



SWAMP DATA MANAGEMENT PLAN

Toxicity Template

Surface Water Ambient Monitoring Program

November 13, 2014



http://www.waterboards.ca.gov/water_issues/programs/swamp

TABLE OF CONTENTS

<i>E. Analytical Data</i>	3
1. WATER QUALITY AND TISSUE ANALYSIS AUTHORIZATION FORMS	3
4. TOXICITY DATA	5
<i>a. Toxicity Data Template</i>	5
<i>b. Formatting the Data</i>	5
i. Tox Results Worksheet	6
ii. Toxicity Summary Worksheet.....	20
iii. Tox Batch Worksheet.....	36
<i>c. LABQA</i>	38
<i>d. Special Circumstances</i>	38
i. Laboratory-generated QA samples (LABQA).....	38
ii. When a Salinity Control (or control other than the negative control) is Used	39
iii. Toxicity Test Treatment.....	39
iv. Interstitial Water (Pore Water) Analysis	40
<i>e. Converting the Data</i>	40
8. SUBMITTING DATA TO SWAMP DATA MANAGEMENT TEAM	41
<i>a. Checking Data for Quality Assurance</i>	41
i. SWAMP Laboratory QC Requirements	41
<i>b. File and Batch Naming Conventions</i>	41
<i>c. Data Submittal</i>	41
i. Online Data Checker and Submittal Process	42
<i>d. Data Resubmittal</i>	47



E. Analytical Data

The typical method for submitting Laboratory Analytical Data to the SWAMP Database is electronically through the [online data checker](#). This section will focus on the tools and steps involved in submitting these data.

The following information and business rules should be used in conjunction with the [2013 SWAMP QAPrP](#) for complete compliance with the SWAMP program including [measurement quality objectives](#) and required Quality Control (QC) samples. In general, SWAMP requires the reporting of accuracy, precision and blank QC samples. This includes analyses based on a standardized method which use a calculation to determine the result, e.g. Hardness as CaCO3. For toxicity, the control samples are expected to be reported. SWAMP does not store internal calibration standards. More information on [submitting data](#) to the SWAMP Data Management Team is also available.

1. WATER QUALITY AND TISSUE ANALYSIS AUTHORIZATION FORMS

Prior to a sampling event, it is helpful to organize and identify what analyses are to be performed by the different laboratories. For those organizations contracting with the Department of Fish and Wildlife (DFW) for sampling activity, the tool used for this expectation of work is called an Analysis Authorization Form.

The Analysis Authorization (AA) Form is provided to the labs in an electronic format prior to sampling. It is used as a detailed supplement to the Chain of Custody (COC) documentation that travels with the samples from the field to the lab. Should any discrepancy between the two types of documentation occur, contact the provider of the Analysis Authorization for further clarification.

An Analysis Authorization Form is an Excel workbook with various components. There is a worksheet for each laboratory that will be involved in analyzing the samples.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Analysis Authorization	Work Order	09-4-001	Contact Person:	Marco Sigala	Michael Lyons								
2	Contract	09-4-001	Group:	2011	Phone:	831-771-4173	MLYONS@waterboards.ca.gov							
3	Region:	4	Date:	May/June 2011	email:	msigala@miml.calstate.edu	(213) 576-6718							
4					Mailing Address:	7544 Sandholdt Rd.								
5						Moss Landing, CA 95039								
6														
7			Water	Water	Water	Water	Water	Water	Water	Water		Water	Water	Sediment
8			Inorganics ¹	Inorganics ²	Inorganics ³	Inorganics	TSS	SSC	DOC	Organics		Chl a	AFDM	Organics
9			1 L HDPE CL, CO4, ALK, TDS, SIO2	500ml HDPE Nutrients	125 ml HDPE OrthoPhosphate as P (dissolved, OPO4) Nitrite as N	125 ml HDPE Hardness as CaCO3	2L HDPE	1L HDPE	125ml Amber	Pyrethroids/Pyrethrins 8081B				Pyrethroids/Pyrethrins
10	Station	SampleType									SampleType			8081BM
11	FIELDQA	FieldBlank			x						FieldBlank			
12	FIELDQA	FieldBlank									FieldBlank			
13	FIELDQA	Grab	x	x	x	x	x	x	x	x	Integrated	x	x	x
14	FIELDQA	Grab									Integrated	x	x	
15	403S01136	Grab	x	x	x	x	x	x	x	x	Integrated	x	x	x
16	403S01536	Grab	x	x	x	x	x	x	x	x	Integrated	x	x	x
17	403S01728	Grab	x	x	x	x	x	x	x	x	Integrated	x	x	x
18	403S02363	Grab	x	x	x	x	x	x	x	x	Integrated	x	x	x
19	403S02764	Grab	x	x	x	x	x	x	x	x	Integrated	x	x	x
20	403S04868	Grab	x	x	x	x	x	x	x	x	Integrated	x	x	x
21	404S11880	Grab	x	x	x	x	x	x	x	x	Integrated	x	x	x
22	404S13416	Grab	x	x	x	x	x	x	x	x	Integrated	x	x	x
23	404S13672	Grab	x	x	x	x	x	x	x	x	Integrated	x	x	x
24	404S14952	Grab	x	x	x	x	x	x	x	x	Integrated	x	x	x
25	404S16232	Grab	x	x	x	x	x	x	x	x	Integrated	x	x	x
26	404S18666	Grab	x	x	x	x	x	x	x	x	Integrated	x	x	x
27	TOTAL		13	13	14	13	13	13	13	13		14	14	13
28	¹ Inorganics = Total Dissolved Solids (TDS), Sulfate (SO4), Alkalinity as CaCO3 (ALK), Chloride (CL), Silica as SIO2 (dissolved)													
29	² Inorganics = Ammonia as N (NH3), Nitrogen -Total (direct measurement), Nitrate as N (NO3), Phosphorous as P (total, TPPOS)													
30	³ Inorganics = Nitrite as N (NO2), OrthoPhosphate as P (dissolved, OPO4)													

- The lab-specific worksheet shows the Stations for which the samples are being collected along with a chart listing the variables that should be analyzed in each matrix for each Station.



- o This sheet also lists the general information for a sampling event, such as Region, Group, and Date. This information assists in maintaining consistency in reporting for all components of the sample in the database. Work Order and Contract Number are also listed.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	LabSampleID	StationCode	EventCode	ProtocolCode	LocationCode	SampleDate	CollectionTime	CollectionMethodCode	SampleTypeCode	Replicate	CollectionDepth	UnitCollectionDepth	ProjectCode	AgencyCode	CollectionComments	SampleID
2		FIELDQA	BA	Not Applicable	Not Applicable			None	FieldBlank	1	-88 m		RWB4_SMC_2011	MPSL-DFG		
3		FIELDQA	BA	Not Applicable	Not Applicable			None	FieldBlank	1	-88 m		RWB4_SMC_2011	MPSL-DFG		
4		FIELDQA	BA	SWAMP_2007_WS	X			Water_Grab	Grab	2	0.1 m		RWB4_SMC_2011	MPSL-DFG		
5		403S01136	BA	SWAMP_2007_WS	X			Water_Grab	Grab	1	0.1 m		RWB4_SMC_2011	MPSL-DFG		
6		403S01536	BA	SWAMP_2007_WS	X			Water_Grab	Grab	1	0.1 m		RWB4_SMC_2011	MPSL-DFG		
7		403S01728	BA	SWAMP_2007_WS	X			Water_Grab	Grab	1	0.1 m		RWB4_SMC_2011	MPSL-DFG		
8		403S02363	BA	SWAMP_2007_WS	X			Water_Grab	Grab	1	0.1 m		RWB4_SMC_2011	MPSL-DFG		
9		403S02764	BA	SWAMP_2007_WS	X			Water_Grab	Grab	1	0.1 m		RWB4_SMC_2011	MPSL-DFG		
10		403S04868	BA	SWAMP_2007_WS	X			Water_Grab	Grab	1	0.1 m		RWB4_SMC_2011	MPSL-DFG		
11		404S11880	BA	SWAMP_2007_WS	X			Water_Grab	Grab	1	0.1 m		RWB4_SMC_2011	MPSL-DFG		
12		404S13416	BA	SWAMP_2007_WS	X			Water_Grab	Grab	1	0.1 m		RWB4_SMC_2011	MPSL-DFG		
13		404S13672	BA	SWAMP_2007_WS	X			Water_Grab	Grab	1	0.1 m		RWB4_SMC_2011	MPSL-DFG		
14		404S14952	BA	SWAMP_2007_WS	X			Water_Grab	Grab	1	0.1 m		RWB4_SMC_2011	MPSL-DFG		
15		404S16232	BA	SWAMP_2007_WS	X			Water_Grab	Grab	1	0.1 m		RWB4_SMC_2011	MPSL-DFG		
16		404S18666	BA	SWAMP_2007_WS	X			Water_Grab	Grab	1	0.1 m		RWB4_SMC_2011	MPSL-DFG		
17		FIELDQA	BA	SWAMP_2007_WS	X			Algae_SWAMP	Integrated	2	-88 m		RWB4_SMC_2011	MPSL-DFG		
18		FIELDQA	BA	SWAMP_2007_WS	X			Algae_SWAMP	Integrated	2	-88 m		RWB4_SMC_2011	MPSL-DFG		
19		403S01136	BA	SWAMP_2007_WS	X			Algae_SWAMP	Integrated	1	-88 m		RWB4_SMC_2011	MPSL-DFG		
20		403S01536	BA	SWAMP_2007_WS	X			Algae_SWAMP	Integrated	1	-88 m		RWB4_SMC_2011	MPSL-DFG		
21		403S01728	BA	SWAMP_2007_WS	X			Algae_SWAMP	Integrated	1	-88 m		RWB4_SMC_2011	MPSL-DFG		
22		403S02363	BA	SWAMP_2007_WS	X			Algae_SWAMP	Integrated	1	-88 m		RWB4_SMC_2011	MPSL-DFG		
23		403S02764	BA	SWAMP_2007_WS	X			Algae_SWAMP	Integrated	1	-88 m		RWB4_SMC_2011	MPSL-DFG		
24		403S04868	BA	SWAMP_2007_WS	X			Algae_SWAMP	Integrated	1	-88 m		RWB4_SMC_2011	MPSL-DFG		
25		404S11880	BA	SWAMP_2007_WS	X			Algae_SWAMP	Integrated	1	-88 m		RWB4_SMC_2011	MPSL-DFG		
26		404S13416	BA	SWAMP_2007_WS	X			Algae_SWAMP	Integrated	1	-88 m		RWB4_SMC_2011	MPSL-DFG		
27		404S13672	BA	SWAMP_2007_WS	X			Algae_SWAMP	Integrated	1	-88 m		RWB4_SMC_2011	MPSL-DFG		
28		404S14952	BA	SWAMP_2007_WS	X			Algae_SWAMP	Integrated	1	-88 m		RWB4_SMC_2011	MPSL-DFG		
29		404S16232	BA	SWAMP_2007_WS	X			Algae_SWAMP	Integrated	1	-88 m		RWB4_SMC_2011	MPSL-DFG		
30		404S18666	BA	SWAMP_2007_WS	X			Algae_SWAMP	Integrated	1	-88 m		RWB4_SMC_2011	MPSL-DFG		
31		FIELDQA	BA	SWAMP_2007_WS	X			Sed_Grab	Integrated	2	2 cm		RWB4_SMC_2011	MPSL-DFG		
32		403S01136	BA	SWAMP_2007_WS	X			Sed_Grab	Integrated	1	2 cm		RWB4_SMC_2011	MPSL-DFG		
33		403S01536	BA	SWAMP_2007_WS	X			Sed_Grab	Integrated	1	2 cm		RWB4_SMC_2011	MPSL-DFG		
34		403S01728	BA	SWAMP_2007_WS	X			Sed_Grab	Integrated	1	2 cm		RWB4_SMC_2011	MPSL-DFG		
35		403S02363	BA	SWAMP_2007_WS	X			Sed_Grab	Integrated	1	2 cm		RWB4_SMC_2011	MPSL-DFG		
36		403S02764	BA	SWAMP_2007_WS	X			Sed_Grab	Integrated	1	2 cm		RWB4_SMC_2011	MPSL-DFG		

