

APPENDIX H. FIELD FORMS, FIELD NOTES, AND NAVIGATION REPORT

FIELD FORMS

Target Species Collection Forms

Non-target Species Collection Forms

Clam Collection Forms

Sediment Collection Forms

Protocol Modification Forms

TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Species sampled: SS + E. sole

Field crew initials: SP, ML, CL

Comments: Trawl 1 - T2A

Start tow: 47° 32.8796 end tow: 47° 32.620

9/4

1045

122° 20.322

122° 20.212

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIMEN ID#	LENGTH (mm)	WEIGHT (g)	GENDER	COMMENTS
09.04.07	1045	Trawl 1 - T2A	trawl net	LDW-07-T2-A-TR001-SS-01	146	36.7		
				LDW-07-T2-A-TR001-SS-02	115	21.2		prolapsed cloaca
				SS-03	97	12.7		
				SS-04	121	21.5		prolapsed cloaca
				SS-05	119	20.9		
				SS-06	120	23.5		
				SS-07	114	23.2		
				SS-08	125	23.5		
				SS-09	121	23.9		
				SS-10	111	19.2		
09.04.07	1045	Trawl 1 - T2A	trawl net	LDW-07-T2-A-TR001-ES-01	243	131.6		
				ES-02	236	129.2		
				ES-03	245	148.0		
				ES-04	200	79.0		
				ES-05	225	97.1		
				ES-06	231	116.6		
				ES-07	217	103.0		

Trawl 1 - T2A

10 - shiner surfperch

45 - English sole

TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Species sampled: English Sole

Field crew initials:

Comments: Trawl 1 - T2A

1045

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIMEN ID #	LENGTH (mm)	WEIGHT (g)	GENDER	COMMENTS
09.04.07	1045	T2A	trawl net	LDW-07-T2-A-TR001-ES-08	265	184.4	.	
				ES-09	265	159.1	.	
				ES-10	280	209.0	.	~5 red bumps
				ES-11	207	81.4	.	red bumps
				ES-12	211	91.8	.	
				ES-13	200	70.9	.	1 red bump
				ES-14	205	74.5	.	
				ES-15	210	95.2	.	
				ES-16	200	71.1	.	2 red bumps
				ES-17	200	60.5	.	
				ES-18	250	161.1	.	red bumps, + abnormalities
				ES-19	255	165.3	.	
				ES-20	219	115.4	.	
				ES-21	244	123.3	.	
				ES-22	211	86.8	.	
				ES-23	205	87.4	.	
				ES-24	201	75.3	.	

TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Species sampled: English sole

Field crew initials:

Comments: Trawl 1-T2A

1045

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIMEN ID #	LENGTH (mm)	WEIGHT (g)	GENDER	COMMENTS
09.04.07	1045	T2A	trawl net	LDW-07-T2-A-TR001-ES-25	209	86.8		
				ES-26	395	598		
				ES-27	297	217.7		prolapsed cloaca
				ES-28	290	228.4		
				ES-29	269	198.4		
				ES-30	205	67.8		
				ES-31	396	402		red bumps, bleeding at mouth
				ES-32	205	89.8		
				ES-33	206	87.6		
				ES-34	209	86.4		
				ES-35	218	108.1		red bump
				ES-36	210	96.1		red bumps
				ES-37	227	106.3		prolapsed cloaca
				ES-38	211	102.0		red bump (internal)
				ES-39	216	104.6		internal red lumps
				ES-40	200	73.7		red bump
				ES-41	202	73.7		red 5/1

TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Species sampled: ~~SP, ML, CL~~ shiner surfperch, slender crab

Field crew initials: SP, ML, CL

Comments: Trawl 2 - T2B

start tow: 47° 32.809

end tow: 47° 32.606

1118

122° 20.281

122° 20.171

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIMEN ID #	LENGTH (mm)	WEIGHT (g)	GENDER	COMMENTS
09.04.07	1118	T2B	trawl net	LDW-07-T2-B-TR002-SC-01	95	138.2		
↓	↓	↓	↓	LDW-07-T2-B-TR002-SC-02	95	178.3		
				LDW-07-T2-B-TR002-SC-03	90	136.1		
09.04.07	1118	T2B	trawl net	LDW-07-T2-B-TR002-SS-01	130	30.7		
↓	↓	↓	↓	SS-02	121	18.6		
				SS-03	100	11.9		
				SS-04	102	13.4		prolapsed cloaca
				SS-05	110	17.6		
				SS-06	109	16.0		slightly prolapsed cloaca
				SS-07	116	18.6		
				SS-08	95	11.0		
				SS-09	105	15.9		
				LDW-07-T2-B-TR002-SS-10	98	13.0		

10 shiner surfperch

3 slender crab

TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Species sampled: SC, SS, ES

Field crew initials: ML, CL, SP

Comments: Trawl 14-T1A

1641

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIMEN ID #	LENGTH (mm)	WEIGHT (g)	GENDER	COMMENTS
09.04.07	1641	T1A	trawl net	LDW-07-T1-A-TR014-SC-02	102	179.7		
↓	↓	↓	↓	LDW-07-T1-A-TR014-SS-01	120	21.4		prolapsed cloaca
↓	↓	↓	↓	SS-02	112	17.8		
↓	↓	↓	↓	SS-03	104	13.1		
↓	↓	↓	↓	SS-04	100	12.3		
↓	↓	↓	↓	LDW-07-T1-A-TR014-SS-05	96	11.1		
↓	↓	↓	↓	LDW-07-T1-A-TR014-ES-07	210	87.6		
↓	↓	↓	↓	ES-08	220	94.3		
↓	↓	↓	↓	ES-09	204	71.7		
↓	↓	↓	↓	ES-10	296	301.0		
↓	↓	↓	↓	ES-11	276	195.3		
↓	↓	↓	↓	ES-12	260	184.3		red & internal bumps
↓	↓	↓	↓	ES-13	280	220.6		lesion near tail
↓	↓	↓	↓	ES-14	293	231.0		small red bump
↓	↓	↓	↓	ES-15	254	157.6		
↓	↓	↓	↓	ES-16	212	87.9		
↓	↓	↓	↓	ES-17	220	107.5		prolapsed cloaca

TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Species sampled: *Shiner surfperch*

Field crew initials: *ML, CL, SP*

Comments: *Trawl 15-T4A*
0944

start tow: 47°31.084 end tow: 47°30.860
122°18.386 122°18.293

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIMEN ID #	LENGTH (mm)	WEIGHT (g)	GENDER	COMMENTS
↓	↓	↓	↓	<i>LDW-07-T4-A-TR015-SS-01</i>	<i>129</i>	<i>24.7</i>		
				<i>SS-02</i>	<i>138</i>	<i>30.8</i>		
				<i>SS-03</i>	<i>92</i>	<i>8.8</i>		
				<i>SS-04</i>	<i>125</i>	<i>23.5</i>		<i>prolapsed cloaca</i>
				<i>SS-05</i>	<i>116</i>	<i>19.3</i>		
				<i>SS-06</i>	<i>95</i>	<i>10.1</i>		
				<i>SS-07</i>	<i>125</i>	<i>25.2</i>		
				<i>SS-08</i>	<i>114</i>	<i>19.5</i>		
				<i>SS-09</i>	<i>113</i>	<i>17.2</i>		
							<i>LDW-07-T4-A-TR015-SS-10</i>	<i>101</i>

TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Species sampled: ES, SS, DC

Field crew initials: ML, CL, SP

Comments: Trawl 18-T3A

start tow: 47°31.967 end tow: 47°31.820

1040

122°19.224

~~122°18.988~~

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIMEN ID#	LENGTH (mm)	WEIGHT (g)	GENDER	COMMENTS
09.05.07	1040	T3A	trawl net T3A	LDW-07-T3-A-TR018-SS-03	110	17.2		
			trawl net	SS-04	115	18.4		
				SS-05	116	17.7		
				SS-06	103	12.3		
				SS-07	116	19.5		
				SS-08	99	12.9		slightly prolapsed cloaca
				SS-09	120	19.8		
				SS-10	109	17.1		
				LDW-07-T3-A-TR018-ES-02	339	360		
				ES-03	263	174.9		
				ES-04	251	147.9		
				ES-05	211	109.2		internal bump
				LDW-07-T3-A-TR018-DC-01	133	288.0		
				DC-02	129	277.9		

TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Species sampled: *SS, DC*

Field crew initials: *ML, CL, FMN*

Comments: *Trawl 33-T3C*

0915

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIMEN ID #	LENGTH (mm)	WEIGHT (g)	GENDER	COMMENTS
↓	↓	↓	↓	LDW-07-T3-C-TR033-SS-01	110	135		
				SS-02	123	25.0		
				SS-03	111	15.1		prolapsed cloaca
				SS-04	147	35.7		slightly prolapsed cloaca
				SS-05	114	21.5		prolapsed cloaca
				SS-06	113	19.1		
				SS-07	95	10.8		prolapsed cloaca
				SS-08	97	10.8		prolapsed cloaca
				SS-09	123	21.0		
				LDW-07-T3-C-TR033-SS-10	103	12.1		prolapsed cloaca
				LDW-07-T3-C-TR033-DC-11	114	182.6		
				DC-12	115	209.2		
				DC-13	115	192.3		
				LDW-07-T3-C-TR033-DC-14	122	292.3		

TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Species sampled: DC, ES, SS

Field crew initials: ML, FMN, CL

Comments: Trawl 34 - T3 D
0933

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIMEN ID #	LENGTH (mm)	WEIGHT (g)	GENDER	COMMENTS
09.06.07	0933	T3D	trawlnet	LDW-07-T3-D-TR034-DC-15 ^{SR}	132	289.2		
				DC-15	117	186.8		
				LDW-07-T3-D-TR034-SS-01	130	24.6		prolapsed cloaca ✓
				SS-02	125	24.8		
				SS-03	112	19.9		prolapsed cloaca
				SS-04	110	16.2		
				SS-05	149	39.4		
				SS-06	138	35.6		prolapsed cloaca
				SS-07	122	27.8		
				SS-08	117	15.9		
				SS-09	112	22.4		
				LDW-07-T3-D-TR034-SS-10	123	28.7		
				LDW-07-T3-D-TR034-ES-16	215	101.3		



TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Species sampled: ES, SC, SS

Field crew initials: ML, FMN, CL

Comments: TRAWL 38-TIE

1115

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIMEN ID #	LENGTH (mm)	WEIGHT (g)	GENDER	COMMENTS
09.06.07	1115	TIE	trawl/net	LDW-07-TI-E-TR038-ES-26	245	181.8		
↓	↓	↓	↓	ES-27	306	243.9		red bump
				ES-28	207	98.4		
				ES-29	205	83.0		
				ES-30	331	386		internal lumps,
				ES-31	204	87.0		
				ES-32	214	81.4		
				ES-33	250	143.5		prolapsed cloaca
				LDW-07-TI-E-TR038-ES-34	216	98.4		
				LDW-07-TI-E-TR038-SC-03	90	135.4		
				SC-04	101	180.5		
SC-05	91	145.1						
SC-06	90	133.0						
SC-07	100	182.0						
SC-08	93	144.4						
SC-09	96	162.4						
SC-10	90	137.3						
				LDW-07-TI-E-TR038-SC-11	96	170.2		

NON-TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Field crew initials: ML, CL, SP

Comments: Trawl 3-T2B

logs and trash debris in net.

1150

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIES	LENGTH RANGE (mm)	TOTAL WEIGHT (g ww)	COUNT	COMMENTS
09.04.07	1150	T2B	trawl net	sea anemone	metridium		= ④	
				herring			= ①	
				longfin smelt			= ③	
				Pacific tomcod			= ①	
				E. sole - dinner	> 200		5 = ⑧	
				P. staghorn sculpin	> 120		1 = ⑩	
				P. staghorn sculpin	< 120		= ③	
				Sand sole			= ③	
				S. crab	< 90		5 = ⑧	
				slender crab	> 90		②	
				shiner surfperch	> 80		20 + 2 = ②②	
				pile perch			= ②	
				E. sole lunch	100-200		6 + 10 + = ①⑨	
				E. sole snack	< 100		②	
				starry flounder			④②	

starry 104

NON-TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Field crew initials: ML, CL, SP

Comments: Trawl 14-TIA

1641

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIES	LENGTH RANGE (mm)	TOTAL WEIGHT (g ww)	COUNT	COMMENTS
09.04.07	1641	TIA	trawl net	ratfish			①	
				tomcod			II = ②	
				staghorn sculpin	> 120		III = ⑤	
				staghorn sculpin	< 120		①	
				pile perch			①	
				shiner sartperch			III = ⑤	kept 5
				nudibranch			III III = ⑨	
				anemone			II = ②	
				decapoda crabs			II = ②	
				slender crabs	> 90		①	kept 1
				E. sole	100-200		①	④
				E. sole	> 200		IIIIIIII	kept 15
				sand sole			①	
				Evistaria			①	
				Psastarus			II = ②	
slender slender crab	< 90		IIII = ④					
rough back sculpin			II = ②					

NON-TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Field crew initials: CL, ML, SP

Comments: Trawl 15- T4A

0944

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIES	LENGTH RANGE (mm)	TOTAL WEIGHT (g.w.w)	COUNT	COMMENTS
09.05.07	0944	T4A	trawl net	Pink salmon			II = ②	
				longfin smelt			IIII = ④	
				tomcod			II = ②	
				starry flounder			IIII IIII IIII = ⑤②	
				P. Staghorn sculpin	>120		IIII = ④	
				shiner surfperch	>80		IIII IIII IIII = ②⑨	kept 10
				bentnose clam			①	
				crangbone shrimp			IIII IIII = ⑨	
				shiner	<80		IIII IIII IIII = ②⑨	
				E. sole	100-200		II = ②	
				E. sole	<100		III = ③	
					780		IIII IIII	

NON-TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Field crew initials: ML, CL, SP

Comments: Trawl 20 - T3B

1107

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIES	LENGTH RANGE (mm)	TOTAL WEIGHT (g ww)	COUNT	COMMENTS	
09.05.07	1107	T3B	trawl net	shiner surfper			IIII IIII = 24	Kept 5	
				perch pile perch			II = 2		
				tomcod			①		
				starry flounder			IIII IIII = 9		
				Staghorn sculpin			III = 3		
				snake prickel back sculpin			①		
				E. sole	100-200		①		one poss. hybrid
				E. sole	<100		①		
				worm - polycha etc			①		3
				longfin smelt			①		
crangone shrimp			IIII IIII IIII = 14						



Snack size = < 10
 lunch size = 10-20
 Dinner size = > 20

NON-TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Field crew initials: ML, FMN, CL

Comments: Trawl 34 - T3A
 0933

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIES	LENGTH RANGE (mm)	TOTAL WEIGHT (g.ww)	COUNT	COMMENTS
09.06.07	0933	T3D	trawl net	Striped Perch		①		
				Longfin Smelt		1+13 = ①④		
				Dungeness Crab		III = ③		Kept 2
				American Shad		①		
				Pile Perch		III = ⑥		
				Starhorn Snapper →				
				Prickly Sculpin		①		
				English Sole - Dinner		①		Kept all
				Skinner Surfperch		15+10 = ②③		Kept 10
				Crangon Shrimp		III = ⑤		
Dock Shrimp		II = ②						

Snack size: < 10
Lunch size: 10-20
Dinner size: > 20

NON-TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Field crew initials: ML, FMN, CL

Comments: Trawl 38-T1E

1115

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIES	LENGTH RANGE (mm)	TOTAL WEIGHT (g ww)	COUNT	COMMENTS
09.06.07	1115	T1E	trawl net	English Sole - Dinner			9	kept all
				Staghorn Sculpin	> 120		III = 3	
				Shiner Perch	> 80		III = 6	kept All
				Anemone			III = 1	
				Slender Crab	< 90		II + 15 = 17	
				Armina Naudibranch			III + 18 = 21	
				Geoduck CL Burrowing clam			III = 3	
				Pisaster Sea Star			II = 2	
				Herring			1	
				Staghorn Sculpin	< 120		III = 3	
				Sand Sole			II = 2	
				Rockfish (Brown)			1	
				English Sole - Lunch			III IIII = 9	
				Pike Perch			1	
				Tom Cod			III = 3	
				Starry flounder			1	
				Slender Crab	> 90		III IIII = 9	kept All
				Crangonina Shrimp			1	
				Rough back Sculpin			14	
				Rock Sole			III = 3	

Snack size = <10
lunch size = 10-20
dinner size = >20

NON-TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Field crew initials: ML, FMN, CL

Comments: Trawl 48 - T3 A-C
1527

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIES	LENGTH RANGE (mm)	TOTAL WEIGHT (g ww)	COUNT	COMMENTS
09.06.07	1527	T3 A-C	trawl/net	Snake Prickleback			①	
				English Sole - Dinner			II = ②	kept All
				Slender Crab	>90		①	
				Staghorn Sculpin	>120		III = ⑥	
				Dungeness Crabs	>90		III = ③	
				Pile Perch			III II = ⑧	
				Striper Surfperch	>80		III III = ⑧	
				Buffalo Sculpin			①	
				English sole - lunch			II = ②	
				Starry Flounder - lunch			II = ②	
				Tom Cod			①	
				Starry Flounder - dinner			①	kept

NON-TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Trawl 50 Area T1-B

Field crew initials: MFL, JS, AR

Comments: Major hang up

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIES	LENGTH RANGE (mm)	TOTAL WEIGHT (g ww)	COUNT	COMMENTS
9/7/07	0856	T1-B	T/R	Buffalo Sculpin			1	
				Big skate			1	
				Shiner siscowet			5	> 80mm
				English sole				> 200
				Slender crab				
				Rock sole			1	
				Sand sole			1	
				Arnica			1	
				Anemone				
				HYAS Crab				
				Pile perch			 (circled)	> 80 ^{mm} < 80
				Pacific Starling Sculpin			1	> 120mm
				Puechbach Sculpin(?)				
				PS				> 120
				speckled Sanddab			1	
				SF			1	< 100
				Slender crab			11	< 90
				Slender crab				> 90
				decorator crab			2	

NON-TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Trawl 51, Area T1A

Field crew initials: MGL, JS, AR, AC

Comments:

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIES	LENGTH RANGE (mm)	TOTAL WEIGHT (g ww)	COUNT	COMMENTS
9/7/07	0929	T1A	TR	Rock sole			2	
				Sand sole			2	
				PS			2+1	>120 mm
				ES			11	>10 <200 mm
				ES			3	>200 mm
				PS			1	<120 mm
				Spotted greenling			1	
				Armina aridivanch			2	
				Slender crab			3	2790, 1290 mm
				Artemia			2	
				dooh shrimp			6+1+1	
				crab				
				SS			11	>80 (5 kept)
				decorator crab			1	
				Capia - Penopsis (tiny crab)			1	

NON-TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Trawl 62, Area T1-B

Field crew initials: MGL, JS, AC, AR

Comments:

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIES	LENGTH RANGE (mm)	TOTAL WEIGHT (g ww)	COUNT	COMMENTS
9/7/07	1355	T1-B	TR	White spotted gauling			11 (2)	
				Shiner sump crab	280		1	
				Dungeness Crab	290			
				Starry flounder				
				Snake mickleback			1	
				ANEMONE			3	
				Pisaster			11 (2)	
				Rough back Sculpin			1	
				Slender crab (SC)	<90		2	
				SC				
				English	>100 <200		11	
				Rock sole Hybrid site	>200			
				Rock Sol	>200		1	
				twi cates			2	
				decorator crab			1	

NON-TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Trawl 64 Area T1-E

Field crew initials: MGL, JS, AC, AR

Comments:

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIES	LENGTH RANGE (mm)	TOTAL WEIGHT (g ww)	COUNT	COMMENTS
9/2/07	1438	T1-E	TR	Pacific slough sculpin	>120		11 (2)	
				Roughback sculpin			1	
				Sand sole			1	
				English sole	100-200		11 (3)	
				Red Rock crab			1	
				Slender crab	>90		1	
				SC	<90		11 (2)	
				Rock sole			1	
				ES	<100		1	
				Jellyfish				
				PS	<120		11 (2)	
				dooh shrimp			1	
				Sea Pen			1	
				Amphibian			15	
				with sculpin			1	

NON-TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22 Trawl T1 Area T1-C

Field crew initials: SF, ML, ED, AG

Comments:

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIES	LENGTH RANGE (mm)	TOTAL WEIGHT (g/ww)	COUNT	COMMENTS
9-10-07	0928	T1-C	Trawl	Shiner surfperch			VI (6)	6 kept
				English Sole	<200 (>100)		IIII (4)	
				English Sole	>200		VI (5)	
				roughback sculpin			I (1)	
				Staghorn sculpin			VI (6)	
				Dungeness crab	<90		II (2)	
				herring			I (1)	
				Tomcod			III (3)	
				anemone			I (1)	
				Staghorn sculpin	>120		III (3)	
				pile perch			I (1)	
				neudibranch			VI (6)	
				prickly podia			I (1)	
				Rock sole			IIII (4)	
				Starry flounder			I (1)	

NON-TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22 Trawl 72 Area TI-C

Field crew initials: SF, M, ED, AG

Comments:

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIES	LENGTH RANGE (mm)	TOTAL WEIGHT (G.WW)	COUNT	COMMENTS
9-10-07	947	TI-C	Trawl	anemone			III (3)	
				Shiner Surfperch			III III (6)	2 kept
				Starry Flounder			III (3)	
				longfin smelt			I (1)	big
				English Sole (lunch)	>100 <200		III (5)	
				Rock Sole (dinner)			II (2)	
				English Sole (dinner)	>200		III II (7)	
				Roughback Sculpin			III (3)	
				Slender crab	<90		I (1)	
				decorator crab			I (1)	
				dungess crab	<90		II (2)	
				titanium			I (1)	
				pie Zaster			II (2)	
				Stagnon sculpin			II (2)	
				neudibranch			III III (8)	
				dungess slender crab	>90		I (1)	1 kept

NON-TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Field crew initials: SF, ML, ED, AG

Trawl 73 Area T1-E

Comments: No keepers (already)

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIES	LENGTH RANGE (mm)	TOTAL WEIGHT (gww)	COUNT	COMMENTS
9-10-07	1005	T1-E	Trawl	Pinnacoda			1 (2)	
				longfin smelt			111 (4)	
				herring			11 (2)	
				d. crab (dungeness)	<90		111 (5)	
				Pac. tomcod			111 (3)	
				Shiner surfperch			(11)	
				decorator crab			1 (1)	
				neudibranch			17	
				dock shrimp			1 (1)	
				roughback sculpin			1 (1)	
				Staghorn sculpin	>120		111 (6)	
				pile perch			111 (3)	
				anemone			11 (2)	
				English Sole lunch	700 <200		111 (5)	
				English Sole dinner	>200		11 (2)	
				rock sole			11 (2)	

NON-TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Trawl 76 Area TI-F

Field crew initials: SF, ME, ED, AG

Comments: 2 shiner surfperch kept < 80

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIES	LENGTH RANGE (mm)	TOTAL WEIGHT (g ww)	COUNT	COMMENTS
9-10-07	1104	TI-F	Trawl	Staghorn sculpin	> 120		II (2)	
				tomcod			III (3)	
				rock sole			III (3)	
				English sole (dinner)	> 200		I (1)	
				pile perch			IIII (4)	
				roughback			III (3)	
				longfin smelt			I (1)	
				English sole (lunch)	> 100 < 200		III (3)	
				Shiner surfperch	< 80		II (2)	2 kept
				Shiner surfperch	> 80		IIII (5)	5 kept
				dungeness crab	< 90		III (3)	
				dungeness crab SF				
				newly branched			II (2)	
				dungeness crab	> 90		I (1)	1 kept

NON-TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Trawl 83 Area T3-D/E/F

Field crew initials: SF, ML, ED, AG

Comments: only small portion in sub area D.

