name
9/30/2007 10:00	Grab	4838	MPN/100ml	Colilert E.Coli	West Linn Site#1 - Trillium Creek
9/30/2007 10:00	Grab	10.35	mg/L	Dissolved Oxygen (mg/L)	West Linn Site#1 - Trillium Creek
9/30/2007 14:00	Composite	0.0051	mg/L	Copper - Dissolved	West Linn Site#1 - Trillium Creek
9/30/2007 14:00	Composite	0.0092	mg/L	Copper	West Linn Site#1 - Trillium Creek
9/30/2007 14:00	Composite	40	ms	Field Conductivity	West Linn Site#1 - Trillium Creek
9/30/2007 14:00	Composite	12.5	C	Field Temperature	West Linn Site#1 - Trillium Creek
9/30/2007 14:00	Composite	4.92	CFS	Flow	West Linn Site#1 - Trillium Creek
9/30/2007 14:00	Composite	3.18	MGD	Flow	West Linn Site#1 - Trillium Creek
9/30/2007 14:00	Composite	66	mg/L	Hardness	West Linn Site#1 - Trillium Creek
9/30/2007 14:00	Composite	0.00006	mg/L	Lead - Dissolved	West Linn Site#1 - Trillium Creek
9/30/2007 14:00	Composite	0.0021	mg/L	Lead -ICPUSN	West Linn Site#1 - Trillium Creek
9/30/2007 14:00	Composite	0.05	mg/L	NH3 Low Range Seal (mg/l)	West Linn Site#1 - Trillium Creek
9/30/2007 14:00	Composite	0.54	mg/L	Nitrate Seal	West Linn Site#1 - Trillium Creek
9/30/2007 14:00	Composite	0.03	mg/L	OPO4 Seal (mg/l)	West Linn Site#1 - Trillium Creek
9/30/2007 14:00	Composite	7.02	Unspecified	pH	West Linn Site#1 - Trillium Creek
9/30/2007 14:00	Composite	48	mg/L	Total Dissolved Solids	West Linn Site#1 - Trillium Creek
9/30/2007 14:00	Composite	0.01	%	Total Solids	West Linn Site#1 - Trillium Creek
9/30/2007 14:00	Composite	nm	mg/L	Total Solids SW	West Linn Site#1 - Trillium Creek
9/30/2007 14:00	Composite	81	mg/L	Total Susp. Solids	West Linn Site#1 - Trillium Creek
9/30/2007 14:00	Composite	0.2	mg/L	TPO4 Seal (mg/l)	West Linn Site#1 - Trillium Creek
9/30/2007 14:00	Composite	nm	mg/L	Volatile Solids - Surface	West Linn Site#1 - Trillium Creek
9/30/2007 14:00	Composite	0.0059	mg/L	Zinc - Dissolved	West Linn Site#1 - Trillium Creek
9/30/2007 14:00	Composite	0.0254	mg/L	Zinc	West Linn Site#1 - Trillium Creek
9/30/2007 10:30	Grab	2240	MPN/100ml	Colilert E.Coli	West Linn Site#2 - Tanner Creek
9/30/2007 14:10	Composite	0.0078	mg/L	Copper - Dissolved	West Linn Site#2 - Tanner Creek
9/30/2007 14:10	Composite	0.0127	mg/L	Copper	West Linn Site#2 - Tanner Creek
9/30/2007 14:10	Composite	9.89	mg/L	Dissolved Oxygen (mg/L)	West Linn Site#2 - Tanner Creek
9/30/2007 14:10	Composite	62.9	ms	Field Conductivity	West Linn Site#2 - Tanner Creek
9/30/2007 14:10	Composite	12.7	C	Field Temperature	West Linn Site#2 - Tanner Creek
9/30/2007 14:10	Composite	6.92	CFS	Flow	West Linn Site#2 - Tanner Creek
9/30/2007 14:10	Composite	4.47	MGD	Flow	West Linn Site#2 - Tanner Creek

9/30/2007 14:10	Composite	64	mg/L	Hardness	West Linn Site#2 - Tanner Creek
9/30/2007 14:10	Composite	0.00005	mg/L	Lead - Dissolved	West Linn Site#2 - Tanner Creek
9/30/2007 14:10	Composite	0.00102	mg/L	Lead -ICPUSN	West Linn Site#2 - Tanner Creek
9/30/2007 14:10	Composite	0.05	mg/L	NH3 Low Range Seal (mg/l)	West Linn Site#2 - Tanner Creek
9/30/2007 14:10	Composite	0.54	mg/L	Nitrate Seal	West Linn Site#2 - Tanner Creek
9/30/2007 14:10	Composite	0.02	mg/L	OPO4 Seal (mg/l)	West Linn Site#2 - Tanner Creek
9/30/2007 14:10	Composite	6.98	Unspecified	pH	West Linn Site#2 - Tanner Creek
9/30/2007 14:10	Composite	56	mg/L	Total Dissolved Solids	West Linn Site#2 - Tanner Creek
9/30/2007 14:10	Composite	0.01	%	Total Solids	West Linn Site#2 - Tanner Creek
9/30/2007 14:10	Composite	nm	mg/L	Total Solids SW	West Linn Site#2 - Tanner Creek
9/30/2007 14:10	Composite	nm	mg/L	Total Susp. Solids	West Linn Site#2 - Tanner Creek
9/30/2007 14:10	Composite	0.13	mg/L	TPO4 Seal (mg/l)	West Linn Site#2 - Tanner Creek
9/30/2007 14:10	Composite	nm	mg/L	Volatile Solids - Surface	West Linn Site#2 - Tanner Creek
9/30/2007 14:10	Composite	0.013	mg/L	Zinc - Dissolved	West Linn Site#2 - Tanner Creek
9/30/2007 14:10	Composite	0.0285	mg/L	Zinc	West Linn Site#2 - Tanner Creek
9/30/2007 10:45	Grab	2240	MPN/100ml	Colilert E.Coli	West Linn Site#3 - Unnamed Creek
9/30/2007 14:20	Composite	0.0027	mg/L	Copper - Dissolved	West Linn Site#3 - Unnamed Creek
9/30/2007 14:20	Composite	0.0057	mg/L	Copper	West Linn Site#3 - Unnamed Creek
9/30/2007 14:20	Composite	9.49	mg/L	Dissolved Oxygen (mg/L)	West Linn Site#3 - Unnamed Creek
9/30/2007 14:20	Composite	55.8	ms	Field Conductivity	West Linn Site#3 - Unnamed Creek
9/30/2007 14:20	Composite	12.7	C	Field Temperature	West Linn Site#3 - Unnamed Creek
9/30/2007 14:20	Composite	4.54	CFS	Flow	West Linn Site#3 - Unnamed Creek
9/30/2007 14:20	Composite	2.93	MGD	Flow	West Linn Site#3 - Unnamed Creek
9/30/2007 14:20	Composite	28	mg/L	Hardness	West Linn Site#3 - Unnamed Creek
9/30/2007 14:20	Composite	0.00003	mg/L	Lead - Dissolved	West Linn Site#3 - Unnamed Creek
9/30/2007 14:20	Composite	0.00193	mg/L	Lead -ICPUSN	West Linn Site#3 - Unnamed Creek
9/30/2007 14:20	Composite	0.05	mg/L	NH3 Low Range Seal (mg/l)	West Linn Site#3 - Unnamed Creek
9/30/2007 14:20	Composite	0.57	mg/L	Nitrate Seal	West Linn Site#3 - Unnamed Creek
9/30/2007 14:20	Composite	0.03	mg/L	OPO4 Seal (mg/l)	West Linn Site#3 - Unnamed Creek
9/30/2007 14:20	Composite	7.18	Unspecified	pH	West Linn Site#3 - Unnamed Creek
9/30/2007 14:20	Composite	27	mg/L	Total Dissolved Solids	West Linn Site#3 - Unnamed Creek
9/30/2007 14:20	Composite	0.01	%	Total Solids	West Linn Site#3 - Unnamed Creek
9/30/2007 14:20	Composite	nm	mg/L	Total Solids SW	West Linn Site#3 - Unnamed Creek
9/30/2007 14:20	Composite	59	mg/L	Total Susp. Solids	West Linn Site#3 - Unnamed Creek
9/30/2007 14:20	Composite	0.17	mg/L	TPO4 Seal (mg/l)	West Linn Site#3 - Unnamed Creek

