

APPENDIX F

Field Notes and Field Collection Forms

4 07.31.08

Mussel presence is ~~more~~ ^{more} ~~abundant~~ traveling N along pilings

Mussels on pilings ~~at the way~~ mostly towards waterway side

Area 6 - no pilings outside of slip area - no obvious presence / substrate for mussels
took picture of Area 6 going into slip
lots of sea stars along Area 6 inside slip

At end of slip - 0 mussels on concrete pilings, just barnacles
Took 2 photos under dock w/ mussel - less pilings

On concrete piling - some pilings w/ mussels on dock ~~at~~ at slip 27

less abundant than T-25 dock pilings, but high numbers

07.31.08 5

took photo of piling w/ rope covered w/ mussels.

less ~~at~~ mussels on pilings as you come out of slip (around bend) and then pilings more abundant ~~on~~ on pilings outside slip
Again - more mussels on waterway side

Mussel shells present on black ~~plastic~~ beat dock crates ~~where~~ from birds feeding?

Mussels on pilings along T-30 similar to T-25

less abundant about 1/2 way up along the pier going N but still present

Took photo of piling at end of T-30 dock - small mussels ~~at~~

6 07.31.08

Pilings between Old Area 4 and
Area 3 with lots of mussels
in creosote pilings -
larger sized

Pilings outside Area 3 is
abundant w/ mussels extending
into Area 2

845 Took picture of Area 2.

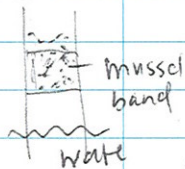
Mussels on pilings in
Coast Guard Area.

Took photos of clam crew
@ Beach Area 2

0915 - Back down waterway on
W side -

T-18 ^{concrete} pilings with ^{some} mussels
above low water line

dock



less mussels as you head
S along pier (about
half way down?)
mostly barnacles - took pictures

07.31.08

7

More mussels @ S end of ^{in a narrow area}
T-18 dock on both concrete
pilings + black bumpers hanging
in the water
then is more barnacle
dominated.

barge on dock @ S^{em} end of pier (T-18)

DM Camera - 41 @ S end of T-18

Limited number of mussels @ very
south end of T-18
lots of starfish present @ S end.

Outside Area 12 ^(metal) pilings w/ few
mussels on it.

Barges Tugs/Barge in way b/w
Area 11 + Area 12

Took photo of pilings w/
starfish ~~in~~ outside bridge
on N side

07.31.08

0945 Arrive back @ Area 9 -
took photos of pilings w/ mussels

On upstream side of bridge
on E side of waterway - no
obvious presence of mussels
on substrate habitat

Headed back ~~up~~ downstream
under pilings w/ Joe Gantlet (EPA)
and Glen C. Mulkeleshoot to help
with ~~my~~ beached boat.

Decided to leave boat. Picked up
Deborah to view EW @ low tide

Took photos of lack of beach area
at Area 7 outside of ship.

Noted presence of gulls in
sulfur odor in ship 27 Ship 27

07.31.08

1028 Stopped @ Area 2 to take
photos @ low tide -
all gravel area to water line

1100 On upstream side of bridge, limited
pilings w/ mussels (took photos).

Back to S edge of E.W.
to meet other crew +
head back to office

1105

end of day
J. Purco
07.31.08

07.31.08

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J. Purco
07.31.08

0930 Arrive @ Boat 8/11/08
 met Joe Goulet - EPA
 Eric Parker
 Jeff Christensen } RSS
 Anne Strickland

Boat Safety meeting - 2 Planning
 10:05 will anchor - survey possible done
 locations.

• Setting up first transect on E shore
 at Bridge.

> Clarified w/ Eric that the 15' depth limit is the assumed limit of diver visibility & that all areas shallower than 15' that offer potential rocky/sh habitat should also be surveyed.

> Determined that fishermen on bridge under w. Seattle bridge constitute a hazard to divers & that divers should avoid swimming in this location.

> Divers, during the course of the week,

should make an attempt to collect fish from south of the westside bridge.

10:56 - Suited up.

11:14 Submerged - surveyed to S.

11:47 surface - very little marine life - No fish.

Location - W1A - 212234.6, 1267346.7 (s. end)
 Max depth 21'
 212626.3, 1267434.2 (w. end)

12:00 transit to N. submerged @ location
 W2A

13:15 - Divers surfaced - 1 20cm brown rockfish located during dive but escaped.
 - Rip-Rip observed to ~30' depth. @
 Deeper depth bottom was gravel/silt.
 Visibility 1-2 foot.

13:19 Divers prepared to re-submerge.

13:23 - Divers re-entered water

13:40 - Fish bagged by divers.
 19 ft. depth.

Location Spillways N of ladder 10 pilings
 E of westernmost piling

EW 08-Scuba W2A-BR-01 ^{stet.} N: 213123.089
 - length = 193 mm, 150 g W: 1267785.286
 - held in bucket - divers are returning to waterway to sample using a spear. 3 rockfish collections in addition to this were attempted but the fish escaped.
 - Joe Corbett & Matt Loren (me) agreed that use of spears is necessary for collection.

> Decontaminated tri-tip spear with Alcobox - brown sludge (yellow) ~~spear~~
 Paper towel after 3 cleanings w/ Lysol
 & Paper towel.

1428

> kept & processed original fish 14:25
 - divers returned to boat

Second fish collected from
 Same Area

EW 08-Scuba W2A-BR-02 location:
 length 226 mm 213047.410
 1267788.607
 - fish was speared 10 pilings in from edge

8/11/08

Location of capture = on previous Pg

Rockfish varied from 1 fish / 5 ft to none.

> Lots of Coonstripe shrimp w/ the rockfish

W2-Survey locations

W2S - 212944.716

1267779.066

W2N - 213357.168

1267791.436

1512-Divers enter water at location
 W 3

1559-Divers surfaced-Rockfish caught

EW 08-SCUBA W3-BR-03
 Length - 228
 Wt - 200 g
 W3-S 213970.617
 1267798.721
 W3-N 214344.581
 1267801.399

- visibility 6 ft

Ecology } Coonstripe shrimp - rockfish less abundant than w 2
 Nudibranchs
 2 ratfishes
 2 Sailfin sculpins
 Snake Prickel backs high on slope

8/11/08

fish³ caught @ 25' depth
 10 pilings in from edge of pilings
 fish caught w/ net - NO spear used.