- The **Data** worksheet provides the sample information in the correct format for the laboratory to paste into the template or transformer in order to enter the analysis results.
- The **LabBatch** worksheet lists the headers needed for the chemistry template.
- A **DataExample** worksheet is also listed which gives an example of the final formatting of the chemistry template.
- The remaining worksheets are named by analytical method and include SWAMP organic analytes and the SWAMP target reporting limits for each of those analytes.

Regardless of whether an organization chooses to use these Analysis Authorization Forms, or others like them that serve the same purpose, they are useful tools to help communicate and maintain consistency regarding samples collected and analyzed. If interested, contact the SWAMP DMT to receive an electronic version of an AA form template.



4. TOXICITY DATA

Toxicity Data consists of Toxicity Test and Results data along with Toxicity Summary data for each effort, which is based on the replicate data. The toxicity data is submitted to the SWAMP database in three worksheets; Results, Summary, and ToxBatch.

a. Toxicity Data Template

The Toxicity Data Template is available online at <http://swamp.mpsl.mlml.calstate.edu/resources-and-downloads/database-management-systems/swamp-25-database/templates-25/#Tox>.

b. Formatting the Data

A Microsoft Excel template exists for laboratories to use to format the toxicity laboratory data in a manner that can be easily loaded into the SWAMP database. As previously discussed, for many labs working under the SWAMP master contract, the station collection information can be obtained from the Analysis Authorization form. This section will discuss each of the fields in the template and how to populate them.

All valid LookUp list values are available at http://checker.swamp.mpsl.mlml.calstate.edu/SWAMP_Checker/LookUpLists.php. At any time, if the necessary field does not appear in the LookUp list, the SWAMP Data Management Team (DMT) must be contacted to have it added.



i. Tox Results Worksheet

There are three worksheets that must travel with the data for the toxicity data package to be considered complete. The first holds all toxicity results, including quality control (QC) data, and should be named **Results** in a Microsoft Excel worksheet tab. Each record in this sheet represents a result from a specific analysis for a particular parameter at a single station or for a single QC sample. This worksheet will also contain all supporting QC sample results. If beginning with an Analysis Authorization, the following fields will likely be pre-populated in the **Data** worksheet: *EventCode*, *ProtocolCode*, *StationCode*, *LocationCode*, *CollectionMethodCode*, *SampleTypeCode*, *Replicate*, *CollectionDepth*, *UnitCollectionDepth*, *ProjectCode*, and *Agency Code*. Please note that all fields are required to be populated except when otherwise noted below. Examples of special types of samples are listed in the [Special Circumstances](#) section.

(Note that the fields through Dilution are identical to those in the summary worksheet)

Template Field Name	LookUp List	Description & Business Rules
LabSampleID		<p>The LabSampleID is a required field intended to provide lab specific identification for an analyzed sample.</p> <p>BR: The format and content is determined by the lab however, it is preferable to add -Dup to the end of the ID to help confirm the SampleType and the LabSampleID of the native sample. For LABQA samples the preferred format is Lab_ToxBatch/Unique Info_CNEG or CNSL, e.g. GC_SpOT 15_CNEG or UCD-ATL_053112_High EC Control_2500 uScm_CNSL. Refrain from using non-alphanumeric characters (e.g. /, @, %, μ). The QAControlID will indicate the LabSampleID used for statistical comparisons.</p>



Template Field Name	LookUp List	Description & Business Rules
StationCode	StationLookUp	<p>StationCode represents a unique sampling site in a sampling design. A single waterbody may have multiple stations.</p> <p>BR: StationCode should represent a geographic location not a geographic location combined with a replicate reference. There cannot be multiple StationCodes and/or StationNames in the StationLookUp with the same target latitude/longitude coordinates.</p> <p>The format for the unique alphanumeric description of the station is ###ABC123, where ### is the first 3 digits preceding the decimal in the Calwater Watershed ID Number from CALWater221 data layer and ABC123 is a minimum of 3 and a maximum of 6 character length combination of an alphanumeric description of the Station. One example is 103SM6897 which is Regional Board/Hydrologic Unit Number 103 and an abbreviated code to indicate "Smith River above South Fork". Another example is 304SOK which is Regional Board/Hydrologic Unit Number 304 and an abbreviated code to indicate "Soquel Creek at Knob Hill Parking Lot".</p> <p>If the correct Hydrologic Unit is not known, populate the first number with the regional board number; i.e. the station is known to be in California Regional Water Board 3, the StationCode would be 300##### or 300###. If the station is not in California (Nevada, Arizona, Oregon, Mexico, etc.), the Regional Board/Hydrologic Unit Number is 000, for example 000MLP1xx.</p>



Template Field Name	LookUp List	Description & Business Rules
EventCode	<u>EventLookUp</u>	<p>EventCode represents the primary intent of the sampling event at a particular station.</p> <p>BR: The EventCode will be in a hierarchical order as follows:</p> <p>BA – If the initial intent of sampling is for Bioassessment (PHab, BMI [freshwater], and/or Algae) (Tissue and/or WaterQuality samples may or may not also be collected)</p> <p>TI – If the initial intent of sampling is for Tissue (WaterQuality samples may or may not also be collected; no associated Bioassessment samples collected)</p> <p>WQ – If the initial intent of sampling is for WaterQuality (Water, Sediment, Toxicity, and/or Marine Benthic Abundance) (no associated Bioassessment or Tissue samples collected)</p> <p>For example, if the initial intent of sampling on Day 1 was for Tissue and WaterQuality, the EventCode would be TI. If for some reason the WaterQuality had to be re-sampled the next day, on Day 2, the event for the re-sampling would still be TI because Tissue was the initial intent of sampling on Day 1 even though WaterQuality was sampled on Day 2.</p>
ProtocolCode	<u>ProtocolLookUp</u>	<p>ProtocolCode represents the sampling protocol used, which includes the set of methods, methodology, and/or specifications; e.g. MPSL-DFG_Field_v1.0 or SWAMP_WS_2007. Established protocols may be used or regions may document their own sampling protocols.</p> <p>BR: It is preferable to combine protocols per StationCode and date so that all WaterQuality, Bioassessment, and Tissue data are combined under the same EventCode and Protocol. For example, if Tissue and WaterQuality are sampled at a station, the EventCode would be TI. If the protocols are different for Tissue and WaterQuality, the Tissue protocol would be used and the WaterQuality protocol would be listed in the SampleComments. If that is not preferable, separate EventCodes may be used with each individual protocol.</p> <p>Not Recorded is only used for historic data. All non-historic SWAMP projects require a true protocol reference. Not Applicable is used for LABQA and 000NONPJ samples only.</p>



Template Field Name	LookUp List	Description & Business Rules
LocationCode	<u>LocationLookUp</u>	<p>LocationCode describes the physical location in the waterbody where the sample was collected. One sampling event may have a single or multiple locations.</p> <p>BR: For a single point of sampling, the physical location in the waterbody can be used such as Bank, Thalweg, Midchannel, X (general location for bioassessments), OpenWater, or Transect 1.</p> <p>For field results, the LocationCode should be the same as the location for the WaterQuality collection method.</p> <p>For BA EventCode sampling, a location of X is used to associate the water quality, field measure, and taxonomy data to one bioassessment sampling location regardless of where they were sampled in the waterbody.</p> <p>For TI EventCode sampling, the physical location plus the CollectionMethod is used such as BankNet1, BankShock1, OpenWaterTrawl1, OpenWaterNet1. For resident mussel or clam collections, the LocationCode would be the physical location in the water body plus the generic CollectionMethod, e.g. BankTissue_Grab1.</p> <p>OpenWater sampling with multiple sub-locations within a single water body or station could have locations of OpenWaterTrawl1, OpenWaterTrawl2 describing one large location with two smaller areas of sampling within the OpenWater Location.</p> <p>Multiple physical locations within a single station could consist of a LocationCode such as BankShock1, BankNet1, OpenWaterHook1.</p> <p>If recording specific locations within a station are necessary for the project, a LocationCode such as Location1Net1, Location1Net2, Location2Shock1 may be used.</p>



Template Field Name	LookUp List	Description & Business Rules
SampleDate		<p>SampleDate refers to the date the sample was collected in the field.</p> <p>BR: The format for date in the templates is dd/mmm/yyyy, such as 10/Nov/2013. When entering data using the forms, the format is mm/dd/yy.</p> <p>For WQ samples with collection times that last longer than one day, like autosamplers, the sample date is the date sample was retrieved. For SPATT bags, the SampleDate is the date the bags were retrieved. For transplanted bivalves, the SampleDate is the date the transplanted organisms were collected, removed, or retrieved from the field. For overnight tissue collections, the SampleDate is the date the sample was retrieved.</p>
CollectionTime		<p>CollectionTime refers to the time when the first sample of a sampling event at a specific station was collected in the field.</p> <p>BR: If the sampling crew collects 18 bottles at a single station, the CollectionTime for each would be the time of the first bottle collected. By doing so, the samples can easily be linked and any holding time issues will be consistent and conservative for laboratory work.</p> <p>The CollectionTime format should be expressed as hh:mm in 24 hour time, such as 13:30 for 1:30 pm.</p> <p>For BA sampling events, the CollectionTime should reflect the shortest holding time for the chemistry samples that were collected. Other CollectionTimes (e.g., Field, Habitat, Benthic) may be different times than the LabCollectionTime.</p>
CollectionMethodCode	<u>CollectionMethodLookUp</u>	<p>CollectionMethodCode refers to the general method of collection such as Sed_Grab, Sed_Core, Water_Grab, Autosampler24h, Autosampler7d, PassiveSampler, Algae_SWAMP.</p> <p>BR: The SWAMP water default is Water_Grab and the sediment default is Sed_Grab.</p>



