


Attachment 1: Chain of Custody Forms

Fiscal Year: 1011 Project ID: 10SWSBG1 SWB_FishRiv_2011			Contact Person: Autumn Bonnema			Phone: 831-771-4175				
Field Crew			Address							
Mailing Address			7544 Sandholdt Road							
7544 Sandholdt Road			City			State		Zip		
Moss Landing			CA			Moss Landing		CA 95039		
			email: bonnema@mml.calstate.edu							
Sample Identification/Location			Analysis Requested		BOG Analyte List	Sample Type		# of Containers	Preservation	
						Fish		Foil Wrap in plastic	Temp	
StationCode	StationName		BagID		Collection Date					
Comments/Special Instructions										
Please see AA form for compositing and analysis instructions										
Samples Relinquished By (Signature)			Print Name and Date			Received By (Signature)			Print Name and Date	

SWAMP REQUEST FOR ANALYSIS AND CHAIN OF CUSTODY (COC) RECORD

Analysis Authorization		Project ID: SWB_FishRiv_2010		Contact Person: Autumn Bonnema				
Fiscal Year: 1011		Season:		Phone: 831-771-4175				
Region:		Date:		email: bonnema@mlml.calstate.edu				
LabSampleID	Comp ID	Station Name	Species	BagID	Sample Date	Tissue Organics	# of Containers 60ml Glass	Preservation Frozen
TOTAL						0	0	
Comments:		Please see AA form for explicit instructions and data reporting format.						
		Earliest sample collected 04/19/210						
Samples Relinquished by:				Samples Received by:				
Name (Print and Sign)		Date		Name (Print and Sign)		Date		

Attachment 2: Field Data Sheets

SWAMP Tissue Sampling - Non-Trawl (Event Type = TI)				Entered in d-base (initial/date)		Pg of Pgs	
*StationCode: _____		*StationName: _____		*Trip: _____		*Sampling Crew: _____ Agency: _____	
*FundingCode1: 10SWBG01		*Date (mm/dd/yyyy): / /					
*FundingCode2: _____		ArrivalTime: _____		*Purpose (circle all appl.): Tissue Habitat		*Purpose Failure: _____	
*ProjectCode: SWB_FishRiv_2011		DepartureTime: _____		BEAUFORT SCALE (see attachment): _____		WIND DIRECTION (from): _____	
HabitatObs (CollectionMethod= Not App.) associated w Location1						PHOTOS (RB & LB assigned when facing downstream; RENAME to StationCode_yyyy_mm_dd_uniquecode)	
DOMINANTSUBSTRATE: Concrete, Cobble, Gravel, Sand, Mud, Other _____ unkl						1: (RB / LB / BB / US / DS / ##)	
WATERCLARITY: Clear (see bottom), Cloudy (>4" vis), Murky (<4" vis)		WATERCOLOR: Colorless, Green, Yellow, Brown				2: (RB / LB / BB / US / DS / ##)	
OTHER PRESENCE: Foam, OilySheen, None, Trash, MacroAlgae, Other _____						3: (RB / LB / BB / US / DS / ##)	
Comments: _____							
OCCUPATIONMETHOD: Walk-in / Boat (RV _____)				GPS Model: _____		Datum: NAD83 Other _____	
Location:	Bank/MidChan # _____	*StationDepth(m): _____	*StationWidth(m): _____	DistanceFromBank(m): _____	Coordinate	accur (ft/m)	Lat (dd.dxxxx) Long (-ddd.dxxxx)
COLLECTION METHOD:	Hook, Net, Seine, Trap, Shock			Start Time	1		
COLLECTIONDEVICE:	Hook/Line, Gill Net (mesh size) _____ Backpack, Seine, Other _____			End Time	2		
HYDROMODIFICATION:	None, Bridge, Pipes, Concrete Channel, Pier, Rip-rap, Hatchery			End Time	3		
HYDROMODLOC(to sample):	US / DS / NA / VI	Other _____ GEOSHAPE: Line Poly Point		End Time	4		
Location:	Bank/MidChan # _____	*StationDepth(m): _____	*StationWidth(m): _____	DistanceFromBank(m): _____	Coordinate	(ft/m)	Lat (dd.dxxxx) Long(-ddd.dxxxx)
COLLECTION METHOD:	Hook, Net, Seine, Trap, Shock			Start Time	1		
COLLECTIONDEVICE:	Hook/Line, Gill Net (mesh size) _____ Backpack, Seine, Other _____			End Time	2		
HYDROMODIFICATION:	None, Bridge, Pipes, Concrete Channel, Pier, Rip-rap, Hatchery			End Time	3		
HYDROMODLOC(to sample):	US / DS / NA / VI	Other _____ GEOSHAPE: Line Poly Point		End Time	4		
Location:	Bank/MidChan # _____	*StationDepth(m): _____	*StationWidth(m): _____	DistanceFromBank(m): _____	Coordinate	(ft/m)	Lat (dd.dxxxx) Long (-ddd.dxxxx)
COLLECTION METHOD:	Hook, Net, Seine, Trap, Shock			Start Time	1		
COLLECTIONDEVICE:	Hook/Line, Gill Net (mesh size) _____ Backpack, Seine, Other _____			End Time	2		
HYDROMODIFICATION:	None, Bridge, Pipes, Concrete Channel, Pier, Rip-rap, Hatchery			End Time	3		
HYDROMODLOC(to sample):	US / DS / NA / VI	Other _____ GEOSHAPE: Line Poly Point		End Time	4		
Failure Codes: Dry (no water), Instrument Failure, No Access, Non-sampleable, Pre-abandoned, Other							
Collection Comments: _____							
Modified8/14/2011							