16:35 - dropped anchor at site W4.

16:51 - divers entered water at site W4
 in middle of transect 30

(253)307-4021

Tony-

99 S. 599 exit to 133rd.
 through intersection

17:00 fish caught - 9' deep - spear
 11 pilings in

EW 08-SCUBA-W4-BROY

length 298mm

weight 415g

location - 215909.676
 of capture 1267820.652

8/11/08

W4-location S - 216174.139
 end of transect 1267821.370

N - 215773.982
 end of transect (267831.731)

17:33 return to slip 36 drop off location
 - Jack Penny Park -
 fish transported to ARI, End of Day

George Blomberg -
 728-3874



8/12/08

Arrive at Jack Penny Park 0900

Coast Ice chest on board.

Crew - Matt Luxon, Joe Goulet (EPA)

RSS > Erik Parker, Don Peterson, Anne Strickland
Diver Diver CrewFirst site is T18 north end of waterway
W5-11:01 water depth = 15' 10 pilings back
→ capture time

Rockfish captured & processed

Divers returned - 11:08

length 298mm

430g

EW08-SCUBA W5-RF05

Red Rock crabs & coarctate shrimp
observed @ site. fish not speared.Rockfish abundance was about 1/20 ft
but only with Rip rap.

- taking location data for collection

- fish collection location S 218971.766
location W5N 21267196.209

8/12/08

W5-S- 218565.630
(267195.785)fish collection location - 218841.496
(267188.724)1201 - relocated to location W6
on T18 directly across from N end of
T30

12:37 Divers entered water at W6

12:44 - fish netted - speared.

12:46 - depth 21 ft. at capture location.

length - 310mm

weight - 990g

5 EW08-SCUBA W6-RF6

- steeper grade to Rip-rap - crabs observed

1 - no other species observed due to low vis.

~~1300 transit to W7~~9 pilings in from
East edgeduring capture activity
visibility 10-15 ft.silt cloud from diver
activity

10 8/12/08

300-transit do WF

1312- anchor at W7 on T18 directly
across from slip 27 N. end.

B40 - Divers submerged at W7
→ RR crabs, sponges etc.

13:57. fish sighted (brown Rockfish)

14:17 Divers returned to boat with fish

fish - EWS-Scuba ^{W7} ~~W8~~ - RF87 ⁰ speared
length: 278 mm - Fish mislabeled RF7
weight: 320g - Fish mislabeled W8-
320g ⁸ vs pilings in RF8

1422- Anchor at W8 on T30 across from
slip slip 27 a couple hundred ft S.

1446- Divers entered the water @ W 8

Returned up path @ 1518

1510 - ♀ fish captured @ 22 ft. - speared

EW08-SCUBA W8-REF

Length - 285mm

weight - 370g

8/12/08

Catch location 7 Pili.ogs in from
E edge of Pili.ogs.

M. L. Ron & Joe Goulet

(59) dropped at Jack Penny - boat
transmitted to Harbor Island Marine

1600 - rejoined the boat at Harbor Isle. - Joe
- Matt

1630 Jivulus entered water at
Location W9 - E. bank south of
Spokane St. bridge.

W/9N. 215351.002
1267213.765

W8- fresh collection location
214202.188
1267097.453

W7 fish collection location
215416.275
1267108.773

Little habitat under bridge
mostly gravel w/ occasional debris

8/12/08

For Daniel leave on boat

> Sample processing gear

> Rain gear, PFD

⇒ at office leave - QAPP - Phone

- Fish Permit

- Notebook

1702 - fish (Rockfish sighted) - Not captured

Divers are swimming throughout channel south of Spokane st. bridge & under bridge

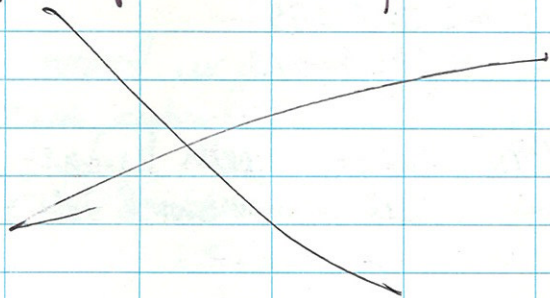
Fish was located off the bottom of the gangway on w. side of channel

~~Met at W. Seattle~~

1730 return to Harbor Island Marina. J. Garlick

& Matt (Lyon) departed boat. END of Day

- Samples transported to ARI by M. Lyon



08/13/08

D DIEDRICH

8/13/08 07:50 PICK UP supplies at Woodward, drive
odometer 033

Weather: Sunny 65 - 70° F

Slight intermittent breeze 5 mph

08:44 Susie McGroddy calls; Slip 27
is ok to sample, possibly Coast Guard

09:15 Arrive at Jack Perry Park

09:30 Call Matt for details on GPS, meeting place

10:04 On boat from Jack Perry Park
to south side of West Waterway
WW staff: Daniel Diedrich10:16 Safety chat
Near bridge Spokane st. just south

10:25 Matt calls - "Take note of method"

11:00 Divers in - AREA W9
middle of channel, none seen, moved toward west
Shore along dock

Saw several dungeness crab, sculpin, starfish

11:27 Divers
Saw small one, will try to net live for
measuring

11:34 Divers notice current

11:49 Divers near middle, 1 spe¹, move to east bank
caught

08/12/08

11:58

Rockfish EW08 SCUBA W9 RF9

Length: 24.5 cm

wt. : 231 gram

Notes - found in riprap near bottom at 11:49

GPS: W9 fish collection location

N - 211693.443 US ft

E - 1267112.707 US ft

fish on ice at 12:20

Caught with spear

12:22 boat to near coast guard
Eric calls coast guard12:51 SUSIE -
GEORGE AT PORT FOR SAMPLING ACCESS12:58 Boat anchors at just North of W12 near
Coast Guard