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIES	LENGTH RANGE (mm)	TOTAL WEIGHT (g ww)	COUNT	COMMENTS
9-10-07	1355	T3-D/E/F	Trawl	Staghorn sculpin	>120		(6)	
				starry flounder (lunch)			(7)	
				dungeness crab	>90		(7)	
				pile perch			(7)	
				smelt (un-10)			(1)	
				English sole (snack)	<100		(1)	
				herring			(1)	
				tomcod			(3)	
				shiner surfperch			(13)	
				longfin smelt			(3)	
				English sole (lunch)	>100 <200		(2)	1 kept in live bin (188)
				English sole (dinner)	>200 SF		+ SF	
				crangon shrimp			(3)	
				dungeness crab	<90		(2)	

NON-TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Field crew initials: ML, SP, DW

Comments: Trawl 95-T2-B

1240

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIES	LENGTH RANGE (mm)	TOTAL WEIGHT (g ww)	COUNT	COMMENTS
09.11.07	1240	T2-B	trawl net	P. Staghorn sculpin	>120		= (4)	
				sea anemone			= (3)	
				lions mane jelly			(1)	
				slender crab	<90		= (3)	
				herring			(1)	
				E. sole	>200		(1)	
				starry flounder			 = (5)	
				E. sole	100-200		= (7)	
				snake prickleback			(1)	
				shiner surfperch	<80		(1)	
				English sole	<100		(1)	
				tomcod			(1)	
				pile perch			(1)	
				shiner surfperch	>80		= (4)	
				sand sole			(1)	

NON-TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Field crew initials: ML, SP, DW

Comments: Trawl 97-T2-C-E

1323

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIES	LENGTH RANGE (mm)	TOTAL WEIGHT (g, ww)	COUNT	COMMENTS
09.11.07	1323	T2-C-E	trawl net	red rock	>90		①	
				P. staghorn sculpin	>120		= ①①	
				P. staghorn sculpin	<120		= ②	
				slender crab	>90		①	
				slender crab	<90		= ⑤	
				sand sole			①	
				pile perch			#11 = ②	
				English sole	100-200		= ③⑥	
				English sole	>200		= ③①	
				starry flounder			= ⑤	
				shiner surfperch	>80		+ 12 + 7 + 3 = ③①	
				shiner surfperch	<80		= ②	
				herring	#		①	
				anemone			①	
				tomcod			= ⑤	
				longfin smelt			= ⑩	

NON-TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

9/12/2007

Project #: 04-08-06-22

Field crew initials: ML, CL, SR

Comments: Trawl 101 Area T1-B

12:24

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIES	LENGTH RANGE (mm)	TOTAL WEIGHT (g.ww)	COUNT	COMMENTS
9/12/2007	12:24	T1-B	TR01	Rock sole		111	③	
				Starry Flounder		1	①	
				Roughback sculpin		11	②	
				Red rock crab		1	①	
				Shiner sardine	>80	11	②	1 kept, 1 released.
				anemone		11	②	
				hermatyroid sea star		1	①	
				Staghorn sculpin		1	①	
			SR	Dungeness Crab	<90			
				English sole - lunch		11	②	
				Slender crab	<90	111 11	⑦	
				Decorator crab	4	11	②	
				hermit crab		1	①	
				Slender crab	>90	11	②	

NON-TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

9/12/2007

Project #: 04-08-06-22

Field crew initials: ML, CL, SR

Comments: Trawl 102 Area T4-A

kept 1 undersize (180 mm)
starry flounder

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIES	LENGTH RANGE (mm)	TOTAL WEIGHT (g ww)	COUNT	COMMENTS
9/12/2007	13:44	T4-A	TR-102	shiner surfperch	<80		IIII IIII IIII IIII IIII	+25
				starry flounder	<200 SR			
				slender crab	<90		II (2)	
				crayon shrimp			IIII (5)	
				starry flounder			(14)	
				starry flounder			IIII II (7)	
				staghorn sculpin			III (3)	
				shiner surfperch	>80		IIII +7 (12)	
				longfin smelt			I (1)	
				gamb sole			I (1)	
				starry flounder	180mm		I (1)	kept live discarded at 14:50

(49)

NON-TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

9/12/2007

Project #: 04-08-06-22

Field crew initials: SR, CL, ML

Comments: Trawl 103 Area T1-B

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIES	LENGTH RANGE (mm)	TOTAL WEIGHT (g ww)	COUNT	COMMENTS
9/12/2007	13:57	T1-B	TR103	English sole - dinner			(3)	kept 3
				- lunch			na	
				- snack			(1)	
				Pacific staghorn sculpin	> 120		(1)	
				Starry flounder - dinner			(1)	kept 1
				- lunch			(20)	
				- snack			IIII (4)	
				longfin smelt			IIII (5)	
				shiner surfperch	> 80		IIII + 15 (20)	
				Pacific staghorn sculpin	< 120		IIII (4)	
				bent nose clam			1 (1)	
				shiner surfperch	480		15 + 3 + 6 + 1 = (25)	
				Orange shrimp			(3)	

NON-TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

9/12/2007

Project #: 04-08-06-22

Field crew initials: SR, ML, CL

Comments: TR04 Area T4-AB

trawled down middle of channel

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIES	LENGTH RANGE (mm)	TOTAL WEIGHT (g ww)	COUNT	COMMENTS
9/12/2007	14:10	T4-AB	TR04	shiner surfperch	<80			+5+7
				shiner surfperch	>80			+5+8 (23)
				Pacific staghorn sculpin	<120			(3)
					>120			(5)
				starry flounder - dinner				
				starry flounder - snack				(13)
				lunch				+8+3+12+3 (50)
				dinner			(4)	kept all as
				longfin smelt				(15)
				tomcod				(2)
				crangon shrimp				(6)
				english sole - snack				(1)

(100)

+5+7+10+15+15

NON-TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

9/12/2007

Project #: 04-08-06-22

Field crew initials: SR, CL, ML

Comments: TR105 T4-A

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIES	LENGTH RANGE (mm)	TOTAL WEIGHT (g ww)	COUNT	COMMENTS
9/12/2007	14:22	T4-A	TR105	shiner sculpin	<80	4	1+8+1+6+2+5+5+2	(30)
					>80		NON +11	(21)
				pacific stog. sculpin	<120		na	
					>120			(4)
				jelly fish (lobster bait)				(1)
				starry flounder - snack			 	(9)
				lunch			7+1+4+3+1+13+6+1	(36)
				dinner			(1)	
				english sole - snack			na	
				lunch			na	
				dinner			(1)	
				longfin smelt			 	(7)
				crayon shrimp				(3)
				steelhead	50-60 mm		(2)	

NON-TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Field crew initials: SR, CL, ML

Comments: TR106 Area T4-B

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIES	LENGTH RANGE (mm)	TOTAL WEIGHT (g ww)	COUNT	COMMENTS
9/12/2007	14:39	T4-B	TR106	shiner, surfperch	<80		IIII +4	(9)
					>80		IIII +8+7	(25)
				longfin smelt			IIII IIII	(14)
				pile perch			II	(2)
				pacific, stag. sculpin	<120		IIII	(7)
					>120		IIII	(6)
				starry flounder			IIII IIII	(13)
				- snack				
				- lunch			IIII IIII IIII	(12)
				- dinner				
				prickly sculpin			IIII	(4)
				crayon shrimp				

NON-TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

9/12/2007

Project #: 04-08-06-22

Field crew initials: SR, CL, ML

Comments: TR107 T1-AB

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIES	LENGTH RANGE (mm)	TOTAL WEIGHT (g ww)	COUNT	COMMENTS
9/12/2007	14:56	T1-AB	TR107	Chinook salmon pink salmon			11 (2)	
				pale perch			11 (2)	
				shiner, surfperch	480		11 + 9 + 5	4 + 15 = (44)
					780		8 + 2 + 3	+ 7 = (20)
				striped perch			(1)	
				staghorn sculpin	<120			
					>120		11 (3)	
				sterry flounder			2 + 2 + 3 = (7)	
							11 + 17	+ 14 + 4 + 1 = (36)
							na	
				longfin tomcod			12 + 2 + 2 = (16)	
							(1)	

1 (192w
2 7/11

NON-TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Field crew initials: SR, ML, CL

Comments: ~~Comment~~ TR09 T4-ABD

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIES	LENGTH RANGE (mm)	TOTAL WEIGHT (g,ww)	COUNT	COMMENTS
9/12/2007	15:28	T4-ABD		pacific stagnon sculpin	>120		 (13)	
					<120		(4)	
				starry flounder - snack			 (40)	
				- lunch			 +55 (66)	
				- dinner			(8) → kept 8	
				english sole - snack			(3)	
				- lunch			(1)	
				- dinner			(1) → kept 1	
				shiner surfperch	<80		 (21)	
					780		 +10+5+6+5+6+7+8 (52)	
				squid			(1)	
				longfin			 (10)	
				pile perch			(1)	
				tomcod			(4)	
				crayon shrimp			 (12)	

NON-TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Field crew initials: SR, CL, ML

Comments: Trawl 110 Area T1-CE

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIES	LENGTH RANGE (mm)	Count		COMMENTS
						TOTAL WEIGHT (g ww)	COUNT	
9/12/2007	1658 w	T1-CE	TR110	roughback sculpin		1	1	
				slender crab	>90	1	1	
					<90	###	5	
				nudebranch ^{armenia} (armenia) SR		###	10	
				tritonia			3	
				anemone			3	
				english sole - dinner			2	
				lunch		### 1	6	
				snack		1	1	
				sand sole			2	
				staghorn sculpin	>120		3	
					<120	1	1	
				tomcod		1	1	
				shiner siskerch	>80	1	1	
					<80	1	1	
				hermit crab		1	1	

NON-TARGET SPECIES TALLY FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Field crew initials: SR, CL, ML

Comments: Trawl III Area TIBEF

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIES	LENGTH RANGE (mm)	COUNT		COMMENTS
						TOTAL WEIGHT (g)	COUNT	
9/12/2007	1720	TIBEF	TRIII	pacific starry sculpin	>120	III	5	
					<120	na		
				evasterius		I	1	
				pisaster		III	6	
				spotted green		I	1	
				slender crab	<90	I	1	
					>90	I	1	
				dock shrimp		I	1	
				armenia - nudibranch		III	3	
				evestonius		I	1	
				english sole - dinner		I	1	
				- lunch		I	1	
				- snack				
				anemone		I	1	

CLAM COLLECTION FORM

Project Name: LDW RI - Fish and crab chemistry Project #: 04-08-06-22
 Collection date: 25 August, 2007 Begin/end time: 0725 - 0910
 Sampling method: shovel Station ID: C1
 Weather: cloudy, cool (X): 47 34.002 47 33.976
 Field crew initials: SR, AR, DD (Y): 122 21.001 122 21.001

CLAM SPECIES	SPECIMEN ID	LENGTH (MM)	WEIGHT (GWW)
Mya	LDW-07-C1-1	80	48
	-2	91	90
	-3	76	48
	-4	85	70
	-5	80	70
	-6	78	68
	-7	65	36
	-8	76	58
	-9	65	32
	-10	73	46
	-11	72	54
	-12	91	82
	-13	80	56
	-14	70	44
	-15	78	54

Comments:

-16	70	44
-17	79	60
-18	71	40
-19	73	42
-20	60	34
-21	69	40

CLAM COLLECTION FORM

Continued...
page 2 of 2

Project Name: LDW RI - Fish and crab chemistry Project #: 04-08-06-22

Collection date: 25 August, 2007 Begin/end time:

Sampling method: Station ID: C1

Weather: (X):

Field crew initials: (Y):

CLAM SPECIES	SPECIMEN ID	LENGTH (MM)	WEIGHT (GWW)
Mya	LDW-07-C1-21	61	30
	-22	60	28
	-23	69	40
	-24	75	62
	-25	68	36
	-26	86	64
	-27	78	66
	-28	85	76
	-29	71	48
	-30	60	26
	-31	79	58
	-32	66	36
	-33	57	18
	-34	69	36
	-35	92	88
	-36	76	48
	-37	81	62
	-38	68	38
	-39	65	34
	-40	60	26

Comments:

-41	63	30
-42	65	26
-43	58	22

Deperated: 21
Non-deperated: 23

CLAM COLLECTION FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Collection date: 24 August, 2007

Begin/end time: 0800 - 1044

Sampling method: shovel

Station ID: SC2-1

Weather: sunny, clear skies

(X): 47 33.546

47 33.518

Field crew initials: SR, AR, DD, JF, ED

(Y): 122 20.835

~~122~~ 20.822

CLAM SPECIES	SPECIMEN ID	LENGTH (MM)	WEIGHT (GWW)
Mya	LDW-07-SC2-1-1	76	46
	-2	76	66
	-3	103	118
	-4	76	52
	-5	80	68
	-6	74	44
	-7	84	68
	-8	89	62
	-9	82	64
	-10	84	70
	-11	81	54
	-12	70	38
	-13	79	78
	-14	70	42
	-15	70	44

Comments:

-16	63	26
-17	87	80
-18	60	26
-19	55	20
-20	88	74

CLAM COLLECTION FORM

Project Name: LDW RI - Fish and crab chemistry Project #: 04-08-06-22

Collection date: 24 August, 2007 Begin/end time: 0800 - 1044

Sampling method: Station ID: C2-1

Weather: (X):

Field crew initials: (Y):

CLAM SPECIES	SPECIMEN ID	LENGTH (MM)	WEIGHT (GWW)
Mya	LDW-07-C2-1-21	80	64
	-22	85	70
	-23	80	68
	-24	69	42
	-25	76	58
	-26	76	50
	-27	81	72
	-28	76	44
	-29	69	42
	-30	65	30
	-31	65	26
	-32	56	18
	-33	69	32
	-34	69	36
	-35	75	48

Comments:

Depurated: 20
Non-depurated: 21



-36	57	22
-37	54	20
-38	54	16
-39	77	58
-40	65	40
-41	54	26

CLAM COLLECTION FORM

Project Name: LDW RI - Fish and crab chemistry Project #: 04-08-06-22
 Collection date: 8/25/2007 Begin/end time: 7:45 - 9:15
 Sampling method: digging/shovel Station ID: C 2-2
 Weather: cloudy (X): 47 33.430 | 47 33.455
 Field crew initials: JF, GO, CL (M): 122.20.709 | 122.20.715

CLAM SPECIES	SPECIMEN ID	LENGTH (MM)	WEIGHT (GWW)
Mya	LDW-07-C2-2-1	80	58
	-2	69	36
	-3	75	50
	-4	86	76
	-5	82	62
	-6	66	36
	-7	81	58
	-8	92	66
	-9	66	32
	-10	105	162
	-11	69	39
	-12	65	30
	-13	80	68
	-14	99	102
	-15	81	58
	-16	84	60
	-17	80	50
	-18	82	68
	-19	84	76
	-20	104	110
	-21	85	72
	-22	85	74
	-23	69	44
	-24	76	56
	-25	75	52
	-26	65	34
	-27	78	46
	-28	74	48
	-29	85	78
	-30	85	82

Comments:

CLAM COLLECTION FORM

continued...
(page 2 of 2)

Project Name: LDW RI - Fish and crab chemistry Project #: 04-08-06-22

Collection date: 25 August, 2007 Begin/end time:

Sampling method: Station ID: C2-2

Weather: (X):

Field crew initials: (Y):

CLAM SPECIES	SPECIMEN ID	LENGTH (MM)	WEIGHT (GWW)
Mya	LDW-07-C2-2-31	80	71
	-32	80	72
	-33	60	20
	-34	90	88
	-35	72	52
	-36	66	38
	-37	85	86
	-38	90	100
	-39	65	22
	-40	55	16
	-41	54	18

Comments:

Depurated: 20
Non-depurated: 21

CLAM COLLECTION FORM

Project Name: LDW RI - Fish and crab chemistry Project #: 04-08-06-22

Collection date: August 24, 2007 Begin/end time: 07:35 - 09:50

Sampling method: shovel Station ID: LDW-07-C3-1

Weather: clear skies, sunny (X): 47 33.595 47 33.575

Field crew initials: SR, AR, DD (Y): 122.21.009 122 21.009

GLAM SPECIES	SPECIMEN ID	LENGTH (MM)	WEIGHT (GWW)
Mya	LDW-07-C3-1-1	78	56
	-2	65	42
	-3	80	74
	-4	64	46
	-5	76	58
	-6	70	54
	-7	69	46
	-8	83	66
	-9	76	58
	-10	74	50
	-11	75	58
	-12	79	66
	-13	61	42
	-14	75	64
	-15	84	68
	-16	66	40
	-17	64	50
	-18	80	82
	-19	65	32
	-20	70	54

Comments:



CLAM COLLECTION FORM

Project Name: LDW RI - Fish and crab chemistry Project #: 04-08-06-22
 Collection date: August 24, 2007 Begin/end time: 10:00 - 10:50
 Sampling method: shovel Station ID: LDW-07-C3-2
 Weather: clear skies, sunny (X): 47 33.496 47 33.480
 Field crew initials: SR, AR, DD (Y): 122 21.022 122.21.024

CLAM SPECIES	SPECIMEN ID	LENGTH (MM)	WEIGHT (GWW)
Mya	LDW-07-C3-2-1	75	66
	-2	78	62
	-3	76	58
	-4	65	38
	-5	73	52
	-6	80	68
	-7	62	28
	-8	79	72
	-9	75	50
	-10	61	34
	-11	60	28
	-12	58	30
	-13	75	50
	-14	83	66
	-15	72	46

Comments:

-16	51	22
-17	60	34
-18	68	48
-19	70	46
-20	70	58

CLAM COLLECTION FORM

Continued.
(page 2 of 2)

Project Name: LDW RI - Fish and crab chemistry Project #: 04-08-06-22

Collection date: 24 August, 2007 Begin/end time:

Sampling method: Station ID: C3-2

Weather: (X):

Field crew initials: (Y):

CLAM SPECIES	SPECIMEN ID	LENGTH (MM)	WEIGHT (GWW)
Mya	LDW-07-C3-2-21	51	24
	-22	56	30
	-23	55	26
	-24	80	66
	-25	72	62
	-26	71	48
	-27	60	24
	-28	57	24
	-29	76	54
	-30	69	50
	-31	73	46
	-32	75	46
	-33	60	32
	-34	60	26
	-35	60	26

Comments:

Depurated: 20
Non-depurated: 21

-36	66	38
-37	52	22
-38	52	24
-39	59	28
-40	56	24

CLAM COLLECTION FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Collection date: 3/25/07

Begin/end time: 9:55 - 10:45

Sampling method: digging/shovel

Station ID: C-4

Weather: cloudy

(X): 47 34.002 | 47 33.970

Field crew initials: SMF, CAD, LEZ

(M): 122.21.001 | 122.21.001

CLAM SPECIES	SPECIMEN ID	LENGTH (MM)	WEIGHT (GWW)
Mya	LDW-07-CA-1	59	26
	-2	68	42
	-3	56	20
	-4	82	90
	-5	61	24
	-6	62	28
	-7	60	26
	-8	78	48
	-9	80	68
	-10	56	20
	-11	69	38
	-12	66	28
	-13	69	48
	-14	61	26
	-15	65	36
	-16	71	48
	-17	69	44
	-18	76	46
	-19	75	54
	-20	70	46
	-21	80	62
	-22	80	64
	-23	85	80
	-24	65	36
	-25	85	78
	-26	53	18
	-27	57	24
	-28	75	42
	-29	70	36
	-30	66	34

Comments:

CLAM COLLECTION FORM

continued...
page 2 of 2

Project Name: LDW RI - Fish and crab chemistry Project #: 04-08-06-22

Collection date: Aug. 25, 2007 Begin/end time:

Sampling method: Station ID: C4

Weather: (X):

Field crew initials: (Y):

CLAM SPECIES	SPECIMEN ID	LENGTH (MM)	WEIGHT (G WW)
Mya	LDW-07-C4-31	70	36
	-32	90	88
	-33	68	44
	-34	72	44
	-35	70	46
	-36	75	46
	-37	76	52
	-38	60	34
	-39	71	58
	-40	66	44
	-41	45	18

Comments: Depurated: 20
Non-depurated: 21

CLAM COLLECTION FORM

Project Name: LDW RI - Fish and crab chemistry	Project #: 04-08-06-22
Collection date: 8/26/07	Begin/end time: 0810 / 0845
Sampling method: Shovel	Station ID: LDW-07-C5
Weather: overcast	(X): 47 32.707 47 32.718
Field crew initials: EAD, JMF, CEL	M: 122 20.180 122.20.179

CLAM SPECIES	SPECIMEN ID	LENGTH (MM)	WEIGHT (GWW)
Mya	LDW-07-C5-1	77	66
	-2	102	124
	-3	75	52
	-4	80	72
	-5	83	76
	-6	80	74
	-7	75	52
	-8	88	84
	-9	84	76
	-10	76	44
	-11	95	104
	-12	78	60
	-13	89	68
	-14	92	100
	-15	77	56
	-16	70	50
	-17	78	42
	-18	89	76
	-19	73	44
	-20	78	54
	-21	67	42
	-22	70	50
	-23	86	76
	-24	87	66
	-25	88	76
	-26	86	78
	-27	90	88
	-28	70	38
	-29	82	70
	-30	70	58

Comments:

CLAM COLLECTION FORM

continued
(Page 2 of 2)

Project Name: LDW RI - Fish and crab chemistry Project #: 04-08-06-22

Collection date: 26 August, 2007 Begin/end time:

Sampling method: Station ID: C5

Weather: (X):

Field crew initials: (Y):

CLAM SPECIES	SPECIMEN ID	LENGTH (MM)	WEIGHT (GWW)
Mya	LDW-07-C5-31	76	52
	-32	98	110
	-33	80	64
	-34	80	74
	-35	65	34
	-36	80	74
	-37	95	102
	-38	85	74
	-39	84	62
	-40	88	74
	-41	85	72
	-42	55	18

Comments:

Depurated: 21
Non-depurated: 21

CLAM COLLECTION FORM

page 1 of 2

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Collection date: 25 August, 2007

Begin/end time: 1000 - 10:40

Sampling method: shovel

Station ID: C6

Weather: cloudy, cool

(X): 47 32.462

47 32.459

Field crew initials: SR, AR, DD

(Y): 122 20.059

122 20.055

CLAM SPECIES	SPECIMEN ID	LENGTH (MM)	WEIGHT (GWW)
Mya	LDW-07-C6-1	90	94
	-2	80	58
	-3	85	80
	-4	80	70
	-5	82	58
	-6	85	64
	-7	79	70
	-8	90	86
	-9	73	52
	-10	95	94
	-11	68	42
	-12	80	76
	-13	96	102
	-14	75	44
	-15	85	68
	-16	65	34
	-17	84	66
	-18	85	64
	-19	83	76
	-20	83	72
	-21	81	64
	-22	60	36
	-23	76	50
	-24	72	46
	-25	71	42
	-26	67	38
	-27	85	70
	-28	92	92

Comments:



CLAM COLLECTION FORM

continued
(page 2 of 2)

Project Name: LDW RI - Fish and crab chemistry Project #: 04-08-06-22

Collection date: 25 Aug. 2007 Begin/end time:

