APPENDIX G

SCANNED FIELD DATA SHEETS



Shallow Water Habitat Bioaccumulation Survey San Diego Bay (SWHB)

April-May, 2014



% st: 104.8%. Do: 7.76 mg/L

SWHB Study

					——————————————————————————————————————		
Agency Code	AMFIC	Weather		Sea State	Water Quality	Station ID	SWHB-01
		Clear	Rain	Calm	Temp (°C)	20.00	
Vessel Name	Berge	Overcast	Thunderstorm	Choppy 🔀	рН	8.11 pH Date	4/16/14
		Partly cloudy	Fog	Rough	Salinity (ppt)	34.49 Pot	
Arrival Time	15:42:41	Drizzle		-	Sp Cond (mS/cm)	52062 mor/ch	
•							
(hh:mm)	400. 32	67238	•		Abandoned site?	Station Fail Code	NONE.
0cc~115	913	.67238 7.15434			Y or N (If Y explain in comments)		
	- 1		the transfer of the second				
Wind		Swell		Nav Type	Station Comments		
Speed (kts)	5-10	Period (s)		DGPS 🗡	Deoth: 115 feet	$L = \frac{3.45}{100}$ neters	
Direction (4)	Q)	Height (ft)	0	GPS			
		CCC Direction (4)		——	Tide: 1,2' Fellis	Exling	. *
Tarset!	1	BCC URP		Equipment Type		J	
8 67	16 1	1151		Van Veen			
Target: 32,67 -117	154	500 of Direction (4) 1,34 32,671631 117,154059		Tandem Van Veen			
-11 (<u> </u>	117 15 40)	•	33			
CDAR EVENIT	· 2	/ II / , L'				* *	

										<u> </u>				Sample typ	es (Chk all that apply)	
#	Time (hh:mm)	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Infauna for Bioaccum	Photos	
,	1548	32,67240	-117, 15436	3	95	35	16ch	silt/clay	NOW	olivery	\sim	X	X	X	yes	•
1	Grab Event	Comments:						, ,		J J		· .				
	1621	32,67247	-117,15434	3.	102.	NA	160 4	5:14/c/m	None		-60			λ	NO	
0	Grab Event	Comments:						<u> </u>								
2	1641	30,67236	-117.15424	3	87	in in	И		- 11	, (t	((λ	!"	
.5	Grab Event	Comments:														
Ľĺ	1656	32,67237	-117, 15425	. 3	89	<i>'Y</i> ;	•	10	te	10	*			7	••	
	Grab Event	Comments:														
-	1-104	30,67050	-117, 15429	3	1048	, ¢.	4	. 6	7.	(e ·	11			\times		
う	Grab Event		man: 30, 670	38 -11	17. 15438											
	1723	90,67042		3	94	4	4	n	r.					X		
6	Grab Event			67037	7 -117.	15437										

Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed

Sediment Color: Brown, Gray, Black, Olive green, Red

STATION OCCUPATION

4 Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

² Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

BIGHT'13 EPIBENTHIC INVERTEBRATE FORM

	1548		Yes Data from Short/Long Trawl @ >300 m Depth							
	Species	Species N Comments				Weight (kg)				
			(or Anomalies)	Gross	Y/N	Net	Y/N			
h.	1 Gobjes	3		4.5						
	1 Gobjes 2 Gastrijo de 3 Bivalve / Mollusta 4 Polychaetes 5 Crystacea	4	Nacsonius CD	6.4						
Γ	3 Bivalue/mollusta	100+	Nacsarius Sp. Razar Clans, Snuhlacla. Muscutista - 100+, 7 Mantic, Ishrings pp.	56						
F	4 Polychetes		Musculist -100+,	17	-					
ſ	5 Crystaces		3 Mantic Ishinia	6.8	-					
Γ	6		1 2 1							
	7					, -				
I	8									
ľ	9									
Ī	10						†			
Ī	11						 			
F	12						 			
r	13						 			
T	14									
l	15					-	 			
f	16		<u> </u>							
İ	17		-			<u> </u>				
f	18			+						
f	19									
f	20						+			
ł	21			-			-			
l	22									
f	23						-			
f	24						1			
f	25									
L on		16,71	pek for	a 11	samp	les.				

FATIC	ON OCCUI	PATION								SWHB Stud
Vesse	al Time (th:mm)	<u>ب</u>	Veather Clear Overcast Partly cloudy Drizzle	Rain understorm Fog	Sea State Calm Choppy Rough		Nav Ty Abandone Y or N (if Y ex	DGPS GPS ed site?		Station ID SWMB- Date 4/22/14 Fail Code
Dir	eed (kts) ection (4)) 	Period (s) Height (ft) Direction (4)	0	Station Con tibe = 0, the g 3 -> 1- de	1+	^			3652 Wef 32.671631
Trawl Number		Time (hh:mm)	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	Wire Out	Distance to target	Trawl Fail Code	Tissue Chemistry (Y/N)	-117.154059
(1	Net Over Start Trawl End Trawl Net on Deck	11:45:27 11:45:51 11:55:52 11:5 8 :44	30,6719/ 30.67028 30.67040 30.67041	-117. 15318 -117. 15424 -117. 15562 -117. 15565		30	5/	(3)	7	SCEURP List.
9	Net Over Start Trawl End Trawl Net on Deck	19:26:45 12:27:28 12:37:35 12:38:03	32.6772	-117.15436 -117.15459 -117.15568 -117.15563	}	30	6 9 m			
3	Net Over Start Trawl		32.67223 32.67199 32.66973	-117. 15447 -117.15469 -117.15589	5 1	30	(,e			

Net on Deck

Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Trawl Fail codes: None, Outside Radius Limit, Outside Target Depth, Fouled Net (comment req.), Open cod end (knot untied), Trawl hit unknown obstruction, Doors - No contact with bottom, Torn Net, Unusually low catch, Improper Deck Time, Improper Bottom Time, Inadequate trawl track, Other - Trawl Failure (comment req.)

SWHB - Bioaccumulation and Plastic Ingestion Special Studies Field Datasheet

Station:	Ø1					Page	
Station: SUMB-	4			•	Com	pleted by: _	r
					00	piotod by:	
Additional Trawl Coor	dinates:		05%	50%	75%	H55	
Trawl 2	Net Set	Net on Bottom	Interval 1	Interval 2	Interval 3	Net Retrieval	Net on Board
Time				1151	1153	1155	1156
Depth (m)	10.00			3	3	3	
Lat (32.xxxxx)		•		32.40,2153	, 67111	67044	67046
Long (-117.xxxxx)					15572	15557	15555
			35	15540	757		
Trawl 3 >	Net Set	Net on Bottom	Interval 1	Interval 2	Interval 3	Net Retrieval	Net on Board
Time	1 120-1 1 22 20 1 120-1 1 120-1	1226	1229	1932	1235		i di
Depth (m)			3	7	- 3		14
Lat (32.xxxxx)			67173	67126	67038		
Long (-117.xxxxx)			15514	15538	15531		
39 of trase		1357	25	50	75		
Trawl 4/3	Net Set	Net on Bottom	Interval 1	Interval 2	Interval 3	Net Retrieval	Net on Board
Time		1352	1300	1302	67008		
Depth (m)		3	3	3	13053		
Lat (32.xxxxx)		67184	67150	67084			
Long (-117.xxxxx)		15487	15537	15553	15580		
Trawl 5	Net Set	Net on Bottom	Interval 1	Interval 2	Interval 3	Net Retrieval	Net on Board
Time	2.0						16414
Depth (m)							100 Fig. 100
Lat (32.xxxxx)	1				·		
Long (-117.xxxxx)							
Comments:							

BIGHT'13 DEMERSAL FISH IDENTIFICATION FORM

Std Length Size Class (cm) Use for up to 10 individuals. Use Size Class sheet for more abundant spp. D 205 - 31D 280,265,240,270,200,205 210,200,205,150,140,140,13 105,50,50,45	Gross	eight (kg) Tare Net	Y/N
0 205-310 3 280,265,240,270,200,205 210,200,205,150,140,140,13		Taro Net	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
3 280,265, 240,270,200,205	5		V
105, 50, 50, 45		3 . I	
			+ 7
1 185			1
+ 85,100, 110,150			1
			N
			1 1
			+ 1
351			+
8 290 - 290			14
230			1
\$ 150,190,85,115,85			1
135 ,150			
			1
			£-
			
32/1			
	1 1		
	1 230 - 290 5 105,135,175,189,190 5 109,190,260 350 5 290 - 290 730 5 150,190,85,115,85	1 230 - 290 5 105,135,175,189,190 5 109,190,260 350 5 290 - 290 730 5 150,190,85,115,85	1 230 - 290 5 105,135,175,189,190 5 160,190,260 350 5 290 - 290 730 5 150,190,85,115,85

SWHB - Bioaccumulation and Plastic Ingestion Special Studies Field Datasheet - FISH

Station 0-SWHB-0	1	. .						Page of
Station $6 - SWHB - 6$ Date $04/22/2014$		·	-			Com	pleted by	_ccs
FISH SPECIES TRAWL - BIOACCUMUL	.ATION							
Species	Trawl #	N	Size Range		Weight (kg)	Photo	Factoria
			(SL)	Gross	Tare	Net	(Y/N)	Footnotes
Spotted sand bass	1,2,3	.5	145,140,135	· · · · · · · · · · · · · · · · · · ·			1	
spotted sand bass calif halibut shinn perch	1, 2	5	136, 150				Y	
Shine perch	(,	4	45,50,50				4	
							1	
FISH SPECIES - PLASTIC INGESTION								
Species	Trawl #	N	Size Range	Weight (kg))	Photo	Footmater
			(SL)	Gross	Tare	Net	(Y/N)	Footnotes
sting ray	1	5	240-270				4	
spotted sand bass	1,2	- 3	210-240				Y	
calif. halibut	1,23	***************************************	95,175				V	85mm tound after moving to next sit
								TREVING IN TEX MIT
·								
•							<u> </u>	
			<u> </u>					
Comments:								
								*.

RHMP/ Bight '13 - Bioaccumulation Special Studies Field Data Sheet INVERTEBRATES from Trawls

			TI LO III	om na					
Station $SWHB-C$ Date $O4 22 24$	>1		-				Page <u>1</u> of 1		
Date 04 22 / 22	014		Page 1 of 1 Completed by:						
INVERTEBRATE SPECIES TRAWL-	BIOACCUMUL	.ATION							e Ser
Species	Trawi #	N	,	Weight (kg)	Photo	Footnotes		
	1.4	''	Gross	Tare	Net	(Y/N)	rounotes		
crustacea-shrmp	1	1,				Y		*	crust
musculista	1	100+				1 1			-com!
pyromaia-crab sp	1	3,				4		4	1 21 pla
cancer coab	3	1		-		4		~]

Comments:									
	•								
						,			
									•
								1	

FIELD SAMPLING QA CHECKLIST - TRAWL SAMPLING

Station ID: SWHB-01	Arrival Date/Time: 4/22/2014 1120
Site Acceptable for Trawl Sampling for Bioacc	cumulation Samples: Vor N
if No, provide reason:	
Mark each box with Y, N, or NA	
Field Procedures	· · · · · · · · · · · · · · · · · · ·

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	1 4
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and ≥25pt salinity).	1
Vessel has conducted pre-trawl survey? Site acceptable?	4
Station DGPS coordinates (± 3 m) recorded?	1 4
Station occupation form completed?	1

2. Trawl Sampling Procedures:

Proper equipment used (Semi-balloon otter trawl)?	T ,
Weighing scales calibrated?	W->OFF
Vessel passed through 100·m radius of station?	N
Trawl duration 10 minutes (or long as possible in confined areas)?	4
Trawl log info recorded (depth, tow wire length, times, coordinates)?	1
Trawl remained within 10% of target depth?	7
Trawl acceptable (i.e. no fouling, bottom debris present, not torn, bottom time acceptable)?	¥
Fish and/or invertebrates obtained in trawl?	4
All fish positively identified (for specimens collected as samples)?	4
All invertebrates positively identified (for specimens collected as samples)?	1
Standard length of all bony fish measured for specimen counts <10? Length range measured for specimen counts >10?	4
Total biomass of each invertebrate group retained as samples recorded?	V
Photo of one representative from each species collected and grouped species planned for release?	Υ
Fish and invertebrate specimens wrapped in pre-cleaned foil, bagged, and preserved on ice?	4

GWHB-0 | FIELD SAMPLING QA CHECKLIST - TRAWL SAMPLING

3. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	Y
Proper persons have signed and dated all COCs?	NA
All field datasheets (hard copy and electronic) and associated notes/ photographs have	
been recorded for the site before moving to the next?	14

4. Sample Storage and Delivery:

Epibenthic macroinvertebrates tissue samples collected?	NA
Fish tissue samples collected?	7
Tissue samples stored immediately on ice and frozen asap?	
Cooler is taped shut for transport to AMEC freezer or lab?	14
Completed COC is included in plastic bag in cooler?	N+

Additional Notes:
Signature of QA/QC Personnel: Date/Time: 4/22/2014 /345
Print Name/Company: Covery Sveridy AMEC

	BIGHT'13 TRAWL DEBRIS Station: SWHB-0 Trawl #:_	FORM	Ago	ency: AMEC		Page		_ of		
	Station: SWHO UlTrawl #:_ Plastic	Count	Date:	Comment	Misc. Items/Pieces	NO DEE		PRESENT IN SAMPLE Comment		
5					Boat/Ship/Engine part	count		Comment		
known	Bandaid				Clothing					
ifkı	Balloon (mylar/latex)/Ribbon				Concrete/Asphalt			·		
nts	Bottle				Fiberglass					
me	Buoy				Food		1	<u></u>		
Comments	Cap/Lid			The state of the s	Leather					
	Cigarette box/wrapper				Lumber					
nes	Cup				Paper					
Names in	Filmstrip (movie)				Rag/Cloth					
pu	Fishing Line/Net		ļ		Rubber		-			
Bro	Food Bag / Wrapper		ļ	-	Shoe					
ude	Polypropylene Rope				Таре					
include Brand	Straw				Tire					
_	Toy			•	Other Misc. (comment req.)					
ris-	Utensil				Metal	Count		Comment		
Debris	Plastic Piece (unid.)				Drink Can					
					Can - other					
gen	Glass	Count		Comment	Can Pull-tab					
odo	Beer Bottle				Fishing Gear					
Anthropogenic	Glass Bottle/Jar -other				Wire					
An	Glass Piece (unid.)				Metal Piece (unid.)					
	Other Glass (comment req.)				Other Metal (comment req)					
_	Marine Origin	Count	Est.*	Comment	Terrestrial Vegetation	Count	Est.*	Comment		
	Caliana Alana matikala				Leaves/Seed Pod					
bris	Gorgonian Sea Fan (dead)			, , , , , , , , , , , , , , , , , , ,	Stick/Branch/Driftwood					
De	Kelp Holdfast				Other Terrest. (comment req)					
nra	Kelp Stipe/Blade				*For Natural Debris only , if an exact count cannot be made			pe made,		
	Gorgonian Sea Fan (dead) Kelp Holdfast Kelp Stipe/Blade Rock				leave the "Count" column blank	and estima	ite the ar	mount (L, M or H)		
-	Seagrass				in the "Est." column:		Low:	L = 2-10		

Completed by: CCS

Moderate: **M** = 11-100

H = > 100

High:

Other Marine (comment req)

			· / /									•			
STA	NOITA	OCCUPATI	ON											SW	HB Study
Ag	ency Co	ode C5D	Weath	er			Sea	State	Wa	ter Qualit	y		Station	ID SWH	B-02
	•			Clear	X	Rain		Calm X		Temp (°C)	19.6			
Ve	ssel Na	me ponto	Λ Ov	ercast	Thund	erstorm		Choppy		рН		7.95	D	ate 04/0	9/2014
			 Partly o	loudy		Fog		Rough		Salinity (p	ot)	34.36	F	<u> </u>	<u></u>
Α	rriva! Ti	me /202:19		Orizzie		- <u>L</u>				Cond (mS		52086			
				. L			•			mall 1%		7.36/9	احسم		
	(hh	:mm) Station	32.675	`					•	andoned s	,	Station	Fail Co	de NA	
		6PS:	32.675	01				<u> </u>		N (If Y explain		-		-	
			-117.1560	b						comments)					
·Wi	nd		Swell				Nav T	' уре	Sta	tion Com	ments				
	Speed (kts)		Period	(s)			DGPS X	011	man b	resent	can so	enviel	unlainal	animala
,	Directio	n (4) NW	D-1-11-11-11-11	Height ((ft) ()	•	GPS		Just F			0 00 -	e, unfainal 65)	
				Direction)		1I							·
							Equipment Type actual water depth. 2m/ 6.5ft				'				
							Van Veen actual water depth. 2m/ 6.5+7								
							Tandem Va	an Veen 💢	tide	2:1.01	PF		-	1.67 AM	uca
C D	AD E\/E	TAUTC													
GK	AB EVE	:N15		MLLW	= 5.54	+								Sample type	es (Chk all that apply)
#	Time	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor	Color (3)	Sheli Hash (Y/N)	Sed Chem	Grain Size	Infauna for Bioaccum	Photos
	1707.56	32,67494	-117.15588	2	(m) 12	NA	12	GIH/clay	ND	dive gm	N	~	V	N	7
11	Grab Event		1-11-7.13300		12	1 14/1	1 12	1 2111/01/29	1 10	1				1 12	
1	CIUD LIGHT		l		<u>. </u>			<u> </u>							
1	Grab Event	Comments:	L	<u> </u>	l	1			l			l		lI.	·
		<u> </u>													
	Grab Event	Comments:	L	L	L	l	l	L	I	JL		L		I	
				· · ·						1					
.	Grab Event	Comments:	L.,	<u> </u>	L	I	J	L	1			II		<u> </u>	

- 1 Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed
- 2 Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)
- Sediment Color: Brown, Gray, Black, Olive green, Red
- 4 Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

Grab Event Comments:

Grab Event Comments:

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

FIELD SAMPLING QA CHECKLIST – SEDIMENT COLLECTIONS

Station ID: SWHB-02	Arrival Date/Time: 04/09/2014 1202
Site Acceptable for Sediment Sampling: Y N	Bioaccumulation Sample Site: Y on
If site not acceptable, provide reason: NA	
Mark and have with V N and NA	

Mark each box with Y, N, or NA

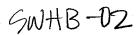
Field Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	4
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and ≥25pt salinity).	Y
Vessel has been anchored (or tied off)?	Y
Station DGPS coordinates (± 3 m) recorded?	1
Station occupation form completed?	7

2. Sediment Sampling Procedures:

Samples collected in following order: chemistry, bioaccamulation (if applicable)	4
Field staff wearing fresh, powder free nitrile gloves?	У
Equipment washed/rinsed from previous station?	4
Vessel engine has been shut off for 3-5 minutes prior to sampling?	¥
Sampling instrument washed with Alconox?	7
Sampling instrument given site water rinse prior to deployment?	Ý
Sample bottles correctly labeled (minimum: station id, date, agency, parameter)?	ý
Sample bottles are lab certified, contaminant free?	Ý
Samples containers are the correct type in accordance with Table 11-1 in the SWHB Study QAPP?	Y
Sample condition meets acceptability criteria (e.g. no surface disturbance, leakage, canting, or washing)?	٧
Sample penetration meets acceptability criteria (e.g. minimum 5cm)?	7
Grab disposition / characteristic information recorded?	Ý
Chemistry samples collected from top 5cm, and 1cm from sides of grab?	\
Sediment evenly distributed among containers?	7
Stainless steel scoop used to distribute sediment?	4
Staff avoided contaminating samples at all times?	7
Equipment or field blank collected (if applicable)?	NA



FIELD SAMPLING QA CHECKLIST – SEDIMENT COLLECTIONS

3. Infauna Tissue Sampling Procedures (if applicable):

Field staff wearing fresh, powder free nitrile gloves?	NA/
Sampling equipment (van veen, tubs, sieve) washed with Alconox /rinsed from previous station?	
Vessel engine has been shut off for 3-5 minutes prior to sampling?	
Sampling instrument given site water rinse prior to deployment?	
Sample bags correctly labeled (minimum: station id, date, agency, invertebrate group)?	
Photographs of specimen samples taken with ID tags, prior to wrapping in foil?	
Each specimen sample weighed?	
Specimen samples wrapped in pre-cleaned foil, bagged, and preserved on ice?	

5. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	4
Proper persons have signed and dated all COCs?	NA
All field datasheets (hard copy and electronic) and associated notes/ photographs have	
been recorded for the site before moving to the next?	· Y

6. Sample Storage and Delivery:

Sediment chemistry samples stored cold on wet ice or frozen within 24 hours?	1 4
Benthic infauna tissue: samples stored on ice and frozen asap?	NA
Cooler is taped shut for transport to AMEC freezer or lab?	NA
Completed COC is included in plastic bag in cooler?	NA

Additional Notes:				 	
Signature of QA/QC Per	:sonnel: _	e.ghena		04/09/2014	1220
Print Name/Company:_	Core	18houdy	AMEC		

ST	ATION	OCCUPATI	ON											SW	VHB Study
Ą	jency Cc	ode CSD	Weath		X -1	Rain 「	Sea	State Calm	Wa	ter Quali			Statio	n ID <i>SWH</i>	8-04
V	essel Na	me PONTOCH	Ov Partly o	ercast		erstorm	_	Choppy Rough		pH Salinity (p				Date 04/0	9/2014
•	rrival Ti	me // <i>00</i>		Drizzle		Log L	I	nough		Cond (m					
	(hh:	:: mm)	•					7		andoned N (If Y explain comments)		Station	ı Fail Co	ode	
Wi	ind		Swell				Nav T	уре		tion Con					
	Speed (kts)		Period	(s)	· .		DGPS X	319	E 100	SHALLO	w. 60	CATION	ON GRA	5550
	Direction	n (4)		Height	(ft)			GPS	LAY	UD, SOTI	DRELINA	5 > 50	DOM P	ROM 50516	INATEO
				Direction	(4)		:			ATION.		÷			
								nent Type an Veen	5173 (SW	HB-31 +	260 w/	ourrora ecreo o	10 BM PM	48-33 Mry >3M)
G P	AB EVE	:NTC			•			/	L						
<u> </u>	AD LVL	.1413												Sample typ	oes (Chk all that apply)
#	Time (hh:mm)	Latitude (DD°MM.mm#m)	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Infauna for Bioaccum	Photos
				<u></u>		<u> </u>			<u> </u>				<u> </u>		
	Grab Event (Comments:						,	r			T			
				<u> </u>		<u> </u>		L	<u> </u>	<u> </u>	<u> </u>		L		
	Grab Event (Comments:	r		r · · · · · · · · · · · · · · · · · · ·					г				T	
	1			L	<u> </u>	<u> </u>		And the second second		L	<u></u>	L	<u> </u>		L
-	Grab Event (Comments:	<u></u>		T	r	1		Contract of the last of the la		· · · · · ·			T	
	Grab Event (Comments		L		<u></u>	<u> </u>						L		
\vdash	GIAD EVERY	Johnness.			1	Г									
	Grab Event C	i Comments:	L	<u> </u>	L					Ĺ	<u> </u>	i			
		,													
1		Comments:					اا			·					

- Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed
- Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)
- Sediment Color: Brown, Gray, Black, Olive green, Red Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm
- Station Fail codes: None, Temporary sea conditions (comment req.), Temporary atmosphere (comment req.), Temporary mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

	ON										SW	/HB Study
Agency Code CSO	Weather Clear	\ 1	Rain [Sea	State Calm	Wa	ter Qual			Statio	n ID 3₩¥	8-05
Vessel Name		Thunder	1-		Calm X Choppy Rough		Temp (° pH Salinity (_l				Date 04/	09/2014
Arrival Time 1120	Drizzle		. os L	<u></u>	mough		Cond (m					
(hh:mm)					4		Indoned N (If Y explai comments)		Station	Fail Co	ode	
Wind	Swell			Nav T	ype	Sta	tion Con	nments				
Speed (kts)	Period	(s) (ft)			DGPS	5 19	£ 100	055	0 (> 3/	n Muci	W). Close	1450
Direction (4)	Height	(ft)			GPS	Mu	LEDRIE	wes	Mess	alin 1	DOM RAG	148, ALL
	Direction	1 (4)					n Mac			A		ſ
					nent Type	136	puaces u	0/0000	-ORAW	SWHE	7-36 TU DEPTH	~ ~ . \
				Va Tandem Va	an Veen	Com	48-34	+35 A	BJECTET	o puor	TO DEPTY.	ا رمور
GRAB EVENTS				randem va	III veeli							
GRAD EVENTS											Sample typ	es (Chk all that apply)
		T T	Ouele	r							1 (
# Time Latitude (hh:mm) (DD4MM.mmmm)	Longitude Depth (m)	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Infauna for Bioaccum	Photos
	Longitude (DP*MM.mmmm) Depth (m)	to target	Fail		Composition (1)			Hash			for	Photos
	Longitude (DD°MM.mmmm) Depth (m)	to target	Fail		Composition (1)			Hash			for	Photos
# (hh:mm) (DD*MM.mmmm) Grab Event Comments:	Longitude (DD°MM.mmmm) Depth (m)	to target	Fail		Composition (1)			Hash			for	Photos
# (hh:mm) (DD@MM.mmmm)	Longitude (DD°MM.mmmm) Depth (m)	to target	Fail		Composition (1)			Hash			for	Photos
# (hh:mm) (DDeMM.mmmm) Grab Event Comments: Grab Event Comments:	Longitude (DD°MM.mmmm) Depth (m)	to target	Fail		Composition (1)			Hash			for	Photos
# (hh:mm) (DD*MM.mmmm) Grab Event Comments:	Longitude (DD°MM.mmmm) Depth (m)	to target	Fail		Composition (1)			Hash			for	Photos
# (Inh:mm) (DDeMM.mmmm) Grab Event Comments: Grab Event Comments:	Longitude (DD°MM.mmmm) Depth (m)	to target	Fail		Composition (1)			Hash			for	Photos
# (hh:mm) (DDeMM.mmmm) Grab Event Comments: Grab Event Comments:	Longitude (DD°MM.mmmm) Depth (m)	to target	Fail		Composition (1)			Hash			for	Photos
# (hh:mm) (DDQMM.mmmm) Grab Event Comments: Grab Event Comments:	Longitude (DD°MM.mmmm) Depth (m)	to target	Fail		Composition (1)			Hash			for	Photos
# (Inh:mm) (DDQMM.mmmm) Grab Event Comments: Grab Event Comments: Grab Event Comments:	Longitude (DD°MM.mmmm) Depth (m)	to target	Fail		Composition (1)			Hash			for	Photos
# (hh:mm) (DDeMM.mmmm) Grab Event Comments: Grab Event Comments: Grab Event Comments:	Longitude (DD°MM.mmmm) Depth (m)	to target	Fail		Composition (1)			Hash			for	Photos

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

		1		0/ 10/	6 100/	
STATION OCCUPATION	4/17	14	54	×% 101	7300 mg/L	SWHB Study
Agency Code AMEC	Weather	·	Sea State	Water Quality	Station ID	SUHB- 8
<u> </u>	Clear	Rain	Calm 📈	Temp (°C)	18.500	
Vessel Name Base	Overcast K	Thunderstorm	Choppy	рН	8.19 pl Date	4/17/14
	Partly cloudy	Fog	Rough	Salinity (ppt)	34,29 0	4/17/14
Arrival Time 👩 🔗 🛚 🖔	Drizzle	· ,	·	Sp Cond (mS/cm)	52,024,	7/1/19
(nh:mm) Stn Occupation:	30.6818	30		Abandoned site? Y or N (If Y explain in comments)	Station Fail Code	
Wind	Swell		Nav Type	Station Comments		
Speed (kts)	Period (s)	<u> </u>	DGPS	8.2 Sect le	ref. = 2.5 m. 1 -	7.73 ×5/L DO.
Direction (4) Son H	Height (ft)	6	GPS			1, 1/3 MO/L
	Direction (4)	0		tice: +1.9	. / 10	1.6 % 557
Taget 32, 6818	spreed, leet 30,68178	-117.151475	Equipment Type Supering Van Veen Tandem Van Veen	8.2 1/3.28'	. 1	
GRAB EVENTS /	30,00	/				
						Sample types (Chk all that apply)

														Sample typ	es (Chk all that apply)
#	Time (hh:mm) の名うち	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Infauna for Bioaccum	Photos
Г	L 0834	30.68185	-117, 15/35	3	33	NO	フ	F.1.5	Nore	Uliver	Ν	X	X	*	yes
	Grab Event	Comments:	Some	5 he 11	hase	n pro	sent. Bn	+ Not	mon	1 > 5	50%)				V
	0904	32.68198	-117, 15141	73	43	No	7	f.g.s.	11	11	11			×	No
0	Grab Event	Comments:													
	30912	32.68176	-117, 15114	3	14	11	-11	11	11	11	11			X	11
Ŀ	Grab Event	Comments:													
	10920	30,68187	-(17, 15107)	3	26	ĸ	k	u	4	71	4				4
L	Grab Event	Comments:						•							
	0932	32,8172	-117, 15125	3	95	/ *	11	//	11	11	11			X	
5	Grab Event	Comments:												•	
	0749	32,68198	-117, 15143	3	45	ι,	7	r	Ц	4	1,			Х	
	Grab Event	Comments: 9,	8 Dest /3 r	nekr,	tide =	3,0+	Rising	•							

Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed

Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)

Sediment Color: Brown, Gray, Black, Olive green, Red Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

1.15 . F 0956 30.68 224 -117.15161 3m. +,7.S. Bis accum Stell color solve goes. lotte at stell hash, Fix about o. E.? hest =

8 1024 32. 68207, -117.15184 3 m dept., 94 m + less Shell Misk. 10.1 feet dept, New location + 3,5 tide, Rising.

91.1031 32.68236, -117.15189, 3m dept 104 less sull Mesh 10 (05) 32.68227 -117, 15 185 3n 95

11 1100 30,68 832 -117, 15000. 3h 1102

FIELD SAMPLING QA CHECKLIST – SEDIMENT COLLECTIONS

Station ID: 50MB-86	Arrival Date/Time: 4/17/14
Site Acceptable for Sediment Sampling: Yor N	Bioaccumulation Sample Site: Yor N
If site not acceptable, provide reason:	
Mark each box with Y, N, or NA	
Ekold Duogodamas	

Field Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	1 4
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and ≥25pt salinity).	, 5
Vessel has been anchored (or tied off)?	\ \frac{1}{3}
Station DGPS coordinates (± 3 m) recorded?	1 5
Station occupation form completed?	4

2. Sediment Sampling Procedures:

Samples collected in following order: chemistry, bioaccumulation (if applicable)	4
Field staff wearing fresh, powder free nitrile gloves?	1
Equipment washed/rinsed from previous station?	4
Vessel engine has been shut off for 3-5 minutes prior to sampling?	5
Sampling instrument washed with Alconox?	5
Sampling instrument given site water rinse prior to deployment?	7
Sample bottles correctly labeled (minimum: station id, date, agency, parameter)?	7
Sample bottles are lab certified, contaminant free?	4
Samples containers are the correct type in accordance with Table 11-1 in the SWHB Study QAPP?	7
Sample condition meets acceptability criteria (e.g. no surface disturbance, leakage, canting, or washing)?	9
Sample penetration meets acceptability criteria (e.g. minimum 5cm)?	7
Grab disposition / characteristic information recorded?	4
Chemistry samples collected from top 5cm, and 1cm from sides of grab?	,
Sediment evenly distributed among containers?	3
Stainless steel scoop used to distribute sediment?	9
Staff avoided contaminating samples at all times?	7
Equipment or field blank collected (if applicable)?	NA

FIELD SAMPLING QA CHECKLIST – SEDIMENT COLLECTIONS

3. Infauna Tissue Sampling Procedures (if applicable):

Field staff wearing fresh, powder free nitrile gloves?	14
Sampling equipment (van veen, tubs, sieve) washed with Alconox /rinsed from previous station?	3
Vessel engine has been shut off for 3-5 minutes prior to sampling?	19
Sampling instrument given site water rinse prior to deployment?	9
Sample bags correctly labeled (minimum: station id, date, agency, invertebrate group)?	9
Photographs of specimen samples taken with ID tags, prior to wrapping in foil?	7
Each specimen sample weighed?	4
Specimen samples wrapped in pre-cleaned foil, bagged, and preserved on ice?	7

5. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	J
Proper persons have signed and dated all COCs?	9
All field datasheets (hard copy and electronic) and associated notes/ photographs have	4
been recorded for the site before moving to the next?	

6. Sample Storage and Delivery:

Sediment chemistry samples stored cold on wet ice or frozen within 24 hours?	9
Benthic infauna tissue: samples stored on ice and frozen asap?	7
Cooler is taped shut for transport to AMEC freezer or lab?	7
Completed COC is included in plastic bag in cooler?	7

Additional Notes:	<u> </u>	
Signature of QA/QC Personnel:	Date/Time: 4/17/14 /14	45
Print Name/Company: Tyle Hoff Am	EC	

BIGHT'13 EPIBENTHIC INVERTEBRATE FORM

	0,600		Data from Short/Long Tr	rawl @ :	>300 m I		Yes	No >>
	Species	N	Comments	·	Weight (kg)		Photos (D, L, V)	
1			(or Anomalies)		Gross	Y/N	Net	Y/N
	Polychaets + Anemo	ne 100f	and one anemone		12.0			
2			limpits, 1		21.0			
3	Goby	- 8			4.10			
5	Moth Bivalues / Mul	yste .	1 chione (large) suts white (Isas Thompsia) 5 py romana Ishonp (Ismall Isopod	(101)	64.0			
5	Crusticea		Spy romana 1 shoup	Bake	4,0			
6			15mall 150 pod	ou)				
7								
8								
9								
10								
11								
12						-		
13								
14						-		
15								
16								
17			<u> </u>					
18						-		
19								
20						<u> </u>		
21								<u> </u>
22		.						 -
23	. ,		<u> </u>				 	
24								
25								
Hez.	y cont.] nts: Rezor class (5) by = 1/8 heavy Fen. sh = 1/4 heavy for	5 smc 1 + W.	Il musseuliste of pech 5 sparos next zipluck	te t	tar	tee,		

STATION OCCUPATION	V		and the second second		SWHB Study
Agency Code MKC	Weather		Sea State	Nav Type	Station ID SUMB - 6
Vessel Name Bay	Clear Overcast Partly cloudy	Rain rstorm Fog	Calm // Choppy // Rough	DGPS GPS	Date 4/20/14
Arrival Time 13 56 46	Drizzle	. oa		Abandoned site? Y or N (If Y explain in comments)	Station Fail Code
Wind Speed (kts) Direction (4)	Period (s) O Height (ft) O Direction (4)	1	Station Comments Look Ato Wh 3,6ct Not 7	y Distine to t	aget = 0. four trail

TRAWL EVENTS

Trawl Number		Time (hh:mm)	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	Wire Out	Distance to target (m)	Trawl Fail Code (3)	Tissue Chemistry (Y/N)
	Net Over	140016	32,68 261	-117 19963	3	30			
1	Start Trawl	14:01:18	32.68267	-117.14 988	-	ı			
	End Trawl	19:11:16	32-68190	-117,15366			61		
,	Net on Deck	14:11:48	30.68/87	-117,15344		4			,
							: / .		
	Net Over	14,25,28	32.68138	-117.15087	3	30			
	Start Trawl	1426,46	32.48163	-117.15091	1	1			
8	End Trawl	14:36:48	30,68287	-117. 15432		1/	0 *		
	Net on Deck	14:37:11	32.68281	-117,15417	+	1	*		
						5	/		
	Net Over	1524:23	32.68182	-117.15179	3	30			
4	Start Trawl	15:25:06	30,68154	-117, 15183	1	1			
	End Trawl		32.68042	-117,15348			0		
	Net on Deck		30,68057	-117.15343	1	T			

target; 32.68/78 -117.151475

¹ Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Trawl Fail codes: None, Outside Radius Limit, Outside Target Depth, Fouled Net (comment req.), Open cod end (knot untied), Trawl hit unknown obstruction, Doors - No contact with bottom, Torn Net, Unusually low catch, Improper Deck Time, Improper Bottom Time, Inadequate trawl track, Other - Trawl Failure (comment req.)

SWHB - Bioaccumulation and Plastic Ingestion Special Studies

Field Datasheet SWAB-06 Station: Page ____ of / Completed by: Ð\$ 50 Additional Trawl Coordinates: 75 Net on Net on Trawl 2 / Net Set Interval 1 interval 2 Interval 3 Net Retrieval **Bottom Board** Time 1406 1401 1412 1403 1409 Depth (m) 68231 Lat (32.xxxxx) 68213 68193 68189 68180 68182 15309 15848 Long (-117.xxxxx) 15077 15290 15196 15322 25% 50% 75% Net on Net on Trawl & 2 **Net Set** Interval 1 Interval 2 Interval 3 Net Retrieval **Bottom Board** 1426 1425 1429 1434 Time 1431 1436 Depth (m) 68203 68181 Lat (32.xxxxx) 15087 68219 68237 68287 68781 68138 15256 15/70 15107 15367 Long (-117.xxxxx) 15432 25 75 50 Net on Net on Trawl A 3 Net Set Interval 1 Interval 2 Interval 3 Net Retrieval **Bottom Board** 1503 1506 1500 Time 1455 1456 1458 1507 Depth (m) څـ 3 Lat (32.xxxxx) 68079 68099 68142 68/14 68061 68129 08107 15206 15128 Long (-117.xxxxx) 15134 15444 15316 15378 15441 35 フ*S*ツ Net on Trawl Net on **Net Set** Interval 1 Interval 2 Net Retrieval Interval 3 Bottom Board 1524

trail y, No trail track will week to nake hear really south track will week to nake hear trail y lossilly start trail tablet command delayed a 50 Am Comments: towards Barge.