13:11 Divers in water under pilings near W12

13:36 Possible sighting, in net, to surface, sight confirm

CAUGHT Rockfish: EW08 SCUBA W12 RF10

LENGTH: 22.9 cm

WEIGHT: 230 g

Notes: GPS: N 219397.7

E 1267922.7

fish on ice at 13:48

Caught with hook on end

of spear fool

14 feet of water depth
in rocky bottom, debris

D DIEORICH

08/13/08

13:34

Boat to site will slip 27

14:15 Divers in

Judd out of air, switch to snorkel at top

15:13 caught Rockfish FW08 SCUBA W11 RF11

Length: 230 mm

Weight: 195 g

Condition - only recent ^{spear} ~~hook~~ damage
DD

10 pilings back

12 ft deep

Sample at "5" in 'Matson' container

Caught with spear

Notes:

GPS: N 214933.479

E 1268227.728

fish on ice at 15:24

empty of life, few crabs, a few others rockfish
in the habitat got away15:38 Arrive at pilings at slip north of ~~W12~~ ^{DD}

15:49 Divers in

W12

Sight rockfish to boat 16:32

16:41 LOST FISH - flipped out of Daniel's hands,
swam off

D DIEORICH

15

8/13/08

D DIEDRICH

16:45 Divers back in

16:58 Fish caught - spear 12

FW08 SCUBA W ~~W~~ RF 12

Length 210 cm

DD

Weight 140 g

Condition - No apparent abnormalities

GPS: N 212948.522 } capture location
 E 1267066.6 }

Notes: Several other rockfish

At edge of pilings at shore
 16 feet deep
 fish on ice at ~~16~~ 17:27
 DD

Daniel
 8/13/08

S. Pierce

8/26/08

EW Crab/Shrimp Effort

0800 Meet at Harbor Island Manna
 start loading gear

Crew Daniel Diedrich }
 Matt Luxon } Windward
 Shannon Pierce }
 Dave Mullins - Mullins Burde
 Peter Leon - Parametrix -
 oversight (EPA)

Weather - slightly overcast
 cool, no ppt.

0820 - ^{Health} Safety Briefing, plan for
 sampling

0830 - Begin prep of traps for
 crabbing/shrimping

0901 ~~GT01~~ moved location
 47° 35' 42.568" to get out of
 122° 10' 75.723" vessel traffic

18 08.26.08

S. Pierce

0901 ST01

47° 35.42568

122° 20.75723

(did not
redeploy
this location)

0908 ST01

Same coords @ CT01

0918 ST02

47° 35.30820

122° 20.58418

0924 CT02

Same coords @ ST02

0920 Communication w/ George @
the Port of Seattle regarding
access + activity for today's
sampling

0930 Communication with Susie - we don't
have access permission of Ship 36
but we can go into Ship 27 if
we inform George what we are doing

08.26.08

S. Pierce 19

0937 CT03

47° 35.12449

122° 20.65322

0940 ST03

Same coords @ CT03

0946 CT04

47° 35.06876

122° 20.53578

0948 ST04

Same coords @ ST04

0958 ST05

47° 34.71220

122° 20.4603

1000 CT05

Same coords as ST05

1008 ST06

47° 34.81663

122° 20.75302

08.26.08

1010 CT06

same coords as ST06

1015 ST07

47°34.63861

122°20.75846

1019 CT07

same coords @ ST07

1024 ST08

47°34.61335

122°20.58684

1025 CT08

same coords @ ST08

1033 CT09

47°34.30996

122°20.74607

1033 ST09

same coords @ CT09

08.26.08

weather-sunny, calm

1039 CT10

47°34.30675

122°20.69632

1039 ST10

same coords @ CT10

1047 CT11

47°34.22936

122°20.72966

1053 ST11

same coords @ CT11

1056 ST12

47°34.19154

122°20.14222 76460

No remaining crab/shrimp pots.

1110 Back to dock for lunch break

Pleon left

22 08-26-08

S. Pierce

1100 left msg w/ Paul Williams ~~that~~
to let us know if he'll be joining
us at 1pm for retrieving the pots.

1200 left msg w/ Paul Williams to
meet us at Dan Sayers Park rather
than H. Island Marina

1205 leave Harbor Island Marina -
Head to E. Waterway to recon.
mussels

Mussel Recon - Mussel Data

	length (cm)	weight (g)	
		shell weight (g)	weight (flesh) (g)
1	4.5	8.5	2.3
2	4.8	8.5	2.4
3	3.7	5.2	1.8
4	3.5	4.2	1.7
5	4.8	9.2	3.2g
6	3.4 *	3.1	1.5g
7	4.8	7.4	3.3
8	4.9	6.5	2.3
9	4.2	5.2	2.2
10	3.4	3.7	1.5
11	3.9	5.4	2.5

$$\bar{x} = 2.2 \quad (200g \quad n=91)$$

08-26-08

S. Pierce

23

Communication w/ Paul to
meet @ Dan Sayers Park ~ 2pm

1301 Pull up CT01 and ST01
Ø items in ST01
CT01
Processed 1 dungenous
8 red rock

1328 Pull up CT02 and ST02
Processed 20 red rock

Back to HI for more coolers.

1420 Pulled up CT11
Processed 2 red rock

(were concerned about reaching
permit before getting upstream.