Sampling method: Station ID: C6

Weather: (X):

Field crew initials: (Y):

CLAM SPECIES	SPECIMEN ID	LENGTH (MM)	WEIGHT (GWW)
Mya	LDW-07-C6-29	100	132
	-30	71	38
	-31	84	80
	-32	81	52
	-33	72	40
	-34	64	30
	-35	90	102
	-36	89	66
	-37	75	42
	-38	75	58
	-39	76	58
	-40	80	64
	-41	80	72
	-42	61	28
	-43	81	62

Comments:

Depurated: 21
Non-depurated: 22

CLAM COLLECTION FORM

Project Name: LDW Ri - Fish and crab chemistry Project #: 04-08-06-22

Collection date: 26 August, 2007 Begin/end time: 07:45 - 09:20

Sampling method: shovel Station ID: C7 (slip 4)

Weather: mostly cloudy (X): 47 32.194 47 32.194

Field crew initials: SR, SP (Y): 122 19.128 122 19.128

CLAM SPECIES	SPECIMEN ID	LENGTH (MM)	WEIGHT (GWW)
Mya	LDW-07-C7-1	65	38
	-2	65	50
	-3	75	46
	-4	60	34
	-5	73	50
	-6	76	50
	-7	77	74
	-8	60	22
	-9	64	44
	-10	80	46
	-11	60	24
	-12	74	54
	-13	54	22
	-14	68	40
	-15	64	32
	-16	61	24
	-17	78	72
	-18	76	54
	-19	88	68
	-20	70	40
	-21	65	28
	-22	58	24
	-23	66	32
	-24	88	80
	-25	60	28
	-26	70	42
	-27	75	62
	-28	80	66
	-29	62	32
	-30	70	36

Comments:

CLAM COLLECTION FORM

continued...
page 2 of 2

Project Name: LDW RI - Fish and crab chemistry Project #: 04-08-06-22

Collection date: Aug. 26, 2007 Begin/end time:

Sampling method: Station ID: C7

Weather: (X):

Field crew initials: (Y):

CLAM SPECIES	SPECIMEN ID	LENGTH (MM)	WEIGHT (G WW)
Mya	LDW-07-C7-31	75	48
	-32	77	56
	-33	70	56
	-34	72	76
	-35	78	88
	-36	81	82
	-37	82	100
	-38	65	46
	-39	60	38
	-40	65	56
	-41	76	82
	-42	55	20

Comments:

Depurated: 21
Non-depurated: 21

CLAM COLLECTION FORM

Project Name: LDW RI - Fish and crab chemistry	Project #: 04-08-06-22
Collection date: 26 Aug. 2007	Begin/end time: 09:45 - 1200
Sampling method: shovel	Station ID: C8
Weather: partly cloudy	(X): 47 32. 200 47.32.223
Field crew initials: SR, SP	(Y): 122 19. 120 122. 19. 127

CLAM SPECIES	SPECIMEN ID	LENGTH (MM)	WEIGHT (GWW)
Mya	LDW-07-C8-1	63	28
	-2	81	72
	-3	77	42
	-4	82	60
	-5	55	24
	-6	62	36
	-7	61	22
	-8	54	28
	-9	60	34
	-10	72	48
	-11	71	36
	-12	85	72
	-13	58	22
	-14	64	28
	-15	62	40
	-16	71	36
	-17	80	80
	-18	78	70
	-19	76	54
	-20	68	32
	-21	82	58
	-22	84	54
	-23	67	40
	-24	90	88
	-25	83	72
	-26	68	46
	-27	60	22
	-28	73	46
	-29	69	42
	-30	78	64

Comments:

CLAM COLLECTION FORM

continued
(page 2 of 2)

Project Name: LDW RI - Fish and crab chemistry Project #: 04-08-06-22

Collection date: 26 Aug. 2007 Begin/end time:

Sampling method: Station ID: C8

Weather: (X):

Field crew initials: (Y):

CLAM SPECIES	SPECIMEN ID	LENGTH (MM)	WEIGHT (GWW)
Mya	LDW-07-C8-31	62	24
	-32	58	22
	-33	55	18
	-34	68	36
	-35	52	16
	-36	63	24
	-37	61	28
	-38	60	24
	-39	83	70
	-40	80	62
	-41	75	48
	-42	71	42

Comments:

Depurated: 20
Non-depurated: 22

Clams 37 - 42
collected on Monday,
August 27, 2007.

CLAM COLLECTION FORM

Project Name: LDW RI - Fish and crab chemistry Project #: 04-08-06-22
 Collection date: 25 August, 2007 Begin/end time: 1120 - 1205
 Sampling method: shovel Station ID: C9
 Weather: cloudy, cool (X): 47 31.687 47 32.687
 Field crew initials: SR, AR, PD, CL (Y): 122.18.756 122.19.382

CLAM SPECIES	SPECIMEN ID	LENGTH (MM)	WEIGHT (GWW)
Mya	LDW-07-C9-1	95	92
	-2	80	60
	-3	85	70
	-4	91	96
	-5	85	58
	-6	74	56
	-7	70	54
	-8	58	22
	-9	71	46
	-10	95	106
	-11	80	58
	-12	75	48
	-13	75	62
	-14	70	48
	-15	85	72
	-16	85	76
	-17	96	112
	-18	106	140
	-19	80	56
	-20	90	84
	-21	90	84
	-22	84	72
	-23	70	34
	-24	70	44
	-25	75	64
	-26	52	20
	-27	80	58
	-28	84	72
	-29	80	56
	-30	75	54

Comments:

CLAM COLLECTION FORM

Project Name: LDW RI - Fish and crab chemistry Project #: 04-08-06-22

Collection date: 8/26/07 Begin/end time: 0915/1120

Sampling method: shovel/spoon Station ID: LDW-07-C10-2

Weather: overcast (X): 47 31.452 | 47.31.301

Field crew initials: EAD, CEL, JMF (M): 122 18.558 | 122 18.512

GLAM SPECIES	SPECIMEN ID	LENGTH (MM)	WEIGHT (GWW)
Mya	LDW-07-C10-2-1	85	82
	-2	78	62
	-3	86	70
	-4	90	74
	-5	62	26
	-6	75	44
	-7	75	54
	-8	68	36
	-9	86	82
	-10	80	52
	-11	65	36
	-12	68	38
	-13	70	40
	-14	72	40
	-15	73	44
	-16	72	48
	-17	74	62
	-18	85	68
	-19	76	54
	-20	82	72
	-21	70	36
	-22	80	56
	-23	72	48
	-24	74	40
	-25	84	60
	-26	67	36
	-27	81	62
	-28	85	62
	-29	80	64
	-30	90	84

Comments:

CLAM COLLECTION FORM

Project Name: LDW RI - Fish and crab chemistry Project #: 04-08-06-22

Collection date: 8/27/07 Begin/end time: 11:00-12:00

Sampling method: shovel Station ID: C10-1 (depurated^{non-})

Weather: Sunny (X): 47 31.658 | 47 31.612

Field crew initials: SR, SP, JF, ED, CL (Y): 122 18.785 | 122 18.654

CLAM SPECIES	SPECIMEN ID	LENGTH (MM)	WEIGHT (GWW)
Mya	LDW-07-C10-1-1	79	54
	-2	80	78
	-3	81	64
	-4	70	36
	-5	91	94
	-6	80	58
	-7	93	110
	-8	76	42
	-9	75	48
	-10	88	62
	-11	73	60
	-12	90	80
	-13	73	42
	-14	69	42
	-15	91	92
	-16	65	40
	-17	68	34
	-18	71	44
	-19	86	86
	-20	84	76
	-21	75	52
	-22	66	30
	-23	78	58

Comments:

Non-depurated (23)



CLAM COLLECTION FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Collection date: Aug. 27, 2007

Begin/end time: 11:00-12:00

Sampling method: shovel

Station ID: ~~C10-2~~ C10-1 (depurated)

SR 27 Aug. 2007

Weather: sunny

(X): 47 31.658

47 31.612

Field crew initials: SR, SP, SF, ED, CL

(Y): 122 18.785

122 ~~20~~ 18.654

CLAM SPECIES	SPECIMEN ID	LENGTH (MM)	WEIGHT (GWW)
Mya	LDW-07-C10-1-24	88	70
	-25	68	38
	-26	75	42
	-27	61	28
	-28	82	66
	-29	80	56
	-30	80	72
	-31	72	44
	-32	76	72
	-33	83	96
	-34	90	80
	-35	75	46
	-36	76	48
	-37	95	96
	-38	92	94
	-39	75	50
	-40	73	40
	-41	70	52
	-42	64	24
	-43	62	28
	-44	72	46
	-45	80	50
	-46	70	38

Comments:

Depurated clams (23)



CLAM COLLECTION FORM

Project Name: LDW RI - Fish and crab chemistry Project #: 04-08-06-22
 Collection date: 27 Aug. 2007 Begin/end time: 08:20 - 10:20
 Sampling method: shovel Station ID: C11 (non-depurated clams)
 Weather: sunny, clear skies (X): 47 37.521 | 47 31.952
 Field crew initials: SR, SP, CL (M): 122 21.634 | 122 19.257

CLAM SPECIES	SPECIMEN ID	LENGTH (MM)	WEIGHT (GWW)
Mya	LDW-07-C11-1	77	46
	-2	64	36
	-3	57	20
	-4	85	80
	-5	89	74
	-6	75	44
	-7	95	92
	-8	81	58
	-9	75	48
	-10	80	50
	-11	77	50
	-12	90	84
	-13	85	78
	-14	85	78
	-15	80	56
	-16	85	64
	-17	72	40
	-18	68	40
	-19	94	88
	-20	98	86
	-21	86	78
	-22	93	92

Comments:
 Non-depurated clams (22)



CLAM COLLECTION FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Collection date: 27 August, 2007

Begin/end time: 08:20 - 10:20

Sampling method: shovel

Station ID: C11 (depurated clams)

Weather: sunny, clear skies

(X): 47 37.521

47 31.952

Field crew initials: SR, SP, CL

(Y): 122 21.634

122 19.257

CLAM SPECIES	SPECIMEN ID	LENGTH (MM)	WEIGHT (GWW)
Mya	LDW-07-C11-23	72	50
	-24	91	80
	-25	100	104
	-26	87	66
	-27	90	88
	-28	81	59
	-29	74	40
	-30	86	68
	-31	72	46
	-32	70	38
	-33	73	44
	-34	75	52
	-35	65	32
	-36	85	72
	-37	78	56
	-38	91	90
	-39	71	36
	-40	75	42
	-41	95	106
	-42	100	102
	-43	74	46
	-44	76	68

Comments:

Depurated clams (22)

CLAM COLLECTION FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Collection date: 28 August, 2007

Begin/end time: 10:30 - 11:55

Sampling method: shovel

Station ID: C12 (non-depurated)

Weather: Sunny, warm

(X): 47 31.477 | 47 31.443

Field crew initials: SR, JF, ED, CL

(Y): 122 ~~18~~ 18.486 | 122 18.464

CLAM SPECIES	SPECIMEN ID	LENGTH (MM)	WEIGHT (G WW)
Mya	LDW-01-C12-1	78	54
	-2	95	96
	-3	85	64
	-4	98	104
	-5	85	70
	-6	70	40
	-7	75	48
	-8	70	36
	-9	70	40
	-10	63	28
	-11	74	48
	-12	63	30
	-13	82	64
	-14	58	24
	-15	50	18
	-16	55	16
	-17	73	38
	-18	68	34
	-19	67	36
	-20	61	26
	-21	62	30
	-22	60	20

Comments:

Non-depurated clams (22)

CLAM COLLECTION FORM

Project Name: LDW RI - Fish and crab chemistry

Project #: 04-08-06-22

Collection date: 28 Aug. 2007

Begin/end time: 10:30 - 11:55

Sampling method: ~~sunny, warm~~ shovel

Station ID: C12 (depurated)

Weather: sunny, warm

North: (X): 47 31. 477

South: 443
47 31. ~~510~~

Field crew initials: SR, JF, EA, CL

(M): 122 18. 486

122 18. 464

CLAM SPECIES	SPECIMEN ID	LENGTH (MM)	WEIGHT (GWW)
Mya	LDW-07-C12- 23	67	36
	-24	87	89
	-25	95	88
	-26	95	100
	-27	84	88
	-28	68	38
	-29	70	40
	-30	78	62
	-31	78	52
	-32	67	36
	-33	75	46
	-34	78	46
	-35	76	46
	-36	70	40
	-37	58	24
	-38	54	20
	-39	66	28
	-40	56	16
	-41	58	26
	-42	55	16
	-43	58	34
	-44	62	28

Comments:

Depurated clams (22)

SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW RI - Fish and crab chemistry Project #: 04-08-06-22
 Date: 25 August, 2007 Weather: cloudy, cool
 Sampling Method: shovel Crew: SR, AR, DD

GRAB DATA		Location ID: <u>C1</u>		
Latitude: <u>47 31.002</u> <u>122 21.001</u>		Longitude: <u>47 33.976</u> <u>122 20.001</u>		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
<u>0910</u>	<u>-</u>		<u>yes</u>	
SAMPLE DATA		Sample ID:		
Sediment type:	Sediment color:	Sediment odor:	Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)	
cobble	brown surface	<u>none</u> H ₂ S	<u>some shell & wood debris, glass fragments</u>	
gravel	drab olive	slight petroleum		
sand: <u>(C) (M) (E)</u>	<u>brown</u> w/ red/orange oxidation	moderate other:		
<u>silt</u>	<u>gray</u>	strong		
<u>clay</u>	black			

GRAB DATA		Location ID: <u>C6</u>		
Latitude: <u>47 32.462</u> <u>122 20.059</u>		Longitude: <u>47 32.459</u> <u>122 20.055</u>		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
<u>10:40</u>	<u>-</u>	<u>-</u>	<u>yes</u>	
SAMPLE DATA		Sample ID:		
Sediment type:	Sediment color:	Sediment odor:	Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)	
cobble	brown surface	<u>none</u> H ₂ S	<u>a few shell fragments</u>	
gravel	drab olive	slight petroleum		
sand: <u>(C) (M) (E)</u>	<u>brown</u> traces of reddish color	moderate other:		
<u>silt</u>	<u>gray - dark</u>	strong		
<u>clay</u>	black			

SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW RI - Fish and crab chemistry Project #: 04-08-06-22
 Date: 8/24/07 Weather: SUNNY
 Sampling Method: shovel Crew: SMF EAD

GRAB DATA		Location ID: <u>C2-1</u>		
Latitude: <u>47 33 54.6</u> <u>122 20 33.5</u>		Longitude: <u>47 33 51.5</u> <u>122 20 32.2</u>		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
<u>1045</u>	<u>NA</u>	<u>10</u>	<u>(Y)</u>	<u>Composite from each clam location</u>
SAMPLE DATA		Sample ID:		
Sediment type:	Sediment color:	Sediment odor:	Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)	
cobble	brown surface	<u>none</u> H ₂ S	<u>Shell fragments + wood debris</u>	
gravel <u>10% 10%</u>	drab olive	slight petroleum		
sand: C M F <u>(M) (F)</u>	<u>brown</u>	moderate other:		
silt <u>40%</u>	gray	strong		
clay <u>40%</u>	black			

GRAB DATA		Location ID:		
Latitude:		Longitude:		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
SAMPLE DATA		Sample ID:		
Sediment type:	Sediment color:	Sediment odor:	Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)	
cobble	brown surface	none H ₂ S	<u>N/A</u> <u>None</u> <u>8/24/07</u>	
gravel	drab olive	slight petroleum		
sand: C M F	brown	moderate other:		
silt	gray	strong		
clay	black			

SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW RI - Fish and crab chemistry Project #: 04-08-06-22
 Date: ^{MM} 8-26-07 ~~8/24/2007~~ 8/25/07 Weather: cloudy
 Sampling Method: shovel/digging Crew: JMF, EAD, CEL

GRAB DATA		Location ID: <u>C2-2</u>		
Latitude: <u>47 33.430</u> 47 33.455		Longitude: <u>122.20.769</u> 122.20.795		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
<u>9:20</u>	<u>NA</u>	<u>10</u>	<u>Y</u>	<u>Composite from each clam locations</u>
SAMPLE DATA		Sample ID:		
Sediment type:	Sediment color:	Sediment odor:	Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)	
cobble	<u>brown surface</u>	<u>none</u>	H ₂ S	<u>fine consolidated sand</u>
gravel	drab olive	slight	petroleum	
sand: C M F	brown	moderate	other:	
<u>silt</u> <u>20%</u>	<u>gray</u>	strong		
clay	black			

GRAB DATA		Location ID:		
Latitude:		Longitude:		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
SAMPLE DATA		Sample ID:		
Sediment type:	Sediment color:	Sediment odor:	Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)	
cobble	brown surface	none	H ₂ S	NA MM 8/26/07
gravel	drab olive	slight	petroleum	
sand: C M F	brown	moderate	other:	
silt	gray	strong		
clay	black			

SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW RI - Fish and crab chemistry Project #: 04-08-06-22
 Date: 21 August, 2007 Weather: clear skies, sunny
 Sampling Method: shovel Crew: SR, AR, DD

GRAB DATA		Location ID: <u>LDW-07-C3-1</u>		
Latitude: <u>47 33.596</u> <u>122 21.009</u>		Longitude: <u>47 33.575</u> <u>122 21.009</u>		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
<u>0950</u>	<u>NA</u>	<u>10</u>	<u>Y</u>	<u>composite from clam locations</u>
SAMPLE DATA		Sample ID:		
Sediment type: cobble gravel sand: <u>C</u> <u>M</u> <u>F</u> silt: <u>40%</u> clay	Sediment color: <u>brown surface</u> drab olive brown <u>gray</u> dark black	Sediment odor: <u>none</u> slight moderate strong	H ₂ S petroleum other:	Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.) <u>brick fragments</u>

GRAB DATA		Location ID: <u>LDW-07-C3-2</u>		
Latitude: <u>47 33.996</u> <u>122 21.022</u>		Longitude: <u>47 33.980</u> <u>122 21.021</u>		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
<u>1050</u>	<u>NA</u>	<u>10</u>	<u>Y</u>	<u>composite from clam locations</u>
SAMPLE DATA		Sample ID:		
Sediment type: cobble gravel sand: <u>C</u> <u>M</u> <u>F</u> silt: <u>40%</u> clay	Sediment color: <u>brown surface</u> drab olive brown gray <u>black</u>	Sediment odor: <u>none</u> slight moderate strong	H ₂ S petroleum other:	Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.) <u>brick fragment</u>

SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW RI - Fish and crab chemistry Project #: 04-08-06-22
 Date: 8/25/07 Weather: overcast
 Sampling Method: shovel/spoon Crew: EAD, JMF, CEL

GRAB DATA		Location ID: <u>LDW-07-C4</u>		
Latitude: <u>47 32.950</u> <u>122 20.503</u>		Longitude: <u>47 32.955</u> <u>122 20.494</u>		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
<u>1045</u>	<u>NA</u>	<u>10</u>	<u>Y</u>	<u>composite from each clam location</u>
SAMPLE DATA		Sample ID:		
Sediment type: cobble gravel <u>60%</u> sand: <u>C M F</u> silt <u>40%</u> clay	Sediment color: <u>brown surface</u> drab olive brown gray <u>black</u>	Sediment odor: none <u>H₂S</u> <u>slight</u> petroleum moderate strong other:	Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.) <u>a lot of wood debris, cobble, rock, asphalt, bricks, concrete debris</u>	

GRAB DATA		Location ID:		
Latitude:		Longitude:		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
SAMPLE DATA		Sample ID:		
Sediment type: cobble gravel sand: C M F silt clay	Sediment color: brown surface drab olive brown gray black	Sediment odor: none H ₂ S slight petroleum moderate strong other:	Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)	

N/A from 8/25/07



SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW RI - Fish and crab chemistry Project #: 04-08-06-22
 Date: 8/26/07 Weather: overcast
 Sampling Method: SPAWN/SHOVEL Crew: EMD, CEL, JMF

GRAB DATA		Location ID: <u>LDW-07-CS-S</u>			
Latitude: <u>47 32.707</u> <u>47 32.718</u>		Longitude: <u>122 20.179</u> <u>122 20.180</u>			
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:	
<u>0845</u>	<u>NA</u>	<u>10</u>	<u>Y</u>	<u>Composite from each clam location</u>	
SAMPLE DATA		Sample ID:			
Sediment type:	Sediment color:	Sediment odor:	Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.) <u>wood debris + cobble throughout site, shells present on some areas top 5cm was m-f sediment than silt 5-10cm</u>		
cobble	<u>brown surface</u>	none			H ₂ S
gravel: <u>SDP</u>	drab olive	<u>slight</u>			<u>petroleum</u>
sand: C M F	brown	moderate			other:
<u>silt SDP</u>	gray	strong			
clay	<u>black</u>				

GRAB DATA		Location ID:			
Latitude:		Longitude:			
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:	
SAMPLE DATA		Sample ID:			
Sediment type:	Sediment color:	Sediment odor:	Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)		
cobble	brown surface	none			H ₂ S
gravel	drab olive	slight			petroleum
sand: C M F	brown	moderate			other:
silt	gray	strong			
clay	black				

NA
 none
 8/26/07

SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW RI – Fish and crab chemistry Project #: 04-08-06-22
 Date: 26 August, 2007 Weather: mostly cloudy
 Sampling Method: shovel Crew: SR, SP

GRAB DATA		Location ID: <u>C7</u>		
Latitude: <u>47 32.194</u> <u>122 19.128</u>		Longitude: <u>47 32.194</u> <u>122 19.128</u>		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
<u>09:20</u>	<u>-</u>	<u>-</u>	<u>yes</u>	
SAMPLE DATA		Sample ID:		
Sediment type: cobble <u>gravel</u> sand: C M F <u>silt</u> clay	Sediment color: <u>brown surface</u> drab olive brown <u>gray</u> black	Sediment odor: <u>none</u> slight moderate strong	H ₂ S petroleum other:	Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.) <u>Some sheen pockets at site, organic matter (inverts) in soil, woody debris</u>

GRAB DATA		Location ID: <u>C8</u>		
Latitude: <u>47 32.200</u> <u>122 19.120</u>		Longitude: <u>47 32.223</u> <u>122 19.127</u>		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
<u>12:00</u>	<u>-</u>	<u>-</u>	<u>yes</u>	
SAMPLE DATA		Sample ID:		
Sediment type: cobble <u>gravel</u> sand: C M F <u>silt</u> clay	Sediment color: <u>brown surface</u> drab olive brown <u>gray</u> black	Sediment odor: <u>none</u> slight moderate strong	H ₂ S petroleum other:	Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.) <u>sediment had petroleum / sulfide odor at depth. lots of gravel / cobble in surface.</u>



SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW RI – Fish and crab chemistry Project #: 04-08-06-22
 Date: 25 August, 2007 Weather: cloudy, cool
 Sampling Method: shovel Crew: SR, AR, PD, CL

GRAB DATA		Location ID: <u>C9</u>		
Latitude: <u>47.31.687</u> <u>122.18.756</u>		Longitude: <u>47.32.028</u> <u>122.19.382</u>		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
<u>12:05</u>	-	-	<u>yes</u>	
SAMPLE DATA		Sample ID:		
Sediment type:	Sediment color:	Sediment odor:		Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)
cobble	brown surface	<input checked="" type="radio"/> none H ₂ S <input type="radio"/> slight petroleum <input type="radio"/> moderate other: <input type="radio"/> strong		<u>some small rocks</u>
gravel	drab olive			
sand: <input checked="" type="radio"/> C <input checked="" type="radio"/> M <input type="radio"/> F	<u>brown</u> ← <u>little</u>			
<input checked="" type="radio"/> silt	<input checked="" type="radio"/> gray			
clay	black			