68101

15329

68167

17184

1530:00

68058

15**3**37

Time

Depth (m)

Lat (32.xxxxx)

Long (-117.xxxxx)

1523

BIGHT'13 DEMERSAL FISH IDENTIFICATION FORM

<u> </u>		travitnes:	 				3	Bulla Sno Oynomaia
ML	-LN	1:				· 	2	Bolla snas
40	le:						7	Navanax
Con	nmer	sping ray 9-	ь	240- 360	Invert	ts .	traul	SP
	25 2 b	spotted turbot	1	55			L.	N
- : E	24	calif. helibat	3	50-140	<u>-</u>			N
⊦	23	City in the first of	1	180		1		N
4		Officer District	1	210				N
- / - -	21	spotted sand bass	2	220, 240,				W
3	20	barred sand bass	/	145				Α
3	19	nmshark	/	430	-			<u> </u>
3	18	diamond turbot	1.1	210			-	λ
3	17	spotted turbet	2	65,100	N		-	1
3		Spotted sand bass	/	260				N_
3	15	0.0 1007	1	220				<u> </u>
3	14	sting ray	23	240 - 380				N
3	13	California halibert	15	52 - 315			ļ	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
2	12	spotted turbot	4	80,85, 11D, 120				Y
2	11	diamond turbot	1	225				Y -
2	10	sting rays	13	190-310	•			N
2	9	spothed sand bass	2	190,210				Υ
2	8	California helibut	7	65,60,120,120,88,65,55				i ×
2	7	Pacific Stahovse	1	195 200			<i>I</i> .,	<u> </u>
2	6	Black Woaker	1	230				<u> </u>
1	5		1	190				1
<i>!</i> }	4	butterfly ray Pacific Scandose	1	540				Y
<u>'</u> ,	3	Sting ray	1					Y
1	2	Spotted fla buss	1	240 240				Y
1	1	California hodibut	3	310, 102, 100				<u> </u>
wl		Species	N	Std Length Size Class (cm) Use for up to 10 individuals. Use Size Class sheet for more abundant spp.	We Gross	ight (ko Tare) Net	Photos Y/N
-				Data from Short/Long Trawl @	>300 m De		Yes	No ×
							.,	

SWHB - Bioaccumulation and Plastic Ingestion Special Studies Field Datasheet - FISH

•		FIE	eld Da	atasheet -	FISH				
Station	SWHB-06		····						Page lof /
Date	SWHB-06 04/22/2014			_			Com	pleted by:	ces
FISH SPECIE	S TRAWL - BIOACCUMULAT	TION		_					
0				Size Range	,	Weight (kg)	Photo	
Species		Trawl #	N	(SL)	Gross	Tare	Net	(Y/N)	Footnotes
califor	ia halibut	1,2,3	10	65,120,120,9 105,100,105,10	1519			4	extra for QC
Spotted	sand bass	1-4	2	220, 230				1	
spotte	sand base d turbot	2,3,4	5	110,95,120				4	
				,					
						,			
FISH SPECIE	S - PLASTIC INGESTION			Oi Barrer		Weight (kg	i)		
Species		Trawl #			Photo (Y/N)	Footnotes			
sting va	45	1,2	5	260-320				4.3	
calif. b	45 ralibut Sin croater Oroaker	2,3	3	180-315		,		Y	
yellow	zin orvater	3	1	220				Y	
black	croaker	2,4	2	210,230				Y	
	*				,				
Comments:									
I									

RHMP/ Bight '13 - Bioaccumulation Special Studies Field Data Sheet INVERTEBRATES from Trawls

Station	GWHB-06 04/22/2014				Page 1 of 1							
Date	04/22/2014	•				Com	Completed by:					
INVERTEBRA	TE SPECIES TRAWL- BIO	ACCUMUL	ATION									
Species		Trawl #	N	Weight (kg)			Photo	Footnotes				
				Gross	Tare	Net	(Y/N)	Touriotes				
Bulla	snail	23	250				4					
	· · · · · · · · · · · · · · · · · · ·											
	· · ·											
Comments:						·						

FIELD SAMPLING QA CHECKLIST – TRAWL SAMPLING

Station ID: SWH B - Ob	Arrival Date/Time: 04 22 2014	LHOD
Site Acceptable for Trawl Sampling for Bioaccum	ulation Samples: Yor N	
if No, provide reason:		 .
Mark each box with Y, N, or NA		
TO LITE I		

Field Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	l v
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and \ge 25pt salinity).	У
Vessel has conducted pre-trawl survey? Site acceptable?	V
Station DGPS coordinates (± 3 m) recorded?	4
Station occupation form completed?	1

2. Trawl Sampling Procedures:

Proper equipment used (Semi-balloon otter trawl)?	1 4	1
Weighing scales calibrated?	1 1 -> (heh
Vessel passed through 100 m radius of station?	1	"
Trawl duration 10 minutes (or long as possible in confined areas)?	4	1
Trawl log info recorded (depth, tow wire length, times, coordinates)?	4	1
Trawl remained within 10% of target depth?	V	1
Trawl acceptable (i.e. no fouling, bottom debris present, not torn, bottom time acceptable)?	4	
Fish and/or invertebrates obtained in trawl?	4	
All fish positively identified (for specimens collected as samples)?	4	
All invertebrates positively identified (for specimens collected as samples)?	4	
Standard length of all bony fish measured for specimen counts <10? Length range measured for specimen counts >10?	Y	
Total biomass of each invertebrate group retained as samples recorded?	V	1
Photo of one representative from each species collected and grouped species planned for release?	Y	
Fish and invertebrate specimens wrapped in pre-cleaned foil, bagged, and preserved on ice?	4	

SWHB-06 FIELD SAMPLING QA CHECKLIST - TRAWL SAMPLING

3. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	TV
Proper persons have signed and dated all COCs?	NY
All field datasheets (hard copy and electronic) and associated notes/ photographs have	
been recorded for the site before moving to the next?	14

4. Sample Storage and Delivery:

Epibenthic macroinvertebrates tissue samples collected?	NA
Fish tissue samples collected?	1
Tissue samples stored immediately on ice and frozen asap?	1
Cooler is taped shut for transport to AMEC freezer or lab?	V
Completed COC is included in plastic bag in cooler?	NA

Additional Notes:					· 	
Signature of QA/QC Pe				Date/Time:	4/22/2014	1600
Print Name/Company:_	Covery	Shereda	AMEC			

BIGHT'13 TRAWL DEBRIS			ency: XIVIEC		7	Page	1	of/
Station: <u>SWHB-0</u> Trawl #:	1-4	Date	: 04/22/2014		CHECK HERE IF	NO DEE	BRIS P	RESENT IN SAMPLE
Plastic	Count		Comment	Misc.	ltems/Pieces	Count		Comment
Bag					nip/Engine part			
Bandaid				Clothin				
Balloon (mylar/latex)/Ribbon				Concre	te/Asphalt			
Bag Bandaid Balloon (mylar/latex)/Ribbon Bottle Buoy Cap/Lid				Fibergla	iss			
Buoy				Food				
Cap/Lid				Leather			}	
Cigarette box/wrapper Cup Filmstrip (movie) Fishing Line/Net Food Bag / Wrapper Polypropylene Rope Straw				Lumber				
Cup				Paper				
Filmstrip (movie)				Rag/Clc	th			
Fishing Line/Net				Rubber				
Food Bag / Wrapper				Shoe				
Polypropylene Rope				Tape				
Straw				Tire				
Тоу				Other N	lisc. (comment req.)			·
Utensil Plastic Piece (unid.)			·	Metal		Count		Comment
Plastic Piece (unid.)				Drink Ca	an .			
				Can - ot	her 🤭		<u> </u>	
Other Plastic (comment req.) Glass Beer Bottle Glass Bottle/Jar -other Glass Piece (upid)	Count		Comment	Can Pul	-tab			
Beer Bottle				Fishing	Gear			
Glass Bottle/Jar -other				Wire				
Glass Piece (unid.)				Metal P	iece (unid.)			
Other Glass (comment req.)				Other N	letal (comment req)			
Marine Origin	Count	Est.*	Comment	Terres	trial Vegetation	Count	Est.*	Comment
Foliose Algae - not kelp					Seed Pod			
Gorgonian Sea Fan (dead)					anch/Driftwood			
14 1 11 116 1					errest. (comment req)			
Kelp Stipe/Blade Rock				*For Nat	ural Debris only , if an ex	act count	cannot	be made,
Rock					"Count" column blank a			
Seagrass		М			st." column:		Low:	L = 2-10
Other Marine (comment req)	-		en e				Mode	rate: M = 11-100
		L		Complet	ted by: <u>CCS</u>		High:	H = > 100

ST	ATION O	CCUPATIO	NC			~ *								SW	HB Study
Α	gency Code	250	Weath	ier Clear	् र	Rain	Sea	State Calm	Wat	ter Qualit		19.8	Station	ID SWHE	3-07
١	essel Name	pontion	Ov Partly o	ercast	Thunde	erstorm		Choppy		pH Salinity (p _l		7.99 34.32	D	ate 04/09	12014
	Arrival Time			Orizzle		~ L			Sp	Cond (ms	/cm)	520bb 7.87/1			
	(hh:mm	o station of GPS:	72,64703					N		Indoned S N (If Y explain comments)		Station	Fail Co	de NA	
W	/ind Speed (kts		117. 4 29 2 Swell	Period (s) <i>O</i>		Nav T	ype DGPS メ		tion Com		t un	Sampl	·e .	
	Direction (4			Height (ft) 💍 💍			GPS						y due to Van ver	shalke
								nent Type an Veen 🔀	acti	ral water	rdeph 7	n: 60%	/1.8m	lilm.	MUU
GI	RAB EVEN	TS		mcw:	3,63	,		<u></u>		-					es (Chk all that apply)
#	Time (hh:mm) (I	Latitude DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Infauna for Bioaccum	Photos
,	6950:36 2	2.64 702	-117.14289	ł	1.7	NA	16	sit/clay	N	Olive grn	N	<u> </u>	Y	N	
Ľ	Grab Event Cor	nments:						,		•		 		ı	
							<u> </u>				<u>.</u>	L			
L	Grab Event Cor	nments:								ТТ		Ī .			
1													ı		
1	Crab Event Cor	- I		,						<u> </u>			l	<u> </u>	
_	Grab Event Cor	nments:								 					
-	Grab Event Cor														
_															
		nments:													

- Sediment Composition: Coarse sand, Fine sand, Silt/Clay, Gravel, Cobble, Mixed Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)
- Sediment Color: Brown, Gray, Black, Olive green, Red Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

Grab Event Comments:

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

FIELD SAMPLING QA CHECKLIST – SEDIMENT COLLECTIONS

Station ID: SWHB - 07	Arrival Date/Time: 04/09/2014 09
Site Acceptable for Sediment Sampling: Yor N	Bioaccumulation Sample Site: Y or N
If site not acceptable, provide reason: NA	

Mark each box with Y, N, or NA

Field Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	1
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and ≥25pt salinity).	7
Vessel has been anchored (or tied off)?	1
Station DGPS coordinates (± 3 m) recorded?	4
Station occupation form completed?	1 4

2. Sediment Sampling Procedures:

Samples collected in following order: chemistry, bioaccumulation (if applicable)	Y
Field staff wearing fresh, powder free nitrile gloves?	4
Equipment washed/rinsed from previous station?	4
Vessel engine has been shut off for 3-5 minutes prior to sampling?	7
Sampling instrument washed with Alconox?	Ϋ́
Sampling instrument given site water rinse prior to deployment?	Y
Sample bottles correctly labeled (minimum: station id, date, agency, parameter)?	7
Sample bottles are lab certified, contaminant free?	Ÿ
Samples containers are the correct type in accordance with Table 11-1 in the SWHB Study QAPP?	У
Sample condition meets acceptability criteria (e.g. no surface disturbance, leakage, canting, or washing)?	1
Sample penetration meets acceptability criteria (e.g. minimum 5cm)?	7
Grab disposition / characteristic information recorded?	4
Chemistry samples collected from top 5cm, and 1cm from sides of grab?	1
Sediment evenly distributed among containers?	1
Stainless steel scoop used to distribute sediment?	1
Staff avoided contaminating samples at all times?	Ч
Equipment or field blank collected (if applicable)?	NA

FIELD SAMPLING QA CHECKLIST – SEDIMENT COLLECTIONS

3. Infauna Tissue Sampling Procedures (if applicable):

Field staff wearing fresh, powder free nitrile gloves?	NA
Sampling equipment (van veen, tubs, sieve) washed with Alconox /rinsed from previous station?	
Vessel engine has been shut off for 3-5 minutes prior to sampling?	
Sampling instrument given site water rinse prior to deployment?	
Sample bags correctly labeled (minimum: station id, date, agency, invertebrate group)?	
Photographs of specimen samples taken with ID tags, prior to wrapping in foil?	
Each specimen sample weighed?	
Specimen samples wrapped in pre-cleaned foil, bagged, and preserved on ice?	

5. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	1
Proper persons have signed and dated all COCs?	AN
All field datasheets (hard copy and electronic) and associated notes/ photographs have	
been recorded for the site before moving to the next?	1 7

6. Sample Storage and Delivery:

Sediment chemistry samples stored cold on wet ice or frozen within 24 hours?	TY
Benthic infauna tissue: samples stored on ice and frozen asap?	NA
Cooler is taped shut for transport to AMEC freezer or lab?	NA
Completed COC is included in plastic bag in cooler?	NA

Additional Notes: _	multiple at	tempts to	gray cample.	-Sulless	nd 3rd afte	mpt
Signature of QA/Q	Laaded _V _ C Personnel:	veight to	van veen)	Date/Time:	04/09/2014	1015
Print Name/Compa	any: Cover	Sheredy	AMEC		· , , ·	
		,				

ST	ATION	OCCUPATI	ON											SW	/HB Study
Ą	gency Co	ode <u>60</u>	Weath	ner _		_	Sea	State	Wa	ter Qualit	ty		Statio	n ID SW+	B-08
	•			Clear		Rain		Calm X		Temp (°C	>)	20.2			
٧	essel Na	me Donton	- Ov	ercast	Thunde	erstorm		Choppy		pН		7,96		ate 04/6	9/2014
		•	Partly o	cloudy		Fog		Rough		Salinity (p	pt)	34,35			1/==-/-
-	Arrival Ti	me 1025		Drizzle	_	_ ـ				Cond (ms	-	52104			
_		f			_ .					(mall)		7.29			
	(hh	:mm) station	occupation 32.	Ç) × 1000	id do a.	t 6PS1	time N		indoned	,	,	r Fail Co	de NA	
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				`) know	m table	+			comments)					
w	ind		-117, Swell		-		Nav T		Sta	tion Com	mente				
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	Directio	11 (4) 10 00		Height (1	<i>'</i>			GPS							
				Direction	(4) <u>C</u>	<u> </u>									1
								nent Ty <u>pe</u>	10/1	AD WA-	h. d.	. محامد	14	17254	
							Va	an Veen	, accii	WAY AND	ivi w	The state of	2. 1 m	17.9ft	
							Tandem Va	an Veen 🔀	tide	1:1.9 f	+			1.8	BM MCCW
GR	AB EVE	NTS		15 A C (15)	10/			•							
				MICON	= 6.0'									Sample typ	es (Chk all that apply)
#	Time	Latitude	Longitude	Depth	Distance	Grab Fail	Penetration	Composition	Odor	Color	Shell	Sed	Grain	Infauna for	Photos
"	(hh:mm)	(DD°MM.mmmm)	(DD°MM.mmmm)	(m)	to target (m)	Code (6)	(cm)	(1)	(2)	(3)	Hash	1 0	1 0	101	PHOLOS
	1022:15	041-07-							(2)	(3)	(Y/N)	Chem	Size	Bioaccum	
1	1000	32.65375	-117,14886	2	52	NA	16	SIIT/Clay		oline grn		Cnem ¥	Size	Bioaccum N	γ
	Grab Event	·	-117.14886	2	52	NA	16	silt/Clay			(Y/N)			 	Ą
		·	-117,14886	2	52	NA	16	s/It/Clay			(Y/N)			 	γ
		Comments:	-117,14886	2	52	NA	16	S/It/Clay			(Y/N)			 	γ
-	Grab Event	Comments:	-117,14886	2	52	NA	16	s/It/Clay			(Y/N)			 	γ
-	Grab Event	Comments:	-117,14886	2	ς 2.	NA	16	S/It/Clay			(Y/N)			 	Y
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	Grab Event Grab Event Grab Event	Comments: Comments: Comments:	-117,14886		ς 2.	NA	16	S/It/Clay			(Y/N)			 	Y

¹ Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed

² Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)

³ Sediment Color: Brown, Gray, Black, Olive green, Red

⁴ Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Station ID: 6W HB - 08	Arrival Date/Time: 04/09/2014 1025
Site Acceptable for Sediment Sampling: Yor N	Bioaccumulation Sample Site: YouN
If site not acceptable, provide reason: NA	
Mark each box with Y, N, or NA	

Field Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	7
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and ≥25pt salinity).	Y
Vessel has been anchored (or tied off)?	4
Station DGPS coordinates (± 3 m) recorded?	4
Station occupation form completed?	4

Samples collected in following order: chemistry, bioaccumulation (if applicable)	γ
Field staff wearing fresh, powder free nitrile gloves?	7
Equipment washed/rinsed from previous station?	4
Vessel engine has been shut off for 3-5 minutes prior to sampling?	7
Sampling instrument washed with Alconox?	7
Sampling instrument given site water rinse prior to deployment?	4
Sample bottles correctly labeled (minimum: station id, date, agency, parameter)?	4
Sample bottles are lab certified, contaminant free?	A
Samples containers are the correct type in accordance with Table 11-1 in the SWHB Study QAPP?	Υ
Sample condition meets acceptability criteria (e.g. no surface disturbance, leakage, canting, or washing)?	4
Sample penetration meets acceptability criteria (e.g. minimum 5cm)?	4
Grab disposition / characteristic information recorded?	V
Chemistry samples collected from top 5cm, and 1cm from sides of grab?	1
Sediment evenly distributed among containers?	1
Stainless steel scoop used to distribute sediment?	У
Staff avoided contaminating samples at all times?	4
Equipment or field blank collected (if applicable)?	NA

3. Infauna Tissue Sampling Procedures (if applicable):

Field staff wearing fresh, powder free nitrile gloves?	NA /
Sampling equipment (van veen, tubs, sieve) washed with Alconox /rinsed from previous station?	
Vessel engine has been shut off for 3-5 minutes prior to sampling?	7
Sampling instrument given site water rinse prior to deployment?	
Sample bags correctly labeled (minimum: station id, date, agency, invertebrate group)?	
Photographs of specimen samples taken with ID tags, prior to wrapping in foil?	
Each specimen sample weighed?	
Specimen samples wrapped in pre-cleaned foil, bagged, and preserved on ice?	

5. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	¥
Proper persons have signed and dated all COCs?	NA
All field datasheets (hard copy and electronic) and associated notes/ photographs have been recorded for the site before moving to the next?	4

Sediment chemistry samples stored cold on wet ice or frozen within 24 hours?	1
Benthic infauna tissue: samples stored on ice and frozen asap?	NA
Cooler is taped shut for transport to AMEC freezer or lab?	NA
Completed COC is included in plastic bag in cooler?	N

Additional Notes:					
Signature of QA/QC Po	ersonnel: <u>CSV</u>	undy	Date/Time:	04/09/2014	1025
Print Name/Company:	Covey 8her	edy AME	-C		

STA	ATION	OCCUPATI	ON											SW	/HB Study	
Ag	jency Co	ode CEO	Weath	_	-7-1		Sea	State	Wat	ter Qualit		P	Station	ID SWH	B-09	
				Clear	7	Rain		Calm X		Temp (°C	;)	19.8				
Ve	essel Na	me povitoon	Ov	ercast	Thund	erstorm		Choppy		pН	·	7.93		ate 04/0	9/2014	
		,	Partly	cloudy		Fog		Rough	. ;	Salinity (p	pt)	34.30)			
A	Arrival Ti	me 1228 :	>9	Drizzle					Sp	Cond (mS	S/cm)	5204	7			
				. —					Þo	(mall /1	sat)	7.56/10	T.9 %.			1
	(hh:	:mm) Station (occupation					N		indoned			Fail Co	de NA	,	1
		6PS: 2	32.68074	ļ				<u> </u>		N (If Y explain				<u> </u>		
			17, 15482							comments)						
Wi	ind	- +	Swell				Nav T	vpe	Sta	tion Com	ments					
	Speed (kts) 5	0	Period ((s) C)		DGPS ⊀		nt shell		mean	da for			
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							Tandem V	an Veen X	Tra	1:0.7	+++			1.95	m MCCW	
GR.	AB EVE	ENTS		milw=	641									Sample typ	es (Chk all that apply)	
GR.]	Distance	Grab	Denotration	Composition	Odor	Color	Shell	ha?	Grain	Infauna	es (Chk all that apply)	
GR.	Time	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	ML(W =	Distance to target	Fail	Penetration (cm)	Composition (1)	Odor	Color	Hash	Sed Chem	Grain Size	Infauna for	es (Chk all that apply) Photos	
<u> </u>	Time (hh:mm)	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Fail Code (6)	(cm)	(1)	(2)	(3)	Hash (Y/N)	1	1	Infauna for Bioaccum	Photos	
<u> </u>	Time (hh:mm)	Latitude (DD°MM.mmmm) 32.68077	Longitude	Depth	Distance to target	Fail					Hash	1	1	Infauna for		
<u> </u>	Time (hh:mm)	Latitude (DD°MM.mmmm) 32.68077	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Fail Code (6)	(cm)	(1)	(2)	(3)	Hash (Y/N)	1	1	Infauna for Bioaccum	Photos	
<u> </u>	Time (hh:mm)	Latitude (DD°MM.mmmm) 32.68077	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Fail Code (6)	(cm)	(1)	(2)	(3)	Hash (Y/N)	1	1	Infauna for Bioaccum	Photos	
<u> </u>	Time (hh:mm) 1230 :48 Grab Event	Latitude (DD°MM.mmmm) 32.68077	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Fail Code (6)	(cm)	(1)	(2)	(3)	Hash (Y/N)	1	1	Infauna for Bioaccum	Photos	
<u> </u>	Time (hh:mm) 1230 :48 Grab Event	Latitude (DD°MM.mmmm) 32.68077 Comments:	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Fail Code (6)	(cm)	(1)	(2)	(3)	Hash (Y/N)	1	1	Infauna for Bioaccum	Photos	
<u> </u>	Time (hh:mm) 1230 :48 Grab Event	Latitude (DD°MM.mmmm) 32.68077 Comments:	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Fail Code (6)	(cm)	(1)	(2)	(3)	Hash (Y/N)	1	1	Infauna for Bioaccum	Photos	
1	Time (hh:mm) 1230 :48 Grab Event	Latitude (DD°MM.mmmm) 32.68077 Comments:	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Fail Code (6)	(cm)	(1)	(2)	(3)	Hash (Y/N)	1	1	Infauna for Bioaccum	Photos	
<u> </u>	Time (hh:mm) 1230 :48 Grab Event	Latitude (DD°MM.mmmm) 32.68077 Comments: Comments:	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Fail Code (6)	(cm)	(1)	(2)	(3)	Hash (Y/N)	1	1	Infauna for Bioaccum	Photos	
<u> </u>	Time (hh:mm) 1230:48 Grab Event Grab Event	Latitude (DD°MM.mmmm) 32.68077 Comments: Comments:	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Fail Code (6)	(cm)	(1)	(2)	(3)	Hash (Y/N)	1	1	Infauna for Bioaccum	Photos	
<u> </u>	Time (hh:mm) 1230 :48 Grab Event Grab Event Grab Event	Latitude (DD*MM.mmmm) 32.68077 Comments: Comments:	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Fail Code (6)	(cm)	(1)	(2)	(3)	Hash (Y/N)	1	1	Infauna for Bioaccum	Photos	
<u> </u>	Time (hh:mm) 1230:48 Grab Event Grab Event	Latitude (DD*MM.mmmm) 32.68077 Comments: Comments:	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Fail Code (6)	(cm)	(1)	(2)	(3)	Hash (Y/N)	1	1	Infauna for Bioaccum	Photos	

Grab Event Comments:

Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed

Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments) Sediment Color: Brown, Gray, Black, Olive green, Red

Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Station ID: SUITB-09	Arrival Date/Time: 04/09/2014 1228
Site Acceptable for Sediment Sampling: Y or N	Bioaccumulation Sample Site: Y or N
If site not acceptable, provide reason: NA	
Mark each box with Y, N, or NA	

Field Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	4
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and ≥25pt salinity).	7
Vessel has been anchored (or tied off)?	4
Station DGPS coordinates (± 3 m) recorded?	У
Station occupation form completed?	ý

Samples collected in following order: chemistry, bioaccumulation (if applicable)	(/
Field staff wearing fresh, powder free nitrile gloves?	J
Equipment washed/rinsed from previous station?	4
Vessel engine has been shut off for 3-5 minutes prior to sampling?	
Sampling instrument washed with Alconox?	y
Sampling instrument given site water rinse prior to deployment?	-7
Sample bottles correctly labeled (minimum: station id, date, agency, parameter)?	y
Sample bottles are lab certified, contaminant free?	4
Samples containers are the correct type in accordance with Table 11-1 in the SWHB Study QAPP?	9
Sample condition meets acceptability criteria (e.g. no surface disturbance, leakage, canting, or washing)?	4
Sample penetration meets acceptability criteria (e.g. minimum 5cm)?	4
Grab disposition / characteristic information recorded?	4
Chemistry samples collected from top 5cm, and 1cm from sides of grab?	Ч
Sediment evenly distributed among containers?	4
Stainless steel scoop used to distribute sediment?	y
Staff avoided contaminating samples at all times?	4
Equipment or field blank collected (if applicable)?	WA

3. Infauna Tissue Sampling Procedures (if applicable):

Field staff wearing fresh, powder free nitrile gloves?		NA	$/\!\!\!\!\!/$
Sampling equipment (van veen, tubs, sieve) washed with Alconox /rinsed from previous station?			
Vessel engine has been shut off for 3-5 minutes prior to sampling?		T	
Sampling instrument given site water rinse prior to deployment?			\neg
Sample bags correctly labeled (minimum: station id, date, agency, invertebrate group)?			
Photographs of specimen samples taken with ID tags, prior to wrapping in foil?			
Each specimen sample weighed?	-		
Specimen samples wrapped in pre-cleaned foil, bagged, and preserved on ice?			

5. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	TY
Proper persons have signed and dated all COCs?	NX
All field datasheets (hard copy and electronic) and associated notes/ photographs have	J
been recorded for the site before moving to the next?	1

Sediment chemistry samples stored cold on wet ice or frozen within 24 hours?	4
Benthic infauna tissue: samples stored on ice and frozen asap?	NA
Cooler is taped shut for transport to AMEC freezer or lab?	NA
Completed COC is included in plastic bag in cooler?	NA

Additional Notes: _ani	nals prisut in sm	uple	
	rsonnel: <u>L.S.U., </u>		04/01/2014 1255
Print Name/Company:_	covey shouly	AMEC	 <u>, </u>

ST	ATION	OCCUPAT	ION			*								SW	/HB Study
Α	gency Co	ode CSD	Weat	her			Sea	State	Wa	ter Qualit	tv .		Statio	n ID SWH	B-10
	- ·	<u> </u>		Clear	X T	Rain		Calm 🗡		Temp (°C		19,7		<u></u>	
V	essel Na	ame powton	. 0	vercast	Thund	erstorm		Choppy		pH	,	7.96		Date 64/6	4 12 AKL
		Polotica		cloudy		Fog		Rough		Salinity (p	nt)	34.23		vale 18/10	11001
	Arrival Ti	ime 1300 · 1		Drizzle -		Log L		nough		Cond (ms		51930		,	
		(mall/		8.04/			
	(hh	1:mm) Station	n occupation					[L]		indoned		•	Fail Co		
		685:	32.685	01				لــــــا		N (If Y explain		Otation	i i aii oc	1011	
			-117.1634	+0	•					comments)					
W	ind		Swell				Nav T	уре	Sta	tion Com	ments				i e
	Speed (<u> </u>	Period	(s)O			DGPS X	eel	grass br	usint	in Ses	nple	bentnic In	Lanva
	Directio	on (4) NW		Height	(ft) O			GPS	150	ails)			• /	-0.4	0
		<u></u>		Direction	(4)				(""	<i>(0001-</i>)					
							Equipn	nent Type		•					
							Va	an Veen	actu	cal water	v deptn	:1.5 n	1/4.9	ft	
				•			Tomalous M	an Veen 💢							التديية تست
							randem va	an veen X	Trae	, 1,67	P			1.9.	5 M MULLS
GF	AB FVF	FNTS					randem va	an veen X	Trace	0.54	PT			1.9.	5 m MULLS
GF	RAB EVE	ENTS		MUW	= 4. 4 ft	-	randem va	an veen X	Trace	1.97	PF				es (Chk all that apply)
Г	Time	ENTS Latitude	Longitude	T	Distance	Grab	Penetration	· · · · · · · · · · · · · · · · · · ·			Shell	Sed	Grain	Sample typ	es (Chk all that apply)
GF	1		Longitude (DD°MM.mmmm)	MUW Depth	1		T	Composition (1)	Odor	Color (3)		Sed Chem	Grain Size	Sample typ	
Г	Time (hh:mm)	Latitude		Depth	Distance to target	Grab Fail	Penetration	Composition	Odor	Color (3)	Shell Hash	1	1	Sample typ Infauna for	es (Chk all that apply)
Г	Time (hh:mm)	Latitude (DD°MM.mmmm)	(DD°MM.mmmm)	Depth	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color	Shell Hash (Y/N)	Chem	1	Sample typ Infauna for Bioaccum	nes (Chk all that apply) Photos
Г	Time (hh:mm)	Latitude (DD°MM.mmmm) 32.68487	(DD°MM.mmmm)	Depth	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Chem	1	Sample typ Infauna for Bioaccum	nes (Chk all that apply) Photos
Г	Time (hh:mm)	Latitude (DD°MM.mmmm) 32.68487	(DD°MM.mmmm)	Depth	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Chem	1	Sample typ Infauna for Bioaccum	nes (Chk all that apply) Photos
Г	Time (hh:mm)	Latitude (DD°MM.mmmm) 32.68487 Comments:	(DD°MM.mmmm)	Depth	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Chem	1	Sample typ Infauna for Bioaccum	nes (Chk all that apply) Photos
Г	Time (hh:mm) 1305:33 Grab Event	Latitude (DD°MM.mmmm) 32.68487 Comments:	(DD°MM.mmmm)	Depth	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Chem	1	Sample typ Infauna for Bioaccum	nes (Chk all that apply) Photos
Г	Time (hh:mm) 1305:33 Grab Event	Latitude (DD°MM.mmmm) 32.68487 Comments:	(DD°MM.mmmm)	Depth	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Chem	1	Sample typ Infauna for Bioaccum	nes (Chk all that apply) Photos
Г	Time (hh:mm) 1305:33 Grab Event	Latitude (DD°MM.mmmm) 32.68487 Comments: Comments:	(DD°MM.mmmm)	Depth	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Chem	1	Sample typ Infauna for Bioaccum	nes (Chk all that apply) Photos
Г	Time (Inh:mm) 1305:33 Grab Event Grab Event	Latitude (DD°MM.mmmm) 32.68487 Comments: Comments:	(DD°MM.mmmm)	Depth	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Chem	1	Sample typ Infauna for Bioaccum	nes (Chk all that apply) Photos
Г	Time (Inh:mm) 1305:33 Grab Event Grab Event	Latitude (DD°MM.mmmm) 32.68487 Comments: Comments: Comments:	(DD°MM.mmmm)	Depth	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Chem	1	Sample typ Infauna for Bioaccum	nes (Chk all that apply) Photos
Г	Time (hh:mm) 1305 :33 Grab Event Grab Event Grab Event Grab Event	Latitude (DD°MM.mmmm) 32.68487 Comments: Comments: Comments:	(DD°MM.mmmm) -117.16341	Depth	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Chem	1	Sample typ Infauna for Bioaccum	nes (Chk all that apply) Photos

Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed

Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)

Sediment Color: Brown, Gray, Black, Olive green, Red Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

Station Fall codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Station ID: SWHB-10	Arrival Date/Time: 04/09/2014 1300
Site Acceptable for Sediment Sampling: Yor N	Bioaccumulation Sample Site: Y or
If site not acceptable, provide reason: <u>NA</u>	

Mark each box with Y, N, or NA

Field Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	4
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and ≥25pt salinity).	Y
Vessel has been anchored (or tied off)?	1
Station DGPS coordinates (± 3 m) recorded?	4
Station occupation form completed?	1

Samples collected in following order: chemistry, bioaccumulation (if applicable)	V
Field staff wearing fresh, powder free nitrile gloves?	1
Equipment washed/rinsed from previous station?	4
Vessel engine has been shut off for 3-5 minutes prior to sampling?	NA
Sampling instrument washed with Alconox?	Y
Sampling instrument given site water rinse prior to deployment?	4
Sample bottles correctly labeled (minimum: station id, date, agency, parameter)?	Ч
Sample bottles are lab certified, contaminant free?	7
Samples containers are the correct type in accordance with Table 11-1 in the SWHB Study QAPP?	4
Sample condition meets acceptability criteria (e.g. no surface disturbance, leakage, canting, or washing)?	7
Sample penetration meets acceptability criteria (e.g. minimum 5cm)?	4
Grab disposition / characteristic information recorded?	
Chemistry samples collected from top 5cm, and 1cm from sides of grab?	J
Sediment evenly distributed among containers?	
Stainless steel scoop used to distribute sediment?	4
Staff avoided contaminating samples at all times?	J
Equipment or field blank collected (if applicable)?	NA

SWHB-10

FIELD SAMPLING QA CHECKLIST – SEDIMENT COLLECTIONS

3. Infauna Tissue Sampling Procedures (if applicable):

		₽
Field staff wearing fresh, powder free nitrile gloves?	NA	
Sampling equipment (van veen, tubs, sieve) washed with Alconox /rinsed from previous station?		
Vessel engine has been shut off for 3-5 minutes prior to sampling?		
Sampling instrument given site water rinse prior to deployment?		
Sample bags correctly labeled (minimum: station id, date, agency, invertebrate group)?		
Photographs of specimen samples taken with ID tags, prior to wrapping in foil?		
Each specimen sample weighed?		
Specimen samples wrapped in pre-cleaned foil, bagged, and preserved on ice?	•	

5. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	V
Proper persons have signed and dated all COCs?	NA
All field datasheets (hard copy and electronic) and associated notes/ photographs have	,
been recorded for the site before moving to the next?	1

Sediment chemistry samples stored cold on wet ice or frozen within 24 hours?	1
Benthic infauna tissue: samples stored on ice and frozen asap?	AM
Cooler is taped shut for transport to AMEC freezer or lab?	NA
Completed COC is included in plastic bag in cooler?	NA

Additional Notes:				
Signature of QA/QC Personnel:	eshoudy	_ Date/Time:	04/09/2014	1320
Print Name/Company: Orey	Showedy AMEC			

STATION OCCUPATION		•					SWHB Stud
Agency Code (くらり)	Weather		Sea State	Water Quality	s	tation ID	SWHB-11
·	Clear X	Rain	Calm 🗡	Temp (°C)	20.4		•
Vessel Name Pontron	Overcast	Thunderstorm	Choppy	pН	8.15	Date	4/8/2014
	Partly cloudy	Fog	Rough	Salinity (ppt)	35.59	•	, ,
Arrival Time/ 095多	Drizzle		<u> </u>	Sp Cond (mS/cm)	5375b		
	. —			Do (mg/L/ 1/0)	6.66/9	07%	
(hh:mm)			N	Abandoned site?	Station Fa	ail Code	NA
		_		Y or N (if Y explain in comments)		_	
Wind	Swell		Nav Type	Station Comments			*
Speed (kts) 0-1 knts	Period (s)	0	DGPS 💢	7100: 2.20 PT	,		
Direction (4) N,W	Height (ft)	2.30	GPS 🔀	71 DE: 2.20 PT 3,4 FF DENUZZOSPO 0.30 MILLU	+/1.am		
	Direction (4)	J		A 010 - 101111	`/		•
OCC 38' 8(177			Equipment Type	0.490M 1.1000			
06 08:35:33			Van Veen				•
08:35:33 30.60070	117,11638		Tandem Van Veen 💢				

GRAB EVENTS

Sample types (Chk all that apply) Grab Shell Infauna Distance Sed Grain Depth Penetration Composition Odor Color Time Latitude Longitude Fail for Photos to target Hash Chem Size (DD°MM.mmmm) (DD°MM.mmmm) (m) (hh:mm) (Y/N) Bioaccum (m) Code (6) SiH/clay N Ŋ ٧ 091439 32.60259 N/A none H. brown Grab Event Comments: **Grab Event Comments: Grab Event Comments: Grab Event Comments: Grab Event Comments: Grab Event Comments:**

Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed

Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)

Sediment Color: Brown, Gray, Black, Olive green, Red

Directions: N. NE, E, SE, S, SW, W, NW, or XX for calm

Station Fall codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment reg.), Natural hard bottom obstructions (comment reg.), Not sampleable - other (comment reg.)

Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - blology only

Station ID: SUMB-11	Arrival Date/Time: 085 5 4/8/24
Site Acceptable for Sediment Sampling: Yor N	Bioaccumulation Sample Site: Y or N
If site not acceptable, provide reason:	
Mark each box with Y, N, or NA	

Field Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	Ty
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and ≥25pt salinity).	9
Vessel has been anchored (or tied off)?	NA
Station DGPS coordinates (± 3 m) recorded?	א
Station occupation form completed?	y

Samples collected in following order: chemistry, bioaccumulation (if applicable)	TJ
Field staff wearing fresh, powder free nitrile gloves?	15
Equipment washed/rinsed from previous station?	4
Vessel engine has been shut off for 3-5 minutes prior to sampling?	NA
Sampling instrument washed with Alconox?	7
Sampling instrument given site water rinse prior to deployment?	7
Sample bottles correctly labeled (minimum: station id, date, agency, parameter)?	5
Sample bottles are lab certified, contaminant free?	7
Samples containers are the correct type in accordance with Table 11-1 in the SWHB Study QAPP?	9
Sample condition meets acceptability criteria (e.g. no surface disturbance, leakage, canting, or washing)?	9
Sample penetration meets acceptability criteria (e.g. minimum 5cm)?	9
Grab disposition / characteristic information recorded?	7
Chemistry samples collected from top 5cm, and 1cm from sides of grab?	Jy
Sediment evenly distributed among containers?	19
Stainless steel scoop used to distribute sediment?	19
Staff avoided contaminating samples at all times?	19
Equipment or field blank collected (if applicable)?	NA

3. Infauna Tissue Sampling Pro	ocedures (if applicable):
--------------------------------	---------------------------

Field staff wearing fresh, powder free nitrile gloves?	NA
Sampling equipment (van veen, tubs, sieve) washed with Alconox /rinsed from previous station?	
Vessel engine has been shut off for 3-5 minutes prior to sampling?	
Sampling instrument given site water rinse prior to deployment?	
Sample bags correctly labeled (minimum: station id, date, agency, invertebrate group)?	
Photographs of specimen samples taken with ID tags, prior to wrapping in foil?	
Each specimen sample weighed?	1 1
Specimen samples wrapped in pre-cleaned foil, bagged, and preserved on ice?	

5. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	19
Proper persons have signed and dated all COCs?	
All field datasheets (hard copy and electronic) and associated notes/ photographs have	
been recorded for the site before moving to the next?	