Fish Species	Species Code
American shad	AMS
black crappie	BCR
bluegill	BGL
black bullhead	BLB
blue catfish	BLC
brown trout	BNT
brown bullhead	BRB
brook trout	BRT
carp, common	CAR
channel catfish	CHC
chinook salmon	CHS
coho salmon	COH
California roach	CRH
delta smelt	DTS
flathead catfish	FHC
fathead minnows	FHM
goldfish	GLF
golden trout	GLT
green sunfish	GRS
hitch	HIT
hardhead	HRH
inland silverside	ISS
killifish	KIL
kokanee salmon	KOK
lamprey	LAM
longfin smelt	LFS
lake trout	LKT
largemouth bass	LMB
mosquitofish	MQF
pumpkinseed sunfish	PKS

Fish Species	Species Code
rainbow trout	RBT
redeye bass	REB
redeer sunfish	RES
red shiner	RSR
Sacramento sucker	SAS
Sacramento blackfish	SBF
sculpin ssp	SCP
shiner perch	SHP
smallmouth bass	SMB
spotted bass	SPB
Sacramento perch	SPH
Sacramento pike minnow	SPM
Sacramento splittail	SST
striped bass	STB
steelhead	STH
striped mullet	STM
sturgeon, white	WST
threadfin shad	TFS
tilapia ssp	TIL
topsmelt	TPS
threespine stickleback	TSS
tui chub	TUC
tule perch	TUP
warmouth	WAR
white crappie	WCR
white catfish	WHC

Notes to Standardize SWAMP Field Data Sheets (For in the field use)

Key Reminders to identify samples:

1. **Sample Time** is the SAME for all samples (Water, Sediment, & Probe) taken at the sampling event. Use time of FIRST sample; important for COC.
2. **Group**; many different ways to do a group, one suggestion is to create groups which assign trips to assess frequency of field QA

Collection Details

1. **Personnel**: S. Mundell, G Ichikawa (first person listed is crew leader)
2. **Location**: Use "openwater" in bay/estuary/harbor only if no distinguishable channel exists
3. **GRAB vs INTEGRATED**: GRAB samples are when bottles are filled from a single depth; INTEGRATED sample are taken from MULTIPLE depths and combined.
 - a. GRAB: use 0.1 for subsurface samples; if too shallow to submerge bottle; depth =0
 - b. INTEGRATED: -88 in depth sampled, record depths combined in sample comments
4. **TARGET LAT/LONG**: Refers to the existing station location that the sampling crew is trying to achieve; can be filled out prior to sampling
5. **ACTUAL LAT/ LONG**: is the location of the current sample event.
6. **HYDROMODIFICATION**: Describe existing hydromodifications such as a grade control, drainage pipes, bridge, culvert
7. **HYDROMOD LOC**: if there is an IMMEDIATE (with in range potentially effecting sample) hydromodification; Is the hydromodification upstream/downstream/within area of sample; if there is no hydromodification, NA is appropriate
8. **STREAM WIDTH and DEPTH**: describe in meters at point of sample.