Template Field Name	LookUp List	Description & Business Rules
SampleTypeCode	<u>SampleTypeLookUp</u>	<p>SampleTypeCode refers to the type of sample collected or analyzed.</p> <p>BR: Some commonly used SampleTypeCode choices include Grab, Integrated, MS1, CRM, LCS, LabBlank, CNEG, Composite. If a bottle is broken, the submitting laboratory should leave the sample and collection row in the MS Excel results file but without any associated results. The SWAMP DMT will then update the SampleComment in the database to reflect the broken bottle and missing analyte.</p>
Replicate		<p>The Replicate number is used to distinguish between replicates created for a single collection in the field.</p> <p>BR: The default is 1. Field Duplicates/Replicates/Splits will be identified by a Replicate of 2. Field Blind Duplicates will be identified with a different SampleTypeCode of FieldBLDup, not a collection Replicate, because they are collected blind. Laboratory replicates will be identified by a replicate of 2 in the LabReplicate field, not a collection Replicate. The intent of any replicate greater than 1 is to compare the data to the native or first replicate.</p> <p>When field duplicates are collected, the samples are given a StationCode of FIELDQA and a SampleTypeCode of Grab or Integrated with a Replicate of 2. When the chemistry data are loaded into the database, the StationCode FIELDQA will be given the correct StationCode of the native sample and the Replicate will be used to distinguish the duplicate sample from the native sample. EventCode, ProtocolCode, LocationCode, SampleDate, CollectionTime, CollectionMethodCode, CollectionDepth, UnitCollectionDepth, ProjectCode and AgencyCode should be identical for both samples taken.</p>



Template Field Name	LookUp List	Description & Business Rules
CollectionDepth		<p>CollectionDepth records the level, from the surface in the water or sediment column, at which the sample was collected.</p> <p>BR: This information should be listed on the Chain of Custody (COC) document that accompanies the samples from the field or it is a default value if using the bioassessment field forms. CollectionDepth for water samples would be measured from the water surface and recorded in meters (m) while depth collected for sediment would be measured from the sediment surface and recorded in centimeters (cm).</p> <p>Since depths for ambient monitoring Grab samples are generally “subsurface”, defaults have been established to indicate this. For water samples, the default value is 0.1 m and for sediment samples, the default value is 2 cm. A single sediment core should receive a depth indicating the maximum depth of the core.</p> <p>For Integrated samples collected from the same depth at different points across a waterbody or for samples collected at multiple times, i.e. an autosampler, the actual sample depth should be recorded. This applies to both water and sediment samples. Integrated samples collected at multiple depths, i.e. samples integrated from the water column or multiple sediment cores, should receive a depth of -88 and the actual depths of collection should be recorded in the CollectionComments field.</p>
UnitCollectionDepth	<u>VariableCodesLookUp</u>	UnitCollectionDepth refers to the units used in the CollectionDepth including cm (centimeters) and m (meters). This information should be listed on the Chain of Custody (COC) document that accompanies samples from the field.
ProjectCode	<u>ProjectLookUp</u>	<p>ProjectCode is a unique code referencing a project which includes data from a single study design; e.g. RWB5_StS_FY0708, RWB2_Status_YR1, RWB7_Trend_2003, SWB_RCMP_2008.</p> <p>BR: ProjectCodes with FY in the name indicate samples were collected in a fiscal year calendar cycle, e.g. FY0708 would indicate fiscal year 2007-2008 which is July 1, 2007 through June 30, 2008. ProjectCodes without FY indicate samples were collected in a calendar year, e.g. 2003 would indicate calendar year 2003 which is January 1, 2003 through December 31, 2003. Each Project must have an associated QAPrP or Project QAPP listed. SWAMP moves data to the permanent side of the database by ProjectCode.</p>



Template Field Name	LookUp List	Description & Business Rules
AgencyCode	<u>AgencyLookUp</u>	<p>AgencyCode refers to the organization or agency that collected the sample. This should be listed on the Chain of Custody (COC) document that accompanies the samples from the field.</p> <p>BR: If an environmental sample is used to perform laboratory QC, i.e. a matrix spike or lab duplicate, the AgencyCode still refers to the agency that collected the native sample, not the agency that created the QC sample.</p> <p>See 'Special Circumstances' for LABQA business rules.</p>
LabCollectionComments (Not Required)		<p>LabCollectionComments records any comments relating to the collection of the field sample for laboratory analysis.</p> <p>BR: This field can also be used for laboratory QC samples, e.g. Matrix Spike was performed on a FieldBlank. If certain PurposeFailureCodes do not apply to all SampleTypeCodes, include this information in the LabCollectionComments field. If a sample collection is missing an expected bottle for an analyte or analyte group, or the bottle broke or was lost enroute to or at the laboratory, enter a comment here describing which analyte and why results are not reported. The submitting laboratory should not delete the sample row from the MS Excel file.</p>
SampleID (Not Required)		<p>SampleID is a unique identifier supplied by the organization directing the sampling or sampling agency and is used to track the sample throughout the sampling and analysis processes. This field can be used to tie a result to the sample.</p> <p>BR: This SampleID, which is different from the StationCode, will likely be on the sample container the laboratory receives from the field crew or on the COC. If there is no number, leave this field blank.</p>



Template Field Name	LookUp List	Description & Business Rules
MatrixName	<u>MatrixLookUp</u>	<p>MatrixName refers to the sample matrix. In cases where water or sediment are filtered to obtain a certain portion or fraction of the sample for analysis (not the dissolved portion of the analyte) the filtration size would be included in the MatrixName; e.g. sediment, <63um; samplewater, <125um. See ConstituentLookUp for Matrix, Method, Analyte, Fraction, and Unit combinations.</p> <p>BR: Water - For field-generated water samples, the MatrixName is samplewater. For lab-generated QC samples, the matrix should be the type of water that was used for the analysis of the sample, either labwater or blankwater. Labwater is water coming either directly from the tap in the laboratory or purchased spring water. Blankwater is laboratory Type I or Type II water, purchased reagent water or water that is run through a filtration process in a laboratory, such as Deionized (DI) or Milli-Q (MQ) water.</p> <p>Sediment - For field-generated sediment samples, the MatrixName is sediment. For lab-generated QC samples, blankmatrix could be used as the MatrixName which is a matrix used to identify a commercial- or lab-produced medium in tissue or sediment QC samples. If this is not the case then the MatrixName for lab-generated QC samples would be sediment which would include samples where water, solvent or nothing was used as a matrix.</p> <p>Tissue - For field-generated tissue samples, the MatrixName is tissue. For lab-generated QC samples, blankmatrix could be used as the MatrixName which is a matrix used to identify a commercial- or lab-produced medium in tissue or sediment QC samples. If this is not the case then the MatrixName for lab-generated QC samples would be tissue which would include samples where water, solvent or nothing was used as a matrix.</p>



Template Field Name	LookUp List	Description & Business Rules
MethodName	<u>MethodLookup</u>	<p>MethodName refers to the analysis method used by the laboratory to analyze the sample. See ConstituentLookup for Matrix, Method, Analyte, Fraction, and Unit combinations.</p> <p>BR: Methods are expressed with a MethodName such as SM 4500-NH3 C or EPA 600/R-99-064 and must be fully described in the Method Lookup list and in the laboratory records. If a laboratory has modified an EPA or Standard Method, the laboratory agency needs to add “M” to end of the MethodName. In such situations, the modification should be documented and communicated to the SWAMP DMT for notation in the database. For instance, a lab would report a modified EPA 600/R-99-064 as EPA 600/R-99-064M accompanied by a description of the modification made. Any method for the SWAMP Project which is not in the current SWAMP database lookup list must be approved by the SWAMP QA Team prior to being added to the database.</p> <p>For BA sampling, reference the most recent version of the Bioassessment Analyte and Location Crosswalk document on the QA section of the SWAMP stateboard website to help populate the correct constituent parameters for corresponding analytes and locations. This document will help in distinguishing the differences between the habitat and field methods FieldObservation, Field Measure, and ObservedFieldMeasure.</p>
TestDuration	<u>ToxTestDurLookup</u>	<p>ToxTestDurCode indicates the duration of the toxicity test as a number and includes the associated units.</p> <p>BR: Some methods allow for a test to be completed early if all the necessary data has been obtained. If this is the case, the ToxTestDurCode is recorded as the duration of the test initially indicated by the method. For example, a method indicates a 7 day test is to be performed but the laboratory ends the test one day early. The ToxTestDurCode would be 7 days, not 6 days.</p>
OrganismName	<u>OrganismLookup</u>	OrganismName refers to the scientific name of the species used in the toxicity test.
TestExposureType	<u>VariableCodesLookup</u>	The toxicity TestExposureType indicates whether the test method was Acute or Chronic.



Template Field Name	LookUp List	Description & Business Rules
ToxBatch		<p>The ToxBatch is assigned by the laboratory and groups all environmental samples and supporting QA samples within a unique analysis batch. It is used to compare field samples with the associated control for statistical analysis and will be used to verify completeness based on the SWAMP QAPrP.</p> <p>BR: The ToxBatch should be listed only one time in the ToxBatch worksheet for each unique ToxBatch found in the Results and Summary worksheets.</p> <p>Follow the File and Batch Name Convention to correctly identify the batch. It is recommended to include the start date and an abbreviation of the OrganismName in the lab-specific portion of the ToxBatch.</p>
QAControlID		<p>QAControlID is the LabSampleID of the control sample used for statistical comparisons for each sample.</p> <p>BR: The QAControlID can indicate a different LABQA LabSampleID used for each sample within a batch, i.e. the CNEG control may be used for statistical comparison on one sample in a toxicity batch while the CNSL control may be used on a different sample in the same toxicity batch. If an alternative control (other than CNEG) is used in the toxicity statistical analysis, the QACode should contain TAC (Alternative control used in toxicity statistical analysis).</p>
ToxTestComments (Not Required)		<p>Use the ToxTestComments field to note any comments necessary to describe special circumstances for the toxicity test for the specific record.</p>
Treatment	<u>AnalyteLookUp</u>	<p>Treatment refers to any treatment performed on the sample, such as a pH adjustment.</p> <p>BR: The default value is None.</p>
Concentration		<p>Concentration refers to the adjusted final concentration or value of the analyte applied to the toxicity sample, expressed as a number; e.g. pH adjustment to 7 or temperature adjustment to 15 degrees.</p> <p>BR: The default value is 0.</p>



Template Field Name	LookUp List	Description & Business Rules
UnitTreatment	<u>UnitLookUp</u>	UnitTreatment refers to the units used in the treatment. BR: If a Treatment did not occur, the default value is none.
Dilution		Dilution is recorded as a proportion of the original sample. A sample with 80% sample and 20% blankwater has a Dilution Value of 80. BR: If no dilution is performed, the default value of 100 is used.
LabReplicate		The LabReplicate identifies the individual splits of the toxicity sample and is used to identify from which replicate a result originated. BR: For toxicity replicates, the default is 1 and increases by one for each successive replicate. If a water quality measurement record is associated with a single replicate, it should have the same value as the replicate it measures. If the water quality measurements are taken at the sample level, the LabReplicate should be recorded as replicate 0. The intent of any replicate greater than 1 is to compare the data to the native or first replicate.
OrganismPerRep		OrganismPerRep is the number of organisms in each replicate at the start of the test. BR: In certain tests (e.g. fertilization, development) OrganismPerRep is the number of organisms counted at the end of the test. For ToxWQMeasurement the default value is 0.
ToxPointMethod	<u>MethodLookUp</u>	ToxPointMethod refers to the general method used in obtaining or calculating the result. BR: Toxicity replicate and summary data have a default value of None unless a method other than the test MethodName is used for the calculations. Water quality measurement results have a default value of ToxWQMeasurement.



