

**CEDEN**

California Environmental Data Exchange Network



**Field Data Submission Guidance Document**

*January 8, 2019*

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## List of Acronyms

CEDEN	California Environmental Data Exchange Network
RDC	Regional Data Center
SWAMP	Surface Water Ambient Monitoring Program
QAO	Quality Assurance Officer

## List of Terms

Controlled Vocabulary	Controlled vocabulary refers to codes and associated definitions maintained within CEDEN to ensure comparability between and among data sets. Current controlled vocabulary contained within associated lookup lists can be found at: <a href="http://ceden.org/CEDEN_checker/Checker/LookUpLists.php">http://ceden.org/CEDEN_checker/Checker/LookUpLists.php</a> . The process for adding new values can be found at: <a href="http://ceden.org/vocabulary_request.shtml">http://ceden.org/vocabulary_request.shtml</a> .
Data Checker	Web-based automated tool that assists data submitters in examining their data sets against the required LookUp lists, formats and business rules.
LookUp Lists	Controlled vocabularies are maintained within the CEDEN database as “LookUp Lists” and are managed through individual RDCs to maintain comparability between RDCs and throughout data sets available through CEDEN.
Primary Key	Uniquely identifies each row in a table and is comprised of a set of columns. No two distinct rows in a table can have the same combination of column values. Required for record uniqueness.
Data Type	Refers to the type of format required for a specific column heading in CEDEN templates. Data type examples include: integer (whole numbers), text, date and time, and decimal.

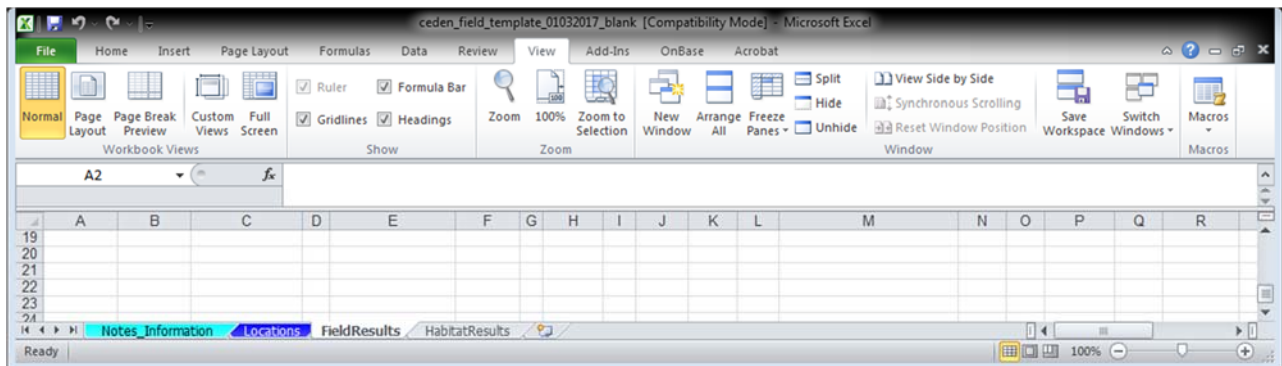
## Introduction

This document is designed to provide guidance on reporting requirements for electronic data to be entered in the California Environmental Data Exchange Network (CEDEN) templates. Detailed below are definitions of data elements and rules for formatting field data within the CEDEN field template. Please review the entire Field Data Submission Guidance Document prior to filling out or submitting the CEDEN Field Template. If you have any questions regarding these guidelines, contact your [Regional Data Center](#) (RDC) for help.

Regional Data Center (RDC)	Contact	Phone Number	Email
Central Coast RDC	Stacey Swenson	831/771-4114	sswenson@mlml.calstate.edu
Central Valley RDC	Melissa Turner	530/756-5200	mtturner@mlj-llc.com
San Francisco RDC	Cristina Grosso	510/746-7371	cristina@sfei.org

## Field Data Submission Steps

To submit water quality field data to CEDEN, start with the CEDEN\_Field\_Template Excel file, which can be found at: [http://ceden.org/ceden\\_datatemplates.shtml](http://ceden.org/ceden_datatemplates.shtml). In this template you will find the three data tables (each in a separate worksheet) required for submitting field data. This file can be named at the discretion of the user; however, the Excel sheet tabs **MUST** be named **Locations**, **FieldResults**, and **HabitatResults**, respectively.