Sediment chemistry samples stored cold on wet ice or frozen within 24 hours?	1 b
Benthic infauna tissue: samples stored on ice and frozen asap?	NA
Cooler is taped shut for transport to AMEC freezer or lab?	NA
Completed COC is included in plastic bag in cooler?	NA

Additional Notes:		
Signature of QA/QC Personnel:	Date/Time: 0930	1/8/14
	AME IN	

ST	ATION	OCCUPATI	ON									•		S	WHB Study
Ą	gency Co	ode CSD	Weath	ner _			Sea	State	Wa	ter Qualit	у		Station	า ID <i>โรฟ</i>	HB-12
	•			Clear	\checkmark	Rain		Calm X		Temp (°C	;)	22.7			
V	essel Na	me pontro	n Ov	ercast	Thund	erstorm		Choppy		рН		8.31	D	ate 04/	08/2014
		1	Partly o	cloudy		Fog		Rough		Salinity (p	pt)	35.64			
F	Arrival Ti	me [328 ·	51	Drizzle		- 🖵	 ,			Cond (mS		53076			
		Cha M	cupation						Do	cmg/L/	%. sat)	10.70/1	52.0%		
	(hh	•						N		andońed s		Station	Fail Co	de NA	\
		6PS:	32.61580						Y or	N (If Y explain comments)	in .			V	
			117.10535												•
W	ind		Swell				Nav T	уре	Sta	tion Com	ments				
	Speed (kts) NW		Period ((s) 0			DGPS X	alai	ne of sel	nası	presen	t in s	ample	
	Directio	n (4) 6		Height (ft) O			GPS		1 1	0	u ·		Ø.	
		•		Direction	(4) 0										Į.
							Eguipn	nent Type		•		,			
								an Veen	ac	trul dy	ptu:	34+10	,41m		
							Tandem Va	an Veen 🗸	hie	trul de le: 1.2	3++	,		0,54	In MLCW
~ n	4 D E \ (E							[w , 					
GK	AB EVE	:N15												Sample	types (Chk all that apply)
#	Time (hh:mm)	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Infauna for Bioaccum	Photos
,	1336:15	32.61583	-117.10535	l	42	NA	11	Sitt clay	N	olive gan	N	Ч	Y	N	Y
	Grab Event	Comments:						1		Je					
														1	
ĺ	Grab Event	Comments:	I	J			J.,,		L		·		Luciani - P		
<u> </u>				, 			· · · · · · · · · · · · · · · · · · ·		_						

1 Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed

Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)

Sediment Color: Brown, Gray, Black, Olive green, Red Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

Grab Event Comments:

Grab Event Comments:

Grab Event Comments:

Grab Event Comments:

Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Station ID: SWHB-12	Arrival Date/Time: 64/08/2014 / 1328
Site Acceptable for Sediment Sampling: Yor N	Bioaccumulation Sample Site: YorN
If site not acceptable, provide reason: NA	

Mark each box with Y, N, or NA

Field Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	1
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and ≥25pt salinity).	٧
Vessel has been anchored (or tied off)?	4
Station DGPS coordinates (± 3 m) recorded?	J
Station occupation form completed?	1

Samples collected in following order: chemistry, bioaccumulation (if applicable)	I Y
Field staff wearing fresh, powder free nitrile gloves?	У
Equipment washed/rinsed from previous station?	Ý
Vessel engine has been shut off for 3-5 minutes prior to sampling?	NA
Sampling instrument washed with Alconox?	1
Sampling instrument given site water rinse prior to deployment?	1
Sample bottles correctly labeled (minimum: station id, date, agency, parameter)?	V
Sample bottles are lab certified, contaminant free?	Y
Samples containers are the correct type in accordance with Table 11-1 in the SWHB Study QAPP?	4
Sample condition meets acceptability criteria (e.g. no surface disturbance, leakage, canting, or washing)?	Y
Sample penetration meets acceptability criteria (e.g. minimum 5cm)?	V
Grab disposition / characteristic information recorded?	1
Chemistry samples collected from top 5cm, and 1cm from sides of grab?	V
Sediment evenly distributed among containers?	T V
Stainless steel scoop used to distribute sediment?	¥
Staff avoided contaminating samples at all times?	1
Equipment or field blank collected (if applicable)?	NA

3. Infauna Tissue Sampling Procedures (if applicable):

Field staff wearing fresh, powder free nitrile gloves?	NA/	T
Sampling equipment (van veen, tubs, sieve) washed with Alconox /rinsed from previous station?		
Vessel engine has been shut off for 3-5 minutes prior to sampling?		
Sampling instrument given site water rinse prior to deployment?		
Sample bags correctly labeled (minimum: station id, date, agency, invertebrate group)?		
Photographs of specimen samples taken with ID tags, prior to wrapping in foil?	/	
Each specimen sample weighed?	/	_
Specimen samples wrapped in pre-cleaned foil, bagged, and preserved on ice?	/	

5. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	1
Proper persons have signed and dated all COCs?	
All field datasheets (hard copy and electronic) and associated notes/ photographs have	
been recorded for the site before moving to the next?	

Sediment chemistry samples stored cold on wet ice or frozen within 24 hours?	1 1
Benthic infauna tissue: samples stored on ice and frozen asap?	NH
Cooler is taped shut for transport to AMEC freezer or lab?	NA
Completed COC is included in plastic bag in cooler?	N+

Additional Notes:	
Signature of QA/QC Personnel: <u>E.S.Ww.d.</u>	Date/Time: 04 08 2014 1350
Print Name/Company: Covey Swudy	AMEC

STATION OCCUPATIO	N	*						SWHB Stud
Agency Code 🚄 🗸	Weather	_	Sea	State	Water Quality	y	Station II	SWHB-13
	Clear X	Rain		Calm X	Temp (°C) [9.3	3	
Vessel Name pontion	Overcast	Thunderstorm		Choppy	рН	7, 3		e 04/09/2014
	Partly cloudy	Fog		Rough	Salinity (pr	ot) 34.		
Arrival Time 0832:36	Drizzle	1	·		Sp Cond (mS			
		4			DO (mall)		1/85.21.	
(hh:mm) Station of					Abandoned s		ion Fail Code	NA
32.6 -117.1					Y or N (If Y explain I comments)			I
Wind	Swell		Nav T	уре	Station Com	ments		
Speed (kts) 2	Period (s)	0		DGPS 🗡	minor shell	hash in	Sample	
Direction (4) NW	Height (ft)	0		GPS			7	
	Direction (4)	0						
			Equipn	nent Type				
				an Veen	actual dept	= 2.6 m / 8	×.51	:
			Tandem Va	an Veen 💢	tide: 2.98			1.68m MCCas
GRAB EVENTS								Sample types (Chk all that app
# Time Latitude	LODOUTHOR DEDITO	istance Grab	Penetration	Composition	Odor Color	Shell Se	d Grain	Infauna Photos

to target Hasn (hh:mm) (DD°MM.mmmm) (DD°MM.mmmm) (m) (cm) (1) Chem Size Bioaccum Code (6) (Y/N) 3 16 SIH/day 0841:28 32.63547 -117,13809 olive ain. **Grab Event Comments: Grab Event Comments:**

Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

¹ Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed

² Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)

Sediment Color: Brown, Gray, Black, Olive green, Red

⁴ Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

Station Fall codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Station ID: SWHB-13	Arrival Date/Time: 04/09/2014 0832
Site Acceptable for Sediment Sampling: Yor N	Bioaccumulation Sample Site: Y or 🕏
If site not acceptable, provide reason:	
Manhamata and the state of the	

Mark each box with Y, N, or NA

Field Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	Y
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and ≥25pt salinity).	4
Vessel has been anchored (or tied off)?	4
Station DGPS coordinates (± 3 m) recorded?	И
Station occupation form completed?	4

	т :
Samples collected in following order: chemistry, bioaccumulation (if applicable)	4
Field staff wearing fresh, powder free nitrile gloves?	V
Equipment washed/rinsed from previous station?	4
Vessel engine has been shut off for 3-5 minutes prior to sampling?	4
Sampling instrument washed with Alconox?	Ý
Sampling instrument given site water rinse prior to deployment?	4
Sample bottles correctly labeled (minimum: station id, date, agency, parameter)?	Y
Sample bottles are lab certified, contaminant free?	1 4
Samples containers are the correct type in accordance with Table 11-1 in the SWHB Study QAPP?	Y
Sample condition meets acceptability criteria (e.g. no surface disturbance, leakage, canting, or washing)?	4
Sample penetration meets acceptability criteria (e.g. minimum 5cm)?	4
Grab disposition / characteristic information recorded?	4
Chemistry samples collected from top 5cm, and 1cm from sides of grab?	4
Sediment evenly distributed among containers?	İ
Stainless steel scoop used to distribute sediment?	
Staff avoided contaminating samples at all times?	14
Equipment or field blank collected (if applicable)?	NA

3. Infauna Tissue Sampling Procedures (if applicable):

Field staff wearing fresh, powder free nitrile gloves?	MA
Sampling equipment (van veen, tubs, sieve) washed with Alconox /rinsed from previous station?	
Vessel engine has been shut off for 3-5 minutes prior to sampling?	1
Sampling instrument given site water rinse prior to deployment?	
Sample bags correctly labeled (minimum: station id, date, agency, invertebrate group)?	
Photographs of specimen samples taken with ID tags, prior to wrapping in foil?	
Each specimen sample weighed?	
Specimen samples wrapped in pre-cleaned foil, bagged, and preserved on ice?	

5. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	TY
Proper persons have signed and dated all COCs?	
All field datasheets (hard copy and electronic) and associated notes/ photographs have	
been recorded for the site before moving to the next?	1 4

Sediment chemistry samples stored cold on wet ice or frozen within 24 hours?	7
Benthic infauna tissue: samples stored on ice and frozen asap?	AL
Cooler is taped shut for transport to AMEC freezer or lab?	NA
Completed COC is included in plastic bag in cooler?	AN

Additional Notes:						
Signature of QA/QC Per			ly	Date/Time:	04/09/2014	0900
Print Name/Company:_	Core	8 neudy	AMEC			

			•		,										
STA	ATION	OCCUPAT	ION			4.								SW	/HB Study
Ag	jency Co	ode 🛂	Weath	ner			Sea	State	Wat	ter Qualit	ty		Station	n ID SWH	B-14
	•			Clear	X	Rain		Calm X		Temp (°C	C)	21.3			
Ve	essel Na	ime poution	Ov	/ercast	Thund	erstorm		Choppy		рН		6.21	ם	ate 04/08	1/2014
			Partiy e	cloudy		Fog		Rough		Salinity (p	pt)	35.24			· · · · · · · · · · · · · · · · · · ·
Α	rrival Ti	ime 1144:0	4	Drizzle		- 1_		- <u>L</u>		Cond (ms		53325	•		
		Harris de la constante de la c							DO	(mg/L					
	(hh		icupation					N		indoned	: /	Station		de NA	
		BPS:	32.61415	-					Y or	N (if Y explain comments)	ıln				
			-117,1220	6						comments)					
Wi	nd		Swell				Nav T	уре	Stat	tion Com	ments				
	Speed ((kts)		Period ((s) O			DGPS K	One			4 4			
	Directio	n (4) NW		Height (ft)			GPS -	Jona	e algano	preven	y LANGE U	ranjone		İ
				Direction	(4) 0			<u> </u>	1						
					``		Equipo	nent Type						1.22m1	4ccas
								an Veen							
	•								tid	A. A G	12 ()		0 1.01	n 5++/	110
							Tandem Va	an veen X	100	k, 0.7	1714	/ acyonic	acpi	ペ ウナナ/	113M
GR	AB EVE	ENTS													
			1	·		Crob	T	T	T		Chall	F		Sample typ	es (Chk all that apply
#	Time	Latitude	Longitude	Depth	Distance to target	Grab Fail	Penetration	Composition	Odor	Color	Shell Hash	Sed	Grain	for	Photos
<u></u>	(hh:mm)	(DD°MM.mmmm)	(DD°MM.mmmm)	(m)	(m)	Code (6)	(cm)	(1)	(2)	(3)	(Y/N)	Chem	Size	Bioaccum	
	1149:11	32.61416	-117.12204	2	රි	NIA	16	sit/clay	Ŋ	olive am.	Ŋ	Y	4	N	Υ
'	Grab Event				•			7							
—			T	·		7	1	I	T		· · · · · · · · · · · · · · · · · · ·			1	

#	Time (hh:mm)	Latitude (DD°MM.mmmm)	Longitude (ספי MM.mmmm)	Depth (m)	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Infauna for Bioaccum	Photos
	1149:11	32.61416	-117.12204	2	8	NIA	16	sit/clay	Ŋ	olive gm.	Ŋ	Y	4	7	4
1	Grab Event		1:			·			•	- 					
	Grab Event	Comments:		-											
		<u></u>													
Grab Event Comments:															
Grab Event Comments:															
Grab Event Comments:															
}	Grab Event	Comments:													

Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed

2 Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)

Sediment Color: Brown, Gray, Black, Olive green, Red

4 Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Arrival Date/Time: 04/08/2014
Bioaccumulation Sample Site: Y of N

Mark each box with Y, N, or NA

Field Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	1.4
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and ≥25pt salinity).	J
Vessel has been anchored (or tied off)?	. 4
Station DGPS coordinates (± 3 m) recorded?	4
Station occupation form completed?	19

Samples collected in following order: chemistry, bioaccumulation (if applicable)	19
Field staff wearing fresh, powder free nitrile gloves?	9
Equipment washed/rinsed from previous station?	4
Vessel engine has been shut off for 3-5 minutes prior to sampling?	4
Sampling instrument washed with Alconox?	1,9
Sampling instrument given site water rinse prior to deployment?	7
Sample bottles correctly labeled (minimum: station id, date, agency, parameter)?	7
Sample bottles are lab certified, contaminant free?	5
Samples containers are the correct type in accordance with Table 11-1 in the SWHB Study QAPP?	9
Sample condition meets acceptability criteria (e.g. no surface disturbance, leakage, canting, or washing)?	9
Sample penetration meets acceptability criteria (e.g. minimum 5cm)?	7
Grab disposition / characteristic information recorded?	4
Chemistry samples collected from top 5cm, and 1cm from sides of grab?	9
Sediment evenly distributed among containers?	7
Stainless steel scoop used to distribute sediment?	1.9
Staff avoided contaminating samples at all times?	9
Equipment or field blank collected (if applicable)?	ŋ

Infauna Tissue Sampling Procedures (if applicable):	NIA
Field staff wearing fresh, powder free nitrile gloves?	j
Sampling equipment (van veen, tubs, sieve) washed with Alconox /rinsed from previous station?	
Vessel engine has been shut off for 3-5 minutes prior to sampling?	
Sampling instrument given site water rinse prior to deployment?	
Sample bags correctly labeled (minimum: station id, date, agency, invertebrate group)?	
Photographs of specimen samples taken with ID tags, prior to wrapping in foil?	
Each specimen sample weighed?	
Specimen samples wrapped in pre-cleaned foil, bagged, and preserved on ice?	

5. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	9
Proper persons have signed and dated all COCs?	4
All field datasheets (hard copy and electronic) and associated notes/ photographs have	4
been recorded for the site before moving to the next?	

Sediment chemistry samples stored cold on wet ice or frozen within 24 hours?	7
Benthic infauna tissue: samples stored on ice and frozen asap?	9
Cooler is taped shut for transport to AMEC freezer or lab?	7
Completed COC is included in plastic bag in cooler?	5

Signature of QA/QC Personnel: Date/Time: 1200 4/8/	Additional Notes:			
I A M	Signature of OA/OC Personnel:	Date/Time:	1200	4/8/19
Print Name/Company: 19/8 1/4/	TI H. A.	AMEC		

	•			1			$\mathcal{D}_{\mathcal{C}}$	つ: /	/ d	90,	7			
STATION C	CCUPATI	ON				•		D	0:6	,61-	19/2		SV	VHB Stud
Agency Cod	de Antico	- Weath	er	•		Sea	State		ter Quali	ty			ID Su	HB-15
			Clear		Rain		Calm		Temp (°C		20,700		<u> </u>	
Vessel Nan	ne Mester	Ove	ercast 📝	Thunde	erstorm		Сһорру	ļ	pН		8.16		ate <u>4 /</u>	15/14
		Partly c	loudy 🚩		, Fog		Rough		Salinity (p		35.63 p			`.
Arrival Tin	ne 0%: 49:4	·	rizzle			•		Sp	Cond (m	S/cm) .	53838	5/6	•	
ं (hh:n	um)	. 32, 6°	0 90	3				۸ha	ndoned	cito?	Station	· Fail Co	de	
, , ,	ه در	. 30,)			لـــــا		N (If Y explain		Station	Tail Oo	uc	
		-117, 1	, , , -			- '	•		comments)	-	•			
Wind	•	Swell				Nav T	ype	Sta	tion Com	ments				
Speed (k	ts)		Périod ((s) <i>O</i>			DGPS	4	Le: 4	. 1 Lect	The,			
Direction	(4)		Height (ft) <u>O</u>			GPS	De	N: 4,	75. Leet			,	
ı	(Direction	(4) (2)		•	-	' '	· = 1.4	m De	ρ ^η .			
342	609.0						nent Type		•	•	y			
rust 33	7. 7.0 7	. D	eph:	== 1/0			an Veen		•	•				
, 2 , 11	(#	_	ं भृष	= WO	4 m	Tandem Va	an Veen		•					
GRAB EVE	NTS	4,	5 fect	- 1½ (,			•					Eamela to	pes (Chk all that apply
# Time	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Infauna for Bioaccum	Photos
1 ————————————————————————————————————	(5) 53			. (/	3000 (0)	+ 12	2.01	160 00	elles &	 				

#	Time (hh:mm)	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Infauna for Bioaccum	Photos
	09:09:27	30, 60922	-117.10791	1	95	N/A	16	Siltldy	Nowe	eli jes	N	X	1	X	yes
1)	Grab Event						۰	<u> </u>		· .					
	29:31:3	8.32.60907	-117.10797	.	98.	NIA	16	siH/chy	Nung	والبو	N			7	NO
0	Grab Event														
9	0935 33	32.60915	-117.10791	1	.95	N/A.	16	<i>n</i> :	11	4	//			X	NO
>	Grab Event		•		٠.					-					1
11	09:4/:50	32.60923	-117,1079	: /	96	NA	16 .		*		G.		•	χ	No
17	Grab Event	Comments:							•						•
سے	095050	32.60928	-117, 10790	1	93	NA.	16	+f	1	•	``			<i>\tau</i>	No.
Ρ	Grab Event		•		:						•	5	•		
	100644	32.6092	7 -117, 1079.	/ /	95	NA	16	- 11	V	il	N	4		\mathcal{X}	\mathcal{N}
16	Grab Event	Comments:									٠				

Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed
Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)
Sediment Color: Brown, Gray, Black, Olive green, Red
Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm
Station Fall codes: None, Temporary - sea conditions (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom sallnity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.),
Antherespoke a better tree.

	(0.000	tage !		1318. Acega
7-101542 -	-117, 107 81	73	(60 h	
D 10:38:32	32.60938	98	1604	*
9. 10:44:50	37.60950	75	16	
(0 105324	30-609 48	65	16	
11	-117,10768 32.60924 -117,10784	89	C	4.75 dept /419"
12-11/7/09	30.600 25	91	16	
3 113542	-117,0680		16	New postur/ tile Depth. 3 feet, 8 incl = 1.15 m.
4 114048	32. 60898		16	3 feet, 8 mile = 1.13 m
5 1153 05	30,60896 -117,10678	74	16	
6 12-647	37. 32. 609 -117. 1078	•	(6	r ven stigajulat dept. Dept. = +3.8 sect.

SWHB-15

FIELD SAMPLING QA CHECKLIST - TRAWL SAMPLING

3. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	NA
Proper persons have signed and dated all COCs?	NA
All field datasheets (hard copy and electronic) and associated notes/ photographs have	
been recorded for the site before moving to the next?	1

Epibenthic macroinvertebrates tissue samples collected?	NA
Fish tissue samples collected?	
Tissue samples stored immediately on ice and frozen asap?	1
Cooler is taped shut for transport to AMEC freezer or lab?	NA
Completed COC is included in plastic bag in cooler?	NA

Additional Notes:			· · · · · · · · · · · · · · · · · · ·			
Signature of QA/QC Pe	rsonnel:	eghen	4	Date/Time: _	4/21/2014	1230
Print Name/Company:_	Coney	Sheredy				

BIGHT'13 DEMERSAL FISH IDENTIFICATION FORM

	•		-	Data from Short/Long Trawl @	>300 m D		res	No
		Species		Std Length Size Class (cm) Use for up to 10 individuals.	Weight (kg)		Photo	
#١			N	Use Size Class sheet for more abundant spp.	Gross	Tare	Net	Y/N
1	1	Sting ray	26	130 - 400				· N
!	2	spotted sand base	l	250			·	V
1	3	slough anchovy	5	50, 50, 45, 50, 90				V
	4	culifornia halibult	3	125,100,100				4
	5	dramond turbot	6	100,80,92,85,90,45				Α
	6	white sea boss	1	208				У
۱	7	butterfly vary	1	430				Y
2	8	spotted sand bass	1	-290				N
2	9	sting rays	17	150 - 350				4
2	10	butterfly ray	l	430				N
2	11	dramond Dirbot	6	50-90				N.
2	12	California halibut	11	60 - 150				Y
2	13	plainkn midshipman	1	170				У
3	14	sting ray	7	170-230				7
3	15	Stough an Chone	5	50,48,49,50,50				N
3	16	diamond turbot	4	31 - 130				7
3	17	california halibert	34	72-110				N
3	18	butterfly ray	1	410			*	N
1.	19	sting ray	2	160 , 180	·			N
4	20	ou winona [NTBO]	3	65, 68, 70				Ŋ
4	21	california habibut	1	140				Ŋ
-	22		ļ					
	23		<u> </u>					
-	24							
L	25							
Con	nmer	nts:						
	tide							

	- 41	a from Short/Long Trawl	@ >300 m i	Depth [Yes	
Species	N	Comments	w	eight (k	g)	
		(or Anomalies)	Gross	Y/N	Net	T
1 Goby	. 8 .	·	16.009			T
2 Crustacle (& showpy) 3 mollust	nt ->		V6/39			
3 mollusk	100 t		599	-		T
4 Pheronics	707	· · · · · · · · · · · · · · · · · · ·	V 8.75			T
5 folycheeta	100+		15,25			
6				.,		
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23				·		+
24						+
25	- 			•		+

Station ID: SUNB-15	Arrival Date/Time: 04/15/14
Site Acceptable for Sediment Sampling: Y or N	Bioaccumulation Sample Site: Y or N
If site not acceptable, provide reason:	
Mark each box with Y, N, or NA	
Field Procedures	

rieid Frocedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	1 1
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and ≥25pt salinity).	1 9
Vessel has been anchored (or tied off)?	70
Station DGPS coordinates (± 3 m) recorded?	3
Station occupation form completed?	1,5

Samples collected in following order: chemistry, bioaccumulation (if applicable)	4
Field staff wearing fresh, powder free nitrile gloves?	179
Equipment washed/rinsed from previous station?	y
Vessel engine has been shut off for 3-5 minutes prior to sampling?	4
Sampling instrument washed with Alconox?	5
Sampling instrument given site water rinse prior to deployment?	4
Sample bottles correctly labeled (minimum: station id, date, agency, parameter)?	у
Sample bottles are lab certified, contaminant free?	5
Samples containers are the correct type in accordance with Table 11-1 in the SWHB Study QAPP?	J
Sample condition meets acceptability criteria (e.g. no surface disturbance, leakage, canting, or washing)?	9
Sample penetration meets acceptability criteria (e.g. minimum 5cm)?	y
Grab disposition / characteristic information recorded?	Ø
Chemistry samples collected from top 5cm, and 1cm from sides of grab?	4
Sediment evenly distributed among containers?	14
Stainless steel scoop used to distribute sediment?	19
Staff avoided contaminating samples at all times?	1.0
Equipment or field blank collected (if applicable)?	NA

3. Infauna Tissue Sampling Procedures (if applicable):

Field staff wearing fresh, powder free nitrile gloves?	9
Sampling equipment (van veen, tubs, sieve) washed with Alconox /rinsed from previous station?	y
Vessel engine has been shut off for 3-5 minutes prior to sampling?	5
Sampling instrument given site water rinse prior to deployment?	1 9
Sample bags correctly labeled (minimum: station id, date, agency, invertebrate group)?	5
Photographs of specimen samples taken with ID tags, prior to wrapping in foil?	4
Each specimen sample weighed?	1 5
Specimen samples wrapped in pre-cleaned foil, bagged, and preserved on ice?	4

5. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	7
Proper persons have signed and dated all COCs?	7
All field datasheets (hard copy and electronic) and associated notes/ photographs have	<i>J</i>
been recorded for the site before moving to the next?	7

Sediment chemistry samples stored cold on wet ice or frozen within 24 hours?	5
Benthic infauna tissue: samples stored on ice and frozen asap?	7
Cooler is taped shut for transport to AMEC freezer or lab?	4
Completed COC is included in plastic bag in cooler?	7

Additional Notes:/ GC35			
Signature of QA/QC Personnel:	Date/Time:	4/15/14	1300
Print Name/Company: Me Huff			

	BIGHT'13 TRAWL DEBRIS Station: <u>SWH0-15</u> Trawl #:		_	ency: <u>AMEC</u> : <u>01/21/2014</u>	CHECK HERE II			of/ RESENT IN SAMPLE
	Plastic	Count		Comment	Misc. Items/Pieces	Coun		Comment
if known	Bag				Boat/Ship/Engine part			
Lu,	Bandaid				Clothing			
1. 7.	Balloon (mylar/latex)/Ribbon				Concrete/Asphalt			
Commonte	Bottle				Fiberglass			
nn	Buoy		<u> </u>		Food			· · · · · · · · · · · · · · · · · · ·
5	Cap/Lid				Leather			
11 50	Cigarette box/wrapper	<u> </u>			Lumber			
Brand Names	Cup				Paper			
N	Filmstrip (movie)				Rag/Cloth		<u> </u>	
ran	Fishing Line/Net				Rubber			
	Food Bag / Wrapper				Shoe			
include	Polypropylene Rope				Таре			
ij	Straw				Tire			
	Тоу				Other Misc. (comment req.)			
Debris	Utensil				Metal	Count		Comment
	Plastic Piece (unid.)				Drink Can	,,		
enic	Other Plastic (comment req.)				Can - other			
age	Glass	Count		Comment	Can Pull-tab	<u> </u>	- 	
Anthropog	Beer Bottle				Fishing Gear			
ıth	Glass Bottle/Jar -other				Wire			
A	Glass Piece (unid.)				Metal Piece (unid.)			
	Other Glass (comment req.)				Other Metal (comment req)			
	Marine Origin	Count	Est.*	Comment	Terrestrial Vegetation	Count	Fc+ *	Comment
	Colingo Alega matteria				Leaves/Seed Pod	Count	231.	Comment
bris	Gorgonian Sea Fan (dead)				Stick/Branch/Driftwood	 		
De	Kelp Holdfast				Other Terrest. (comment reg)			
폡	Kelp Stipe/Blade		 -		*For Natural Debris only , if an e	Vact count	cannot bo	mada
闦	Gorgonian Sea Fan (dead) Kelp Holdfast Kelp Stipe/Blade Rock				leave the "Count" column blank			

in the "Est." column:

Completed by: CCS

Low:

High:

L = 2-10

H = > 100

Moderate: M = 11-100

Seagrass

Other Marine (comment req)

SWHB - Bioaccumulation and Plastic Ingestion Special Studies Field Datasheet - FISH

Station	SWHB-15		··			••			Pageof
Date	04/21/2014			_			Com	pleted by:	ccr
FISH SPECIE	S TRAWL - BIOACCUMULA	ATION							· .
Species		Trawl #	N	Size Range	,	Weight (kg)	Photo	Factoria
		IIdWI#	14	(SL)	Gross	Tare	Net	(Y/N)	Footnotes
Californ	ia halibut I turbot	1,2	7	135,150,65				1	
diamond	1 turbot	1,2	5	80,95,90 90,85,90 50,50,45,50,90				1	
slough a	nchorues	. 1,3	5,5	50,50,45,50,90 48,49,50,50,50				1	small 1/2 sheet
_	Pand bass	1,2	2	250,290	i !			4	
									
						i			
	S - PLASTIC INGESTION		·····	Siza Banga		Weight (kg)	Photo	
FISH SPECIE Species	S - PLASTIC INGESTION	Trawl #	N	Size Range (SL)	Gross	Weight (kg Tare) Net	Photo (Y/N)	Footnotes
Species		Trawl#	N 3					_	Footnotes
Species				(SL)				(Y/N)	Footnotes
Species		1,2	3	(SL) 130,130,145				(Y/N)	Footnotes
Species Californ Stray ra White Se	s-PLASTIC INGESTION ia halibut p a bass midshipman	1,2	3	(SL) 130/130/145 210-246				(Y/N) Y	Footnotes
Species Californ Stray ra White Se	ia halibut ys a bass	1,2	3 5	(SL) 130/130/145 210-246 208				(Y/N)	Footnotes
Species Californ Stray ra White Se	ia halibut ys a bass	1,2	3 5	(SL) 130/130/145 210-246 208				(Y/N)	Footnotes
Species Californ Stray ra White Se	ia halibut ys a bass	1,2	3 5	(SL) 130/130/145 210-246 208				(Y/N) Y Y Y Y	Footnotes

RHMP/ Bight '13 - Bioaccumulation Special Studies Field Data Sheet INVERTEBRATES from Trawls

Station	SWHB-15		-	-			F	age 1 of 1
Date	04/21/2014					Com	pleted by:	rage lof 1
INVERTEBR/	ATE SPECIES TRAWL- BI	OACCUMUL	ATION					-
Species		Trawl #	N		Weight (kg)	Photo	Footnotes
·				Gross	Tare	Net	(Y/N)	rootnotes
								· · · · · · · · · · · · · · · · · · ·
								·
				+		·	<u> </u>	
				ļ <u> </u>				
								-
 -								
					<u> </u>			
								
· · ·								
Comments:				 				

FIELD SAMPLING QA CHECKLIST – TRAWL SAMPLING

Station ID: SWHB-15	Arrival Date/Time: <u>6WHB-15 1630</u>
Site Acceptable for Trawl Sampling for	Bioaccumulation Samples or N
if No, provide reason:	
Mark each box with Y, N, or NA	
771.11.75	

Field Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	1
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and ≥25pt salinity).	7
Vessel has conducted pre-trawl survey? Site acceptable?	7
Station DGPS coordinates (± 3 m) recorded?	Ý
Station occupation form completed?	1

2. Trawl Sampling Procedures:

Proper equipment used (Semi-balloon otter trawl)?	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
Weighing scales calibrated?	NA> N
Vessel passed through 100 m radius of station?	У
Trawl duration 10 minutes (or long as possible in confined areas)?	1
Trawl log info recorded (depth, tow wire length, times, coordinates)?	γ.
Trawl remained within 10% of target depth?	У
Trawl acceptable (i.e. no fouling, bottom debris present, not torn, bottom time acceptable)?	Ý
Fish and/or invertebrates obtained in trawl?	У
All fish positively identified (for specimens collected as samples)?	Ÿ
All invertebrates positively identified (for specimens collected as samples)?	NA
Standard length of all bony fish measured for specimen counts <10? Length range measured for specimen counts >10?	Y
Total biomass of each invertebrate group retained as samples recorded?	1
Photo of one representative from each species collected and grouped species planned for release?	1
Fish and invertebrate specimens wrapped in pre-cleaned foil, bagged, and preserved on ice?	4

SWHB-15 FIELD SAMPLING QA CHECKLIST - TRAWL SAMPLING

3. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	NА
Proper persons have signed and dated all COCs?	NA
All field datasheets (hard copy and electronic) and associated notes/ photographs have	
been recorded for the site before moving to the next?	1

Epibenthic macroinvertebrates tissue samples collected?	NA
Fish tissue samples collected?	V
Tissue samples stored immediately on ice and frozen asap?	V
Cooler is taped shut for transport to AMEC freezer or lab?	7
Completed COC is included in plastic bag in cooler?	NX

Additional Notes:				,		·
Signature of QA/QC Per	rsonnel:	48hr	-	Date/Time: _	4/21/2014	1830
Print Name/Company:_	Core	Sheredy	AMEC	·		

STATION OCCUPATION	N					SWHB Study
Agency Code XVXV	Weather		Sea State	Nav Type	Station ID	WHB-15
Vessel Name	Clear / / The Partly cloudy	Rain understorm Fog	Calm Choppy Rough	DGPS GPS	Date 7	12/14
Arrival Time 1634 (hh:mm) & check (f)	Drizzle	32, 631911	⊙ _? □	Abandoned site? Y or N (if Y explain in comments)	Station Fail Code	
Wind Speed (kts)	Swell Period (s)	0	Station Comments	depth depth = 1/d	plu BIJITA	1 1/ Sive
Direction (4) South	Direction (4)	<u>0</u>	possibly sub a	ited SUHD-13	(1001 3 dek	Swife-15
TRAWL EVENTS	32.609578 -117.107204 5	SWHB-15	·.		•	
Trawl Time	Latitude	Longitude	Depth Wire	Distance Trawl	Tissue Chemistry	

Trawl Number		Time (hh:mm)	Latitude (DD°MM.mmmin)	Longitude (DD°MM.mmmm)	Depth (m)	Wire Out	Distance to target (m)	Trawl Fail Code (3)	Tissue Chemistry (Y/N)
	Net Over	168765	32261177	-117.10710	1	30			
1	Start Trawl	162746	30.61155	-117,10702	//	36			
- 1	End Trawl	163751	32. 60935	-117,10850			9°4.		
· ·	Net on Deck	163855	32, 60941	-117.10839	V	4			
			* ,						,
	Net Over	1657:13	336/209	-117;10741	/	30			
2	Start Trawl	1657149	32.61185	-117,10737]				
1	End Trawl	170758	30,60699	-117,10741			NA(use		<u> </u>
	Net on Deck	170830	BD60710	-117,10739	1		(OR GOL		J***/
							ارا		
	Net Over	172729	32.60979	-117.185 84	1	30			
: 9	Start Trawl	170749	32.60984	-117.10534	1		I — · · - · · · · · · · · · · · · · · · ·		-5.444W
ク	End Trawl		32,609 49	-117.10937			0.0?		
	Net on Deck	173845	30.609 51	-117.109 17	-1	- 1			-1

Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

² Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

³ Trawl Fall codes: None, Outside Radius Limit, Outside Target Depth, Fouled Net (comment req.), Open cod end (knot untied), Trawl hit unknown obstruction, Doors - No contact with bottom, Torn Net, Unusually low catch, Improper Deck Time, Improper Bottom Time, Inadequate trawl track, Other - Trawl Fallure (comment req.)

SWHB - Bioaccumulation and Plastic Ingestion Special Studies Field Datasheet

Station: $S \omega M B$	-15					Page	
Station: SWMB Date: 4/24/14	_ 162 _y	troops	2,60.95	7807	Com	pleted by:	
Additional Trawl Coor	dinates:		25%	50%	75%		
Trawl 2 / /	Net Set	Net on Bottom	Interval 1	Interval 2	Interval 3	Net Retrieval	Net on Board
Time		1605	1627	1630	1634	1635	
Depth (m)		. /	/	/	1	1	
Lat (32.xxxxx)	61177	61134	61067	60988	60965	60942	60944
Long (-117.xxxxx)	107/0	10693	10674	10693	10845	10844	10843
			25%.	\$64.	75%		
Trawl 3	Net Set	Net on Bottom	Interval 1	Interval 2	Interval 3	Net Retrieval	Net on Board
Time		1659	1700	1702	1705	1708	4 6 6 4 6
Depth (m)		/ ~	1	/	./	/	
Lat (32.xxxxx)		61150	61034	60947	66801.	60707	
Long (-117.xxxxx)		10739	10738	10737	10754	10745	
			05 %	50%	75%		
Trawl 4 7	Net Set	Net on Bottom	Interval 1	Interval 2	Interval 3	Net Retrieval	Net on Board
Time		1728	1732	1734	1735		
Depth (m)		1	1	1	. (/	
Lat (32.xxxxx)	,	60952	60979	60943	60540		
Long (-117.xxxxx)		10551	10650	10788	10861	-	
Official 2	·		7 25%	50%	75%	tend . F	~
Trawl 5	Net Set	Net on Bottom	Interval 1	Interval 2	Interval 3	Net-Retrieval	Net on Board
Time	Torrespond	175824		1803	1806	18.08:2	1000
Depth (m)		/	/	/	1		
Lat (32.xxxxx)	61/72	61151		60958	60946	60882	60886
Long (-117.xxxxx)	10698	10696		10745	10871	10949	10939
		3 o fect				-	

Comments:

STATION OCCUPATION				SWHB Study
1 2	Clear Rain Procest Thunderstorm	Sea State Calm Choppy Rough	Water Quality Temp (°C) pH Salinity (ppt)	Station ID SWHB -15 Date 4/21/14
The state of the s	Prizzle		Sp Cond (mS/cm)	
(hh:mm)			Abandoned site? Y or N (If Y explain in comments)	Station Fail Code
Wind Swell		Nav Type	Station Comments	
Speed (kts)	Period (s)	DGPS		
Direction (4) 5.0nd	Height (ft)	GPS		
С	Direction (4)			
		Equipment Type		
	•	Van Veen Tandem Van Veen		
GRAB EVENTS		randesti vali veeli		
GRAD EVENTS				Sample types (Chk all that apply)
# Time Latitude Longitude (hh:mm) (DD°MM.mmmm) (DD°MM.mmmm)	Depth (m) Distance to target (m) Code (6)	Penetration Composition (1)	Odor Color Shell Hash	Sed Grain Infauna for Photos Chem Size Bioaccum
Grab Event Comments:			,	
Grab Event Comments:	<u> </u>			
· · · · · · · · · · · · · · · · · · ·				
Grab Event Comments:		<u> </u>		
Grab Event Comments:				
Grab Event Comments:				
GIAD EVERT CONTINENTS:				

- Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed
- 2
- 3
- Sediment Composition: Coarse sand, Fine sand, Sit/Clay, Gravei, Cobile, Mixed
 Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)
 Sediment Color: Brown, Gray, Black, Olive green, Red
 Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm
 Station Fail codes: None, Temporary sea conditions (comment req.), Temporary atmosphere (comment req.), Temporary mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable other (comment req.)

 Control Particular Control Particular Comment req.), Natural hard bottom obstructions (comment req.), Not sampleable other (comment req.)

 Provided Particular Control Particular Comment req.), Natural hard bottom obstructions (comment req.), Not sampleable other (comment req.)