9/30/2007 14:20	Composite	nm	mg/L	Volatile Solids - Surface	West Linn Site#3 - Unnamed Creek
9/30/2007 14:20	Composite	0.0067	mg/L	Zinc - Dissolved	West Linn Site#3 - Unnamed Creek
9/30/2007 14:20	Composite	0.028	mg/L	Zinc	West Linn Site#3 - Unnamed Creek
9/30/2007 11:00	Grab	870	MPN/100ml	Colilert E.Coli	West Linn Site#4 - Storm Pipe River Heights
9/30/2007 14:30	Composite	0.0101	mg/L	Copper - Dissolved	West Linn Site#4 - Storm Pipe River Heights
9/30/2007 14:30	Composite	0.0133	mg/L	Copper	West Linn Site#4 - Storm Pipe River Heights
9/30/2007 14:30	Composite	9.98	mg/L	Dissolved Oxygen (mg/L)	West Linn Site#4 - Storm Pipe River Heights
9/30/2007 14:30	Composite	12.9	ms	Field Conductivity	West Linn Site#4 - Storm Pipe River Heights
9/30/2007 14:30	Composite	13.6	C	Field Temperature	West Linn Site#4 - Storm Pipe River Heights
9/30/2007 14:30	Composite	4.63	CFS	Flow	West Linn Site#4 - Storm Pipe River Heights
9/30/2007 14:30	Composite	3	MGD	Flow	West Linn Site#4 - Storm Pipe River Heights
9/30/2007 14:30	Composite	144	mg/L	Hardness	West Linn Site#4 - Storm Pipe River Heights
9/30/2007 14:30	Composite	0.00006	mg/L	Lead - Dissolved	West Linn Site#4 - Storm Pipe River Heights
9/30/2007 14:30	Composite	0.00072	mg/L	Lead -ICPUSN	West Linn Site#4 - Storm Pipe River Heights
9/30/2007 14:30	Composite	0.05	mg/L	NH3 Low Range Seal (mg/l)	West Linn Site#4 - Storm Pipe River Heights
9/30/2007 14:30	Composite	0.09	mg/L	Nitrate Seal	West Linn Site#4 - Storm Pipe River Heights
9/30/2007 14:30	Composite	0.03	mg/L	OPO4 Seal (mg/l)	West Linn Site#4 - Storm Pipe River Heights
9/30/2007 14:30	Composite	6.87	Unspecified	pH	West Linn Site#4 - Storm Pipe River Heights
9/30/2007 14:30	Composite	24	mg/L	Total Dissolved Solids	West Linn Site#4 - Storm Pipe River Heights
9/30/2007 14:30	Composite	0	%	Total Solids	West Linn Site#4 - Storm Pipe River Heights
9/30/2007 14:30	Composite	nm	mg/L	Total Solids SW	West Linn Site#4 - Storm Pipe River Heights
9/30/2007 14:30	Composite	8	mg/L	Total Susp. Solids	West Linn Site#4 - Storm Pipe River Heights
9/30/2007 14:30	Composite	0.11	mg/L	TPO4 Seal (mg/l)	West Linn Site#4 - Storm Pipe River Heights
9/30/2007 14:30	Composite	nm	mg/L	Volatile Solids - Surface	West Linn Site#4 - Storm Pipe River Heights
9/30/2007 14:30	Composite	0.0547	mg/L	Zinc - Dissolved	West Linn Site#4 - Storm Pipe River Heights
9/30/2007 14:30	Composite	0.0664	mg/L	Zinc	West Linn Site#4 - Storm Pipe River Heights
12/4/2007 15:00	Grab	1211	MPN/100ml	Colilert E.Coli	West Linn Site#1 - Trillium Creek
12/4/2007 15:25	Composite	0.0026	mg/L	Copper - Dissolved	West Linn Site#1 - Trillium Creek
12/4/2007 15:25	Composite	0.0048	mg/L	Copper	West Linn Site#1 - Trillium Creek
12/4/2007 15:25	Composite	10.79	mg/L	Dissolved Oxygen (mg/L)	West Linn Site#1 - Trillium Creek
12/4/2007 15:25	Composite	84.7	ms	Field Conductivity	West Linn Site#1 - Trillium Creek
12/4/2007 15:25	Composite	11.8	C	Field Temperature	West Linn Site#1 - Trillium Creek
12/4/2007 15:25	Composite	7.87	CFS	Flow	West Linn Site#1 - Trillium Creek
12/4/2007 15:25	Composite	5.09	MGD	Flow	West Linn Site#1 - Trillium Creek

12/4/2007 15:25	Composite	144	mg/L	Hardness	West Linn Site#1 - Trillium Creek
12/4/2007 15:25	Composite	0.00002	mg/L	Lead - Dissolved	West Linn Site#1 - Trillium Creek
12/4/2007 15:25	Composite	0.00116	mg/L	Lead -ICPUSN	West Linn Site#1 - Trillium Creek
12/4/2007 15:25	Composite	0.05	mg/L	NH3 Low Range Seal (mg/l)	West Linn Site#1 - Trillium Creek
12/4/2007 15:25	Composite	1.09	mg/L	Nitrate Seal	West Linn Site#1 - Trillium Creek
12/4/2007 15:25	Composite	0.02	mg/L	OPO4 Seal (mg/l)	West Linn Site#1 - Trillium Creek
12/4/2007 15:25	Composite	7.12	Unspecified	pH	West Linn Site#1 - Trillium Creek
12/4/2007 15:25	Composite	36	mg/L	Total Dissolved Solids	West Linn Site#1 - Trillium Creek
12/4/2007 15:25	Composite	98	mg/L	Total Solids SW	West Linn Site#1 - Trillium Creek
12/4/2007 15:25	Composite	29	mg/L	Total Susp. Solids	West Linn Site#1 - Trillium Creek
12/4/2007 15:25	Composite	0.08	mg/L	TPO4 Seal (mg/l)	West Linn Site#1 - Trillium Creek
12/4/2007 15:25	Composite	54	mg/L	Volatile Solids - Surface	West Linn Site#1 - Trillium Creek
12/4/2007 15:25	Composite	0.005	mg/L	Zinc - Dissolved	West Linn Site#1 - Trillium Creek
12/4/2007 15:25	Composite	0.018	mg/L	Zinc	West Linn Site#1 - Trillium Creek
12/4/2007 14:45	Grab	364	MPN/100ml	Colilert E.Coli	West Linn Site#2 - Tanner Creek
12/4/2007 15:30	Composite	0.0021	mg/L	Copper - Dissolved	West Linn Site#2 - Tanner Creek
12/4/2007 15:30	Composite	0.002	mg/L	Copper	West Linn Site#2 - Tanner Creek
12/4/2007 15:30	Composite	10.34	mg/L	Dissolved Oxygen (mg/L)	West Linn Site#2 - Tanner Creek
12/4/2007 15:30	Composite	108.2	ms	Field Conductivity	West Linn Site#2 - Tanner Creek
12/4/2007 15:30	Composite	12.3	C	Field Temperature	West Linn Site#2 - Tanner Creek
12/4/2007 15:30	Composite	13.97	CFS	Flow	West Linn Site#2 - Tanner Creek
12/4/2007 15:30	Composite	9.03	MGD	Flow	West Linn Site#2 - Tanner Creek
12/4/2007 15:30	Composite	106	mg/L	Hardness	West Linn Site#2 - Tanner Creek
12/4/2007 15:30	Composite	0.00003	mg/L	Lead - Dissolved	West Linn Site#2 - Tanner Creek
12/4/2007 15:30	Composite	0.00029	mg/L	Lead -ICPUSN	West Linn Site#2 - Tanner Creek
12/4/2007 15:30	Composite	0.05	mg/L	NH3 Low Range Seal (mg/l)	West Linn Site#2 - Tanner Creek
12/4/2007 15:30	Composite	2.33	mg/L	Nitrate Seal	West Linn Site#2 - Tanner Creek
12/4/2007 15:30	Composite	0.01	mg/L	OPO4 Seal (mg/l)	West Linn Site#2 - Tanner Creek
12/4/2007 15:30	Composite	6.93	Unspecified	pH	West Linn Site#2 - Tanner Creek
12/4/2007 15:30	Composite	36	mg/L	Total Dissolved Solids	West Linn Site#2 - Tanner Creek
12/4/2007 15:30	Composite	107	mg/L	Total Solids SW	West Linn Site#2 - Tanner Creek
12/4/2007 15:30	Composite	7	mg/L	Total Susp. Solids	West Linn Site#2 - Tanner Creek
12/4/2007 15:30	Composite	0.04	mg/L	TPO4 Seal (mg/l)	West Linn Site#2 - Tanner Creek
12/4/2007 15:30	Composite	59	mg/L	Volatile Solids - Surface	West Linn Site#2 - Tanner Creek
12/4/2007 15:30	Composite	0.0065	mg/L	Zinc - Dissolved	West Linn Site#2 - Tanner Creek

12/4/2007 15:30	Composite	0.0102	mg/L	Zinc	West Linn Site#2 - Tanner Creek
12/4/2007 14:30	Grab	265	MPN/100ml	Colilert E.Coli	West Linn Site#3 - Unnamed Creek
12/4/2007 15:35	Composite	0.0013	mg/L	Copper - Dissolved	West Linn Site#3 - Unnamed Creek
12/4/2007 15:35	Composite	0.0018	mg/L	Copper	West Linn Site#3 - Unnamed Creek
12/4/2007 15:35	Composite	10.05	mg/L	Dissolved Oxygen (mg/L)	West Linn Site#3 - Unnamed Creek
12/4/2007 15:35	Composite	114.8	ms	Field Conductivity	West Linn Site#3 - Unnamed Creek
12/4/2007 15:35	Composite	12.2	C	Field Temperature	West Linn Site#3 - Unnamed Creek
12/4/2007 15:35	Composite	8.38	CFS	Flow	West Linn Site#3 - Unnamed Creek
12/4/2007 15:35	Composite	5.42	MGD	Flow	West Linn Site#3 - Unnamed Creek
12/4/2007 15:35	Composite	68	mg/L	Hardness	West Linn Site#3 - Unnamed Creek
12/4/2007 15:35	Composite	0.00002	mg/L	Lead - Dissolved	West Linn Site#3 - Unnamed Creek
12/4/2007 15:35	Composite	0.00038	mg/L	Lead -ICPUSN	West Linn Site#3 - Unnamed Creek
12/4/2007 15:35	Composite	0.05	mg/L	NH3 Low Range Seal (mg/l)	West Linn Site#3 - Unnamed Creek
12/4/2007 15:35	Composite	1.88	mg/L	Nitrate Seal	West Linn Site#3 - Unnamed Creek
12/4/2007 15:35	Composite	0.02	mg/L	OPO4 Seal (mg/l)	West Linn Site#3 - Unnamed Creek
12/4/2007 15:35	Composite	6.88	Unspecified	pH	West Linn Site#3 - Unnamed Creek
12/4/2007 15:35	Composite	54	mg/L	Total Dissolved Solids	West Linn Site#3 - Unnamed Creek
12/4/2007 15:35	Composite	53	mg/L	Total Solids SW	West Linn Site#3 - Unnamed Creek
12/4/2007 15:35	Composite	9	mg/L	Total Susp. Solids	West Linn Site#3 - Unnamed Creek
12/4/2007 15:35	Composite	0.05	mg/L	TPO4 Seal (mg/l)	West Linn Site#3 - Unnamed Creek
12/4/2007 15:35	Composite	60	mg/L	Volatile Solids - Surface	West Linn Site#3 - Unnamed Creek
12/4/2007 15:35	Composite	0.0157	mg/L	Zinc - Dissolved	West Linn Site#3 - Unnamed Creek
12/4/2007 15:35	Composite	0.0227	mg/L	Zinc	West Linn Site#3 - Unnamed Creek
12/4/2007 14:00	Grab	19863	MPN/100ml	Colilert E.Coli	West Linn Site#4 - Storm Pipe River Heights
12/4/2007 15:40	Composite	0.0145	mg/L	Copper - Dissolved	West Linn Site#4 - Storm Pipe River Heights
12/4/2007 15:40	Composite	0.0183	mg/L	Copper	West Linn Site#4 - Storm Pipe River Heights
12/4/2007 15:40	Composite	10.1	mg/L	Dissolved Oxygen (mg/L)	West Linn Site#4 - Storm Pipe River Heights
12/4/2007 15:40	Composite	52.1	ms	Field Conductivity	West Linn Site#4 - Storm Pipe River Heights
12/4/2007 15:40	Composite	13.4	C	Field Temperature	West Linn Site#4 - Storm Pipe River Heights
12/4/2007 15:40	Composite	7.94	CFS	Flow	West Linn Site#4 - Storm Pipe River Heights
12/4/2007 15:40	Composite	5.13	MGD	Flow	West Linn Site#4 - Storm Pipe River Heights
12/4/2007 15:40	Composite	45	mg/L	Hardness	West Linn Site#4 - Storm Pipe River Heights
12/4/2007 15:40	Composite	0.00027	mg/L	Lead - Dissolved	West Linn Site#4 - Storm Pipe River Heights
12/4/2007 15:40	Composite	0.00083	mg/L	Lead -ICPUSN	West Linn Site#4 - Storm Pipe River Heights

