APPENDIX D

Summary Statistics for In-Stream Field Measurements Measured at Sites in the Green-Duwamish Watershed in 2001 and 2002.

Table D1. Summary statistics for temperature levels at sites in the Green-Duwamish watershed in 2001 and 2002.

Site Locator	N	Mean (°C)	Minimum (°C)	Maximum (°C)	Standard Deviation (°C)	Lower 95% C.I. (°C)	Upper 95% C.I. (°C)	Median (°C)	10th Percentile (°C)	25th Percentile (°C)	75th Percentile (°C)	90th Percentile (°C)	Quartile Range (°C)	Percent Exceeding Standard[a]
Base Flow														
A310	9	9.4	4.6	15.8	3.7	6.5	12.2	8.7	4.6	7.0	12.3	15.8	5.3	0.0
E319	9	6.5	1.6	12.7	3.7	3.7	9.4	5.7	1.6	3.6	7.7	12.7	4.1	0.0
A307	6	10.6	7.5	13.8	2.4	8.0	13.2	10.9	7.5	8.1	12.5	13.8	4.4	0.0
C317	8	11.2	5.2	16.0	4.0	7.8	14.5	11.5	5.2	7.9	14.6	16.0	6.7	0.0
A317	8	11.4	5.7	16.0	3.5	8.5	14.2	11.7	5.7	8.9	13.9	16.0	5.1	0.0
A326	7	9.9	3.2	13.8	3.8	6.4	13.4	10.7	3.2	7.7	13.1	13.8	5.4	0.0
B317	7	11.2	5.6	16.5	3.9	7.5	14.8	9.9	5.6	8.3	15.7	16.5	7.4	0.0
A315	8	8.8	2.0	15.7	4.5	5.1	12.6	8.5	2.0	5.8	12.1	15.7	6.3	0.0
A330	7	9.1	5.7	11.6	2.1	7.1	11.1	8.4	5.7	8.0	11.2	11.6	3.2	0.0
A320	8	8.1	5.2	12.2	2.8	5.8	10.5	7.4	5.2	5.6	10.8	12.2	5.2	0.0
Y320	4	7.7	3.8	13.3	4.0	1.3	14.1	6.8	3.8	5.2	10.1	13.3	4.9	0.0
F321	6	9.1	8.0	10.4	0.9	8.2	10.0	9.1	8.0	8.4	9.5	10.4	1.1	0.0
0322	8	8.4	4.0	16.4	4.2	4.9	11.9	8.1	4.0	4.8	10.6	16.4	5.9	0.0
D322	6	10.0	3.7	15.1	4.0	5.8	14.2	10.3	3.7	7.6	12.8	15.1	5.2	0.0
B322	2	11.0	7.2	14.8	5.4	-37.3	59.3	11.0	7.2	7.2	14.8	14.8	7.6	0.0