FIELD OBSERVATIONS: (each one of these observations has a comment field in the database so use comment space on data sheet to add information about an observation if necessary)

1. **PICTURES**: use space to record picture numbers given by camera; be sure to rename accordingly back in the office. (StationCode_yyyy_mm_dd_uniquecode)
2. **WADEABILITY**: in general, is waterbody being sampled wadeable to the average person AT the POINT of SAMPLE
3. **DOMINANT SUBSTRATE**: if possible; describe DOMINANT substrate type; use UNK if you cannot see the dominant substrate type
4. **BEAUFORT SCALE**: use scale 0-12; refer to scales listed below.
5. **WIND DIRECTION**: records the direction from which the wind is blowing
6. **OTHER PRESENCE**: VASCULAR refers to terrestrial plants or submerged aquatic vegetation (SAV) and NONVASCULAR refers to plankton, periphyton etc. These definitions apply to vegetation IN the water at the immediate sampling area.
7. **OBSERVED FLOW**: Visual estimates in cubic feet/ second.
8. **WATER COLOR**: This is the color of the water from standing creek side
9. **WATER CLARITY**: this describes the clarity of the water while standing creek side; clear represents water that is clear to the bottom, cloudy may not be clear to bottom but greater than 4" can be seen through the water column.
10. **SedimentComp**: generally described sediments used for chemistry sample

Note: these reminders do not give all details needed to maintain equivalent SWAMP sampling protocols, they are strictly for "infield" use to help insure comparability of field observations.

BEAUFORT SCALE: Specifications and equivalent speeds for use at sea

FORCE	EQUIVALENT SPEED		DESCRIPTION	SPECIFICATIONS FOR USE AT SEA
	10 m above ground			
	miles/hour	knots		
0	0-1	0-1	Calm	Sea like a mirror
1	1-3	1-3	Light air	Ripples with the appearance of scales are formed, but without foam crests.
2	4-7	4-6	Light breeze	Small wavelets, still short, but more pronounced. Crests have a glassy appearance and do not break.
3	8-12	7-10	Gentle breeze	Large wavelets. Crests begin to break. Foam of glassy appearance. Perhaps scattered white horses.
4	13-18	11-16	Moderate breeze	Small waves, becoming larger; fairly frequent white horses.
5	19-24	17-21	Fresh breeze	Moderate waves, taking a more pronounced long form; many white horses are formed. Chance of some spray.
6	25-31	22-27	Strong breeze	Large waves begin to form; the white foam crests are more extensive everywhere. Probably some spray.
7	32-38	28-33	Near gale	Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of the wind.
8	39-46	34-40	Gale	Moderately high waves of greater length; edges of crests begin to break into spindrift. The foam is blown in well-marked streaks along the direction of the wind.
9	47-54	41-47	Severe gale	High waves. Dense streaks of foam along the direction of the wind. Crests of waves begin to topple, tumble and roll over. Spray may affect visibility.
10	55-63	48-55	Storm	Very high waves with long overhanging crests. The resulting foam, in great patches, is blown in dense white streaks along the direction of the wind. On the whole the surface of the sea takes on a white appearance. The 'tumbling' of the sea

Source:

Last edited on 09 January, 1999 Dave Wheeler weatherman@zetnet.co.uk
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heavy and shock-like. Visibility affected.