## CEDEN Field Template Tables

Below describes what is included and submission requirements for each of the 3 tables in the CEDEN Field Template:

1. Locations
  - a. Holds information about location sampled
  - b. Required only if actual unique latitudes and longitudes were recorded for each sampling event.

2. FieldResults
  - a. Used to record field measurement results
  - b. Required when submitting field measurement results
3. HabitatResults
  - a. Used to record habitat/field observation results
  - b. Required when submitting habitat results

The guidelines in the following sections will assist you in getting your data into the CEDEN Field Template tables. However, if at any time you have questions more specific to your data, (e.g. adding new codes to LookUp lists) contact your local RDC.

Once you have placed your data into the CEDEN Field Template tables, visit your RDC's website to check and submit your data. Regional Data Center information can be found at: [http://www.ceden.org/data\\_centers.shtml](http://www.ceden.org/data_centers.shtml). The online data submission process includes specific checks on your data to ensure both data integrity and comparability with other data sets. Once your data has passed all of the checks it will be uploaded into the centralized CEDEN database and become available through the CEDEN website ([www.ceden.org](http://www.ceden.org)).

## Field Template Data Tables

### Locations Table

#### PURPOSE:

The locations table contains specific information about the locations sampled. Actual latitudes and longitudes are recorded here for each sampling event. In the event that only target latitudes and longitudes were recorded, it is sufficient to rely on the stations and associated details approved during the controlled vocabulary request process.

#### COLUMN REQUIREMENTS:

Columns within the CEDEN Field Template tables are either considered 1) required, 2) desired or 3) not required. Required columns must be completed in order for data to be accepted by CEDEN. Desired columns are strongly encouraged and should be completed with known values, whenever possible. If the actual value is unknown, then the given default value **must** be used. Not required columns include additional information that aid in data usability. Individual column requirements are listed below:

#### Required Columns:

- StationCode**
- SampleDate**
- ProjectCode**
- CoordinateNumber**
- ActualLatitude**
- ActualLongitude**
- Datum**

#### Desired Columns:

- EventCode**
- ProtocolCode**
- AgencyCode**
- LocationCode**
- CoordinateSource**

#### Not Required Columns:

- SampleComments
- GeometryShape
- Elevation
- UnitElevation
- StationDetailVerBy
- StationDetailVerDate
- StationDetailComments

**LOCATIONS TABLE STRUCTURE:**

\* Primary Key, required for record uniqueness.

<b>CHEMISTRY TEMPLATE HEADER</b>	<b>DATA TYPE</b>	<b>REQUIRED</b>	<b>SIZE</b>	<b>LOOKUP LIST</b>	<b>DEFINITION</b>
StationCode*	Text	Yes	25	Station LookUp	A code representing the StationName and site and should be unique within CEDEN. A single waterbody may have multiple stations. StationCodes and station information must be submitted to the CEDEN system via the new vocabulary request process before lab data can be submitted.
SampleDate*	Date/Time	Yes	20		Refers to the date the sample was collected in the field; formatted as dd/mmm/yyyy.
ProjectCode*	Text	Yes	25	Project LookUp	References the project that is associated with the sample.
EventCode	Text	Desired	20	Event LookUp	Represents the primary reason (e.g. water quality, tissue or bioassessment sampling) of the sampling event at a particular station and date.
ProtocolCode	Text	Desired	50	Protocol LookUp	Represents the sampling protocol used, which includes the set of methods, methodology and/or specifications, such as "MPSL-DFG_Field_v1.0." Established protocols may be used or Regions may document their own sampling protocols. Use "Not Recorded" when environmental samples are taken using unknown protocols.
AgencyCode	Text	Desired	20	Agency LookUp	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. Use "Not Recorded" if unknown.
SampleComments	Text	No	255		Comments related to the GIS station information verification.
LocationCode	Text	Desired	50	Location LookUp	Describes the physical location in the waterbody where the sample was collected. One sampling event may have a single or multiple locations. Default value equals "Not Recorded" if unknown