I322B	5	10.5	7.0	13.9	3.1	6.6	14.4	10.2	7.0	8.0	13.5	13.9	5.5	0.0
S322	2	7.7	5.8	9.6	2.7	-16.4	31.8	7.7	5.8	5.8	9.6	9.6	3.8	0.0
A341	4	7.6	5.9	11.4	2.6	3.4	11.7	6.4	5.9	5.9	9.1	11.4	3.2	0.0
All	114	9.4	1.6	16.5	3.6	8.7	10.0	9.1	5.0	6.7	12.2	13.9	5.5	0.0
Storm Flow														
A310	5	8.2	5.7	13.1	2.9	4.5	11.8	7.0	5.7	6.7	8.3	13.1	1.6	0.0
E319	8	5.7	2.7	10.0	2.4	3.6	7.7	4.6	2.7	4.3	7.4	10.0	3.1	0.0
A307	5	8.5	7.2	10.9	1.5	6.6	10.4	7.6	7.2	7.6	9.0	10.9	1.4	0.0
C317	4	11.3	8.1	18.3	4.8	3.7	18.9	9.4	8.1	8.3	14.4	18.3	6.1	25.0
A317	7	9.4	4.9	17.2	4.0	5.7	13.2	8.0	4.9	6.7	11.4	17.2	4.7	0.0
A326	5	10.1	7.1	15.8	3.3	6.0	14.2	9.0	7.1	8.9	9.7	15.8	0.8	0.0
B317	4	10.4	7.4	17.1	4.5	3.3	17.6	8.6	7.4	7.8	13.1	17.1	5.4	0.0
A315	4	10.0	6.6	17.3	5.0	2.0	17.9	7.9	6.6	6.8	13.1	17.3	6.2	0.0
A330	5	9.1	7.0	12.0	1.8	6.9	11.4	8.8	7.0	8.5	9.4	12.0	0.9	0.0
A320	4	9.4	7.3	14.0	3.1	4.5	14.3	8.1	7.3	7.7	11.1	14.0	3.5	0.0
Y320	5	7.2	5.8	10.9	2.1	4.7	9.8	6.4	5.8	6.2	6.9	10.9	0.7	0.0
F321	3	8.2	7.3	9.7	1.3	4.9	11.5	7.5	7.3	7.3	9.7	9.7	2.4	0.0
0322	6	9.4	5.7	14.2	3.8	5.4	13.3	8.8	5.7	5.9	13.0	14.2	7.1	0.0
D322	4	7.2	5.6	10.9	2.5	3.2	11.1	6.1	5.6	5.8	8.6	10.9	2.8	0.0
B322	5	6.4	4.0	10.4	2.5	3.4	9.5	6.2	4.0	4.8	6.7	10.4	1.9	0.0
I322B	5	8.0	4.9	11.8	2.5	4.8	11.1	7.6	4.9	7.0	8.5	11.8	1.5	0.0
S322	2	7.6	7.0	8.2	0.8	0.0	15.2	7.6	7.0	7.0	8.2	8.2	1.2	0.0
A341	4	7.5	6.3	10.5	2.0	4.3	10.7	6.6	6.3	6.3	8.6	10.5	2.3	0.0
All	85	8.4	2.7	18.3	3.2	7.8	9.1	7.6	4.9	6.4	9.7	13.0	3.3	1.2