12/4/2007 15:40	Composite	0.05	mg/L	NH3 Low Range Seal (mg/l)	West Linn Site#4 - Storm Pipe River Heights
12/4/2007 15:40	Composite	0.05	mg/L	Nitrate Seal	West Linn Site#4 - Storm Pipe River Heights
12/4/2007 15:40	Composite	0.02	mg/L	OPO4 Seal (mg/l)	West Linn Site#4 - Storm Pipe River Heights
12/4/2007 15:40	Composite	6.84	Unspecified	pH	West Linn Site#4 - Storm Pipe River Heights
12/4/2007 15:40	Composite	31	mg/L	Total Dissolved Solids	West Linn Site#4 - Storm Pipe River Heights
12/4/2007 15:40	Composite	48	mg/L	Total Solids SW	West Linn Site#4 - Storm Pipe River Heights
12/4/2007 15:40	Composite	6	mg/L	Total Susp. Solids	West Linn Site#4 - Storm Pipe River Heights
12/4/2007 15:40	Composite	0.05	mg/L	TPO4 Seal (mg/l)	West Linn Site#4 - Storm Pipe River Heights
12/4/2007 15:40	Composite	66	mg/L	Volatile Solids - Surface	West Linn Site#4 - Storm Pipe River Heights
12/4/2007 15:40	Composite	0.156	mg/L	Zinc - Dissolved	West Linn Site#4 - Storm Pipe River Heights
12/4/2007 15:40	Composite	0.169	mg/L	Zinc	West Linn Site#4 - Storm Pipe River Heights

5/20/2008 11:30	Grab	2219	MPN/100ml	Colilert E.Coli	West Linn Site#1 - Trillium Creek
5/20/2008 10:40	Composite	0.0092	mg/L	Copper - Dissolved	West Linn Site#1 - Trillium Creek
5/20/2008 10:40	Composite	0.0142	mg/L	Copper	West Linn Site#1 - Trillium Creek
5/20/2008 10:40	Composite	9.69	mg/L	Dissolved Oxygen (mg/L)	West Linn Site#1 - Trillium Creek
5/20/2008 10:40	Composite	67.9	ms	Field Conductivity	West Linn Site#1 - Trillium Creek
5/20/2008 10:40	Composite	14.3	C	Field Temperature	West Linn Site#1 - Trillium Creek
5/20/2008 10:40	Composite	2.67	CFS	Flow	West Linn Site#1 - Trillium Creek
5/20/2008 10:40	Composite	1.72	MGD	Flow	West Linn Site#1 - Trillium Creek
5/20/2008 10:40	Composite	40	mg/L	Hardness	West Linn Site#1 - Trillium Creek
5/20/2008 10:40	Composite	0.00005	mg/L	Lead - Dissolved	West Linn Site#1 - Trillium Creek
5/20/2008 10:40	Composite	0.00153	mg/L	Lead -ICPUSN	West Linn Site#1 - Trillium Creek
5/20/2008 10:40	Composite	0.05	mg/L	NH3 Low Range Seal (mg/l)	West Linn Site#1 - Trillium Creek
5/20/2008 10:40	Composite	0.58	mg/L	Nitrate Seal	West Linn Site#1 - Trillium Creek
5/20/2008 10:40	Composite	0.05	mg/L	OPO4 Seal (mg/l)	West Linn Site#1 - Trillium Creek
5/20/2008 10:40	Composite	7.43	Unspecified	pH	West Linn Site#1 - Trillium Creek
5/20/2008 10:40	Composite	91	mg/L	Total Dissolved Solids	West Linn Site#1 - Trillium Creek
5/20/2008 10:40	Composite	154	mg/L	Total Solids SW	West Linn Site#1 - Trillium Creek
5/20/2008 10:40	Composite	51	mg/L	Total Susp. Solids	West Linn Site#1 - Trillium Creek
5/20/2008 10:40	Composite	0.24	mg/L	TPO4 Seal (mg/l)	West Linn Site#1 - Trillium Creek
5/20/2008 10:40	Composite	71	mg/L	Volatile Solids - Surface	West Linn Site#1 - Trillium Creek
5/20/2008 10:40	Composite	0.0101	mg/L	Zinc - Dissolved	West Linn Site#1 - Trillium Creek
5/20/2008 10:40	Composite	0.0294	mg/L	Zinc	West Linn Site#1 - Trillium Creek
5/20/2008 11:45	Grab	2419	MPN/100ml	Colilert E.Coli	West Linn Site#2 - Tanner Creek

5/20/2008 10:05	Composite	0.0079	mg/L	Copper - Dissolved	West Linn Site#2 - Tanner Creek
5/20/2008 10:05	Composite	0.0138	mg/L	Copper	West Linn Site#2 - Tanner Creek
5/20/2008 10:05	Composite	9.14	mg/L	Dissolved Oxygen (mg/L)	West Linn Site#2 - Tanner Creek
5/20/2008 10:05	Composite	77.1	ms	Field Conductivity	West Linn Site#2 - Tanner Creek
5/20/2008 10:05	Composite	14.8	C	Field Temperature	West Linn Site#2 - Tanner Creek
5/20/2008 10:05	Composite	3.23	CFS	Flow	West Linn Site#2 - Tanner Creek
5/20/2008 10:05	Composite	2.09	MGD	Flow	West Linn Site#2 - Tanner Creek
5/20/2008 10:05	Composite	37	mg/L	Hardness	West Linn Site#2 - Tanner Creek
5/20/2008 10:05	Composite	0.00003	mg/L	Lead - Dissolved	West Linn Site#2 - Tanner Creek
5/20/2008 10:05	Composite	0.00105	mg/L	Lead -ICPUSN	West Linn Site#2 - Tanner Creek
5/20/2008 10:05	Composite	0.05	mg/L	NH3 Low Range Seal (mg/l)	West Linn Site#2 - Tanner Creek
5/20/2008 10:05	Composite	0.78	mg/L	Nitrate Seal	West Linn Site#2 - Tanner Creek
5/20/2008 10:05	Composite	0.02	mg/L	OPO4 Seal (mg/l)	West Linn Site#2 - Tanner Creek
5/20/2008 10:05	Composite	7.09	Unspecified	pH	West Linn Site#2 - Tanner Creek
5/20/2008 10:05	Composite	73	mg/L	Total Dissolved Solids	West Linn Site#2 - Tanner Creek
5/20/2008 10:05	Composite	129	mg/L	Total Solids SW	West Linn Site#2 - Tanner Creek
5/20/2008 10:05	Composite	45	mg/L	Total Susp. Solids	West Linn Site#2 - Tanner Creek
5/20/2008 10:05	Composite	0.21	mg/L	TPO4 Seal (mg/l)	West Linn Site#2 - Tanner Creek
5/20/2008 10:05	Composite	65	mg/L	Volatile Solids - Surface	West Linn Site#2 - Tanner Creek
5/20/2008 10:05	Composite	0.0088	mg/L	Zinc - Dissolved	West Linn Site#2 - Tanner Creek
5/20/2008 10:05	Composite	0.0295	mg/L	Zinc	West Linn Site#2 - Tanner Creek
5/20/2008 12:05	Grab	2419	MPN/100ml	Colilert E.Coli	West Linn Site#3 - Unnamed Creek
5/20/2008 9:45	Composite	0.0047	mg/L	Copper - Dissolved	West Linn Site#3 - Unnamed Creek
5/20/2008 9:45	Composite	0.0061	mg/L	Copper	West Linn Site#3 - Unnamed Creek
5/20/2008 9:45	Composite	8.25	mg/L	Dissolved Oxygen (mg/L)	West Linn Site#3 - Unnamed Creek
5/20/2008 9:45	Composite	79.9	ms	Field Conductivity	West Linn Site#3 - Unnamed Creek
5/20/2008 9:45	Composite	14.7	C	Field Temperature	West Linn Site#3 - Unnamed Creek
5/20/2008 9:45	Composite	2.99	CFS	Flow	West Linn Site#3 - Unnamed Creek
5/20/2008 9:45	Composite	1.93	MGD	Flow	West Linn Site#3 - Unnamed Creek
5/20/2008 9:45	Composite	42	mg/L	Hardness	West Linn Site#3 - Unnamed Creek
5/20/2008 9:45	Composite	0.00002	mg/L	Lead - Dissolved	West Linn Site#3 - Unnamed Creek
5/20/2008 9:45	Composite	0.00051	mg/L	Lead -ICPUSN	West Linn Site#3 - Unnamed Creek
5/20/2008 9:45	Composite	0.05	mg/L	NH3 Low Range Seal (mg/l)	West Linn Site#3 - Unnamed Creek
5/20/2008 9:45	Composite	0.65	mg/L	Nitrate Seal	West Linn Site#3 - Unnamed Creek
5/20/2008 9:45	Composite	0.02	mg/L	OPO4 Seal (mg/l)	West Linn Site#3 - Unnamed Creek