<b>CHEMISTRY TEMPLATE HEADER</b>	<b>DATA TYPE</b>	<b>REQUIRED</b>	<b>SIZE</b>	<b>LOOKUP LIST</b>	<b>DEFINITION</b>
GeometryShape	Text	No	50	Variable Codes LookUp; Geometry-ShapeList	Physical shape of the location. Example values are Line, Point, or Polygon.
CoordinateNumber	Integer	Yes			Number of coordinates recorded at a Location; e.g. 1 for Points (target and actual coordinates), 1 and 2 for Lines. Default value equals "1."
ActualLatitude	Decimal	Yes			Represents the actual latitude for the sample site in decimal degrees with 5 decimal places.
ActualLongitude	Decimal	Yes			Represents the actual longitude for the sample site in decimal degrees with 5 decimal places (must be negative).
Datum	Text	Yes	10	Variable Codes LookUp; DatumList	The Datum field records the datum that was used on the GPS Device to record the GPS measurements. Example = NAD83. If the datum is unknown, use "NR."
CoordinateSource	Text	Desired	50	Variable Codes LookUp; Coordinate-SourceList	Describes how the coordinate was measured. For example, if measurement was taken from a map or GPS. Use "NR" if unknown.
Elevation	Decimal	No			Elevation at which the sample was taken. Example = 1.
UnitElevation	Text	No	2	Variable Codes LookUp; Unit-Elevation-List	Unit of the Elevation measurement. Example = m
StationDetailVerBy	Text	No	100		Agency or person who performed the verification of the station detail information.
StationDetailVerDate	Date/Time	No			Date the station detail information was verified; formatted as dd/mmm/yyyy.
StationDetailComments	Text	No	255		Comments related to the station detail information.

## Field Results Table

### PURPOSE:

The purpose of the field results table is to document field measurement results. Each record represents a result from a particular water quality measurement at a specific station at a specific point in time.

### COLUMN REQUIREMENTS:

Columns within the CEDEN Field Template tables are either considered 1) required, 2) desired or 3) not required. Required columns must be completed in order for data to be accepted by CEDEN. Desired columns are strongly encouraged and should be completed with known values, whenever possible. If the actual value is unknown, then the given default value **must** be used. Not required columns include additional information that aid in data usability. Individual column requirements are listed below:

#### Required Columns:

<b>StationCode</b>	<b>MatrixName</b>
<b>SampleDate</b>	<b>MethodName</b>
<b>ProjectCode</b>	<b>AnalyteName</b>
<b>CollectionTime</b>	<b>FractionName</b>
<b>CollectionMethodCode</b>	<b>UnitName</b>
<b>Replicate</b>	<b>Result</b>
<b>CollectionDepth</b>	<b>ResQualCode</b>
<b>UnitCollectionDepth</b>	<b>QACode</b>

#### Desired Columns:

<b>EventCode</b>	<b>FieldReplicate</b>
<b>ProtocolCode</b>	<b>ComplianceCode</b>
<b>AgencyCode</b>	<b>BatchVerificationCode</b>
<b>LocationCode</b>	<b>CalibrationDate</b>
<b>CollectionDeviceName</b>	
<b>PositionWaterColumn</b>	

#### Not Required Columns:

- SampleComments
- GeometryShape
- FieldCollectionComments
- FieldResultComments

**FIELD RESULTS TABLE STRUCTURE:**

\* Primary Key, required for record uniqueness.

<b>FIELD TEMPLATE HEADER</b>	<b>DATA TYPE</b>	<b>REQUIRED</b>	<b>SIZE</b>	<b>LOOKUP LIST</b>	<b>DEFINITION</b>
StationCode*	Text	Yes	25	Station LookUp	A code representing the StationName and site and should be unique within CEDEN. A single waterbody may have multiple stations. StationCodes and station information must be submitted to the CEDEN system via the new vocabulary request process prior to submitting associated data.
SampleDate*	Date/Time	Yes			Refers to the date the sample was collected in the field. Formatted as dd/mmm/yyyy. Use "01/Jan/1950" if the actual SampleDate is unknown.
ProjectCode	Text	Yes	25	Project LookUp	References the project that is associated with the sample.
EventCode	Text	Desired	20	Event LookUp	Represents the primary reason (e.g. water quality, tissue or bioassessment sampling) of the sampling event at a particular station and date.
ProtocolCode	Text	Desired	50	Protocol LookUp	Represents the sampling protocol used, which includes the set of methods, methodology and/or specifications, such as "MPSL-DFG_Field_v1.0." Established protocols may be used or Regions may document their own sampling protocols. Use "Not Recorded" when environmental samples are taken using unknown protocols.
AgencyCode	Text	Desired	20	Agency LookUp	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. Use "Not Recorded" if unknown.
SampleComments	Text	No	255		The comments field should be used for any notes or comments specifically related to the sample collection.