GRAB DATA		Location ID:		
Latitude:		Longitude:		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
SAMPLE DATA		Sample ID:		
Sediment type:	Sediment color:	Sediment odor:		Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)
cobble	brown surface	<input type="radio"/> none H ₂ S <input type="radio"/> slight petroleum <input type="radio"/> moderate other: <input type="radio"/> strong		<u>N/A</u> <u>NOY</u> <u>2/20/07</u>
gravel	drab olive			
sand: C M F	brown			
silt	gray			
clay	black			

SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW RI - Fish and crab chemistry Project #: 04-08-06-22
 Date: 8/26/07 Weather: overcast
 Sampling Method: SPON Crew: EAP, CEL, JMF

GRAB DATA		Location ID: LDW-C10-2 <u>LDW-07-C10-2</u>		
Latitude: <u>47.31.452</u> 122.18.550		Longitude: <u>47.31.301</u> 122.18.512		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
<u>1120</u>	<u>N/A</u>	<u>10</u>	<u>Y</u>	<u>composite from several clam locations</u>

SAMPLE DATA		Sample ID:		
Sediment type:	Sediment color:	Sediment odor:		Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.) <u>field duplicate collected *</u> <u>clams scarce; clamworm (neris) a plenty. Cobble + rock on surface of sand + silt below</u>
cobble	<u>brown surface</u>	<u>none</u>	H ₂ S	
gravel <u>60%</u>	drab olive	slight	petroleum	
sand: <u>C M F</u>	brown	moderate	other:	
<u>silt 40%</u>	<u>gray</u>	strong		
clay	black			

GRAB DATA		Location ID:		
Latitude:		Longitude:		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:

SAMPLE DATA		Sample ID:		
Sediment type:	Sediment color:	Sediment odor:		Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)
cobble	brown surface	none	H ₂ S	
gravel	drab olive	slight	petroleum	
sand: C M F	brown	moderate	other:	
silt	gray	strong		
clay	black			

N/A
8/26/07



SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW RI - Fish and crab chemistry Project #: 04-08-06-22
 Date: 27 August, 2007 Weather: sunny, clear skies
 Sampling Method: shore Crew: SP, SP, CL

GRAB DATA		Location ID: <u>C11</u>		
Latitude: <u>47 37.521</u> <u>122 24.634</u>		Longitude: <u>47 31.452</u> <u>122 24.257</u>		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
<u>10:20</u>	<u>-</u>	<u>-</u>	<u>yes</u>	
SAMPLE DATA				
Sample ID:				
Sediment type: cobble gravel - <u>trace</u> sand: C (M) (F) silt - <u>trace</u> clay	Sediment color: brown surface drab olive brown gray black	Sediment odor: none slight moderate strong	H ₂ S petroleum other:	Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.) <u>organic debris and glass in sediment</u>

GRAB DATA		Location ID: C10-2 <u>C10-1</u>		
Latitude: <u>47 31.658</u> <u>122 20.186</u>		Longitude: <u>47 31.612</u> <u>122 18.654</u>		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
<u>12:00</u>	<u>-</u>	<u>-</u>	<u>yes</u>	
SAMPLE DATA				
Sample ID:				
Sediment type: cobble gravel sand: C (M) (F) silt clay	Sediment color: brown surface drab olive brown gray black	Sediment odor: none slight moderate strong	H ₂ S petroleum other:	Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.) <u>shell fragments, woody organic debris, glass fragments.</u>



SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW RI - Fish and crab chemistry Project #: 04-08-06-22
 Date: 28 August, 2007 Weather: SUNNY, WARM
 Sampling Method: shovel Crew: SR, JF, ED, CL

GRAB DATA		Location ID: <u>C12</u>		
North Latitude: <u>47 31.477</u>		South Longitude: <u>122 18.464</u>		
122 16.486				
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
<u>11:55</u>	-	-	<u>yes</u>	
SAMPLE DATA		Sample ID:		
Sediment type:	Sediment color:	Sediment odor:		Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)
cobble	<u>brown surface</u>	none	<u>slight</u>	<u>Some woody debris and medium gravel in mud at depth of clams</u>
<u>gravel</u> - trace	drab olive	<u>slight</u>	<u>petroleum</u>	
sand: C M F	brown	moderate	other:	
<u>silt</u>	<u>gray</u>	strong		
clay	black			

GRAB DATA		Location ID:		
Latitude:		Longitude:		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
SAMPLE DATA		Sample ID:		
Sediment type:	Sediment color:	Sediment odor:		Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)
cobble	brown surface	none	H ₂ S	
gravel	drab olive	slight	petroleum	
sand: C M F	brown	moderate	other:	
silt	gray	strong		
clay	black			

PROTOCOL MODIFICATION FORM

Project Name and Number: LDW RI - Fish and crab chemistry (04-08-06-22)

Material to be Sampled: Clams and co-located Sediment

Measurement Parameter: _____

Standard Procedure for Field Collection & Laboratory Analysis (cite reference):

At each of the holes where undamaged clams are collected, approximately 50 mL of the first shovelful of sediment will be collected for chemical analyses.

(Windward 2007)

Reason for Change in Field Procedure or Analysis Variation: _____

Since the first day of collection represented over 85% of the clams for that area, it was determined that sediment would not be collected from the 5 additional clams collected on Aug 27, 2007

Variation from Field or Analytical Procedure: Only 36 clams were collected from location C8 on Aug 26, 2007. Sediment was homogenized and jarred based on clams collected that day. An additional 5 clams were collected from the area represented by the Aug 26 collection area to complete the composite samples.

Special Equipment, Materials or Personnel Required: _____

Initiator's Name: _____

Date: 8/27/2007

Project Manager: _____

Date: _____

QA Manager: _____

Date: 9.12.07

PROTOCOL MODIFICATION FORM

Project Name and Number: LDW RI - Fish and crab chemistry (04-08-06-22)

Material to be Sampled: Clams

Measurement Parameter: _____

Standard Procedure for Field Collection & Laboratory Analysis (cite reference):

Two composite samples of 20 clams each randomly selected from each sampling area will be collected; one for a non-depurated sample and one for a depurated sample.

(Windward 2007)

Reason for Change in Field Procedure or Analysis Variation: _____

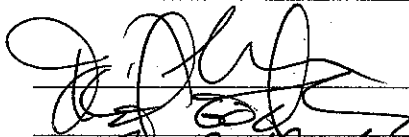
The extra clams were collected to insure that sufficient unbroken individuals were kept and available for processing.

Variation from Field or Analytical Procedure: The total number of

clams sampled was 631 instead of 600, with 20 to 23 clams per composite.

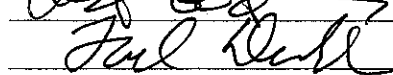
Special Equipment, Materials or Personnel Required: _____

Initiator's Name: _____



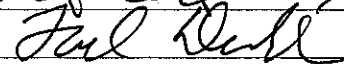
Date: 8/29/2007

Project Manager: _____



Date: _____

QA Manager: _____



Date: 9.12.07

PROTOCOL MODIFICATION FORM

Project Name and Number: LDW RI - Fish and crab chemistry (04-08-06-22)

Material to be Sampled: Clams and Co-located sediment

Measurement Parameter: _____

Standard Procedure for Field Collection & Laboratory Analysis (cite reference):

For clams, the first three characters will be "LDW" to identify the project area. The next will be "07" to identify the year. The next will be the clam sampling location; locations C2, C3, and C10 will be followed by an a or b to differentiate the two samples per location. (Windward 2007)

Reason for Change in Field Procedure or Analysis Variation: The ID scheme used was consistent with the clam sampling locations map used during field collection.

Variation from Field or Analytical Procedure: The ID scheme used for clam and co-located sediment sampling locations that had two samples per location, including C2, C3, and C10, was changed to using a 1 or 2 to distinguish between the two locations instead of an a or b.

Special Equipment, Materials or Personnel Required: _____

Initiator's Name: _____

Date: 8/24/2007

Project Manager: _____

Date: _____

QA Manager: _____

Date: 9.12.07

PROTOCOL MODIFICATION FORM

Project Name and Number: LDW RI - Fish and crab chemistry (04-08-06-22)

Material to be Sampled: Clams

Measurement Parameter: _____

Standard Procedure for Field Collection & Laboratory Analysis (cite reference):

Following rinsing for non-depurated clams and following depuration for depurated clams, clams will be measured and weighed and recorded on the Clam Collection Form at the Windward laboratory prior to being packaged for shipment to ARI. (Windward 2007)

Reason for Change in Field Procedure or Analysis Variation: _____

Variation from Field or Analytical Procedure: Clams that were randomly selected for depuration and non-depuration were not separated in the field. Clams were separated at Windward after they had been weighed and measured, except those from C10-1, C11, and C12 which were divided into composites before being weighed and measured.

Special Equipment, Materials or Personnel Required: _____

Initiator's Name: _____

Date: 8/29/2007

Project Manager: _____

Date: _____

QA Manager: _____

Date: 9.12.07

PROTOCOL MODIFICATION FORM

Project Name and Number: LDW RI - Fish and crab chemistry (04-08-06-22)

Material to be Sampled: Clams

Measurement Parameter: _____

Standard Procedure for Field Collection & Laboratory Analysis (cite reference):

Following rinsing for non-depurated clams and following depuration for depurated clams, clams will be measured to the nearest millimeter and weighed to the nearest 0.5g and recorded on the clam Collection Form at the Windward laboratory prior to being packaged for shipment

Reason for Change in Field Procedure or Analysis Variation: to ARI. (Windward 2007)

A scale with an accuracy of 0.5g was not available.

Variation from Field or Analytical Procedure: Clams were weighed using a scale accurate to 1g.

Special Equipment, Materials or Personnel Required: _____

Initiator's Name:

Date:

8/24/2007

Project Manager:

Date:

QA Manager:

Date:

10.10.07

PROTOCOL MODIFICATION FORM

Project Name and Number: LDW RI - Fish and crab chemistry (04-08-06-22)

Material to be Sampled: Fish

Measurement Parameter: _____

Standard Procedure for Field Collection & Laboratory Analysis (cite reference):

The number and length of target fish and crab per sampling area was selected to obtain datasets comparable to that collected in 2004 and 2005.

(Windward 2007)

Reason for Change in Field Procedure or Analysis Variation: _____

Because extra numbers of individuals were caught in those areas, the extra specimens were excluded to match previous datasets and compositing groups.

Variation from Field or Analytical Procedure: Two English sole and one sniner surfperch were excluded after initial processing yet before laboratory analyzing took place.

Special Equipment, Materials or Personnel Required: _____

Initiator's Name: _____

Date: 9/12/2007

Project Manager: _____

Date: _____

QA Manager: _____

Date: 9.12.07

PROTOCOL MODIFICATION FORM

Project Name and Number: LDW RI - Fish and crab chemistry (04-08-06-22)

Material to be Sampled: Fish and crab

Measurement Parameter:

Standard Procedure for Field Collection & Laboratory Analysis (cite reference):

The number and length of target fish and crab per sampling area was selected to obtain datasets comparable to that collected in 2004 and 2005

(Windward 2007)

Reason for Change in Field Procedure or Analysis Variation:

Variation from Field or Analytical Procedure: Four specimens were measured during laboratory processing and found to be smaller than the target size. These specimens were not included in composite samples because sufficient individuals that met size requirements were collected, except for the slender crab where no other specimens were available to complete the composite.

Special Equipment, Materials or Personnel Required:

Initiator's Name:

Date: 10/10/2007

Project Manager:

Date:

QA Manager:

Date: 10-10-07

PROTOCOL MODIFICATION FORM

Project Name and Number: LDW RI - Fish and crab chemistry (04-08-06-22)

Material to be Sampled: Fish and crab

Measurement Parameter: _____

Standard Procedure for Field Collection & Laboratory Analysis (cite reference):

The bagged and iced fish and crab will be transported in coolers to Windward where specimens will be weighed and measured within 48 hours. Then, they will be transported to ARI for further processing to be completed within 24 hours. (Windward 2007)

Reason for Change in Field Procedure or Analysis Variation: _____

There is more space to process samples and easier access to the needed equipment at ARI. Since all processing took place at ARI, all 72 hours was given for processing here.

Variation from Field or Analytical Procedure: The crab and fish specimens were taken only to ARI for processing and were given 72 hours to complete processing.

Special Equipment, Materials or Personnel Required: _____

Initiator's Name: _____

Date: 9/4/2007

Project Manager: _____

Date: _____

QA Manager: _____

Date: 9.12.07

PROTOCOL MODIFICATION FORM

Project Name and Number: LDW RI - Fish and crab chemistry (04-08-06-22)

Material to be Sampled: Fish and Crab species

Measurement Parameter: _____

Standard Procedure for Field Collection & Laboratory Analysis (cite reference):

Each individual of the target species will be weighed using an analytical scale accurate to 0.5 g. (Windward 2007)

Reason for Change in Field Procedure or Analysis Variation: _____

A scale with an accuracy of 0.5g was not available.

Variation from Field or Analytical Procedure: Each individual of the target species was weighed using an analytical scale accurate to 0.1g. The maximum weight for the scale was 300g, so a scale accurate to only 1g was used for specimens heavier than this weight.

Special Equipment, Materials or Personnel Required: _____

Initiator's Name: [Signature] Date: 9/5/07

Project Manager: [Signature] Date: _____

QA Manager: [Signature] Date: 9.12.07

PROTOCOL MODIFICATION FORM

Project Name and Number: LDW RI - Fish and crab chemistry (04-08-06-22)

Material to be Sampled: Fish and Crab species

Measurement Parameter: _____

Standard Procedure for Field Collection & Laboratory Analysis (cite reference):

The number and length of target fish and crab per sampling area was selected to obtain a dataset comparable to that collected in 2004 and 2005.

(Windward 2007)

Reason for Change in Field Procedure or Analysis Variation: _____

These 2 extra were kept in case insufficient numbers of English sole were collected in Area T3.

Variation from Field or Analytical Procedure: Two Starry flounder specimens were collected from Area T3 and twenty specimens from Area T4 to use as a surrogate if insufficient numbers of English sole were collected. However, in Area T3, because sufficient numbers of English sole were collected, the Starry flounder specimens were not analyzed.

Special Equipment, Materials or Personnel Required: _____

Initiator's Name:

Date:

9/11/2007

Project Manager:

Date:

QA Manager:

Date:

9.12.07

PROTOCOL MODIFICATION FORM

Project Name and Number: LDW RI - Fish and crab chemistry (04-08-06-22)

Material to be Sampled: Crabs

Measurement Parameter: _____

Standard Procedure for Field Collection & Laboratory Analysis (cite reference):

The number of target crabs per composite sample is 5 crabs from each area.

(Windward 2007)

Reason for Change in Field Procedure or Analysis Variation: -Only 4 Dungeness crabs were caught in this area (T1) and they were composited and analyzed because crab data is available from previous years.

- Since only one was caught from T4, there were no other individual specimens from T4 to be analyzed.

Variation from Field or Analytical Procedure: -Only 4 Dungeness crabs were used to form the composite for Area T1. -Only 1 Dungeness crab from Area T4 was collected and it was not analyzed.

Special Equipment, Materials or Personnel Required: _____

Initiator's Name: _____

Date: 9/12/2007

Project Manager: _____

Date: _____

QA Manager: _____

Date: 9.12.07

FIELD NOTES

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LEVEL

No. 311

LDW - 2007 Fishing

1 of 3

² S. Pierce

09.04.07

LDW fish sampling - Day 1

0940 - Meet at Harbor ~~Island~~ Island
Marina. Load boat w/ gear
Set up trawl net.

Crew - Charlie Eaton } Biemann
Andy Gregory } Enterprises
Matt Luxon }
Chelsea Lorenz } Woodward
Shannon Pierce }

Weather - raining, overcast,
but beginning to clear.

1000 Health + Safety briefing

1030 Begin motoring over to
T2 to begin sampling
rain has cleared - sunny
water is calm
Decon field equipment

S. Pierce

09.04.07

3

Sampling at T2-A

Trawl 1 - T2A

start set time: 1043 tide = 8.1

depth: 41

coords: 32.859

~~20.8~~ 20.354

start tow: 1045

depth ~~45~~ 40

coords: 32.796

20.322

end tow: 1049

depth 29 ft

coords 32.620

20.212

length trawl = 353 m

Processed fish - ym. catch

4

S. Pierce

09.04.07

Trawl 2 - T2B

start time set: 1117

depth: 38 ft

coords: 32.866

20.313

start tow: 37 ft 1118

depth: 32.809

coords: 20.281

end tow: 1124

depth: 32.606

coords: ~~20.3~~ 20.171

tide = 8.7 to 8.8

trawl length = 401 m

Processed fish from net

S. Pierce

09.04.07

5

Trawl 3 - T2B

start time: 1149

depth: 32.867

coords: 20.303

depth = 39 ft

start tow: 1150

depth: 37 ft

coords: 32.816

20.281

end tow: 1156

depth: 32.609

coords: 20.161

tide = 9.2

trawl length = 410 m

logs + trash in net

Processed fish from net
1215 - lunch break

6 S. Pierce

09.04.07

Trawl 4 - T2C

start set: 1246

depth: 37 ft

coords: 32.533
20.081

start tow: 1247

depth 35 ft

coords: 32.576
20.149

end tow: 1250

depth 35 ft

coords: 32.652
20.245

tidal = 9.5

trawl length = 180 m?

Processed fish from net.

S. Pierce

09.04.07 7

Trawl 5 - T2C

start set: 1303

depth: 34 ft

coords: 32.459
19.966

start tow: 1304

depth: 35 ft

coords: 32.496
20.022

end tow: 1310

depth: 36 ft

coords: 32.662
20.246

tide: 9.5

trawl length: 417 m

under 1st Ave Bridge

Processed fish from net

⁸ S. Pierce

09.04.07

Trawl 6 - T2D

start set: 1328

depth: 35 ft

coords: 32.500

20.005

start tow: 1329

depth: 38 ft

coords: 32.532

20.067

end tow: 1333

depth: 35 ft

coords: 32.666

20.210

tide: 9.4

trawl length = 305 m

1337 - Called Erika Hoffman re: tomorrow.

Will have her call us in the field
tomorrow @ 12 to meet up @ 130

S. Pierce

09.04.07 ⁹

Processed fish fm. Trawl 6 - ~~T2E~~ 6-T2D

Trawl 7 - T2E

start set: 1353

depth: 28 ft

coords: 32.302

19.759

start tow: 1354

depth: 25 ft

coords: 32.318

19.782

end tow: 1359

depth: 35 ft

coords: 32.486

20.010

tide: 9.3

trawl length = 421 m

Processed fish.

10

S. Pierce

09.04.07

Trawl 8 - T2F

start set: 1415

depth: 32 ft

coords: 32.296
19.716

start tow: 1416

depth: 30 ft

coords: 32.330
19.770

end tow: 1421

depth: 34 ft

coords: 32.490
19.990

tide = 9.1

distance trawled = 400 m

tire and concrete/rock slab debris
in net, lots of other trash debris
lots of sediment in net

S Pierce

09.04.07 11

Trawl 9 - T2F

start set: 1445

depth: 31 ft

coords: 32.293
19.720

start tow: 1446

depth: 30 ft

coords: 32.326
19.770

end tow: 1448

depth: 31 ft

coords: 32.293
19.856

tide: 8.9

distance trawled = 152 m

* in middle of channel - no perch taken b/c
fm. this trawl - stopped to vessel
avoid boat about 1/2 way traffic
through trawl
Did not keep any target fish

12

S. Pierce

09.04.07

Trawl 10 - T2F

start set: 1503

depth: 30 ft

coords: 32.816
19.745

start tow: 1504

depth: 30 ft

coords: 32.348
19.793

end tow: 1508

depth: 34 ft

coords: ~~32.348~~ 32.491
19.988

tide: 8.7

distance trawled: 360m

Processed fish - only target
species remaining are slender crab
head back to Subarea B

S. Pierce

09.04.07¹³

Trawl 11 - T2B

start set: 1523

depth: 38 ft

coords: 32.869
20.304

start tow: 1524

depth: 38 ft

coords: 32.821
20.278

end tow: 1529

depth: 31 ft

coords: 32.612
~~20.914~~ 20.194

tide: 8.5 - 8.4

distance trawled = 400 m

Brought in trawl - didn't catch any
target species (slender crab)
Head to "C" subarea.

14

S. Pierce

09.04.07

Trawl 12 - T2C

start set: 1550

depth: ~~32-467~~ 32 ftcoords: 32.467
19.982

start tow: 1552

depth: 35 ft

coords: 32.505
20.031

end tow 1557

depth ~~35~~ 35 ftcoords: 32.662
20.241

tide = 8.2 - 8.1

distance traveled = 391 m under bridge.

trawl w/ creosote log and strong petroleum
odorweather: clearing, partly sunny
calm

S. Pierce

09.04.07 15

1535M Luxon left a message for Glenn

St. Amant regarding ~~the boat~~Muckleshoot fishing possibility next wk.
shuttle to Area 7, Subarea A.

Trawl 13 - T1A

start set: 1623

depth: 43 ft

coords: 33.971
20.922

start tow: 1625

depth: 45 ft

coords: 33.915
20.891

end tow: 1629

depth: 42 ft

coords: 33.741
20.805

tide:

distance traveled:

processed fish

16 S. Pierce

09.04.07

Trawl 14 - T1A

~~start depth~~

start set = 1639

depth = 43ft

coords 33.758

20.804

start tow 1641

depth 42ft

coords 33.813

20.838

end tow 1647

depth 47ft

coords 34.032

20.952

tide 8.0

distanced traveled. 430 m

1715

Processed fish + back to HI Marina
finish sampling for the day

S Pierce 09.04.07

S. Pierce

09.05.07¹⁷

LDN Sampling Day 2 *

0900 - meet @ H.I. Marina

0915 - Begin motoring up river to T4

0915 - Communication w/ Jeff Stern.

He will join us on Friday for TI^{Sampling}
and may also bring an intern
with him. He will call if there
are changes to meeting us.

Weather: ~~partly~~ partly cloudy
Some sun, calm

Crew: Charlie Eaton } - Biomarine
Andy Gregory }
Matt Luxon }
Chelsea Lorenz } - Windward
Shannon Pierce }

09.05.07

S. Purci

Trawl 15 - T4A

start set 0943

depth: 16 ft

coords 31.114

18.396

start tow: 0944

depth: 15 ft

coords 31.084

18.386

end tow 0949

depth: 13 ft

coords 30.860

18.293

tide: 4.1 - 4.2

distance trawled: 430m

09⁵⁰ Processed fish.

Communication w/ Brian Hoffman (EPA)
 She will not be coming on the boat today.

S. Pierce

09.05.07

Trawl 16 - T4B

start set: 1000

depth: 17 ft

coords 30.909

18.291

start tow: 1000

depth: 17 ft

coords 30.932

18.300

end tow: 1005

depth: 17 ft

coords ~~30~~ 31.136

18.381

tide: 4.9

distance trawled: 390m

Processed fish - moved to T3
 b/c of identification in T4.

20 S. Peru

09.05.07.