5/20/2008 9:45	Composite	7.17	Unspecified	pH	West Linn Site#3 - Unnamed Creek
5/20/2008 9:45	Composite	78	mg/L	Total Dissolved Solids	West Linn Site#3 - Unnamed Creek
5/20/2008 9:45	Composite	119	mg/L	Total Solids SW	West Linn Site#3 - Unnamed Creek
5/20/2008 9:45	Composite	19	mg/L	Total Susp. Solids	West Linn Site#3 - Unnamed Creek
5/20/2008 9:45	Composite	0.12	mg/L	TPO4 Seal (mg/l)	West Linn Site#3 - Unnamed Creek
5/20/2008 9:45	Composite	67	mg/L	Volatile Solids - Surface	West Linn Site#3 - Unnamed Creek
5/20/2008 9:45	Composite	0.0299	mg/L	Zinc - Dissolved	West Linn Site#3 - Unnamed Creek
5/20/2008 9:45	Composite	0.0528	mg/L	Zinc	West Linn Site#3 - Unnamed Creek
5/20/2008 12:30	Grab	1203	MPN/100ml	Colilert E.Coli	West Linn Site#4 - Storm Pipe River Heights
5/20/2008 9:15	Composite	0.0426	mg/L	Copper - Dissolved	West Linn Site#4 - Storm Pipe River Heights
5/20/2008 9:15	Composite	0.0513	mg/L	Copper	West Linn Site#4 - Storm Pipe River Heights
5/20/2008 9:15	Composite	8.46	mg/L	Dissolved Oxygen (mg/L)	West Linn Site#4 - Storm Pipe River Heights
5/20/2008 9:15	Composite	41.4	ms	Field Conductivity	West Linn Site#4 - Storm Pipe River Heights
5/20/2008 9:15	Composite	15.2	C	Field Temperature	West Linn Site#4 - Storm Pipe River Heights
5/20/2008 9:15	Composite	4.63	CFS	Flow	West Linn Site#4 - Storm Pipe River Heights
5/20/2008 9:15	Composite	3	MGD	Flow	West Linn Site#4 - Storm Pipe River Heights
5/20/2008 9:15	Composite	16	mg/L	Hardness	West Linn Site#4 - Storm Pipe River Heights
5/20/2008 9:15	Composite	0.00018	mg/L	Lead - Dissolved	West Linn Site#4 - Storm Pipe River Heights
5/20/2008 9:15	Composite	0.00133	mg/L	Lead -ICPUSN	West Linn Site#4 - Storm Pipe River Heights
5/20/2008 9:15	Composite	0.08	mg/L	NH3 Low Range Seal (mg/l)	West Linn Site#4 - Storm Pipe River Heights
5/20/2008 9:15	Composite	0.39	mg/L	Nitrate Seal	West Linn Site#4 - Storm Pipe River Heights
5/20/2008 9:15	Composite	0.49	mg/L	OPO4 Seal (mg/l)	West Linn Site#4 - Storm Pipe River Heights
5/20/2008 9:15	Composite	6.98	Unspecified	pH	West Linn Site#4 - Storm Pipe River Heights
5/20/2008 9:15	Composite	80	mg/L	Total Dissolved Solids	West Linn Site#4 - Storm Pipe River Heights
5/20/2008 9:15	Composite	106	mg/L	Total Solids SW	West Linn Site#4 - Storm Pipe River Heights
5/20/2008 9:15	Composite	18	mg/L	Total Susp. Solids	West Linn Site#4 - Storm Pipe River Heights
5/20/2008 9:15	Composite	0.74	mg/L	TPO4 Seal (mg/l)	West Linn Site#4 - Storm Pipe River Heights
5/20/2008 9:15	Composite	92	mg/L	Volatile Solids - Surface	West Linn Site#4 - Storm Pipe River Heights
5/20/2008 9:15	Composite	0.172	mg/L	Zinc - Dissolved	West Linn Site#4 - Storm Pipe River Heights
5/20/2008 9:15	Composite	0.201	mg/L	Zinc	West Linn Site#4 - Storm Pipe River Heights
6/12/2008 9:00	Grab	299	MPN/100ml	Colilert E.Coli	West Linn Site#1 - Trillium Creek
6/12/2008 9:00	Grab	0.0006	mg/L	Copper - Dissolved	West Linn Site#1 - Trillium Creek
6/12/2008 9:00	Grab	0.0007	mg/L	Copper	West Linn Site#1 - Trillium Creek
6/12/2008 9:00	Grab	10.37	mg/L	Dissolved Oxygen (mg/L)	West Linn Site#1 - Trillium Creek

6/12/2008 9:00	Grab	171	ms	Conductivity Field	West Linn Site#1 - Trillium Creek
6/12/2008 9:00	Grab	10.8	C	Temperature	West Linn Site#1 - Trillium Creek
6/12/2008 9:00	Grab	0.25	CFS	Flow	West Linn Site#1 - Trillium Creek
6/12/2008 9:00	Grab	0.16	MGD	Flow	West Linn Site#1 - Trillium Creek
6/12/2008 9:00	Grab	91	mg/L	Hardness	West Linn Site#1 - Trillium Creek
6/12/2008 9:00	Grab	0.00002	mg/L	Lead - Dissolved	West Linn Site#1 - Trillium Creek
6/12/2008 9:00	Grab	0.00012	mg/L	Lead -ICPUSN	West Linn Site#1 - Trillium Creek
6/12/2008 9:00	Grab	0.05	mg/L	Ammonia Nitrogen Lo Seal	West Linn Site#1 - Trillium Creek
6/12/2008 9:00	Grab	0.67	mg/L	Nitrite	West Linn Site#1 - Trillium Creek
6/12/2008 9:00	Grab	0.01	mg/L	Orthophosphate	West Linn Site#1 - Trillium Creek
6/12/2008 9:00	Grab	7.61	Unspecified	pH	West Linn Site#1 - Trillium Creek
6/12/2008 9:00	Grab	122	mg/L	Total Dissolved Solids	West Linn Site#1 - Trillium Creek
6/12/2008 9:00	Grab	88	mg/L	Total Solids SW	West Linn Site#1 - Trillium Creek
6/12/2008 9:00	Grab	2	mg/L	Total Susp. Solids	West Linn Site#1 - Trillium Creek
6/12/2008 9:00	Grab	0.07	mg/L	Total Phosphate	West Linn Site#1 - Trillium Creek
6/12/2008 9:00	Grab	1	mg/L	Volatile Solids - Surface	West Linn Site#1 - Trillium Creek
6/12/2008 9:00	Grab	0.0304	mg/L	Zinc - Dissolved	West Linn Site#1 - Trillium Creek
6/12/2008 9:00	Grab	0.0432	mg/L	Zinc	West Linn Site#1 - Trillium Creek
6/12/2008 9:45	Grab	613	MPN/100ml	Colilert E.Coli	West Linn Site#2 - Tanner Creek
6/12/2008 9:45	Grab	0.0005	mg/L	Copper - Dissolved	West Linn Site#2 - Tanner Creek
6/12/2008 9:45	Grab	0.0007	mg/L	Copper	West Linn Site#2 - Tanner Creek
6/12/2008 9:45	Grab	10.36	mg/L	Dissolved Oxygen (mg/L)	West Linn Site#2 - Tanner Creek
6/12/2008 9:45	Grab	113	ms	Conductivity Field	West Linn Site#2 - Tanner Creek
6/12/2008 9:45	Grab	11.1	C	Temperature	West Linn Site#2 - Tanner Creek
6/12/2008 9:45	Grab	0.94	CFS	Flow	West Linn Site#2 - Tanner Creek
6/12/2008 9:45	Grab	0.61	MGD	Flow	West Linn Site#2 - Tanner Creek
6/12/2008 9:45	Grab	74	mg/L	Hardness	West Linn Site#2 - Tanner Creek
6/12/2008 9:45	Grab	0.00004	mg/L	Lead - Dissolved	West Linn Site#2 - Tanner Creek
6/12/2008 9:45	Grab	0.00017	mg/L	Lead -ICPUSN	West Linn Site#2 - Tanner Creek
6/12/2008 9:45	Grab	0.05	mg/L	Ammonia Nitrogen Lo Seal	West Linn Site#2 - Tanner Creek
6/12/2008 9:45	Grab	1.04	mg/L	Nitrite	West Linn Site#2 - Tanner Creek
6/12/2008 9:45	Grab	0.01	mg/L	Orthophosphate	West Linn Site#2 - Tanner Creek
6/12/2008 9:45	Grab	7.53	Unspecified	pH	West Linn Site#2 - Tanner Creek
6/12/2008 9:45	Grab	78	mg/L	Total Dissolved Solids	West Linn Site#2 - Tanner Creek
6/12/2008 9:45	Grab	44	mg/L	Total Solids SW	West Linn Site#2 - Tanner Creek