[a] Percentage of collected samples that exceed the applicable water quality standard (see Tables 11 and 12).

N: number of samples; C.I.: confidence interval.

n.a.: not applicable.

C: Celsius

Table D2. Summary statistics for dissolved oxygen concentrations at sites in the Green-Duwamish watershed in 2001 and 2002.

Site Locator	N	Mean (mg/L)	Minimum (mg/L)	Maximum (mg/L)	Standard Deviation (mg/L)	Lower 95% C.I. (mg/L)	Upper 95% C.I. (mg/L)	Median (mg/L)	10th Percentile (mg/L)	25th Percentile (mg/L)	75th Percentile (mg/L)	90th Percentile (mg/L)	Quartile Range (mg/L)	Percent Exceeding Standard[a]
Base Flow														
A310	9	10.7	8.5	12.8	1.5	9.6	11.8	10.6	8.5	9.7	11.6	12.8	1.9	0.0
E319	9	12.0	10.4	13.4	1.2	11.1	13.0	12.5	10.4	10.6	12.9	13.4	2.3	0.0
A307	6	11.1	9.6	12.4	0.9	10.1	12.0	11.1	9.6	10.8	11.4	12.4	0.6	0.0
C317	8	7.6	4.0	11.1	2.3	5.7	9.5	8.1	4.0	5.9	8.9	11.1	3.0	50.0
A317	8	4.9	3.0	7.7	1.4	3.7	6.1	4.7	3.0	4.1	5.3	7.7	1.3	100.0
A326	7	12.0	10.5	14.0	1.2	10.9	13.1	12.2	10.5	10.8	12.5	14.0	1.7	0.0
B317	7	6.5	3.8	9.9	2.1	4.5	8.4	5.8	3.8	4.6	8.4	9.9	3.8	71.4
A315	8	9.5	6.9	12.4	1.6	8.2	10.8	9.6	6.9	8.8	10.0	12.4	1.3	12.5
A330	7	12.0	11.2	12.9	0.6	11.5	12.6	12.2	11.2	11.5	12.3	12.9	0.8	0.0
A320	8	12.3	10.9	13.2	0.7	11.7	12.9	12.3	10.9	11.9	12.9	13.2	0.9	0.0
Y320	4	9.5	4.0	12.8	3.8	3.3	15.6	10.5	4.0	6.8	12.1	12.8	5.2	25.0
F321	6	11.8	11.3	12.3	0.4	11.4	12.2	11.9	11.3	11.5	12.1	12.3	0.6	0.0
0322	8	11.8	9.6	13.7	1.3	10.7	12.9	11.8	9.6	11.1	12.8	13.7	1.8	0.0
D322	6	9.3	6.4	12.0	2.3	6.9	11.7	9.6	6.4	7.3	11.0	12.0	3.7	33.3
B322	2	9.2	6.8	11.6	3.4	-21.3	39.7	9.2	6.8	6.8	11.6	11.6	4.8	50.0