Template Field Name	LookUp List	Description & Business Rules
AnalyteName	<u>AnalyteLookUp</u>	<p>AnalyteName refers to the parameter being measured.</p> <p>BR: Toxicity examples include Survival, Young/female, Biomass (weight/original individual), Growth (weight/surviving individual). Water quality measurement examples include pH, Ammonia as NH3, Salinity.</p> <p>The recommendation is Biomass be calculated for all fish species (total weight of surviving individuals divided by the original number of organisms at the start of the test) and Growth be calculated for Hyalella growth weight (total weight of surviving individuals divided by the number of survivors at the end of the test).</p>
FractionName	<u>FractionLookUp</u>	<p>FractionName is a specific descriptor of the Analyte.</p> <p>BR: For example, Ammonia as NH3 is expressed as Total or Unionized, each of which would be expressed as the Fraction, distinguishing the appropriate Analyte. If there is no need for further description of the analyte the default value is None.</p>
WQSource	<u>MatrixLookUp</u>	<p>WQSource differentiates between water quality measurements taken in the overlying water as well as in the interstitialwater of sediment.</p> <p>BR: Overlyingwater is used for the overlying water measurements which is the default for all water quality measurements. Sediment, Interstitialwater is used for the interstitial water measurements. Not Applicable is used for all toxicity results.</p>
TimePoint	<u>TimePointLookUp</u>	<p>TimePoint refers to the point in time during the test at which the measurement was recorded for water quality measurements.</p> <p>BR: For water quality measurements, timepoints such as initial or final are used to indicate the measurements recorded at the beginning and end of the test. High and low are used to indicate the highest and lowest values recorded for a particular sample during the entire length of the test. Day 2 is used to indicate a measurement taken on the 2nd day of the test.</p> <p>For toxicity measurements, the TimePoint should match the TestDuration value. So if a 7 day test is performed, the TimePoint for the toxicity results would be Day 7.</p>



Template Field Name	LookUp List	Description & Business Rules
UnitAnalyte	<u>UnitLookUp</u>	UnitAnalyte indicates the units used in the measurement of the AnalyteName.
Result		<p>Result is the numeric result of the test, stored as text to retain trailing zeros.</p> <p>BR: The toxicity Result is expressed as a real number rather than a calculation. The result should be reported with the appropriate number of significant figures.</p> <p>A result of 3.7266945 with 3 significant figures should be reported as 3.73.</p> <p>A result of 1.350 with 4 significant figures must display 1.350 in the individual cell in the Excel file. If you only see 1.35 in the cell, that is the result that will be loaded to the database and the 4th significant figure will be dropped.</p>
ResQualCode	<u>ResQualLookUp</u>	<p>The Result Qualifier Code or ResQualCode qualifies the analytical result of the sample.</p> <p>BR: For results that are considered detected, the ResQualCode should be populated with an equal sign (=). When a result is Not Detected a ResQualCode of ND is required.</p> <p>When the result is -88, a ResQualCode is required. If the ResQualCode value is NR for Not Recorded or NSI for No Surviving Individuals, then a reason for this code must be written into the ToxResultComments field.</p>
ToxResultQA Code (Not Required)	<u>ToxResultQALookUp</u>	<p>A ToxResultQACode is used to further qualify the analytical result of the sample.</p> <p>BR: When a test has a secondary toxpoint where young are measured and the first toxpoint is a male instead of a female, the ToxResultQACode for the second toxpoint is MAL for male because the secondary endpoint was not able to be analyzed.</p>
ToxResultComments (Not Required)		<p>In the ToxResultsComments field note any comments necessary to describe special circumstances for the toxicity results data for the specific record. These could be comments needed to clarify any portion of the analysis which is not described in any other field.</p> <p>BR: When the ResultQualCode value is NR for Not Recorded or NSI for No Surviving Individuals, then a reason for this code must be written into the ToxResultsComments field.</p>



ii. Toxicity Summary Worksheet

The second worksheet to travel with the data holds information specific to toxicity summary data. This worksheet should be named **Summary** in its worksheet tab. The fields in this sheet are and should be completed as follows. Examples of special types of samples are listed in the [Special Circumstances](#) section.

(Note that the fields through Dilution are identical to those in the Results)

Template Field Name	LookUp List	Description & Business Rules
LabSampleID		<p>The LabSampleID is a required field intended to provide lab specific identification for an analyzed sample.</p> <p>BR: The format and content is determined by the lab however, it is preferable to add -Dup to the end of the ID to help confirm the SampleType and the LabSampleID of the native sample. For LABQA samples the preferred format is Lab_ToxBatch/Unique Info_CNEG or CNSL, e.g. GC_SPoT 15_CNEG or UCD-ATL_053112_High EC Control_2500 uScm_CNSL. Refrain from using non-alphanumeric characters (e.g. /, @, %, μ). The QAControlID will indicate the LabSampleID used for statistical comparisons.</p>



Template Field Name	LookUp List	Description & Business Rules
StationCode	<u>StationLookUp</u>	<p>StationCode represents a unique sampling site in a sampling design. A single waterbody may have multiple stations.</p> <p>BR: StationCode should represent a geographic location not a geographic location combined with a replicate reference. There cannot be multiple StationCodes and/or StationNames in the StationLookUp with the same target latitude/longitude coordinates.</p> <p>The format for the unique alphanumeric description of the station is ###ABC123, where ### is the first 3 digits preceding the decimal in the Calwater Watershed ID Number from CALWater221 data layer and ABC123 is a minimum of 3 and a maximum of 6 character length combination of an alphanumeric description of the Station. One example is 103SM6897 which is Regional Board/Hydrologic Unit Number 103 and an abbreviated code to indicate "Smith River above South Fork". Another example is 304SOK which is Regional Board/Hydrologic Unit Number 304 and an abbreviated code to indicate "Soquel Creek at Knob Hill Parking Lot".</p> <p>If the correct Hydrologic Unit is not known, populate the first number with the regional board number, i.e. the station is known to be in California Regional Water Board 3, the StationCode would be 300##### or 300###. If the station is not in California (Nevada, Arizona, Oregon, Mexico, etc.), the Regional Board/Hydrologic Unit Number is 000, for example 000MLP1xx.</p>



Template Field Name	LookUp List	Description & Business Rules
EventCode	<u>EventLookUp</u>	<p>EventCode represents the primary intent of the sampling event at a particular station.</p> <p>BR: The EventCode will be in a hierarchical order as follows:</p> <p>BA – If the initial intent of sampling is for Bioassessment (PHab, BMI [freshwater], and/or Algae) (Tissue and/or WaterQuality samples may or may not also be collected)</p> <p>TI – If the initial intent of sampling is for Tissue (WaterQuality samples may or may not also be collected; no associated Bioassessment samples collected)</p> <p>WQ – If the initial intent of sampling is for WaterQuality (Water, Sediment, Toxicity, and/or Marine Benthic Abundance) (no associated Bioassessment or Tissue samples collected)</p> <p>For example, if the initial intent of sampling on Day 1 was for Tissue and WaterQuality, the EventCode would be TI. If for some reason the WaterQuality had to be re-sampled the next day, on Day 2, the event for the re-sampling would still be TI because Tissue was the initial intent of sampling on Day 1 even though WaterQuality was sampled on Day 2.</p>
ProtocolCode	<u>ProtocolLookUp</u>	<p>ProtocolCode represents the sampling protocol used, which includes the set of methods, methodology, and/or specifications; e.g. MPSL-DFG_Field_v1.0 or SWAMP_WS_2007. Established protocols may be used or regions may document their own sampling protocols.</p> <p>BR: It is preferable to combine protocols per StationCode and date so that all WaterQuality, Bioassessment, and Tissue data are combined under the same EventCode and Protocol. For example, if Tissue and WaterQuality are sampled at a station, the EventCode would be TI. If the protocols are different for Tissue and WaterQuality, the Tissue protocol would be used and the WaterQuality protocol would be listed in the SampleComments. If that is not preferable, separate EventCodes may be used with each individual protocol.</p> <p>Not Recorded is only used for historic data. All non-historic SWAMP projects require a true protocol reference. Not Applicable is used for LABQA and 000NONPJ samples only.</p>



Template Field Name	LookUp List	Description & Business Rules
LocationCode	<u>LocationLookUp</u>	<p>LocationCode describes the physical location in the waterbody where the sample was collected. One sampling event may have a single or multiple locations.</p> <p>BR: For a single point of sampling, the physical location in the waterbody can be used such as Bank, Thalweg, Midchannel, X (general location for bioassessments), OpenWater, or Transect 1.</p> <p>For field results, the LocationCode should be the same as the location for the WaterQuality collection method.</p> <p>For BA EventCode sampling, a location of X is used to associate the water quality, field measure, and taxonomy data to one bioassessment sampling location regardless of where they were sampled in the waterbody.</p> <p>For TI EventCode sampling, the physical location plus the CollectionMethod is used such as BankNet1, BankShock1, OpenWaterTrawl1, OpenWaterNet1. For resident mussel or clam collections, the LocationCode would be the physical location in the water body plus the generic CollectionMethod, e.g. BankTissue_Grab1.</p> <p>OpenWater sampling with multiple sub-locations within a single water body or station could have locations of OpenWaterTrawl1, OpenWaterTrawl2 describing one large location with two smaller areas of sampling within the OpenWater Location.</p> <p>Multiple physical locations within a single station could consist of a LocationCode such as BankShock1, BankNet1, OpenWaterHook1.</p> <p>If recording specific locations within a station are necessary for the project, a LocationCode such as Location1Net1, Location1Net2, Location2Shock1 may be used.</p>