BEAUFORT SCALE: Specifications and equivalent speeds for use on land

FORCE	EQUIVALENT 10 m above ground miles/hour	SPEED knots	DESCRIPTION	SPECIFICATIONS FOR USE ON LAND
0	0-1	0-1	Calm	Calm; smoke rises vertical.
1	1-3	1-3	Light air	Direction of wind shown by smoke drift, but not by wind vanes
2	4-7	4-6	Light Breeze	Wind felt on face; leaves rustle; ordinary vanes moved by wind
3	8-12	7-10	Gentle Breeze	Leaves and small twigs in constant motion; wind extends light flag
4	13-18	11-16	Moderate Breeze	Raises dust and loose paper; small branches are moved.
5	19-24	17-12	Fresh Breeze	Small trees in leaf begin to sway crested wavelets form on inland waters
6	25-31	22-27	Strong Breeze	Large branches in motion; whistling heard in telegraph wires umbrellas used with difficulty
7	32-38	28-33	Neargale	Whole trees in motion; inconvenience felt when walking against the wind
8	39-46	34-40	Gale	Breaks Twigs and generally impedes progress

Source:

Last edited on 09 January, 1999 Dave Wheeler weatherman@zetnet.co.uk
Web Space kindly provided by Zetnet Services Ltd, Lerwick, Shetland.

Attachment 4: Laboratory Data Sheets

SWAMP Lab Data Sheet - FISH		ProjectID: SWB_FishRiv_2011		PrepPres:		LabID:		Pg: 1 of 2 Pgs				
StationCode:			Tissue: Fillet			Entered d-base (initial/date)						
StationName:			Homog. Method: BUCCHI POLYTRON OTHER			Staff: Diss. Homog.						
Species Name:			Date Diss. (mm/dd/yyyy): / /			Date Homog. (mm/dd/yyyy): / /						
#	Tissue/Bag ID	Fish #	Organism ID	Composite / Individual ID	FL (mm)	TL (mm)	Whole Fish Wt (g)	Part Wt (g)	Sex	Part	Anomaly	Body Location
1									M / F / Unk	T / L / O		
2									M / F / Unk	T / L / O		
3									M / F / Unk	T / L / O		
4									M / F / Unk	T / L / O		
5									M / F / Unk	T / L / O		
6									M / F / Unk	T / L / O		
7									M / F / Unk	T / L / O		
8									M / F / Unk	T / L / O		
9									M / F / Unk	T / L / O		
10									M / F / Unk	T / L / O		
11									M / F / Unk	T / L / O		
12									M / F / Unk	T / L / O		
13									M / F / Unk	T / L / O		
14									M / F / Unk	T / L / O		
15									M / F / Unk	T / L / O		
16									M / F / Unk	T / L / O		
17									M / F / Unk	T / L / O		
18									M / F / Unk	T / L / O		
19									M / F / Unk	T / L / O		
20									M / F / Unk	T / L / O		
21									M / F / Unk	T / L / O		
22									M / F / Unk	T / L / O		
23									M / F / Unk	T / L / O		
24									M / F / Unk	T / L / O		
25									M / F / Unk	T / L / O		

OrganismID: xxxxxxxxLLXX##YYZz-ZZ; unique code - StationCode (xxxxxxxx), Location (LL), Project (XX), ProjectYear (##), OrganismCode (YYY), Bag # (zz), Fish # (ZZ); ex. 203SRF101L1SW04CAR01-01

TissueID: Differentiates different parts from same fish or differentiates composited vs. individual fish **Part:** Tissue (T), Liver (L), Other (O) - list in Comments

Comp/IndID: Unique code; include Agency code in the ID; e.g., 2003-1823-MLML or C031501-MLML

Anomalles: Ambicoloration (A), Albinism (B), Cloudiness (CL), Deformity-skeletal (D), Discoloration (DC), Depression (DS), Fin Erosion (F), Gill Erosion (T), Hemorrhage (H), Lesion (L), Parasite (P).

Body Locations: Branchial Chamber (BRC), Buccal Cavity (BC), Eyes (E), Musculoskeleton (M), Skin/Fins (SF) Popeye (PE), Tumor (T), Ulceration (U), White Spots (W), and any combination

Comments: Measure length to nearest 1 mm; Measure weight to nearest 0.01 g; Keep archive tissue if possible; If a duplicate is made, use DupID as identification for analysis