I322B	5	9.6	6.2	11.5	2.4	6.6	12.5	10.9	6.2	8.0	11.3	11.5	3.3	20.0
S322	2	11.8	10.9	12.6	1.2	0.9	22.6	11.8	10.9	10.9	12.6	12.6	1.7	0.0
A341	4	11.6	10.4	12.1	0.8	10.3	12.8	11.9	10.4	11.1	12.0	12.1	0.9	0.0
All	114	10.1	3.0	14.0	2.7	9.6	10.6	11.0	5.7	8.5	12.2	12.8	3.7	20.2
Storm Flow														
A310	5	9.8	7.3	12.3	1.98	7.3	12.3	10.2	7.3	8.4	10.8	12.3	2.4	20.0
E319	8	12.6	10.8	14.3	1.09	11.7	13.5	12.9	10.8	12.0	12.9	14.3	0.9	0.0
A307	5	11.0	10.6	11.3	0.25	10.6	11.3	11.0	10.6	10.9	11.0	11.3	0.1	0.0
C317	4	7.8	5.4	10.7	2.23	4.3	11.3	7.6	5.4	6.2	9.4	10.7	3.2	50.0
A317	7	7.5	4.2	10.2	2.31	5.4	9.7	8.2	4.2	4.5	9.4	10.2	4.9	42.9
A326	5	11.8	11.1	12.5	0.51	11.1	12.4	11.7	11.1	11.6	11.9	12.5	0.3	0.0
B317	4	9.0	5.2	11.2	2.68	4.7	13.2	9.7	5.2	7.1	10.9	11.2	3.8	25.0
A315	4	8.2	6.6	10.1	1.61	5.6	10.7	7.9	6.6	6.8	9.4	10.1	2.6	50.0
A330	5	11.8	11.2	12.2	0.39	11.4	12.3	11.9	11.2	11.8	12.1	12.2	0.3	0.0
A320	4	11.7	11.2	12.1	0.44	11.0	12.4	11.7	11.2	11.3	12.1	12.1	0.8	0.0
Y320	5	9.5	8.3	10.5	0.80	8.5	10.5	9.4	8.3	9.4	9.8	10.5	0.4	0.0
F321	3	11.5	11.2	11.6	0.23	10.9	12.0	11.6	11.2	11.2	11.6	11.6	0.4	0.0
0322	6	11.0	9.7	11.9	0.91	10.0	12.0	11.3	9.7	10.1	11.8	11.9	1.7	0.0
D322	4	10.9	10.2	11.2	0.45	10.1	11.6	11.0	10.2	10.6	11.1	11.2	0.6	0.0
B322	5	7.0	1.5	11.4	3.82	2.3	11.7	7.6	1.5	5.2	9.3	11.4	4.1	60.0
I322B	5	11.2	10.4	12.0	0.58	10.5	11.9	11.3	10.4	11.0	11.3	12.0	0.3	0.0
S322	2	10.8	10.2	11.4	0.85	3.2	18.4	10.8	10.2	10.2	11.4	11.4	1.2	0.0
A341	4	11.4	10.6	11.8	0.54	10.5	12.2	11.5	10.6	10.9	11.8	11.8	0.8	0.0
All	85	10.2	1.5	14.3	2.26	9.8	10.7	11.0	7.1	9.4	11.6	12.2	2.2	14.1