Template Field Name	LookUp List	Description & Business Rules
SampleDate		<p>SampleDate refers to the date the sample was collected in the field.</p> <p>BR: The format for date in the templates is dd/mmm/yyyy, such as 10/Nov/2013. When entering data using the forms, the format is mm/dd/yy.</p> <p>For WQ samples with collection times that last longer than one day, like autosamplers, the sample date is the date sample was retrieved. For SPATT bags, the SampleDate is the date the bags were retrieved. For transplanted bivalves, the SampleDate is the date the transplanted organisms were collected, removed, or retrieved from the field. For overnight tissue collections, the SampleDate is the date the sample was retrieved.</p>
CollectionTime		<p>CollectionTime refers to the time when the first sample of a sampling event at a specific station was collected in the field.</p> <p>BR: If the sampling crew collects 18 bottles at a single station, the CollectionTime for each would be the time of the first bottle collected. By doing so, the samples can easily be linked and any holding time issues will be consistent and conservative for laboratory work.</p> <p>The CollectionTime format should be expressed as hh:mm in 24 hour time, such as 13:30 for 1:30 pm.</p> <p>For BA sampling events, the CollectionTime should reflect the shortest holding time for the chemistry samples that were collected. Other CollectionTimes (e.g., Field, Habitat, Benthic) may be different times than the LabCollectionTime.</p>
CollectionMethodCode	<u>CollectionMethodLookUp</u>	<p>CollectionMethodCode refers to the general method of collection such as Sed_Grab, Sed_Core, Water_Grab, Autosampler24h, Autosampler7d, PassiveSampler, Algae_SWAMP.</p> <p>BR: The SWAMP water default is Water_Grab and the sediment default is Sed_Grab.</p>



Template Field Name	LookUp List	Description & Business Rules
SampleTypeCode	<u>SampleTypeLookUp</u>	<p>SampleTypeCode refers to the type of sample collected or analyzed.</p> <p>BR: Some commonly used SampleTypeCode choices include Grab, Integrated, MS1, CRM, LCS, LabBlank, CNEG, Composite. If a bottle is broken, the submitting laboratory should leave the sample and collection row in the MS Excel results file but without any associated results. The SWAMP DMT will then update the SampleComment in the database to reflect the broken bottle and missing analyte.</p>
Replicate		<p>The Replicate number is used to distinguish between replicates created for a single collection in the field.</p> <p>BR: The default is 1. Field Duplicates/Replicates/Splits will be identified by a Replicate of 2. Field Blind Duplicates will be identified with a different SampleTypeCode of FieldBLDup, not a collection Replicate, because they are collected blind. Laboratory replicates will be identified by a replicate of 2 in the LabReplicate field, not a collection Replicate. The intent of any replicate greater than 1 is to compare the data to the native or first replicate.</p> <p>When field duplicates are collected, the samples are given a StationCode of FIELDQA and a SampleTypeCode of Grab or Integrated with a Replicate of 2. When the chemistry data are loaded into the database, the StationCode FIELDQA will be given the correct StationCode of the native sample and the Replicate will be used to distinguish the duplicate sample from the native sample. EventCode, ProtocolCode, LocationCode, SampleDate, CollectionTime, CollectionMethodCode, CollectionDepth, UnitCollectionDepth, ProjectCode and AgencyCode should be identical for both samples taken.</p>



Template Field Name	LookUp List	Description & Business Rules
CollectionDepth		<p>CollectionDepth records the level, from the surface in the water or sediment column, at which the sample was collected.</p> <p>BR: This information should be listed on the Chain of Custody (COC) document that accompanies the samples from the field or it is a default value if using the bioassessment field forms. CollectionDepth for water samples would be measured from the water surface and recorded in meters (m) while depth collected for sediment would be measured from the sediment surface and recorded in centimeters (cm).</p> <p>Since depths for ambient monitoring Grab samples are generally “subsurface”, defaults have been established to indicate this. For water samples, the default value is 0.1 m and for sediment samples, the default value is 2 cm. A single sediment core should receive a depth indicating the maximum depth of the core.</p> <p>For Integrated samples collected from the same depth at different points across a waterbody or for samples collected at multiple times, i.e. an autosampler, the actual sample depth should be recorded. This applies to both water and sediment samples. Integrated samples collected at multiple depths, i.e. samples integrated from the water column or multiple sediment cores, should receive a depth of -88 and the actual depths of collection should be recorded in the CollectionComments field.</p>
UnitCollectionDepth	<u>VariableCodesLookUp</u>	<p>UnitCollectionDepth refers to the units used in the CollectionDepth including cm (centimeters) and m (meters). This information should be listed on the Chain of Custody (COC) document that accompanies samples from the field.</p>
ProjectCode	<u>ProjectLookUp</u>	<p>ProjectCode is a unique code referencing a project which includes data from a single study design; e.g. RWB5_StS_FY0708, RWB2_Status_YR1, RWB7_Trend_2003, SWB_RCMP_2008.</p> <p>BR: ProjectCodes with FY in the name indicate samples were collected in a fiscal year calendar cycle, e.g. FY0708 would indicate fiscal year 2007-2008 which is July 1, 2007 through June 30, 2008. ProjectCodes without FY indicate samples were collected in a calendar year, e.g. 2003 would indicate calendar year 2003 which is January 1, 2003 through December 31, 2003. Each Project must have an associated QAPrP or Project QAPP listed. SWAMP moves data to the permanent side of the database by ProjectCode.</p>



Template Field Name	LookUp List	Description & Business Rules
AgencyCode	<u>AgencyLookUp</u>	<p>AgencyCode refers to the organization or agency that collected the sample. This should be listed on the Chain of Custody (COC) document that accompanies the samples from the field.</p> <p>BR: If an environmental sample is used to perform laboratory QC, i.e. a matrix spike or lab duplicate, the AgencyCode still refers to the agency that collected the native sample, not the agency that created the QC sample.</p> <p>See 'Special Circumstances' for LABQA business rules.</p>
LabCollectionComments (Not Required)		<p>LabCollectionComments records any comments relating to the collection of the field sample for laboratory analysis.</p> <p>BR: This field can also be used for laboratory QC samples, e.g. Matrix Spike was performed on a FieldBlank. If certain PurposeFailureCodes do not apply to all SampleTypeCodes, include this information in the LabCollectionComments field. If a sample collection is missing an expected bottle for an analyte or analyte group, or the bottle broke or was lost enroute to or at the laboratory, enter a comment here describing which analyte and why results are not reported. The submitting laboratory should not delete the sample row from the MS Excel file.</p>
SampleID (Not Required)		<p>SampleID is a unique identifier supplied by the organization directing the sampling or sampling agency and is used to track the sample throughout the sampling and analysis processes. This field can be used to tie a result to the sample.</p> <p>BR: This SampleID, which is different from the StationCode, will likely be on the sample container the laboratory receives from the field crew or on the COC. If there is no number, leave this field blank.</p>



Template Field Name	LookUp List	Description & Business Rules
MatrixName	<u>MatrixLookUp</u>	<p>MatrixName refers to the sample matrix. In cases where water or sediment are filtered to obtain a certain portion or fraction of the sample for analysis (not the dissolved portion of the analyte) the filtration size would be included in the MatrixName; e.g. sediment, <63um; samplewater, <125um. See ConstituentLookUp for Matrix, Method, Analyte, Fraction, and Unit combinations.</p> <p>BR: Water - For field-generated water samples, the MatrixName is samplewater. For lab-generated QC samples, the matrix should be the type of water that was used for the analysis of the sample, either labwater or blankwater. Labwater is water coming either directly from the tap in the laboratory or purchased spring water. Blankwater is laboratory Type I or Type II water, purchased reagent water or water that is run through a filtration process in a laboratory, such as Deionized (DI) or Milli-Q (MQ) water.</p> <p>Sediment - For field-generated sediment samples, the MatrixName is sediment. For lab-generated QC samples, blankmatrix could be used as the MatrixName which is a matrix used to identify a commercial- or lab-produced medium in tissue or sediment QC samples. If this is not the case then the MatrixName for lab-generated QC samples would be sediment which would include samples where water, solvent or nothing was used as a matrix.</p> <p>Tissue - For field-generated tissue samples, the MatrixName is tissue. For lab-generated QC samples, blankmatrix could be used as the MatrixName which is a matrix used to identify a commercial- or lab-produced medium in tissue or sediment QC samples. If this is not the case then the MatrixName for lab-generated QC samples would be tissue which would include samples where water, solvent or nothing was used as a matrix.</p>



Template Field Name	LookUp List	Description & Business Rules
MethodName	<u>MethodLookUp</u>	<p>MethodName refers to the analysis method used by the laboratory to analyze the sample. See ConstituentLookUp for Matrix, Method, Analyte, Fraction, and Unit combinations.</p> <p>BR: Methods are expressed with a MethodName such as SM 4500-NH3 C or EPA 600/R-99-064 and must be fully described in the Method Lookup list and in the laboratory records. If a laboratory has modified an EPA or Standard Method, the laboratory agency needs to add “M” to end of the MethodName. In such situations, the modification should be documented and communicated to the SWAMP DMT for notation in the database. For instance, a lab would report a modified EPA 600/R-99-064 as EPA 600/R-99-064M accompanied by a description of the modification made. Any method for the SWAMP Project which is not in the current SWAMP database lookup list must be approved by the SWAMP QA Team prior to being added to the database.</p> <p>For BA sampling, reference the most recent version of the Bioassessment Analyte and Location Crosswalk document on the QA section of the SWAMP stateboard website to help populate the correct constituent parameters for corresponding analytes and locations. This document will help in distinguishing the differences between the habitat and field methods FieldObservation, Field Measure, and ObservedFieldMeasure.</p>
TestDuration	<u>ToxTestDurLookUp</u>	<p>ToxTestDurCode indicates the duration of the toxicity test as a number and includes the associated units.</p> <p>BR: Some methods allow for a test to be completed early if all the necessary data has been obtained. If this is the case, the ToxTestDurCode is recorded as the duration of the test initially indicated by the method. For example, a method indicates a 7 day test is to be performed but the laboratory ends the test one day early. The ToxTestDurCode would be 7 days, not 6 days.</p>
OrganismName	<u>OrganismLookup</u>	OrganismName refers to the scientific name of the species used in the toxicity test.
TestExposureType		The toxicity TestExposureType indicates whether the test method was Acute or Chronic.