1422 Reset trap
Back to E. Waterway

1440 Picked up Paul Williams
at Dan Sayers Park

08.26.08

S. Piera

1454 Pulled up CT009 + ST009
 ST009 - 2 red rock ~~kept~~ 7 red rock
 decided to throw back
 because of small size
 and because we only want
 15 crabs from Area 1

With consultation w/ Paul, decided
 to pull CT010 and ST010
 and then select the 13 biggest
 crab (to make 15 crabs from
 Area 1 along w/ CT011)

1508 Pulled CT010 + ST010
 ST010 = \emptyset organisms
 CT010 = processed 6 red rock

1529 Pulled ⁰⁰⁵CT050 + ⁰⁰⁵ST050 \emptyset
⁰⁰⁵ST050 = \emptyset organisms

1532 redeploy ~~ST050~~ ⁰⁰⁵ST010
~~47°~~ 47°34.76669
 122° 20.50154

08.26.08

S. Piera

1538 ST007 Pulled
 1 red rock released

redployed ~~ST007~~ ST017
 47°34.63861
 122°20.75846

1538 CT007 pulled
 6 red rock processed
 1 dungeness processed

1552 CT003 + ST003 ST003 redeployed
 ST003 = \emptyset organisms (same location)
 CT003 = processed 3 red rock

1558 CT004 + ST004 pulled
 redeployed ST004
 ST004 = \emptyset organisms
 CT004 = processed 1 red rock

1617 CT011 + ST011 pulled
 redeployed ST011

1620 - Dropped Shallow at Harbor Island
 Marina

08.26.08

S. Pieru

1625 ST012 - Pacific Staghorn Sculpin > 150mm

1637 - leave Harbor island marina - motor
through waterway to EW to
retrieve crab pots & deploy
shrimp pots.

1647 deployed ST ~~12~~¹³ - pots in buoy is
47° 35.39114 submerged
122° 20.75953
NW end of waterway

1653 deployed ST 1314
47° 35.27258
122° 20.58701

1655 dropped Paul & Stan Sayers

1701 pulled CT 6, left shrimp pot in place

1708 Deployed ST 15
47° 34.81084
122° 20.75945

Shannon cell 206 ~~577-1298~~
579-0873

1717 Retrieved ST 8

1720 RETRIEVED CT 8

08.27.08

S. Pierci

East Waterway Sampling - Mussels +
Shrimp Retrieval

0700 - Meet at Harbor Island
Marina - load gear.

Crew - Daniel Drednick (Windward)
Thai Do, Shannon Pierci
Peter Leon - Parametrix
Dave Mullins - Mullins Guide

Weather - Dark clouds, wind
cool, no ppt.

0750 - Leave H. Island Marina
Begin mussel sampling

Plan to sample 2 composites
per Area + one at Ship 27

0750 call to Susie to get George
from the Port's number
George Blomberg
Port of Seattle
(206) 728-3194

08.27.08

S. Pierci

0803 ^{HC001} ~~MS-001~~ sampling - under bridge
47° 34.23624
122° 20.73872
n=89

Took 3 pictures of sampling location

0816 HC002 sampling - at old pier
47° 34.35720 that was
122° 20.65343 torn down
Took pictures of sampling location
n=90

0828 HC003 sampling - at T-25
47° 34.45151 n=90
122° 20.58477

0840 HC004 sampling - directly across from
47° 34.45791 n=100 T-25
122° 20.75523

0851 HC005 sampling - directly across from Ship 27
47° 34.80760 n=100
122° 20.75711

08.27.08

S. Pierce

0908 H006 sampling - in Slip 27

47°34. ~~72897~~ 72397

122°20.43669 n=100

0919 ~~H006~~ H007 sampling - along T-30

47°34.88542 n=100

122° ~~20.43669~~ 20.590180931 H008 sampling - along T-18 in
~ Area 4

47°35.04055 n=100

122°20.75859

Sampled area where mussels were
larger - further up from the area
targetted b/c mussels smaller
underneath T-18

0945 H009 sampling - and ~~at~~ downstream

47°35.11787 end of T-30

122°20.58799 n=100

0954 H010 sampling - Dan Sayers Park

47°35.30940 n=100

122°20. ~~57926~~

57926

S. Pierce

08.27.08

1007 H011 sampling - ~~at~~ downstream
end of T-18 - under pier

47°35.32892

122°20.75818

Coordinates taken just outside of Pier

Finished mussel sampling - ~~took~~
begin so put retrieval of shrimp.

1020 Retrieved ST013
Ø organisms1031 Retrieved ST014
Ø organisms1034 Retrieved ST013
~~1 rock fish~~
1 rock fish - released.1041 Retrieved ST015
Ø organisms

32 08.27.08

S. Pierce

1042 Retrieved ST006
1 rockfish - released

1047 Retrieved ~~ST07~~ ST017
0 organisms

1056 Retrieved ST08
caught on snag + wrapped around piling
9 shrimp processed
5 red rock released

1107 Retrieved ~~ST005~~ ST016
1 slender - released

1114 Retrieved ST004
3 red rocks - released
1 rock fish - released

1115 Head upstream to double check
Area for pots.

1124 End of Sampling - back at
Harbor Island Marua.

08.27.08

S. Pierce 33

08.27.08
S. Pierce
1130

10-24-08

T.D.

0900 Arrive at Jack Perry Access PK.

Crew: Thai Do

Eric Parker

Margaret Christopher

Bobby Hicks (Nisqually)

Weather: overcast - ptly cloudy

0905 Divers get suited up. Prep supplies and gear. Go over sampling plan and H&S.

0930 Arrive in Slip 36. Continue setting up

0935 Petty Officer Thompson meets us and directs us to tie-off location.

0950 Divers enter water (45 pilings in)

1000 1 Brown Rockfish caught; ~45 ft. from dock

33.5 cm

(X) 1268940

estimated

565 g.

(Y) 218971


net caught

ID: EW-US-SB013-BR-13, no abnormalities

1010 Head back to J. Perry Park to drop off sample to Chelsea.

1020 Arrive at J. P. Park.

1030 Release custody to Chelsea. End of rockfish sampling → continue work on geoduck sampling (see clam logbook)


 10-24-08 T.D.

9-2-08

0800 - meet at Elliott Bay Marina

Crew - M. Luxon, Chelsea Lorenz, Jenny Breining.