6/12/2008 9:45	Grab	1	mg/L	Total Susp. Solids	West Linn Site#2 - Tanner Creek
6/12/2008 9:45	Grab	0.04	mg/L	Total Phosphate	West Linn Site#2 - Tanner Creek
6/12/2008 9:45	Grab	1	mg/L	Volatile Solids - Surface	West Linn Site#2 - Tanner Creek
6/12/2008 9:45	Grab	0.007	mg/L	Zinc - Dissolved	West Linn Site#2 - Tanner Creek
6/12/2008 9:45	Grab	0.0111	mg/L	Zinc	West Linn Site#2 - Tanner Creek
6/12/2008 10:15	Grab	548	MPN/100ml	Colilert E.Coli	West Linn Site#3 - Unnamed Creek
6/12/2008 10:15	Grab	0.0006	mg/L	Copper - Dissolved	West Linn Site#3 - Unnamed Creek
6/12/2008 10:15	Grab	0.0004	mg/L	Copper	West Linn Site#3 - Unnamed Creek
6/12/2008 10:15	Grab	8.43	mg/L	Dissolved Oxygen (mg/L)	West Linn Site#3 - Unnamed Creek
6/12/2008 10:15	Grab	166	ms	Conductivity Field	West Linn Site#3 - Unnamed Creek
6/12/2008 10:15	Grab	11.6	C	Temperature	West Linn Site#3 - Unnamed Creek
6/12/2008 10:15	Grab	0.15	CFS	Flow	West Linn Site#3 - Unnamed Creek
6/12/2008 10:15	Grab	0.1	MGD	Flow	West Linn Site#3 - Unnamed Creek
6/12/2008 10:15	Grab	88	mg/L	Hardness	West Linn Site#3 - Unnamed Creek
6/12/2008 10:15	Grab	0.00002	mg/L	Lead - Dissolved	West Linn Site#3 - Unnamed Creek
6/14/2008 10:15	Grab	0.00005	mg/L	Lead -ICPUSN	West Linn Site#3 - Unnamed Creek
6/12/2008 10:15	Grab	0.05	mg/L	Ammonia Nitrogen Lo Seal	West Linn Site#3 - Unnamed Creek
6/12/2008 10:15	Grab	0.61	mg/L	Nitrite	West Linn Site#3 - Unnamed Creek
6/12/2008 10:15	Grab	0.01	mg/L	Orthophosphate	West Linn Site#3 - Unnamed Creek
6/12/2008 10:15	Grab	7.32	Unspecified	pH	West Linn Site#3 - Unnamed Creek
6/12/2008 10:15	Grab	115	mg/L	Total Dissolved Solids	West Linn Site#3 - Unnamed Creek
6/12/2008 10:15	Grab	92	mg/L	Total Solids SW	West Linn Site#3 - Unnamed Creek
6/12/2008 10:15	Grab	5	mg/L	Total Susp. Solids	West Linn Site#3 - Unnamed Creek
6/12/2008 10:15	Grab	0.1	mg/L	Total Phosphate	West Linn Site#3 - Unnamed Creek
6/12/2008 10:15	Grab	2	mg/L	Volatile Solids - Surface	West Linn Site#3 - Unnamed Creek
6/12/2008 10:15	Grab	0.0039	mg/L	Zinc - Dissolved	West Linn Site#3 - Unnamed Creek
6/12/2008 10:15	Grab	0.0056	mg/L	Zinc	West Linn Site#3 - Unnamed Creek
6/24/2008 13:15	Grab	0.11	mg/L	Ammonia Nitrogen Lo Seal	West Linn Site#3 - Unnamed Creek
6/24/2008 13:15	Grab	0.64	mg/L	Nitrite	West Linn Site#3 - Unnamed Creek
6/24/2008 13:15	Grab	0.05	mg/L	Orthophosphate	West Linn Site#3 - Unnamed Creek
6/24/2008 13:15	Grab	0.07	mg/L	Total Phosphate	West Linn Site#3 - Unnamed Creek
6/24/2008 13:35	Grab	0.05	mg/L	Ammonia Nitrogen Lo Seal	West Linn Site#2 - Tanner Creek
6/24/2008 13:35	Grab	0.97	mg/L	Nitrite	West Linn Site#2 - Tanner Creek

6/24/2008 13:35	Grab	0.02	mg/L	Orthophosphate	West Linn Site#2 - Tanner Creek
6/24/2008 13:35	Grab	0.08	mg/L	Total Phosphate	West Linn Site#2 - Tanner Creek
6/24/2008 13:50	Grab	0.05	mg/L	Ammonia Nitrogen Lo Seal	West Linn Site#1 - Trillium Creek
6/24/2008 13:50	Grab	0.68	mg/L	Nitrite	West Linn Site#1 - Trillium Creek
6/24/2008 13:50	Grab	0.06	mg/L	Orthophosphate	West Linn Site#1 - Trillium Creek
6/24/2008 13:50	Grab	0.06	mg/L	Total Phosphate	West Linn Site#1 - Trillium Creek
6/26/2008 9:45	Grab	261	MPN/100ml	Colilert E.Coli	West Linn Site#1 - Trillium Creek
6/26/2008 9:45	Grab	0.0007	mg/L	Copper - Dissolved	West Linn Site#1 - Trillium Creek
6/26/2008 9:45	Grab	0.0009	mg/L	Copper	West Linn Site#1 - Trillium Creek
6/26/2008 9:45	Grab	9.93	mg/L	Dissolved Oxygen (mg/L)	West Linn Site#1 - Trillium Creek
6/26/2008 9:45	Grab	156	ms	Conductivity Field	West Linn Site#1 - Trillium Creek
6/26/2008 9:45	Grab	12.9	C	Temperature	West Linn Site#1 - Trillium Creek
6/26/2008 9:45	Grab	0.25	CFS	Flow	West Linn Site#1 - Trillium Creek
6/26/2008 9:45	Grab	0.16	MGD	Flow	West Linn Site#1 - Trillium Creek
6/26/2008 9:45	Grab	158	mg/L	Hardness	West Linn Site#1 - Trillium Creek
6/26/2008 9:45	Grab	0.00002	mg/L	Lead - Dissolved	West Linn Site#1 - Trillium Creek
6/26/2008 9:45	Grab	0.00013	mg/L	Lead -ICPUSN	West Linn Site#1 - Trillium Creek
6/26/2008 9:45	Grab	0.05	mg/L	Ammonia Nitrogen Lo Seal	West Linn Site#1 - Trillium Creek
6/26/2008 9:45	Grab	0.67	mg/L	Nitrite	West Linn Site#1 - Trillium Creek
6/26/2008 9:45	Grab	0.06	mg/L	Orthophosphate	West Linn Site#1 - Trillium Creek
6/26/2008 9:45	Grab	7.43	Unspecified	pH	West Linn Site#1 - Trillium Creek
6/26/2008 9:45	Grab	156	mg/L	Total Dissolved Solids	West Linn Site#1 - Trillium Creek
6/26/2008 9:45	Grab	144	mg/L	Total Solids SW	West Linn Site#1 - Trillium Creek
6/26/2008 9:45	Grab	2	mg/L	Total Susp. Solids	West Linn Site#1 - Trillium Creek
6/26/2008 9:45	Grab	0.07	mg/L	Total Phosphate	West Linn Site#1 - Trillium Creek
6/26/2008 9:45	Grab	61	mg/L	Volatile Solids - Surface	West Linn Site#1 - Trillium Creek
6/26/2008 9:45	Grab	0.0016	mg/L	Zinc - Dissolved	West Linn Site#1 - Trillium Creek
6/26/2008 9:45	Grab	0.0032	mg/L	Zinc	West Linn Site#1 - Trillium Creek
6/26/2008 10:30	Grab	261	MPN/100ml	Colilert E.Coli	West Linn Site#2 - Tanner Creek
6/26/2008 10:30	Grab	0.0006	mg/L	Copper - Dissolved	West Linn Site#2 - Tanner Creek
6/26/2008 10:30	Grab	0.0007	mg/L	Copper	West Linn Site#2 - Tanner Creek
6/26/2008 10:30	Grab	9.82	mg/L	Dissolved Oxygen (mg/L)	West Linn Site#2 - Tanner Creek
6/26/2008 10:30	Grab	99	ms	Conductivity Field	West Linn Site#2 - Tanner Creek

6/26/2008 10:30	Grab	13.1	C	Temperature	West Linn Site#2 - Tanner Creek
6/26/2008 10:30	Grab	0.49	CFS	Flow	West Linn Site#2 - Tanner Creek
6/26/2008 10:30	Grab	0.32	MGD	Flow	West Linn Site#2 - Tanner Creek
6/26/2008 10:30	Grab	69	mg/L	Hardness	West Linn Site#2 - Tanner Creek
6/27/2008 10:30	Grab	0.00002	mg/L	Lead - Dissolved	West Linn Site#2 - Tanner Creek
6/28/2008 10:30	Grab	0.00004	mg/L	Lead -ICPUSN	West Linn Site#2 - Tanner Creek
6/26/2008 10:30	Grab	0.05	mg/L	Ammonia Nitrogen Lo Seal	West Linn Site#2 - Tanner Creek
6/26/2008 10:30	Grab	1.01	mg/L	Nitrite	West Linn Site#2 - Tanner Creek
6/26/2008 10:30	Grab	0.02	mg/L	Orthophosphate	West Linn Site#2 - Tanner Creek
6/26/2008 10:30	Grab	7.41	Unspecified	pH	West Linn Site#2 - Tanner Creek
6/26/2008 10:30	Grab	108	mg/L	Total Dissolved Solids	West Linn Site#2 - Tanner Creek
6/26/2008 10:30	Grab	73	mg/L	Total Solids SW	West Linn Site#2 - Tanner Creek
6/26/2008 10:30	Grab	1	mg/L	Total Susp. Solids	West Linn Site#2 - Tanner Creek
6/26/2008 10:30	Grab	0.04	mg/L	Total Phosphate	West Linn Site#2 - Tanner Creek
6/26/2008 10:30	Grab	56	mg/L	Volatile Solids - Surface	West Linn Site#2 - Tanner Creek
6/26/2008 10:30	Grab	0.0031	mg/L	Zinc - Dissolved	West Linn Site#2 - Tanner Creek
6/26/2008 10:30	Grab	0.0039	mg/L	Zinc	West Linn Site#2 - Tanner Creek
6/26/2008 11:00	Grab	196	MPN/100ml	Colilert E.Coli	West Linn Site#3 - Unnamed Creek
6/26/2008 11:00	Grab	0.0006	mg/L	Copper - Dissolved	West Linn Site#3 - Unnamed Creek
6/26/2008 11:00	Grab	0.0007	mg/L	Copper	West Linn Site#3 - Unnamed Creek
6/26/2008 11:00	Grab	9.98	mg/L	Dissolved Oxygen (mg/L)	West Linn Site#3 - Unnamed Creek
6/26/2008 11:00	Grab	161	ms	Conductivity Field	West Linn Site#3 - Unnamed Creek
6/26/2008 11:00	Grab	13.6	C	Temperature	West Linn Site#3 - Unnamed Creek
6/26/2008 11:00	Grab	0.15	CFS	Flow	West Linn Site#3 - Unnamed Creek
6/26/2008 11:00	Grab	0.1	MGD	Flow	West Linn Site#3 - Unnamed Creek
6/26/2008 11:00	Grab	57	mg/L	Hardness	West Linn Site#3 - Unnamed Creek
6/27/2008 11:00	Grab	0.00002	mg/L	Lead - Dissolved	West Linn Site#3 - Unnamed Creek
6/28/2008 11:00	Grab	0.00006	mg/L	Lead -ICPUSN	West Linn Site#3 - Unnamed Creek
6/26/2008 11:00	Grab	0.1	mg/L	Ammonia Nitrogen Lo Seal	West Linn Site#3 - Unnamed Creek
6/26/2008 11:00	Grab	0.81	mg/L	Nitrite	West Linn Site#3 - Unnamed Creek
6/26/2008 11:00	Grab	0.05	mg/L	Orthophosphate	West Linn Site#3 - Unnamed Creek
6/26/2008 11:00	Grab	7.2	Unspecified	pH	West Linn Site#3 - Unnamed Creek
6/26/2008 11:00	Grab	146	mg/L	Total Dissolved Solids	West Linn Site#3 - Unnamed Creek
6/26/2008 11:00	Grab	132	mg/L	Total Solids SW	West Linn Site#3 - Unnamed Creek
6/26/2008 11:00	Grab	4	mg/L	Total Susp. Solids	West Linn Site#3 - Unnamed Creek