<b>FIELD TEMPLATE HEADER</b>	<b>DATA TYPE</b>	<b>REQUIRED</b>	<b>SIZE</b>	<b>LOOKUP LIST</b>	<b>DEFINITION</b>
LocationCode	Text	<b>Desired</b>	50	Location LookUp	Describes the physical location in the waterbody where the sample was collected. One sampling event may have a single or multiple locations. Use "Not Recorded" if unknown.
GeometryShape	Text	No	50	Variable Codes LookUp; Geometry-ShapeList	Physical shape of the location. Example values are Line, Point, or Polygon.
CollectionTime*	Date/Time	<b>Yes</b>	20		Refers to the time when the first sample of a sampling event at a specific station was collected in the field. Format equals hh:mm. Use "00:00" if the time sampling started is unknown.
CollectionMethodCode	Text	<b>Yes</b>	50	Collection Method LookUp	Refers to the general method of collection such as Field, Field_Cont or Lentic_CSBP. The default value equals "Field. "
Replicate*	Integer	<b>Yes</b>			Used to distinguish between replicates created at a single collection in the field. Default value is "1." Replicate samples are collected at the same station and date. Therefore, samples collected on different dates from the same station should both have a value of 1 for Replicate.
CollectionDeviceName	Text	<b>Desired</b>	50	Collection Device LookUp	Name of the CollectionDevice. Use "Not Recorded" if unknown.
CollectionDepth	Decimal	<b>Yes</b>			Records the depth or penetration, from the surface in the water or sediment column, at which the sample was collected.
UnitCollectionDepth	Text	<b>Yes</b>	50	Variable Codes LookUp; Unit-Collection-DepthList	Refers to the units used in the CollectionDepth including cm (centimeters) and m (meters).

<b>FIELD TEMPLATE HEADER</b>	<b>DATA TYPE</b>	<b>REQUIRED</b>	<b>SIZE</b>	<b>LOOKUP LIST</b>	<b>DEFINITION</b>
PositionWaterColumn	Text	<b>Desired</b>	20	Variable Codes LookUp; Position-Water-ColumnList	Position in water column where sample was taken. Use "Not Applicable" if unknown.
FieldCollection Comments	Text	No	255		Comments related to the FieldCollection
MatrixName*	Text	<b>Yes</b>	50	Matrix LookUp	Refers to the sample matrix, e.g. samplewater. Use "Not Recorded" if unknown.
MethodName*	Text	<b>Yes</b>	50	Method LookUp	Refers to the analysis method used to analyze the sample. The default is "FieldMeasure".
AnalyteName*	Text	<b>Yes</b>	100	Analyte LookUp	Name of the analyte or parameter for which the analysis is conducted and result is reported. The LookUp list includes the acceptable abbreviation or name of the variable used by the database, enabling consistency across reporting.
FractionName*	Text	<b>Yes</b>	50	Fraction LookUp	Specific descriptor of the Analyte. For example, metals are often expressed as total or dissolved and therefore this description should be used within the fraction field.
UnitName*	Text	<b>Yes</b>	50	Unit LookUp	Refers to how the chemistry result is measured or expressed.
FieldReplicate*	Integer	<b>Desired</b>			The replicate number identifies replicates created in the field. The default value is "1."
Result	Text	<b>Yes</b>	50		Final numeric result of a given analyte, stored as text to retain trailing zeros. The result should be reported with the appropriate number of significant figures. Result may be left blank as long as an appropriate ResQualCode is provided.
ResQualCode	Text	<b>Yes</b>	10	ResQual LookUp	Qualifies the analytical result of the sample. Use "=" if unknown.