Trawl 17-T3A

start set 1026~~4~~

depth: 20 ft

coords: 31.835

19.016

start tow: 1026

depth 20 ft

coords 31.852

19.043

end tow 1032

depth 23 ft

coords: 32.005

19.299

tide 5.6

distance traveled = 426m

Processed fish

S. Peru

09.05.07

21

Trawl 18-T3A

start set: 1040

depth: 24 ft

coords: ~~31.835~~ 31.992

~~19.016~~ 19.267

start tow 1040

depth: 23 ft

coords: 31.967

19.224

end tow: 1046

depth: 21 ft

coords: 31.820

18.988

tide: 6.0-6.2

distance traveled: 400m

Processed fish

22

S. Pierce

09.05.07

Trawl 19 - T3B

start set: 1054

depth: ~~20~~coords: 31.850
18.986

start tow: 1055

depth 20

coords: 31.869
19.019

end tow 1100

depth 20

coords 32.027
19.272

tide: 6.4-6.7

distance traveled 440m

Processed fish

S. Pierce

09.05.07 23

Trawl 20 - T3B

start set: 1106

depth: 18 ft

coords: 32.019
19.262

start tow: 1107

depth 20 ft

coords: 31.993
19.227

end tow: 1113

depth: 22 ft

coords 31.840
18.969

tide: 6.8-7.0

distance traveled: 430m

Processed fish
1130 break for lunch

24 S. Peru

09.05.07

Trawl 21 - T4C

Start set = 1223

depth = 13 ft

coords = 30.743

18.237

Start ^{top} set = 1223

depth = 12 ft

coords = 30.762

18.251

End tow = 1226

depth = 16 ft

coords = 30.884

18.318

Eide = 8.6-8.7

dist travelled = 240 m

Processed fish

S. Peru

09.05.07 25

Trawl 22 - T4C

Start set: 1234

depth = 14 ft

coords = 30.732

18.211

start tow: 1235

depth: 13

coords = 30.749

18.231

end tow: 1238

depth = 17

coords = 30.885

18.312

tide = 8.9

distance traveled. 270 m

Processed fish

S. Pierce

09.05.07

Trawl 23 - T4D

start set = 1255

depth = 13 ft

coords: 30.750

18.182

start tow = 1255

depth = 13 ft

coords: 30.769

18.200

end tow = 1259

depth = 21 ft

coords: 30.895

18.290

tide = 9.2

distance trawled: 260 m

Processed fish

S. Pierce

Trawl 24 - T4A

start set 1305

depth = 16 ft

coords 30.907

18.324

start tow 1306

depth = 16 ft

coords 30.931

18.333

end tow 1311

depth = 21 ft

coords ~~30.~~ 31.128

18.408

tide = 9.3-9.4

distance trawled = 376 m

Processed fish - no targets

1330 - M. Luxon communication w/

Enka Hoffman + Kathy regarding
trawling over areas greater than
the subareas. Left msg's.

28

S. Pierce

09.05.07

Trawl 25 - T4A-C

start set: 1322

depth: 21 ft

coords: 31.097

18.392

start tow: 1322

depth 21 ft

coords 31.068

18.377

end tow: 1331

depth 21 ft

coords 30.735

18.226

tide: ~~9.6~~ 9.5-9.6distance ~~trawled~~ ^{trawled} = 645 m

M. Luxon communication w/ Erika
Hoffman - OK w/ ~~the~~ trawling throughout
Sabarea for English sole

09.05.07 29

S. Pierce

~~Front~~ Processed Trawl 25. No target
species collected

Trawl 26 - T4B-D

start set: ~~1347~~ 1403depth: ~~13 ft~~ 22 ftcoords: ~~30.774~~ 31.115~~18.221~~ 18.370start tow: ~~1347~~ 1404depth: ~~13 ft~~ 21 ftcoords: ~~30.756~~ 31.089~~18.205~~ 18.358end tow: ~~1356~~ 1413depth: ~~22 ft~~ 14 ftcoords: ~~31.133~~ 30.750~~18.375~~ 18.224tide = ~~9.7-9.8~~ 9.8-9.9distance trawled = ~~690 m~~ 650 m1st attempt - not trawled (~~net opened~~ ^{net opened})

2nd attempt - successful

30 S. Pierce

09.05.07

1420 Processed fish from trawl 26 -
no target species.

1420 S. Pierce communication w/ Kathy
Gastfredsen regarding no finching
on English sole in T4 after 8 trawls.
Suggested possibly using starry
flounder as a surrogate.
Kathy will get back w/ a decision
by tomorrow (Thursday)

Trawl 27 - T3E

start ~~set~~ set 1447

depth = 24 ft

conds 31.703

18.772

start tow 1448

depth = 23 ft

conds 31.680

18.734

end tow 1454

depth: 24 ft

conds 31.499

18.546

S. Pierce

09.05.07

31

Trawl 27 - T3E con. 4

tide = 9.9

distance trawled = 410 m

Processed fish

Trawl 28 - T3F

start set: 1508

depth: 22 ft

conds: 31.729

18.758

start tow: 1509

depth = 18 ft

conds = 31.708

18.714

end tow: 1516

depth = 20 ft

conds 31.503

18.506

tide = 9.9-9.8

distance trawled 461 m

Processed fish

32

S. Pierce

09.05.07

Trawl 29 - T3F (channel)

* trawling in channel to target
English sole

set trawl: 1528

depth: 28 ft

conds: 31.728

18.772

start tow: 1529

depth: 27 ft

conds: 31.699

18.723

end tow: 1534

depth: 24 ft

conds: 31.497

18.518

tide: 9.8-9.7

distance trawled = 453m high ebb

Processed fish - successful
at getting English sole

S. Pierce

09.05.07 33

Trawl 30 - T3E (channel)

* trawling in channel to target
English sole

set trawl 1551

depth = 24 ft

conds: 31.712

18.780

~~set~~
start tow 1552

depth = 24 ft

conds: 31.681

18.731

end tow 1558

depth = 24

conds = 31.497

18.521

tide: 9.6-9.5

distance trawled: 430m

Processed fish - successful
@ getting English sole

34

S. Pierce

09.05.07

Trawl 31 - T3A (edge of channel)
↳ to target E. Sole

set trawl 1612

depth: 27 ft

coords: 31.855

19.030

set tow 1613

depth: 28 ft

coords 31.859

19.086

end tow 1617

depth: 28 ft

coords 32.016

19.295

tide 9.3-9.4

distance trawled: 350 m

Processed fish.

S. Pierce

09.05.07

35

Trawl 32 - T3B (targetted edge of channel)
to target E. Sole

set trawl 1625

depth: 23 ft

coords 32.000

19.240

Set tow 1626

depth: 23 ft

coords: 31.974

19.198

end tow ~~1627~~ 1631

depth: 25 ft

coords 31.831

18.967

tide: 9.2

distance trawled: 390 m

Processed fish

36

S. Pierce

09.05.07

1040 - Motor back to HI Marina

1700 End of sampling day

S. Pierce

09.05.07

C. Lorenz

09.05.07³⁷

* LDN Sampling * Day 3 *

08:15 → left dock (HI Marina)

→ Safety Meeting

→ Began motoring up river to T3

weather: cloudy, partly sunny,
calmCrew: Charlie Eaton } Bomarine
Andy Gregory }
Matt Lusk }
Fiona McKeir } Windward
Chelsea Lorenz }

09.06.07

C. Lorenz

Trawl 33 - T3C

start ~~time~~ Set: 0858

depth: 19

coords: 31.850
19.020

set tow: 0858

depth: 19

coords: 31.828
18.981

end tow: 0903

depth: 16

coords: 31.696
18.752

tide: 0.6 - 0.8

distance: 377 m

Sorted/Processed fish

09.06.07

C. Lorenz

Trawl 34 - T3D

start ~~time~~ Set: 0918

depth: 20

coords: 31.718
18.765

start tow: 0919

depth: 21

coords: 31.735
18.796

end tow: 0924

depth: 16

coords: 31.868
19.026tide: ~~#~~ 1.1 - 1.3

distance: 380 m

Sorted/Processed fish

40

C. Lorenz

09.06.07

Trawl 35 - T3A

start ~~time~~ Set: 0938depth ~~coords~~: 20

coords: 31.839

18.999

Start tow: 0939

depth: 20

coords: 31.859

19.036

end tow: 0944

depth: 20

coords: 32.010

19.290

tide: 1.7-1.9

distance: 423 m

Sorted/Processed fish

41

Clarenz

09.06.07

Trawl 36 - T3 AC

start ~~time~~ Set: 0954

depth: 19

coords: 31.992

19.259

Start tow: 0955

depth: ~~31.969~~ 20

coords: 19.213

31.969

end tow: 1005

depth: 20

coords: 31.699

18.748

tide: 2.2-2.5

distance: 767

Sorted/Processed fish

→ 1035: Motoring up to T1

42

C. Lorenz

09.06.07

Trawl 37 - T1 E

Start Set: 1046

depth: 33

coords: 33.321
20.602

Start tow: 1047

depth: 34

coords: 33.375
20.626

end tow: 1052

depth: 32

coords: 33.590
20.745

tide: 3.9-4.2

distance: 525

Processed fish

→ net partially slipped out of knot

43

C. Lorenz

09.06.07

Trawl 38 - T1 E

Start Set: 1106

depth: 35

coords: 33.552
20.718

Start tow: 1107

depth: 36

coords: 33.490
20.682

End tow: 1113

depth: 35

coords: 33.295
20.588

tide: 4.6-4.9

distance: 379

Processed fish

44 C. Lorenz

09.06.07

Trawl 39 - T1F

Start set: 1131
depth: 36
coords: 33.337
20.553

Start tow: 1132
depth: 38
coords: 33.386
20.577

end tow: ~~23.599~~ 1138
depth: 27
coords: 33.599
20.686

tide: 5.5-5.8
distance: 417 m

Processed fish

→ 1145 stop for lunch

→ 1245 Motored to T3

C. Lorenz

09.06.07⁴⁵

Trawl 40 T1F

Start set: 1232
depth: 34
coords: 33.570
20.676

Start tow: 1233
depth: 34
coords: 33.517
20.644

end tow: 1239
depth: 38
coords: 33.313
20.536

tide: 7.5-7.8
distance: 400 m

Processed fish

01300 C. Lorenz communication
with Suzanne R. regarding
a Dungeness crab extra, not counted
yesterday for T3.

46

Clorenz

09.06.07

Trawl 41-T3A

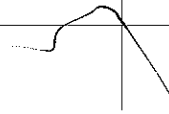
Start Set: 1302
 depth: 25
 coords: 31.999
 19.276

start tow: 1303
 depth: 26
 coords: 31.968
 19.220

end tow: 1308
 depth: 28
 coords: 31.827
 18.984

tide: 8.3-8.4
 distance: 393

Processed fish



47

Clorenz

09.06.07

Trawl 42-T3A

start set: 1321
 depth: 28
 coords: 31.849
 19.021

start tow: 1322
 depth: 27
 coords: 31.879
 19.064

end tow: 1327
 depth: 28
 coords: 32.013
 19.289

tide: 8.7-8.8
 distance: 375

Processed fish

48

C. Lorenz

09.06.07

Trawl 43 - T.3 BD
(not full extent of D)

Start set 1335

depth: 23

coords: 31.008
19.256

Start tow: 1336

depth: 24

coords: 31.978
19.205

#end tow: 1343

depth: 25

coords: 31.793
18.892

tide: 9.0 - 9.2

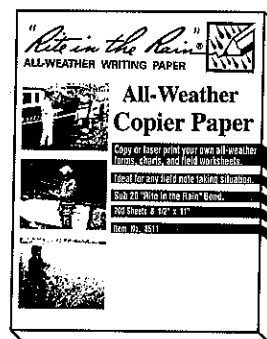
distance: 520

Processed for

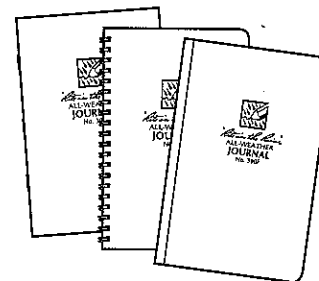
"Rite in the Rain"
ALL-WEATHER WRITING PAPER



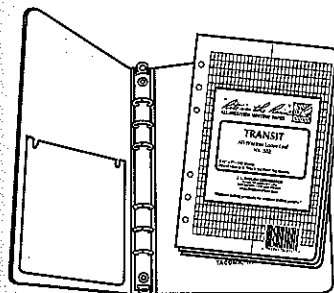
"Outdoor writing products...
for outdoor writing people."



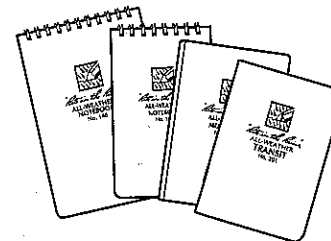
Copier & Ink-Jet Paper



Bound Books / Notebooks



Loose Leaf with Ring Binder



Memo Books



All-Weather Pens

www.RiteintheRain.com

CM

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"Outdoor writing products for outdoor writing people."



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ISBN 1-932149-29-5

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"Rite in the Rain"
ALL-WEATHER
LEVEL
No. 311

LDW-2007 Fishing

2 of 3

2

²C. Lorenz

09.06.07

Trawl 44 - T3 F

Start Set: 1400

depth: 29

coords: 31.714
18.756

Start tow: 1401

depth: 28

coords: 31.682
18.700

end tow: 1407

depth: 24

coords: 31.498
18.519

tide: 9.5 - 9.6

distance: 410 m

Processed fish

C. Lorenz

09.06.07³

Trawl 45 - T3 E

Start Set: 1422

depth: 25

coords: 31.710
18.786

Start tow: 1423

depth: 24

coords: 31.689
18.745

end tow: 1430

depth: 25

coords: 31.491
18.528

tide: 9.8 - 9.9

distance: 455 m

Processed fish

C. Lorenz

09.06.07

Trawl 46 - T3 E

Start Set: 1440

depth: 24

coords: 31.504
18.545

Start tow: 1441

depth: 24

coords: 31.545
18.504

~~Start~~ end tow: 1447

depth: 26

coords: 31.719
18.793

tide: 10.0 - 10.1

distance: 430 m

Processed fish

C. Lorenz

09.06.07

Trawl 47 - T3 A-C

Start set: 1459

depth: 29

coords: 31.826
18.982

Start tow: 1500

depth: 27

coords: 31.852
19.021

~~start~~ end tow: 1506

depth: 29

coords: 32.009
19.290

tide: 10.2 - 10.3

distance: 445 m

Processed fish

⁶ CLorenz

09.06.07

Trawl 48 - T3 AC

Start Set 1515

depth: 28

coords: 32.005

19.283

Start tow 1516

depth: 27

coords: 31.976

19.235

end tow: 1523

depth: 27

coords: 31.783

18.917

Tides 10.3 - 10.4

distance: 535

Processed fish

CLorenz

09.06.07

1530 Motor back to H1 Marina

1555 End of Sampling day

C. Lorenz
09.06.07

8

9/7/07

M. Luxon

Arrive 0810

M. Luxon, Andrew Gray

Jeff Stein, Andrew Ryan

Cherie Eaton, Brent Dock 0830

Trawl 49 Area T1-B

no keepers

Stand set 0832

depth 45

Coords 33.989
20.856

Stand down 0833

depth 40

Coords 33.924
20.863

End low 8:38

depth 28

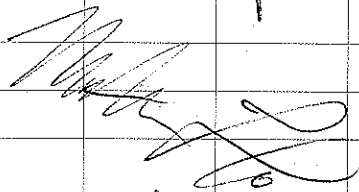
Coords 33.740
20.757

Tides -0.5

distance 365m

Processed fish

no keepers



9

Trawl 50 Area T1-B

Stand set 0850

depth 29

Coords 33.772
20.778

Stand down 0851

depth 23'

Coords 33.822
20.789

End low 0856

depth 35'

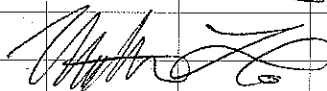
Coords 34.049
20.790

Tides -0.4'

distance 420m

trawl hung up
on debris0858 backed boat
to free net0909 - freed from
hang-up.

Processed fish



10

M. Luxon

9/7/07

Trawl 51 T1-A kept 555

Start set 0923

depth 24

coords 33,974
20,443

Start tow 0924

depth 32'

coords 33,935
20,920

End tow 0929

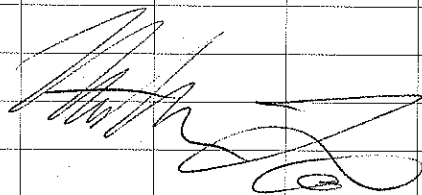
depth 33,735

coords 20,822

tides 0.0'

distance 390m

Processed fish



11

M. Luxon

9/7/07

Trawl 52 Area T1-C

NO species tallied

0954 Major

hang-up

Big tire in net

Catch lost with the tire

Trawl 53 T1-C

crab trap in net

Start set 1030

depth 35'

kept 2 88

coords 33,787

20,848

Start set 1031

depth 34'

coords 33,742

20,830

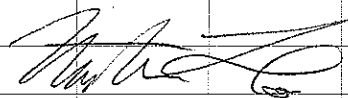
End tow 1036

depth 34'

coords 33,520

20,703

Processed fish



M. Luxon

9/7/07

Trawl 54 TI-C

start set 10:53
 depth 21
 coords 33.536
 20.758

start tow 10:54
 depth 24
 coords 33.567
 20.758

End tow 11:00
 depth 39
 coords 33.803
 20.857

tides 2.1
 distance NA

Processed fish
 NO keepers

M. Luxon

9/7/07

Trawl 55 TI-C

start set
 depth
 coords

start tow
 depth
 coords

End tow
 depth
 coords

tides
 distance

Trawl abandoned

Major hang-up 11:20
 large object in net,
 some damage to net.
 2 large tires in net.

No species tallied

No keepers

11:35 - Break for lunch @ Wilkes Island
 12:00 - depart for TIC again. —

14

M. Lucas

9/7/07

Trawl 56 Area T1-C

start set 1210

depth 36

coords 33,570
20,723

start tow 1211

depth 38

coords 33,616
20,747

End tow 1216

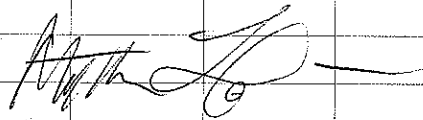
depth 40

coords 33,802
20,843

tides 4.9

distance 365m

Processed fish
NO keepers



15

M. Lucas

9/7/07

Trawl 57 Area T1-D

start set 1226

depth 28'

coords 33,554
20,665

start tow 1228

depth 23

coords 33,606
20,685

End tow 1233

depth 34

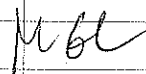
coords 33,817
20,794

tides 5.5'

distance 420'

large ball of
kelp in net

Processed fish
NO keepers



Trawl M.G. Laxon

9/7/07

Trawl 58 Area T1-D

Start sed 1240

depth 25'

Coords 33.809

20.765

Start tow ~~1240~~^{MC} 1241

depth 21

Coords 33.763

20.742

End tow 1247

depth 26

Coords 33.~~80~~^{MC} 549

20.649

tide 6.0

distance 420

Processed fish

1 SS

1 DC

MGL

M Laxon

Trawl 57 T1-D

Start sed 1304

depth 20

Coords 33.556

20.648

Start tow 1305

depth 18

Coords 33.587

20.669

End tow 1310

depth ~~18~~^{MC} 20

Coords 33.811

20.761

tide 6.8

dist. 430

18

M. Luxon

9/7/07

Trawl 60

Area T1-D

start set 2

start tow 10

end 2

depth 36

34

41

coords 33.569
20.63133.621
20.70433.806
20.805

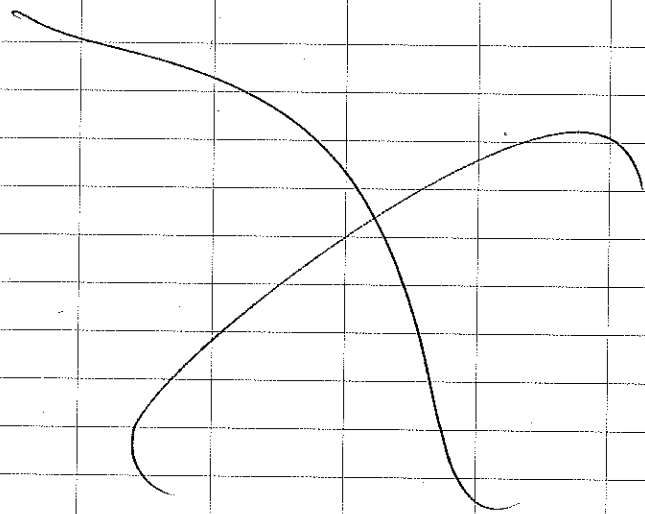
time 1321

1323

1327

tide 7.4

distance 365'



MGL

19

M. Luxon

9/7/07

Trawl 61

Area T1-B

start set

start tow

end

depth 27

24

46

coords 33.771
20.75033.811
20.76734.013
20.803

time 1337

1338

1343

tide 7.9

7.9

distance 378'

Processed Fish - no keepers

Trawl 62

Area T1-B

start set

start tow

End

depth 48

46

29

coords 34.000
20.818

NA

33.756
20.748

time 1355

1356

1401

tide 8.4

distance NA

kept - 1 DC

MGL

20

M. Luxon

9/7/07

trawl 03	Area T1-B		
depth	26	27	48
coords	33.776	33.819	34.024
	20.746	20.774	20.797
time	1413	1414	1419
tide	8.9		
distance	380		

start set ↑

start tow ↑

end

Processed fish

No keepers

trawl 64 Area T1-E

	start set	start tow	end
depth	29	27	40
coords	33.527	33.479	33.308
	20.726	20.697	20.596
time	1431	1433	1437
distance	340m		
tide	9.3		

processed fish

no keepers

21

M. Luxon

9/7/07

trawl 65	Area T1-E		
	start set	start tow	end
depth	40	41	81
coords	33.279	33.324	33.564
	20.576	20.599	20.761
time	1448	1449	1455
distance	488m		
tide	9.7		

Processed fish kept 1 shiver

trawl 66 Area T1-E kept 1 DC
2SS

	start set	start tow	end
depth	29	26	40
coords	33.571	33.529	33.309
	20.770	20.747	20.596
time	1507	1508	1515
distance	450m		
tide	10.0		

22

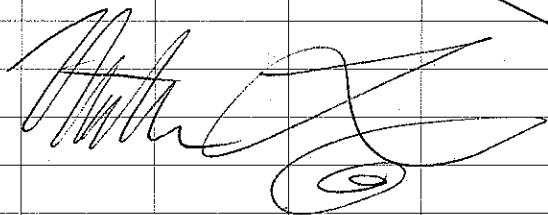
M. Luxon

6/7/07

Trawl 67 Area T1-B

depth	28	27	45
coords	33.787	33.829	33.920
	20.756	20.774	20.803
time	1526	1527	1531
tide	10.3	10.3	10.4
	Start tow	End tow	End

Processed fish NO keepers

Return to Harbor Island
Marina 1350


23

S. Fowler

9-10-07

8:00 Arrive @ Harbor Island Marina
Health & Safety meeting.Matt Way, Sarah Fowler, Emily Duffield
Andy Gregory

Trawl 68 Area T1-B

depth	44	47	35
coords	34.026	33.960	33.741
	20.832	20.824	20.712
time	0828	0829	0835
tide	3.3	3.3	3.1
	Start ^{set} tow	End tow	End

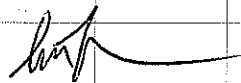
Processed fish 1 Shiner outperch, ~~1000~~ SF

8:45 Head to Area T1-D Kept.