 Provided Particular Control Particular Comment req.), Natural hard bottom obstructions (comment req.), Not sampleable other (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable other (comment req.), Natural hard bottom obstructions (comment req.), Natural hard bottom obstructions (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable other (comment req.), Natural hard bottom obstructions (comment req.), Natural hard bottom obstructions (comment req.), Natural hard bottom obstructions (comment req.), Natural hard bottom obstructions (comment req.), Natural hard bottom obstructions (comment req.), Natural hard bottom obstructions (comment req.), Natural hard bottom obstructions (comment req.), Natural hard bottom obstructions (comment req.), Natural hard bottom obstructions (comment req.), Natural hard bottom obstructions (comment req.), Natural hard bottom obstructions (comment req.), N

Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

ST	TATION (OCCUPATI	ON											SW	/HB Study		
Agency Code CED Weather Clear X						Sea	State	Wa	ter Qualit	y		Statio	1D SWH	18-16			
				X	Rain	7	Calm X	Temp (°C)		;)	21.8		<u> </u>				
١	essel Na	sel Name Doutow Overcast T		Thund	erstorm	Choppy			рН		8.23		ate 04/0	8/2014			
			Partly o	cloudy		Fog		Rough		Salinity (p	pt)	35.31	0	 • • • • • • • • • • • • • • • • • • •			
	Arrival Ti	me 1257:2	22	Drizzie			·			Cond (mS		53482	 1				
		ch. se		, Beet			•		900	(ma/L)		8.03/1					
	(hh:	imm) Stu. oc	capallon	•				N	Aba	andoned :			Fail Co	de NA			
			32.61751						Y or	N (If Y explain comments)	In						
		- 71	17.11693							•							
Wind Swell						Nav Type Station Comments											
Speed (kts) ⁴ Period (s) ⁰						DGPS 🗶	vample contains some fun sands and sulguer. vis present. Lo also putches of trick clay										
Direction (4) NW Height (ft) 0							GPS is present. Looks Dutches of trick clay						k clay				
				Direction	1 (4)			-									
							Equipment Type			tide level: +0.95ft, water deptn 4.5ft/1.4							
						Van Veen											
						Tandem Va	tide level: +0.95ft, water depth 4.5ft/1.						4.5 ++ /1.4				
GE	RAB EVE	NTS		•											· · · · · · · ·		
														Sample typ	es (Chk all that apply)		
	Time	Latitude	Longitude	Depth	Distance	Grab Fail	Penetration	Composition	Odor	Color	Shell Hash	Sed	Grain	Infauna for	Photos		
"	(hh:mm)	(DD°MM.mmmm)	(DD°MM.mmmm)	(m)	to target	Code (6)	(cm)	(1)	(2)	(3)	(Y/N)	Chem	Size	Bioaccum	7 110103		
Γ.	1301:00	32.61750	-117.11693	į	13	NA	16	Silt/clay	7	olive grn.	7	7	4	N	4		
11	Grab Event							7		0							
1	Grab Event	Commente:															

#	(hh:mm)	(DD°MM.mmmm)	(DD°MM.mmmm)	(m)	to target	Code (6)	(cm)	(1)	(2)	(3)	Hasn (Y/N)	Chem	Size	Bioaccum	FIIOLOS
	1301:00	32.61750	-117.11693	1	13	NA	16	Silt/clay	7	slive grn.	7	7	4	N	Ч
1	Grab Event Comments:														
	Grab Event	Comments:						,							,
·	Grab Event	Comments:			·					 				,	
	Grab Event	Comments:								·				,	
	Grab Event	Comments:		``											
	Grab Event	Comments:													

1 Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed

2 Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)

Sediment Color: Brown, Gray, Black, Olive green, Red

Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Station ID: SWAB-16	Arrival Date/Time: 04/08/2014 / 125
Site Acceptable for Sediment Sampling: For N	Bioaccumulation Sample Site: Y on N
If site not acceptable, provide reason: N/A	
Montroach how with W. N NA	

Mark each box with Y, N, or NA

Field Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	A
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and \ge 25pt salinity).	4
Vessel has been anchored (or tied off)?	У
Station DGPS coordinates (± 3 m) recorded?	y
Station occupation form completed?	Y

2. Sediment Sampling Procedures:

Samples collected in following order: chemistry, bioaccumulation (if applicable)	Y
Field staff wearing fresh, powder free nitrile gloves?	4
Equipment washed/rinsed from previous station?	4
Vessel engine has been shut off for 3-5 minutes prior to sampling?	NA
Sampling instrument washed with Alconox?	4
Sampling instrument given site water rinse prior to deployment?	Ŋ
Sample bottles correctly labeled (minimum: station id, date, agency, parameter)?	4
Sample bottles are lab certified, contaminant free?	y
Samples containers are the correct type in accordance with Table 11-1 in the SWHB Study QAPP?	4
Sample condition meets acceptability criteria (e.g. no surface disturbance, leakage, canting, or washing)?	4
Sample penetration meets acceptability criteria (e.g. minimum 5cm)?	A
Grab disposition / characteristic information recorded?	V
Chemistry samples collected from top 5cm, and 1cm from sides of grab?	Y
Sediment evenly distributed among containers?	У
Stainless steel scoop used to distribute sediment?	ý
Staff avoided contaminating samples at all times?	7
Equipment or field blank collected (if applicable)?	NA

3. Infauna Tissue Sampling Procedures (if applicable):

Field staff wearing fresh, powder free nitrile gloves?	JA /	
Sampling equipment (van veen, tubs, sieve) washed with Alconox /rinsed from previous station?		
Vessel engine has been shut off for 3-5 minutes prior to sampling?		
Sampling instrument given site water rinse prior to deployment?		
Sample bags correctly labeled (minimum: station id, date, agency, invertebrate group)?		
Photographs of specimen samples taken with ID tags, prior to wrapping in foil?		
Each specimen sample weighed?		
Specimen samples wrapped in pre-cleaned foil, bagged, and preserved on ice?		

5. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	4
Proper persons have signed and dated all COCs?	
All field datasheets (hard copy and electronic) and associated notes/ photographs have	
been recorded for the site before moving to the next?	

6. Sample Storage and Delivery:

Sediment chemistry samples stored cold on wet ice or frozen within 24 hours?	_
Benthic infauna tissue: samples stored on ice and frozen asap?	NA
Cooler is taped shut for transport to AMEC freezer or lab?	NA
Completed COC is included in plastic bag in cooler?	NA

Additional Notes: _	lost anchi	ж <u> </u>				
Signature of QA/Q(Personnel:	P. Shoud	}	Date/Time:	04/08/2014	1315
Print Name/Compa	ny: Cover	1 sheredy	AMEC	·		

ST	ATION	OCCUPATI	ON											SV	/HB Study
Ą	gency Co	ode CSD	Weat	her		_	Sea	State	_Wa	ter Quali	ity		Statio	n ID SWH	B-17
				Clear	\times	Rain		Calm 💢		Temp (°	C)			7	
V	essel Na	me PONTEON	0,	vercast	Thund	ierstorm [Choppy		рН				Date 4/19	12014
			Partly	cloudy		Fog		Rough		Salinity (p	ppt)				/
<i>P</i>	Arrival Ti	ime 0910		Drizzle					Sp	Cond (m	S/cm)				
	(hh	ı:mm)		•				У		andoned N (If Y explain		Station	Fail Co	ode	
107	al		C!!				.	•	.		_				
VV	nd	(1.4)	Swell				Nav T			tion Con					
	Speed (Period				DGPS		•				60 muio	
	Directio	on (4)		Height	· · · · · · · · · · · · · · · · · · ·			GPS	1			oun 10	DOM	RADIUS.	NONE
				Direction	(4)					3m MLL					
								nent Type	Red	peaceso u	ul ouce	DRAW	emats.	.41	
								an Veen							-
						,	Tandem Va	an Veen	<u></u>				· · · · · · · · · · · · · · · · · · ·		
GR	AB EVE	ENTS													
		1		1	Distance	Grab	1		ı		Chall	 		Sample typ	es (Chk all that apply)
#	Time (hh:mm)	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	to target	Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	for Bioaccum	Photos
											<u> </u>				
	Grab Event	Comments:					,								
	Grab Event	Comments:													
ļ									/						
	Grab Event	Comments:													
														:	
	Grab Event (Comments:													
	Grab Event (Comments:											-	***	
										·					
								· ·							· · · · · · · · · · · · · · · · · · ·

- Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed
- 2 Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)
- Sediment Color: Brown, Gray, Black, Olive green, Red
- 4 Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm
- Station Fail codes: None, Temporary sea conditions (comment req.), Temporary atmosphere (comment req.), Temporary mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable other (comment req.)

Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

STATION OC	CUPATION						SWHB Stud
Agency Code	<5D	Weather	_	Sea State	Water Quality	Sta	ition ID SWHE-18
• .		Clear	Rain	Calm X	Temp (°C)	20.9	
Vessel Name	pontoon	Overcast	Thunderstorm	Choppy	рН	8.19	Date 4/8/2014
		Partly cloudy	Fog	Rough	Salinity (ppt)	35,44	
Arrival Time	0945:34	Drizzle			Sp Cond (mS/cm)	53586	
					Do(mg/L/sat)	6.73/12.5%	! <u>.</u>
(hh:mm) Stu OCC GPS	32.605 -117.1210			N	Abandoned site? Y or N (If Y explain in comments)	Station Fail	I Code N/A
Wind	•	Swell		Nav Type	Station Comments	s	
Speed (kts)	2-4	Period (s)	0	DGPS X	TIDE! 1, 81 PT		O. 4 M ALLW
Direction (4)	NW	Height (ft)	0	GPS			
		Direction (4)	0				
				Equipment Type			
				Van Veen		,	
				Tandem Van Veen 🗶	actual depte	3.2 ft/0.	97A
GRAB EVENT	S						Samula tunas (Chir all that and

Infauna Distance Grab Shell Sed Grain Composition Odor Color Time Latitude Longitude Depth Penetration Fail for **Photos** to target Hash (2) (3) Chem Size (hh:mm) (DD°MM.mmmm) (DD°MM.mmmm) (m) (cm) Bioaccum Code (6) (Y/N) (m) Silt/clay N 0953.57 32.60 573 6 16 N N NA -117.12089 olive gun **Grab Event Comments: Grab Event Comments:**

- Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed
- Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)
- Sediment Color: Brown, Gray, Black, Olive green, Red
- Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm
- Station Fail codes: None, Temporary sea conditions (comment req.), Temporary atmosphere (comment req.), Temporary mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

Station ID: SWHB-18	Arrival Date/Time: 4/8/2014 / 09 45
Site Acceptable for Sediment Sampling: Yor N	Bioaccumulation Sample Site: Y or N
If site not acceptable, provide reason: N/A	
Mark each box with V N or NA	

Field Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	Ty
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and ≥25pt salinity).	Y
Vessel has been anchored (or tied off)?	NA
Station DGPS coordinates (± 3 m) recorded?	4
Station occupation form completed?	\ \ \ \ \

2. Sediment Sampling Procedures:

Samples collected in following order: chemistry, bioaccumulation (if applicable)	7
Field staff wearing fresh, powder free nitrile gloves?	7
Equipment washed/rinsed from previous station?	4
Vessel engine has been shut off for 3-5 minutes prior to sampling?	VA
Sampling instrument washed with Alconox?	7
Sampling instrument given site water rinse prior to deployment?	7
Sample bottles correctly labeled (minimum: station id, date, agency, parameter)?	Ż
Sample bottles are lab certified, contaminant free?	7
Samples containers are the correct type in accordance with Table 11-1 in the SWHB Study QAPP?	7
Sample condition meets acceptability criteria (e.g. no surface disturbance, leakage, canting, or washing)?	Y
Sample penetration meets acceptability criteria (e.g. minimum 5cm)?	Y
Grab disposition / characteristic information recorded?	<u>'</u>
Chemistry samples collected from top 5cm, and 1cm from sides of grab?	X
Sediment evenly distributed among containers?	\frac{1}{V}
Stainless steel scoop used to distribute sediment?	V
Staff avoided contaminating samples at all times?	Ý
Equipment or field blank collected (if applicable)?	NA

3. Infauna Tissue Sampling Procedures (if applicable):

Field staff wearing fresh, powder free nitrile gloves?	NA
Sampling equipment (van veen, tubs, sieve) washed with Alconox /rinsed from previous station?	
Vessel engine has been shut off for 3-5 minutes prior to sampling?	
Sampling instrument given site water rinse prior to deployment?	
Sample bags correctly labeled (minimum: station id, date, agency, invertebrate group)?	
Photographs of specimen samples taken with ID tags, prior to wrapping in foil?	2
Each specimen sample weighed?	27.7.
Specimen samples wrapped in pre-cleaned foil, bagged, and preserved on ice?	Allahor, d-77, 11

5. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	14
Proper persons have signed and dated all COCs?	
All field datasheets (hard copy and electronic) and associated notes/ photographs have	
been recorded for the site before moving to the next?	

6. Sample Storage and Delivery:

Sediment chemistry samples stored cold on wet ice or frozen within 24 hours?	1
Benthic infauna tissue: samples stored on ice and frozen asap?	NA
Cooler is taped shut for transport to AMEC freezer or lab?	NA
Completed COC is included in plastic bag in cooler?	NA

Additional Notes:			· · · · · · · · · · · · · · · · · · ·			
Signature of QA/QC Pe		_	())	Date/Time: _	04/08/2014	1010
Print Name/Company:_	Over	8Nevedy	AMEC			

							,							
STATION C	OCCUPATI	ON											SV	VHB Stud
Agency Co	de CSQ	Weath	ier			Sea	State	Wat	er Qualit	ty		Statio	n ID SW#	B-19
•			Clear X	Ra	ıin 🗀		Calm X		Temp (°C	;)	21,3		•	
Vessel Nan	ne poutson	Ov.	ercast	Thunderstor	m	7 (Choppy		рН		8.19		Date 4/8	12014
		Partly o	loudy	Fo	og 🗌		Rough	5	Salinity (p	pt)	35.45	-		<u></u>
Arrival Tin	ne 1019:0	0 1	Orizzle	1	<u> </u>		 		Cond (mS		53575	-		
				-				D	o (mg/L)		7.11/9			•
(hh:n	nm) station						\Box		ndoned's	8.00	,	Fail Co	de N	A
	GPS	· 32.6080					1		N (if Y explain comments)	in			•	
Wind		Swell				Nav T	уре	Stat	ion Com	ments				
Speed (k	ts) < Knt	τ .	Period (s)	Q			DGPS X	ac	tual de	etn in	3 29	£+//,	19m	O BA KUW
Direction	(4) NW		Height (ft)	0			GPS							
			Direction (4)	υ				jul	grass	Drian	int in	rang	le	
			• •		_	Equipm	nent Type							
							ın Veen				ituet, =	f con 10	other-	sampled
						Tandem Va	n Veen X		om 13 c s: 1,57					
GRAB EVE	NTS		·					<u> </u>	<u>e . 1127</u>	/_ /_			Sample tw	pes (Chk all that appl
# Time	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	i Denth i	o target Fa	ab ail	Penetration (cm)	Composition (1)	Odor	Color (3)	Shell Hash	Sed Chem	Grain Size	Infauna for Bioaccum	Photos

Time Latitude (DD*MM.mmmm) Longitude (Longitude Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed

² Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)

Sediment Color: Brown, Gray, Black, Olive green, Red

⁴ Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Station ID: SWHB-19	Arrival Date/Time: 4/8/>014 / 1019
Site Acceptable for Sediment Sampling: Yor N	Bioaccumulation Sample Site: Y ox N
If site not acceptable, provide reason:	
Mark each box with Y, N, or NA	

Field Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	1
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and \ge 25pt salinity).	Y
Vessel has been anchored (or tied off)?	1
Station DGPS coordinates (± 3 m) recorded?	1
Station occupation form completed?	4

2. Sediment Sampling Procedures:

Samples collected in following order: chemistry, bioaceumulation (if applicable)	Y
Field staff wearing fresh, powder free nitrile gloves?	Y
Equipment washed/rinsed from previous station?	V
Vessel engine has been shut off for 3-5 minutes prior to sampling?	NA
Sampling instrument washed with Alconox?	V
Sampling instrument given site water rinse prior to deployment?	7
Sample bottles correctly labeled (minimum: station id, date, agency, parameter)?	Ý
Sample bottles are lab certified, contaminant free?	4
Samples containers are the correct type in accordance with Table 11-1 in the SWHB Study QAPP?	7
Sample condition meets acceptability criteria (e.g. no surface disturbance, leakage, canting, or washing)?	7
Sample penetration meets acceptability criteria (e.g. minimum 5cm)?	4
Grab disposition / characteristic information recorded?	1
Chemistry samples collected from top 5cm, and 1cm from sides of grab?	7
Sediment evenly distributed among containers?	V
Stainless steel scoop used to distribute sediment?	ý
Staff avoided contaminating samples at all times?	V
Equipment or field blank collected (if applicable)?	NA

3. Infauna Tissue Sampling Procedures (if applicable):

Field staff wearing fresh, powder free nitrile gloves?	7	A
Sampling equipment (van veen, tubs, sieve) washed with Alconox /rinsed from previous station?		
Vessel engine has been shut off for 3-5 minutes prior to sampling?		
Sampling instrument given site water rinse prior to deployment?		
Sample bags correctly labeled (minimum: station id, date, agency, invertebrate group)?		
Photographs of specimen samples taken with ID tags, prior to wrapping in foil?		
Each specimen sample weighed?		
Specimen samples wrapped in pre-cleaned foil, bagged, and preserved on ice?		

5. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	4
Proper persons have signed and dated all COCs?	
All field datasheets (hard copy and electronic) and associated notes/ photographs have	
been recorded for the site before moving to the next?	

6. Sample Storage and Delivery:

Sediment chemistry samples stored cold on wet ice or frozen within 24 hours?	7
Benthic infauna tissue: samples stored on ice and frozen asap?	NA
Cooler is taped shut for transport to AMEC freezer or lab?	NA
Completed COC is included in plastic bag in cooler?	NA

Additional Notes:			
Signature of QA/QC Personnel: & Shuray	_ Date/Time: _	4/8/2014	1045
Print Name/Company: Corey Shrudy AMEC			

ST	ATION (OCCUPAT	ION			•								SV	VHB Stud
A	gency Co	de <i>C</i> < 0	Weatl	ner			Sea	State	Wat	er Qualit	у		Station	n ID SWH	B- 20
				Clear	$\overline{\mathbf{x}}$	Rain		Calm 🔣		Temp (°C)	21.3			
٧	essel Nar	ne touteon	0\	rercast	Thunde	erstorm		Choppy X		pH		8.02	ם	Date 04/0	8/2014
		7	Partly	cloudy		Fog		Rough		Salinity (p	ot)	34.61			
	Arrival Tin	ne 1447:	29	Drizzie		٠- ا	<u></u>	·		Cond (mS		52460	,		
		I		<u></u>						o (mall)		7.67/10			
	(hh:r		n occupation					[7]		ndoned	•	Station		de NA	-
		GPS:	32.6263						Y or	N (if Y explain comments)					
W	ind		Swell				Nav T	Туре	Stat	ion Com	ments				
	Speed (k	ts) ID		Period (s) Ô			DGPS X	SUA	d un's a	mole	Shelli	nest 1	ancount	
	Direction	(4) NW		Height (f	ft) O			GPS			1	, .,		,	
				Direction ((4)		•	I	1						
					<u></u>		Equipr	nent Type							
								an Veen	wat	w dept	w: 7,	5ft/2.	3m		
							Tandem V	an Veen 💢	tid	ev dept 1:+1,78	} f+	•		1.7	ALLA)
GR	RAB EVE	NTS						سحبا						Sample ty	pes (Chk all that apply
#	Time (hh:mm)	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Infauna for Bioaccum	Photos
,	1456:43	32.62629	-117,11212	2	23*	NA	11	sit/day	hone	olic grA.	4	У	Y	Λ	¥
[Grab Event C	omments:		•				<u> </u>	***************************************	······	•				
							1				·				
	Grab Event C	omments:	·l	·	· · · · · · · · · · · · · · · · · · · 					.,				.1.	
	1			T				l] ' ' ' [1

1 Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed

* oneck tablet distance to target

2 Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)

Sediment Color: Brown, Gray, Black, Olive green, Red Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

Grab Event Comments:

Grab Event Comments:

Grab Event Comments:

Grab Event Comments:

Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Station ID: SWHB-20	Arrival Date/Time: 04 00 2014 1447
Site Acceptable for Sediment Sampling: Yor N	Bioaccumulation Sample Site: Y or N
If site not acceptable, provide reason:	
3.6 3 3.1 1.1 1.1 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1	

Mark each box with Y, N, or NA

Field Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	Y
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and ≥25pt salinity).	4
Vessel has been anchored (or tied off)?	4
Station DGPS coordinates (± 3 m) recorded?	Ý
Station occupation form completed?	4

2. Sediment Sampling Procedures:

Samples collected in following order: chemistry, bioaccumulation (if applicable)	4
Field staff wearing fresh, powder free nitrile gloves?	1
Equipment washed/rinsed from previous station?	1 4
Vessel engine has been shut off for 3-5 minutes prior to sampling?	NA but
Sampling instrument washed with Alconox?	1
Sampling instrument given site water rinse prior to deployment?	1
Sample bottles correctly labeled (minimum: station id, date, agency, parameter)?	1 4
Sample bottles are lab certified, contaminant free?	4
Samples containers are the correct type in accordance with Table 11-1 in the SWHB Study QAPP?	4
Sample condition meets acceptability criteria (e.g. no surface disturbance, leakage, canting, or washing)?	4
Sample penetration meets acceptability criteria (e.g. minimum 5cm)?	4
Grab disposition / characteristic information recorded?	4
Chemistry samples collected from top 5cm, and 1cm from sides of grab?	4
Sediment evenly distributed among containers?	4
Stainless steel scoop used to distribute sediment?	14
Staff avoided contaminating samples at all times?	14
Equipment or field blank collected (if applicable)?	NA

3. Infauna Tissue Sampling Procedures (if applicable):

Field staff wearing fresh, powder free nitrile gloves?	Alk	7
Sampling equipment (van veen, tubs, sieve) washed with Alconox /rinsed from previous station?	/	
Vessel engine has been shut off for 3-5 minutes prior to sampling?		
Sampling instrument given site water rinse prior to deployment?	$\neg \tau$	
Sample bags correctly labeled (minimum: station id, date, agency, invertebrate group)?		
Photographs of specimen samples taken with ID tags, prior to wrapping in foil?	\neg	
Each specimen sample weighed?	1	
Specimen samples wrapped in pre-cleaned foil, bagged, and preserved on ice?		

5. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	TY
Proper persons have signed and dated all COCs?	
All field datasheets (hard copy and electronic) and associated notes/ photographs have	
been recorded for the site before moving to the next?	

6. Sample Storage and Delivery:

Sediment chemistry samples stored cold on wet ice or frozen within 24 hours?	TY
Benthic infauna tissue: samples stored on ice and frozen asap?	NA
Cooler is taped shut for transport to AMEC freezer or lab?	NA
Completed COC is included in plastic bag in cooler?	NA

Additional Notes: _	latitude on	tured as	negative	intablet	[-32])	
Signature of QA/Q	C Personnel: _	e.Shre	edy	Date	e/Time: _	04/08/2014	1515
Print Name/Compa						,	-
	•						-

S	TATION OCC	CUPATIO	ON	Pry		10.50C 7.1 mg/L 7.1 set	pM: 7.	,95 ppt 50.1. 34 spc.	54	x ol.	103	q Insle		SW	/HB Study	: 1
. , /	Agency Code	Ampe	Weath	er	~l		Sea	State	Wat	er Qualit	y		Station	ID SWH	13-21	
,	Vessel Name Arrival Time	Bryl	Partly c	Clear creast loudy crizzle	Thunde	Rain erstorm Fog		Calm Choppy Rough	S	Temp (°C pH salinity (p Cond (ms	pt)	21.0°C 8.30 34.76 pg 50,673	,¥	ate <u>*//</u>	15/14	
	(hh:mm)		14 0 cc py		30.63	12296	117.183	<i>y</i>	Yor	ndoned N (If Y explain comments)		Station	Fail Co	de Nu^	æ	
V	Wind	071	Swell	. ,)	Nav T	уре	Stat	ion Com	ments					
	Speed (kts) Direction (4)	NW (0)		Period (Height (Direction	ft) <u>O</u>	· · · · · · · · · · · · · · · · · · ·	Equipo	DGPS GPS ment Type	7	ide = EADER	+1.4 Re	1.00	.,	send.	9.1 feet.	L
			38 008,					an Veen	4	r. Lee H	see py		Day 2	o, l feet t	9,1 foet.	₽¥,
G	RAB EVENTS	$S = \frac{\mathcal{Y}(\cdot)}{2}$	triget ->	30,67	18, -11	7.123									es (Chk all that apply)	
#		atitude MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Infauna for Bioaccum	Photos	
	1734 30	. 63798	-117.12307	9		none	8.5(9)	Fg. sand	NONE	glive	N	X	X	X	yes	
	Grab Event Comme	ents:				1	. /	<u>.</u>		J	· · · · · ;	1	,		*	
	<i>a</i>	30,6377	6 -117, 12288	3	21	Nine	9	Fg.s.	rone	Olive sien	N	L	<u> </u>	X	NO 706 / US	2
	Grab Event Comme				33	T .		Т		4	heele	d 6.	if 45		7 as 1 us	
1	/ 	.63772	-117.12788	3	73	H	9			4		L		X		
-	Grab Event Commo	63777	-117.12092	?	27	P	9	ıc	4	1	.,			X	No	

1 Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed

-117,12290

-117.13287

30

Sediment Color: Brown, Gray, Black, Olive green, Red

4 Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

30,63775

Grab Event Comments:

Grab Event Comments:

Grab Event Comments:

0845

0900

X

11

Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

² Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

7 32.65561 -117.14739 16ch per Olive free 5, tt/clay N. do Bis Photo
14:05:09

BIGHT'1 EMESWHB-21 W/16/14 OBOD Species Custacle nemone olychaeta Custropoe Nassaria sp IVALUES ollus Ka (Bulla)	N (5)	Completed by: Data from Short/Long Trawl @ Comments (or Anomalies) 2 Bruce back Shrip (Hopland 2 pyromia crabs 2 10 Skeleten Shrip telan (unid) 10025 Brokens the Museulistan Large	W Gross	_	Yes	Photos (D, L, V Y/N
rustacle nemone olychaeta cystropod. Nassaria sp	12	(or Anomalies) (2 Brone back Shring CHoplace 2 pyromia crabs in 10 skeleten shring telan (unid) 10015n clans the Muscolista	Gross			(D, L, V
nemone olychaeta astropoe - Nassaria sp ival ves	12	2 Brune back Shring CHEPLOCA 2 pyromia crabs 2 10 Skeleten Shring t dan (Unid) 1001511 class the Muscolista		Y/N	Net	Y/N
nemone olychaeta astropoe - Nassaria sp ival ves	12	t dan (unid)	405)			
astropod. Hassaria sp	100+	t dan (unid)				
astropod. Hassaria sp	100+	LOUASA Clare + le Musculista				
ivalues	100+	LOUASA Clare + le Musculista				
olles Ke (Bulla)	1					
ollus Ka (Bulla)	1	Large				
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SWHB-21

John

Anemone + Polychaete 7.19
Crastropods

Molluska

BN-lues

Crustzeee.

5.79

of 11

No foil

who pack

Station ID: SUHB-21	Arrival Date/Time: 4/16/14
Site Acceptable for Sediment Sampling: Y or N	Bioaccumulation Sample Site: Yor N
If site not acceptable, provide reason:	
Mark each box with Y, N, or NA	

Field Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	4
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and \geq 25pt salinity).	J
Vessel has been anchored (or tied off)?	ل
Station DGPS coordinates (± 3 m) recorded?	-
Station occupation form completed?	у

2. Sediment Sampling Procedures:

Samples collected in following order: chemistry, bioaccumulation (if applicable)	4
Field staff wearing fresh, powder free nitrile gloves?	1 4
Equipment washed/rinsed from previous station?	5
Vessel engine has been shut off for 3-5 minutes prior to sampling?	19
Sampling instrument washed with Alconox?	7
Sampling instrument given site water rinse prior to deployment?	4
Sample bottles correctly labeled (minimum: station id, date, agency, parameter)?	13
Sample bottles are lab certified, contaminant free?	1 9
Samples containers are the correct type in accordance with Table 11-1 in the SWHB Study QAPP?	19
Sample condition meets acceptability criteria (e.g. no surface disturbance, leakage, canting, or washing)?	5
Sample penetration meets acceptability criteria (e.g. minimum 5cm)?	1.5
Grab disposition / characteristic information recorded?	7
Chemistry samples collected from top 5cm, and 1cm from sides of grab?	14
Sediment evenly distributed among containers?	4
Stainless steel scoop used to distribute sediment?	<u></u>
Staff avoided contaminating samples at all times?	9
Equipment or field blank collected (if applicable)?	19 NA

3. Infauna Tissue Sampling Procedures (if applicable):

Field staff wearing fresh, powder free nitrile gloves?	7
Sampling equipment (van veen, tubs, sieve) washed with Alconox /rinsed from previous station?	5
Vessel engine has been shut off for 3-5 minutes prior to sampling?	7
Sampling instrument given site water rinse prior to deployment?	7
Sample bags correctly labeled (minimum: station id, date, agency, invertebrate group)?	7
Photographs of specimen samples taken with ID tags, prior to wrapping in foil?	1 6
Each specimen sample weighed?	
Specimen samples wrapped in pre-cleaned foil, bagged, and preserved on ice?	9

5. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	4
Proper persons have signed and dated all COCs?	7
All field datasheets (hard copy and electronic) and associated notes/ photographs have	7
been recorded for the site before moving to the next?]

6. Sample Storage and Delivery:

Sediment chemistry samples stored cold on wet ice or frozen within 24 hours?	7
Benthic infauna tissue: samples stored on ice and frozen asap?	9
Cooler is taped shut for transport to AMEC freezer or lab?	5
Completed COC is included in plastic bag in cooler?	٦

Additional Notes: _	Day 1- (4/8/14)	- Chenistry	Dy 2,	4//6/14	
Signature of QA/Q(C Personnel:		Date/Time:	4/16/14	1100
Print Name/Compa	ny:Tyle-Haff	AMEC		, 	

STATION OCCUPA	ATION					SWHB Stud
Agency Code AMEC	Weather		Sea State	Nav Type	Station ID	SWHB -21
·	Clear 🗡	Rain	Calm 🗡	DGPS 🔀		
Vessel Name 5/6/1/	Overcast T	hunderstorm	Choppy	GPS	Date	4/21/14
	Partly cloudy	Fog	Rough			
Arrival Time	Drizzle	ornesting of:				
(111:11111)	63716-117,10083	Tary F:	138008	Abandoned site?	Station Fail Code	
. 501		301	122901	Y or N (if Y explain in comments)		
Wind	Swell	-117.	(38008 D 1839 Ø1 Station Comments			
Speed (kts)	Period (s)	o	tice 50.2 feet			
Direction (4) Sont,	Height (ft)	0		Cent		
	Direction (4)	J	Dept: 2.4.m = 8 301 Repe (UNE le	5 · (•)		
			301 Ropel VIR LE	MAK)		
RAWL EVENTS	o mink front					
Trawl	Time Latitude	Longitude	Denth Wire	Distance Trawl	Tissue	· ·

Trawl Number		Time (hh:mm)	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	Wire Out	Distance to target (m)	Trawi Fail Code (3)	Tissue Chemistry (Y/N)	T30%)
i	Over	1050:31	32,65147	-117,12855	2(046)	30	-		•	20038 7
/ Start	t Trawl	051:37	720,83747	-117,10054	8	30				32038,77
End	Trawl	1101:38	39.63893	-117.12446	3	30	22.071			1-11-30
Net o	on Deck	1102:04	30.63883	-117.12443	8	30				10% 37° 31
										-1700
Net C	Over	1145:39	32,63853	-117,12309	2	30				
Start	Trawl/B.	1146:20	32.63822	-117,12309						
			32.63430	-117.12236	V	• •	14.2 m			-117. 0
Net c	on Deck	1157816	30,62434	-117, 10214	12	30				803) 38. 6
	·····							 		3 0 38. 0
Net C	Over	18:37	32.64104	-117.12 436	7	30				-11,70
Start	Trawi()	12:19:10	32,64074	-117,10435	1	1				
Q End	Trawl 12 2752	conton,	30.63378	-117-12392			100. R	Traval	-1	
,			30,63394	-11.7.10378	1	V	, , ,	AT un mou	a obsta	then ended

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), 2 Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Trawl Fail codes: None, Outside Radlus Limit, Outside Target Depth, Fouled Net (comment req.), Open cod end (knot untied), Trawl hit unknown obstruction, Doors - No contact with bottom, Torn Net, Unusually low catch, Improper Deck Time, Improper Bottom Time, Inadequate trawl track, Other - Trawl Failure (comment req.) 3

SWHB - Bioaccumulation and Plastic Ingestion Special Studies Field Datasheet

Station: $\frac{\mathcal{S}\mathcal{OHB}}{\mathcal{S}}$	7					Page [*]	of
Station: $\frac{SUMB}{4/20}$	14				0		
Duto.	- Ta	کار			Cor	mpleted by: _	17
Additional Trawl Coo	rdinates:	1-3.	Notra	14+		·	
Trawl 2	Net Set	Net on Bottom	Interval 1	Interval 2	Interval 3	Net Retrieval	Net on Board
Time	25 (1) (1) (1) (1) (2) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1						15
Depth (m)	1000年 1						
Lat (32.xxxxx)							
Long (-117.xxxxx)							
					*		
Trawl 3	Net Set	Net on Bottom	Interval 1	Interval 2	Interval 3	Net Retrieval	Net on Board
Time	是是						
Depth (m)	表示。						187
Lat (32.xxxxx)							
Long (-117.xxxxx)					,		
						<u> </u>	
Trawl 4	Net Set	Net on Bottom	Interval 1	Interval 2	Interval 3	Net Retrieval	Net on Board
Time							
Depth (m)	第一条						-2
Lat (32.xxxxx)			1				
Long (-117.xxxxx)							·
						<u> </u>	
Trawl 5	Net Set	Net on Bottom	Interval 1	Interval 2	Interval 3	Net Retrieval	Net on Board
Time	望鄉議。						
Depth (m)	发生						
Lat (32.xxxxx)							
Long (-117.xxxxx)							
Comments:							
							-

BIGHT'13 DEMERSAL FISH IDENTIFICATION FORM

			Data from Short/Long Trawl @	>300 m D		Yes	No	
	Species	N	Std Length Size Class (cm) Use for up to 10 individuals. Use Size Class sheet for more	We Gross	eight (kg	14.	Photos]
1	oting ray	40	abundant spp.	Gloss	Tare	Net	Y/N	4
2	spatted sand bass	5	190, 190, 200, 220, 235				1	4
3	California helibut	3	87,115, 240				Y	-
4	stug rays	77	130 - 320	<u> </u>			4	-
5	spotted sand bass	7				-	4	-
6	california helibut	11	200, 170, 190, 150, 145, 140, 200 142, 180 53, 58, 58, 60, 85, 115, 93, 120, 142				7	-
. 7	butterfly ray	7	370 (widtu)		-		7	- Î
8	diamond this but	1	180				7	-
9	spotted tuibot	1	95				<u> </u>	-
10	Barred sand bass	2	135,160				<u> </u>	-
11							<u> </u>	-
12								4
13								$\frac{1}{2}$
14								-
15								-
16							-	-
17							•	-
18			ė.	-			e gara	-
19								1
20						-	133	-
21								1
22							-	-
23								
24								
25								
men								1 .
	/ A = 4 A	1045		`:			· · · · ·	
	32:63804°N	/0 / 2	traul		Javana Bulla s		n = 1	Ph.