Template Field Name	LookUp List	Description & Business Rules
ToxBatch		<p>The ToxBatch is assigned by the laboratory and groups all environmental samples and supporting QA samples within a unique analysis batch. It is used to compare field samples with the associated control for statistical analysis and will be used to verify completeness based on the SWAMP QAPrP.</p> <p>BR: The ToxBatch should be listed only one time in the ToxBatch worksheet for each unique ToxBatch found in the Results and Summary worksheets.</p> <p>Follow the File and Batch Name Convention to correctly identify the batch. It is recommended to include the start date and an abbreviation of the OrganismName in the lab-specific portion of the ToxBatch.</p>
QAControlID		<p>QAControlID is the LabSampleID of the control sample used for statistical comparisons for each sample.</p> <p>BR: The QAControlID can indicate a different LABQA LabSampleID used for each sample within a batch, i.e. the CNEG control may be used for statistical comparison on one sample in a toxicity batch while the CNSL control may be used on a different sample in the same toxicity batch. If an alternative control (other than CNEG) is used in the toxicity statistical analysis, the QACode should contain TAC (Alternative control used in toxicity statistical analysis).</p>
ToxTestComments (Not Required)		<p>Use the ToxTestComments field to note any comments necessary to describe special circumstances for the toxicity test for the specific record.</p>
Treatment	<u>AnalyteLookUp</u>	<p>Treatment refers to any treatment performed on the sample, such as a pH adjustment.</p> <p>BR: The default value is None.</p>
Concentration		<p>Concentration refers to the adjusted final concentration or value of the analyte applied to the toxicity sample, expressed as a number; e.g. pH adjustment to 7 or temperature adjustment to 15 degrees.</p> <p>BR: The default value is 0.</p>



Template Field Name	LookUp List	Description & Business Rules
UnitTreatment	<u>UnitLookUp</u>	UnitTreatment refers to the units used in the treatment. BR: If a Treatment did not occur, the default value is none.
Dilution		Dilution is recorded as a proportion of the original sample. A sample with 80% sample and 20% blankwater has a Dilution Value of 80. BR: If no dilution is performed, the default value of 100 is used.
ToxPointMethod	<u>MethodLookUp</u>	ToxPointMethod refers to the general method used in obtaining or calculating the result. BR: Toxicity replicate and summary data have a default value of None unless a method other than the test MethodName is used for the calculations. Water quality measurement results have a default value of ToxWQMeasurement.
AnalyteName	<u>AnalyteLookUp</u>	AnalyteName refers to the parameter being measured. BR: Toxicity examples include Survival, Young/female, Biomass (weight/original individual), Growth (weight/surviving individual). Water quality measurement examples include pH, Ammonia as NH ₃ , Salinity. The recommendation is Biomass be calculated for all fish species (total weight of surviving individuals divided by the original number of organisms at the start of the test) and Growth be calculated for Hyalella growth weight (total weight of surviving individuals divided by the number of survivors at the end of the test).
FractionName	<u>FractionLookUp</u>	FractionName is a specific descriptor of the Analyte. BR: For example, Ammonia as NH ₃ is expressed as Total or Unionized, each of which would be expressed as the Fraction, distinguishing the appropriate Analyte. If there is no need for further description of the analyte the default value is None.



Template Field Name	LookUp List	Description & Business Rules
WQSource	<u>MatrixLookUp</u>	<p>WQSource differentiates between water quality measurements taken in the overlying water as well as in the interstitialwater of sediment.</p> <p>BR: Overlyingwater is used for the overlying water measurements which is the default for all water quality measurements. Sediment, Interstitialwater is used for the interstitial water measurements. Not Applicable is used for all toxicity results.</p>
TimePoint	<u>TimePointLookUp</u>	<p>TimePoint refers to the point in time during the test at which the measurement was recorded for water quality measurements.</p> <p>BR: For water quality measurements, timepoints such as initial or final are used to indicate the measurements recorded at the beginning and end of the test. High and low are used to indicate the highest and lowest values recorded for a particular sample during the entire length of the test. Day 2 is used to indicate a measurement taken on the 2nd day of the test.</p> <p>For toxicity measurements, the TimePoint should match the TestDuration value. So if a 7 day test is performed, the TimePoint for the toxicity results would be Day 7.</p>
UnitAnalyte	<u>UnitLookUp</u>	UnitAnalyte indicates the units used in the measurement of the AnalyteName.
RepCount		<p>RepCount is the total number of sample replicates analyzed for the associated toxpoint in the toxicity test.</p> <p>BR: There are a few circumstances where a replicate should not be counted or used in the calculations. For all tests, if a replicate was spilled before a result could be recorded, the RepCount would decrease by one replicate. For all tests, but primarily Ceriodaphnia dubia, if the first toxpoint had a single individual and it was a male, the second toxpoint of Young/female would not be possible so the RepCount for the second toxpoint would decrease by one. For Hyalella only, if the first toxpoint had a Survival of 0, the second toxpoint of Growth (weight/surviving individual) would not be included in the calculations so the RepCount would decrease by one replicate.</p>
Mean		Mean is the average result calculated from all replicates of a single sample.



Template Field Name	LookUp List	Description & Business Rules
StdDev		StdDev or standard deviation is a statistic that indicates how tightly all the replicates are clustered around the mean in a set of data. This calculation includes all the applicable replicates from a single sample.
StatisticalMethod	<u>VariableCodesLookUp</u>	StatisticalMethod is the statistical test or method used to calculate whether the sample is significantly different from the control, e.g. T-test, Fisher, Wilcox.
AlphaValue		AlphaValue is the predetermined statistical acceptance level that is not calculated, but is chosen by the laboratory. BR: The SWAMP default value for the T-test is 0.05.
bValue (Not Required)		bValue is the b value in the null hypothesis that represents the threshold for unacceptable toxicity or the Regulatory Management Decision (RMD). BR: For T-test this value is left blank.
CalcValueType	<u>VariableCodesLookUp</u>	CalcValueType is the calculated statistic type, e.g. Probability.
CalculatedValue		CalculatedValue is the calculated statistical value from the associated statistical test. BR: For T-test negative control samples (CNEG) the probability is 0.5.
CriticalValue		CriticalValue is the critical value used for comparison to the calculated value in the associated statistical test. BR: For T-test it is equivalent to the AlphaValue.
PercentEffect		PercentEffect is the percent difference between the mean of the endpoint and the mean of the control's associated endpoint; $((\text{Mean Control Response} - \text{Mean Sample Response}) / \text{Mean Control Response}) * 100$ BR: Negative control samples or CNEG should be reported as 0 for the corresponding endpoint.



Template Field Name	LookUp List	Description & Business Rules
MSD		The minimum significant difference (MSD) is a measurement that can be produced for each statistical comparison performed between sample and control, or among multiple concentrations of a sample and control. It represents the smallest significant difference from the control and is unique for each statistical comparison. This number should be reported as a percentage, e.g., 20%.
EvalThreshold		The evaluation threshold or EvalThreshold is the set level of accepted difference used when evaluating the PercentEffect.
SigEffect	<u>SigEffectLookUp</u>	<p>The toxicity significant effect code or SigEffectCode is applied to summarize the toxicity results in relation to the control. SWAMP created a SigEffectCode using a two-tiered system for designating a sample statistically and/or biologically different. The sample response will be evaluated by a statistical comparison to the control response, and then comparing it to the EvalThreshold.</p> <p>BR: The statistical difference is represented by the first part of the code (S - Significant or NS - Not Significant) which refers to the significance of the sample compared to a control. This is determined by whether the CalculatedValue of the sample is above (NS) or below (S) the CriticalValue.</p> <p>The biological difference is represented by the second part of the code (G - Greater similarity or L - Less similarity) which refers to whether the PercentEffect of the sample is above or below the EvalThreshold.</p> <p>While the toxicity SigEffectCode will always reflect a combination of the probability and evaluation threshold, best professional judgment of the lab can be reflected in the sample comment.</p> <p>The default value for CNEG samples is NA.</p>



Template Field Name	LookUp List	Description & Business Rules
TestQACode	<u>QA</u> LookUp	<p>TestQACode is applied to each sample's toxpoint and water quality measurements to describe any special conditions, situations or outliers that occurred during or prior to the analysis to achieve the result.</p> <p>BR: The default code, indicating no special conditions, is None. If more than one code should be applied to a record, the convention is to list them in alphabetical order separated by commas and no spaces; e.g. BY,TW. If an alternative control (other than CNEG) is used in the toxicity statistical analysis, the QACode should contain TAC (Alternative control used in toxicity statistical analysis).</p>
ToxPointSummaryComments (Not Required)		In the ToxPointSummaryComments field note any comments necessary to describe special circumstances for the toxicity summary data for the specific record.



iii. Tox Batch Worksheet

The third worksheet to travel with the data holds information specific to the laboratory batch in which data is analyzed. This worksheet should be named **ToxBatch** (with no spaces) in its worksheet tab. The fields in this sheet are and should be completed as follows:

Template Field Name	LookUp List	Description & Business Rules
ToxBatch		<p>The ToxBatch is assigned by the laboratory and groups all environmental samples and supporting QA samples within a unique analysis batch. It is used to compare field samples with their associated Negative Controls for statistical analysis and will be used to verify completeness based on the SWAMP QAPrP.</p> <p>BR: The ToxBatch should be listed only one time in the ToxBatch worksheet for each unique ToxBatch found in the Results and Summary worksheets.</p> <p>Follow the File and Batch Name Convention to correctly identify the batch. It is recommended to include the start date and an abbreviation of the OrganismName in the lab-specific portion of the ToxBatch.</p>
LabAgencyCode	<u>AgencyLookUp</u>	AgencyCode refers to the organization, agency or laboratory that performed the analysis of the sample.
StartDate		StartDate refers to the date the test began.
RefToxBatch		RefToxBatch lists the Reference Tox Batch ID run with this batch of samples.
OrganismSupplier (Not Required)		OrganismSupplier refers to the agency that supplied the test organisms.
OrganismAgeAtTestStart (Not Required)		OrganismAgeAtTestStart indicates the age or age range (e.g. 7 days or 7-10 days) of the test organisms at the beginning of the test. The age or range is usually recommended by the method.



Template Field Name	LookUp List	Description & Business Rules
LabSubmissionCode	<u>LabSubmissionLookUp</u>	<p>The LabSubmissionCode is a unique batch qualifier code, assigned to the ToxBatch as a whole by the analyzing laboratory, which references the quality of the data in the ToxBatch.</p> <p>BR: If the LabSubmissionCode of A is used, meaning Acceptable, the laboratory is ensuring that all SWAMP QAQC protocols were met for the toxicity batch. If anything other than A is used, a ToxBatchComment is required.</p> <p>If a toxicity treatment (pH adjustment, EDTA treatment, etc.) was performed on any samples in the batch, a LabSubmissionCode of TT (Treatment applied to some/all toxicity samples in the batch) should be included.</p>
SubmittingAgencyCode	<u>AgencyLookUp</u>	SubmittingAgencyCode is the organization or agency that is responsible for submission of the data to the database. This agency may be different from LabAgencyCode if the analytical data were subcontracted to another agency for analysis.
ToxBatchComments (Not Required)		<p>The ToxBatchComments field is intended to record any comments relating to the ToxBatch as a whole.</p> <p>BR: If the LabSubmissionCode is anything other than A, a ToxBatchComment is required</p>



c. LABQA

SWAMP requires the batch QC to be reported to the database which can be used to verify the Measurement Quality Objects (when applicable: blanks, reference material). The exception is SWAMP does not require QC such as Reference Toxicant Tests to be reported but they are still required to be performed and documented internally.

d. Special Circumstances

There are several types of special circumstances discussed in this section. One type includes samples that are generated or created by the laboratory (LABQA). Another is when a control other than the negative control is used in the statistical analysis. The business rules for when a treatment is performed are outlined below and also when a sample is a pore water matrix.