Low Hissinger, Joe Gullet - EPA

Jeff Steen - King County

Charlie Eaton - Boat Captain, Tom Putt
Amen

0920 - Health & Safety meeting

0940 - Motor from E.B. Marina to EW

1020
+1040^{MC} - TROO1

start tow

1032 - Retrieve TROO1

end tow 34.969
20.654~~34.737.665~~
20.665

1059 Retrieve TROO2

start
35.021
20.651end
35.423
20.6511114
+1121^{MC} Retrieve TROO3

- Trawl hung up 2 times

1139

- replaced trawl w/ chafers

trawl

start
35.227
20.730end
35.132
20.735

Charlie's net has a green liner

1140 break for lunch

9-2-08

1215 - End lunch

1226 - End trawl 004

start
34.632
20.683end
34.987
20.662

1302 - Retrieve TROO5

1330 - TROO5 brought on board -
something big is in it. - Logstart
34.953
20.621end
35.073
20.6051415
+1460^{MC} Processing TROO5
Lots of mud in net.

1441 - Retrieve TROO6

start

end

34.558

34.720

20.594

20.603

1513 - Retrieve TROO7

start
34.513
20.630end
34.767
20.6401603^{MC} - Retrieval of TROO8start
34.755
20.75234.976
20.755

1712 - retrieval of TROO9

start
34.160
20.76734.131
20.769

1729 - retrieval of TROO10

start

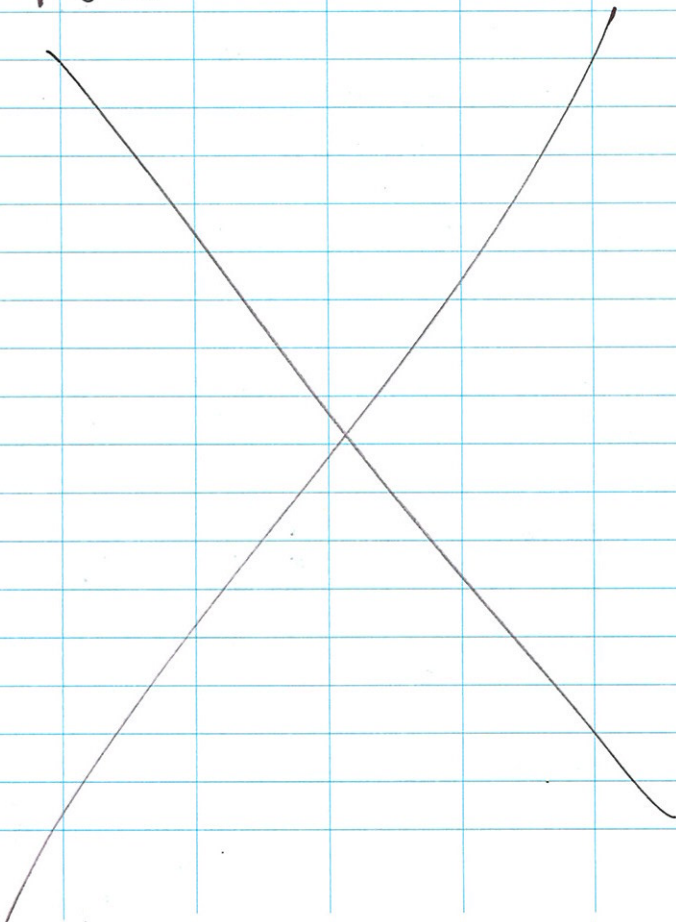
1740 - return to Elliott Bay Marina

34.175
20.763end
34.132
20.771

1816 - Return to Elliott Bay Main

Complete Effort

MGL 9/2/08





Project Name: EW RI/FS – Fish and crab sampling

Project #: 08-08-09-41

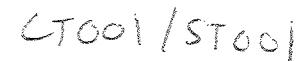
Species sampled:

Field crew initials: *ML, SP*

Comments:

1 clungenans evak
8 red rock

$$\frac{STOI}{CTOI} = \phi$$
[illegible]



Comments: CTOI / STOI - no specimens @ STOI

[illegible]

CT002/ST002



TARGET SPECIES TALLY FORM

Page 1-2

Project Name: EW R/FS - Fish and crab sampling

Project #: 08-08-09-41

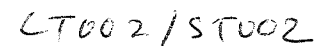
Species sampled: ST002 red rock (3)

Field crew initials: ML SP

Comments: ~~1328~~ CT002 red rock (17)

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIMEN ID #	LENGTH (mm)	WEIGHT (g)	GENDER	COMMENTS
08 26 08	1328	ST002	Crab	EW-08-ST002-RR-01	106	160	M	
		ST002		EW-08-ST002-RR-02	110	190	F	
		ST002		EW-08-ST002-RR-03	115	680-T	M	
		CT002		EW-08-CT002-RR-01	164	700	M	
		CT002		EW-08-CT002-RR-02	148	452	M	
		CT002		EW-08-CT002-RR-03	153	520	M	
		CT002		EW-08-CT002-RR-04	138	420	M	
		CT002		EW-08-CT002-RR-05	142	520	M	
		CT002		EW-08-CT002-RR-06	156	600	M	
		CT002		EW-08-CT002-RR-07	153	520	M	
		CT002		EW-08-CT002-RR-08	157	620	M	
		CT002		EW-08-CT002-RR-09	151	520	M	
		CT002		EW-08-CT002-RR-10	147	460	M	
		CT002		EW-08-CT002-RR-11	155	530	M	
		CT002		EW-08-CT002-RR-12	129	310	F	
		CT002		EW-08-CT002-RR-13	149	570	M	
✓	✓	CT002	✓	EW-08-CT002-RR-14	147	410	M	

[illegible]



Project #: 08-08-09-41

Comments: LT002/ST007

[illegible]



Comments:

[illegible]



Project Name: EW RI/FS – Fish and crab sampling

Project #: 08-08-09-41

Field crew initials: ML, SP

Comments:

[illegible]

**Comments:**[illegible]

[illegible]



Project Name: EW RI/FS – Fish and crab sampling

Project #: 08-08-09-41

Species sampled: Red Rock (6 kept)

Field crew initials: ML, SP

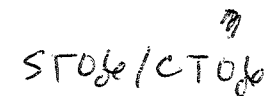
Comments:[illegible]



Project #: 08-08-09-41

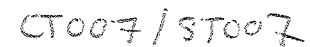
Comments:

[illegible]



Project #: 08-08-09-41

Comments:[illegible]



Project Name: EW RI/FS – Fish and crab sampling

Project #: 08-08-09-41

Species sampled: red rock ($n = 6$)