<b>FIELD TEMPLATE HEADER</b>	<b>DATA TYPE</b>	<b>REQUIRED</b>	<b>SIZE</b>	<b>LOOKUP LIST</b>	<b>DEFINITION</b>
QACode*	Text	<b>Yes</b>	30	QA LookUp	Applied to the result to describe any special conditions, situations or outliers that occurred during or prior to the analysis to achieve the result. The default code, indicating no special conditions, is "None." Use "NR" if the special conditions are unknown or if it is unknown whether there were special conditions. 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.
ComplianceCode	Text	<b>Desired</b>		Data Compliance LookUp	Unique code describing the compliance with the associated Quality Assurance Project Plan (QAPP). Use "NR" if the compliance is unknown.
BatchVerificationCode	Text	<b>Desired</b>	10	Batch Verification Lookup	Unique code referencing the Verification of a Batch. Use "NR" if unknown.
CalibrationDate	Date/Time	<b>Desired</b>			CalibrationDate refers to the date the collection device was calibrated. Formatted as dd/mmm/yyyy. Use "01/Jan/1950" if the actual date the equipment was calibrated is unknown.
FieldResultComments	Text	No	255		Holds any comments related to the field result or analysis of the sample.

## Habitat Results Table

### PURPOSE:

The purpose of the habitat results table is to document field observation results. Each record represents a result for a single observation at a specific station at a specific point in time.

### COLUMN REQUIREMENTS:

Columns within the CEDEN Field Template tables are either considered 1) required, 2) desired or 3) not required. Required columns must be completed in order for data to be accepted by CEDEN. Desired columns are strongly encouraged and should be completed with known values, whenever possible. If the actual value is unknown, then the given default value **must** be used. Not required columns include additional information that aid in data usability. Individual column requirements are listed below:

#### Required Columns:

<b>StationCode</b>	<b>AnalyteName</b>
<b>SampleDate</b>	<b>FractionName</b>
<b>ProjectCode</b>	<b>UnitName</b>
<b>CollectionTime</b>	<b>VariableResult*</b>
<b>CollectionMethodCode</b>	<b>Result*</b>
<b>Replicate</b>	<b>ResQualCode</b>
<b>MatrixName</b>	<b>QACode</b>
<b>MethodName</b>	

\*Conditionally required i.e. VariableResult or Result is required to be populated, but not both.

#### Desired Columns:

**EventCode**  
**ProtocolCode**  
**AgencyCode**  
**LocationCode**  
**CollectionDeviceName**  
**ComplianceCode**  
**BatchVerificationCode**

#### Not Required Columns:

SampleComments  
GeometryShape  
HabitatCollectionComments  
HabitatResultComments

## HABITAT RESULTS TABLE STRUCTURE:

\* Primary Key, required for record uniqueness.

<b>FIELD TEMPLATE HEADER</b>	<b>DATA TYPE</b>	<b>REQUIRED</b>	<b>SIZE</b>	<b>LOOKUP LIST</b>	<b>DEFINITION</b>
StationCode*	Text	Yes	25	Station LookUp	A code representing the StationName and site and should be unique within CEDEN. A single waterbody may have multiple stations. StationCodes and station information must be submitted to the CEDEN system via the new vocabulary request process prior to submitting associated data.
SampleDate*	Date/Time	Yes			Refers to the date the sample was collected in the field. Formatted as dd/mmm/yyyy. Use "01/Jan/1950" if the actual SampleDate is unknown.
ProjectCode	Text	Yes	25	Project LookUp	References the project that is associated with the sample.
EventCode	Text	Desired	20	Event LookUp	Represents the primary reason (e.g. water quality, tissue or bioassessment sampling) of the sampling event at a particular station and date.
ProtocolCode	Text	Desired	50	Protocol LookUp	Represents the sampling protocol used, which includes the set of methods, methodology and/or specifications, such as "MPSL-DFG_Field_v1.0." Established protocols may be used or Regions may document their own sampling protocols. Use "Not Recorded" when environmental samples are taken using unknown protocols. Use "Not Applicable" when LabQA samples are taken with unknown protocols.
AgencyCode	Text	Desired	20	Agency LookUp	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. Use "Not Recorded" if unknown.
SampleComments	Text	No	255		The comments field should be used for any notes or comments specifically related to the sample collection.