Page _

BIGHT'13 TRAWL DEBRIS FORM Agency: AMEC
Station: SWHB-2/ Trawl#: 1-3 Date: 04/21/2014

	/
1 /	

High:

H = > 100

Station: SW #18-21 Trawl #:_		Date: <u>04/21/2014</u>	CHECK HERE IF			
Plastic	Count	Comment	Misc. Items/Pieces	Count		Comment
Bag			Boat/Ship/Engine part			
Bandaid			Clothing	ļ		
Balloon (mylar/latex)/Ribbon			Concrete/Asphalt	<u> </u>		
Bottle			Fiberglass			
Buoy			Food			
Cap/Lid			Leather			
Cigarette box/wrapper			Lumber			
Cup			Paper			
Filmstrip (movie)			Rag/Cloth			
Fishing Line/Net			Rubber			
Food Bag / Wrapper			Shoe			
Polypropylene Rope			Таре			
Straw			Tire			· · · · · · · · · · · · · · · · · · ·
Toy			Other Misc. (comment req.)			•
Utensil			Metal	Count		Comment
Plastic Piece (unid.)			Drink Can			
Other Plastic (comment req.)			Can - other	į		
Glass	Count	Comment	Can Pull-tab			
Beer Bottle			Fishing Gear			
Glass Bottle/Jar -other			Wire			
Glass Piece (unid.)			Metal Piece (unid.)			
Other Glass (comment req.)			Other Metal (comment req)			
Marine Origin	Count	Est.* Comment	Terrestrial Vegetation	Count	Est.*	Comment
Foliose Algae - not keln			Leaves/Seed Pod			
Gorgonian Sea Fan (dead) Kelp Holdfast			Stick/Branch/Driftwood			
Kelp Holdfast			Other Terrest. (comment req)			<u> </u>
Kelp Stipe/Blade			*For Natural Debris only , if an e	xact count	cannot be	made,
Rock			leave the "Count" column blank a			
Seagrass			in the "Est." column:		Low:	L = 2-10
Other Marine (comment reg)			,		Moderate	

Completed by: CCS

SWHB - Bioaccumulation and Plastic Ingestion Special Studies Field Datasheet - FISH

Station	SWHB-21								Page <u>/</u> of <u>·/</u>
Date	04/21/2014	,		-			Com	pleted by:	Page /_of /
FISH SPEC	IES TRAWL - BIOACCUMULA	TION							:
0!				Size Range		Weight (kg)	Photo	
Species		Trawl#	N	(SL)	Gross	Tare	Net	(Y/N)	Footnotes
Spotted	rand bass	1,23	6	148, 150,140		,		. 4	
halibu	rand bass	1	PO	\$0,50,95,115,1	10 45			4	
	•						,		
				·					
FISH SPECIES - PLASTIC INGESTION									
	IES - PLASTIC INGESTION	Trawl #	N	Size Range		Weight (kg)	Photo	Footnotes
	EIES - PLASTIC INGESTION	Trawl #	N	Size Range (SL) (mm)	Gross	Weight (kg Tare) Net	Photo (Y/N)	Footnotes
Species		Trawl #	N S	(SL)					Footnotes
Species	eles - PLASTIC INGESTION ay sand bass	Trawl #		(SL) (mm)				(Y/N)	Footnotes
Species		/	5	(SL) (mm) 220-270				(Y/N)	Footnotes
Species		/	5	(SL) (mm) 220-270				(Y/N)	
Species		/	5	(SL) (mm) 220-270				(Y/N)	Footnotes
Species		/	5	(SL) (mm) 220-270		Tare		(Y/N)	
Species Shing to		/	5	(SL) (mm) 220-270		Tare		(Y/N)	
Species		/	5	(SL) (mm) 220-270		Tare		(Y/N)	
Species Shing to		/	5	(SL) (mm) 220-270		Tare		(Y/N)	
Species Shing to		/	5	(SL) (mm) 220-270		Tare		(Y/N)	
Species Shing to		/	5	(SL) (mm) 220-270		Tare		(Y/N)	

RHMP/ Bight '13 - Bioaccumulation Special Studies Field Data Sheet INVERTEBRATES from Trawls

Station Date	SWHB-21 04/21/2014			•		Com	pleted by: _	Page <u>/</u> of <u>/</u>
INVERTEBRA	ATE SPECIES TRAWL- BIO	ACCUMUL	ATION				·	
Species		Trawl #	N	Gross	Weight (kg Tare) Net	Photo (Y/N)	Footnotes
Bulla s	nail	3	,				У	
	······································							
								1 200
<u> </u>	·	-						

Comments:								

FIELD SAMPLING QA CHECKLIST – TRAWL SAMPLING

Station ID: SWHB - 15 21	Arrival Date/Time: 04/21/2014
Site Acceptable for Trawl Sampling for Bioa	ccumulation Samples: Yor N
if No, provide reason:	
Mark each box with Y, N, or NA	
Field Due and sugar	

Field Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	1
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and ≥25pt salinity).	N
Vessel has conducted pre-trawl survey? Site acceptable?	7
Station DGPS coordinates (± 3 m) recorded?	4
Station occupation form completed?	1

2. Trawl Sampling Procedures:

Proper equipment used (Semi-balloon otter trawl)?	4
Weighing scales calibrated?	Ÿ
Vessel passed through 100 m radius of station?	У
Trawl duration 10 minutes (or long as possible in confined areas)?	Y
Trawl log info recorded (depth, tow wire length, times, coordinates)?	4
Trawl remained within 10% of target depth?	4
Trawl acceptable (i.e. no fouling, bottom debris present, not torn, bottom time acceptable)?	¥
Fish and/or invertebrates obtained in trawl?	4
All fish positively identified (for specimens collected as samples)?	4
All invertebrates positively identified (for specimens collected as samples)?	4
Standard length of all bony fish measured for specimen counts <10? Length range measured for specimen counts >10?	4
Total biomass of each invertebrate group retained as samples recorded?	4
Photo of one representative from each species collected and grouped species planned for release?	4
Fish and invertebrate specimens wrapped in pre-cleaned foil, bagged, and preserved on ice?	Å

5et % 104.4%

Q0:	7.51	m5/L	
-----	------	------	--

SWHB Study

				¥	· · · · · · · · · · · · · · · · · · ·
Agency Code <i>多いHP</i>	Weather		Sea State	Water Quality	Station ID SWM8-22
· · · · · · · · · · · · · · · · · · ·	Clear	Rain	· Calm	Temp (°C)	°C
Vessel Name Bage	Overcast	Thunderstorm	Choppy 😾	pH 8,3	3 Date 4/15/14
	Partly cloudy	Fog	Rough	Salinity (ppt) 35, /	6
Arrival Time 1484.57	Drizzle		 -	Sp Cond (mS/cm) 530	15
(hh:mm) target 3	2.6229			Abandoned site? Stati	ion Fail Code
Wind	Swell		Nav Type	Station Comments	•
Speed (kts)	Period (s)	0	DGPS >	tice + 1,9 feet (x) Dept: 3.05 m = 10	25 marker = 38.
Direction (4)	Height (ft)	0	GPS	De 13: 305 m = 10	o feet.
	Direction (4)	0			
	•		Equipment Type	-ilk / cond	
			Van Veen	silt w/ sond	14
				1 (c h (17 .
			Tandem Van Veen	> 2 4 cg x	

GKAD EVENIS

STATION OCCUPATION

Sample types (Chk all that apply) Infauna Grab Shell **Distance** Grain Sed Latitude Longitude Depth Penetration Composition Odor Color Time for **Photos** Fail Hash to target Chem Size (hh:mm) (DD°MM.mmmm) (DD°MM.mmmm) (cm) (Y/N) Bioaccum Code (6) (m) NA 30. 6231 1413 -11712019 16c n 80 **Grab Event Comments:** 81 1430 30. 623/7 10 No. 160 m **Grab Event Comments:** 32. No 16ch **Grab Event Comments:** NO 1452517 32.62311 -117.12008 NA 16 cm **Grab Event Comments:** ٥ // -117.12015 11 32 62321 111 11 15:15/4 87 **Grab Event Comments:** 80 No -117,10 017 11 11 **Grab Event Comments:**

Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed

Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)

Sediment Color: Brown, Gray, Black, Olive green, Red

Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment reg.), Vessel safety (comment reg.), No Access Allowed (comment reg.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment reg.), Too many Event Failures (comment reg.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

15:40:13 84 16em
15:54 13 75 16in 32, 62 304 -117, 12,012. 8.8: Feet Lepth New 5.40 32.62297 9 /603 17 84 16 32,62302. +0.9 tile @ 100, 1X No more 5rbs

BIGHT'13 EPIBENTHIC INVERTEBRATE FORM

	Species	A.I	Comments	W	eight (k	g)	Photos (D, L, V
	Species	N	(or Anomalies)	Gross	Y/N	Net	Y/N
1	Goby/	2		4.29			
2	Shrimp + mise arthrope	5/5	chap	4,29			
3	Gastropod.	6		89			
, 4	molluska - smellelins	50+		1299			
5	Polycheete 10	501			-		
6		0+		129			
, 7	Pegnic	1					
8					***		
9.							
10					·		
11				,			
12							
13							
14							
15						<u> </u>	
16					··· ·- · · · · · · · · · · · · · · · ·		ļ
17							-
18							
19						ļ	
20 21	· · · · · · · · · · · · · · · · · · ·						-
22							-
23							<u> </u>
24		<u> </u>	· · · · · · · · · · · · · · · · · · ·				
25							+

SWHB - Bioaccumulation and Plastic Ingestion Special Studies Field Datasheet

Station:	5 - d c	<u></u>				Page	of
Station: $\frac{S \omega H}{2}$	14				Com	pleted by: _	01
dditional Trawl Coor	dinates:					1420	- -
Trawl 💋 🖊	Net Set	Net on Bottom	Interval 1	interval 2	Interval 3	Net Retrieval	Net on Board
Time	1.41		1410	14/2	1418	30,6/95	1427
Depth (m)				3 .	3	,	
Lat (32.xxxxx)			32.56310	38.6235	30.6199,	33,6/95	30.
Long (-117.xxxxx)			-117. 11962	-117,12040	-117.1196	1 -117.	
		· ·			·	11943	
Trawl.3-	Net Set	Net on Bottom	Interval 1	Interval 2	Interval 3	Net Retrieval	Net on Board
Time	$\frac{1}{2} \frac{1}{2} 1440	1442	1245	1247			
Depth (m)	11.1	3	3	3	3		
Lat (32.xxxxx)	٠,	30.0 243	32.623	8/32.6221	7 32.62	173)	
Long (-117.xxxxx)		-117.1189	-117.1197	8/-117, 1192	7 -117.18		
				50%	75%	81	
Trawl 🗲 孝	Net Set	Net on Bottom	Interval 1	Interval 2	Interval 3	Net Retrieval	Net on Board
Time			1517	1520	1524		i i
			1 /	, , , ,	1/20/		
Depth (m)	10 M 20 M 20 M 20 M 20 M 20 M 20 M 20 M		3	3	1524		
	A second of the						
Depth (m)			3	3	. 600 93		
Depth (m) Lat (32.xxxxx)		, Cheis	3 \$2867 .11771	. 69984	. 600 93		
Depth (m) Lat (32.xxxxx)	Net Set	Net on Bottom	3 \$2867 .11771	. 69984	. 11478	Net Retrieval	Net on Board
Depth (m) Lat (32.xxxxx) Long (-117.xxxxx)	Ore- Net Set	Net on	3 52867 .11971	3 . 67784 . 11775	. 11478	Net Retrieval	
Depth (m) Lat (32.xxxxx) Long (-117.xxxxx) Trawl 5	Net Set	Net on	3 52867 .11971	3 . 67784 . 11775	. 11478	Net Retrieval	
Depth (m) Lat (32.xxxxx) Long (-117.xxxxx) Trawl 5	Net Set	Net on	3 52867 .11971	3 . 67784 . 11775	. 11478	Net Retrieval	

STATION OCCUPATION					SWHB Stud
Agency Code AMEC Weather		Sea State	Nav Type	Station ID	SUHB-22
Clear	Rain	Calm	DGPS	. 15:	
Vessel Name BAR Overcast TI	hunderstorm	Choppy	GPS	Date	4/21/14
Partly cloudy .	Fog	Rough	[[i	11 1
Arrival Time [13 56 32] Drizzle					
(hh:min) 32.67314			Abandoned site? Y or N (If Y explain in comments)	Station Fail Code	
Wind Swell	0	Station Comments			. *
Speed (kts) / O Period (s)	0	Depth: 10 feet = ?	3 meters tow	13 +ile: 3.5'+	1515
Direction (4) West Height (ft)	0	hide: 1350 2.4	1		check of a
taget 30, 62294/ Direction (4)	0	1410 TOUIN	\$# 05 (should be	tru/2).	table of data
TRAWL EVENTS					

Trawl Number		Time (hh:mm)	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	Wire Out	Distance to target (m)	Trawl Fail Code (3)	Tissue Chemistry (Y/N)
	Net Over	14:17:07		-117.11909	3	30			
1	Start Trawl	14:19:45	32.62351	-117.11923		1			
t	End Trawl	14:00:50	30.61945	-117.11951			136. m		
	Net on Deck	14:23 28	30 61 953	-117. 11947		V			
	Net Over	14.71	Q9/32.62405	-117, 12089	3	36			· · · · · · · · · · · · · · · · · · ·
2	Start Trawl	14:41:5	132,62491	-117.12020		1			
•	End Trawl	14:51:53	30.62099	-117 11757			149		
	Net on Deck	04:50:29	30.62/08	717.11759		4			
								···	
	Net Over	15 17 54	30.60286	-117.12178	3	30			*
	Start Trawl	15.1901	32.62271	-117:12/09		ı		1	
a,	End Trawl	15.29:02	30. 62300	-17.11076			24.7		
	Net on Deck	15:31:05	30, 60306	-117.11256		1			

Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Trawl Fail codes: None, Outside Radius Limit, Outside Target Depth, Fouled Net (comment req.), Open cod end (knot untied), Trawl hit unknown obstruction, Doors - No contact with bottom, Torn Net, Unusually low catch, Improper Deck Time, Improper Bottom Time, Inadequate trawl track, Other - Trawl Failure (comment reg.)

BIGHT'13 DEMERSAL FISH IDENTIFICATION FORM

			Data from Short/Long Trawl @	>300 m D		Yes	No
	Species	N	Std Length Size Class (cm) Use for up to 10 individuals. Weight (kg)		Weight (kg)		Photos
#			Use Size Class sheet for more abundant spp.	Gross	Tare	Net	Y/N
1	Sting ray	11	230 - 320				У
2	diamond turbot	ŀ	180				4
3	spottal sand bass	3	235, 180, 170				4
4	barred sand bass	1	145				Ý
5	sting ray	57.	200 - 330				N
6	Cilitornia halibut	3	125, 50,55				Y
7	spotted rund bass	8	1145 - 225				N
8	barred sand bass	3	140 - 160				Y
9	butterfly ray	1	350 (W)	-			7
10	Sing ruy	9	190 - 370				N
11	spotted sand bass	4	135 255				1
12	barred sand bass	2	90				7
13	Slough anchory	1	51		-		V
14	surf perch	2	54,64			· · · · · · · · · · · · · · · · · · ·	V
15	colfornia halibat	4	100,95,95,280				V
16	· ·						_
17							
18							
19						,	
20							-
21							
22							
23							
24							
25							
mme	nts: duplu: 11.5'		Invests: tra	a 11 #	<u> </u>		<u> </u>
	le: 3.0 ft flood 2	1410)	VI IT	Crab	n.	=1 pictu
	LW= 8.51		2				-1 pic
			2				h=/ pic

SWHB - Bioaccumulation and Plastic Ingestion Special Studies Field Datasheet - FISH

	Fie	eld Da	atasheet -	FISH				
Station SWHB-22								Pageof
Date 04/21/2014	···		_			Com	pleted by:	ccs
FISH SPECIES TRAWL - BIOACCUMUL	ATION							
Species	Trawl #	N	Size Range (SL)	Gross	Weight (ko	g) Net	Photo (Y/N)	Footnotes
Spotted sand bass	1,2,3	Ь	165,150,150	41093	laie	Idet	У (м.)	
cultoraia chalibut barred sand bass	2,3	ь	50,55,125				Ϋ́	
barred sand bass	1,2,3	6	165, 145, 155				Y	
stough anchory shinerperch	3	1	51				4	small foil (42 sheet
Shinerperch	3	2	54,64				Y	small foil (1/2 shall
						,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
FISH SPECIES - PLASTIC INGESTION							; ····	
Species	Trawl #	N	Size Range (SL)	Weight (kg)			Photo	F
	II GWI #	14		Gross	Tare	Net	(Y/N)	Footnotes
Sting ray	1=	5	220-240				Y	
spotted sand base	1,2,3	3	200) 180,				N	
burred sand bass	3	J	155				N	
				7				
Comments:								
Comments:								
·								

RHMP/ Bight '13 - Bioaccumulation Special Studies Field Data Sheet INVERTEBRATES from Trawls

		1144 -1		ATEO II	om na	VVIO		
Station	6WHB-22 04/21/2014			<u></u>			1	Pagelof _ l
Date	04/21/2014					Com	pleted by:	Pagelof _ l
INVERTEBRA	ATE SPECIES TRAWL- BI	OACCUMUL	ATION					
Species		Trawi #	N	Weight (kg) Gross Tare Net		Photo (Y/N)	Footnotes	
Bay Scal	(In O	2	}	Gross	lare	Net	7	
	<u>F</u>						1	
					<u>-</u> -		-	
			,					
							·	
				-				
Comments:								
1								

FIELD SAMPLING QA CHECKLIST - TRAWL SAMPLING

Station ID: SWHB-22	Arrival Date/Time: 04/21/2014 1410									
Site Acceptable for Trawl Sampling for Bioaccumulation Samples: Or N										
if No, provide reason:										
Mark each box with Y, N, or NA										
Field Procedures										

Fleid Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	Y.
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and ≥25pt salinity).	N
Vessel has conducted pre-trawl survey? Site acceptable?	V
Station DGPS coordinates (± 3 m) recorded?	V
Station occupation form completed?	, ,

2. Trawl Sampling Procedures:

Proper equipment used (Semi-balloon otter trawl)?	У
Weighing scales calibrated?	46
Vessel passed through 100 m radius of station?	Y
Trawl duration 10 minutes (or long as possible in confined areas)?	٧
Trawl log info recorded (depth, tow wire length, times, coordinates)?	4
Trawl remained within 10% of target depth?	Y
Trawl acceptable (i.e. no fouling, bottom debris present, not torn, bottom time acceptable)?	٧
Fish and/or invertebrates obtained in trawl?	7
All fish positively identified (for specimens collected as samples)?	Ÿ
All invertebrates positively identified (for specimens collected as samples)?	7
Standard length of all bony fish measured for specimen counts <10? Length range measured for specimen counts >10?	7
Total biomass of each invertebrate group retained as samples recorded?	7
Photo of one representative from each species collected and grouped species planned for release?	7
Fish and invertebrate specimens wrapped in pre-cleaned foil, bagged, and preserved on ice?	4

SWHB-22 FIELD SAMPLING QA CHECKLIST - TRAWL SAMPLING

3. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	NA
Proper persons have signed and dated all COCs?	NA
All field datasheets (hard copy and electronic) and associated notes/ photographs have	
been recorded for the site before moving to the next?	1 4 1

4. Sample Storage and Delivery:

Epibenthic macroinvertebrates tissue samples collected?	N
Fish tissue samples collected?	V
Tissue samples stored immediately on ice and frozen asap?	V
Cooler is taped shut for transport to AMEC freezer or lab?	NA
Completed COC is included in plastic bag in cooler?	NA

Additional Notes:					
Signature of QA/QC Personnel: _	eghin	edy	_ Date/Time: _	4/21/2014	1625
Print Name/Company: Covu	Sheredy	AMEC			
	1				

								•
	BIGHT'13 TRAWL DEBRIS FORM Agency: _ AMEC				Page _	1	of	
	Station: SW#B-22 Trawl #:_	1-3	Date	: 4)21/2014	CHECK HERE IF			RESENT IN SAMPLE
	Plastic	Count	~~~~~	Comment	Misc. Items/Pieces	Count		Comment
2	Bag		1		Boat/Ship/Engine part			
known	Bandaid				Clothing			
1.	Balloon (mylar/latex)/Ribbon				Concrete/Asphalt			
ents	Bottle				Fiberglass			
Comments	Buoy				Food			
Co	Cap/Lid				Leather			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
sin	Cigarette box/wrapper				Lumber			
Names	Cup				Paper			
Na	Filmstrip (movie)				Rag/Cloth			
and	Fishing Line/Net				Rubber			
Br	Food Bag / Wrapper				Shoe			
include Brand	Polypropylene Rope				Таре			
inci	Straw				Tire			
١.	Тоу				Other Misc. (comment req.)			·
ris	Utensil				Metal	Count		Comment
Debris	Plastic Piece (unid.)				Drink Can			
1	Other Plastic (comment req.)				Can - other			
ger	Glass	Count		Comment	Can Pull-tab			
Anthropogenic	Beer Bottle				Fishing Gear			
thr	Glass Bottle/Jar -other				Wire			
An	Glass Piece (unid.)				Metal Piece (unid.)			
	Other Glass (comment req.)				Other Metal (comment req)			
\bigcap	Marine Origin	Count	Est.*	Comment	Terrestrial Vegetation	Count	Est.*	Comment
ŀ	Foliose Algae - not kelp				Leaves/Seed Pod			
bris	Gorgonian Sea Fan (dead)				Stick/Branch/Driftwood			
De	Kelp Holdfast				Other Terrest. (comment req)			
Natural Debris	Kelp Stipe/Blade				*For Natural Debris only , if an e	xact count	cannot	be made,
Vat	Rock				leave the "Count" column blank and estimate the amount (L, M o			mount (L, M or H)
							1	1 . 2 40

Seagrass

Other Marine (comment req)

in the "Est." column:

Completed by: ______

Low:

High:

L = 2-10

H = > 100

Moderate: M = 11-100

ST	ATION	OCCUPATI	ON											SW	/HB Study	,
A	gency Co	ode (S)	Weat			Rain .	Sea	State Calm	Wa	ter Qualit		21.5	Station	ID SWH	8-23	
V	essel Na	me pouhon		vercast cloudy		erstorm Fog		Choppy Rough		pH Salinity (p		8.19 35.94		ate 4/8	12014	
1		me [055]		Drizzle					Sp	Cond (ms	S/cm)	54269				
	(hh:		cupation 61 32.61002 17.11491	32;				N	Aba	ndoned N (If Y explain comments)	site?	Station	Fail Co	de N/	†	
W	'ind		Swell				Nav T	уре	Sta	tion Com	ments			1		
	Speed (kts) 🖇		Period	(s)	<u> </u>		DGPS X	ala	ae and	eel gra	is pr	ent c	in Samp	te Of	
	Direction	n (4) NW	······································	Height Direction	· · —			GPS	- 201	ne fini	grain	sand		0,	16 OF	
								nent Type							d from 12cm	7
							Tandem Va	an Veen 💢	tio	le:+1.2	9 ft	actua	P dept	~ 3.1ft/	0.9M	\$
GR	RAB EVE	NTS												Sample ty	pes (Chk all that apply)	
#	Time (hh:mm)	Latitude (DD°MM.mmmm)	Longitude - (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Infauna for Bioaccum	Photos	
—	HO5:25	32.61000	-117,11491	1	24	NA	12	sut Jolan	N	olingm.		4	¥	Ŋ	4	
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_	Grab Event	Comments:				·		r	· · · · · · · · · · · · · · · · · · ·	ı.		1	1	<u> </u>	· · · · · · · · · · · · · · · · · · ·	_
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1																

Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed

Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments) 2

Sediment Color: Brown, Gray, Black, Olive green, Red

Grab Event Comments:

Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm 4

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

Station ID: SWHB-23	Arrival Date/Time: 655:34 4/8/19
Site Acceptable for Sediment Sampling, Y or N	Bioaccumulation Sample Site: Y or N
If site not acceptable, provide reason:	
Mark each box with Y, N, or NA	

Field Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

9
<u> </u>
4
4

2. Sediment Sampling Procedures:

Samples collected in following order: chemistry, bioaccumulation (if applicable)	4
Field staff wearing fresh, powder free nitrile gloves?	1,9
Equipment washed/rinsed from previous station?	4
Vessel engine has been shut off for 3-5 minutes prior to sampling?	NA
Sampling instrument washed with Alconox?	4
Sampling instrument given site water rinse prior to deployment?	9
Sample bottles correctly labeled (minimum: station id, date, agency, parameter)?	4
Sample bottles are lab certified, contaminant free?	5
Samples containers are the correct type in accordance with Table 11-1 in the SWHB Study QAPP?	3
Sample condition meets acceptability criteria (e.g. no surface disturbance, leakage, canting, or washing)?	9
Sample penetration meets acceptability criteria (e.g. minimum 5cm)?	5
Grab disposition / characteristic information recorded?	9
Chemistry samples collected from top 5cm, and 1cm from sides of grab?	5
Sediment evenly distributed among containers?	5
Stainless steel scoop used to distribute sediment?	.7
Staff avoided contaminating samples at all times?	T 5
Equipment or field blank collected (if applicable)?	SA

una Tissue Sampling Procedures (if applicable):	NA
Field staff wearing fresh, powder free nitrile gloves?	$\overline{}$
Sampling equipment (van veen, tubs, sieve) washed with Alconox /rinsed from previous station?	
Vessel engine has been shut off for 3-5 minutes prior to sampling?	
Sampling instrument given site water rinse prior to deployment?	
Sample bags correctly labeled (minimum: station id, date, agency, invertebrate group)?	
Photographs of specimen samples taken with ID tags, prior to wrapping in foil?	1
Each specimen sample weighed?	
Specimen samples wrapped in pre-cleaned foil, bagged, and preserved on ice?	1

5. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	1 4
Proper persons have signed and dated all COCs?	19
All field datasheets (hard copy and electronic) and associated notes/ photographs have	
been recorded for the site before moving to the next?	19

6. Sample Storage and Delivery:

Sediment chemistry samples stored cold on wet ice or frozen within 24 hours?	Ų
Benthic infauna tissue: samples stored on ice and frozen asap?	NA
Cooler is taped shut for transport to AMEC freezer or lab?	
Completed COC is included in plastic bag in cooler?	

Additional Notes:			
Signature of QA/QC Personnel:	Date/Time: _	11:15	4/8/14
Print Name/Company: Tyler HAR AMEC			

ST	ATION	OCCUPATI	ON											SW	/HB Study	
A	gency Co	ode CSD	Weatl	her	,		Sea	State	Wa	ter Qualit	ty		Station	n ID SWH	B-24	
	•	****		Clear	XI	Rain		Calm		Temp (°C		21.0				
V	essel Na	me prator	0,	/ercast	Thund	erstorm	_	Choppy 📈		pH	,	7.98		Date 🕅 0	8/2014	
		- (Partiv	cloudy		Fog		Rough		Salinity (p	nt)	34.56				
	Arrival Ti	me 1616:5		Drizzle	_	L				Cond (ms		52389	\dashv			
									D0	[Mall]	1. SaAD	7.25/	999%			
	(hh		occupation					N		indoned	7	,	Fail Co	de NA		
		6P9	5: 32.62	679					Y or	N (if Y explain comments)	in					
			-117.11							comments)						
W	ind		Swell				Nav T	ype		tion Com						
	Speed (kts) ()	•	Period	(s) (i)		DGPS X	eel	grass	presen	t m s	ample			
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GR					= 4ft Distance	Grab		1 ————————————————————————————————————		1	56 f		: :		es (Chk all that apply)	
GR	AB EVE	Latitude (DD°MM.mmm)	Longitude (DD°MM.mmm)	M LL W	Distance to target	Fail	Tandem Va	Composition	Odor (2)	Color (3)	Shell Hash	Sed Chem	Grain Size	Sample type Infauna for		
	Time (hh:mm)	Latitude	Longitude	Depth	Distance		Penetration	Composition (1)	Odor (2)	Color (3)	Shell	Sed	Grain	Sample typ	es (Chk all that apply)	
	Time (hh:mm)	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color	Shell Hash (Y/N)	Sed Chem	Grain Size	Sample typ Infauna for Bioaccum	es (Chk all that apply)	
	Time (nh:mm)	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Sample typ Infauna for Bioaccum	es (Chk all that apply)	
	Time (nh:mm)	Latitude (DD°MM.mmmm) 32.03681 Comments:	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Sample typ Infauna for Bioaccum	es (Chk all that apply)	
	Time (hh:mm)	Latitude (DD°MM.mmmm) 32.03681 Comments:	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Sample typ Infauna for Bioaccum	es (Chk all that apply)	
	Time (hh:mm)	Latitude (DD°MM.mmmm) 32.63681 Comments:	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Sample typ Infauna for Bioaccum	es (Chk all that apply)	
	Time (hh:mm)	Latitude (DD°MM.mmmm) 32.63681 Comments:	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Sample typ Infauna for Bioaccum	es (Chk all that apply)	
	Time (hh:mm)	Latitude (DD°MM.mmmm) 32.63681 Comments: Comments:	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Sample typ Infauna for Bioaccum	es (Chk all that apply)	
	Time (hh:mm) 1622:16 Grab Event Grab Event	Latitude (DD°MM.mmmm) 32.63681 Comments: Comments:	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Sample typ Infauna for Bioaccum	es (Chk all that apply)	
	Time (hh:mm) 1622:16 Grab Event Grab Event	Latitude (DD°MM.mmm) 32.63681 Comments: Comments:	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Sample typ Infauna for Bioaccum	es (Chk all that apply)	
	Time (hh:mm) 1622:16 Grab Event Grab Event Grab Event	Latitude (DD°MM.mmm) 32.63681 Comments: Comments:	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Sample typ Infauna for Bioaccum	es (Chk all that apply)	

- Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed
- 2 Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)
- Sediment Color: Brown, Gray, Black, Olive green, Red Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm 3
- Station Fail codes: None, Temporary sea conditions (comment req.), Temporary atmosphere (comment req.), Temporary mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

Station ID: SWHB-24	Arrival Date/Time: 04/08/2014 16/16
Site Acceptable for Sediment Sampling: Yor N	Bioaccumulation Sample Site: Y or W
If site not acceptable, provide reason: NA	·

Mark each box with Y, N, or NA

Field Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	1
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and ≥25pt salinity).	Y
Vessel has been anchored (or tied off)?	7
Station DGPS coordinates (± 3 m) recorded?	7
Station occupation form completed?	4

2. Sediment Sampling Procedures:

Samples collected in following order: chemistry, bioaccumulation (if applicable)	Y
Field staff wearing fresh, powder free nitrile gloves?	Ч
Equipment washed/rinsed from previous station?	Ý
Vessel engine has been shut off for 3-5 minutes prior to sampling?	NA but y
Sampling instrument washed with Alconox?	1 1
Sampling instrument given site water rinse prior to deployment?	Y
Sample bottles correctly labeled (minimum: station id, date, agency, parameter)?	Y
Sample bottles are lab certified, contaminant free?	Y
Samples containers are the correct type in accordance with Table 11-1 in the SWHB Study QAPP?	Y
Sample condition meets acceptability criteria (e.g. no surface disturbance, leakage, canting, or washing)?	4
Sample penetration meets acceptability criteria (e.g. minimum 5cm)?	¥
Grab disposition / characteristic information recorded?	Ÿ
Chemistry samples collected from top 5cm, and 1cm from sides of grab?	ų i
Sediment evenly distributed among containers?	4
Stainless steel scoop used to distribute sediment?	1
Staff avoided contaminating samples at all times?	4
Equipment or field blank collected (if applicable)?	NA

3. Infauna Tissue Sampling Procedures (if applicable):

Field staff wearing fresh, powder free nitrile gloves?	N/A/
Sampling equipment (van veen, tubs, sieve) washed with Alconox /rinsed from previous station?	
Vessel engine has been shut off for 3-5 minutes prior to sampling?	1
Sampling instrument given site water rinse prior to deployment?	
Sample bags correctly labeled (minimum: station id, date, agency, invertebrate group)?	
Photographs of specimen samples taken with ID tags, prior to wrapping in foil?	
Each specimen sample weighed?	
Specimen samples wrapped in pre-cleaned foil, bagged, and preserved on ice?	

5. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	4
Proper persons have signed and dated all COCs?	
All field datasheets (hard copy and electronic) and associated notes/ photographs have	
been recorded for the site before moving to the next?	

6. Sample Storage and Delivery:

Sediment chemistry samples stored cold on wet ice or frozen within 24 hours?	1 4
Benthic infauna tissue: samples stored on ice and frozen asap?	NA
Cooler is taped shut for transport to AMEC freezer or lab?	NA
Completed COC is included in plastic bag in cooler?	NA

Additional Notes:	
Signature of QA/QC Personnel: L. W. L.	Date/Time: 04/08/2014 1640
Print Name/Company: Over Streety AMEC	·
)	

ST	ATION	OCCUPATI	ON											SV	VHB Stud
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V	essel Na	me portrov	\ \ \ \	ercast	Thund	erstorm		Choppy X		рН		7,96	, 0	ate 04/0	8/2014
		- 1	Partly	cloudy		Fog		Rough		Salinity (p	ppt)	34.55	5	1 	** <u> </u>
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GR	AB EVE	NTS												Sample ty	oes (Chk all that appl
#	Time (hh:mm)	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Infauna for Bioaccum	Photos

#	Time (hh:mm)	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Infauna for Bioaccum	Photos
	1537.52	32.63007	-117.12437	2	38	NA	14	sitt/day	N	du gm	Ŋ	У	У	7	Y
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Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed

Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)

Sediment Color: Brown, Gray, Black, Olive green, Red Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

Station ID: SWHB-25	Arrival Date/Time: 04 08 2014 1533
Site Acceptable for Sediment Sampling: (Y) or N	Bioaccumulation Sample Site: Y or N
If site not acceptable, provide reason:	
Mark each box with Y, N, or NA	

Field Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	Y
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and ≥25pt salinity).	Ý
Vessel has been anchored (or tied off)?	V
Station DGPS coordinates (± 3 m) recorded?	Ÿ
Station occupation form completed?	V

2. Sediment Sampling Procedures:

Samples collected in following order: chemistry, bioaccumulation (if applicable)	14
Field staff wearing fresh, powder free nitrile gloves?	V
Equipment washed/rinsed from previous station?	14
Vessel engine has been shut off for 3-5 minutes prior to sampling?	NA but
Sampling instrument washed with Alconox?	V
Sampling instrument given site water rinse prior to deployment?	Y
Sample bottles correctly labeled (minimum: station id, date, agency, parameter)?	1
Sample bottles are lab certified, contaminant free?	1
Samples containers are the correct type in accordance with Table 11-1 in the SWHB Study QAPP?	4
Sample condition meets acceptability criteria (e.g. no surface disturbance, leakage, canting, or washing)?	4
Sample penetration meets acceptability criteria (e.g. minimum 5cm)?	1
Grab disposition / characteristic information recorded?	1
Chemistry samples collected from top 5cm, and 1cm from sides of grab?	1
Sediment evenly distributed among containers?	14
Stainless steel scoop used to distribute sediment?	1 1
Staff avoided contaminating samples at all times?	17
Equipment or field blank collected (if applicable)?	NA
	

3. Infauna Tissue Sampling Procedures (if applicable):

Field staff wearing fresh, powder free nitrile gloves?	NA	T
Sampling equipment (van veen, tubs, sieve) washed with Alconox /rinsed from previous station?		-
Vessel engine has been shut off for 3-5 minutes prior to sampling?		_
Sampling instrument given site water rinse prior to deployment?		
Sample bags correctly labeled (minimum: station id, date, agency, invertebrate group)?		
Photographs of specimen samples taken with ID tags, prior to wrapping in foil?		
Each specimen sample weighed?		
Specimen samples wrapped in pre-cleaned foil, bagged, and preserved on ice?		

5. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	TY
Proper persons have signed and dated all COCs?	
All field datasheets (hard copy and electronic) and associated notes/ photographs have	
been recorded for the site before moving to the next?	

6. Sample Storage and Delivery:

Sediment chemistry samples stored cold on wet ice or frozen within 24 hours?	7
Benthic infauna tissue: samples stored on ice and frozen asap?	NA
Cooler is taped shut for transport to AMEC freezer or lab?	NA
Completed COC is included in plastic bag in cooler?	NT

Additional Notes: _	4 Atmpts	th gut sa	upledneto	chippy conditions	
Signature of QA/Q	(VAN YE C Personnel:	in hould	diply upor	Date/Time: 64/01/2014	1600
Print Name/Compa	ny: Corev	8heredy	AMEC		

STA	ATION (OCCUPATI	ION		·			f .		17:	÷			SV	VHB Study	/
		de AME	 -	Clear ercast	<u></u> ✓ Thund	Rain lerstorm		State Calm Choppy Rough		ter Quali Temp (°0 pH Salinity (r	C)	18,5° 8,34 34.8	<u>e</u> # 0		HB-26 17/14	
· . A	rrival Tin	ne 1250	 ·. ·	Drizzle		· · ·		nough		Cond (m		50, o			-	
	(hh:n	cnbodyja;	30. 6891 117,163	2 27	• • • •		.,			Indoned N (If Y explain comments)		Station	ı Fail Co	de N	ove.	٠
Wi	nd		Swell		. ~) .	Nav T	ype <u>· · ·</u>	Stat	tion Con	nments					
•	Speed (k		• .	Period	` '			DGPS 🔀	10	6,3%	Do		5	Lha		
	Direction	(4) 5 mil	<u> </u>	Height				GPS	8,	08 mg/ 08 mg/ pli 5, le: +3	7 00	•	211	1.19.	·· .	,
			200	Direction	(4) <u>O</u>	· · · · · · · · · · · · · · · · · · ·			<u> </u>	W: 5,	2 fee	H= 1,0	6 m			
	tag	Jr:35.16	16.	H				nent Type	₽ €	A	6 G	11.5		•	İ	
	, 8	111	163 / 39	149	alb			an Veen	1 +	de: +3	· 1 42	11/7			• . •	
			· ' / 3 ·	400	ادمم	•	Tandem V	an Veen	L	· · · · · · · · · · · · · · · · · · ·	 		•	•		•
GR.	AB EVE	NTS	'-1	17.16	3831	Lageynn	pin).		
		•	1 :	1	Distance	Grab	<u> </u>		1		Shell			Sample tyr Infauna	pes (Clik all that apply)	
#	Time (hh:mm)	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	to target	Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Hash (Y/N)	Sed Chem	Grain Size	for Bloaccum	Photos	
	1856	32.6 <u>8</u> 911	-117,16324	7	75		5	silf/Um	No	حدارات رحم	N		,	7	yes	
l	Grab Event C	omments:				rathi				J. (
9	1306	32.68713	-117,16335	2	.05	Lege	5	1-1	9	11	, fr			X	NO	
	Grab Event C	omments:	•			Humphy										
9	1313	32,68912	-117.16347	٦.	45	NONE	G	ie	ee	7	(1	· .	. =	7	NO	
5	Grab Event C														<i>L</i> -	
4	1333	32. 689 <i>0</i> 0			, 2	NONC	11	11	//	"	"	×	X	7	yes	
	.Grab Event C	omments: Bo	w depth: 5	18" =		书	Le = +3.9	feet, moved	.to	New	Spot	<u>, , , , , , , , , , , , , , , , , , , </u>			- -	
س	1357	30,6897	-117.16.311	2	13	Nive.	7	· u	u	11	(e			/	No.	
コカゴ	Grab Event C										•					

-117,163.06

8

ware

Grab Event Comments:

Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

Sediment Composition: Coarse sand, Fine sand, Sllt/clay, Gravel, Cobble, Mixed

Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)

Sediment Color: Brown, Gray, Black, Olive green, Red

⁴ Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

7 1414 30.68907 -117.16304 Distance = 9n 514 Clay, Temper (8 1423 30.68900 -117.16308 Distance = 9n "" 7 9 1430 32.68900 -117.16309 "" 7 10 1441 30.68900 -117.16310 "" "

BIGHT'13 DEMERSAL FISH IDENTIFICATION FORM

Species Polychaetcs Crustacea	N 710		>300 m D			No X
Polychaetes Crustacea	ļ · ·	Use for up to 10 individuals. Use Size Class sheet for more abundant spp.				Photos
Polychaetes Crustacea	ļ · ·	Use Size Class sheet for more abundant spp.	Gross	Tare		
Crustacea	710				Net	Y/N
Crustacea	<u>{</u>	1 1 Turnet Shrish 2 10000 and	15.0			
	1	1 target shrip 2 cancer cont 2 swimming crabs 1 ghost shring & Bot Skaleton shrings	14.0			
/ 1		2 Bot Skulton shamp				
1900.03	5		5.0			
Biggling.	17100	1 Lacuteardion	53.0			
		japanese little near				
	5	Musculare 210 Chione clons - 4				
4	<u> </u>	Bay Scallop - 1, rator class				
Coastiopode -	12	Nassarius	14.0			
Castropode - Castropods - La Bulla	دلما	3 large + 2 ned/small	61.0			
			-		_	
·						
	1					
ents: gastripod + 69 L alves = 1/8 L& Foil -11 other = 1/8 La	Bac Feit	Sheil = 1/8 LG Foil Be = 1/8 LG Foil Be Beg + Uhir/Pake	Bag 13. 47	Sorre, hart	+ gu -zip.	ort Z

BIGHT'13 DEMERSAL FISH IDENTIFICATION FORM

•		Data from Short/Long Trawl @	>300 m D	epth	es No
0		Std Length Size Class (em) Use for up to 10 individuals.	We	eight (kg)	Photo
Species	N N	Use Size Class sheet for more abundant spp.	Gross	Tare	Net Y/N
1 diamond sting ray	1	A60		i i	· 7
2 round vays	21	190-260			Y
3 spotted sand bass	6	145,150,150,180,225,220			7
4 calif helibert	3	150,185,230			V
5 black Surf perch	6	56,62,59,60,60,58			1
6 Shiner perch	59	30-140			4
7 bay blenny	8	70,75,60,80,90,60,76,60			V
8 dwarf surfpurch	16	30-110			1 1
9 Onlico / Kely bass	10	60,60,70,58,70,87,70,60,72,60			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
10 Kelpfish	43	45 - 100			T Y
11 barred sand bus	13	\$5,75,60,100, 70,67 \$7,80, \$1,80 70,70,55	-		Y
12 roundray	25	140-340			N
13 speckled midshipman	1	3 275			. 4
14 diomond turbot	2	205 ,175			V
15 cal. haliby	6	130 181 190, 250 , 220 , 340			Y
16 barred sand bass	19	50 - 112			Jan N
17 SA GOOF PIONGSh	ı	110			У
18 dwarf sukfperch	1	98			N
19 bay blenny	6	68-92			14
20 spotted sand bass	10	130-235			1
21 Shinur purch	30	34 - 110		- 1	N
22 Kelpfroh	22				N
23				, ,	V
24					
25					
nments: depth		Inve	its. tri	aul Sx	э, и
bide:			11	-2 bullas	snall 29
MCLW=			. 1	navani	λ(3)

SWHB - Bioaccumulation and Plastic Ingestion Special Studies Field Datasheet - FISH

Station	SWHB-26		Page
Date	0+122/2014	Completed by:	ccs

FISH SPECIES TRAWL - BIOACCUMULATION

Species	Trawl#	l N	Size Range	1	Neight (kg) [Photo	Footnotes
	I I I I I I I I I I I I I I I I I I I	"	(SL)	Gross	Tare	Net	(Y/N)	
calico/kulp bass	1	10	58-87				У	
black surfperch	1	6	58-60				4	
barred sand bass	1,	10	55-100	: T-70			1	-
dwarf surfperch	1,	6	18,92,100 100,93,90				4	·
Shiner perch	1,	10	105,105,105,106	, P 15			1	
bay blermy	1,2	8	168-92				У	
cal halibut	1,2	5	195,180,180,		-	•	4	<u> </u>
spotled sand bass	1,2	ی	140,140,135			···	V	