Trawl 69 Area T1-D (channel)

depth	33	34	30
coords	33.793	33.740	33.525
	20.797	20.712	20.652
time	0847	0848	0854
tide	2.9	2.9	2.7
	Start ^{set} tow	End tow	End

Processed fish NO keepers



S. Fowler

9-10-07

Trawl 74 Area TI-F

	Start set	Start tow	end
depth	33.346 ⁵¹ 28	NA	
coords	33.346 20.550	Trawl abandoned no data	
time	1018		
tide	0.4		

processed fish: ~~1 dungemss crab~~ SF
Kept

Trawl 74 had major hang-up -
no GPS data collected.

Trawl 75 Area TI-F

	Start set	Start tow	end
depth	35	36	21
coords	33.378 20.593	33.416 20.602	33.592 20.682
time	1031	1032	1036
tide	0.3	0.3	0.2

processed fish: 1 Shiner Surfperch
Kept.

S. Fowler

9-10-07

Trawl 76 Area TI-F

	Start set	Start tow	end
depth	20	23	33
coords	33.566 20.667	33.535 20.646	33.319 20.556
time	1057	1058	1104
tide	0.2	0.2	0.2

processed fish: 5 Shiner Surfperch
2 Shiner Surfperch < 80
1 dungemss crab
Kept.

Trawl 77 Area TI-B

	Start set	Start tow	End
depth			
coords			
time			
tide			

NA
NO trawl
Net broke.

processed fish: No fish
Net broke No fish

S. Fowler

9-10-07

Trawl 78 Area T1-B

	start set	start tow	end
depth	29	29	20
coords	33.949	33.965	33.762
	20.783	20.785	20.736
time	1128	1129	1134
tide	0.2	0.3	0.4

processed fish: 1 shinersurfperch
kept

free branch caught in Trawl 78.

Trawl 79 T1-D

	start set	start tow	end
depth	18	20	22
coords	33.779	33.748	33.544
	20.752	20.736	20.651
time	1152	1153	1159
tide	0.6	0.7	0.7

processed fish: 7 shinersurfperch
kept

MF

S. Fowler

9-10-07

1220 Lunch Break, motor to T3.
1250 End Lunch & begin trawl

Trawl 80 Area T3-A/C

	start set	start tow	end
depth	19	19	21
coords	31.495	31.910	31.795
	19.266	19.227	18.922
time	1254	1255	1301
tide	2.2	2.2	2.4

processed fish: 3 English sole
kept

Trawl 81 Area T3-A/C

	start set	start tow	end
depth	22	21	21
coords	31.768	31.785	32.012
	18.880	18.915	19.287
time	1308	1309	1317
tide	2.7	2.8	3.0

processed fish: 2 English sole
kept

MF

S. Fowler

9-10-07

Trawl 82 Area T3-A/C

	Start set	Start tow	end
depth	19	20	24
coord	31.971	31.942	31.761
	19.23	19.186	18.867
time	1326	1326	1333
tide	3.2	3.3	3.6

processed fish: 6 English sole kept

Trawl 83 Area T3-D-E-F

	Start set	Start tow	end
depth	24	22	18
coord	31.745	31.718	31.513
	18.811	18.754	18.519
time	1348	1349	1355
tide	4.2	4.2	4.5

processed fish: 1 E-sole retained in live bin (188mm)

Trawl 83 - only small portion in Subarea D.

S. Fowler

9-10-07

Trawl 84 Area T3-B/D

	Start set	Start tow	end
depth	24	23	23
coord	31.778	31.800	32.012
	18.888	18.920	19.273
time	1408	1409	1417
tide	5.0	5.0	5.4

processed fish: 1 English sole kept

Trawl 85 Area T3-A/C

	Start set	Start tow	end
depth	23	21	26
coord	31.937	31.911	31.729
	19.178	19.137	18.783
time	1426	1426	1433
tide	5.8	6.8	6.1

processed fish: 1 E-sole kept

S. Fowler

9-10-07

Trawl 86 Area T3-A/C

	Start set	Start tow	end
depth	24	24	25
coord.	31.768	31.785	32.002
	18.863	18.921	19.289
time	1441	1442	1450
tide	6.4	6.4	6.8

processed fish: 1 E. Sole kept.

~~1553P~~

1455 head back to area T1

Trawl 87 Area T1-F

	start set	Start tow	end
depth	40	40	22
coord	33.370	33.403	33.594
	20.577	20.590	20.676
time	1510	1511	1516
tide	7.5	7.5	7.7

processed fish: No keepers

S. Fowler

9-10-07

Trawl 88 Area T1-B

	Start set	Start tow	end
depth	25	30	39
coord	33.820	33.855	33.936
	20.771	20.785	20.791
time	1525	1526	1528
tide	8.1	8.1	8.2

processed fish: No keepers

Trawl 89 Area T1-F

	start set	Start tow	end
depth	35	36	42
coord	33.571	33.572	33.306
	20.677	20.647	20.552
time	1539	1540	1545
tide	8.5	8.6	8.7

processed fish: No keepers

1600 End sampling.

S. Pierce

02.11.07

0840 - large ~~log~~^{rocks} caught in net - attempts
to release fm. net

0905 - released rocks fm net
lost net catch in the
release of the net - some
holes in net towards the
top - will reattempt trawl
90 again

Trawl 90 - T1B

depth	start time start set start haul	start tm	end haul
conds	33.804	33.844	34.037
	20.775	20.794	20.834
time	0917	0918	0922
tide	3.5	3.5	3.3
depth	36 24	25	42

distance trawled = 340m

Processed fish - 1 shiner

0928 Head to T4 to drop
at crab plots.

S. Pierce

09.11.07 37

1000 - Arrive @ T4 - crab plots^{set}

10.08 Deploy Trap #1 ~~CT001~~ CT001

T4-B

conds = 47° 31.1111 N

~~depth~~ 122° 18.2990 W

depth = 11'

tide = 2.1'

1014 Deploy Trap #2 CT002

T4B

~~depth~~ conds 31.0537

conds 18.3491

depth = 14'

tide = 1.9'

1017 Deploy Trap #3 CT003

T4A

depth = 11'

conds = 31.0089

18.3518

tide = 1.9'

S. Pierce

09.11.07

1020 Deploy Trap #4 CT004

T4B

Depth = 13'

coords = 30.9430

-18.3015

tide = 1.8'

1022 Deploy Trap #5 CT005

T4A

Depth = 10'

coords 30.9053

18.3097

tide = 1.7'

1025 Deploy Trap #6 CT006

T4C

Depth = 10'

coords = 30.8557

18.2868

tide = 1.7'

Tide too low to go further upstream

S. Pierce

09.11.07

1028 Deploy Trap #7 CT007

T4C

Depth = 9'

coords 30.8228

18.2805

tide = 1.6'

1033 Deploy Trap #8 CT008

T4A

Depth = 11'

coords = 30.9304

18.3177

tide = 1.5'

1036 Deploy Trap #9 CT009

T4B

Depth = 12'

coords = ~~30.9998~~ 30.9998

18.3185

tide: 1.5'

1040 Finish deploying crab pots.

S. Pierce

09.11.07

Trawl 96-T2-A-C

	start set	start tow	end tow
Depth	33	31	21
conds	32.776	32.728	32.443
	20.318	20.286	19.956
time	1256	1257	1306
tide	1.8	1.8	2.1
Distance hauled = 670m			
kept kept 4 SC > 90mm, 1 SC ~ 87mm			

Trawl 97-T2-B-E

Depth	33	32	32.2
conds	32.768	32.723	32.452
	20.320	20.291	19.972
time	1322	1323	1332
tide	2.5	2.6	2.9
Distance hauled = 641m			
kept 0 SC (all < 90mm)			

Head to T4 to pick up crab pots

S. Pierce

09.11.07

1358 - retrieve CT001
T4B 1 Lungenuss - kept (> 90mm)

1403 - retrieve CT002
T4B
0 crabs

1407 - retrieve CT003
T4A
0 crabs

1410 - retrieve CT004
T4B
0 crabs

1412 - retrieve CT005
T4A
0 crabs

1414 - retrieve CT006
T4C
0 crabs
1 rock sole

1416 retrieve CT007
T4C
Ø crabs

1420 retrieve CT008
T4A
Ø crabs

1422 retrieve CT009
T4B
Ø crab

1430 Communication w/ Matt Luxon +
R. Godfredsen regarding leaving
crab pots to soak overnight -
left message

Set crab pots

1432 Deploy CT010
T4B
conds 31.1250
18.2361
depth 15'
tide 5.1

1434 Deploy CT011
T4B
conds 31.1386
~~depth~~ 18.2457
tide ~~5.1~~ 5.1
depth 15'

1436 Deploy CT012
T4B
conds 31.1306
~~depth~~ 18.2831
depth = 13'
tide = 5.2

1438 Deploy CT013
T4B
conds 31.1193
18.2753
depth = 13'
tide = 5.3

S. Pierce

09.11.07

1440 Deploy CT014

T4B

coords ~~31.100~~ 31.1011

18.3013

depth = 14 ft

tide = 5.4

1444 Deploy CT015

T4A

coords 31.0193

18.3665

depth = 11 ft

tide = 5.6 ft

1502 Deploy CT016*

T4C

coords 30.7159

18.1806

depth = 21 ft

tide = 6.3 ft

*(redeployed CT016 out of haul area)

S. Pierce

09.11.07

1450 Deploy CT017

T4B

coords 31.9670

18.3058

depth = 16 ft

tide = 5.8

1452 Deploy CT018

T4B

coords 31.0162

18.3191

depth = 13 ft

tide = 5.8

1445 Communication blw S. Pierce
 + R. G. G. regarding
 overnight soak time of
 crab traps - said OK we will
 plan to haul in T4 today
 and possibly in T1 (if time)
 will retrieve T4 crab pots
 tomorrow + haul in T4.

48

S Peru

0211.07

	Trawl 98-T4-A-C		
	start set	start tow	end tow
depth	10 ft	14	19
coords	30.777	30.795	31.129
	18.257	18.263	18.397
time	1507	1508	1516
tide	6.5	6.6	6.8
distance trawled	640m		

Processed fish - kept 1 starry flounder

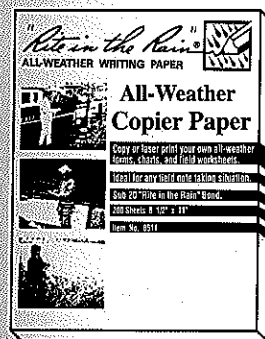
	Trawl 99-T4-A-C		
	start set	start tow	end tow
depth	17	17	10
coords	31.091	31.066	30.784
	18.380	18.372	18.260
time	1523	1524	1531
tide	7.1	7.1	7.4
distance trawled =	540m		

Processed trawl - kept 0 fish

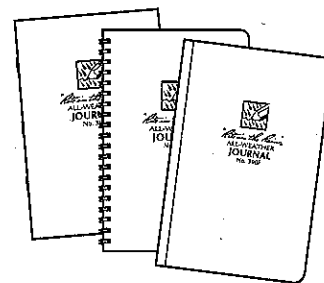
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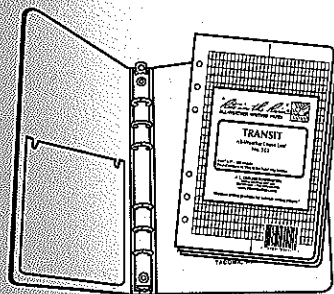
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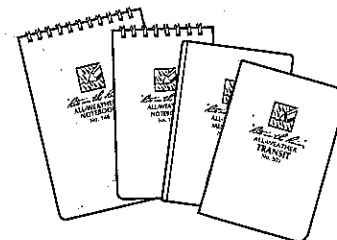
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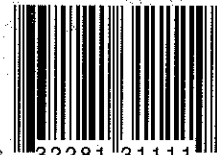
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3



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LEVEL
No. 311

LDW - 2007 Fishing

3 of 3

²
S. Perce

09.11.07

T4 trawling cont fm 09.11.07

Trawl 100 - T4 - mid channel ~~ABC~~ ^{ABCO}

	start set	start tow	end tow
depth =	12 ft.	18	20
coords =	30.795 18.260	30.821 18.269	31.136 18.393
time =	1538	1539	1547
tide =	7.7	7.7	8.0
distance trawled =	603 m		

1600 Head back to Harbor Island Marina

1630 - Back to HI Marina -
end of sampling day

S. Perce
09.11.07

1630

S. Replinger

9.12.2007

12:00 - Meet at Harbor Island Marina to begin trawling.

Crew: Matt Luxom

Chelsea Lorenz

Suzanne Replinger

Charlie Eaton

Andy Gregory

Windward

Weather: overcast, cool

12:10 - Health and Safety meeting.

Trawl 101 - Area T1-B

	start set	start tow	end tow
depth =	37'	42'	32'
coords =	33.988 20.807	33.934 20.811	33.744 20.757
time =	12:18	12:19	12:24
tide =	1.8	1.8	1.9

distance trawled = 356 m

processed trawl, kept 1 shiner surfperch.

12:33 - Caught one shiner surfperch at area T1-B, decided to deploy 2 crab traps in this area to attempt to catch one additional Dungeness Crab.

S. Replinger

9.12.2007

12:35 - Deploy crab trap (CT019) - T1-D

Coords = 33.7887

20.7481

depth = 20'

tide = 2.0

12:40 - Deploy crab trap (CT020) - T1-C

Coords = 33.7286

20.8172

depth = 27'

tide = 2.0

12:45 - Head to Area T4 to pick up crab pots
and begin trawling.13:10 - Appears that ^{three} ~~four~~ crab pots are missing out
of Slip 6. Barges appear to have moved
overnight.

13:12 - Retrieve CT010 (T4-B)

∅ crabs

13:15 - Retrieve CT012 (T4-B)

∅ crabs

S. Replinger

9.12.2007

13:23 - Retrieve CT015 (T4-A)

∅ crabs

13:25 - Retrieve CT017 (T4-B)

∅ crabs

13:28 - Retrieve CT018 (T4-B)

∅ crabs

Unable to retrieve CT016 until later due to
shallow water. Begin trawling in T4.13:35 - Communication between M. Luxon and
K. Godfredsen regarding crab collection in
area T4. Relayed that 1 shiner surfperch
was collected in T1-B and that two
crab traps were deployed there to
attempt to catch Dungeness Crabs.
Will trawl in T4 for rest of the day to
collect Englishsole, Stoney Flounder, and crabs.

S. Replinger

9.12.2007

Trawl 102 — Area T4-A

	start set	start tow	end tow
depth =	11'	12'	15'
coords =	30.958 ^{30.902} SR	30.934 ^{30.922} SR	30.744 ^{31.128} SR
coords = SR	18.312 ^{18.312}	18.318 ^{18.318}	18.402 ^{18.402}
time =	13:30	13:39	13:44
tide =	2.8	2.8	3.0

distance trawled = 356 m

Processed fish — kept 1 starry flounder
in live well (180 mm).

Trawl 103 — Area T4-B

	start set	start tow	end tow
depth =	14'	15'	12'
coords =	31.113	31.087	30.859
	18.371	18.358	18.270
time =	13:50	13:51	13:57
tide =	3.2	3.2	3.3

distance trawled = 436

Processed fish — kept 1 starry flounder
and 3 english sole

S. Replinger

9.12.2007

Trawl 104 — Area T4-AB

	start set	start tow	end tow
depth =	13'	15'	16'
coords =	30.866	30.890	31.130
	18.288	18.295	18.391
time =	14:03	14:04	14:10
tide =	3.5	3.5	3.7

distance trawled = 460

Processed fish — kept 4 starry flounder

Trawl 105 — Area T4-A

	start set	start tow	end tow
depth =	15'	16'	16' 11'
coords =	30.858 ^{31.105} SR	30.473 ^{31.078} SR	31.132 ^{30.853} SR
	18.295	18.384	18.299
time =	14:16	14:16	14:22
tide =	3.9	3.9	4.1

distance trawled = 430 m

Processed fish — kept 1 starry flounder
and 1 english sole

S. Replinger

9.12.2007

Trawl 106 - Area T4-B

	start set	start ^{tow} set	end tow
depth =	15'	16'	16'
coords =	30.888 18.281	30.913 18.294	31.132 18.382
time =	14:33	14:34	14:39
tide =	4.5	4.5	4.7

distance trawled = 420

processed fish = kept 1 starry flounder

14:50 - Discarded undersize starry flounder from
~~TR 106~~ ~~Comm~~ TR 102

Trawl 107 - Area T4-AB

	start set	start tow	end tow
depth =	15'	16'	15'
coords =	31.085 18.371	31.057 18.361	30.822 18.267
time =	14:49	14:50	14:56
tide =	5.1	5.1	5.3

distance trawled = 451

processed fish - no keepers

15:10 - Communication between S. Replinger and
 K. Godfredsen. LDWG decided that trawling would
 finish today regardless of catch.

S. Replinger

9.12.2007

Trawl 108 - Area T4-AB

	start set	start tow	end tow
depth =	14'	16'	17'
coords =	30.870 18.298	30.896 18.303	31.141 18.372
time =	15:06	15:06	15:12
tide =	5.6	5.7	5.9

distance trawled = 160 m

processed fish - kept 3 starry flounder

Trawl 109 - Area T4-ABD

	start set	start tow	end tow
depth =	18'	17'	10'
coords =	31.114 18.400	31.086 18.389	30.761 18.238
time =	15:20	15:20	15:28
tide =	6.2	6.2	6.6

distance trawled = 630 m

processed fish - kept 1 english sole and
8 starry flounder.

15:40 - Retrieve CTO16

Ø crabs

S. Replinger

9.12.2007

15:45 - Conversation with k. Gødfredsen. It was decided to keep all stony flounder from previous trawl (total of 20) and 5 english sole. Plan is to attempt move trawls in T1 to catch one additional Dungeness Crab.

15:55 - Head back towards T1.

16:35 - Retrieve CTO19 (T1-D)
2 red rock crabs - released.

16:40 - Retrieve CTO20 (T1-C)
2 red rock
5 slender crab] released.

Trawl 110 - Area T1-CE

	start set	start tow	end tow
depth =	44'	42'	38'
coords =	33.701	33.647	33.301
	20.780	20.760	20.605
time =	16:47	16:48	16:55
tide =	9.7	9.7	9.8

distance trawled = 672 m

Processed fish - no keepers

S. Replinger

9.12.2007

Trawl 111 - Area T1-8EF

	start set	start tow	end tow
depth =	42'	34'	40'
coords =	33.418	33.467	33.888
	20.585	20.618	20.798
time =	17:08	17:09	17:20
tide =	9.8	9.9	10.4

distance trawled = 810 m

processed fish - no keepers.

17:30 - Finish trawling for day. Begin clean-up and head back to Harbor Island Manna.

17:35 - Arrive at Harbor Island Manna. End of sampling day.

S. Replinger
9.12.2007

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"Rite in the Rain"®

ALL-WEATHER

LEVEL

No. 311

J. Flower

8/24/07³

LDW Clamming

Crew: Emily + Joanna (Boat)

Angie, Daniel, Suzanne (Shoreline)

0730 - Arrive Kellogg Island

Stations C3 + C2

0800 - Start C2-1

1044 - Finish C2-1 collected 40 clams

1100 - left beach C2

completely inundated

headed over to C-3 to

meet shoreline team

C3-1 47 33.595

47 33 575

Shore

122 21.009

122 21 009

North end

South end

C2-1 47 33 546

47 33 518

122 20 835

122 20 822

North

South

1200 - left Kellogg Island headed to
SPM to Moon

J. Flower

8/24/07

- 1300 - left SPM headed to LW to
process clams
1700 - Separated clams from
C3-1, C3-2 + C2-1
1730 - left F91 - End of day

JMF
8/24/07

J. Flower

weather: overcast

8/25/07⁵

- LW Clamming (boat team)
0630 - JMF arrive SPM
0700 - met shoreline team
picked up Emily + Chelsea
0730 - Arrive Kellogg Island
0745 - Start C2-2
0915 - Finish C2-2
0920 - Collected sediment
sample C2-2-5
0930 - left Kellogg Island
0935 - Arrive T-105 to
collect coordinates
0950 - Arrive C-4 (Glacier triangle)
0955 - began sampling C-4
1045 - finished sampling C-4
sediment sample collected
1050 - left C-4
1055 - Arrive C-5 water level 100
high, marked target + left
1130 - Marked C8 + C7 + partially
collected clams + sediment
from C-7
1200 - Marked C10-1 + C10-2
1230 - Arrive Marina

⁶
J. Florer

8/25/07

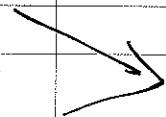
- 1300 left SPM, headed to WW for clam processing
- 1400 Processed clams from:
C-1, C2-2, C4, C6, C9
- 1530 Picked up depurating clams from:
C3-1, C3-2, C2-1
- 1600 Deployed Clams for depuration
C-1, C2-2, C4, C6, C9
- 1630 Returned to WW to drop off clams from: C3-1, C3-2 + C2-1 for lab delivery
- end of day

~~JMF
8/25/07~~

J. Florer

⁷
8/26/07

- LDW Clamming (boat team)
- 0700 - Arrive SPM - Joanna
weather: overcast
- 0730 - met shoreline team at
Dunhamswater way park
- 0740 - Dropped Shannon + Suzanne
off at C7 + C8
- 0750 - Collected coordinates from
C9
- 0800 - Arrive C5
crew: EAD, CEL, JMF
- 0810 - Start sampling C5
- 0845 - Stop sampling C5
sediment sample collected
LDW-07-C5-S
- 0855 - left C5
- 0915 - Start C10-2
- 1120 - finish C10-2
collected sediment +
field duplicate
- cont next page



⁸
S. Plover

8/26/07

- 11:40 Returned to C-8, helped shore crew at C-8.
- 12:15 left C-8 b/c site was thoroughly clammed - i.e. beach was completely worked & no more shows were visible
- 12:30 arrived SPM
- 13:00 left SPM to return to wind ward for processing

~~13:30~~

End of Day

~~SM~~

~~8/26/07~~

J. Plover

⁹
8/27/07

LDW clam team (boat)

Sunny & clear w/ some clouds

0730 - Joanna arrived @ SPM

0800 - met Shannon, Suzanne,

Emily & Chelsea @ (DWP)

Duwamish Waterway Park

0830 - Joanna, Emily, Chelsea left

for Slip 4, beach inaccessible

went back to DWP

0900 Arrive DWP - dropped Chelsea off

0915 - Emily + Joanna back to Slip 4

0920 - Arrive Slip 4 to collect

5 more clams

0945 stopped collecting

10:30 finished decon, return to DWP.

1100 Returned to DWP + headed to C10-1. Notes on 10-1 sampling are in the other field notebook

1330 - Headed to scout site C12 + C12 alt no beach exposed at either site at this time. will return tomorrow at low tide

1400 - Returned to SPM. End of day ~~SM~~
8/27/07

J. Floer

8/28/07

LDW Clam Sampling (boat team)

Crew: Suzanne, Emily, Joanna, Chelsea

Weather: overcast clear sunny

1000 - Departed SPM, headed to C12
 staked N+S boundary of
 C12 and scouted for clam
 show - none visible at this
 time.

