Table 11.2-1. Summary of LWG and Select Non-LWG Data Collection Efforts.

				Samples Collected							
Survey Name	**Begin Date**	**End Date**	**River Mile(s)**	**Surface Sediments**	**Subsurface Sediments**	**Sediment Traps**	**Surface Waters**	**Stormwater**	**Biota**	**TZW**	**Analyses**
LWG Data Collection											
LWG Pre-Round 1	9/1/2000		0 - 26								500 sediment profile images, 800 Sediment Trend Analysis samples, 5 bathymetry surveys, 1 time-series sediment stake nearshore bank elevation change measurements, 2 acoustic doppler current profiler surveys
LWG Round 1	6/5/2002	11/12/2002	Sediment: 2.3 - 9.8 Biota: 2.2 - 28	100					160		Conventionals, metals, butyltins, SVOCs, Aroclors, pesticides, PCDD/Fs, PCB congeners, VOCs, herbicides, benthos
LWG Round 2	7/19/2004	3/9/2006	Surface Sediment: 1.9 - 25.5 Subsurface Sediment: 2.1 - 9.7 Surface Water: 2 - 11 Biota: 1.9 - 17.7 TZW: 9 Targeted Sites in Study Area	730	860		130		140	150	Conventionals, metals, butyltins, SVOCs, Aroclors, pesticides, PCDD/Fs, PCB congeners, VOCs, herbicides, TPH, sediment bioassays
LWG Round 3	1/19/2006	2/12/2008	Surface Sediment: 0.7 - 25.5 Subsurface Sediment: 0 - 12.2 Surface Water: 2 - 15.9 Stormwater: 2.3 - 10.4 Biota: 0 - 18.9	270	400	50	300	210 Stormwaters 40 Outfall Sediment Traps	150		Conventionals, metals, butyltins, SVOCs, Aroclors, pesticides, PCDD/Fs, PCB congeners, VOCs, herbicides, radioisotopes
Non-LWG Data Collection											
NOAA LWR Bathymetric Survey		Jan 2009									Riverbed elevation
Downtown Portland Sediment Characterization	5/12/2008	6/10/2008	12 - 16	80	40						Conventionals, metals, butyltins, SVOCs, Aroclors, pesticides, PCDD/Fs, VOCs, TPH
Gasco Source Control Evaluation	4/10/2001	4/11/2001	7	20	10						Conventionals, Metals, PAHs, VOCs
Gasco EE/CA	7/19/2004	9/9/2005	6.5		20						Conventionals, metals, SVOCs, pesticides, VOCs, TPH
Gasco Phase 1 Offshore Investigation	10/5/2006	6/4/2007	6.1 - 6.5		190						Conventionals, metals, SVOCs, VOCs
Gasco Phase 2 Offshore Investigation	8/30/2007	10/11/2007	6.1 - 6.4		20						Conventionals, metals, SVOCs, PCDD/Fs, VOCs, herbicides
McCormick & Baxter RI Phase 3	10/1/1999	10/1/1999	8	40							Conventionals, metals, SVOCs, PCDD/Fs
McCormick & Baxter RI Phase 4	1/5/2001	2/5/2001	8	30							Conventionals, metals, SVOCs, PCDD/Fs
Port of Portland T4 RI	10/12/1998	10/15/1998	5	40	20						Conventionals, metals, SVOCs, pesticides, VOCs, TPH
Terminal 4 Early Action EE/CA Report	3/3/2003	5/20/2004	4.5		40	5					Conventionals, metals, SVOCs, Aroclors, pesticides, TPH
T4 Anchor Appendix G sediment data	7/18/2006	12/14/2007	4.4 - 4.7	80	70						Conventionals, metals, SVOCs, Aroclors, pesticides, TPH
ATOFINA Phase 2 Stage 1/2 In-River Investigation	6/3/2002	3/10/2003	8		210						Conventionals, pesticides
Portland Harbor Sediment Investigation	9/17/1997	2/2/1999	4 - 10	160	40						Conventionals, metals, butyltins, SVOCs, Aroclors, pesticides, PCB congeners, PCDD/Fs, herbicides

Notes:

All sample counts greater than 10 are rounded to the nearest 10.

EE/CA - environmental evaluation/cost assessment
LWG - Lower Willamette Group
LWR - lower Willamette River
NOAA - National Oceanic and Atmospheric Administration
PCB - polychlorinated biphenyl
PCDD/Fs - dioxins/furans
RI - remedial investigation
SVOC - semivolatile organic compound
TPH - total petroleum hydrocarbons
TZW - transition zone water
VOC - volatile organic compound

Table 11.5-1. Summary Statistics for Total PCBs, Total PCDD/Fs, TCDD TEQ, Total DDx, and Total PAHs in Surface and Subsurface Sediment, Study Area (RM 1.9-11.8).

			Detected and Nondetected Concentrations				
Analyte	**# Analyzed**	**% Detected**	**Minimum (full DL)[a]**	**Maximum (full DL)[a]**	**Mean (half DL)**	**Median (half DL)[b]**	**95th (half DL)[b]**
Total PCBs[b] (µg/kg)							
Surface Sediment	1191	78.9	0.851 JT	35400 T	176	19.5 UT	553 JV
Subsurface Sediment	1326	65	0.00138 JT	150000 UT	265	27 JV	486 V
Total PCDD/Fs (pg/g)							
Surface Sediment	216	100	2.48 T	264000 T	2480	391 V	5620 JV
Subsurface Sediment	241	99.6	0.0578 JT	218000 T	2550	279 T	4150 JT
Dioxin/furan TCDD TEQ (ND = 0) (pg/g)							
Surface Sediment	217	100	0.00803 JT	14100 JT	74.1	1.28 JT	43.2 JV
Subsurface Sediment	245	92.7	0.000262 JT	7480 JT	41.6	0.934 JT	44.3 JV
Total DDx (µg/kg)							
Surface Sediment	1210	89.4	0.051 JT	84900 A	249	6.5 JV	376 V
Subsurface Sediment	1291	81.3	0.049 UJT	3640000 A	7360	9.01 JT	743 JV
Total PAHs (µg/kg)							
Surface Sediment	1603	98.7	3.3 JT	7260000 T	28100	1120 T	65600 JV
Subsurface Sediment	1545	95.2	0.15 JT	53300000 T	219000	1130 T	266000 V

Notes:

[a] Whenever several result values match maximum or minimum value, qualifier preference has been given in the following order: no qualification over T over N over J over U.

[b] Total PCBs are total PCB congeners whenever available and total Aroclors if not.

Reason codes for qualifiers:

A - Total value based on limited number of analytes.

J - The associated numerical value is an estimated quantity.

T - The associated numerical value was mathematically derived (e.g., from summing multiple analyte results such as Aroclors, or calculating the average of multiple results for a single analyte). Also indicates all results that are selected for reporting in preference to other available results (e.g., for parameters reported by multiple methods) for the Round 2 data.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation limit.

V - Median or 95th percentile obtained through interpolation.

DL - detection limit
ND - non-detect
PAH - polycyclic aromatic hydrocarbon
PCB - polychlorinated biphenyl
PCDD/Fs - dioxins/furans
RM - river mile
TEQ - toxic equivalent concentration