FISH SPECIES - PLASTIC INGESTION

Troud #	Trawl # N Size Range Weight (kg))	Photo	=			
. Ilawi#	"	(SL)	Gross	Tare	Net	(Y/N)	Footnotes
١	5	250-290				N	·
1,	3 N	55-Joo				4	
1.	3,	30-60				4	
1,2	49,30	30-140				4	···
2	ľ	77				4	
1,2	2	210,220			•	4	 -
	1, 1, 1,2 2	1, 3, VI 1, 3, VI 1, 2, 49,30 2, 1	1 5 250-290 1, 3, 11 55-150 1 3, 30-60 1 ,2 49.30 30-140 2 1 77	Trawl # N Size Hange (SL) Gross 1 5 250-290 1, 3, 11 55-150 1 3, 30-60 1 ,2 49.30 30-140 2 1 77	Trawl # N Size Hailge (SL) Gross Tare 1	Trawl # N Size Hange (SL) Gross Tare Net 1	Trawl # N Size Hange (SL) Gross Tare Net (Y/N) 1

0. 17	` 6		1 -101220		
spotted sand buss	1,2	2	220,220	7	
Comments: Kulp bass/Calico	3	l ₁ 2	53-60	1	
				- *	

RHMP/ Bight '13 - Bioaccumulation Special Studies Field Data Sheet INVERTEBRATES from Trawls

					JIII 114	****		
Station	SWHB-26			-				Page <u>l</u> of <u>l</u>
Date	04/22/2014					Comp	pleted by:	ecs
INVERTEBRA	TE SPECIES TRAWL- BIO	ACCUMUL	ATION					
Species		Trawl #	N	Gross	Weight (kg) Tare) Net	Photo (Y/N)	Footnotes
bull a	snall	1,2	29				7	
shny	0	2	l				Y	
			<u> </u>			<u> </u>		
			<u>-</u>					
								,
		<u> </u>						
Comments:								

FIELD SAMPLING QA CHECKLIST - TRAWL SAMPLING

Station ID: SWHB-26	Arrival Date/Time: 4/22/2014	<u>14</u> 00
Site Acceptable for Trawl Sampling for Bioac	ccumulation Samplest Yor N	
if No, provide reason:		
Mark each box with Y, N, or NA		•
Field Procedures		

Field Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	1
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and \ge 25pt salinity).	. 4
Vessel has conducted pre-trawl survey? Site acceptable?	4
Station DGPS coordinates (± 3 m) recorded?	4
Station occupation form completed?	Y

2. Trawl Sampling Procedures:

Proper equipment used (Semi-balloon otter trawl)?	1	
Weighing scales calibrated?	7-	> in offi
Vessel passed through 100 m radius of station?	4	-
Trawl duration 10 minutes (or long as possible in confined areas)?	γ	•
Trawl log info recorded (depth, tow wire length, times, coordinates)?	4	
Trawl remained within 10% of target depth?	Y	
Trawl acceptable (i.e. no fouling, bottom debris present, not torn, bottom time acceptable)?	4	
Fish and/or invertebrates obtained in trawl?	V	
All fish positively identified (for specimens collected as samples)?	4	
All invertebrates positively identified (for specimens collected as samples)?	Ý	
Standard length of all bony fish measured for specimen counts <10? Length range measured for specimen counts >10?	Y	,
Total biomass of each invertebrate group retained as samples recorded?	Ч	
Photo of one representative from each species collected and grouped species planned for release?	4	
Fish and invertebrate specimens wrapped in pre-cleaned foil, bagged, and preserved on ice?	4	

EWHB-26 FIELD SAMPLING QA CHECKLIST - TRAWL SAMPLING

3. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	17
Proper persons have signed and dated all COCs?	NA
All field datasheets (hard copy and electronic) and associated notes/ photographs have	N
been recorded for the site before moving to the next?	4

4. Sample Storage and Delivery:

Epibenthic macroinvertebrates tissue samples collected?	NA
Fish tissue samples collected?	4
Tissue samples stored immediately on ice and frozen asap?	4
Cooler is taped shut for transport to AMEC freezer or lab?	P
Completed COC is included in plastic bag in cooler?	NY

Additional Notes:			
Signature of QA/QC Personnel:	n	Date/Time: 4/22/2014	<u>191</u> 5
Print Name/Company: Covey 8W	udy AME	<u>C</u>	

	BIGHT'13 TRAWL DEBRIS Station: <u>SW HB-2b</u> Trawl #:_	FORM	Age	ency: AMEC		Page _		of
	Station: <u>SWHB-20</u> Trawl #:_	1-2	Date:	4/22/2014	CHECK HERE IF	NO DEB	RIS PF	RESENT IN SAMPLE
	Plastic	Count		Comment	Misc. Items/Pieces	Count		Comment
Ş	Bag				Boat/Ship/Engine part			
0	Bandaid				Clothing			
J.Y.	Balloon (mylar/latex)/Ribbon				Concrete/Asphalt			
2nts	Bottle			•	Fiberglass			
JE .	Buoy				Food			
်	Cap/Lid				Leather			
Ξ	Cigarette box/wrapper				Lumber			
mes	Cup			, , , , , , , , , , , , , , , , , , , ,	Paper			
S	Bag Bandaid Balloon (mylar/latex)/Ribbon Bottle Buoy Cap/Lid Cigarette box/wrapper Cup Filmstrip (movie) Fishing Line/Net Food Bag / Wrapper Polypropylene Rope Straw				Rag/Cloth			
na	Fishing Line/Net				Rubber			
BZ	Food Bag / Wrapper				Shoe			
zae	Polypropylene Rope				Tape			
Ü	Straw				Tire			
	Тоу				Other Misc. (comment req.)			
	Utensil				Metal	Count		Comment
	Plastic Piece (unid.)				Drink Can			
	Other Plastic (comment req.)				Can - other			
ger	Glass	Count		Comment	Can Pull-tab			
응	Beer Bottle				Fishing Gear			
Anthropogenic	Glass Bottle/Jar -other				Wire			
¥	Glass Piece (unid.)				Metal Piece (unid.)			
	Other Glass (comment req.)				Other Metal (comment req)			
٦	Marine Origin	Count	Est.*	Comment	Terrestrial Vegetation	Count	Est.*	Comment
I	Foliose Algae - not kelp	· · · · · · · · · · · · · · · · · · ·	M		Leaves/Seed Pod		1	
					Stick/Branch/Driftwood			
	Kelp Holdfast				Other Terrest. (comment req)			<u> </u>
┋╟	Gorgonian Sea Fan (dead) Kelp Holdfast Kelp Stipe/Blade Rock				*For Natural Debris only , if an e	xact count	cannot l	pe made.
	Rock		 -		leave the "Count" column blank			•
- -	Seagrass		M		in the "Est." column:		Low:	L = 2-10
11	Other Marine (comment req)				•			ate: M = 11-100
-					Completed by:		High:	H = > 100

STATION OCCUP	PATION								SWHB Stud
Agency Code Av	rec v	Veather	 -	Sea State		Nav Type	Stati	on ID	SWHB-
Vessel Name Buy		Overcast Thuartly cloudy Drizzle	Rain	Calm Choppy Rough	.5	DGPS [Date	4/20/1
(hh:mm)	(cyj. 3	2.68930.				Abandoned site? Y or N (If Y explain In comments)	Station Fail (Code _	٠.
Wind		well		Station Con	nments				
Speed (kts) 5 Direction (4)		Period (s) Height (ft) Direction (4)		·	. H.	le:3,6+. R	isin J		
RAWL EVENTS	1 . 3	t: 32,6892, -117,1632	3/				•		
Trawl Number	Time	Latitude'	Longitude	Depth	Wire	Distance Traw			

Trawl Number		Time (hb:mm)	Latitude' (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	Wire Out	Distance to target (m)	Trawl Fail Code (3)	Tissue Chemistry (Y/N)
	Net Over	1613:29	32.68723	-117.16306	3	30			
1	Start Trawl	16:13:55	32,68748	-117, 16303	13	30			— pro- <u>s</u>
(End Trawl	10:23:57	30.69/41	-117 16 385	3	30	14.78		
	Net on Deck	16:24:02	32.69 /35	-117, 16392	3	30	, , , , , ,		
	Net Over							•	
•	Start Trawl								
	End Trawl								
	Net on Deck		*,1*11			· · · · ·			. ~
							<u>.</u>		
	Net Over								
	Start Trawl							 ,	
i	End Trawl		1-4-4-						
ļ	Net on Deck		 ,	 					

¹ Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Trawl Fall codes: None, Outside Radius Limit, Outside Target Depth, Fouled Net (comment req.), Open cod end (knot untied), Trawl hit unknown obstruction, Doors - No contact with bottom, Torn Net, Unusually low catch, Improper Deck Time, Improper Bottom Time, Inadequate trawl track, Other - Trawl Failure (comment req.)

SWHB - Bioaccumulation and Plastic Ingestion Special Studies Field Datasheet

Station: SWH Date: 4/27	B-26 14	—·	eid Datasni	9 0 1	Com	Page	of
Additional Trawl Coo	rdinates:	~	25	50	75		
Trawl 2 /	Net Set	Net on Bottom	Interval 1	Interval 2	Interval 3	Net Retrieval	Net on Board
Time	E MASS	1613	1616.	1619	1621	1623	442044
Depth (m)		3	2	J	1	3	
Lat (32.xxxxx)		68778	68862	68 974	69 638	69143	69147
Long (-117.xxxxx)		16303	16322	16 348	163/09	16380	16379
	_		25	50	75	*	
Trawl 3	Net Set	Net on Bottom	Interval 1	Interval 2	Interval 3	Net Retrieval	' Net on Board
Time		1707	1709	1712	1714	17#7	
Depth (m)		2	7	1712	3	3	4.7 42 .71
Lat (32.xxxxx)		68732	6.8775	68930	69031	61077	
Long (-117.xxxxx)		16317	16316	16339	16325	16 384	
						•	-·
Trawi 4	Net Set	Net on Bottom	Interval 1	Interval 2	Interval 3	Net Retrieval	Net on Board
Time	To the second			-			
Depth (m)	2437						
Lat (32.xxxxx)							
Long (-117.xxxxx)				-			
	-					<u> </u>	
Trawl 5	Net Set	Net on Bottom	Interval 1	Interval 2	Interval 3	Net Retrieval	Net on Board
Time	Participation (Co.)	··-					
Depth (m)							
Lat (32.xxxxx)							
Long (-117.xxxxx)							. 1.
	/						

Comments: Trail 7, SWAB-DE, Tablet Liel Just offer Sang; Check to ensure savel

STATION OCC	CUPATION	V		•								SW	HB Stud
Agency Code	AMER	Weath	ner	····	Sea	State	Wa	ter Quality	٠.		Station ID	SWI	HB - 27
Vaccal Name	Kardh	1	Clear	Rain	· ——	Calm		Temp (°C)		18.50	 1		10/12/7
Vessel Name	Verge	J Ov Partly o	ercast	Thunderstorn Fog		Choppy Rough		pH Salinity (pp	n l	8.22 34.35	Date	4/	18/14
Arrival Time	1432	1	Drizzle		" <u> </u>]	oug		Cond (mS/		50,09	8		
(hh·mm)	lea '-	•	_	/ (5)1	f '-	 							<u> </u>
Sm °	chroping	7241	3	7 70 3	241			andoned si · N (If Y explain in		Station	Fail Code	^~	rone
	corpeter.	-117.18	5 1 08	/ Taigl	187			comments)					# # # # # # # # # # # # # # # # # # #
Wind	10	Swell		/ 1111	Nav	Гуре	Sta	tion Comm	nents				
Speed (kts)	l	•	Period	(s)	·	DGPS 📈	a	7 Seet	- = 2	97			,
Direction (4)	W	•	Height ((ft) <u> </u>	<u> </u>	GPS	'	7 feet Le = + 11 mg/L 16.8 %	3.16	1/1			
·			Direction	(4)		() () () () () ()	4	20 - 1		7			
					Equip	nent Ty <u>pe</u>	8	11 mg/L	20	•			
•					V	an Veen	10	6.8 %	0× 52	t.			
					Tandem V	an Veen 🔀	,						
GRAB EVENTS	S					<u>(</u>						;	
						ļ	,	, , .		· 			(Chk all that apply
# Time La		Longitude	Depth	Distance Gra		Composition	Odor		Sheli Hash	Sed	tarain i	fauna for	Photos

#	Time (hh:mm)	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Infauna for Bioaccum	es (Chk all that apply) Photos
Γ_{τ}	1442	32.72411	117,18791	3	85	NONE	10	Silt/clay	016	olive	7	X	X	X	yes
	Grab Event						(3149			,		
	1456	30.72418	-117,18790	3	85	it	7	t e	11	u	11			· ~	No
18	Grab Event	Comments:													
2	1503	32.72416	-117.18784	3	79	11	8	и ,	(1	<i>(</i>)	(1			X	rt
13	Grab Event	Comments:						1							
\[u\]	1518	30.70407	-117.18787	3	81	7	12	11	G	a	æ			<i>-</i>	27
19	Grab Event	Comments:													
7	1531	32.72415	-117.1879	' 3	84	"(8	it	"	K	4			X	4.
P	Grab Event		<u> </u>												
	1537	37.72415	-117. 187 90	3	84	((8	((le	Cc	G			X	69
6	Grab Event			•				•	•			· · · · · · · · · · · · · · · · · · ·			

Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments) Sediment Color: Brown, Gray, Black, Olive green, Red

Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Bon to trant to the sittely -117,18787 8cz, 82 11 18281 211-1000 32.7.4417 32.72408 51455 3976" - 1145 3872411 -33.73417 069/(b

Bis Heckmi.

bight'13 Demersal Fish Identification form

at D	ion: $\frac{SWNB-\partial 7}{4/18/14}$		ERSAL FISH IDENTIFICATIO	P PCS	age	<u>/</u>	f <u>/</u>
			Data from Short/Long Trawl @ :			Yes	No
	Species	N	Std Length Size Class (cm) Use for up to 10 individuals.	We	eight (🎉	1) grams	Photos
····.	Species	N	Use Size Class sheet for more abundant spp.	Gross	Tare	Net	Y/N
1	Polychaetes	7100		13	,		
2	Gobies	6		5,2			
3	Crustacia	~20	7 peacrobe, 15m concer in	55,2	,		
4			7 pencrose, Ism coner or Ism isopad 5 emphiped Skeleten Shrips 26				
5	Bivalue	1100+	tlaten chione clan	62			
6		<u>}</u>	little neck clans 230	,			
7	<u> </u>		SM White clams 2 80 SM FOR OF CLASS - 3				
8	Crustacea/Bolla Sna		1 snail	59		-	
9	. /						
10							
11							
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13							
14							
15							
16							
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22				-			
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24							
25						 	
men	170 271 200 7	OIL_	foil towarts ba		J		

				i.			
Agency Code	mec	Weather		Sea State	Nav Type	Station ID BUNB-	-7
[2		Clear	Rain	Calm	DGPS	- · · · · · · · · · · ·	/
Vessel Name	~ZL_	Overcast	Thunderstorm	Choppy	GPS	Date 4/ <u>ラ</u> 3/	<u>/ Z</u>
Arrival Time	115	Partly cloudy Drizzle	Fog	Rough			{
(hh:mm)		Diizzie			Abandoned site? Y or N (If Y explain in comments)	Station Fail Code	
Wind	_	Swell	<i>(</i> 2)	Station Comments	·		
Speed (kts)	5	Period (s)		processity a	in the dock		
Direction (4)	U	Height (ft)	0		, , ,		
		Direction (4)	•				- 1

SWHB Study

TRAWL EVENTS

STATION OCCUPATION

Trawl Number		Time (hh:mm)	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	Wire Out	Distance to target (m)	Trawl Fail Code (3)	Tissue Chemistry (Y/N)
	Net Over	142231	39.72400	-117,18745	3	30			
4	Start Trawl	14:03:55	32.72411	-117 18779		i			
 	End Trawl	14:373	+30.70435	-117.19214			9.43		
	Net on Deck	14:36:5	7 32,72431	117. 19174	→	1			
	Net Over	15:00:50	32.72397	-117.18783	3	30			
γ	Start Trawl	15:01:32	32.72392	-117.18809	1)			
	End Trawl	1541:13	32.72446	-117-19221			33.706		
	Net on Deck	15.11.45	32.72943	17.19203				• :	
	Net Over	15:41:02	32 72418	-117.19111	3	30	·		
7	Start Trawl	1541:36	32.72412	-117,19123		,			
)	End Trawl 1549	300000		-117.18708			2.15		
	Net on Deck		32.72395	-117.18712	V	7	-		

¹ Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Trawl Fail codes: None, Outside Radius Limit, Outside Target Depth, Fouled Net (comment req.), Open cod end (knot untied), Trawl hit unknown obstruction, Doors - No contact with bottom, Torn Net, Unusually low catch, Improper Deck Time, Improper Bottom Time, Inadequate trawl track, Other - Trawl Failure (comment req.)

SWHB - Bioaccumulation and Plastic Ingestion Special Studies Field Datasheet

1					Page	<u> </u>
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	Solu	¿ prime	. *	Con	ipleted by:	· ·
,,	71 7	Restand				
linates:		77	50	75		
Net Set	Net on Bottom	Interval 1	Interval 2	Interval 3	Net Retrieval	Net on Board
1 22 11	1424	1425	1429	1433		
64. The 12.		3	3.			
		, .	, ,	, , ,		
		18870	1 40 40	19150		
	1502	25	50	3	,	
Net Set	Net on Bottom	Interval 1	Interval 2	Interval 3	Net Retrieval	Net on Board
	1453	1504		<u> </u>		177
	3_	3				
	72100	72407				
	18785	18928				
	18833	75	50	75		
				_		
Net Set	Net on Bottom	Interval 1	Interval 2	Interval 3	Net Retrieval	Net on Board
Net Set	Bottom		Interval 2		Net Retrieval	i
Net Set	Bottom		Interval 2	Interval 3	Net Retrieval	i
Net Set	Bottom		Interval 2	Interval 3	Net Retrieval	i
Net Set	Bottom	·	1545 3	Interval 3 1550 3 72388	Net Retrieval	i
Net Set	Bottom	·	1545 3 72398	Interval 3 1550 3	Net Retrieval	
Net Set	Bottom	·	1545 3 72398	Interval 3 1550 3 72388 18721	Net Retrieval	Board
	Bottom (54) Ret on	Interval 1	Interval 2 1545 3 72398 18944	Interval 3 1550 3 72388 18721		Board Net on
	Bottom (54) Ret on	Interval 1	Interval 2 1545 3 72398 18944	Interval 3 1550 3 72388 18721		Board Net on
	Bottom (54) Ret on	Interval 1	Interval 2 1545 3 72398 18944	Interval 3 1550 3 72388 18721		Board Net on
	Bottom (54) Ret on	Interval 1	Interval 2 1545 3 72398 18944	Interval 3 1550 3 72388 18721		Board Net on
	Bottom (54) Ret on	Interval 1	Interval 2 1545 3 72398 18904 Interval 2	Interval 3 1550 3 72388 18721		Board Net on
	Bottom (54) Ret on	Interval 1	Interval 2 1545 3 72398 18904 Interval 2	Interval 3 1550 3 72388 18721		Board Net on
	Net on Bottom	Interval 1	Interval 2 1545 3 72398 18904 Interval 2	Interval 3 1550 3 72388 18721		Board Net on
	The second secon	Net Set Net Set Net on Bottom 14 24 Net on Bottom Net Set Net on Bottom H53 3 72756 18765	Net Set Net on Bottom 1434 1435 1898	Net Set	Net Set Net on Bottom Interval 1 Interval 2 Interval 3 1424 1435 1436 1433 13400 13435 77444 18870 1940 19150 Net Set Net on Bottom Interval 1 Interval 2 Interval 3 1845 18938	Net Set

BIGHT'13 DEMERSAL FISH IDENTIFICATION FORM

Date: 4/23/14 Species 1 1 Round Ray 1 2 Calico Rass	N Q	Completed by: Data from Short/Long Trawl @ : Std Length Size Class (cm) Use for up to 10 individuals. Use Size Class sheet for more abundant spp.	· · · · · · · · · · · · · · · · · · ·		(es	No Photos
1 1 Round Ray	N	Std Length Size Class (cm) Use for up to 10 individuals. Use Size Class sheet for more	· · · · · · · · · · · · · · · · · · ·	epth		
1 1 Round Ray	N	Std Length Size Class (cm) Use for up to 10 individuals. Use Size Class sheet for more	· · · · · · · · · · · · · · · · · · ·	· _	<u></u>	Photos
1 1 Round Ray		Use for up to 10 individuals. Use Size Class sheet for more	We	ight (kg)	Photos
1 1 Round Ray		Use Size Class sheet for more			, 	
	9		Gross	Tare	Net	Y/N
1 2 Calico Rass	1	250-290				N
	+	52				7
1 3 Spotted Sand Bass	3	155; 145; 130				<u>y</u> .
1-4 Halibut		100	:			Y
2 5 Shovel hose quitarti	41	48 to 490				*
3 6 Black Surfferch 27 Round Ray		230			•	M
27 Round Ray	53	230-330				N
2 8 Spotted sand bass	7	200, 225, 145, 115, 185,185			. 1	N
2º Calico Bass 2 10 Bay Blenny	ع ا	130,68				N
2 10 Bay Blenny	(40	•			7
2 11 Halibut)	36				N
2 12 Pipefish	1	230				X
2-13 Kelofish	i	SO				1
2 14 Shiner Surf Perch	2	110, 36	, // 			X
3 15 Spotted Sand Base	(7	320, 205, 220, 220, 210,				KI
3 16 Barred Sand Rass		170			, .	
3 17 Halibut	6	335, 225, 152,120, 1151115	-			1
3 18 Rand Ray	No	d30-355				
3 19 Shiner Surf Perch		100, 105,65,40,40,46,58				N I
20						12
21				-	· · · · · · · · · · · · · · · · · · ·	1.
22						
23						1
24						<u> </u>
25					:	+
-			<u> </u>			<u> </u>
Comments: Trawl 1 - Panulivo	5 1V	temptus (n=2) C	1=110	CL	<u> -95</u>	Nava
Conus Californicus	*.	<u> </u>	 			<i></i>
Trawl 2- Panulirus Ir	Herr	uptus (n=3) CK	=110(13	_Oo	CL=90
Navanax (n=13), Sie forna	Sp. E	range show a la	ed a	n arr	in al	<u> </u>
Faul 3- Navanax (n=10)	raze	or clam n=1	·			

SWHB - Bioaccumulation and Plastic Ingestion Special Studies Field Datasheet - FISH

Station SWHB-27								Page <u> </u>
Date 4/23/14			_			Com	pleted by:	ITCS
FISH SPECIES TRAWL - BIOACCUMULAT	ION							
Species	Trawl #	N	Size Range		Weight (kg)	Photo	Footnotes
			(SL)	Gross	Tare	Net	(Y/N)	Pootnotes
Spotted Sandbass	12	6	155, 145, 130 160, 150, 140 100, 150, 160				}	
Halibut	1,2,3	6	18 15,129				7	
Calico Bass	1,2	1	130				4	
Shiner Suf Perch	2,3	9	10816219				7	-
							7	
FISH SPECIES - PLASTIC INGESTION				,	Weight (kg			
Species	Trawl #	N	Size Range (SL)	Gross	Tare	Net	Photo (Y/N)	Footnotes
Round Ray	1	5	250-290				1/	
Spotted Sand Bass	2	3	180,230,				13 1	
Halibote	3	1	225	-				
Called							1.	
								· · · · · · · · · · · · · · · · · · ·
Comments:	-							

RHMP/ Bight '13 - Bioaccumulation Special Studies Field Data Sheet INVERTEBRATES from Trawls

Station	SWHE	3-27	-		_				Page _fof						
Date	4/23	19					Comp	oleted by:	KICS						
INVERTEBRA	' ATE SPECIES TI	I RAWL- BIOA	CCUMUL	ATION											
Species			Trawl #	N	,	Weight (kg	eight (kg)		eight (kg)		/eight (kg))	Photo	Francis
Ореолез			11aw. #		Gross	Tare	Net	(Y/N)	Footnotes						
	. *****														
· · · · · · · · · · · · · · · · · · ·															
				· · · · · · · · · · · · · · · · · · ·											
,															
							*								
Comments:			!		l										
Comments:															

ST	ATION	OCCUPAT	ION							8.6	ng/L.			sv	VHB Stud
Ą	gency Co	ode Am	Weath	er		_	Sea	State	Wa	ter Quali	ty		Station	n ID SWI	18-27
	essel Na Arrival Ti	<u> </u>	Partly o	Clear ercast cloudy Drizzle	Thund	Rain erstorm Fog		Calm Choppy Rough		Temp (°0 pH Salinity (p Cond (m	opt)	18.4 8.24 34.4 50,00		Date 4	17 14
	(hh:	:mm)								indoned N (If Y explair comments)		Station	Fail Co	ode	
Wi	ind	. E	Swell				Nav T	ype		tion Con					
	Speed (, <u> </u>		Period (Height (Direction	ft) <u>(</u>			DGPS GPS	1 to	de=	3.0m	slack -De	1100.		
				~			Equipr	nent Type	9	or mon	4/17				
							Va Tandem Va	an Veen an Veen	N	1:33.7	8810	ی کی	er last Ret of	Rostevant	i
GR	AB EVE	NTS					•		-					Sample tvi	oes (Chk all that apply
#	Time (hh:mm)	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Infauna for Bioaccum	Photos

#	Time (hh:mm)	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Infauna for Bioaccum	Photos
٠ ا				3										·	
1	Grab Event	Comments:								· · · · · · · · · · · · · · · · · · ·					
	Grab Event	Comments:								L.,					
	Grab Event	Comments:						,-,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	LI						
1															
	Grab Event	Comments:							II					· · · · · · · · · · · · · · · · · · ·	
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	Grab Event	Comments:			4				·	-miraa			· · · · · · · · · · · · · · · · · · ·	<u></u>	
	Grab Event	Comments:						•	ابسو				!	<u>-</u>	

1 Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed

3 Sediment Color: Brown, Gray, Black, Olive green, Red

Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Station ID: B SWN -27	Arrival Date/Time: 1432 \$ 18/19
Site Acceptable for Sediment Sampling: Yor N	Bioaccumulation Sample Site Y or N
If site not acceptable, provide reason:	
Mark each box with Y, N, or NA	

Field Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	7
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and ≥25pt salinity).	7
Vessel has been anchored (or tied off)?	7
Station DGPS coordinates (± 3 m) recorded?	1 5
Station occupation form completed?	1 5

2. Sediment Sampling Procedures:

Samples collected in following order: chemistry, bioaccumulation (if applicable)	19
Field staff wearing fresh, powder free nitrile gloves?	9
Equipment washed/rinsed from previous station?	4
Vessel engine has been shut off for 3-5 minutes prior to sampling?	15
Sampling instrument washed with Alconox?	5
Sampling instrument given site water rinse prior to deployment?	4
Sample bottles correctly labeled (minimum: station id, date, agency, parameter)?	9
Sample bottles are lab certified, contaminant free?	4
Samples containers are the correct type in accordance with Table 11-1 in the SWHB Study QAPP?	7
Sample condition meets acceptability criteria (e.g. no surface disturbance, leakage, canting, or washing)?	4
Sample penetration meets acceptability criteria (e.g. minimum 5cm)?	5
Grab disposition / characteristic information recorded?	19
Chemistry samples collected from top 5cm, and 1cm from sides of grab?	9
Sediment evenly distributed among containers?	9
Stainless steel scoop used to distribute sediment?	4
Staff avoided contaminating samples at all times?	4
Equipment or field blank collected (if applicable)?	4
	-

3. Infauna Tissue Sampling Procedures (if applicable):

Field staff wearing fresh, powder free nitrile gloves?	4
Sampling equipment (van veen, tubs, sieve) washed with Alconox /rinsed from previous station?	7
Vessel engine has been shut off for 3-5 minutes prior to sampling?	7
Sampling instrument given site water rinse prior to deployment?	7
Sample bags correctly labeled (minimum: station id, date, agency, invertebrate group)?	7
Photographs of specimen samples taken with ID tags, prior to wrapping in foil?	5
Each specimen sample weighed?	4
Specimen samples wrapped in pre-cleaned foil, bagged, and preserved on ice?	1

5. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	ý
Proper persons have signed and dated all COCs?	7
All field datasheets (hard copy and electronic) and associated notes/ photographs have	/
been recorded for the site before moving to the next?	,

6. Sample Storage and Delivery:

Sediment chemistry samples stored cold on wet ice or frozen within 24 hours?	9
Benthic infauna tissue: samples stored on ice and frozen asap?	Ż
Cooler is taped shut for transport to AMEC freezer or lab?	/
Completed COC is included in plastic bag in cooler?	Ś

Additional Notes:	Next	to Island	Pohe		
Signature of QA/QC	C Personnel:	4-1	Date/Time: _	1700	4/18/19
Print Name/Compa	ny:	le Mist			

STATION OCCUPATION			107.0% 5	SWHB Study
Agency Code Amer	Weather	Sea State	Water Quality	Station ID SUUBープタ
	Clear	Rain Calm	Temp (°C)	17.8%
Vessel Name Bask	Overcast / Thunder	rstorm Choppy	рН	4,30 p Date 4/17/19
	Partly cloudy	Fog Rough	Salinity (ppt)	3421
Arrival Time 1519:33	Drizzle		Sp Cond (mS/cm)	52013
(hh:mm) 0(c 32.70293 -117.18021	32.7008		Abandoned site? Y or N (If Y explain in comments)	Station Fail Code Nonc
Wind	Swell	Nav Type	Station Comments	
Speed (kts) 3	Period (s)	DGPS 📝	< Do-8,24mg/	L / 107%.
Direction (4)	Height (ft) Direction (4)	GPS	7.1" feel hide = +1.	Lepk
		Equipment Type	il = +1.	5 Drepins
		Van Veen		
		Tandem Van Veen		

x 24 m/L

GRAB EVENTS

Sample types (Chk all that apply) Infauna Grab Shell Distance Sed Grain Composition Color Odor Longitude Depth Penetration **Photos** Latitude for Time Hash Fail to target Size Chem (DD°MM.mmmm) (m) (DD°MM.mmmm) (hh:mm) Bioaccum (Y/N) Code (6) (m) -117, 18027 None None Ν 1612 2 OU: 32,70889 **Grab Event Comments: Grab Event Comments:**

Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed

Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)

Sediment Color: Brown, Gray, Black, Olive green, Red

Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

Station ID: SUHO - 28	Arrival Date/Time: 1680 4/17/14
Site Acceptable for Sediment Sampling: Yor N	Bioaccumulation Sample Site: Yor N
If site not acceptable, provide reason:	
Mark each box with Y, N, or NA	
Field Procedures	

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	7
Depth and benthic salinity recorded? Are these part Bight '13 -acceptable limits? (<3m MLLW depth at	
Vessel has been anchored (or tied off)?	5
Station DGPS coordinates (± 3 m) recorded?	
Station occupation form completed?	3,

2. Sediment Sampling Procedures:

Samples collected in following order: chemistry, bioaccumulation (if applicable)	15
Field staff wearing fresh, powder free nitrile gloves?	9
Equipment washed/rinsed from previous station?	1
Vessel engine has been shut off for 3-5 minutes prior to sampling?	4
Sampling instrument washed with Alconox?	7
Sampling instrument given site water rinse prior to deployment?	4
Sample bottles correctly labeled (minimum: station id, date, agency, parameter)?	4
Sample bottles are lab certified, contaminant free?	7
Samples containers are the correct type in accordance with Table 11-1 in the SWHB Study QAPP?	7
Sample condition meets acceptability criteria (e.g. no surface disturbance, leakage, canting, or washing)?	7
Sample penetration meets acceptability criteria (e.g. minimum 5cm)?	1
Grab disposition / characteristic information recorded?	7
Chemistry samples collected from top 5cm, and 1cm from sides of grab?	1
Sediment evenly distributed among containers?	У
Stainless steel scoop used to distribute sediment?	14
Staff avoided contaminating samples at all times?	4
Equipment or field blank collected (if applicable)?	9

3. Infauna Tissue Sampling Procedures (if applicable):

Field staff wearing fresh, powder free nitrile gloves?	U
Sampling equipment (van veen, tubs, sieve) washed with Alconox /rinsed from previous station?	7
Vessel engine has been shut off for 3-5 minutes prior to sampling?	y
Sampling instrument given site water rinse prior to deployment?	7
Sample bags correctly labeled (minimum: station id, date, agency, invertebrate group)?)
Photographs of specimen samples taken with ID tags, prior to wrapping in foil?	7
Éach specimen sample weighed?	7
Specimen samples wrapped in pre-cleaned foil, bagged, and preserved on ice?	19

5. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	ч
Proper persons have signed and dated all COCs?	17
All field datasheets (hard copy and electronic) and associated notes/ photographs have	
been recorded for the site before moving to the next?	17

6. Sample Storage and Delivery:

Sediment chemistry samples stored cold on wet ice or frozen within 24 hours?	1
Benthic infauna tissue: samples stored on ice and frozen asap?	7
Cooler is taped shut for transport to AMEC freezer or lab?	9
Completed COC is included in plastic bag in cooler?	7

Additional Notes:			·	
Signature of QA/QC Pe	rsonnel:		Date/Time:	4/17/14
Print Name/Company:_	14/1	MA	ANE	1630

ST	ATION	OCCUPATI	ON											SW	/HB Study
Ą	gency Co	ode /۲/۳۲	Weath	J	7 7	Rain	Sea	State	Wat	ter Quali		1.7.50	Station	ID SW	UB-29
V	essel Na	me 13~y	Ov Partly	ercast	Thund	erstorm Fog		Choppy Rough		Temp (°0 pH Salinity (p		8.05 p	D M	ate 4/	17/14
Å	Arrival Ti	me		Drizzle		. ∨9 ∟		ug.i		Cond (m		51,945			
	(hh:	:mm)								andoned N (If Y explain comments)		Station	Fail Co	de	
W	ind	_	Swell			`	Nav T	уре	Sta	tion Con	nments				
	Speed (Period (Height (Direction	ft)			DGPS GPS	D	epti:	10.5 +	Cect o	Jopk,		
								nent Type an Veen	8.	Aband	uned	7	verlso	k Ber-	mast
GR	AB EVE	NTS												Sample typ	es (Chk all that apply)
# .	Time (hh:mm)	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Infauna for Bioaccum	Photos
4	1814	32.7198	117. 224	1743								9			
\perp'	Grab Event	Comments:							· · · · · · · · · · · · · · · · · · ·	·	r 		 		
										<u> </u>	<u> </u>		<u> </u>		
	Grab Event	Comments:				1	r		T	1	1				
	Grab Event	Commenter		<u> </u>		l			<u> </u>	L	<u> </u>	<u> </u>	L	<u> </u>	
-	Grab Event	comments:]					<u></u>		<u> </u>				
j	Grab Event	Comments:		1		<u></u>			<u> </u>	<u> </u>	<u></u>	<u></u>	<u> </u>	L. Name and	

- Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed
- 2 Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)
- Sediment Color: Brown, Gray, Black, Olive green, Red
- 4 Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

Grab Event Comments:

Grab Event Comments:

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

STATION OCCUPATION	ON			•		Do	· 7.92	mg / L			SV	VHB Study
Agency Code AMEC	Weather	r	_	Sea	State		ter Qualit			Station	n ID 「Sw	HB-30
Vessel Name Back Arrival Time 04 77	Overd Partly clo	oudy izzle	Rain hunderstorm Fog		Calm / Choppy Rough		Temp (°C pH Salinity (p Cond (ms	ppt)	15.5°C 8.23 34.12 51,819		Date 4	18 14
(hh:mm) 3	0.6843	1 20.	18. 198. 198.			Aba	andoned N (If Y explain comments)	site?	Station		ode /	ope
Wind $ ot\!$	Swell	,,,		Nav 7	Гуре	Stat	tion Com	ments				:
Speed (kts) Direction (4)		Period (s) Height (ft) irection (4)	0		DGPS ⊬ GPS	6/	.87~g					
occ 33.6846					ment Type an Veen	+1 6	e = 0.6; feet.	MLL W	= 9.41	YLW.		
GRAB EVENTS	,				استنا						Ø male e	
# Time Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth Distar	get Fail	Penetration (cm)	Composition (1)	Odor	Color (3)	Shell Hash	Sed Chem	Grain Size	Infauna for	Photos

#	Time (hh:mm)	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Infauna for Bioaccum	Photos
	0830	30,68464	-117.32430	3	76	h.	10	Finesren	N	80000	2	/ _	×	\triangleright	25
	Grab Event	Comments:						Sand						,	
2	0903	32.68456	-117.82437	3	66	71	11	/1	//	71	11			X	NO
	Grab Event	Comments:												•	
a	0917	30. 08417	-117.22435	3	13	17	le	11	"	4	"	,		×	//
15	Grab Event	Comments:													•
Ц	0926	30.68465	-117.2243	: 3	71	11	4	(*	6	4	11	6		人	
	Grab Event (Comments:								·····		<u> </u>			
7	0956	32,68 467	117, 20441	, 3	67	• (. "	7	,	7	,	ť		· /	1,
	Grab Event (Comments:									•	· · · · · ·			
6	1012	32.68479	-117.22456	3	68	1,	4	(5			Č			×	
6	Grab Event (Comments:						•		•	· · · · · · · · · · · · · · · · · · ·				

Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed

² 3 Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)

Sediment Color: Brown, Gray, Black, Olive green, Red Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm 4

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Ore A mov o				Month	ef	SD	Bay.			·	
STATIO	ON OCCUP	ATION					0				SWHB Study
Agenc	y Code	EC N	/eather		Sea State		Nav Ty	/pe	St	ation ID	SUKBF36
Vesse	I Name Bay		Clear / Thu	Rain nderstorm	Calm Choppy	× ×	,	DGPS X]	Date	4/23/19
Arriva	al Time 🛛 💍 🥱		artly cloudy Drizzle	Fog	Rough	⊢	•	L	J	Date L	110011
	(hh:mm)		_				Abandone Y or N (If Y exp comment	plain in	Station Fa	ail Code [
Wind	2	S	well	<u>م</u> ٤	Station Co	mments					:
-	ection (4)	\(\)	Period (s) Height (ft) Direction (4)	0	Lotek:	14.0 A	r- 365	ol Tran	J (str	pret -	~5m2 6/c
ΓRAWL	EVENTS	4018	et 32,6842) /-117.02	75178						
Trawl Number		Time (hh:mm)	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	Wire Out	Distance to target (m)	Trawl Fail Code (3)	Tissue Chemistry (Y/N)		···
	Net Over	08:23:55		-117, 72460		30				5 m	2 toul
	Start Trawl End Trawl	08:24:15		117.22457	3		-1 h o				h. travl.
	Net on Deck	08.31.28	32.68 336	-117, 2042-0			729			6/6	of ACIP
		* * * * * * * * * * * * * * * * * * * *				. 4			<u> </u>		

30

30

92

90

Duphret sque Trul 2 to D.B.

min ble of linited speed Rocks

Net Over

Start Trawl

End Trawl

Net Over

Start Trawl

End Trawl

Net on Deck

Net on Deck

-117. 22447

-117 22743

-117 22398

-117,22340

low catch, Improper Deck Time, Improper Bottom Time, Inadequate trawl track, Other - Trawl Failure (comment req.)