10:30 began digging for clams - C12

11:55 finished sampling C12
 collected sediment

1215 left C12 headed to SPM

1230 Suzanne + Chelsea left to
 process clam at WLD
 Emily + Joanna cleaned boat
 refueled + oil

1315 left SPM

1400 Arrive PoS boat house
 pln by Suzanne

~~end of
 day
 8/28/07~~

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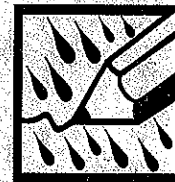
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ALL-WEATHER

LEVEL

No. 311

2

24 August, 2007

S. Replinger

0700 - Arrive at T-107 to access Kellogg
Island (C3).Crew: Suzanne Replinger
Angelita Rodriguez
Daniel DiedrichObjective: To collect Mya clams during
low tide at beach C3 (part 1 and 2)

0735 - Begin clamming at C3-1

0950 - Finish clamming at C3-1

Clams were collected to South of kayak
put-in at T-107 park down to pilings.
Generally clams more abundant closer
to bank in sandy sediment.Two experimental containers were close
to marked sampling area.

1000 - Moved to location C3-2 to begin clamming

1050 - Finished clamming at C3-2. Began clean-up and
recording of GPS coordinates.

1055 - Coordinates for beach C3-1:

North:

47 83.595

122 21.009

South:

47 83.575

122 21.009

1100 Coordinates for C3-2

47 83.496

122.21.022

47 83.480

122.21.024

24 Aug. 2007

S. Replinger 3

1115 - Rinse clams and replace water

Notes on location C3-2:

Clam mostly found high on beach in
sandy/silty sediment. Various gravel and
brick debris found during digging.1220 - Begin recon of other shoreline access areas
(C1, C6, C9, C10, C11)

1315 - Meet boat crew at South Park Marina

1330 - Break for lunch

1430 - Arrive at office to process clams and
prepare for depuration.1630 - Leave office and head to T-91 for depuration
of clams.

1715 - Clams left in boathouse for depuration.

S. Replinger
Aug. 24, 2007

25 Aug. 2007

S. Replinger

0700 - Arrive at T-105 to meet boat and begin clamming at beach C1.

Shoreline access crew:

Suzanne Replinger

Angelita Rodriguez

Daniel Diedrich

Daily objective: Collect *Mya* clams during low tide (C1, C6, C9, C10, C11).

0720 - Boat crew leaves to clam at Kellogg Island (beach C2-2)

0725 - Begin clamming at beach C1.

0910 - Finish collection of clams at C1

clams were collected generally in sandy/silty sediment, some areas of clay. Clams varied in depth, many were amongst pilings.

0930 - Coordinates at beach C1:

North:

47 34.002

122 21.001

South:

47 33.976

122.21.001

0950 - Arrive at beach C6 (under 1st Ave S. bridge)

1000 - Begin clamming at C6

1040 - Finish clamming at C6

25 Aug. 2007

S. Replinger

1050 - Notes on C6:

Clams very abundant. All collected close to centroid location. Shows all throughout intertidal zone. Areas of sediment had metal debris, although generally sediment was sandy and soft.

Coordinates at C6:

North:

47 32.462

122.20.059

South:

47 32.459

122 20.055

1115 - Arrive at beach C9

1120 - Begin sampling at C9. Joined by Chelsea Lorenz.

1205 - Finish sampling at C9.

Notes on C9:

Clams moderately abundant, located generally closer to bank/rip-rap. Sampling occurred at 2 separate areas - one to north near barges and second towards public access area. Some areas had lots of gravel and rocks at depth of clams.

Coordinates at C9:

North:

47.31.687

122.18.756

South:

47.32.028

122.19.382

12:30 - Arrive at South Park Marina & meet boat crew.

26 Aug. 2007

S. Replinger

11:45 - Joined by boat crew to finish station

12:00 - Finish clamming at C8. (36 clams)

Notes: clams found throughout intertidal both in rocky substrate near bank and in silty mud near water.

Coordinates at C8:

North:

47.32.200

47.32.223

122.19.120

122.19.127

12:30 - Head to Duwamish Waterway Park to clean equipment.

13:10 - Arrive at Windward & bring samples to lab for processing.

13:30 - lunch break

14:30 - begin processing clams from today and checking labels on all other clam + sediment samples for preparation of shipment to lab.

17:20 - arrive at T-91 to begin depuration of clams from locations C5, C7, C8, and C10-2.

17:30 - collect clams from C1, C6, C9, C4, and C2-2.

deploy clams from C5, C7, C8, C10-2 for depuration.

26 Aug. 2007

18:00 - leave T-91 and take clams from C1, C6, C9, C4, and C2-2 back to office for morning shipment to lab.

18:20 - end of day

S. Replinger
26 Aug. 2007

27 August, 2007

S. Replinger

07:45 - Arrive at Duwamish Waterway Park to begin clamming.

Shore crew: Suzanne Replinger

Shannon Pierce

Boat Crew: Joanna Florer

Emily Duffield

Chelsea Lorenz

08:15 - Suzanne talked to Kathy Godfredson regarding clams at location C8. Since only 36 clams were collected on 26 Aug, boat crew will go collect additional clams to complete the sample. Sediment was homogenized from 26 Aug. collection and was jarred, so no additional sediment will be collected from today's effort.

08:20 - Boat crew heads to C8 to collect remaining clams. Shore crew to begin clam collection at C11 (Duwamish Waterway Park).

09:00 - boat crew brings Chelsea back to help at C11 while waiting for tide to go out far enough for collection at C8.

10:20 - Finish collection of clams at C11.

Notes:

Clams mostly collected at north end of

27 Aug. 2007

S. Replinger

beach near barges. Began searching at public access beach and radiated outward without finding sufficient clams at initial Duwamish Waterway Park. Main collection location was still within C11 boundary. Clams were found in sand with lots of debris (organic, glass and metal).

11:00 - Arrive at South Park Marina to begin clamming at beach C10-1. All crew members to clam at this beach to ensure that clams are collected before the beach is submerged.

12:00 - Finish clamming at beach C10-2

Notes:

12:30 - Arrive back at South Park Marina

12:40 - Coordinates at beaches from today's clamming.

Beach C11:

North:

47 37.521

122 21.634

South:

47 31.952

122 19.257

Beach ~~C10-2~~ C10-1:

North:

47 31.658

122 18.785

South:

47 31.612

122 18.654

27 Aug. 2007

S. Replinger

- 12:50 - lunch break
- 13:30 - Suzanne, Shannon and Emily head back to Windward. Joanna and Chelsea take the boat to scope out beach C12 to prepare for clam collection.
- 13:50 - Arrive at Windward and begin cleaning supplies and processing of samples.
- 14:30 - Talked to Matt Luxon regarding separation of clams for depuration of clams and non-depuration. Process amended to keep track of clam sizes for each composite sample. Clam collection forms will be used for this purpose, and composite forms will not be necessary.
- 15:50 - leave office for T-91 to depurate clams.
- 16:30 - Collect clams from locations at T-91 C5, C7, C8, and C10-2.
Deploy clams from C10-1 and C11.
- 17:20 - arrive back at office to put depurated clams in fridge and prepare supplies for tomorrow.

S. Replinger
Aug. 27, 2007.

28 Aug. 2007

S. Replinger

- 09:30 - depart windward for clam collection.
- 10:00 - leave south Park marina to collect clams at location C12.

Crew: Suzanne Replinger
Joanna Flower
Emily Duffield
Chelsea Lorenz

Notes regarding collection of clams from location C12 can be found in the boat log.

- 13:30 - clean up equipment and put away in field room
- 15:00 - begin processing clams from location C12.
- 16:00 - finish processing clams and head to T-91 for depuration.
- 16:20 - Collect clams from depuration from locations C10-1 and C11
Deploy clams from location C12.
- 16:45 - Return to office and finish cleaning equipment from effort.

S. Replinger
28 Aug. 2007

29 Aug. 2007

S. Replinger

15:30 - Suzanne Replinger and Marina Mitchell leave Windward to collect remaining depurating clams from T-91 and take samples to Brooks Rand.

16:00 - Clams from C12 removed from water at T-91.

16:10 - last set of samples delivered to Brooks Rand.

~~S. Replinger
29 Aug. 2007~~

TRAWL NAVIGATION REPORT

Report

Crab Trap Information

**Windward Environmental
 Duwamish River Trawls**

September, 2007

High Rise 7.6-meter SCCWRP Trawl

Ordered by Time & Date

Station Name	Date		Time	Depth (feet)	Predicted Tide	Mudline Depth (feet)	Wire Out (feet)	Northstar DGPS (NAD 83) Latitude decimal min.	Longitude decimal min.	Trawl Distance (m.) & Direction/Time Comments
1-2A	4-Sep-07	Start Set	1043	41	8.1	-33		47 32.859	122 20.354	
		Start Tow	1045	40	8.1	-32	275	47 32.796	122 20.322	354 m.
		End	1049	29	8.2	-21		47 32.620	122 20.212	157° true, 4 min.
					flood					
2-2B	4-Sep-07	Start Set	1117	38	8.7	-29		47 32.866	122 20.313	
		Start Tow	1118	37	8.7	-28	250	47 32.809	122 20.281	400 m.
		End	1124	37	8.8	-28		47 32.606	122 20.171	160° true, 6 min.
					flood					
3-2B	4-Sep-07	Start Set	1149	39	9.1	-30		47 32.867	122 20.303	
		Start Tow	1150	37	9.1	-28	250	47 32.816	122 20.281	412 m.
		End	1156	37	9.2	-28		47 32.609	122 20.161	159° true, 6 min.
					flood					
4-2C	4-Sep-07	Start Set	1246	37	9.5	-28		47 32.533	122 20.081	
		Start Tow	1247	35	9.5	-26	250	47 32.576	122 20.149	185 m.
		End	1250	35	9.5	-26		47 32.652	122 20.245	320° true, 3 min.
					high					
5-2C	4-Sep-07	Start Set	1303	34	9.5	-25		47 32.459	122 19.966	
		Start Tow	1304	35	9.5	-26	250	47 32.496	122 20.022	416 m.
		End	1310	36	9.5	-27		47 32.662	122 20.246	318° true, 6 min.
					high					
6-2D	4-Sep-07	Start Set	1328	35	9.4	-26		47 32.500	122 20.005	
		Start Tow	1329	38	9.4	-29	250	47 32.532	122 20.067	306 m.
		End	1333	35	9.4	-26		47 32.666	122 20.210	324° true, 4 min.
					high ebb					
7-2E	4-Sep-07	Start Set	1353	28	9.3	-19		47 32.302	122 19.759	
		Start Tow	1354	25	9.3	-16	220	47 32.318	122 19.782	422 m.
		End	1359	35	9.3	-26		47 32.486	122 20.010	318° true, 5 min.
					high ebb					
8-2F	4-Sep-07	Start Set	1415	32	9.2	-23		47 32.296	122 19.719	
		Start Tow	1416	30	9.2	-21	220	47 32.330	122 19.770	404 m.
		End	1421	34	9.1	-25		47 32.490	122 19.990	317° true, 5 min.
					high ebb					
9-2F	4-Sep-07	Start Set	1445	31	8.9	-22		47 32.293	122 19.720	152 m.
		Start Tow	1446	30	8.9	-21	220	47 32.326	122 19.770	stopped to avoid boat, mid-channel
		End	1448	31	8.9	-22		47 32.384	122 19.856	315° true, 2 min.
					ebb					
10-2F	4-Sep-07	Start Set	1503	30	8.7	-21		47 32.316	122 19.745	
		Start Tow	1504	30	8.7	-21	200	47 32.348	122 19.793	360 m.
		End	1508	34	8.7	-25		47 32.491	122 19.988	317° true, 4 min.
					ebb					
11-2B	4-Sep-07	Start Set	1523	38	8.5	-30		47 32.869	122 20.304	
		Start Tow	1524	38	8.5	-30	240	47 32.821	122 20.278	401 m.
		End	1529	31	8.4	-23		47 32.612	122 20.194	165° true, 5 min.
					ebb					
12-2C	4-Sep-07	Start Set	1550	32	8.3	-24		47 32.467	122 19.982	
		Start Tow	1552	35	8.3	-27	220	47 32.505	122 20.031	392 m.
		End	1557	35	8.2	-27		47 32.662	122 20.241	318° true, 5 min.
					ebb					
13-1A	4-Sep-07	Start Set	1623	43	8.0	-35		47 33.758	122 20.804	
		Start Tow	1625	45	8.0	-37	275	47 33.813	122 20.838	430 m.
		End	1629	42	8.0	-34		47 34.032	122 20.952	341° true, 4 min.
					high low					
14-1A	4-Sep-07	Start Set	1639	43	8.1	-35		47 33.971	122 20.922	
		Start Tow	1641	42	8.1	-34	275	47 33.915	122 20.891	340 m.
		End	1647	47	8.1	-39		47 33.741	122 20.805	162° true, 6 min.
					high low					

**Windward Environmental
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September, 2007 High Rise 7.6-meter SCCWRP Trawl Ordered by Time & Date

Station Name	Date		Time	Depth (feet)	Predicted Tide	Mudline Depth (feet)	Wire Out (feet)	Northstar DGPS (NAD 83) Latitude decimal min.	Longitude decimal min.	Trawl Distance (m.) & Direction/Time Comments
15-4A	5-Sep-07	Start Set	0943	16	4.1	-12		47 31.114	122 18.396	
		Start Tow	0944	15	4.1	-11	120	47 31.084	122 18.386	431 m.
		End	0949	13	4.3	-9		47 30.860	122 18.293	164° true, 5 min.
					flood					
16-4B	5-Sep-07	Start Set	1000	17	4.7	-12		47 30.909	122 18.291	
		Start Tow	1000	17	4.7	-12	125	47 30.932	122 18.300	391 m.
		End	1005	17	4.9	-12		47 31.136	122 18.381	345° true, 5 min.
					flood					
17-3A	5-Sep-07	Start Set	1026	20	5.6	-14		47 31.835	122 19.016	
		Start Tow	1026	20	5.6	-14	140	47 31.852	122 19.043	428 m.
		End	1032	23	5.7	-17		47 32.005	122 19.299	312° true, 6 min.
					flood					
18-3A	5-Sep-07	Start Set	1040	24	6.0	-18		47 31.992	122 19.267	
		Start Tow	1040	23	6.0	-17	140	47 31.967	122 19.224	402 m.
		End	1046	21	6.2	-15		47 31.820	122 18.988	133° true, 6 min.
					flood					
19-3B	5-Sep-07	Start Set	1054	20	6.4	-14		47 31.850	122 18.986	
		Start Tow	1055	20	6.5	-14	140	47 31.869	122 19.019	431 m.
		End	1100	23	6.7	-16		47 32.027	122 19.272	313° true, 5 min.
					flood					
20-3B	5-Sep-07	Start Set	1106	18	6.8	-11		47 32.019	122 19.262	
		Start Tow	1107	20	6.9	-13	140	47 31.993	122 19.227	429 m.
		End	1113	22	7.0	-15		47 31.840	122 18.969	131° true, 6 min.
					flood					
21-4C	5-Sep-07	Start Set	1223	13	8.6	-4		47 30.743	122 18.237	
		Start Tow	1223	12	8.7	-3	100	47 30.762	122 18.251	241 m.
		End	1226	16	8.7	-7		47 30.884	122 18.318	240° true, 3 min.
					flood					
22-4C	5-Sep-07	Start Set	1234	14	8.9	-5		47 30.732	122 18.211	
		Start Tow	1235	13	8.9	-4	100	47 30.749	122 18.231	271 m.
		End	1238	17	8.9	-8		47 30.885	122 18.312	338° true, 3 min.
					flood					
23-4D	5-Sep-07	Start Set	1255	13	9.2	-4		47 30.750	122 18.182	
		Start Tow	1255	13	9.2	-4	100	47 30.769	122 18.200	268 m.
		End	1259	21	9.2	-12		47 30.895	122 18.290	313° 344° true 4 minutes
					flood					
24-4A	5-Sep-07	Start Set	1305	16	9.3	-7		47 30.907	122 18.324	
		Start Tow	1306	15	9.3	-6	120	47 30.931	122 18.333	377 m.
		End	1311	21	9.4	-12		47 31.128	122 18.408	346° true, 5 min.
					flood					
25-4AC	5-Sep-07	Start Set	1322	21	9.5	-12		47 31.097	122 18.392	
		Start Tow	1322	21	9.5	-12	140	47 31.068	122 18.377	645 m.
		End	1331	21	9.6	-11		47 30.735	122 18.226	163° true, 9 min.
					flood					
26-4BD	5-Sep-07	Start Set	1403	22	9.8	-12		47 31.115	122 18.370	
		Start Tow	1404	21	9.8	-11	140	47 31.089	122 18.358	650 m.
		End	1413	14	9.9	-4		47 30.750	122 18.224	165° true, 9 min.
					high flood					
27-3E	5-Sep-07	Start Set	1447	24	9.9	-14		47 31.703	122 18.772	
		Start Tow	1448	23	9.9	-13	160	47 31.680	122 18.734	419 m.
		End	1454	24	9.9	-14		47 31.499	122 18.546	133° to 158° true 6 minutes
					high					
28-3F	5-Sep-07	Start Set	1508	22	9.9	-12		47 31.729	122 18.758	
		Start Tow	1509	18	9.9	-8	150	47 31.708	122 18.716	473 m.
		End	1516	20	9.8	-10		47 31.503	122 18.506	134° to 159° true 7 minutes
					high					

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Station Name	Date		Time	Depth (feet)	Predicted Tide	Mudline Depth (feet)	Wire Out (feet)	Northstar DGPS (NAD 83) Latitude decimal min.	Longitude decimal min.	Trawl Distance (m.) & Direction/Time Comments
29-3F	5-Sep-07	Start Set	1528	28	9.8	-18		47 31.728	122 18.772	
		Start Tow	1529	27	9.8	-17	190	47 31.699	122 18.723	471 m.
		End	1536	24	9.7	-14		47 31.497	122 18.518	132° to 164° true 7 minutes
					high ebb					
30-3E	5-Sep-07	Start Set	1551	24	9.6	-14		47 31.712	122 18.780	
		Start Tow	1552	24	9.6	-14	190	47 31.681	122 18.731	435 m.
		End	1558	24	9.5	-15		47 31.497	122 18.528	132° to 156° true 6 minutes
					high ebb					
31-3A	5-Sep-07	Start Set	1612	27	9.4	-18		47 31.855	122 19.030	
		Start Tow	1613	28	9.4	-19	170	47 31.889	122 19.086	352 m.
		End	1617	28	9.3	-19		47 32.016	122 19.295	312° true, 4 min.
					ebb					
32-3B	5-Sep-07	Start Set	1625	23	9.2	-14		47 32.000	122 19.240	
		Start Tow	1626	23	9.2	-14	170	47 31.974	122 19.198	392 m.
		End	1631	25	9.2	-16		47 31.831	122 18.967	133° true, 5 min.
					ebb					
33-3C	6-Sep-07	Start Set	0858	19	0.6	-18		47 31.850	122 19.020	
		Start Tow	0858	19	0.6	-18	140	47 31.828	122 18.981	377 m.
		End	0903	16	0.8	-15		47 31.696	122 18.752	130° true, 5 min.
					flood					
34-3D	6-Sep-07	Start Set	0918	20	1.1	-19		47 31.718	122 18.765	
		Start Tow	0919	21	1.1	-20	120	47 31.735	122 18.796	379 m.
		End	0924	16	1.3	-15		47 31.868	122 19.026	311° true, 5 min.
					flood					
35-3A	6-Sep-07	Start Set	0938	20	1.7	-18		47 31.839	122 18.999	
		Start Tow	0939	20	1.7	-18	140	47 31.859	122 19.036	423 m.
		End	0944	20	1.9	-18		47 32.010	122 19.290	311° true, 5 min.
					flood					
35-3AC	6-Sep-07	Start Set	0954	19	2.2	-17		47 31.992	122 19.259	
		Start Tow	0955	20	2.2	-18	140	47 31.969	122 19.213	767 m.
		End	1005	20	2.5	-18		47 31.699	122 18.748	131° true, 10 min.
					flood					
37-1E	6-Sep-07	Start Set	1046	33	3.9	-29		47 33.321	122 20.602	
		Start Tow	1047	34	3.9	-30	250	47 33.375	122 20.626	425 m.
		End	1052	32	4.2	-28		47 33.590	122 20.745	340° true, 5 min.
					flood					
38-1E	6-Sep-07	Start Set	1106	35	4.6	-30		47 33.552	122 20.718	
		Start Tow	1107	36	4.7	-31	250	47 33.490	122 20.682	380 m.
		End	1113	35	4.9	-30		47 33.295	122 20.588	162° true, 6 min.
					flood					
39-1F	6-Sep-07	Start Set	1131	36	5.5	-31		47 33.337	122 20.553	
		Start Tow	1132	38	5.5	-33	240	47 33.386	122 20.577	417 m.
		End	1138	27	5.8	-21		47 33.599	122 20.686	341° true, 6 min.
					flood					
40-1F	6-Sep-07	Start Set	1232	34	7.5	-27		47 33.570	122 20.676	
		Start Tow	1233	34	7.6	-26	240	47 33.517	122 20.644	401 m.
		End	1239	38	7.8	-30		47 33.313	122 20.536	160° true, 6 min.
					flood					
41-3A	6-Sep-07	Start Set	1302	25	8.3	-17		47 31.999	122 19.276	
		Start Tow	1303	26	8.3	-18	180	47 31.968	122 19.220	394 m.
		End	1308	28	8.4	-20		47 31.827	122 18.984	132° true, 5 min.
					flood					
42-3A	6-Sep-07	Start Set	1321	28	8.7	-19		47 31.849	122 19.021	
		Start Tow	1322	27	8.7	-18	180	47 31.879	122 19.064	375 m.
		End	1327	28	8.8	-19		47 32.013	122 19.289	311° true, 5 min.
					flood					