<b>FIELD TEMPLATE HEADER</b>	<b>DATA TYPE</b>	<b>REQUIRED</b>	<b>SIZE</b>	<b>LOOKUP LIST</b>	<b>DEFINITION</b>
LocationCode	Text	<b>Desired</b>	50	Location LookUp	Describes the physical location in the waterbody where the sample was collected. One sampling event may have a single or multiple locations. Use "Not Recorded" when environmental samples are taken at an unknown location.
GeometryShape	Text	No	50	Variable Codes LookUp; Geometry-ShapeList	Physical shape of the location. Example values are Line, Point, or Polygon.
CollectionTime*	Date/Time	<b>Yes</b>	20		Refers to the time when the first sample of a sampling event at a specific station was collected in the field. Format equals hh:mm. Use "00:00" if the time sampling started is unknown.
CollectionMethodCode	Text	<b>Yes</b>	50	Collection Method LookUp	Refers to the general method of collection such as "Habitat_Generic", "Habitat_SWAMP", "Habitat_SNARL", "Habitat_EMAP", "Habitat_CSBP", "Bank/Tow" or "Littoral". Default value equals "Not Recorded."
Replicate*	Integer	<b>Yes</b>			Used to distinguish between replicates created at a single collection in the field. Default value is "1." Replicate samples are collected at the same station and date. Therefore, samples collected on different dates from the same station should both have a value of "1" for Replicate.
CollectionDeviceName	Text	<b>Desired</b>	50	Collection Device LookUp	Name of the CollectionDevice. Default value for habitat is "None."
HabitatCollection Comments	Text	No	255		Comments related to the habitat collection.
MatrixName*	Text	<b>Yes</b>	50	Matrix Lookup	Refers to the sample matrix, e.g. samplewater. Use "Not Recorded" if unknown.
MethodName*	Text	<b>Yes</b>	50	Method LookUp	Refers to the analysis method used to analyze the sample. Default is "FieldObservations."

<b>FIELD TEMPLATE HEADER</b>	<b>DATA TYPE</b>	<b>REQUIRED</b>	<b>SIZE</b>	<b>LOOKUP LIST</b>	<b>DEFINITION</b>
AnalyteName*	Text	Yes	100	Analyte LookUp	Name of the analyte or parameter for which the analysis is conducted and result is reported. The LookUp list includes the acceptable abbreviation or name of the variable used by the database, enabling consistency across reporting.
FractionName*	Text	Yes	50	Fraction LookUp	Specific descriptor of the Analyte. For field observations use "None."
UnitName*	Text	Yes	50	Unit LookUp	Refers to how the result is measured or expressed. For field observations this is "None."
VariableResult	Text	Yes	80	FieldObsVar LookUp	Categorical result for field observation. Utilize FieldObsVarCode column within FieldObsVarLookUp. VariableResult may be left blank as long as the Result is populated. If both the VariableResult and Result are blank then an appropriate ResQualCode needs to be provided.
Result	Text	Yes	50		Final numeric result of a given analyte, stored as text to retain trailing zeros. The result should be reported with the appropriate number of significant figures. Result may be left blank as long as the VariableResult is populated. If both the VariableResult and Result are blank then an appropriate ResQualCode needs to be provided.
ResQualCode	Text	Yes	10	ResQual LookUp	Qualifies the analytical result of the sample. Default value equals "=".
QACode*	Text	Yes	30	QA LookUp	Applied to the result to describe any special conditions, situations or outliers that occurred during or prior to the analysis to achieve the result. The default code, indicating no special conditions, is "None." Use "NR" if the special conditions are unknown or if it is unknown whether there were special conditions. 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.

<b>FIELD TEMPLATE HEADER</b>	<b>DATA TYPE</b>	<b>REQUIRED</b>	<b>SIZE</b>	<b>LOOKUP LIST</b>	<b>DEFINITION</b>
ComplianceCode	Text	<b>Desired</b>		Data Compliance LookUp	Unique code describing the compliance with the associated Quality Assurance Project Plan (QAPP). Use "NR" if the compliance is unknown.
BatchVerificationCode	Text	<b>Desired</b>	10	Batch Verification Lookup	Unique code referencing the Verification of a Batch. Use "NR" if the BatchVerificationCode is unknown.
HabitatResultComments	Text	No	255		Comments related to the habitat result.

# **Appendix A: Field Data Submission Guidance Documentation Amendments**

## AMENDMENTS

Amendments made to the CEDEN Field Data Submission Guidance Document are documented within Table 1.