[a] Percentage of collected samples that exceed the applicable water quality standard (see Tables 11 and 12).

N: number of samples; C.I.: confidence interval.

n.a.: not applicable.

mg/L: milligram/liter

Table D3. Summary statistics for pH levels at sites in the Green-Duwamish watershed in 2001 and 2002.

Site Locator	N	Mean	Minimum	Maximum	Standard Deviation	Lower 95% C.I.	Upper 95% C.I.	Median	10th Percentile	25th Percentile	75th Percentile	90th Percentile	Quartile Range	Percent Exceeding Standard[a]
Base Flow														
A310	9	7.1	6.8	7.4	0.2	6.9	7.3	7.1	6.8	6.8	7.3	7.4	0.5	0.0
E319	9	7.5	6.1	7.9	0.6	7.0	7.9	7.7	6.1	7.4	7.8	7.9	0.4	11.1
A307	6	7.8	7.6	8.0	0.1	7.7	8.0	7.8	7.6	7.7	7.9	8.0	0.2	0.0
C317	8	7.1	6.9	7.5	0.2	6.9	7.3	7.2	6.9	6.9	7.3	7.5	0.3	0.0
A317	8	6.9	6.7	7.2	0.2	6.7	7.1	6.8	6.7	6.7	7.1	7.2	0.4	0.0
A326	7	7.7	7.1	8.1	0.3	7.4	8.0	7.8	7.1	7.5	8.0	8.1	0.5	0.0
B317	7	6.9	6.7	7.2	0.2	6.7	7.1	7.0	6.7	6.7	7.1	7.2	0.4	0.0
A315	8	7.2	7.0	7.6	0.2	7.1	7.4	7.2	7.0	7.1	7.3	7.6	0.3	0.0
A330	7	7.6	7.1	7.9	0.3	7.3	7.9	7.7	7.1	7.3	7.9	7.9	0.6	0.0
A320	8	7.6	7.2	7.9	0.2	7.4	7.8	7.6	7.2	7.5	7.8	7.9	0.3	0.0
Y320	4	7.0	6.8	7.3	0.2	6.7	7.3	6.9	6.8	6.8	7.2	7.3	0.3	0.0
F321	6	7.8	7.3	8.2	0.3	7.5	8.1	7.8	7.3	7.6	7.9	8.2	0.3	0.0
0322	8	7.8	7.5	8.2	0.2	7.6	8.0	7.8	7.5	7.7	7.8	8.2	0.2	0.0
D322	6	7.3	7.0	7.6	0.2	7.1	7.5	7.3	7.0	7.1	7.4	7.6	0.3	0.0
B322	2	7.3	7.1	7.5	0.3	4.8	9.8	7.3	7.1	7.1	7.5	7.5	0.4	0.0
I322B	5	7.1	6.8	7.4	0.2	6.8	7.4	7.2	6.8	7.0	7.3	7.4	0.3	0.0
S322	2	7.8	7.7	7.8	0.1	7.1	8.4	7.8	7.7	7.7	7.8	7.8	0.1	0.0
A341	4	7.7	7.5	8.0	0.2	7.4	8.1	7.7	7.5	7.6	7.8	8.0	0.3	0.0
All	114	7.4	6.1	8.2	0.4	7.3	7.5	7.4	6.8	7.1	7.7	7.9	0.6	0.9
Storm Flow														
A310	5	7.1	6.9	7.6	0.3	6.8	7.5	7.0	6.9	6.9	7.2	7.6	0.3	0.0
E319	8	7.4	6.7	7.8	0.4	7.0	7.8	7.6	6.7	7.0	7.8	7.8	0.8	0.0
A307	5	7.3	6.9	7.5	0.2	7.0	7.6	7.3	6.9	7.3	7.4	7.5	0.1	0.0
C317	4	7.3	7.0	7.6	0.3	6.8	7.7	7.2	7.0	7.1	7.4	7.6	0.4	0.0
A317	7	6.7	6.5	6.9	0.2	6.5	6.8	6.6	6.5	6.6	6.9	6.9	0.3	0.0
A326	5	7.6	7.4	7.7	0.2	7.4	7.8	7.7	7.4	7.4	7.7	7.7	0.3	0.0
B317	4	6.9	6.6	7.2	0.3	6.5	7.3	6.8	6.6	6.7	7.1	7.2	0.4	0.0
A315	4	7.1	6.6	7.5	0.4	6.5	7.6	7.1	6.6	6.8	7.3	7.5	0.5	0.0
A330	5	7.5	7.1	7.8	0.3	7.2	7.9	7.6	7.1	7.4	7.8	7.8	0.4	0.0
A320	4	7.9	7.4	8.9	0.7	6.8	9.0	7.7	7.4	7.4	8.4	8.9	0.9	25.0
Y320	5	6.7	6.2	7.0	0.3	6.2	7.1	6.6	6.2	6.5	7.0	7.0	0.5	20.0
F321	3	7.2	7.2	7.3	0.1	7.1	7.4	7.2	7.2	7.2	7.3	7.3	0.1	0.0
0322	6	7.4	7.1	7.8	0.3	7.1	7.7	7.3	7.1	7.2	7.6	7.8	0.4	0.0
D322	4	7.1	7.0	7.2	0.1	6.9	7.2	7.1	7.0	7.0	7.2	7.2	0.2	0.0
B322	5	7.0	6.5	7.3	0.3	6.6	7.4	7.1	6.5	7.0	7.1	7.3	0.1	0.0
I322B	5	7.3	6.9	7.6	0.3	6.9	7.6	7.2	6.9	7.1	7.5	7.6	0.4	0.0
S322	2	7.7	7.6	7.7	0.1	7.0	8.3	7.7	7.6	7.6	7.7	7.7	0.1	0.0
A341	4	7.3	7.0	7.5	0.2	6.9	7.7	7.3	7.0	7.1	7.5	7.5	0.4	0.0
All	85	7.2	6.2	8.9	0.4	7.1	7.3	7.2	6.6	7.0	7.5	7.7	0.5	2.4