6/26/2008 11:00	Grab	0.06	mg/L	Total Phosphate	West Linn Site#3 - Unnamed Creek
6/26/2008 11:00	Grab	50	mg/L	Volatile Solids - Surface	West Linn Site#3 - Unnamed Creek
6/26/2008 11:00	Grab	0.0028	mg/L	Zinc - Dissolved	West Linn Site#3 - Unnamed Creek
6/26/2008 11:00	Grab	0.0051	mg/L	Zinc	West Linn Site#3 - Unnamed Creek

Due to a lab mistake, the Ammonia nitrogen lo seal, nitrite, orthophosphate, and total phosphate results for 6/12/08 were inaccurate. Therefore, samples were recollected on June 24.

11.0 Storm Water Program

In the 2007/2008 reporting period the following activities took place in the City's storm water program:

- The City's Environmental Services website is on-line and will be updated on an ongoing basis.
- The City Completed it's Willamette River TMDL Implementation Plan and submitted it to DEQ as required.
- The City continued its commercial outreach program.
- The City started work on 2009 MS-4 Permit Renewal.
- The City worked with Clackamas County co-permittees and successfully implemented the Comprehensive Storm water Monitoring Plan.

11.1 Environmental Services Website

The City's Environmental Services website was reformatted this year. It contains information about the City's Storm Water, Sanitary Sewer, and Erosion Control programs. It can be viewed at <http://westlinnoregon.gov>. The website is updated on an ongoing basis.

11.2 Storm Water Master Plan

City Council approved the Storm Water Master Plan in the 2006/2007 reporting period.

The plan emphasizes water quality aspects as well as addressing more traditional capacity issues.

11.3 Commercial Outreach Program

The City continues its Commercial outreach program. The goal of this program is to educate business owners about good storm water practices, which in turn will reduce the amount of pollutants entering private and public storm drains, because these systems discharge to nearby streams.

In an effort to ensure that owners of private storm water facilities are maintaining their systems on a regular basis, the City sent out letters to facility owners that are under agreement, requesting proof of maintenance as required by their agreement. The letters and maintenance reports are kept on file.

The City's Public Works Director sent a letter to the owners of all Private Storm Water Facilities in the City during the 2005/2006 reporting period. It requested that they sign a maintenance agreement with the City to ensure that the facilities are maintained on a regular basis. During the last reporting period, the City continued collecting agreements and recorded them at the County Assessors office.

In 2007/2008 staff:

- Worked w/ Clackamas County (WES) to establish a Fat Oil Grease Program (FOG). When implemented it will ensure that all grease traps located in the City are maintained on a regular basis.
- Continued obtaining maintenance agreements for private facilities.
- Collected maintenance reports for private facilities.

As a result of the program, staff has a better knowledge of private facility maintenance that is occurring in West Linn and the potential for storm water pollution from these facilities.

APPENDIX A

Ad Campaign Prints

Tualatin Basin Public Awareness Committee Annual Report July 2007 — June 2008

The Tualatin Basin Public Awareness Committee (TBPAC) is a group of dedicated individuals with the single goal of protecting the Tualatin River Watershed through innovative stormwater public awareness and education activities. The “Partners for Clean Water” have met since 1993 to leverage resources to deliver programs at little or no cost to large audiences. The Fiscal Year 2008 participants include:

Funding Partners

Jennifer Devlin, Portland Bureau of Environmental Services
David Gilbey, City of Lake Oswego
Shaun Rohret, City of West Linn
Carla Staedter, City of Tigard
Victoria Saager, Washington County Operations & Maintenance
Dave Johnson, Oregon Department of Forestry
Bruce Barbarasch, Tualatin Hills Parks & Recreation District
Melissa Markum, Tualatin Hills Parks & Recreation District
Kim Peoples, Multnomah County
Sabra Brown, Clackamas County Water Environment Services (formerly Hilda Stevens)
Karen DeBaker, Clean Water Services
Ely Teragli, Clean Water Services

In-kind Partners

April Olbrich, Tualatin River Watershed Council
Brian Wegener, Tualatin Riverkeepers

Designated Management Agency Group

Sheila Ault, OR Department of Agriculture
Amin Wahab, City of Portland BES
Frank Wildnese, City of Portland BES
David Gilbey, City of Lake Oswego
Kim Peoples, Multnomah County
Shaun Rohret, City of West Linn
John Nagy, Clackamas County WES
Andrew Swanson, Clackamas County WES
Greg Clemmons, Washington County
Rick Raetz, Washington County
Donna Hempstead, Washington County
Dennis Ades, DEQ
Jan Miller, Clean Water Services
Raj Kapur, Clean Water Services
Charles Logue, Clean Water Services
Jerry Linder, Clean Water Services

With a budget of **\$6750.00**, the TBPAC Fiscal Year 2008 projects included:

Naturescaping for Clean Rivers Workshops



The Partners sponsored six workshops in the Tualatin Basin. Attendees learned how to landscape and garden with native plants, using less water and fewer chemicals to protect water quality and enhance habitat. Similar to last year, the half-day workshops received record-breaking attendance for the program and were free of charge to the public.

As a follow-up, Clean Water Services surveyed attendees and asked whether they made any behavior changes by June 30, 2008 pertaining to what they learned in class. Forty-nine percent of attendees had adopted clean water behaviors which included planting native plants, using organic fertilizer, reducing their lawn or using compost.

Total spent: \$3808.01 (\$1800 remaining cost to be paid in FY09)

Date	Class	Location	Attendance	Cost
11/3/07	Basic	Hillsboro	41	\$973.01 (w/food)
12/1/07	Site Planning I	Hillsboro	22	\$1035.00 (w/food)
4/12/08	Basic	Sherwood	38	\$900
4/26/08	Basic	Tigard	50	\$900
5/10/08	Site Planning I	Sherwood	20	\$900
6/7/08	Site Planning I	Tigard	24	\$900

Canines for Clean Water Campaign



The Partners launched the Canines for Clean Water campaign at the “tail-end” of the previous fiscal year in May 2007. By June 30, 2008, over 300 dogs and their owners pledged at dog park events, farmer’s markets, community exhibits, REI in Hillsboro and even received help from local Girl Scout troops. Sunshine (at right) was chosen as 2007’s Canine of the Year based upon resident votes for best photo and her pledge to keep our rivers clean.



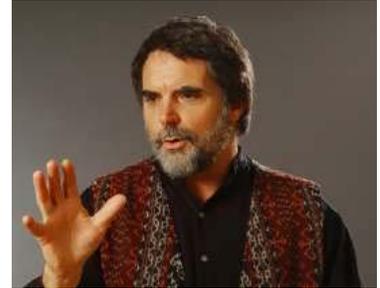
The Partners filmed a 30-second Canines PSA that ran on TVCTV in the Fall 2007. The PSA featured “Cleo” a Great Dane and Ely Teragli from Clean Water Services.

The campaign is a finalist for a Savvy Award from the City-County Communications & Marketing Association. The winner will be announced in October. **Total spent: \$1449.98**

Item	Cost
Bandanas	\$1280.98
500 Pledge postcards for Tigard	\$144.00
Canine of the Year gift certificate	\$25.00

Will Hornyak School Presentations

Stories for Healthy Watersheds reached over 3,600 students and teachers in the Tualatin Basin this year. The assembly program with its message of “taking action to care for local watersheds” was offered twice at each school: one for grades K-3 and one for grades 4-6. Compact disc recordings of the stories and watershed information posters were distributed to several teachers at each school. **Total spent: \$4400.00**



Some comments from teachers included:

“The storyteller grabbed the attention of the students and held it...the students will remember the information because he captured their attention in such a profound way.”

“...important messages and the stories offered so many ways for the kids to participate.”

“We loved the stories and the CD...the kids love looking at the poster.”

“On behalf of students and staff I want to extend our appreciation for the wonderful assembly.”

“Fantastic! The best assembly program I have seen offered on this subject...interactive, educational, and fun.

“As well as the facts about rivers and streams, we loved the example of fine storytelling.”

- Witch Hazel Elementary, Hillsboro
- Dilley Elementary, Hillsboro
- North Plains Elementary, North Plains
- Banks Elementary, Banks
- Sunset Elementary, West Linn
- Mooberry Elementary, Hillsboro
- Aloha Huber Elementary, Aloha
- Indian Hills Elementary, Aloha

Fiscal Year '07-'08 Summary Report

OVERVIEW

This report details the Regional Coalition for Clean Rivers and Streams (Coalition) activities for fiscal year '07-'08, which is comprised of portions of contract years 1 and 2 (contract year 1 activities from March - July 2007 are noted in a report dated 26 July 2007).

During the first half of the fiscal year Coates Kokes (CK) and the Coalition focused their efforts on raising awareness of the Coalition and their website through a media buy for the television commercial created during the previous fiscal year (results of the media buy are covered below). For the remainder of the fiscal year CK proposed that the Coalition's website be overhauled in order to create a more user friendly site as well as strengthen the overall campaign. CK began by evaluating the current Coalition site in order to determine the best way to move forward with the redesign. CK presented the Coalition with a proposal outlining three website options/budgets. The Coalition agreed to move forward with one of the options, whereby CK began the creative process of designing and programming the new website.