Field crew initials: SP, ML

Comments: clungenous (n=1)

[illegible]



Project #: 08-08-09-41

SP, ML

SP, ML

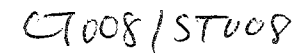
[illegible]



dungenomis Crab ($n=2$)
shrimp ($n=9$)

[illegible]

- note
also
recorded
on mussell
shrimp
coil chain
form



Project #: 08-08-09-41

Comments:[illegible]



STC09/9 CT009

[illegible]


[illegible]



Project Name: EW RI/FS – Fish and crab sampling

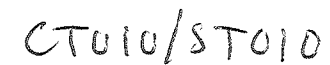
Project #: 08-08-09-41

Species sampled: red rock (n=6)

Field crew initials: 

Comments:

[illegible]



Project #: 08-08-09-41

Comments:

[illegible]



Comments:

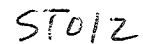
[illegible]



Project #: 08-08-09-41

Comments:

[illegible]



Project #: 08-08-09-41

Comments:[illegible]

[illegible]



Project #: 08-08-09-41

Field crew initials: MGL, CL, JB

Comments:[illegible]



Project #: 08-08-09-41

Field crew initials: MGL, CL, JB

Comments:

[illegible]

TARGET SPECIES TALLY FORM

Project Name: EW RI/FS – Fish and crab sampling

Project #: 08-08-09-41

Species sampled: *Shiner surfperch*

Field crew initials: ML, CL, JB

Comments:

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIMEN ID #	LENGTH (mm)	WEIGHT (g)	GENDER	COMMENTS
9/2/2008	10:32	EW	TR001	EW-08-TR001-SS-01	110	20	M	
				-02	123	26	M	
				-03	117	22	M	
				-04	120	28	M	prolapsed cloaca
				-05	111	22	M	
				-06	130	26	F	
				-07	129	32	F	
				-08	105	14	X ^{SP}	juvenile
				-09	108	12	X ^{SP}	"
				-10	109	14	X ^{SP}	" , prolapsed cloaca
	10:59		TR002	EW-08-TR002-SS-11	120	24	M	pro. cloaca
				-12	109	10	M	
				-13	110	16	M	pro. cloaca
				-14	118	22	F	
	12:26		TR004	EW-08-TR004-SS-15	117	18	M	
				-16	121	24	M	
				-17	131	34	M	

TARGET SPECIES TALLY FORM

Project Name: EW RI/FS – Fish and crab sampling

Project #: 08-08-09-41

Species sampled: *Shiner surfperch*

Field crew initials: MGL, CL, JB

Comments:

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIMEN ID #	LENGTH (mm)	WEIGHT (g)	GENDER	COMMENTS
9/2/2008	12:26	EW	TR004	EW-08-TR004-SS-18	110	16	M	
				-19	116	20	M	prolapsed cloaca
				-20	102	12	M	
				-21	113	18	M	
				-22	125	28	M	
				-23	115	16	M	prolapsed cloaca
				-24	112	14	M	pro. cloac.
				-25	121	24	M	
				-26	112	14	M	
				-27	120	24	M	pro. cloaca
				-28	100	10	F	
				-29	104	14	F	pro. cloaca
				-30	113	16	F	
				-31	120	12	F	
				-32	105	14	F	
				-33	104	12	F	pro. cloaca
				-34	107 (SR)	22	F	

117



TARGET SPECIES TALLY FORM

Project Name: EW RI/FS – Fish and crab sampling

Project #: 08-08-09-41

Species sampled: *Shiner surfperch*

Field crew initials: *MGL, CL, JB*

Comments:

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIMEN ID #	LENGTH (mm)	WEIGHT (g)	GENDER	COMMENTS
9/2/2008	13:02	EW	TR005	EW-08-TR005-SS-35	114	14	M	
				-36	100	10	M	pro. cloaca
				-37	101	10	M	" "
				-38	110	16	F	prolapsed cloaca
	14:41		TR006	EW-08-TR006-SS-39	97	12	M	" "
				-40	122	22	M	" "
				-41	131	26	M	" "
				-42	109	12	M	" "
				-43	110	16	M	" "
				-44	116	20	M	" "
				-45	116	22	M	" "
				-46	115	14	M	" "
				-47	125	24	F	" "
				-48	105	16	F	" "
				-49	110	18	F	" "
				-50	112	14	F	" "
				-51	110	10	F	" "

TARGET SPECIES TALLY FORM

Project Name: EW RIFS - Fish and crab sampling

Project #: 08-08-09-41

Species sampled: *Shiner surfperch*

Field crew initials: *MGL, CL, JB*

Comments:

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIMEN ID #	LENGTH (mm)	WEIGHT (g)	GENDER	COMMENTS
9/2/2008	15:13	EW	TR007	EW-08-TR007-SS-52	111	16	M	
				-53	105	14	M	
				-54	119	20	M	
				-55	108	16	M	
				-56	111	20	F	prolapsed cloaca
				-57	123	28	F	
				-58	113	18	F	
				-59	112	20	F	pro. cloaca
	16:13		TR008	EW-08-TR008-SS-60	105	10	M	
				-61	109	10	M	
				-62	105	14	M	
				-63	105	14	M	
				-64	106	16	M	
				-65	116	22	M	
				-66	117	22	F	
				-67	107	18	F	
				-68	114	20	F	



TARGET SPECIES TALLY FORM

Project Name: EW RI/FS – Fish and crab sampling

Project #: 08-08-09-41

Species sampled: *Shiner surfperch*

Field crew initials: *MGL, CL, JB*

Comments:

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIMEN ID #	LENGTH (mm)	WEIGHT (g)	GENDER	COMMENTS
9/2/2008	16:13	EW	TR008	EW-08-TR008-SS-69	107	16	F	
				-70	105	18	F	
				-71	113	20	F	pro. cloaca
				-72	106	18	F	" "
				-73	114	20	F	" "
				-74 ¹¹³ 103-6R	103	20	F	
				-75	108	18	F	
				-76	104	16	F	
				-77	111	20	F	
				-78	132	34	F	
				-79	104	16	F	
				-80	108	20	F	