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Station Name	Date		Time	Depth (feet)	Predicted Tide	Mudline Depth (feet)	Wire Out (feet)	Northstar DGPS (NAD 83) Latitude decimal min.	Longitude decimal min.	Trawl Distance (m.) & Direction/Time Comments
43-3BD	6-Sep-07	Start Set	1335	23	9.0	-14		47 32.008	122 19.256	
		Start Tow	1336	24	9.0	-15	180	47 31.978	122 19.205	520 m.
		End	1343	25	9.2	-16		47 31.793	122 18.892	131° true, 7 min.
					flood					
44-3F	6-Sep-07	Start Set	1400	29	9.5	-20		47 31.714	122 18.756	
		Start Tow	1401	28	9.5	-19	200	47 31.682	122 18.700	424 m.
		End	1407	24	9.6	-14		47 31.498	122 18.519	132° to 163° true 6 minutes
					flood					
45-3E	6-Sep-07	Start Set	1422	25	9.8	-15		47 31.716	122 18.786	
		Start Tow	1423	24	9.8	-14	170	47 31.689	122 18.745	468 m.
		End	1430	25	9.9	-15		47 31.491	122 18.528	132° to 158° true 7 minutes
					flood					
46-3E	6-Sep-07	Start Set	1440	24	10.0	-14		47 31.504	122 18.545	
		Start Tow	1441	24	10.0	-14	170	47 31.545	122 18.564	441 m.
		End	1447	26	10.1	-16		47 31.719	122 18.793	340° to 312° true 6 minutes
					high flood					
47-3AC	6-Sep-07	Start Set	1459	29	10.2	-19		47 31.826	122 18.982	
		Start Tow	1500	27	10.2	-17	180	47 31.852	122 19.021	445 m.
		End	1506	29	10.3	-19		47 32.009	122 19.290	311° true, 6 min.
					high flood					
48-3AC	6-Sep-07	Start Set	1515	28	10.3	-18		47 32.005	122 19.283	
		Start Tow	1516	27	10.3	-17	180	47 31.976	122 19.235	535 m.
		End	1523	27	10.4	-17		47 31.783	122 18.917	132° true, 7 min.
					high flood					
49-1B	7-Sep-07	Start Set	0832	45	-0.5	-46		47 33.989	122 20.886	
		Start Tow	0833	40	-0.5	-41	290	47 33.924	122 20.863	366 m.
		End	0838	28	-0.4	-28		47 33.740	122 20.757	159° true, 5 min.
					low					
50-1B	7-Sep-07	Start Set	0850	29	-0.4	-29		47 33.772	122 20.778	
		Start Tow	0851	23	-0.4	-23	200	47 33.822	122 20.789	420 m.
		End	0856	35	-0.3	-35		47 34.049	122 20.790	360° true, 5 min.
					low					
51-1A	7-Sep-07	Start Set	0923	24	0.0	-24		47 33.974	122 20.943	
		Start Tow	0924	32	0.0	-32	175	47 33.935	122 20.920	390 m.
		End	0929	33	0.2	-33		47 33.735	122 20.822	162° true, 5 min.
					low flood					
52-1C	7-Sep-07	Start Set	0949	35	0.3	-35		47 33.760	122 20.841	
		Start Tow	0950	32	0.3	-32	200	47 33.716	122 20.816	Huge tug tire!
		End	NA	31	0.4	-31		NA	NA	dumped trawl
					flood					
53-1C	7-Sep-07	Start Set	1030	35	1.7	-33		47 33.787	122 20.848	
		Start Tow	1031	34	1.7	-32	200	47 33.742	122 20.830	441 m.
		End	1036	34	1.7	-32		47 33.520	122 20.703	159° true, 5 min.
					flood					
54-1C	7-Sep-07	Start Set	1053	21	2.1	-19		47 33.536	122 20.758	
		Start Tow	1054	24	2.1	-22	150	47 33.567	122 20.758	454 m.
		End	1100	39	2.3	-37		47 33.803	122 20.857	344° true, 6 min.
					flood					
55-1C	7-Sep-07	Start Set	1108	37	2.6	-34		47 33.772	122 20.828	dumped trawl
		Start Tow	1109	36	2.6	-33	250	47 33.707	122 20.800	Huge tug tire!
		End	1114	28	2.8	-25		47 33.519	122 20.706	367 m.
					flood				161° true, 5 min.	
56-1C	7-Sep-07	Start Set	1210	36	4.8	-31		47 33.570	122 20.723	
		Start Tow	1211	38	4.9	-33	250	47 33.616	122 20.747	365 m.
		End	1216	40	5.1	-35		47 33.802	122 20.843	341° true, 5 min.
					flood					

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Station Name	Date		Time	Depth (feet)	Predicted Tide	Mudline Depth (feet)	Wire Out (feet)	Northstar DGPS (NAD 83) Latitude decimal min.	Longitude decimal min.	Trawl Distance (m.) & Direction/Time Comments
57-1D	7-Sep-07	Start Set	1226	28	5.5	-23		47 33.554	122 20.665	
		Start Tow	1228	23	5.5	-18	180	47 33.606	122 20.685	414 m.
		End	1233	34	5.7	-28		47 33.817	122 20.794	341° true, 5 min.
					flood					
58-1D	7-Sep-07	Start Set	1240	25	6.0	-19		47 33.809	122 20.765	kelp!
		Start Tow	1241	21	6.0	-15	150	47 33.763	122 20.742	413 m.
		End	1247	26	6.3	-20		47 33.549	122 20.649	164° true, 6 min.
					flood					
59-1D	7-Sep-07	Start Set	1304	20	6.8	-13		47 33.556	122 20.648	
		Start Tow	1305	18	6.8	-11	150	47 33.587	122 20.669	430 m.
		End	1310	20	7.0	-13		47 33.811	122 20.761	345° true, 5 min.
					flood					
60-1D	7-Sep-07	Start Set	1321	36	7.4	-29		47 33.569	122 20.681	
		Start Tow	1323	34	7.4	-27	250	47 33.621	122 20.704	365 m.
		End	1327	41	7.6	-33		47 33.806	122 20.805	340° true, 4 min.
					flood					
61-1B	7-Sep-07	Start Set	1337	27	7.9	-19		47 33.771	122 20.750	
		Start Tow	1338	24	7.9	-16	180	47 33.811	122 20.767	377 m.
		End	1343	46	8.1	-38		47 34.013	122 20.803	353° true, 5 min.
					flood					
62-1B	7-Sep-07	Start Set	1335	48	8.4	-40		47 34.000	122 20.818	
		Start Tow	1356	46	8.4	-38	200	NA	NA	378 m.
		End	1401	29	8.5	-21		47 33.756	122 20.748	169° true, 5 min.
					flood					
63-1B	7-Sep-07	Start Set	1413	26	8.9	-17		47 33.776	122 20.746	
		Start Tow	1414	27	8.9	-18	200	47 33.819	122 20.774	381 m.
		End	1419	48	9.0	-39		47 34.024	122 20.797	356° true, 5 min.
					flood					
64-1E	7-Sep-07	Start Set	1431	29	9.3	-20		47 33.527	122 20.726	
		Start Tow	1433	27	9.3	-18	190	47 33.479	122 20.697	341 m.
		End	1437	40	9.4	-31		47 33.308	122 20.596	158° true, 4 min.
					flood					
65-1E	7-Sep-07	Start Set	1448	40	9.7	-30		47 33.279	122 20.576	
		Start Tow	1449	41	9.7	-31	200	47 33.324	122 20.599	488 m.
		End	1455	31	9.8	-21		47 33.564	122 20.761	336° true, 6 min.
					flood					
66-1E	7-Sep-07	Start Set	1507	29	10.0	-19		47 33.571	122 20.770	
		Start Tow	1508	26	10.0	-16	150	47 33.529	122 20.747	449 m.
		End	1515	40	10.1	-30		47 33.309	122 20.596	155° true, 7 min.
					flood					
67-1B	7-Sep-07	Start Set	1526	28	10.3	-18		47 33.787	122 20.756	
		Start Tow	1527	27	10.3	-17	175	47 33.829	122 20.774	300 m.
		End	1531	45	10.4	-35		47 33.990	122 20.803	353° true, 4 min.
					high flood					
68-1B	10-Sep-07	Start Set	0828	44	3.3	-41		47 34.026	122 20.832	
		Start Tow	0829	47	3.3	-44	275	47 33.960	122 20.824	411 m.
		End	0835	35	3.1	-32		47 33.741	122 20.772	171° true, 6 min.
					ebb					
69-1B	10-Sep-07	Start Set	0847	33	2.6	-30		47 33.776	122 20.746	
		Start Tow	0848	34	2.5	-32	200	47 33.819	122 20.774	381 m.
		End	0854	30	2.6	-27		47 34.024	122 20.797	356° true, 6 min.
					ebb					
70-1F	10-Sep-07	Start Set	0904	20	2.3	-18		47 33.572	122 20.666	
		Start Tow	0905	29	2.3	-27	150	47 33.541	122 20.657	441 m.
		End	0910	32	2.1	-30		47 33.316	122 20.541	161° true, 5 min.
					ebb					

**Windward Environmental
 Duwamish River Trawls**

September, 2007 High Rise 7.6-meter SCCWRP Trawl Ordered by Time & Date

Station Name	Date		Time	Depth (feet)	Predicted Tide	Mudline Depth (feet)	Wire Out (feet)	Northstar DGPS (NAD 83) Latitude decimal min.	Longitude decimal min.	Trawl Distance (m.) & Direction/Time Comments
71-1C	10-Sep-07	Start Set	0922	27	1.7	-25		47 33.564	122 20.746	
		Start Tow	0923	26	1.7	-24	175	47 33.605	122 20.762	370 m.
		End	0928	34	1.6	-32		47 33.794	122 20.858	341° true, 5 min.
					ebb					
72-1C	10-Sep-07	Start Set	0941	34	1.2	-33		47 33.779	122 20.853	
		Start Tow	0942	34	1.1	-33	175	47 33.739	122 20.838	422 m.
		End	0947	24	1.0	-23		47 33.526	122 20.717	159° true, 5 min.
					ebb					
73-1E	10-Sep-07	Start Set	0959	24	0.8	-23		47 33.552	122 20.730	
		Start Tow	1000	24	0.8	-23	180	47 33.515	122 20.708	404 m.
		End	1005	31	0.7	-30		47 33.311	122 20.593	159° true, 5 min.
					ebb					
74-1F	10-Sep-07	Start Set	1018	35	0.4	-35		47 33.346	122 20.550	
		Start Tow					150			Hang up!
		End								
					low ebb					
75-1F	10-Sep-07	Start Set	1031	35	0.3	-35		47 33.378	122 20.593	
		Start Tow	1032	36	0.3	-36	150	47 33.416	122 20.602	341 m.
		End	1036	21	0.2	-21		47 33.592	122 20.682	343° true, 4 min.
					low ebb					
76-1F	10-Sep-07	Start Set	1057	20	0.2	-20		47 33.566	122 20.667	
		Start Tow	1058	23	0.2	-23	150	47 33.535	122 20.646	416 m.
		End	1104	33	0.2	-33		47 33.319	122 20.556	164° true, 6 min.
					low					
77-1B	10-Sep-07	Start Set	1116	17	0.2	-17		47 33.769	122 20.747	Nothing, knot slipped
		Start Tow	1117	18	0.2	-18	150	47 33.802	122 20.766	435 m.
		End	1122	33	0.2	-33		47 34.034	122 20.772	346° to 005° true 5 minutes
					low					
78-1B	10-Sep-07	Start Set	1128	29	0.2	-29		47 33.999	122 20.783	
		Start Tow	1129	29	0.3	-29	150	47 33.965	122 20.785	390 m.
		End	1134	20	0.4	-20		47 33.762	122 20.736	184° to 159° true 5 minutes
					low flood					
79-1D	10-Sep-07	Start Set	1152	18	0.6	-17		47 33.779	122 20.752	
		Start Tow	1153	20	0.7	-19	150	47 33.748	122 20.736	392 m.
		End	1159	22	0.7	-21		47 33.544	122 20.651	164° true, 6 min.
					low flood					
80-3AC	10-Sep-07	Start Set	1254	19	2.2	-17		47 31.995	122 19.266	
		Start Tow	1255	19	2.2	-17	150	47 31.970	122 19.227	500 m.
		End	1301	21	2.4	-19		47 31.795	122 18.922	130° true, 6 min.
					flood					
81-3AC	10-Sep-07	Start Set	1308	22	2.7	-19		47 31.768	122 18.880	
		Start Tow	1309	21	2.8	-18	150	47 31.785	122 18.915	626 m.
		End	1317	21	3.0	-18		47 32.012	122 19.287	312° true, 8 min.
					flood					
82-3AC	10-Sep-07	Start Set	1326	19	3.2	-16		47 31.971	122 19.231	
		Start Tow	1326	20	3.3	-17	150	47 31.942	122 19.186	521 m.
		End	1333	24	3.6	-20		47 31.761	122 18.867	130° true, 7 min.
					flood					
83-3DEF	10-Sep-07	Start Set	1348	24	4.2	-20		47 31.745	122 18.811	
		Start Tow	1349	22	4.2	-18	170	47 31.718	122 18.754	496 m.
		End	1355	18	4.5	-14		47 31.513	122 18.519	132° to 162° true 6 minutes
					flood					
84-3BD	10-Sep-07	Start Set	1408	24	5.0	-19		47 31.778	122 18.888	
		Start Tow	1409	23	5.0	-18	150	47 31.800	122 18.920	590 m.
		End	1417	23	5.4	-18		47 32.012	122 19.273	312° true, 8 min.
					flood					

**Windward Environmental
 Duwamish River Trawls**

September, 2007 High Rise 7.6-meter SCCWRP Trawl Ordered by Time & Date

Station Name	Date		Time	Depth (feet)	Predicted Tide	Mudline Depth (feet)	Wire Out (feet)	Northstar DGPS (NAD 83) Latitude decimal min.	Longitude decimal min.	Trawl Distance (m.) & Direction/Time Comments
85-3AC	10-Sep-07	Start Set	1426	23	5.8	-17		47 31.937	122 19.178	
		Start Tow	1426	21	5.8	-15	150	47 31.911	122 19.137	556 m.
		End	1433	26	6.1	-20		47 31.729	122 18.783	127° true, 8 min.
					flood					
86-3AC	10-Sep-07	Start Set	1441	24	6.4	-18		47 31.768	122 18.883	
		Start Tow	1442	24	6.4	-18	150	47 31.785	122 18.921	611 m.
		End	1450	25	6.8	-18		47 32.002	122 19.289	311° true, 8 min.
					flood					
87-1F	10-Sep-07	Start Set	1510	40	0.3	-40		47 33.370	122 20.577	
		Start Tow	1511	40	0.3	-40	175	47 33.403	122 20.590	370 m.
		End	1516	22	0.2	-22		47 33.594	122 20.676	343° true, 5 min.
					flood					
88-1B	10-Sep-07	Start Set	1525	25	8.1	-17		47 33.820	122 20.771	Tugs in way
		Start Tow	1526	30	8.1	-22	150	47 33.855	122 20.785	150 m.
		End	1528	39	8.2	-31		47 33.936	122 20.791	357° true, 2 min.
					flood					
89-1F	10-Sep-07	Start Set	1539	35	8.5	-27		47 33.571	122 20.677	
		Start Tow	1540	36	8.6	-27	240	47 33.512	122 20.647	399 m.
		End	1545	42	8.7	-33		47 33.306	122 20.552	163° true, 5 min.
					flood					
90-1B	11-Sep-07	Start Set	0833	38	5.1	-33		47 33.994	122 20.794	Huge rocks!
		Start Tow	0834	40	5.1	-35	150	47 33.961	122 20.794	386 m.
		End	0839	26	4.9	-21		47 33.759	122 20.739	180° to 160° true 5 minutes
					ebb					
91-1B	11-Sep-07	Start Set	0917	24	3.5	-21		47 33.804	122 20.775	
		Start Tow	0918	25	3.5	-22	180	47 33.844	122 20.794	361 m.
		End	0922	42	3.3	-39		47 34.037	122 20.834	352° true, 4 min.
					ebb					
92-3AC	11-Sep-07	Start Set	1047	19	1.2	-18		47 31.807	122 18.956	
		Start Tow	1047	19	1.2	-18	125	47 31.824	122 18.987	513 m.
		End	1054	19	1.1	-18		47 32.012	122 19.288	313° true, 7 min.
					low ebb					
93-3AC	11-Sep-07	Start Set	1106	18	1.0	-17		47 31.990	122 19.258	
		Start Tow	1106	18	1.0	-17	125	47 31.971	122 19.228	665 m.
		End	1115	20	0.9	-19		47 31.742	122 18.818	130° true, 9 min.
					low					
94-2FD	11-Sep-07	Start Set	1215	22	1.1	-21		47 32.339	122 19.785	
		Start Tow	1216	23	1.1	-22	170	47 32.363	122 19.823	680 m.
		End	1225	27	1.2	-26		47 32.633	122 20.192	317° true, 9 min.
					flood					
95-2B	11-Sep-07	Start Set	1239	23	1.5	-22		47 32.641	122 20.194	
		Start Tow	1240	22	1.5	-21	150	47 32.679	122 20.203	399 m,
		End	1246	29	1.6	-27		47 32.881	122 20.313	340° true, 6 min.
					flood					
96-2AC	11-Sep-07	Start Set	1256	33	1.8	-31		47 32.776	122 20.318	
		Start Tow	1257	31	1.8	-29	200	47 32.728	122 20.286	678 m.
		End	1306	21	2.1	-19		47 32.443	122 19.956	155° to 136° true 9 minutes
					flood					
97-2AC	11-Sep-07	Start Set	1322	33	2.5	-31		47 32.768	122 20.320	
		Start Tow	1323	32	2.6	-29	200	47 32.723	122 20.291	647 m.
		End	1332	22	2.9	-19		47 32.452	122 19.972	152° to 136° true 9 minutes
					flood					
98-4AC	11-Sep-07	Start Set	1507	10	6.5	-4		47 30.777	122 18.251	
		Start Tow	1508	14	6.6	-7	100	47 30.795	122 18.263	641 m.
		End	1516	19	6.8	-12		47 31.129	122 18.397	345° true, 8 min.
					flood					

**Windward Environmental
 Duwamish River Trawls**

September, 2007

High Rise 7.6-meter SCCWRP Trawl

Ordered by Time & Date

Station Name	Date		Time	Depth (feet)	Predicted Tide	Mudline Depth (feet)	Wire Out (feet)	Northstar DGPS (NAD 83) Latitude decimal min.	Longitude decimal min.	Trawl Distance (m.) & Direction/Time Comments
99-4AC	11-Sep-07	Start Set	1523	17	7.1	-10		47 31.091	122 18.380	
		Start Tow	1524	17	7.1	-10	100	47 31.066	122 18.372	541 m.
		End	1531	10	7.4	-3		47 30.784	122 18.260	165° true, 7 min.
					flood					
100-4ABCD	11-Sep-07	Start Set	1538	12	7.7	-4		47 30.795	122 18.260	
		Start Tow	1539	18	7.7	-10	125	47 30.821	122 18.269	605 m.
		End	1547	20	8.0	-12		47 31.136	122 18.393	345° true, 8 min.
					flood					
101-1B	12-Sep-07	Start Set	1218	37	1.8	-35		47 33.988	122 20.807	
		Start Tow	1219	42	1.8	-40	220	47 33.934	122 20.811	358 m.
		End	1224	32	1.9	-30		47 33.744	122 20.757	169° true, 5 min.
					low flood					
102-4A	12-Sep-07	Start Set	1338	11	2.8	-8		47 30.902	122 18.312	
		Start Tow	1339	12	2.8	-9	100	47 30.922	122 18.318	396 m.
		End	1344	15	3.0	-12		47 31.128	122 18.402	345° true, 5 min.
					flood					
103-4B	12-Sep-07	Start Set	1350	14	3.2	-11		47 31.113	122 18.371	
		Start Tow	1351	15	3.2	-12	100	47 31.087	122 18.358	436 m.
		End	1357	12	3.3	-9		47 30.859	122 18.270	165° true, 6 min.
					flood					
104-4AB	12-Sep-07	Start Set	1403	13	3.5	-10		47 30.866	122 18.288	
		Start Tow	1404	15	3.5	-12	110	47 30.890	122 18.295	460 m.
		End	1410	16	3.7	-12		47 31.130	122 18.391	345° true, 6 min.
					flood					
105-4A	12-Sep-07	Start Set	1416	15	3.9	-11		47 31.105	122 18.395	
		Start Tow	1416	15	3.9	-11	110	47 31.078	122 18.384	430 m.
		End	1422	11	4.1	-7		47 30.853	122 18.299	166° true, 6 min.
					flood					
106-4B	12-Sep-07	Start Set	1433	15	4.5	-11		47 30.888	122 18.281	
		Start Tow	1434	16	4.5	-12	120	47 30.913	122 18.294	420 m.
		End	1439	16	4.7	-11		47 31.132	122 18.382	345° true, 5 min.
					flood					
107-4AB	12-Sep-07	Start Set	1449	15	5.1	-10		47 31.085	122 18.371	
		Start Tow	1450	16	5.1	-11	120	47 31.057	122 18.361	451 m.
		End	1456	15	5.3	-10		47 30.822	122 18.267	165° true, 6 min.
					flood					
108-4A	12-Sep-07	Start Set	1506	14	5.6	-8		47 30.870	122 18.298	
		Start Tow	1506	16	5.7	-10	120	47 30.896	122 18.303	462 m.
		End	1512	17	5.9	-11		47 31.141	122 18.372	349° true, 6 min.
					flood					
109-4ABD	12-Sep-07	Start Set	1520	18	6.2	-12		47 31.114	122 18.400	
		Start Tow	1520	17	6.2	-11	120	47 31.086	122 18.389	631 m.
		End	1528	10	6.6	-3		47 30.761	122 18.238	163° true, 8 min.
					flood					
110-1CE	12-Sep-07	Start Set	1647	44	9.7	-34		47 33.701	122 20.780	
		Start Tow	1648	42	9.7	-32	220	47 33.647	122 20.768	672 m.
		End	1658	38	9.8	-28		47 33.301	122 20.605	162° true, 10 min.
					flood					
111-1BEF	12-Sep-07	Start Set	1708	42	9.8	-32		47 33.418	122 20.585	
		Start Tow	1709	34	9.9	-24	220	47 33.467	122 20.618	813 m.
		End	1720	40	10.4	-30		47 33.888	122 20.798	344° true, 11 min.
					flood					

Crab Trap Collection Data

Deploy Trap: Date	Deploy Trap: Time	Area	Subarea	Crab Trap ID	X Coordinates	Y Coordinates	Collect Trap: Date	Collect Trap: Time	Dungeness Crab	Notes
9/11/2007	10:08	T4	B	CT001	47°31.1111	122°18.2990	9/11/2007	13:58	1	
9/11/2007	10:14	T4	B	CT002	47°31.0537	122°18.3491	9/11/2007	14:03	0	
9/11/2007	10:17	T4	A	CT003	47°31.0089	122°18.3518	9/11/2007	14:07	0	
9/11/2007	10:20	T4	B	CT004	47°30.9430	122°18.3015	9/11/2007	14:10	0	
9/11/2007	10:22	T4	A	CT005	47°30.9053	122°18.3097	9/11/2007	14:12	0	
9/11/2007	10:25	T4	C	CT006	47°30.8557	122°18.2866	9/11/2007	14:14	0	1 rock sole in trap
9/11/2007	10:28	T4	C	CT007	47°30.8228	122°18.2805	9/11/2007	14:16	0	
9/11/2007	10:33	T4	A	CT008	47°30.9304	122°18.3177	9/11/2007	14:20	0	
9/11/2007	10:36	T4	B	CT009	47°30.9998	122°18.3185	9/11/2007	14:22	0	
9/11/2007	14:32	T4	B	CT010	47°31.1250	122°18.2361	9/12/2007	13:12	0	
9/11/2007	14:34	T4	B	CT011	47°31.1386	122°18.2457	9/12/2007			trap was stolen
9/11/2007	14:36	T4	B	CT012	47°31.1306	122°18.2831	9/12/2007	13:15	0	
9/11/2007	14:38	T4	B	CT013	47°31.1193	122°18.2753	9/12/2007			trap was stolen
9/11/2007	14:40	T4	B	CT014	47°31.1011	122°18.3013	9/12/2007			trap was stolen
9/11/2007	14:46	T4	A	CT015	47°31.0193	122°18.3665	9/12/2007	13:23	0	
9/11/2007	15:02	T4	C	CT016	47°30.7159	122°18.1806	9/12/2007	15:40	0	redeployed trap out of trawl area
9/11/2007	14:50	T4	B	CT017	47°31.9670	122°18.3058	9/12/2007	13:25	0	
9/11/2007	14:52	T4	B	CT018	47°31.0162	122°18.3191	9/12/2007	13:28	0	
9/12/2007	12:35	T1	D	CT019	47°33.7887	122°20.7481	9/12/2007	16:35	0	2 red rock crabs released
9/12/2007	12:40	T1	C	CT020	47°33.7286	122°20.8772	9/12/2007	16:40	0	2 red rock crab and 5 slender crab released