For a list of QA sample types required for each type of chemical analysis, please see the [QAPrP Quality Control and Sample Handling Guidelines](#).

i. Laboratory-generated QA samples (LABQA)

All samples generated from within the laboratory, such as CNEG, CNSL, etc. have specific alternative rules, which are as follows:

<i>LabSampleID</i>	The format and content is determined by the lab however, for LABQA samples the preferred format is Lab_ToxBatch/Unique Info_CNEG or CNSL, e.g. GC_SPoT 15_CNEG or UCD-ATL_053112_High EC Control_2500 uScm_CNSL. Refrain from using non-alphanumeric characters (e.g. /, @, %, μ)
<i>StationCode</i>	LABQA
<i>EventCode</i>	WQ for water and sediment chemistry and toxicity results
<i>ProtocolCode</i>	Not Applicable
<i>LocationCode</i>	Not Applicable
<i>SampleDate</i>	Date test started, expressed as dd/mmm/yyyy
<i>CollectionTime</i>	0:00
<i>CollectionMethodCode</i>	Not Applicable
<i>SampleTypeCode</i>	Select from SampleTypeLookup List
<i>Replicate</i>	1
<i>CollectionDepth</i>	-88
<i>UnitCollectionDepth</i>	m for water or cm for sediment
<i>ProjectCode</i>	Not Applicable
<i>AgencyCode</i>	Organization or agency that analyzed the sample



<i>Matrix</i>	Water samples - labwater or blankwater Sediment samples - blankmatrix (commercially generated product) or sediment (if laboratories is using solvent, water, or nothing)
---------------	---

ii. When a Salinity Control (or control other than the negative control) is Used

Certain sampling events create a special set of rules that apply for a few of the entry fields in the SWAMP database. One of these would be when the salinity control (or control other than the negative control) is used in the statistical analysis. Below are the fields that differentiate these samples from the norm and how they should be completed.

<i>LabSampleID</i>	The format and content is determined by the lab however, for LABQA samples the preferred format is Lab_ToxBatch/Unique Info_CNEG or CNSL, e.g. GC_SpOT_15_CNEG or UCD-ATL_053112_High EC Control_2500 uScm_CNSL. Refrain from using non-alphanumeric characters (e.g. /, @, %, μ)
<i>QAControlID</i>	Indicates the LabSampleID used for statistical comparisons. The QAControlID can indicate a different LABQA LabSampleID used for each sample within a batch, i.e. the CNEG control may be used for statistical comparison on one sample in a toxicity batch while the CNSL control may be used on a different sample in the same toxicity batch.
<i>QACode</i>	TAC (alternative control used in toxicity statistical analysis)

iii. Toxicity Test Treatment

In some cases a toxicity test treatment (pH, temperature adjustment, etc.) is necessary to assist in determining whether a water quality measurement is having an effect on the sample's toxicity. For example, a test performed at a temperature that is different from the normal method temperature would be considered to have had a toxicity test treatment.

In these cases, both the untreated and treated data should be reported. These data can be in the same batch or in different batches depending on the process. The treated samples would have the Treatment, Concentration and UnitTreatment fields filled out (not the default values) in both the summary and results worksheets. For example, a sample tested at 15°C would be a temperature treated sample and would have a Treatment of Temperature (from the AnalyteLookUp), a result of 15 (since this is not the normal temperature) and a UnitTreatment of Deg C. Below are the fields that differentiate these samples from the norm and how they should be completed.

<i>Treatment</i>	pH, Temperature, etc.
<i>Concentration</i>	The adjusted final concentration or value of the analyte applied to the toxicity sample, expressed as a number; e.g. pH adjustment to 7 or temperature adjustment to 15 degrees (since this is not the normal temperature used for the test)
<i>UnitTreatment</i>	Unit of the treatment; e.g. None for pH or Deg C for Temperature
<i>ToxTestComment</i>	Recommended for the treated samples only, to provide additional information regarding the type of treatment. This comment only needs to be provided on the summary tab. This will alert the end user that a treatment has been performed on those summaries and results.



<i>LabSubmissionCode</i>	If a toxicity treatment was performed on any sample within a batch, a LabSubmissionCode of TT (treatment applied to some/all toxicity samples in the batch) should be included
<i>BatchComment</i>	A BatchComment is also then required that describes that a treatment was performed

iv. Interstitial Water (Pore Water) Analysis

Certain sampling events create a special set of rules that apply for a few of the entry fields in the SWAMP database. One of these would be the collection of sediment from which interstitial water is extracted and then analyzed. Below are the fields that differentiate these samples from the norm and how they should be completed.

<i>CollectionMethodCode</i>	Sed_Grab
<i>SampleTypeCode</i>	Integrated
<i>UnitCollectionDepth</i>	cm
<i>PreparationPreservation</i>	Centrifuged plus any additional preparation done at the lab (Centrifuged, X)
<i>PreparationPreservationDate</i>	If no preparation was performed at the analyzing lab, enter the centrifuge date for <i>PreparationPreservationDate</i> . If a preparation or preservation was performed at the analyzing laboratory, enter the preparation date and include the date of centrifuge in the <i>CollectionComments</i> .
<i>Matrix</i>	sediment, interstitialwater
<i>Unit</i>	Water units

e. Converting the Data

Analysis results in many laboratories are produced in a format that does not easily fit into the format described above. Many labs' instruments provide reports in a vertical, rather than horizontal format, for instance. The SWAMP DMT has developed a program to assist in the conversion of data from the analysis instrument-provided format to that required by the SWAMP Database. While this conversion program does not complete all of the work for the lab personnel, it greatly reduces the effort involved. Because each situation is unique, the SWAMP DMT should be contacted to make arrangements.



8. SUBMITTING DATA TO SWAMP DATA MANAGEMENT TEAM

The following sections describe the process used by the Moss Landing Marine Laboratory (MLML) Data Management Team (DMT) to receive and begin to process electronic data reports from laboratories and other agencies submitting data for inclusion in the SWAMP Database.

This process will be introduced when each laboratory or other agency working with SWAMP data is trained on SWAMP business rules and formats for data submission.

As an overview, data reports are submitted to SWAMP through the [Online Data Checker](#) website. After a manual review for completeness and accuracy, the data is loaded by the DMT into the temporary side of the SWAMP database. Data reports will be rejected and returned if any of the following is true:

- The [SWAMP File and Batch Naming Convention](#) is not followed
- The report is incomplete, such as missing or incomplete QC data, or batch tab
- Incorrect values appear in any fields, such as calculated results or invalid codes
- More than 3 ‘typos’ appear, such as misspelled names or codes (which makes them impossible to load into the database). In the case where 3 or fewer such instances exist in the report, the DMT representative will correct the error(s) unless otherwise requested by the lab.

Data reports that have been returned for resolution should be resubmitted to the DMT through the Online Data Checker with “_Resub” at the end of the file name within 5 business days for entry into the SWAMP database.

Once the data has been loaded into the database, the SWAMP DMT will verify the data (see SWAMP Data Verification SOPs <http://swamp.mpsl.mlml.calstate.edu/resources-and-downloads/database-management-systems/swamp-25-database/documentation-25/swamp-data-management-plan>) and prepare for verification and eventual transfer to the permanent and public side of the SWAMP Database.

The process for addressing issues raised during verification is as follows:

- Issues will be compiled as discovered and forwarded to the appropriate lab contact for resolution.
- Laboratory needs to provide answer and/or resolution within 5 business days so as not to impede reporting data to the appropriate Regional Board and public users.

a. Checking Data for Quality Assurance

As it is the responsibility of the submitting laboratory to ensure the accuracy and completeness of the data, it is necessary to QA the data prior to submitting it to the DMT. This process should include verifying that all data fields are complete, that required QC data is included and properly notated with recoveries, estimated values and RPDs, when applicable, as well as checking that appropriate replicate values are assigned.

i. SWAMP Laboratory QC Requirements

To determine what QC samples are required to be included with each batch of data per analysis type, review the [Quality Control and Sample Handling Guidelines](#). Internal and calibration standards should be performed but not reported to the SWAMP database.

b. File and Batch Naming Conventions

The file and batch naming convention that should be followed appears in the [SWAMP File and Batch Naming Conventions](#) document.

c. Data Submittal

Once the data has been properly formatted and QA’d by the laboratory for accuracy and completeness, it is ready to be submitted to the SWAMP DMT. The following sections will guide the user through this process.



i. Online Data Checker and Submittal Process

Before submitting the Excel file it needs to be checked for formatting and adherence to SWAMP business and database rules using the Online Data Checker program at http://checker.swamp.mpsl.mlml.calstate.edu/SWAMP_Checker/SWAMPUpload.php.

The screenshot shows a web browser window with the URL checker.swamp.mpsl.mlml.calstate.edu/SWAMP_Checker/SWAMPUpload.php. The page header includes navigation links for 'Most Visited', 'Getting Started', and 'Latest Headlines'. The main content area features a blue banner with the text 'SWAMP Data Checker' and the date 'October 21, 2014'. Below the banner are logos for 'Water Boards', 'SWAMP Surface Water Ambient Monitoring Program', and 'Marine Pollution Studies Lab'. A red text notification states: 'New Chemistry and Tissue Templates need to be used and are available on the [SWAMP DMT Website](#).' The form includes a 'Data Category' dropdown menu, a 'Your Email Address' text input field, and a 'Your Agency' dropdown menu with a scrollable list of agencies: ABCL (Aquatic Bioassay and Consulting Laboratories, Inc.), AECOM (AECOM), ALPHA (Alpha Analytical, Inc.), ALS (ALS Laboratory Group), AMEC (AMEC Environment & Infrastructure), AMS (Applied Marine Sciences, Inc.), AMS-CA (Applied Marine Sciences, Inc. California), and APPL (Agriculture & Priority Pollutants Laboratories, Inc.). Below the agency list is a 'File to Upload' section with a 'Browse...' button, the text 'No file selected.', and a 'Check Excel File' button.

Instructions For Data Category: [Chemistry](#) [Tissue](#) [Toxicity](#) [Habitat](#) [Taxonomy](#)

Please Note: The valid values contained in the lookup lists are specific to SWAMP-funded projects. Lookup list errors generated for non [Data Center](#).