At the completion of the website in June '08 CK's PR department assisted in the website's rollout. The PR rollout consisted of a press release sent out to all relevant publications including blogs. The PR department also assisted the Coalition with other opportunities, as they arose.

Below is a summary of the activities and expenditures from fiscal year '07-'08.

WORK COMPLETED

Media buy

CK recommended a media buy only on the cable outlets in the Portland/Vancouver Metro area in order to reach the most relevant audiences and remain within the available budget. The schedule ran from August 20th, 2007 to September 2nd, 2007 and then from September 17th, 2007 to September 30th, 2007. The total cost of the buy was \$32,348. The overall reach for the flight of the commercial was 88.9% with a frequency of 4.1. This translates into reaching 384,225 cable households an average of 4.1 times, which is an increase over the CK projected 81.5% frequency and 3x reach. See reference 1 for more details.

Website Redesign

The existing website included a lot of information and resources for the public, as well elements from past Coalition campaigns. The information was useful, but was not organized in a cohesive or user-friendly way. CK recommended that the website be completely redesigned in order for it to be most useful to the public and robust enough to provide accurate and appropriate information for several years.

Website Creative Concept

CK presented two different creative options, “tabs” and “illustration”, for the overall design of the Clean Rivers and Streams website. After the Coalition approved the “illustration” option CK began the final design and programming of the new website.

PR Rollout

CK recommended PR as a viable option for the rollout of the newly designed website. CK’s PR department developed a press release which incorporated feedback from coalition members that was sent out to all relevant publications. In addition, CK provided the Coalition with a final draft of the press release that could be sent out to internal publications (i.e. newsletters) that the Coalition was better suited to contact. See reference 2 for press release.

Individual Coalition Collateral

Throughout fiscal year 2 Coalition members’ agencies created collateral for use by their individual agencies. This included bill stuffers, newsletters, etc. that featured/directed traffic towards the Cleanriversandstreams.org website. Pieces that were created are included under reference 3.

BUDGET SPENT SINCE MARCH 2008

The initial budget for contract year two (March 2008 until February 29, 2009) totaled \$70,000. Through website creative concepting and website designing/programming, a total of \$24,996.10 has been spent. The remaining \$45,003.90 will be spent on the media buy, communications bank, website updates and CK time in meetings and other collaborative sessions with the Coalition.

UPCOMING ACTIVITIES

Website Traffic Analysis

The daily traffic to the website will be monitored through Google Analytics. This will allow CK to see the results of advertising and PR efforts. Reports will be presented to the Coalition at the monthly meetings.

Media Buy

CK recommends a new media buy similar to the previous buy with a small 8.3% increase in spending. The additional spending will allow for a \$15,000 value added opportunity with Comcast and Kaady Carwash. The opportunity will provide the Coalition with an additional Comcast produced 15 second spot for no additional cost outside of the media buy. The additional spot will run from July to September, 2008.

Communications Bank

CK will gather imagery from pre-existing Clean Rivers pieces (i.e. TV Spot and Website) in order to create a bank of images the Coalition could use for advertisements/announcements to further promote the website and Coalition. Along with the imagery CK will provide the Coalition with templates to use for print and web ads. Each Coalition member will be provided their own disc with all pieces of the communications bank.

Additional Work

- CK and the Coalition will continue to meet at scheduled monthly meetings.
- The Coalition will provide CK with minor website updates (i.e. link changes) on a bi-monthly basis. These edits will be provided to CK at the monthly scheduled Coalition meetings and will be incorporated into the site shortly after.

Reference 1

Post Buy Analysis

OVERVIEW

With budget being a consideration, CK recommended a media buy only on the cable outlets in the Portland/Vancouver Metro area. Cable offers the opportunity to target very specific channels and content without having to pay for the expense of primetime broadcast. Cable also holds viewership over the summer months, when the spot was scheduled to air. Additionally, cable allows for each region to provide additional support to their constituents if more funds become available (i.e. if Vancouver wants to put an additional funds into the media message for its residents, we can make sure only Clark County residents will see the message.)

The buy was scheduled to run for two weeks on, two weeks off, two weeks back on. This helps extend the buy, since people usually have a residual memory of a spot for one to two weeks. This technique is often used as a way to extend the buy and have you seem to be on air longer, making the message stick in the consumers' minds. The schedule was to run from August 8/20 to 9/2, go off air from 9/3 to 9/16 and come back on from 9/17 to 9/30. The total cost of the buy was \$32,348.

Below is a summary of the estimated and delivered points, reach and frequency for the flight. In cable advertising, we typically look at the flight performance, not individual zones. This is because of the way the audience is divided up. Each "zone" doesn't have its own ratings, so we can only look at the major DMA (demographic of the entire market), so each zone may appear to be lower, but that is not necessarily reflective of the actual viewership of the spot. Our target market was general in nature, but we did look at adults that ranged in age from 18-54 that owned their own homes.

Summary

In the original media presentation we offered schedules for following Portland area Cable Zones: Tualatin Valley, West Portland, East Portland, Sandy, and Vancouver on the Discovery, ESPN, HGTV, TLC and USA networks. See table for zone breakouts.

Flight: 8/20 - 9/30/07 *TRPs: Target Rating Points

Estimated TRPs*: 244.5

Estimated # Spots: 840

Budget: \$32,348

Delivered TRPs*: 364 / 148.9% of estimated TRPs

Actual # Spots: 840

Prepared for Clean Rivers & Streams by Coates Kokes
9/30/2008

Zone	# of Households	Budget for Zone	% of Budget	# of Spots	Reach/Frequency by Zone
Tualatin Valley	112,100	\$9,240	29%	168	48.5%/2.1
West Portland	112,200	\$7,160	22%	168	48.5%/2.1
East Portland	125,900	\$7,900	24%	168	48.5%/2.1
Sandy	3,500	\$1,048	3%	168	48.5%/2.1
Vancouver	78,500	\$7,000	22%	168	48.5%/2.1

The overall reach for the flight was 88.9% with a frequency of 4.1. This translates into reaching 384,225 cable households an average of 4.1 times, an increase over our projected 81.5% frequency and 3x reach.

Once again, due to Nielsen's limited market information for cable, program ratings are only broken out by the Portland DMA; no individual zone ratings are available. The reach/frequency noted above by zone is a fairly inaccurate picture of what the viewership of the spot was. We'd encourage the coalition and all local governments to look at the buy in its entirety, which over delivered TRPs by 49% and allowed people to see the spot at least 4 times. This is much more accurate picture of the number of viewers and the exposure to the spot than the individual zone numbers noted above.

Market Review for Q3 '07

In general, the 3rd quarter saw considerable programming activity across the broadcast networks; program "relocation" can make it difficult for audiences to remain loyal to their favorite shows. Some new shows were challenged in picking up their audiences. Cable audiences usually do well during the summer months, and this year did especially well as evidenced by our increased ratings delivery.

The two ballot measures (49 & 50) had an impact on TV stations as early as July. Their unprecedented spending affected inventory and pricing. Although we did have minimal movement in our schedule, the Clean Rivers & Streams buy was not adversely affected.

Additional Materials

The following pages include additional information, including:

- Network information as provided by Comcast for networks the coalition purchased.
- Zone maps of each zone purchased, which shows zip codes covered.
- Media 101 as a basic glossary and reference piece that answers the fundamental and most common media questions.

Reference 2

THE REGIONAL COALITION FOR CLEAN RIVERS AND STREAMS LAUNCHES NEW WEBSITE

Portland metro area agencies band together to promote clean waterways

Portland, Ore –Do you clean up after your dog? Use chemicals sparingly, if at all , in your garden? Take your car to an automated carwash that recycles wash water? All of these actions and more will help keep rivers healthy. The Regional Coalition for Clean Rivers and Streams launches a new website the week of July 7, 2008 that presents lots of information in a fun, interactive way about how we all can keep rivers healthy. CleanRiversandStreams.org provides detailed information about how to keep our daily activities from polluting local rivers and streams.

The Regional Coalition for Clean Rivers and Streams website is categorized into four groups: lawn, auto, garden and home. Each section identifies helpful actions on how to prevent waste and harsh chemicals from entering storm drains or sewers. The website offers easy navigation to nearly 100 outside sources, which further explain a variety of environmental actions:

- Stop or contain oil leaks from your car. Stormwater runoff containing just a pint of oil can create a slick larger than a football field.
- Cut use of fertilizers. Fertilizers with high levels of quick-release phosphorus and nitrogen pollute streams, rivers and other waterways, impacting the health and habitat of water-dwelling creatures like fish and amphibians.
- Clean up after your dog and cat. Fecal bacteria pollutes our waterways and puts people (especially children) at risk.
- Insecticides, herbicides and fungicides are toxic and can pose a threat to people and pets if overused or carelessly applied. They can also kill beneficial insects, earthworms, birds and other organisms, disrupting the ecological balance of your lawn and garden.

“Clean water and healthy rivers and streams are important to the quality of life,” said Megan Callahan, public information manager for the City of Portland’s Bureau of Environmental Services. “We created the site so that it would be fun and appeal to all ages and all walks of life. It is easy to navigate and has lots of good information for all users.”

The area waterways are important for recreation, scenery and drinking water for people and wildlife. The new Regional Coalition for Clean Rivers and Streams website is one component of the group’s efforts to inform the community of the harmful waste and chemicals that pollute local waterways.

The Regional Coalition for Clean Rivers and Streams is a partnership of eight public agencies in the Portland/Vancouver metropolitan area: City of Portland, City of Gresham, City of Vancouver, Water Environment Services of Clackamas County, Clark County, Clean Water Services, Metro, Multnomah County. The group's goal is to educate the public about stormwater runoff pollution and its impact on the health of our rivers and streams.

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Reference 3

Bureau of Environmental Services Bill Insert (214K sent out in March, April and May 2008)



It's not deliberate, but some of the stuff we use at home ends up in the river...

... things we do at home all the time, like washing the car or fertilizing the lawn, can send pollution directly into rivers and streams.

Maybe your car leaks a little oil, or you spray your roses with a pesticide to kill bugs. It may be unintentional, but if those things get on the ground, rain can wash them into storm drains. And the storm drains on your street can carry that dirty water directly to a neighborhood stream.