**Table 1. Amendments made to the Field Data Submission Guidance Document.**

<b>Date of Amendment</b>	<b>Document Section</b>	<b>Amendment Summary</b>	<b>Amendment Details</b>
August 23rd 2013	List of Acronyms	Added acronyms.	Added SWAMP and QAO to the List of Acronyms.
August 23rd 2013	Stations Table: Column Requirements	Updated required field designations for Stations Table.	Updated required field designations for Stations Table. Required Columns: Added: StationAgency, SWRCBWatTypeCode. Desired Columns: Added: CoordinateSource Removed: LocalWatershed, LocalWaterbody, Counties_2004_County, SWRCBWatTypeCode, CalWater_2004_RB. Not Required Columns: Added: EventType1, EventType2, EventType3, LocalWaterShed, LocalWaterBody, Counties_2004_COUNTY, CalWater_2004_RB, NHD_PlusCatchmentComID. Removed: CalWater_2004_SWRCBNUM2 HydrologicUnit
August 23rd 2013	Stations Table	Added Additional Resources section to Stations Table.	Added an "Additional Resources" section to the Stations Table after Column Requirements.
August 23rd 2013	Stations Table: Stations Table Structure: StationSource	Updated StationSource LookUp list and definition.	Updated StationSource LookUp List from blank to "AgencyLookUp or ProjectLookUp". Updated Definition from "Agency or project that created the station." to "Agency or project that submitted the station to CEDEN".
August 23rd 2013	Stations Table: Stations Table Structure	Added new fields to the Stations Table.	Added new fields to Stations Table Structure: StationAgency, EventType1, EventType2, EventType3 and NHD_Plus_CatchmentComID.
August 23rd 2013	Stations Table: Stations Table Structure: AddDate	Added format information to AddDate	Added "Format as dd/mmm/yyyy" to the AddDate definition.

<b>Date of Amendment</b>	<b>Document Section</b>	<b>Amendment Summary</b>	<b>Amendment Details</b>
August 23rd 2013	Stations Table: Stations Table Structure	Added default value information to Stations Table definitions.	Added default value information to the description field within the Stations Table for CoordinateNumber, Datum, CoordinateSource, SWRCBWatTypeCode
August 23rd 2013	Stations Table: Stations Table Structure: State	Added LookUp list information to State.	Updated State LookUp List from blank to "VariableCodesLookUp".
August 23rd 2013	Stations Table: Stations Table Structure	Updated Stations Table template header names.	Updated Stations Table template header names: "NHD24K_GNIS_Name" to "NHD_24K_v2_GNIS_Name", "NHD24k_Reachcode" to "NHD_24k_v2_ReachCode", "NHD24k_HUC12" to "NHD_24k_v2_HUC_12" and "NHD24k_Hu_12_Name" to "NHD_24k_v2_Name".
August 23rd 2013	Field Results Table: Column Requirements	Updated required field designations for Field Results Table.	Updated required field designations for Field Results Table: Desired Columns: Added: EventCode, PositionWaterColumn. Not Required Columns: Removed: EventCode, PositionWaterColumn.
August 23rd 2013	Field Results Table: Field Results Table Structure	Added default value information to Field Results Table definitions.	Added default value information to the description field within the Field Results Table for SampleDate, ProtocolCode, AgencyCode, LocationCode, CollectionTime, CollectionMethodCode, CollectionDeviceName, PositionWaterColumn, MatrixName, FieldReplicate, ResQualCode, QACode, ComplianceCode and BatchVerificationCode
August 23rd 2013	Field Results Table: Field Results Table Structure: CollectionMethodCode	Updated CollectionMethodCode definition within the Field Results Table.	Updated the CollectionMethodCode definition from "Refers to the general method of collection such as Sed_Grab, Sed_Core, Water_Grab, Autosampler24h, Autosampler7d." to "Refers to the general method of collection such as Field, Field_Cont or Lentic_CSBP. Default value equals Field."
August 23rd 2013	Field Results Table: Field Results Table Structure: Result	Added information to the Result definition within the Field Results Table.	Added "Result may be left blank as long as an appropriate ResQualCode is provided." to the Result description within the Field Results Table.
August 23rd 2013	Habitat Results Table: Column Requirements	Updated required field designations for Habitat Results Table.	Updated required field designations for Habitat Results Table: Desired Columns: Added: EventCode, BatchVerificationCode. Not Required Columns: Removed: EventCode, BatchVerificationCode.