Net over 10:19:12 32-68572 -117, 32:503

bottom/tm/ (0:19:51 32-68578 -117, 32:78

20:10:11 10:34:58 32:68446 -117 20:110

32.68985

09:01:18 32,68603

09:01:41 32,68594

09:06:42 30.68476

09:52:38 32 685 11

¹ Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Trawl Fall codes: None, Outside Radius Limit, Outside Target Depth, Fouled Net (comment req.), Open cod end (knot untied), Trawl hit unknown obstruction, Doors - No contact with bottom, Torn Net, Unusually low catch, Improper Deck Time, Improper Bottom Time, Inadequate trawl track, Other - Trawl Failure (comment req.)

SWHB - Bioaccumulation and Plastic Ingestion Special Studies Field Datasheet

tation:				_	-	Page(of(
ate: 4/23/14	<u> </u>	ion of	- S.D.	Bay	Con	npleted by:	74
dditional Trawl Coor	dinates:		25%	50%	75%	,	
Trawl 2 /	Net Set	Net on Bottom	Interval 1	Interval 2	Interval 3	Net Retrieval	Net on Board
Time	275476.256		0825.			(diam'r ac
Depth (m)			3				
Lat (32.xxxxx)			6.8 44/				
Long (-117.xxxxx)			22449				-
			83%	50	· .	<u> </u>	·
Trawl 3 2	Net Set	Net on Bottom	Interval 1	Interval 2	Interval 3	Net Retrieval	Net on Board
Time			0902	0905		0907	
Depth (m)			3	3		3	
Lat (32.xxxxx)			68561	68518		68481	
Long (-117.xxxxx)			88497	22461		22439	*·-
· · · · · · · · · · · · · · · · · · ·							
Trawl # 3	Net Set	Net on Bottom	Interval 1	Interval 2	Interval 3	Net Retrieval	Net on Board
Time 🖭					-		
Depth (m)						3	
Lat (32.xxxxx)	,				<u></u>		
Long (-117.xxxxx)					···		
			15	50	75	,	
Trawl 5 4	Net Set	Net on Bottom	Interval 1	Interval 2	Interval 3	Net Retrieval	Net on Board
Time			1020		1084		al some of the
Depth (m)			2		2		
Lat (32.xxxxx)			68519		6845-		
Long (-117.xxxxx)			20457		724115		

FIELD SAMPLING QA CHECKLIST – TRAWL SAMPLING

Station ID: SUHB-70	Arrival Date/Time:	
Site Acceptable for Trawl Sampling for Bioaccumula	tion Samples: Y or N	4/18/14
if No, provide reason:		
Mark each box with Y, N, or NA		

Field Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	1.7
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and ≥25pt salinity).	4
Vessel has conducted pre-trawl survey? Site acceptable?	TV
Station DGPS coordinates (± 3 m) recorded?	4
Station occupation form completed?	y
	· /

2. Trawl Sampling Procedures:

Proper equipment used (Semi-balloon otter trawl)?	4
Weighing scales calibrated?	1/4
Vessel passed through 100 m radius of station?	17
Trawl duration 10 minutes (or long as possible in confined areas)?	6
Trawl log info recorded (depth, tow wire length, times, coordinates)?	9
Trawl remained within 10% of target depth?	9
Trawl acceptable (i.e. no fouling, bottom debris present, not torn, bottom time acceptable)?	4
Fish and/or invertebrates obtained in trawl?	7
All fish positively identified (for specimens collected as samples)?	Car
All invertebrates positively identified (for specimens collected as samples)?	3
Standard length of all bony fish measured for specimen counts <10? Length range measured for specimen counts >10?	9
Total biomass of each invertebrate group retained as samples recorded?	4
Photo of one representative from each species collected and grouped species planned for release?	7
Fish and invertebrate specimens wrapped in pre-cleaned foil, bagged, and preserved on ice?	9

FIELD SAMPLING QA CHECKLIST – TRAWL SAMPLING

3. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	7
Proper persons have signed and dated all COCs?	9
All field datasheets (hard copy and electronic) and associated notes/ photographs have	5 0
been recorded for the site before moving to the next?	7

Epibenthic macroinvertebrates tissue samples collected?	9
Fish tissue samples collected?	7
Tissue samples stored immediately on ice and frozen asap?	7
Cooler is taped shut for transport to AMEC freezer or lab?	15
Completed COC is included in plastic bag in cooler?	1

Additional Notes:	None Re	go hal	Boar L	
Signature of QA/QC Perso	onnel:		Date/Time: _	4/18/14
Print Name/Company:	Tylor	Haft		

BIGHT'13 DEMERSAL FINE IDENTIFICATION FORM

		0830		Data from Short/Long Trawl @	>300 m D		Yes	No
		Species	N	Std Length Size Class (cm) Use for up to 10 individuals.	We	eight (kg	1(9)	Photos
				Use Size Class sheet for more abundant spp.	Gross	Tare	Net	Y/N
<u> </u>	1	Sipunculida	1	Nassaria	-200			
act	2	Gartropods	7190	Olive snails (7 100)	150			
Ĺ	3	Polychaetes	25-50		111		"	
L	4	Constace	~15	1 Send Crob to 14 Sand Crobs Sn fla crob + 1 broke back shr. That while Clans (10) Zned with Clans	n 16			_
	5	Moll-sks/Birelne	ız.	2 med with clans	7.8			
	6			220 amphipads				
	7						-	
	8					i		
	9						<u></u>	
T	10							
	11					1		<u> </u>
	12							
	13					-		
-	14						<u> </u>	<u> </u>
	15		<u></u>			 		
 	16							
 	17		-					
-	18		 				-	
\vdash	19		 		<u> </u>			
⊢	20		+				<u> </u>	
	21	<u> </u>	+		1	<u> </u>		
⊢	22		-			 	1	
. ⊢	23					-		
ـنــا	- 1		-		<u> </u>		ļ	
		<u> </u>	 					
	20				<u> </u>			
2	24 25 men	ts: Signacula = 1/8 Olycholetes = 1/8 for noll-sks/Bivelue = 1/8 Eastripud = 1/8 forl Crustales = 1/8 forl	7 + - B.,	Oil + quest ziploch Whirl pack I + whish Pack I + whish Pack I Pack - CENT FOIT	£ 1		,	\\ \(\) \(

BIGHT'13 DEMERSAL FISH IDENTIFICATION FORM

	Station: 5114B-30			P	age	1 6	of (
	Date: 4/ 23/14		Completed by:	SV	· —		
	- - - - - - - - - - 			, , , , , , , , , , , , , , , , , , , 	-! -,		. NI-
			Data from Short/Long Trawl @	>300 m De		Yes	No
	Chasias		Std Length Size Class (cm) Use for up to 10 individuals.	Weight (kg)			Photos
Trawl#	Species	N	Use Size Class sheet for more abundant spp.	Gross	Tare	Net	Y/N
	1 Round Ray	7	d80+320				7
ا	2 Black Surf Perch	9	170, 730, 220, 230, 240;				7
	3 Halibut	a	1/8:122	;	,		7
	4 Spotted Turbot	8	133775		_		Ý
1	5 Southed Sand Rass	2	225', 26O				V
	6 Great Kelo Fish	B	140,200,120				4
2	7 Grant Kelo Fish	1	\$5				N
2	18 Halibut	a	200;80				N
100 CM	9 Spotted Tusbot	1	8 5				N1
$\widetilde{\mathfrak{A}}$	10 Rebunck Ray	3	330 - 380				N
3	11 Halibut.	7	193, 100, 139, 140, 190, 40, 109				V
. 3	12 CO Turbot	1	95				7
#a	13 Bay Blinny	1	75				1
4	14 Hour Shark	ì	480				√
4	15 Halibut	5	175;92;115;122;100				1
5	16 Halibut	2	280,130,119	,			17
5	17 Spotted Sandbass	1	290				N
5	18 Black Surf Perch	3	140;68;60	7-1			
5	19 Crant Kelptish	3	153;50;42				
5	20 Rock Wasse	ı	175	:			7
C	21 Black Surf Perch	l a	721100				
<u> </u>	22 Round Ray	32		.<	· ·		17
6	23 Halibut	<u>ی در</u>	130', 100				
4	24 Speckled Sanddab		92	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			10
(a)	25 Rock Wrasse	<u> </u>	165		<u> </u>		 2
	24 Calico Bass	ار	165;160		<u> </u>		~/
_Co:	mments:				\		
10	vert catch - 1 small can	MI	c crab (C. gracilis!)	(tran	(ا ال	<u> </u>	
_1	rawl 2 - 1905 CL-borr	ied	temale tanulirus d	Vferr	ptus		
	* P.Merropus pos)\ 5c	Hlement individual (<u>n>1) </u>			
	raul 2-50 CL-Kelp C	rah	(Pugettia sp.) - bio	acrum			· .
Travil	1 - Grant Kelpfish Jumped	cut	of container missing	g in pt	1र्ग ०		
Tall	3- Renilla remiformis (n=2) - 3 Ronilla remiformis	, . ,	D	- 3) .			
11awl.	2 Position rem formis	<i>)</i>	y orthog jantusii (n=			4	۸,
Trave 4	- 3 reminariem	ا م	- ROICIECE FORM	9C .	- Ou	/ · ~ i	1.0.
I faul h	o-Panulirus interruptus	ــــ	一のひってもつに	13,CL	- 40	, الحارث ا	<i>0</i> ゝ `,

SWHB - Bioaccumulation and Plastic Ingestion Special Studies Field Datasheet - FISH

Station Julian	<u> </u>							Pageof
Date 4/33/14						Com	pleted by:	KTCS
FISH SPECIES TRAWL - BIOACCUMULA	TION							
Species	Trawl #	N	Size Range	Weight (kg)			Photo	F 1 1 -
	· ·	, ,	(SL)	Gross	Tare	Net	(Y/N)	Footnotes
Black Surf Perch	1,5,6	5	130',150;115; 1445 : 135			-	14	
Spotted Turbot	1,2	3	133, 7585				ΙÝ	
Halibut	1,23	5	132,173,140				7	
Spotted Sandbass	1.5	3	310,260			,	4	
CO Turbot	3	1	95				4	
Calico Bass	(0	2	145,140				1	
					-	*		
FISH SPECIES - PLASTIC INGESTION			Size Range		Weight (kg)	Photo	
Species	Trawl #	, N	(SL)	Gross	Tare	Net	(Y/N)	Footnotes
Round Ray		5	270-320			-	У	<u> </u>
Bay Blenny	7	1	75				1	·
Grant Kelpfish	li .	1	120				14	
Halibut	1,3,4,6	4	175,195,				14	
Speckled Sanddab	6	1	92				14	
Black Surf ferch		3	65,10,				V	
·			1 7 50		<u> </u>	1	-1 /1-	
Comments:							<u></u>	•••
	•							
	~	-						
-								•

RHMP/ Bight '13 - Bioaccumulation Special Studies Field Data Sheet INVERTEBRATES from Trawls

Station $SWHR-2$ Date $4/23/$	14		-		Com	pleted by:	Page Lof L	-
INVERTEBRATE SPECIES TRAWL- BIOA	CCUMUL	ATION						
Species	Trawl #	N	Gross	Weight (kg Tare) Net	Photo (Y/N)	Footnotes	
Kelperals (Pugettia sp.)	7		dioss	IZIC	Net	V	<u>d</u> vs	COY
	3,1	4				X	Cander sp. +	9
+ Cancer sp.						i	Foil was halfed	ر ا
	-							
		<u></u>						
								÷
Comments:					•			
					•			

FIELD SAMPLING QA CHECKLIST - TRAWL SAMPLING

Station ID: _SWHB-30	Arrival Date/Time: 4/23/14	_
Site Acceptable for Trawl Sampling for Bioaccum	nulation Samples: Y or N	
if No, provide reason:		
Mark each box with Y, N, or NA		_

Field Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	19
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and ≥25pt salinity).	
Vessel has conducted pre-trawl survey? Site acceptable?	1
Station DGPS coordinates (± 3 m) recorded?	1 1
Station occupation form completed?	1

2. Trawl Sampling Procedures:

Proper equipment used (Semi-balloon otter trawl)?	19
Weighing scales calibrated?	1
Vessel passed through 100 m radius of station?	
Trawl duration 10 minutes (or long as possible in confined areas)?	
Trawl log info recorded (depth, tow wire length, times, coordinates)?	
Trawl remained within 10% of target depth?	
Trawl acceptable (i.e. no fouling, bottom debris present, not torn, bottom time acceptable)?	
Fish and/or invertebrates obtained in trawl?	
All fish positively identified (for specimens collected as samples)?	
All invertebrates positively identified (for specimens collected as samples)?	
Standard length of all bony fish measured for specimen counts <10? Length range measured for specimen counts >10?	
Total biomass of each invertebrate group retained as samples recorded?	
Photo of one representative from each species collected and grouped species planned for release?	
Fish and invertebrate specimens wrapped in pre-cleaned foil, bagged, and preserved on ice?	V

FIELD SAMPLING QA CHECKLIST – TRAWL SAMPLING

3. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	8.
Proper persons have signed and dated all COCs?	7
All field datasheets (hard copy and electronic) and associated notes/ photographs have	1/4
been recorded for the site before moving to the next?	/

Epibenthic macroinvertebrates tissue samples collected?	19
Fish tissue samples collected?	1
Tissue samples stored immediately on ice and frozen asap?	
Cooler is taped shut for transport to AMEC freezer or lab?	
Completed COC is included in plastic bag in cooler?	1

Additional Notes:				
Signature of QA/QC Personnel:	4	Date/Time: _	0840	4/18/14
Print Name/Company:				

ST	ATION	OCCUPATI	ON											SW	HB Study
Ą	gency Co	ode CSD	Weatl			T	Sea	State	Wat	er Quali			Statio	n ID Switt	8-31
V	essel Na	me Pongon	Ov Partly	Clear ercast	Thund	Rain erstorm Fog		Calm Choppy Rough		Temp (°) pH Salinity (r		·)ate 04/0	9/2014
ļ	Arrival Ti	me (५५०		Drizzle		- L	- -			Cond (m					
	(hh:	:mm)						У	Y or	ndoned N (If Y explair comments)		Station	Fail Co	de	
W	ind		Swell				Nav T	ype	Stat	ion Con	ıments				
	Speed (kts)		Period	(s)			DGPS X	3110	റ യാ	CEP. >	SAN	ww.	CHECKE	0
	Direction	kts) n (4)		Height ((s)			GPS T						100m RAL	
				Direction					·				•	• •	
						-	Equipn	nent Type							
							Va	an Veen							ľ
							Tandem Va	an Veen							
GR	AB EVE	NTS								•				Sample type	es (Chk all that apply)
#	Time (hh:mm)	Latitude (DD°MM.mmmm)	Longitude (DD:MM.mmmm)	Depth (m)	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Infauna for Bioaccum	Photos
	Grab Event	Comments:													
	Grab Event (Comments:		· · · · · · · · · · · · · · · · · · ·									-		
							1					1	i	1 1	
														L	
	Grab Event (Comments:													
	Grab Event (Comments:													
	Grab Event (
	Grab Event	Comments:													
		Comments:													
	Grab Event	Comments:													

- Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed
- 2 Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)
- Sediment Color: Brown, Gray, Black, Olive green, Red
- 4 Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

ST	ATION	OCCUPAT	ION											SW	/HB Study
Ą	gency Co	ode CSD	Weati		द्रा	Rain	Sea	State Calm	Wa	ter Quali Temp (°			Statio	n ID SWH	8-32
V	essel Na	me ใจมาบอม		vercast cloudy	<u> </u>	erstorm Fog	_	Choppy Rough		pH Salinity (p				Date 04/6	09/2014
A	Arrival Ti	me \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		Drizzle		. vs F		oog		Cond (m					
	(hh	:mm)						7		ndoned N (If Y expials comments)		Station	Fail Co	ode	
W	ind Speed (Directio	kts)	Swell			·		nent Type	517.		DETEP.			, CHECKE M RADIUS	
GR	AB EVE	NTS											•	Samula tun	es (Chk all that apply)
#	Time (hh:mm)	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Infauna for Bioaccum	Photos
	Grab Event	Commenter		-		<u> </u>	<u> </u>				1		·	<u> </u>	
	CHAID EVENT	Comments.	T	<u> </u>		-			Ι			<u> </u>	Ī	T	
	Grab Event	Comments:	Л.	l	1				J.,			ı	I	1	
										,					
	Grab Event	Comments:				_	,				,i	r	,		
				<u></u>						-	L .			<u> </u>	
	Grab Event	Comments:	,			,				-		Ι		<u> </u>	
		<u></u> -			<u> </u>							-	<u> </u>	<u> </u>	
_	Grab Event	Comments:	1	1	1	1	<u> </u>		l		1			 	
	Grab Event	Commenter	<u> </u>	l	<u> </u>	1			ļ		<u> </u>	J			
L															
	Sediment	Composition: Cos	rse sand, Fine san	d, Silt/clay,	Gravel, Cobbl	e, Mixed (HXI) Other (6	O describe in co	mments)							_

Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)

Sediment Color: Brown, Gray, Black, Olive green, Red

Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Not sampleable - other (comment req.), Notation (comment req.), Notation (comment req.), Notation (comment req.), Notation (comment req.), Notation (comment req.), Notation (comment req.), Notation (comment req.), Notation (comment req.), Notation (comment req.), Notation (comment req.), Notation (comment req.), Notation (comment req.), Notation (comment req.), Notation (comment req.), Notation (comment req.), Notation (comment req.), Notation (comment req.), Notation (comment req.), Notation (commen 4 5

ST	ATION	OCCUPATI	ON											sv	VHB Study
Ag	gency Co	ode (50	Weatl	her			Sea	State	Wa	ter Quali	tv		Statio	n ID Gulf	18-33
	· .			Clear		Rain		Calm		Temp (°		20,2			
V	essel Na	me pontour	· · · · ·	/ercast	Thund	erstorm		Choppy 🗶		—— ———————————————————————————————————		7,91		Date 04/01	1204
		- ;	Partly	cloudy		Fog		Rough		Salinity (p	pt)	34.32		<u>استان المسا</u>	4.5
-	Arrival Ti	me 1526:4	17	Drizzle		L		 , 	Sp	Cond (m	S/cm)	52060			
		<u> </u>		-					DO	Cmall 17	(sat)	7.56/10			
	(hh:	:mm) 51/11.0.	ccupation E	アケッ				N	Aba	anďoned	site?	Station	ı Fail Co	ode NA	
			.6670b						You	r N (If Y explain comments)	ı in				
		-117	. 15548							ŕ					
W.	ind	<i>a</i>	Swell				Nav 1		Sta	tion Con	ments				
	Speed (· <u> </u>		Period	` ' —			DGPS 🔀	Жu	ill rep	lace s	tation	, swi	18-04 ac	of site of land. Iday land. Iday for odor
	Direction	n (4) NW		Height	· · — •			GPS	Car	id 100 n	1 buff	'er) w	ere t	ro Analim	/dry lant.
				Direction	(4))				small a Oraan	nea of	u in su	unnlo (ulackot o	ulied for
								nent Type		, , ,	Ö	hem ran	cob) u	hion had	odor
							-	an Veen	wa	ter aip	1W: 34	5m/11	.514		
							Tandem Va	an Veen 💢	6d	l: 2.0	<i>+</i> †			2.9M	icco
GR	AB EVE	NTS		MLLU	V=9,5'									Sample typ	oes (Chk all that apply)
#	Time	Latitude	Longitude	Depth	Distance	Grab Fail	Penetration	Composition	Odor	Color	Shell	Sed	Grain	Infauna for	Photos
	(hh:mm)	(DD°MM.mmmm)	(DD°MM.mmmm)	(m)	to target	Code (6)	(cm)	(1)	(2)	(3)	Hash (Y/N)	Chem	Size	Bioaccum	Filotos
1	1530:47	32.66704	-117.15545	3	85	NA	15	Silt/dn	NO	olive.	N	X	N	١٦	7.
1	Grab Event	Comments:						, ,		Sheen	·		. · ·		
1							<u> </u>		:						
<u></u>	Grab Event	Comments:													
	<u></u>			·						<u> </u>	<u> </u>				
	Grab Event	Comments:								,			,	· · · · · · · · · · · · · · · · · · ·	,
1						<u> </u>									
1	Grab Event (Comments:													
												,	,	,	

Grab Event Comments:

Grab Event Comments:

Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed

Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humlc (HU), Other (O, describe in comments)

Sediment Color: Brown, Gray, Black, Olive green, Red Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm 3

⁴

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Station ID: SWHB-33	Arrival Date/Time: 04/09/2014 1526
Site Acceptable for Sediment Sampling: Or N	Bioaccumulation Sample Site: Y or
If site not acceptable, provide reason: WA	
Mark each box with Y, N, or NA	

Field Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	4
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and ≥25pt salinity).	7
Vessel has been anchored (or tied off)?	7
Station DGPS coordinates (± 3 m) recorded?	Ý
Station occupation form completed?	4

2. Sediment Sampling Procedures:

Samples collected in following order: chemistry, bioaccumulation (if applicable)	Ч
Field staff wearing fresh, powder free nitrile gloves?	4
Equipment washed/rinsed from previous station?	4
Vessel engine has been shut off for 3-5 minutes prior to sampling?	Ч
Sampling instrument washed with Alconox?	V
Sampling instrument given site water rinse prior to deployment?	4
Sample bottles correctly labeled (minimum: station id, date, agency, parameter)?	y
Sample bottles are lab certified, contaminant free?	Ý
Samples containers are the correct type in accordance with Table 11-1 in the SWHB Study QAPP?	У
Sample condition meets acceptability criteria (e.g. no surface disturbance, leakage, canting, or washing)?	Y
Sample penetration meets acceptability criteria (e.g. minimum 5cm)?	4
Grab disposition / characteristic information recorded?	Ý
Chemistry samples collected from top 5cm, and 1cm from sides of grab?	7
Sediment evenly distributed among containers?	7
Stainless steel scoop used to distribute sediment?	4
Staff avoided contaminating samples at all times?	4
Equipment or field blank collected (if applicable)?	NA

3. Infauna Tissue Sampling Procedures (if applicable):

Field staff wearing fresh, powder free nitrile gloves?	NA/
Sampling equipment (van veen, tubs, sieve) washed with Alconox /rinsed from previous station?	
Vessel engine has been shut off for 3-5 minutes prior to sampling?	7
Sampling instrument given site water rinse prior to deployment?	
Sample bags correctly labeled (minimum: station id, date, agency, invertebrate group)?	
Photographs of specimen samples taken with ID tags, prior to wrapping in foil?	
Each specimen sample weighed?	
Specimen samples wrapped in pre-cleaned foil, bagged, and preserved on ice?	1

5. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	Y
Proper persons have signed and dated all COCs?	NA
All field datasheets (hard copy and electronic) and associated notes/ photographs have	
been recorded for the site before moving to the next?	_ Y

Sediment chemistry samples stored cold on wet ice or frozen within 24 hours?	4
Benthic infauna tissue: samples stored on ice and frozen asap?	NA
Cooler is taped shut for transport to AMEC freezer or lab?	NA
Completed COC is included in plastic bag in cooler?	NA

Additional Notes: 100 K	a longtime to find ,	an area	<=3 m. Eve	entrally tied .	ptr
outride of habi	a longtime & find , tot, restriction border sonnel: L. Shing	pilired.	Date/Time:	04/02/2014	_ _1545_
Print Name/Company:_	Covey Sheredy	AMEC			

517	AHON	OCCUPATI	ON		•									SW	HB Study
Ą	gency Co	de CSD	Weath	P-00			Sea	State	Wat	er Quali		 	Station	ID Swot	3 - 34
V	essel Na	me Busion	Ov Partly	Clear ercast	Thund	Rain erstorm Fog		Calm Choppy K		Temp (°) pH Salinity (p] •	ate 04/6	79/2014
P	Arrival Ti	me 1500		Orizzle						Cond (m					
	(hh:	:mm)						A	Yor	ndoned N (If Y explair comments)		Station	Fail Co	de	
Wi	nd		Swell				Nav T	уре	Stat	ion Con	nments				
		kts)		Period ((s)			DGPS 📈	510	ত ক্র	0654,	>3m	Mu	J. CLOSCE	-50
	Direction	n (4)		Height (ft)			GPS	Mu	ーフィロムイ	ler Atte	waid in	den 1	J. CUBEL UM RAO	14.P
				Direction	(4)						a HUU		4 1,70	, ,	, , ,
								nent Type	1 200	(2,70	. ,				
								an Veen							
							Tandem V	an veen							
GR	AB EVE	INTS												Sample type	es (Chk all that apply)
#	Time (hh:mm)	Latitude (DD®MM:mmæm)	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Infauna for Bioaccum	Photos
	Grab Event	Comments:				r:			, <u></u> ,					γ	
										<u> </u>					······································
	Grab Event	Comments:				ı					T				
											<u> </u>				
	Grab Event	Comments:					1				· · ·	1			
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	Grab Event	Comments:													
	Grab Event	Comments:										I			
\vdash												<u> </u>			
	Grab Event	Comments:		_			1								
Щ.			****					*	-		_				

- Sediment Composition: Coarse sand, Fine sand, Sill/Clay, Gravel, Cobble, Mixed Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments) Sediment Color: Brown, Gray, Black, Olive green, Red

- Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm
 Station Fail codes: None, Temporary sea conditions (comment req.), Temporary atmosphere (comment req.), Temporary mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

51.	AHON	OCCUPATI	ON											SW	/HB Study
Ą	gency Co	ode 450	Weatl			ъ. г	Sea	State	Wat	er Quali			Statio	n ID Swet	8-35
V	essel Na	me Pouroou		Clear rercast	Thund	Rain erstorm	_	Choppy X		Temp (°				Date 04/	09/2014
,	Arrival Ti	me 16 <i>0</i> 0	Partly	Drizzle		Fog		Rough		Salinity (p Cond (m				,	
	(hh	:तात)						Y	Y or	ndoned N (If Y explair comments)		Station	n Fail Co	ode	
Wi	ind		Swell		•		Nav T	vpe	Stat	ion Con	nments				
		kts)		Period	(s)			DGPS X				3MM	رسب	CHECKED	MULTIPLE
	Direction	n (4)		Height	(ft)			GPS	we	ATTUNS	win	100M	ADDIL	CHECKED LAS	3MMUW
			<u> </u>	Direction	(4)						•			,	
					'			nent Ty <u>pe</u>	-						
								an Veen							
							Tandem Va	an Veen							
GR	AB EVE	NTS												A . I.A .	or fell for the state of the st
					Distance	Grab	Bt	A		0-1	Shell	Sed	Grain	Infauna	es (Chk all that apply)
#	Time (hh:mm)	Latitude (DD&MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	to target (m)	Fail Code (6)	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Hash (Y/N)	Chem	Size	for Bioaccum	Photos
		<u> </u>		<u> </u>									·		
	Grab Event	Comments:				i	İ		<u> </u>				1	1	
	Grab Event	Comments:				<u> </u>				·	<u>! </u>	J	!		
				1				····		<u>-</u>]		
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				<u> </u>		<u> </u>					·				
	Grab Event	Comments:		·	! <u>.</u>	·									
-															
	Grab Event (Comments:											,		
	Grab Event (Comments:					<u></u>								
			ea cand Fine can										•		

Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed
Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)
Sediment Color: Brown, Gray, Black, Olive green, Red
Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm
Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)
Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, District of the Description of the Proceedings of the Procedure of the Procedu

51/	AHON	OCCUPATIO	N									÷		SW	HB Study	,
Αç	gency Co	de CSO	Weath	ner -	 1	_	Sea	State	Wa	ter Qualit			Station	IMS DI	6-36	
	·		_	Clear	<u> </u>	Rain		Calm X		Temp (°C	;)	19.9		<u> </u>		
V	essel Na	me poution	Ov	ercast \	/ Thund	erstorm		Choppy		рΗ		7,93	D	ate 04/09	12014	
		- 	 Partly o	cloudy [\neg	Fog		Rough	;	Salinity (p	pt)	34.23				
-	Arrival Ti	me 1691545	7 1	Drizzle -		- L				Cond (ms		51937	2			
-				<u> </u>						(mg/L/	751+19	3 15 / 11	0.21			
	(hh:	:mm) Stu <i>OU</i>	c GPS:					N		andoned		Station		de N4		
		2.	2 67868	7				1.7		N (if Y explain		Otation	1 411 00	<u> </u>		
		7	7. 1680E)						comments)						
147	l	-11.		9			Nov T	'ama	Cto	tion Com	monto					
W	ind	1	Swell		(s) C)	Nav T	· · ·					1 /	- 1 - 1 - 1		
	Speed (_	Period	· · · · · · · · · · · · · · · · · · ·			DGPS X	Tuo	Station	repla	ieus s	1 YUDA	SWHB-	05	
	Direction	n (4) <u>NW</u>		Height)		GPS	bec	ause a	ipli	was	> 4m	SWHB-		
				Direction	(4)			•		attempts						las
			•				Equipn	nent Type							present	
			•				Va	an Veen	acti	nal dept	n: 3.8)f+/1.	l m		-	
							Tandem Va	an Veen 🗸	tide	1.280	5 ft			0.29m	ucco	
⊘ D	AD EVE	NITC		•				است.			 					
GK	AB EVE	:1415		MLLN)= 1 fd	-			•					Sample typ	es (Chk all that apply)	l
					Distance	Grab	<u></u>	0	Oden	Calar	Shell	Sed	Grain	Infauna		
#	Time (hh:mm)	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	to target	Fall	Penetration (cm)	Composition (1)	Odor (2)	Color (3)	Hash	Chem	Size	for	Photos	
<u> </u>				<u> </u>	(m)	Code (6)		Ane send		-110 040	(Y/N)			Bioaccum N	y	\dashv
1		32.67863-1	11.10811	1	74	NΑ	7	THE DEFICE	N	olie gen	N	T		<u> </u>		\dashv
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	Grab Event	Comments:		J			/ 		•							
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<u> </u>	Grab Event	Comments:		ŀ	<u> </u>	1	1		T							
					<u> </u>	L	<u> </u>	<u> </u>	<u> </u>			<u> </u>	<u></u>			
		Comments:						-								

Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)

Sediment Color: Brown, Gray, Black, Olive green, Red Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

³ 4

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Station ID: SWHB - 36	Arrival Date/Time: 4/9/2014 1657
Site Acceptable for Sediment Sampling: Yor N	Bioaccumulation Sample Site: Y or
If site not acceptable, provide reason: \sqrt{A}	<u> </u>

Mark each box with Y, N, or NA

Field Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	1 4
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and ≥25pt salinity).	4
Vessel has been anchored (or tied off)?	4
Station DGPS coordinates (± 3 m) recorded?	4
Station occupation form completed?	Ÿ

2. Sediment Sampling Procedures:

Samples collected in following order: chemistry, bioaccumulation (if applicable)	Ψ
Field staff wearing fresh, powder free nitrile gloves?	4
Equipment washed/rinsed from previous station?	Ч
Vessel engine has been shut off for 3-5 minutes prior to sampling?	2
Sampling instrument washed with Alconox?	Ч
Sampling instrument given site water rinse prior to deployment?	V
Sample bottles correctly labeled (minimum: station id, date, agency, parameter)?	4
Sample bottles are lab certified, contaminant free?	4
Samples containers are the correct type in accordance with Table 11-1 in the SWHB Study QAPP?	Υ.
Sample condition meets acceptability criteria (e.g. no surface disturbance, leakage, canting, or washing)?	4
Sample penetration meets acceptability criteria (e.g. minimum 5cm)?	4
Grab disposition / characteristic information recorded?	٧
Chemistry samples collected from top 5cm, and 1cm from sides of grab?	7
Sediment evenly distributed among containers?	4
Stainless steel scoop used to distribute sediment?	Ÿ
Staff avoided contaminating samples at all times?	Y
Equipment or field blank collected (if applicable)?	NA

SWHB-36 FIELD SAMPLING QA CHECKLIST-SEDIMENT COLLECTIONS

3. Infauna Tissue Sampling Procedures (if applicable):

Field staff wearing fresh, powder free nitrile gloves?	NAT
Sampling equipment (van veen, tubs, sieve) washed with Alconox /rinsed from previous station?	
Vessel engine has been shut off for 3-5 minutes prior to sampling?	
Sampling instrument given site water rinse prior to deployment?	
Sample bags correctly labeled (minimum: station id, date, agency, invertebrate group)?	
Photographs of specimen samples taken with ID tags, prior to wrapping in foil?	
Each specimen sample weighed?	
Specimen samples wrapped in pre-cleaned foil, bagged, and preserved on ice?	

5. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	TY
Proper persons have signed and dated all COCs?	NA
All field datasheets (hard copy and electronic) and associated notes/ photographs have	
been recorded for the site before moving to the next?	1

Sediment chemistry samples stored cold on wet ice or frozen within 24 hours?	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
Benthic infauna tissue: samples stored on ice and frozen asap?	44
Cooler is taped shut for transport to AMEC freezer or lab?	NA
Completed COC is included in plastic bag in cooler?	NA

	Add	litional Notes	s:							
/		nature of QA						Date/Tim	e: 4/1/2014	1720
	Prin	nt Name/Com	ıpany:	Oorey	8Nere	dy A	MEC			
\		veplaced				-		•		
1	H	pontrin	more	down	50	had	1	contrac	numming	engne
		deries	all	Sampl	ing.					

STATION OCCUPATION 7.40 ms/L

SWHB Study

Agency Code KMFC	Weather		Sea State	Water Quality	Station ID	SWKB-40
	Clear	Rain	Calm 📈	Temp (°C)	20.00	•
Vessel Name	Overcast	Thunderstorm	Choppy	pH	8.10 Date	4/16/14
, 	Partly cloudy	Fog	. Rough	Salinity (ppt)	34.5311	•
Arrival Time フタチー	Drizzle			Sp Cond (mS/cm)	52369	
occupy Let:	Loy 30,6 -117	5505 14751		Abandoned site? Y or N (if Y explain in comments)	Station Fail Code	
Wind	Swell		Nav Type	Station Comments		
Speed (kts)	Period (s)	ø :	DGPS 🔀	tice = 4,2 feet Dept = 8'8" 2.6 Siltu/ sche	tice @ 1290	
Direction (4)	Height (ft)	0/ ·	GPS	Da K = 8'8" 2.6	i3 mesets	
	Direction (4)	5	<u> </u>	Jep.		
L: 20 ((()	scure .		Equipment Type	Siltulsene.	•	
July 30.675	Piper 3	2,655226	Van Veen	,		
Jury : 30.6552	1	010))00	Tandem Van Veen 🕒			
GRAB EVENTS	1 traps - 11	7 146741			, ·	 -

														Sample typ	es (Chk all that apply)
#	Time (hh:mm)	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Infauna for Bioaccum	Photos
1	1224	32.65508	-111.19155	3	53	Niel	16	1999	Nine	olive	7			4.	M.s.
ı	Grab Event	Comments:	<u> </u>				' 	5111/cles		0.			 		
\sim	1246	30.65503	-117, 19738	3	५०	Nire	16	11	lt	11	2	y	/ —	4	yes
0	Grab Event	Comments:							•						
$\overline{}$	1310	32.65509	-117.1473	, 3	33	11	11 .	"	"	(1	11			. X	Ńο
5	Grab Event	Comments:					•	e e	, , , , , , , , , , , , , , , , , , ,					,	
И	1329	32,65500	-117,14739	3	ч3	te	lt	1.	"	11	11 .			X	NO
ſ	Grab Event					· 									
^	1339	30.65502	-117,14711	フ	4(3	(I	ę	r	10	11	· cc			X	NO
5	Grab Event	Comments:					-								
7	1351	32,65507	-117.14735	3	36	10	71	/1	11		le			X	. No
6	Grab Event	Comments:								·					

Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed

2 Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)

Sediment Color: Brown, Gray, Black, Olive green, Red

4 Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

Station Fait codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Grab Fall codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

Station ID: SWHB-40	Arrival Date/Time: 1222 4/16/14
Site Acceptable for Sediment Sampling: Yor N	Bioaccumulation Sample Site Yor N
If site not acceptable, provide reason:	NA
Mark each box with Y, N, or NA	

Field Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	4
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and ≥25pt salinity).	5
Vessel has been anchored (or tied off)?	.5
Station DGPS coordinates (± 3 m) recorded?	5
Station occupation form completed?	9

2. Sediment Sampling Procedures:

Samples collected in following order: chemistry, bioaccumulation (if applicable)	7
Field staff wearing fresh, powder free nitrile gloves?	7
Equipment washed/rinsed from previous station?	Ĵ
Vessel engine has been shut off for 3-5 minutes prior to sampling?	9
Sampling instrument washed with Alconox?	7
Sampling instrument given site water rinse prior to deployment?	7
Sample bottles correctly labeled (minimum: station id, date, agency, parameter)?	5
Sample bottles are lab certified, contaminant free?	9
Samples containers are the correct type in accordance with Table 11-1 in the SWHB Study QAPP?	7
Sample condition meets acceptability criteria (e.g. no surface disturbance, leakage, canting, or washing)?	5
Sample penetration meets acceptability criteria (e.g. minimum 5cm)?	>
Grab disposition / characteristic information recorded?	5
Chemistry samples collected from top 5cm, and 1cm from sides of grab?	5
Sediment evenly distributed among containers?	7
Stainless steel scoop used to distribute sediment?	7
Staff avoided contaminating samples at all times?	9
Equipment or field blank collected (if applicable)?	NA

3. Infauna Tissue Sampling Procedures (if applicable):

Field staff wearing fresh, powder free nitrile gloves?	19
Sampling equipment (van veen, tubs, sieve) washed with Alconox /rinsed from previous station?	7
Vessel engine has been shut off for 3-5 minutes prior to sampling?	.9
Sampling instrument given site water rinse prior to deployment?	y
Sample bags correctly labeled (minimum: station id, date, agency, invertebrate group)?	y
Photographs of specimen samples taken with ID tags, prior to wrapping in foil?	9
Each specimen sample weighed?	, 5
Specimen samples wrapped in pre-cleaned foil, bagged, and preserved on ice?	7

5. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	4
Proper persons have signed and dated all COCs?	1>
All field datasheets (hard copy and electronic) and associated notes/ photographs have	5
been recorded for the site before moving to the next?	