Threatened salmon need cool, clean water to thrive. We need clean rivers and streams for recreation, scenery, and drinking water. We can all work together for healthy rivers and streams by taking a little time to make sure our activities don't pollute water.

you can help

- Mulch flower beds to prevent erosion and retain water.
- Pick up pet waste and throw it in the garbage or flush it down the toilet.
- Sweep instead of hosing down driveways, sidewalks.
- Preserve established trees in your yard and neighborhood.
- Plant trees, shrubs and ground covers that filter pollutants and reduce stormwater runoff.
- Don't overuse fertilizers and pesticides, consider using non-toxic alternatives to lawn and garden chemicals.
- Don't let sprinkler water wash over streets and sidewalks.
- Use your car less. Ride the bus, car pool, walk or bike.
- Use an automated car wash that recycles wash water and uses non-phosphate soap.
- Don't litter.

Find more information and resources at cleanriversandstreams.org.

For information about the Bureau of Environmental Services, go to www.cleanriverspdx.org.



APPENDIX B

Laboratory Quality Control Reports



Water Quality Laboratory
 15941 S. Agnes Avenue, Bldg. B
 Oregon City, OR 97045
 Phone: 503.557.2839 Fax: 503.557.2840

Laboratory Analytical QC Report

Customer: West Linn - Lab Data
 Sampling Date: 06/24/2008 (Routine - ReSample)
 Sample ID#s: AA06622 - AA06626

<u>Parameter</u>	<u>Sample ID#</u>	<u>Analysis Date</u>	<u>Blank</u>	<u>LCS % Recovery</u>	<u>Duplicate % RPD</u>	<u>Matrix Spike % Recovery</u>
Ammonia	Multiple	6/24/2008	<0.05 mg/L	106	<1	83
Nitrate	Multiple	6/24/2008	<0.05 mg/L	100	8	94
ortho-Phosphate	Multiple	6/24/2008	<0.01 mg/L	103	2	96
Total Phosphorous	AA06622	6/26/2008	<0.04 mg/L	101	9	106



WATER ENVIRONMENT SERVICES
Beyond clean water. www.clackamas.us/wes

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Laboratory Analytical QC Report

Customer: West Linn - Lab Data
 Sampling Date: 06/12/2008 (Routine)
 Sample ID#s: AA06133 - AA06137

<u>Parameter</u>	<u>Sample ID#</u>	<u>Analysis Date</u>	<u>Blank</u>	<u>LCS % Recovery</u>	<u>Duplicate % RPD</u>	<u>Matrix Spike % Recovery</u>
Total Copper	AA06133	6/19/2008	<0.1 ug/L	101	<1	98
Dissolved Copper	AA06133	6/19/2008	<0.1 ug/L	101	<1	98
Total Lead	AA06133	6/19/2008	<0.02 ug/L	103	<1	100
Dissolved Lead	AA06133	6/19/2008	<0.02 ug/L	103	<1	100
Total Zinc	AA06133	6/19/2008	<0.5 ug/L	106	<1	97
Dissolved Zinc	AA06133	6/19/2008	<0.5 ug/L	106	<1	97
Ammonia						
Nitrate						
ortho-Phosphate						
Total Phosphorous						
TSS	AA06042	6/16/2008	<1 mg/L	111	<1	
TDS		6/16/2008	<1 mg/L	100		
TS		6/16/2008				
VS		6/16/2008				
Hardness	AA06858	7/10/2008			<1	
<u>E.coli</u>						



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Laboratory Analytical QC Report

Customer: West Linn - Lab Data
 Sampling Date: 5/20/2008
 Sample ID#s: WL01SC080520-000 - WLBLKS080520-000

<u>Parameter</u>	<u>Sample ID#</u>	<u>Analysis Date</u>	<u>Blank</u>	<u>LCS % Recovery</u>	<u>Duplicate % RPD</u>	<u>Matrix Spike % Recovery</u>
Total Copper	Multiple	6/3/2008	<0.1 ug/L	97	<1	100
Dissolved Copper	Multiple	6/3/2008	<0.1 ug/L	97	<1	101
Total Lead	Multiple	6/3/2008	<0.02 ug/L	98	<1	100
Dissolved Lead	Multiple	6/3/2008	<0.02 ug/L	98	1	103
Total Zinc	Multiple	6/3/2008	<0.5 ug/L	98	<1	96
Dissolved Zinc	Multiple	6/3/2008	<0.5 ug/L	98	<1	104
Ammonia	Multiple	Multiple	<0.05 mg/L	100	3	81
Nitrate	Multiple	5/22/2008	<0.1 mg/L	106	2/<1	90/91
ortho-Phosphate	Multiple	5/21/2008	<0.02 mg/L	116	<1/<1	105/105
Total Phosphorous	Multiple	6/4/2008	<0.08 mg/L	105	<1/<1	106/106
TSS	WLDUPS080520-000	5/27/2008	<1 mg/L	110	2	
TDS	WLDUPS080520-000	5/27/2008	4 mg/L	105	2	
TS		5/27/2008				
VS		5/27/2008				
Hardness	OC07SC080520-000	6/13/2008	<2 mg/L	109	11	
<u>E.coli</u>						



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Laboratory Analytical QC Report

Customer: West Linn - Lab Data
 Sampling Date: 12/4/2007
 Sample ID#s: WL01SC071204-000 - WLBLKS071204-000

<u>Parameter</u>	<u>Sample ID#</u>	<u>Analysis Date</u>	<u>Blank</u>	<u>LCS % Recovery</u>	<u>Duplicate % RPD</u>	<u>Matrix Spike % Recovery</u>
Total Copper	WL02SC071204-000	12/26/2007	<0.1 ug/L	105	<1	105
Dissolved Copper	WL02SC071204-000	12/26/2007	<0.1 ug/L	105	<1	105
Total Lead	WL02SC071204-000	12/26/2007	<0.02 ug/L	106	<1	102
Dissolved Lead	WL02SC071204-000	12/26/2007	<0.02 ug/L	106	<1	102
Total Zinc	WL02SC071204-000	12/26/2007	<0.5 ug/L	102	10	102
Dissolved Zinc	WL02SC071204-000	12/26/2007	<0.5 ug/L	102	10	102
Ammonia	Multiple	12/5/2007	<0.05 mg/L	97	<1	86
Nitrate	Multiple	12/5/2007	<0.05 mg/L	95	20	106
ortho-Phosphate	Multiple	12/5/2007	<0.01 mg/L	102	15	92
Total Phosphorous	WL03SC071204-000	12/6/2007	<0.04 mg/L	101	11	100
TSS	MLDUPS071203-000	12/10/2007	<1 mg/L	105	21	
TDS		12/10/2007	2 mg/L	75		
TS		12/10/2007				
VS		12/10/2007				
Hardness		12/17/2007				
<u>E.coli</u>						



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Laboratory Analytical QC Report

Customer: West Linn - Lab Data
 Sampling Date: 9/30/2007
 Sample ID#s: WL01SC070930-000 - WLBLKS070930-000

<u>Parameter</u>	<u>Sample ID#</u>	<u>Analysis Date</u>	<u>Blank</u>	<u>LCS % Recovery</u>	<u>Duplicate % RPD</u>	<u>Matrix Spike % Recovery</u>
Total Copper	WL01SC070930-000	10/13/2007	<0.2 ug/L	100	7	103
Dissolved Copper	WL01SC070930-000	10/13/2007	<0.2 ug/L	101	<1	100
Total Lead	WL01SC070930-000	10/13/2007	<0.02 ug/L	104	6	106
Dissolved Lead	WL01SC070930-000	10/13/2007	<0.02 ug/L	103	<1	104
Total Zinc	WL01SC070930-000	10/13/2007	<0.5 ug/L	103	7	106
Dissolved Zinc	WL01SC070930-000	10/13/2007	<0.5 ug/L	105	2	97
Ammonia	Multiple	10/1/2007	<0.05 mg/L	93	<1	88
Nitrate	Multiple	10/1/2007	0.06 mg/L	108	7	101
ortho-Phosphate	Multiple	10/1/2007	<0.01 mg/L	104	26	97
Total Phosphorous	WL01SC070930-000	Multiple	<0.04 mg/L	100	<1	186*
TSS		10/4/2007	<1 mg/L	110		
TDS		10/5/2007	1 mg/L	99		
TS		10/4/2007				
VS						
Hardness	SC104C070930-000	10/9/2007	<10 mg/L		<1	
<u>E.coli</u>						

*Sample was analyzed twice; it was determined that sediment in the sample caused matrix interference.



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Laboratory Analytical QC Report

Customer: West Linn - Lab Data
 Sampling Date: 06/26/2008 (Routine)
 Sample ID#s: AA06854 - AA06858

<u>Parameter</u>	<u>Sample ID#</u>	<u>Analysis Date</u>	<u>Blank</u>	<u>LCS % Recovery</u>	<u>Duplicate % RPD</u>	<u>Matrix Spike % Recovery</u>
Total Copper	Multiple	7/16/2008	<0.1 ug/L	103	4	102
Dissolved Copper	Multiple	7/18/2008	<0.1 ug/L	103	<1	102
Total Lead	Multiple	7/16/2008	<0.02 ug/L	104	<1	102
Dissolved Lead	Multiple	7/18/2008	<0.02 ug/L	104	<1	103
Total Zinc	Multiple	7/16/2008	<0.5 ug/L	96	<1	95
Dissolved Zinc	Multiple	7/18/2008	<0.5 ug/L	96	<1	96
Ammonia	Multiple	6/27/2008	<0.05 mg/L	102	<1	85
Nitrate	Multiple	6/27/2008	<0.05 mg/L	101	2	96
ortho-Phosphate	Multiple	6/26/2008	<0.01 mg/L	104	<1	97
Total Phosphorous	AA06841	7/9/2008	<0.04 mg/L	98	<1	98
TSS	AA06853	7/2/2008	<1 mg/L	102	3	
TDS		7/2/2008	2 mg/L	107		
TS		7/2/2008				
VS		7/2/2008				
Hardness	AA06858	7/10/2008			<1	
<u>E.coli</u>						