<b>Date of Amendment</b>	<b>Document Section</b>	<b>Amendment Summary</b>	<b>Amendment Details</b>
August 23rd 2013	Habitat Results Table: Habitat Results Table Structure	Added default value information to Habitat Results Table definitions.	Added default value information to the description field within the Habitat Results Table for SampleDate, ProtocolCode, AgencyCode, LocationCode, CollectionTime, CollectionMethodCode, MatrixName, ResQualCode, QACode, ComplianceCode and BatchVerificationCode.
August 23rd 2013	Habitat Results Table: Habitat Results Table Structure: CollectionMethodCode	Updated CollectionMethodCode definition.	Updated CollecitonMethodCode definition from "Refers to the general method of collection such as Sed_Grab, Sed_Core, Water_Grab, Autosampler24h, Autosampler7d." to "Refers to the general method of collection such as "Habitat_Generic", "Habitat_SWAMP", "Habitat_SNARL", "Habitat_EMAP", "Habitat_CSBP", "Bank/Tow" or "Littoral". Default value equals Not Recorded."
August 23rd 2013	Habitat Results Table: Habitat Results Table Structure: VariableResult	Updated VariableResult LookUp list and added additional information to definition.	Updated VariableResult LookUp list from "VariableCodesLookUp" to "FieldObsVarLookUp". Added the following information to the VariableResult definition: "Utilize FieldObsVarCode column within FieldObsVarLookUp VariableResult may be left blank as long as the Result is populated. If both the VariableResult and Result are blank then an appropriate ResQualCode needs to be provided."
August 23rd 2013	Habitat Results Table: Habitat Results Table Structure: Result	Added additional information to Result definition.	Added the following information to the Result definition: "Result may be left blank as long as the VariableResult is populated. If both the VariableResult and Result are blank then an appropriate ResQualCode needs to be provided."
October 11 <sup>th</sup> 2013	Introduction	Updated Southern California RDC contact information.	Updated Southern California RDC contact information from Shelly Moore to Marlene Hanken contact information.
January 3 <sup>rd</sup> , 2017	Introduction, Station Table, Field Results Table, Habitat Results Tables	Removed references to Stations tab	Removed the Stations section and references to Stations tab, updated effected screen shot, and modified StationCode definition to note that station codes must be established through the new vocabulary request process prior to subittal.
January 3 <sup>rd</sup> , 2017	All	Updated use of quotes	Replaced single quotes with double quotes.
January 3 <sup>rd</sup> , 2017	Locations Table, Field Results Table, and Habitat Results Table	Updated description of "desired" fields	Added reference to using default values when actual values are not know for "desired" fields in the "Column Requirements" paragraph.
January 3 <sup>rd</sup> , 2017	List of Terms	Updated links	Added current links for the LookUp lists and vocabulary request process.

<b>Date of Amendment</b>	<b>Document Section</b>	<b>Amendment Summary</b>	<b>Amendment Details</b>
January 3 <sup>rd</sup> , 2017	Introduction	Updated Central Coast RDC contact information	Updated the Central Coast RDC contact information from Mark Pranger to Stacey Swenson.
January 3 <sup>rd</sup> , 2017	Locations Table, Field Results Table, and Habitat Results Table	Modified use of “default” wording	Changed most instances of “Default equals...if unknown” to “Use...if unknown.”
January 3 <sup>rd</sup> , 2017	All	Various edits	Removed double spaces and duplicate words and other small edits.
January 3 <sup>rd</sup> , 2017	Locations Table, Field Results Table, and Habitat Results Table	Updated StationCode definition	Included that StationCode must be unique within CEDEN, not just within the study design, as previously stated.
January 8 <sup>th</sup> , 2019	Introduction	Updated RDCs	Removed SCCWRP as current RDC.
January 8 <sup>th</sup> , 2019	All tables	Variable Code List references	Added references to the appropriate lists in the Lookup List columns for fields that rely on Variable Codes.
January 8 <sup>th</sup> , 2019	Locations Table, Field Results Table, and Habitat Results Table	Updated wording for “desired” (default required) fields	Changed “should” to “must” for “desired” fields in the “Column Requirements” paragraphs.
January 8 <sup>th</sup> , 2019	All tables	Format changes	Changed shading, font, and alignment of tables as needed for consistency.