[Troubleshooting Report Errors & LookUp Lists \(Updated Oct 16 2014 5:36PM\)](#) & [When was the Checker last updated?](#)

Please be aware that new error checks and functionality are routinely added

- Select the correct *Data Category* from the pull-down menu. In this example, select 'Chemistry'.
- Enter *Your Email Address*. The results of the data check and a confirmation of submittal will be sent to this email address.
- Select the submitting agency of the data from the *Your Agency* pull-down menu. **Not Recorded** is also an option if the correct agency is not found.
- Select the file to check under *File to Upload* by clicking on BROWSE to open the File Selection Dialog box. It is recommended to save and close the Excel data file before checking it.
- After selecting the file, click CHECK EXCEL FILE to check the file.
- The file will now be checked for basic formatting errors such as missing the 'Results' or 'LabBatch' worksheets. Any errors will be listed. These errors must be corrected before checking can continue.
- If the file had no basic formatting errors, the data will then be checked for compliance with SWAMP business and database rules. When the testing is complete you will automatically be redirected to the online error summary page.



 [Back to Main Page](#)

Errors Summary:

Hide?	Error	Worksheet	Count
<input type="checkbox"/>	Sample not found in database	Results	147
<input type="checkbox"/>	Sample not found in database	Summary	7

[View Results](#)

[Troubleshooting Report Errors & LookUp Lists](#)

 [Back to Main Page](#)

- On the next page a congratulatory message will appear if there aren't any errors with the data file. If not, any suspected errors with the file will be listed in summary on the Errors Summary page.
- Click on each hide checkbox to hide errors from view. Click VIEW RESULTS to view a detailed listing of the errors.



[Back to Main Page](#)

Displaying errors 1-154 of 154

Error Details:

Error	Worksheet	Excel Row	Column	Value	FilterValue
Sample not found in database	Results	2	Columns B-N	{IS NULL}	StationCode: 315RIN, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 1
Sample not found in database	Results	3	Columns B-N	{IS NULL}	StationCode: 315RIN, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 1
Sample not found in database	Results	4	Columns B-N	{IS NULL}	StationCode: 315RIN, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 1
Sample not found in database	Results	5	Columns B-N	{IS NULL}	StationCode: 315RIN, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 1
Sample not found in database	Results	6	Columns B-N	{IS NULL}	StationCode: 315RIN, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 1
Sample not found in database	Results	148	Columns B-N	{IS NULL}	StationCode: 315MIS, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 2
Sample not found in database	Summary	2	Columns B-N	{IS NULL}	StationCode: 315RIN, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 1
Sample not found in database	Summary	3	Columns B-N	{IS NULL}	StationCode: 315ABU, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 1
Sample not found in database	Summary	4	Columns B-N	{IS NULL}	StationCode: 315APC, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 1
Sample not found in database	Summary	5	Columns B-N	{IS NULL}	StationCode: 315ATA, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 1
Sample not found in database	Summary	6	Columns B-N	{IS NULL}	StationCode: 315FRC, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 1
Sample not found in database	Summary	7	Columns B-N	{IS NULL}	StationCode: 315MIS, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 1
Sample not found in database	Summary	8	Columns B-N	{IS NULL}	StationCode: 315MIS, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 2

Submit Data To SWAMP

[Back to Summary](#) [First Page](#) [Previous Page](#) [Next Page](#)

[Back to Main Page](#)

- More than one page of errors will be indicated at the top of the page under Displaying errors 1-x of x. Click NEXT PAGE to see the remaining errors or BACK TO SUMMARY to return to the summary of errors page.



	A	B	C	D	E	F	G	
1	Error	Worksheet	ExcelRow	Column	Value	Severity	FilterValue	Description
3	Sample not found in database	Results	128	Columns B-N	{S NULL}	Error	StationCode: 315MIS, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 2	http://checker.swamp
4	Sample not found in database	Results	129	Columns B-N	{S NULL}	Error	StationCode: 315MIS, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 2	http://checker.swamp
5	Sample not found in database	Results	130	Columns B-N	{S NULL}	Error	StationCode: 315MIS, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 2	http://checker.swamp
6	Sample not found in database	Results	131	Columns B-N	{S NULL}	Error	StationCode: 315MIS, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 2	http://checker.swamp
7	Sample not found in database	Results	133	Columns B-N	{S NULL}	Error	StationCode: 315MIS, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 2	http://checker.swamp
8	Sample not found in database	Results	137	Columns B-N	{S NULL}	Error	StationCode: 315MIS, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 2	http://checker.swamp
9	Sample not found in database	Results	138	Columns B-N	{S NULL}	Error	StationCode: 315MIS, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 2	http://checker.swamp
10	Sample not found in database	Results	139	Columns B-N	{S NULL}	Error	StationCode: 315MIS, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 2	http://checker.swamp
11	Sample not found in database	Results	140	Columns B-N	{S NULL}	Error	StationCode: 315MIS, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 2	http://checker.swamp
12	Sample not found in database	Results	141	Columns B-N	{S NULL}	Error	StationCode: 315MIS, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 2	http://checker.swamp
13	Sample not found in database	Results	142	Columns B-N	{S NULL}	Error	StationCode: 315MIS, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 2	http://checker.swamp
14	Sample not found in database	Results	143	Columns B-N	{S NULL}	Error	StationCode: 315MIS, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 2	http://checker.swamp
15	Sample not found in database	Results	134	Columns B-N	{S NULL}	Error	StationCode: 315MIS, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 2	http://checker.swamp
16	Sample not found in database	Results	145	Columns B-N	{S NULL}	Error	StationCode: 315MIS, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 2	http://checker.swamp
17	Sample not found in database	Results	132	Columns B-N	{S NULL}	Error	StationCode: 315MIS, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 2	http://checker.swamp
18	Sample not found in database	Results	136	Columns B-N	{S NULL}	Error	StationCode: 315MIS, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 2	http://checker.swamp
19	Sample not found in database	Results	144	Columns B-N	{S NULL}	Error	StationCode: 315MIS, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 2	http://checker.swamp
20	Sample not found in database	Results	148	Columns B-N	{S NULL}	Error	StationCode: 315MIS, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 2	http://checker.swamp
21	Sample not found in database	Results	146	Columns B-N	{S NULL}	Error	StationCode: 315MIS, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 2	http://checker.swamp
22	Sample not found in database	Results	135	Columns B-N	{S NULL}	Error	StationCode: 315MIS, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 2	http://checker.swamp
23	Sample not found in database	Results	147	Columns B-N	{S NULL}	Error	StationCode: 315MIS, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 2	http://checker.swamp
24	Sample not found in database	Results	65	Columns B-N	{S NULL}	Error	StationCode: 315ATA, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 1	http://checker.swamp
25	Sample not found in database	Results	77	Columns B-N	{S NULL}	Error	StationCode: 315ATA, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 1	http://checker.swamp
26	Sample not found in database	Results	71	Columns B-N	{S NULL}	Error	StationCode: 315ATA, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 1	http://checker.swamp
27	Sample not found in database	Results	83	Columns B-N	{S NULL}	Error	StationCode: 315ATA, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 1	http://checker.swamp
28	Sample not found in database	Results	67	Columns B-N	{S NULL}	Error	StationCode: 315ATA, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 1	http://checker.swamp
29	Sample not found in database	Results	79	Columns B-N	{S NULL}	Error	StationCode: 315ATA, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 1	http://checker.swamp
30	Sample not found in database	Results	68	Columns B-N	{S NULL}	Error	StationCode: 315ATA, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 1	http://checker.swamp
31	Sample not found in database	Results	80	Columns B-N	{S NULL}	Error	StationCode: 315ATA, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 1	http://checker.swamp
32	Sample not found in database	Results	75	Columns B-N	{S NULL}	Error	StationCode: 315ATA, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 1	http://checker.swamp
33	Sample not found in database	Results	70	Columns B-N	{S NULL}	Error	StationCode: 315ATA, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 1	http://checker.swamp
34	Sample not found in database	Results	82	Columns B-N	{S NULL}	Error	StationCode: 315ATA, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 1	http://checker.swamp
35	Sample not found in database	Results	73	Columns B-N	{S NULL}	Error	StationCode: 315ATA, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 1	http://checker.swamp
36	Sample not found in database	Results	85	Columns B-N	{S NULL}	Error	StationCode: 315ATA, SampleDate: Jul 31 2014 12:00AM, SampleTypeCode: Grab, Replicate: 1	http://checker.swamp

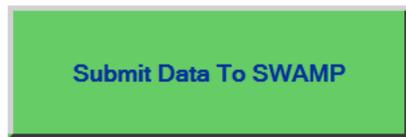
- An email is also sent to the address entered on the previous page. It contains an Excel file attachment listing any errors for all worksheets together. The Excel format listing these errors is often easier to view rather than the online format as the filter column function can be used in Excel.
- The worksheet lists each Error, the associated Worksheet (Results, Summary, ToxBatch), the ExcelRow location, Columns affected, the Value, Severity (Critical, Error, Warning), any FilterValue to assist the user, and a link to the error Description. A troubleshooting guide and list of error message descriptions is also available for reference at http://checker.swamp.mpsl.mlml.calstate.edu/SWAMP_Checker/Troubleshooting.php.
- Correct the errors in the Excel data file, save and close the file, and check the file again by clicking BACK TO MAIN PAGE on the bottom of the online data checker page and re-running the checker.





 [Back to Main Page](#)

Congratulations! Your file has passed our data checks and is ready to be submitted.



 [Back to Main Page](#)

- Once all the errors are either corrected, or after discussing it with the DMT that they are okay to ignore, submit the SWAMP-funded file to the SWAMP DMT to be loaded into the SWAMP database by clicking the green SUBMIT DATA TO SWAMP button. This button is located on the bottom of the Congratulations page or the Error Details page. If it is not a SWAMP-funded file the data should not be submitted to SWAMP.

Please limit submittals to SWAMP-funded data only.

Add comma delimited email addresses to be cc'd here:
CC:

Type in an optional message to the SWAMP DMT here:
Comments:

Click the big green button to send your file to the SWAMP DMT



 [Back to Main Page](#)

- A new webpage will open and additional email addresses, separated by commas, can be added in the *cc:* field. Additional comments to the SWAMP administrator and cc email addresses can also be added in the *Comments* field if necessary. If these comments are important to the data loading and verification process, the comments should also be in the notes tab of the excel file. If a file is being resubmitted with corrections indicate that in the *Comments* field. To finalize the submittal process, click the green SUBMIT DATA TO SWAMP button.
- Congratulations, the Excel file has been submitted! An email should also be received confirming the file submittal. Click BACK TO MAIN PAGE to return to the main page to check another file or close the window if you are done using the checker.

d. Data Resubmittal

If a file has been submitted to the DMT through the online data checker and for some reason needs to be resubmitted with changed or additional data, only the original data should be resubmitted. i.e. same batches and number of results unless missing results from the original batch. General changes made to the file should be indicated in the notes tab in the template and the name of the file should be the same as the original with the addition of **_Resub** at the end. In addition, a comment indicating that the file is a resubmittal should be provided in the comments section on the last page of the data checker submittal process.