Modified 06/08/07

SWAMP Lab Data Sheet - FISH		ProjectID: SWB_FishRiv_2011	PrepPres: Skin OFF	LabID:	Pg: 1 of 2 Pgs
StationCode:		Tissue: Fillet		Entered d-base (initial/date)	
StationName:		Homog. Method: BUCCHI POLYTRON OTHER_____		Staff: Diss.	Homog.
Species Name:		Date Diss. (mm/dd/yyyy): / /		Date Homog. (mm/dd/yyyy): / /	
CHEMISTRY JARS					
Composite/Individual ID:		Composite/Individual ID:		Composite/Individual ID:	
Analysis: Mercury Organics Archive		Analysis: Mercury Organics Archive		Analysis: Mercury Organics Archive	
Jar Weight Full (g): _____		Jar Weight Full (g): _____		Jar Weight Full (g): _____	
Jar Weight Empty (g): _____		Jar Weight Empty (g): _____		Jar Weight Empty (g): _____	
Comp Tissue Wt (Jar Full - Empty; g): _____		Comp Tissue Wt (Jar Full - Empty; g): _____		Comp Tissue Wt (Jar Full - Empty; g): _____	
Duplicate: Yes / No DUP ID:		Dup: Yes / No DUP ID:		Duplicate: Yes / No DUP ID:	
Composite/Individual ID:		Composite/Individual ID:		Composite/Individual ID:	
Analysis: Mercury Organics Archive		Analysis: Mercury Organics Archive		Analysis: Mercury Organics Archive	
Jar Weight Full (g): _____		Jar Weight Full (g): _____		Jar Weight Full (g): _____	
Jar Weight Empty (g): _____		Jar Weight Empty (g): _____		Jar Weight Empty (g): _____	
Comp Tissue Wt (Jar Full - Empty; g): _____		Comp Tissue Wt (Jar Full - Empty; g): _____		Comp Tissue Wt (Jar Full - Empty; g): _____	
Duplicate: Yes / No DUP ID:		Dup: Yes / No DUP ID:		Duplicate: Yes / No DUP ID:	
Composite/Individual ID:		Composite/Individual ID:		Composite/Individual ID:	
Analysis: Mercury Organics Archive		Analysis: Mercury Organics Archive		Analysis: Mercury Organics Archive	
Jar Weight Full (g): _____		Jar Weight Full (g): _____		Jar Weight Full (g): _____	
Jar Weight Empty (g): _____		Jar Weight Empty (g): _____		Jar Weight Empty (g): _____	
Comp Tissue Wt (Jar Full - Empty; g): _____		Comp Tissue Wt (Jar Full - Empty; g): _____		Comp Tissue Wt (Jar Full - Empty; g): _____	
Duplicate: Yes / No DUP ID:		Dup: Yes / No DUP ID:		Duplicate: Yes / No DUP ID:	
Composite/Individual ID:		Composite/Individual ID:		Composite/Individual ID:	
Analysis: Mercury Organics Archive		Analysis: Mercury Organics Archive		Analysis: Mercury Organics Archive	
Jar Weight Full (g): _____		Jar Weight Full (g): _____		Jar Weight Full (g): _____	
Jar Weight Empty (g): _____		Jar Weight Empty (g): _____		Jar Weight Empty (g): _____	
Comp Tissue Wt (Jar Full - Empty; g): _____		Comp Tissue Wt (Jar Full - Empty; g): _____		Comp Tissue Wt (Jar Full - Empty; g): _____	
Duplicate: Yes / No DUP ID:		Dup: Yes / No DUP ID:		Duplicate: Yes / No DUP ID:	
Composite/Individual ID:		Composite/Individual ID:		Composite/Individual ID:	
Analysis: Mercury Organics Archive		Analysis: Mercury Organics Archive		Analysis: Mercury Organics Archive	
Jar Weight Full (g): _____		Jar Weight Full (g): _____		Jar Weight Full (g): _____	
Jar Weight Empty (g): _____		Jar Weight Empty (g): _____		Jar Weight Empty (g): _____	
Comp Tissue Wt (Jar Full - Empty; g): _____		Comp Tissue Wt (Jar Full - Empty; g): _____		Comp Tissue Wt (Jar Full - Empty; g): _____	
Duplicate: Yes / No DUP ID:		Dup: Yes / No DUP ID:		Duplicate: Yes / No DUP ID:	
Comments: Keep archive tissue if possible; If a duplicate is made, use Dup ID as identification for analysis					