TARGET SPECIES TALLY FORM

Project Name: EW RI/FS - Fish and crab sampling

Project #: 08-08-09-41

Species sampled: English sole

Field crew initials: MGL, CL, JB

Comments:

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIMEN ID #	LENGTH (mm)	WEIGHT (g)	GENDER	COMMENTS
9/2/2008	10:32	EW	TR001	EW-08-TR001-ES-01	225	96	M	
				-02	247	120	M	
				-03	226	108	M	
				-04	236	102	M	
				-05	233	104	M	red bumps (parasites)
				-06	240	106	M	
				-07	204	74	M	
				-08	229	114	M	red bumps (parasites)
				-09	242	104	M	parasites
				-10	250	134	M	" "
				-11	210	88	M	" "
				-12	220	102	M	
				-13	249	140	M	parasites
				-14	271	170	F	" "
				-15	275	178	F	" "
				-16	250	148	F	" "
	10:59		TR002	EW-08-TR002-ES-17	202	72	M	parasites



TARGET SPECIES TALLY FORM

Project Name: EW RI/FS – Fish and crab sampling

Project #: 08-08-09-41

Species sampled: *English sole*

Field crew initials: *MGL, CL, JB*

Comments:

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIMEN ID #	LENGTH (mm)	WEIGHT (g)	GENDER	COMMENTS
9/2/2008	10:59	EW	TR002	EW-08-TR002-ES-18	201	79	M	
				-19	211	86	F	parasites
	12:26		TR004	EW-08-TR004-ES-20	235	114	M	
				-21	204	78	M	
				-22	207	82	M	parasites
				-23	233	122	M	
				-24	285	188	M	
				-25	205	72	M	
				-26	248	138	M	parasites
				-27	308	252	M	
				-28	222	96	M	
				-29	273	176	M	parasites
				-30	202	70	M	" "
				-31	221	82	M	" "
				-32	230	106	M	" "
				-33	230	108	M	" "
				-34	225	140	M	" "



TARGET SPECIES TALLY FORM

Project Name: EW RI/FS – Fish and crab sampling

Project #: 08-08-09-41

Species sampled: *English sole*

Field crew initials: *MGL, CL, JB*

Comments:

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIMEN ID #	LENGTH (mm)	WEIGHT (g)	GENDER	COMMENTS
9/2/2008	12:26	EW	TR004	EW-08-TR004-ES-35	216	90	M	
				-36	200	72	M	
				-37	225	96	M	prolapsed cloaca
				-38	351	366	F	prolapsed cloaca
				-39	211	78	F	
				-40	218	102	F	parasites
				-41	208	238	F	parasites
				-42	259	164	F	" "
				-43	235	128	F	parasites
				-44	236	129	F	
	13:02		TR005	EW-08-TR005-ES-45	200	80	M	
				-46	227	92	M	parasites
				-47	208	78	M	
				-48	195	59	M	
				-49	211	84	M	parasites
				-50	204	78	M	
				-51	202	72	M	



TARGET SPECIES TALLY FORM

Project Name: EW R/FS – Fish and crab sampling

Project #: 08-08-09-41

Species sampled: *English sole*

Field crew initials: *MGL, CL, JB*

Comments:

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIMEN ID #	LENGTH (mm)	WEIGHT (g)	GENDER	COMMENTS
9/2/2008	13:02	EW	TR005	EW-08-TR005-ES-52	246	116	M	parasites, prolapsed cloaca
				-53	243	144	F	parasites
	14:41		TR006	EW-08-TR006-ES-54	280	208	M	
				-55	235	116	M	parasites
				-56	266	168	M	
				-57	248	108	M	
				-58	217	88	M	
				-59	208	88	M	parasites
				-60	200	78	M	parasites
				-61	259	140	M	" "
				-62	215	76	M	" "
				-63	221	100	M	" "
				-64	233	104	M	" "
				-65	259	154	M	" "
				-66	236	100	M	" "
				-67	216	96	M	" "
				-68	216	86	M	" "



TARGET SPECIES TALLY FORM

Project Name: EW R/FS – Fish and crab sampling

Project #: 08-08-09-41

Species sampled: *English sole*

Field crew initials: *MGL, CL, JB*

Comments:

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIMEN ID #	LENGTH (mm)	WEIGHT (g)	GENDER	COMMENTS
9/2/2008	14:41	EW	TR006	EW-08-TR006-ES - 69	214	92	M	parasites
				-70	214	90	M	" "
				-71	218	84	M	
				-72	201	68	M	
				-73	201	70	M	
				-74	220	104	M	parasites
				-75	235	114	M	" "
				-76	250	132	M	" "
				-77	252	144	M	" "
				-78	233	102	M	" "
				-79	216	92	M	no parasites <i>SP</i>
				-80	203	74	M	parasites
				-81	220	94	M	" "
				-82	200	76	M	" "
				-83	210	76	M	" "
				-84	236	102	M	
				-85	240	122	M	parasites

TARGET SPECIES TALLY FORM

Project Name: EW RIFS - Fish and crab sampling

Project #: 08-08-09-41

Species sampled: *English sole*

Field crew initials: *MGL, CL, JB*

Comments:

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIMEN ID #	LENGTH (mm)	WEIGHT (g)	GENDER	COMMENTS
9/2/2008	14:41	EW	TR006	EW-08-TR006-ES - 86	210	92	M	prolapsed cloaca
				-87	205	78	M	
				-88	243	112	M	
				-89	208	86	M	parasites
				-90	210	86	M	" "
				-91	227	100	M	" " , prol. cloaca
				-92	209	86	M	parasites
				-93	216	86	M	
				-94	215	100	M	parasites
				-95	235	110	M	" "
				-96	200	66	M	" "
				-97	214	88	M	" "
				-98	226	102	M	
				-99	246	138	F	
				-100	209	70	F	
				-101	209	82	F	parasites
				-102	246	134	F	

TARGET SPECIES TALLY FORM

Project Name: EW RI/FS – Fish and crab sampling

Project #: 08-08-09-41

Species sampled: *English sole*

Field crew initials: *MGL, CL, JB*

Comments:

COLLECTION DATE	COLLECTION TIME	LOCATION ID	COLLECTION METHOD	SPECIMEN ID #	LENGTH (mm)	WEIGHT (g)	GENDER	COMMENTS
9/2/2008	14:41	EW	TR006	EW-08-TR006-ES-103	285	212	F	parasite, lesion on top
				-104	226	10A	F	parasites
				-105	226	108	F	" "
				-106	197	62	F	
				-107	212	94	F	parasites, pro. cloaca
				-108	239	114	F	parasites
				-109	208	94	F	" "
				-110	205	74	F	" "
	15:13		TR007	EW-08-TR007-ES-111	280	208	M	" "
				-112	355	420	F	" "
				-113	348	376	F	
				-114	313	252	F	
				-115	342	318	F	
				-116	285	226	F	

PROTOCOL MODIFICATION FORM

Project Name and Number: EW 21/FS - Fish and Crab Sampling 08-08-09-41
Material to be Sampled: Fish and Shellfish
Measurement Parameter: N/A

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

"Brown rockfish collection will take place in August 2008"
(QAPP, Section 2.3.3)

Reason for Change in Field Procedure or Analysis Variation: It was requested
that a rockfish sample be taken from Slip 36 (U.S. Coast Guard)
after August collection had been conducted.

Variation from Field or Analytical Procedure: One rockfish was collected
in October.

Special Equipment, Materials or Personnel Required: N/A

Initiator's Name:

Date: 10-24-08

Project Manager:

Date: 7/7/09

QA Manager:

Date: 7/7/2009

PROTOCOL MODIFICATION FORM

Project Name and Number: EW R1/FS - Fish and crab sampling 08-08-09-41

Material to be Sampled: Fish and shellfish

Measurement Parameter: N/A

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

"The next five characters of the ID will identify the method and effort number: SB representing SCUBA..." and "the next two characters will identify the individual species type: brown rockfish (BR)..."
(QAPP, section 3.3.6)

Reason for Change in Field Procedure or Analysis Variation: Sample labeling error.

Variation from Field or Analytical Procedure: Sample IDs for brown rockfish were identified with "SCUBA" instead of "SB" and eight samples were identified with "RF" instead of "BR" on the sample labels, field logbook, and CoC forms. Sample IDs were corrected after delivery to ARI.

Special Equipment, Materials or Personnel Required: N/A

Initiator's Name:

Date: 8-13-08

Project Manager:

Date: 7/7/09

QA Manager:

Date: 7/7/09

PROTOCOL MODIFICATION FORM

Project Name and Number: EW RI/PS - Fish and Crab Sampling 08-08-09-41
Material to be Sampled: Fish and shellfish
Measurement Parameter: N/A

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

The number of specimens permitted by WDFW for mussels was 140 and for shiner surfperch was 60.
(QAPP, Section 3.2.3, Table 3-5)

Reason for Change in Field Procedure or Analysis Variation: The WDFW permit was changed after the QAPP went final to account for higher numbers of shiner surfperch and mussels that were noted in the field. The numbers permitted increased to 1100 for mussels and 85 for shiner surfperch.

Variation from Field or Analytical Procedure: The number of mussels collected was 1075 and the number of shiner surfperch collected was 80.

Special Equipment, Materials or Personnel Required: N/A

Initiator's Name:

Project Manager:

QA Manager:

Date: 7-7-09

Date: 7/7/09

Date: 7/7/09

PROTOCOL MODIFICATION FORM

Project Name and Number: EWRI/PS - Fish and Crab Sampling 08-08-09-41
Material to be Sampled: Fish & Shellfish
Measurement Parameter: N/A

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

The target length for brown rockfish is ≥ 200 mm
(QAPP, Section 3.2.3, Table 3-5)

Reason for Change in Field Procedure or Analysis Variation: This rockfish was
used because it was killed during capture and
could not be released.

Variation from Field or Analytical Procedure: One rockfish retained for
chemical analysis had a length of 193mm.

Special Equipment, Materials or Personnel Required: N/A

Initiator's Name:

Date: 8-13-08

Project Manager:

Date: 7/7/09

QA Manager:

Date: 7/7/2009

PROTOCOL MODIFICATION FORM

Project Name and Number: EW R1/FS - Fish and Crab Sampling 08-08-09-41
Material to be Sampled: Fish and shellfish
Measurement Parameter: N/A

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

Target length for English sole is ≥ 200 mm
(QAPP, section 3.2.3, Table 3-5)

Reason for Change in Field Procedure or Analysis Variation: English sole

num
7/7/09

~~specimens~~ specimens were assigned to composite samples
to maximize size and gender diversity, per the
"Proposed Fish and Crab Tissue Compositing Schemes"
Memorandum submitted to and approved by EPA on
behalf of EW6, Oct. 28, 2008.

Variation from Field or Analytical Procedure: Two English sole retained
for chemical analysis had lengths of 195 and 197 mm. These
fish were included in the whole body composite samples
EW-08-ES-WB-comp5 and EW-08-ES-WB-comp10, respectively.

Special Equipment, Materials or Personnel Required: N/A

Initiator's Name:

Project Manager:

QA Manager:

Date: 9-2-08

Date: 7/7/09

Date: 7/7/09

PROTOCOL MODIFICATION FORM

Project Name and Number: EW RI/FS Fish and crab sampling 08-08-09-41
Material to be Sampled: Fish and shellfish
Measurement Parameter: N/A

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

Trawl samples will be collected throughout all accessible areas of the EW.
(QAPP, section 2.3.1)

Reason for Change in Field Procedure or Analysis Variation: Field oversight.

Variation from Field or Analytical Procedure: Trawls EW-09 and EW-10 extended beyond the EW site boundary, based on trawl coordinates collected in the field. No target specimens were kept from EW-09 and only 1 coonstripe shrimp was kept from EW-10.

Special Equipment, Materials or Personnel Required: N/A

Initiator's Name:

Date: 9-2-08

Project Manager:

Date: 7-8-09

QA Manager:

Date: 7-8-09