Sediment chemistry samples stored cold on wet ice or frozen within 24 hours?	, ,
Benthic infauna tissue: samples stored on ice and frozen asap?)
Cooler is taped shut for transport to AMEC freezer or lab?	5
Completed COC is included in plastic bag in cooler?	>

Additional Notes:	Figure	Menha	Fiddles	Core		
Signature of QA/Q		111		Date/Time:	4/16/15	15/0
Print Name/Compa	any:	e-A.A.	AMER			

BIGHT'13 EPIBENTHIC INVERTEBRATE FORM

Species 1 Goby 2 Crustace (mixed) 3 Molluska (Raivalve) 4 Kastropod	N	Comments (or Anomalies)	Gross-	eight (ko		Photos (D, L, V)	
1 Goby 2 Crustece (mixed) 3 Molluska (Raivalve)	1	,		1,341	Net	V/N	
2 Crustacee (mixed) 3 Molluska (Brissalve)	iop		Gross XAN Net		1101	Y/N	
2 Crustacee (mixed) 3 Molluska (Brissalve)	a	I ALEUP LA DALIMP " I-P	27:01				
3 Mollaska (Brivalve	_	4 Eup- Lg Shrimp - Ep 4 Mantis + 1 pen crab + 2 career + 1 sm shore crab crap 50+ May which Hand Sh while	11.5				
	1001	50+ Muschista 1100+ Sh white	10 500				
	8	3 Nascarive & Frankulo lino	73.50				
5 polychaete	10		169				
6							
7							
8						_	
9							
10			_				
11							
12		,		<u> </u>			
13					<u> </u>		
14							
15							
16							
17		N.					
18							
19							
20		·					
21							
22							
23							
24							
25							
comments: mallusca = 1 Full	F	witer in bis					
30Me Radio po jerrale						4.5	
ì	7 8 9 10 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	7	7 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	7 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	7 3 3 3 3 3 3 3 3 3	8 9 10 11 11 12 13 14 15 15 16 17 18 19 20 21 21 22 23 24 25 10	

	•	
STATION OCCUPATION		SWHB Stud
Agency Code AMEC Weather Clear Rain	Sea State Nav Type	Station ID <u>S W H B S</u> ー
Vessel Name Barry Overcast Thunderstorm Partly cloudy Fog	Choppy GPS Rough	Date 4/03/14
Arrival Time 082073 Drizzle (th:mm) 32. 65540 -1(7.14675)		Fail Code
Wind Swell	Station Comments	
Speed (kts) Direction (4) Period (s) Height (ft) Direction (4) O	tile=1.4 tile. 11.5 Lotek# 140 A - 36 (3 meters)	52
TRAWL EVENTS - 117. 146.741	Tom 2 /3, tide: +0.5, falling. Fix the	
Trawl Time Latitude Longitude	Depth Wire Distance Trawl Tissue	7 dapts, Not!

Trawl Number		Time (hh:mm)	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	Wire Out	Distance to target (m)	Trawl Fail Code (3)	Tissue Chemistry · (Y/N)	a end.
	Net Over	08:30:07			3	30				
1	Start Trawl				1	- 1				
(End Trawi					i				
	Net on Deck				1					*
										li .
	Net Over	08:49:40	32. 65536	-117,14721	2	30				
2	Start Trawl	08:50:21	32.6524	-117, 14741						
0	End Trawl	09:00:05	32.65350	-117.14963	2(2)	\ \	44			
	Net on Deck	09:02:13	30.65 355	-117,14947	Ð		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
	•			and the same in th	,		<u> </u>	<u> </u>		
	Net Over	09:16:35	32.65537	-117,14742	2					
3	Start Trawl	09:16:52	32,65529	-117, 14744						
	End Trawl	09:26:54	32,65371	-117 14902		55	•			
	Net on Deck		32,65371	-117.14889	 		·			

¹ Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Trawl Fall codes: None, Outside Radius Limit, Outside Target Depth, Fouled Net (comment req.), Open cod end (knot untied), Trawl hit unknown obstruction, Doors - No contact with bottom, Torn Net, Unusually low catch, Improper Deck Time, Improper Bottom Time, Inadequate trawl track, Other - Trawl Failure (comment req.)

SWHB - Bioaccumulation and Plastic Ingestion Special Studies Field Datasheet

Station: $\frac{3\omega R S}{}$	- 40	·				Page	<u>/</u> of _/_
Station: <u>SWHB-</u> Date: <u></u> リ/マみ/19	/	F. ((/-			Com	npleted by: _	
		Fishles Cove			• • • • • • • • • • • • • • • • • • • •	.piotod by	<u> </u>
Additional Trawl Coor		Coxe	25%.	50%	75%		
Trawl 2	Net Set	Net on Bottom	Interval 1	Interval 2	Interval 3	Net Retrieval	Net on Board
Time		0832	0833	-		0838	
Depth (m)		3	3	3	3	3	
Lat (32.xxxxx)		65366	65425			65531	6 5531
Long (-117.xxxxx)		14597	14623		/	14676	14674
	·		25	50	75	, , , , ,	77077
Trawl 3 2	Net Set	Net on Bottom	Interval 1	Interval 2	Interval 3	Net Retrieval	Net on Board
Time	17.57.46784	0850	0852	0855	0887	0900	
Depth (m)	nd a Settin	3	3	3	6887 3	3	
Lat (32.xxxxx)			65472	65384	65369	65350	65 350
Long (-117.xxxxx)			14741	14767	14888	14950	14950
			B	50%	75		<u> </u>
Trawl A 3	Net Set	Net on Bottom	Interval 1	Interval 2	Interval 3	Net Retrieval	Net on Board
Time	0.755	09/6	0919	0990	0922.	0926	0.7 (2) 7
Depth (m)	er exemple.	d	2	9	3.	2	
Lat (32.xxxxx)		65514	65 461	65441	65360	65370	65 370
Long (-117.xxxxx)		14743	14754	14760	14783	14888	14887
			•				- ,
Trawl 5	Net Set	Net on Bottom	Interval 1	Interval 2	Interval 3	Net Retrieval	Net on Board
Time		<u>-</u>					m in g salah
Depth (m)							
Lat (32.xxxxx)							
Long (-117.xxxxx)							-
		•					

Depth viries from 2 to \$ the trick to keep @ 2 m.

BIGHT'13 DEMERSAL FISH IDENTIFICATION FORM

	_		Completed by:				
			Data from Short/Long Trawl @ :	>300 m D		Yes	
	Species		Std Length Size Class (cm) Use for up to 10 individuals. Mm		eight (kg	1)	Pho
	Species	N	Use Size Class sheet for more abundant spp.	Gross	Tare	Net	Y,
1	california lialibit	į	110			.	
2	string ray		260				•
3	shiner perch	5	35, 40, 38, 42, 100				
4	spotted sand bass	5	115, 140, 150, 200, 195				
5	barred sand bass	4	130, 80, 135, 125				 ,
6	diamond turbot	2	115, 165	<u> </u>	-	-	;
7	oting rays	28	140-260		 	+	
8	califor halibert	ъ	370,80,110,150,150,180	-	 		
9	sting ray	30	175- 280		 		
10	spotted sand bass	17)	120,130,125 205 180, 250, 275, 290 36, 33, 42, 42, 38, 39, 29, 46, 42,4144 47	 -	,		— <u></u>
11	shiner perch	17	36,93,105,103,102 38,39,42,47,39,29		<i>.</i>		
12	barred sand base	3	140,130,125				
13	specklefin midship man	3	365, 260,				
14	diamond turbot	2	170 185				
15	CHOPPING CONTROL		1 1/0 183		-		
16	*	-				ļ <u>-</u>	
17		-					
18		+		,			
19							
20							
21		 			<u> </u>	<u>. </u>	
22		 					
23							
24	· · · · · · · · · · · · · · · · · · ·						
25		<u> </u>					
			di di				
	its: deptn: 111/3.5 m		invuts:	trawl	. 50	· .	î
	1.6ft ebb		/	1		ranax	
LW	= 94ft			1		ulista	
				2	nava		4
wl	s 1 0830 (5 n	nın	trawl) & net twisted	2_		ulista	<u> </u>

A) 10 changed from plainfin to specklefin midshipman

* spotted sand base photo does not include 3 specimens (60.60,80 Cinnt)

SWHB - Bioaccumulation and Plastic Ingestion Special Studies Field Datasheet - FISH

Station SWHB-40								Pageof
ate 04/22/2014			·.			Com	pleted by:	Ccs
SH SPECIES TRAWL - BIOACCUMUI	ATION		•			•		
pecies	Trawl #	N	Size Range	•	Weight (kg))	Photo	
· · · · · · · · · · · · · · · · · · ·	II awi #	l N	(SL)	Gross	Tare	Net	(Y/N)	Footnotes
California halibut	1,2,3	5	150,155,110		_		4	
California halibut Spotted sand bass	2,3	6	120, 125,135				4	
barred sand bass	2,3	6	85,130,125 130,120,135				У	
Shiner perch	2,3	6	50,50,100		_ ·		4	
						· <u>.</u> .		
		·						·············
	7			• • • • • • • • • • • • • • • • • • • •				
				<u>.</u>				· · · · · · · · · · · · · · · · · · ·
H SPECIES - PLASTIC INGESTION					Weight (kg)) -		
ecies	Trawl #	N	Size Range (SL)	Gross	Tare	Net	Photo (Y/N)	Footnotes
sting ray	1,2	2_	130-160				N	
other purch	1,2,3	4	60-205				Y	
Shiner purch	2,3		35-45			· · · · · · · · · · · · · · · · · · ·	У	······································
,				- "				
								
		<u> </u>					<u> </u>	
mments:							-	
								-

RHMP/ Bight '13 - Bioaccumulation Special Studies Field Data Sheet INVERTEBRATES from Trawls

Station <u>GWHB-40</u> Date <u>04 22 201</u>			Pagel_of1 Completed by:CCS					
Date 04/22/201	4		_ Cor			pleted by:		
INVERTEBRATE SPECIES TRAWL	- BIOACCUMUL	.ATION						
Species	Trawl #	N		Weight (kg)		Photo	Footnotes	
		<u> </u>	Gross	Tare	Net	(Y/N)	small piece half	
Musculista	1,2	1, 20				1	Small please mail	_ Combin
Biyalve (clam)	2	l				A		~
								
			-					
			 					<u> </u>
-,								
		'		,				
								-
		·					<u> </u>	<u></u> _
Comments:	٠							
				•			•	
					•			

FIELD SAMPLING QA CHECKLIST - TRAWL SAMPLING

Station ID: SWHB-40	Arrival Date/Time: 4/22/2014 0730
Site Acceptable for Trawl Sampling for	r Bioaccumulation Samples: Yor N
if No, provide reason:	
Mark each box with Y, N, or NA	
Field Procedures	

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	7
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and ≥25pt salinity).	У
Vessel has conducted pre-trawl survey? Site acceptable?	V
Station DGPS coordinates (± 3 m) recorded?	1 4
Station occupation form completed?	7

2. Trawl Sampling Procedures:

Proper equipment used (Semi-balloon otter trawl)?	4
Weighing scales calibrated?	N-> off
Vessel passed through 100 m radius of station?	1
Trawl duration 10 minutes (or long as possible in confined areas)?	*
Trawl log info recorded (depth, tow wire length, times, coordinates)?	4
Trawl remained within 10% of target depth?	\dot{y}
Trawl acceptable (i.e. no fouling, bottom debris present, not torn, bottom time acceptable)?	У
Fish and/or invertebrates obtained in trawl?	4.
All fish positively identified (for specimens collected as samples)?	4
All invertebrates positively identified (for specimens collected as samples)?	7
Standard length of all bony fish measured for specimen counts <10? Length range measured for specimen counts >10?	У
Total biomass of each invertebrate group retained as samples recorded?	Y
Photo of one representative from each species collected and grouped species planned for release?	Å
Fish and invertebrate specimens wrapped in pre-cleaned foil, bagged, and preserved on ice?	Y

GWH8-40 FIELD SAMPLING QA CHECKLIST - TRAWL SAMPLING

3. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	V
Proper persons have signed and dated all COCs?	NA
All field datasheets (hard copy and electronic) and associated notes/ photographs have	1
been recorded for the site before moving to the next?	У

Epibenthic macroinvertebrates tissue samples collected?	NA
Fish tissue samples collected?	У
Tissue samples stored immediately on ice and frozen asap?	V
Cooler is taped shut for transport to AMEC freezer or lab?	
Completed COC is included in plastic bag in cooler?	NA

Additional Notes:		
Signature of QA/QC Personnel: YXV	Date/Time: 4/22/2014 110	7 7
Print Name/Company: Covey Shendy	AMEC	

STATION	OCCUPATI	ON					· .					,	sv	/HB Study
Agency Co	de <u>८५०</u>	Weath	_	-,		Sea	State	Wa	ter Quali	-		Station	ID SW	18-41
			Clear	R	ain	_]	Calm X		Temp (°C	2)	21.7			
Vessel Na	me Dividin	Ov	ercast 🔀	Thundersto	rm	_	Choppy		рН		8.02		ate 04) 64	2014
		Partly o	loudy	F	og		Rough		Salinity (p	pt)	34.59			
Arrival Ti	me /750 : 2	39	Orizzle	3				Sp	Cond (m	S/cm)	5244	6		
	d d	- 64.6PS	<u></u>					Do	(mg/L)	1.sat)	8.25/	115.2%		
(hh:	mm) Station	. 62668					N	Aba	ındoned	site?		Fail Co	de NA	
	•	-						Yor	N (If Y explain comments)	ln .				
	-117	12810					•		ouninemo,					
Wind		Swell				Nav T	уре	Sta	tion Com	ments				
Speed (kts) b		Period (s)	0			DGPS X	rep	lacting d	Hation	5W HB	-17d	ue to d	eotro
Directio	n (4) NW		Height (ft)	0			GPS		3m				, ,,,	,
			Direction (4)	0			F	1		100111	. + em'	ranco	le	
						Eguipn	nent Type	lea	grass	prisi		1		
						- •	an Veen	act	nal wa	tor de	Mrs 2	9m/	9.5ft	
	,		•			Tandem Va	an Veen	tid	11-2.85	£+	•		2.0m	чиш
GRAB EVE	NTS						,							
			·		·····		, · · · · · · · · · · · · · · · · · · ·							es (Chk all that apply)
# Time (hh:mm)	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Denth	to target F	rab ail de (6)	Penetration (cm)	Composition (1)	Odor	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Infauna for Bioaccum	Photos

														Sample typ	es (Chk all that apply)
#	Time (hh:mm)	Latitude (DD°MM.mmmm)	Longitude (DD°MM.mmmm)	Depth (m)	Distance to target (m)	Grab Fail Code (6)	Penetration (cm)	Composition (1)	Odor	Color (3)	Shell Hash (Y/N)	Sed Chem	Grain Size	Infauna for Bioaccum	Photos
,	1756:22	32.62669	-117.12809	7	9	NA	10	Sit/day	Ŋ	bliegm	N	4	Ч	7	7
1	Grab Event							, ,		1					
	Grab Event	Comments:													
<u> </u>	Grab Event	Comments:					,		,,					,,	
										'					
	Grab Event	Comments:													
	Grab Event	Comments:													
ł	Grab Event	Comments:	·		<u> </u>			•							

Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed

Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

Sediment Color: Coarse saind, Fine saind,

Station ID: SWHB - 41	Arrival Date/Time: 4/9/2014 1750
Site Acceptable for Sediment Sampling: Yor N	Bioaccumulation Sample Site: You
If site not acceptable, provide reason: NA	

Mark each box with Y, N, or NA

Field Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	1
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and ≥25pt salinity).	V
Vessel has been anchored (or tied off)?	4
Station DGPS coordinates (± 3 m) recorded?	.,
Station occupation form completed?	7

2. Sediment Sampling Procedures:

Samples collected in following order: chemistry, bioaccumulation (if applicable)	4
Field staff wearing fresh, powder free nitrile gloves?	Ч
Equipment washed/rinsed from previous station?	J
Vessel engine has been shut off for 3-5 minutes prior to sampling?	Ý
Sampling instrument washed with Alconox?	V
Sampling instrument given site water rinse prior to deployment?	Ý
Sample bottles correctly labeled (minimum: station id, date, agency, parameter)?	У
Sample bottles are lab certified, contaminant free?	У
Samples containers are the correct type in accordance with Table 11-1 in the SWHB Study QAPP?	¥
Sample condition meets acceptability criteria (e.g. no surface disturbance, leakage, canting, or washing)?	Y
Sample penetration meets acceptability criteria (e.g. minimum 5cm)?	4
Grab disposition / characteristic information recorded?	4
Chemistry samples collected from top 5cm, and 1cm from sides of grab?	4
Sediment evenly distributed among containers?	Ý
Stainless steel scoop used to distribute sediment?	Ý
Staff avoided contaminating samples at all times?	Ý
Equipment or field blank collected (if applicable)?	NA

3. Infauna Tissue Sampling Procedures (if applicable):

Field staff wearing fresh, powder free nitrile gloves?	NA/
Sampling equipment (van veen, tubs, sieve) washed with Alconox /rinsed from previous station?	
Vessel engine has been shut off for 3-5 minutes prior to sampling?	
Sampling instrument given site water rinse prior to deployment?	
Sample bags correctly labeled (minimum: station id, date, agency, invertebrate group)?	/
Photographs of specimen samples taken with ID tags, prior to wrapping in foil?	/
Each specimen sample weighed?	7
Specimen samples wrapped in pre-cleaned foil, bagged, and preserved on ice?	/

5. Data Recording:

Samples properly logged and cross-checked by a second person on all COC forms?	У
Proper persons have signed and dated all COCs?	NA
All field datasheets (hard copy and electronic) and associated notes/ photographs have	Å
been recorded for the site before moving to the next?	/

Sediment chemistry samples stored cold on wet ice or frozen within 24 hours?	Y
Benthic infauna tissue: samples stored on ice and frozen asap?	UA
Cooler is taped shut for transport to AMEC freezer or lab?	NA
Completed COC is included in plastic bag in cooler?	NA

Additional Notes: Sta	tion S	WHB-17	replaced	wl	41		
Signature of QA/QC Pe					Time: _	4/9/14	1815
Print Name/Company:	Core	1 SM red	ly AME	C			

	BIGHT'13 TRAWL DEBRIS	FORM	Age	ency: AMEC		Page		_ of
	BIGHT'13 TRAWL DEBRIS Station: SWHB-40 Trawl #:_	: 2	Date:	04/22/2014	CHECK HERE IF	NO DEB	RIS P	RESENT IN SAMPLE
	Plastic	Count		Comment	Misc. Items/Pieces	Count		Comment
5	Bag		Dáv	tial bag/liner	Boat/Ship/Engine part			
101	Bandaid			j'	Clothing			
ijĸ	Balloon (mylar/latex)/Ribbon				Concrete/Asphalt			
nts	Bottle				Fiberglass			
me	Buoy				Food			
g	Cap/Lid		<u> </u>		Leather			
ï	Cigarette box/wrapper			•	Lumber			
mes	Cup				Paper			
Na	Filmstrip (movie)				Rag/Cloth			
nug	Fishing Line/Net				Rubber			
Bri	Bag Bandaid Balloon (mylar/latex)/Ribbon Bottle Buoy Cap/Lid Cigarette box/wrapper Cup Filmstrip (movie) Fishing Line/Net Food Bag / Wrapper Polypropylene Rope Straw				Shoe			
ude	Polypropylene Rope				Tape			
incl	Straw				Tire			
	Тоу				Other Misc. (comment req.)			
Debris -	Utensil				Metal	Count		Comment
ē	Plastic Piece (unid.)	l	SMO	all Jilvery piece	Drink Can			
	Other Plastic (comment req.)			1	Can - other			
	Other Plastic (comment req.) Glass	Count		Comment	Can - other Can Pull-tab			
	Other Plastic (comment req.) Glass Beer Bottle	Count		Comment	-			
	Other Plastic (comment req.) Glass Beer Bottle Glass Bottle/Jar -other	Count		Comment	Can Pull-tab			
Anthropogenic D	Glass Beer Bottle Glass Bottle/Jar -other Glass Piece (unid.)	Count		Comment	Can Pull-tab Fishing Gear Wire Metal Piece (unid.)			
	Glass Beer Bottle Glass Bottle/Jar -other	Count		Comment	Can Pull-tab Fishing Gear Wire			
	Glass Beer Bottle Glass Bottle/Jar -other Glass Piece (unid.)	Count	Est.*	Comment	Can Pull-tab Fishing Gear Wire Metal Piece (unid.)	Count	Est.*	Comment
Anthropogenic	Glass Beer Bottle Glass Bottle/Jar -other Glass Piece (unid.) Other Glass (comment req.) Marine Origin		Est.*		Can Pull-tab Fishing Gear Wire Metal Piece (unid.) Other Metal (comment req)	Count	Est.*	Comment
Anthropogenic	Glass Beer Bottle Glass Bottle/Jar -other Glass Piece (unid.) Other Glass (comment req.) Marine Origin		Est.*		Can Pull-tab Fishing Gear Wire Metal Piece (unid.) Other Metal (comment req) Terrestrial Vegetation	Count	Est.*	Comment
Anthropogenic	Glass Beer Bottle Glass Bottle/Jar -other Glass Piece (unid.) Other Glass (comment req.) Marine Origin		Est.*		Can Pull-tab Fishing Gear Wire Metal Piece (unid.) Other Metal (comment req) Terrestrial Vegetation Leaves/Seed Pod	Count	Est.*	Comment
Anthropogenic	Glass Beer Bottle Glass Bottle/Jar -other Glass Piece (unid.) Other Glass (comment req.) Marine Origin		Est.*		Can Pull-tab Fishing Gear Wire Metal Piece (unid.) Other Metal (comment req) Terrestrial Vegetation Leaves/Seed Pod Stick/Branch/Driftwood			
Anthropogenic	Glass Beer Bottle Glass Bottle/Jar -other Glass Piece (unid.) Other Glass (comment req.) Marine Origin		Est.*		Can Pull-tab Fishing Gear Wire Metal Piece (unid.) Other Metal (comment req) Terrestrial Vegetation Leaves/Seed Pod Stick/Branch/Driftwood Other Terrest. (comment req)	xact count	cannot	be made,
Natural Debris Anthropogenic	Glass Beer Bottle Glass Bottle/Jar -other Glass Piece (unid.) Other Glass (comment req.) Marine Origin		Est.*		Can Pull-tab Fishing Gear Wire Metal Piece (unid.) Other Metal (comment req) Terrestrial Vegetation Leaves/Seed Pod Stick/Branch/Driftwood Other Terrest. (comment req) *For Natural Debris only, if an e	xact count	cannot	be made,
Natural Debris Anthropogenic	Glass Beer Bottle Glass Bottle/Jar -other Glass Piece (unid.) Other Glass (comment req.) Marine Origin Foliose Algae - not kelp Gorgonian Sea Fan (dead) Kelp Holdfast Kelp Stipe/Blade Rock		Est.*		Can Pull-tab Fishing Gear Wire Metal Piece (unid.) Other Metal (comment req) Terrestrial Vegetation Leaves/Seed Pod Stick/Branch/Driftwood Other Terrest. (comment req) *For Natural Debris only, if an eleave the "Count" column blank and the state of t	xact count	cannot ate the a Low:	be made, mount (L, M or H)

			·	3					
STATION OC	CUPATION	N						SWHE	3 Stud
Agency Code	AMER	Weather		Sea State	Water Quality	S	Station ID	SWHB-	53
•		Clear 🗡	Rain	Calm 📝	Temp (°C)	18.52	1	L	
Vessel Name	Barge.	Overcast	Thunderstorm	Choppy	рН	8.24	Date	4/18/	14
	·	Partly cloudy	Fog	Rough	Salinity (ppt)	34.28]		-/-
Arrival Time	1327	Drizzle			Sp Cond (mS/cm)	51997	1		
(hh:mm)	scener List:	37.727996	73/ 32.7	26 28 29	Abandoned site? Y or N (if Y explain in comments)	Station F	ail Code	NOWP	
Wind	5	Swell	_	Nav Type	Station Comments	3			
Speed (kts)		Period (s)	0	DGPS 📈	7 Seet deep.	= 2.15 m			
Direction (4)	<u> </u>	Height (ft) Direction (4)	0	GPS	+3-51 Rising	- 1			
•				Equipment Type	Do= 8.36 ms/	<u>_</u>			
CDAD FMENT				Van Veen Tandem Van Veen	00-8.36 ms/		· 		

GRAB EVENTS

Sample types (Chk all that apply) Distance Grab Shell Infauna Time Latitude Longitude Depth Penetration Composition Odor Sed Grain Color Fail to target Hash for Photos (DD°MM.mmmm) (hh:mm) (DD°MM.mmmm) (cm) (3) Chem Size (m) Code (6) (Y/N) Bioaccum 1329 -117 2097 2 70 NONE 10. None Ltbra N X Jes. X **Grab Event Comments: Grab Event Comments: Grab Event Comments: Grab Event Comments: Grab Event Comments: Grab Event Comments:**

Sediment Composition: Coarse sand, Fine sand, Silt/clay, Gravel, Cobble, Mixed

2 Sediment Odor: None (N), Petroleum (P), Hydrogen sulfide (HS), Humic (HU), Other (O, describe in comments)

3 Sediment Color: Brown, Gray, Black, Olive green, Red

4 Directions: N, NE, E, SE, S, SW, W, NW, or XX for calm

Station Fail codes: None, Temporary - sea conditions (comment req.), Temporary - atmosphere (comment req.), Temporary - mechanical (comment req.), Pre-abandoned (comment req.), Site On Land (comment req.), Vessel safety (comment req.), No Access Allowed (comment req.), Prolonged rough seas, Bottom salinity <25psu, Too Shallow (comment req.), Too many Event Failures (comment req.), Anthropogenic obstruction (comment req.), Natural hard bottom obstructions (comment req.), Not sampleable - other (comment req.)

Grab Fail codes: None, Outside Radius Limit, Outside Target Depth, Premature closure, Flipped, Rocks/gravel, Dead shell, Live animal (comment req.), Debris (comment req.), Poor closure - other (comment req.), Heavily Canted, Large Humping, Washed, Disturbed Surface, < 5 cm Penetration, <= 7 cm Penetration - biology only

FIELD SAMPLING QA CHECKLIST - SEDIMENT COLLECTIONS

Station ID: SWKB-53	Arrival Date/Time: 1307 4/18	1/14
Site Acceptable for Sediment Sampling: Y or N	Bioaccumulation Sample Site: Y of N	(
If site not acceptable, provide reason:		
7. I		-

Mark each box with Y, N, or NA

Field Procedures

1. Upon arriving at the sampling location, the following site observations are recorded:

Is site accessible?	1 4
Depth and benthic salinity recorded? Are these parameters within project and Bight '13 -acceptable limits? (<3m MLLW depth and ≥25pt salinity).	y
Vessel has been anchored (or tied off)?	9
Station DGPS coordinates (± 3 m) recorded?	9
Station occupation form completed?	9

2. Sediment Sampling Procedures:

Samples collected in following order: chemistry, bioaccumulation (if applicable)	19
Field staff wearing fresh, powder free nitrile gloves?	5
Equipment washed/rinsed from previous station?	7
Vessel engine has been shut off for 3-5 minutes prior to sampling?	9
Sampling instrument washed with Alconox?	4
Sampling instrument given site water rinse prior to deployment?	5
Sample bottles correctly labeled (minimum: station id, date, agency, parameter)?	4
Sample bottles are lab certified, contaminant free?	9
Samples containers are the correct type in accordance with Table 11-1 in the SWHB Study QAPP?	9
Sample condition meets acceptability criteria (e.g. no surface disturbance, leakage, canting, or washing)?	9
Sample penetration meets acceptability criteria (e.g. minimum 5cm)?	y
Grab disposition / characteristic information recorded?	5
Chemistry samples collected from top 5cm, and 1cm from sides of grab?	7
Sediment evenly distributed among containers?	9
Stainless steel scoop used to distribute sediment?	25
Staff avoided contaminating samples at all times?	الل
Equipment or field blank collected (if applicable)?	NA

FIELD SAMPLING QA CHECKLIST – SEDIMENT COLLECTIONS

. Infauna Tissue Sampling Procedures (if applicable):	NA
Field staff wearing fresh, powder free nitrile gloves?	ÍŽ
Sampling equipment (van veen, tubs, sieve) washed with Alconox /rinsed from previous station?	
Vessel engine has been shut off for 3-5 minutes prior to sampling?	
Sampling instrument given site water rinse prior to deployment?	
Sample bags correctly labeled (minimum: station id, date, agency, invertebrate group)?	
Photographs of specimen samples taken with ID tags, prior to wrapping in foil?	
Each specimen sample weighed?	
Specimen samples wrapped in pre-cleaned foil, bagged, and preserved on ice?	0 -
Samples properly logged and cross-checked by a second person on all COC forms? Proper persons have signed and dated all COCs? All field datasheets (hard copy and electronic) and associated notes/ photographs have	5
	- 1 .5
been recorded for the site before moving to the next?	<u> </u>
Sample Storage and Delivery:	
Sediment chemistry samples stored cold on wet ice or frozen within 24 hours?	フ
Benthic infauna tissue: samples stored on ice and frozen asap?	5
Cooler is taped shut for transport to AMEC freezer or lab?	<u> </u>
Completed COC is included in plastic bag in cooler?	9
Additional Notes: Near Merbor Island Beach	7
Signature of QA/QC Personnel: Date/Time:/3 45	4/18/

Print Name/Company:_

Regional Harbor Monitoring Program (RHMP)

Aug.-Sept. 2013



Station	Site 8052 - San Dieso Bay	Page <u>l</u> of <u>/</u>
Date	8-27-15	Completed by: C. Stransky

INVERTEBRATE SPECIES TRAWL- BIOACCUMULATION

Species	Trawl #	N	Weight (kg)			Photo		
		N	Gross	Tare	Net	(Y/N)	Footnotes	
Polychaeles"		100+	7.6	2.7	4.9	7	a few small burrowing anchom's 5	
Crustacea		10	4.4	2.7	1.7	Ÿ	5 martis, 2 grass shift	
Polychaeles" Crustacea Mollusc		2 100 750	28	2.7	25.3	y -	5 martis, 2 grang stip; 3 amphipods 1 mud massa , 2 roun 750 lazor class class	
Pheronids		20	3. 9	2.7	1.2	Y	savel insock tubes	
						_		

Comments:				
* Polychaelus	miand wh	a few	small bossowing	greadmit 5

* 5 drops + 223 = 165 Grabs Total

Station	Sike 8060 San Dingo B	ay		Pageof
Date	8-27-13		Completed by:	C. Stranshy
			_	
INVERTEB	RATE SPECIES TRAWL- BIOACCUMULATION	(9)		
1		Waight (kat	1 1	

					_/		
Species	Trawi #	N	Weight (kg)			Photo	E
	IIawi #		Gross	Tare	Net	(Y/N)	Footnotes
Polydraeks		100+	5.59	2,79	2.8	IJ	anomonics t nemerica
Polychaeles Crustacea Mollusa			129	2.79	9.3		including in Few Summandics of Remerical Short sheing - (3) mantis shring - (3)
Mollusz		2	A POST	2.79			see below
906bi				2.79		Y	-
Mollasck			20g	2.79	17.3	Ý	see below.

Comments:

Molluse - small musualister . 250, constace = 4 ghost shring

- small record class - 250

- mud nossa - 2

Connect branner:

Grabs for bioaccom
2+2+2+2+2+2+2+2

Station:	Site 8122 50 Bay	Pageof
Date:	8-28-13	Completed by: C. Stransky

INVERTEBRATE SPECIES GRABS - BIOACCUMULATION (INFAUNA)

Species			Weight (g)	Photo		
<u> </u>	N	Gross	Tare	Net	(Y/N)	Footnotes	
Polychaetes Crustacea Mollusc Gobies	(00+	10	2.7	7.39	y		
Crustacea	19	6,29	7.7	3.59	4		
Mollose	31	10g	2.7	7.39	4		
Cobies	5	5,Og	27	2.39	4		
		-		J-			
·							
			,				
· · · · · · · · · · · · · · · · · · ·							

Crustacoa - Marxis - 3 glost shring - 5 Mise grase shring - 7 sm pea crubs · 2 sm decorater - 1 sm pycnogonid · 1	holluse. Fazor clan - 16 z-speci
---	----------------------------------

2×3+2+2+2+2+2 13+6 1401 1488 1427 1432 1439 19:40

h

Station Site 8078 SD Bey

Date 8-27-13 Completed by: C. Strensky

F44
Footnotes
montis- 12
Elonoala + 4 unid.

Comments:

* Razor Clans - 25 * Additional Crustavan - 5m. concerciolo

Mud nassa - 3 - 5m. decorator crab

Small clans - 15

たたれたセンャン・2・2・2・2・

Station

Site 8109 SD Bay

Page __of __

Date

8-28-13

Completed by: C. Stransky

INVERTEBRATE SPECIES TRAWL- BIOACCUMULATION

Species	Trawl #	N		Weight (kg	1)	Photo	
Species	Irawi #	N	Gross	Tare	Net	(Y/N)	Footnotes
Polychaetes		100 4	10.5	7.7	7.8	4	
Polychaetes Crustaceon		26	12	2.7	9.3	4	
Ophuroids		5	3.3	2.7	0.6	4	я
Busselluse Molluse Molluse		3	4.7	2.7	2.0	4	hidghigan - Z
Burrouln anenomics		2	4.6	7.7	1.9	7	•
Molloge		26	8.6	2.7	237.3	Ý	
					59	120	v
	A = 1						
							0

Comments:
Crostacea: Mantis shapap: 3
Ghost Shapap: 9
Amphipade - 10
Sm. Crabs - 3

Mollusc. Musculista - 1 Taxor Clans - 4 (g., 7 small Sm clans - 14

Grabs-2+3+2+2+2

Station:	S:te 8118	SD Bay	Page <u>_</u> _of <u></u>
Date:	8.28-13	/	Completed by: C. Street

INVERTEBRATE SPECIES GRABS - BIOACCUMULATION (INFAUNA)

Species	N		Weight (g)	Photo	Footnotes	
	_ "	Gross	Tare	Net	(Y/N)	rootnotes	
Polychaetes Crustacea Mollusc	100+	6.29	2.7	3.59	y		
Crostacea	277	39	10.9	37.39	ગુષ્ટ		
Mollose	571	5.39	***	2.69	ن		
Coobies / Midshipman	4	5.95	2.7	3.27	y	3gbics 1-nidshipan	

Crustacea - Ghost shoins - 50 Mollusc: Razor clams - 310 small chanting shown - 4486 15 Small clams - 260 (round Sm. cancer crabs - 2 Musculista - 1 small misc small - 10 shame shame foil used for crustacea. - 1.79 - Foil only

RHMP/ Bight '13 - Bioaccumulation and Plastic Ingestion Special Studies Field Datasheet - FISH

		FIE	eia De	ıtasheet -	FISH				
Station	Sile 812Z	SD 1	B ₁						Page 1_of _
Date	9-3-13			-			Com	pleted by:	Strandy
FISH SPECIES	S TRAWL - BIOACCUMULAT	ION							
Species		Trawl #	N	Size Range		Weight (k	9)	Photo	Footnotes
				(SL)	Gross	Tare	Net	(Y/N)	Footnotes
CAH	d Sand Bass 1 Bay Bass	l t	7	96-185				Y	
Barre	d Sand Bass	1	12	116-157				11	
500 He	1 Bow Buss		2	183-215				1	
1									
									1
			*						
									
FISH SPECIES	S - PLASTIC INGESTION								
	S - PLASTIC INGESTION	Travel #	M	Size Range		Weight (kg))	Photo	Footbacks
Species	S - PLASTIC INGESTION	Trawl #	N	Size Range (SL)	Gross	Weight (kg	l) Net	Photo (Y/N)	Footnotes
Species		Trawl #	N 1		,		γ		Footnotes
Species	S-PLASTIC INGESTION				,		γ		Footnotes
Species					,		γ		Footnotes
Species					,		γ		Footnotes
Species					,		γ		Footnotes
Species					,		γ		Footnotes
Species					,		γ		Footnotes
Species					,		γ		Footnotes
Species					,		γ		Footnotes
Species					,		γ		Footnotes
Species					,		γ		Footnotes

RHMP/ Bight '13 - Bioaccumulation and Plastic Ingestion Special Studies Field Datasheet - FISH

4000			1 10	iu Da	tasneet -	1 1011				
Station	Sile	8109	SD	Ba	<u> </u>					Page 1_of
Date	9-3-				,			Comp	leted by:	Page 1 of 1
FISH SPECIE	S TRAWL - BI	OACCUMULATION	ON							
Species			Trawl #	N	Size Range (SL)	Gross	Weight (kg Tare) Net	Photo (Y/N)	Footnotes
Ca. L	lalibot			6	13-26				Y	
	1 Sand	Bass	i	6811	18-20				4	
Barra	d South	P70100	+					-		
Bars	ed Smo	1 Bass	1	2	13,18				4	
		· .								
	 ;		-							
FISH SPECIE	S - PLASTIC	INGESTION								
					Cina Danna		Weight (kg	3)	Photo	<u></u>
Spaciae			T	I 61	Size Range					Footnotes
Species			Trawl #	N	(SL)	Gross	Tare	Net	(Y/N)	Footnotes
	roud Fig	L	Trawl #	N 75			Τ	Net		Footnotes
	rard Fig	L	Trawl #	75	(SL) 9-29		Τ	Net	(Y/N)	Footnotes
	and Figh Suc Figh	h 165+	Trawl#		(SL) 9-29		Τ	Net	(Y/N)	Footnotes
	roud Figh Suc Figh Hed Tu	160+	Trawl#	75	9-29 9-11		Τ	Net	(Y/N)	Footnotes
	roud Figh Suc Figh Hed Tu	160+	Trawl#	75	9-29 9-11		Τ	Net	(Y/N)	Footnotes
	roud Figh Suc Figh Hed Tu	h	Trawl#	75	9-29 9-11		Τ	Net	(Y/N)	Footnotes
	and Figh Hed Tu	h	Trawl#	75	9-29 9-11		Τ	Net	(Y/N)	Footnotes
Tone	roud Figh Suc Figh Hed Tu	h	Trawl#	75	9-29 9-11		Τ	Net	(Y/N)	Footnotes
Liz Tone Spor	and Figh Hed Tu	h	Trawl#	75	9-29 9-11		Τ	Net	(Y/N)	Footnotes
Tone	roud Fish Suc Fish Hed Tu	h	Trawl#	75	9-29 9-11		Τ	Net	(Y/N)	Footnotes

RHMP/ Bight '13 - Bioaccumulation and Plastic Ingestion Special Studies Field Datasheet - FISH

Station	Site 8118	Page <u></u> of <u></u>
Date	9-3-13	Completed by: C. Stransky

FISH SPECIES TRAWL - BIOACCUMULATION

Smaailaa .	Tuesd 4	N.T	Size Range	Weight (kg)			Photo	Es atmatas
Species	Trawl #	N	(SL)	Gross	Tare	Net	(Y/N)	Footnotes
Sand Bass		7	140-150				<i>प</i>	
Spotted Bash Bass	l	1	£ 250 m	h				
Fanta: Sole * Some as		Z	220cm				6	
CA Halibut	2	10	17-25				1	
Burnel Sand Buss	2	17	12-20					
Spetted Sand Bass	Z	2	19-21		ı		7	
	-				·			

FISH SPECIES - PLASTIC INGESTION

₹ Species	Trawl #		Size Range	Weight (kg)			Photo	F44
ppecies	irawi#	N	(SL)	Gross	Tare	Net	(Y/N)	Footnotes
Lizzard Fish	8	36	116-270				٧	
TORENT [16] (OF bioaccom)	*	_3	97-123				1	
Fantail Solo (Or biocucum)	ZI	2.	7 20 cm				4	
Lizzard Figh	2	71	16-28				7	
Tongue Fish	2	6	9-11		X			
white scabass	2_)	21					

Comments:	
Trail 1 - failed due to a hung door	
•	

	IOACCUMUL T1 #		Ī	Weight (kg	3)	Photo	
pecies	Trawl #	N 	Gross	Tare	Net	(Y/N)	Footnotes
Jeticina lepractis?	12						FIDE
Far Gantepenaeus	2	2	200	95	105	Y	
californiensis		••					·
Trassostria so.						÷	
,							
		-		•			
		-		l <u>.</u>			