[a] Percentage of collected samples that exceed the applicable water quality standard (see Tables 11 and 12).

N: number of samples; C.I.: confidence interval.

n.a.: not applicable.

Table D4. Summary statistics for specific conductance at sites in the Green-Duwamish watershed in 2001 and 2002.

Site Locator	N	Mean (µmhos/cm)	Minimum (µmhos/cm)	Maximum (µmhos/cm)	Standard Deviation (µmhos/cm)	Lower 95% C.I. (µmhos/cm)	Upper 95% C.I. (µmhos/cm)	Median (µmhos/cm)	10th Percentile (µmhos/cm)	25th Percentile (µmhos/cm)	75th Percentile (µmhos/cm)	90th Percentile (µmhos/cm)	Quartile Range (µmhos/cm)	Percent Exceeding Standard[a]
Base Flow														
A310	9	100	53.1	175	38.1	71.0	130	104	53.1	67.1	108	175	40.9	n.a.
E319	9	40.6	1.8	55.0	16.8	27.7	53.6	41.4	1.80	36.7	53.0	55.0	16.3	n.a.
A307	6	250	245	258	4.6	245	255	250	245.0	247	253	258	6.0	n.a.
C317	8	313	236	368	42.9	277	349	323	236.0	284	343	368	59.0	n.a.
A317	8	337	233	386	51.8	294	381	360	233.0	308	372	386	64.0	n.a.
A326	7	196	114	274	73.6	128	264	207	114.0	119	267	274	148	n.a.
B317	7	200	117	229	38.8	164	236	215	117.0	194	227	229	33.0	n.a.
A315	8	216	147	268	44.2	179	253	220	147.0	184	252	268	68.0	n.a.
A330	7	165	113	182	24.7	142	188	177	113.0	155	180	182	25.0	n.a.
A320	8	130	111	145	13.4	118	141	128	111.0	119	144	145	24.5	n.a.
Y320	4	174	152	199	20.1	142	206	172	152.0	159	189	199	30.5	n.a.
F321	6	107	91	119	11.9	94.7	120	112	91.0	94	116	119	21.8	n.a.
0322	8	144	126	164	14.4	132	156	140	126.0	134	159	164	25.0	n.a.
D322	6	189	139	258	53.4	133	245	169	139.0	149	253	258	104	n.a.
B322	2	160	113	207	66.5	-437	757	160	113.0	113	207	207	94.0	n.a.
I322B	5	134	110	171	22.7	106	163	129	110.0	125	137	171	12.0	n.a.
S322	2	125	124	126	1.41	112	138	125	124.0	124	126	126	2.0	n.a.
A341	4	103	97.9	112	6.10	93.5	113	102	97.9	99.4	107	112	7.6	n.a.
All	114	175	1.8	386	86.6	159	191	154	67.1	115	236	297	121	n.a.
Storm Flow														
A310	5	107	70.9	157	45.3	51.1	164	76.0	70.9	76.0	157	157	81.0	n.a.
E319	8	36.8	31.9	52.0	6.46	31.4	42.2	34.8	31.9	33.2	37.2	52.0	4.0	n.a.
A307	5	180	108	270	62.6	102	258	193	108	135	194	270	59.0	n.a.
C317	4	112	71.0	166	42.6	44.2	180	106	71.0	78.5	146	166	67.0	n.a.
A317	7	116	45.7	239	72.9	48.3	183	86.0	45.7	60.5	190	239	130	n.a.
A326	5	145	87.0	241	59.9	71	220	138	87.0	105	156	241	51	n.a.
B317	4	78.0	71.0	87.0	7.07	66.7	89.3	77.0	71.0	72.5	83.5	87.0	11.0	n.a.
A315	4	132	108	177	32.6	80	184	122	108	108	156	177	48.0	n.a.
A330	5	148	118	179	25.2	116	179	158	118	126	158	179	32.0	n.a.
A320	4	127	103	143	18.2	98.1	156	131	103	113	141	143	28.0	n.a.
Y320	5	92.7	68.0	104	14.6	74.6	111	94.4	68.0	94.1	103	104	8.9	n.a.
F321	3	78.0	69.8	87.6	8.97	55.7	100	76.7	69.8	69.8	87.6	87.6	17.8	n.a.
0322	6	125	107	149	16.4	108	142	123	107	112	136	149	24.0	n.a.
D322	4	140	124	158	17.7	112	168	140	124	125	156	158	31	n.a.
B322	5	187	1.70	389	143	9.18	365	158	1.7	138	250	389	112	n.a.
I322B	5	73.6	1.90	128	48.4	13.6	134	92.3	1.9	51.7	94.3	128	42.6	n.a.
S322	2	124	115	133	12.7	9.64	238	124	115	115	133	133	18.0	n.a.
A341	4	83.2	77.4	88.3	5.05	75.1	91.2	83.5	77.4	79.0	87.3	88.3	8.3	n.a.
All	85	114	1.7	389	61.2	100.9	127.3	108	37.3	76.0	139	179	63.0	n.a.

[a] Percentage of collected samples that exceed the applicable water quality standard (see Tables 11 and 12).

N: number of samples; C.I.: confidence interval.

n.a.: not applicable.