

Data Management Procedures



**FOR LAKE COUNTY WATER RESOURCES DEPARTMENT (LCWRD)
AND HABEMATOLEL POMO OF UPPER LAKE (HPUL) TRIBE
WATER QUALITY MONITORING DATA**

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Table of Contents

Table of Contents	0
1. Introduction	1
1.1 CEDEN	1
1.2 WQX	1
2. Data Collection	1
2.1 Data collection protocols for field sampling events	1
2.1.1 Field data entry	1
2.1.2 Field collection data download from Survey123	2
2.2 Sample identification information for lab-analyzed samples	3
2.3 Field WQ measurements and habitat observation results	4
2.4 Geospatial coordinates	5
3. Data Reporting	6
3.1 Lab reporting guidance	6
3.1.1 Chemistry Data	6
3.1.2 Toxicity Data	7
3.2 Submitting Data to CEDEN	10
3.2.1 CEDEN Data Replication to WQX	11
4. Data Access	11
4.1 CEDEN	11
4.1.1 CD3	12
4.2 WQX	14
URLs Linked to in Document	18

1. Introduction

This document outlines procedures for data management, dissemination and access for water and sediment monitoring data generated by the Lake County Water Resources Department (LCWRD) and the Habematolel Pomo of Upper Lake (HPUL) tribe.

1.1 CEDEN

The California Environmental Data Exchange Network (CEDEN) is a central location to find and share information about California's water bodies. CEDEN consolidates California's data in a central location, where it can be accessed by resource managers, scientists, citizen groups, and the public for reports and research purposes. The [CEDEN website](#) provides information about preparing and [submitting data](#) to CEDEN, including [data templates with examples and detailed documentation](#). Data can be retrieved and downloaded from CEDEN using the Advanced Query Tool, found at <http://ceden.waterboards.ca.gov/AdvancedQueryTool> (see [Section 4.1](#) for more details).

1.2 WQX

The [Water Quality Portal](#) (WQP) is the nation's largest source for water quality monitoring data. The WQP uses the Water Quality Exchange (WQX) data format to share over 380 million water quality data records from 900 federal, state, tribal and other partners.

WQX is the mechanism for data partners to submit water monitoring data to EPA. The EPA provides guidance on direct [Water Quality Data Upload with WQX](#), however CEDEN also replicates the data in the CEDEN database to WQX (as described in section [3.2.1 CEDEN Data Replication to WQX](#)). LCWRD and HPUL will take advantage of this existing data replication process, and upload data to both CEDEN and WQX, by directly uploading data to CEDEN only.

The [WQP](#) is the mechanism for anyone, including the public, to retrieve water monitoring data from EPA. The EPA provides instructions on using the portal at https://www.waterqualitydata.us/portal_userguide/, and additional information is available in this document's [Data Access > WQX](#) section.

2. Data Collection

2.1 Data collection protocols for field sampling events

2.1.1 Field data entry

Data collection in the field is conducted using ArcGIS's Survey123 (a digital form-based data collection software), following the project's field sampling protocols.

The sample identification information recorded during field sampling activities is the starting point and basis for the project's monitoring data, so it is important that it is both accurate and

complete, in terms of the project's data reporting goals and requirements. Required data collection parameters should be identified in project field sampling plans, and communicated to field sampling personnel. For projects whose data will be entered into CEDEN, field crews should be sure to collect the required information outlined in sections [2.2 Sample identification information for lab-analyzed samples](#) and [2.3 Field WQ measurements and habitat observation results](#).

2.1.2 Field collection data download from Survey123

Supplies needed:

- Mesa tablet
- Computer with ArcPro
- Access to W drive

The following steps should be followed to retrieve, access, view and download field sampling data from Survey123:

1. Upload WQ data from mesa
 - Once all data has been entered into the mesa tablet, press the green check mark at the lower right of the page.
2. Open ArcPro, navigate to CLLAMP_QAQC_20221103
 - W > ArcPro_Projecs > WQ_CLMonthly > CLLAMP_QAQC_20221103 (looks like a blue briefcase)
3. QA/QC data
 - Navigate to recent data entries for both the WQ_sites and sonde_profile. Check for any data discrepancies or errors. Fix at this time. (use attributes table if tabs are not open)
4. Run Script to correct the date/time issues
 - Navigate to CLLAMP_TOSqlite tab > Cell > Run All
5. Export Table to "Standalone Tables"
 - Highlight desired rows to be exported. *Note you will need to do this for both WQ & sonde data
 - Navigate to "Table" in the upper tabs, furthest to the right
 - Click "Export Table", furthest to the right
 - Re-name the "Output Table" with an underscore and the data's date at the end of the name
 - ex: WQ_sites_ExportTable_11022022
 - OK
6. Export Table to Excel
 - Navigate to Geoprocessing,
 - View > Geoprocessing toolbox > Table to Excel
 - Input table: select the desired tables in the dropdown window, if it does not appear, click the arrow directly next to "input table", select desired tables, then proceed to selecting the tables in the window dropdown
 - *Note: you will select both the WQ sites and sonde profile tables
 - Export table: W > Water Quality > Data > Monthly Lake WQ data > 2022 > RAW data > Exported RAW Field Data

- Name: CLLAMP_WQSites_SondeProfile_11022022
- Save
- Run
- Navigate to folder to check data export was successful

The excel file that results from this process can be used to fill out the chain-of-custody (COC) forms provided to laboratories (for lab analyzed parameters), or for field WQ measurements, entered into the [Field Data Template](#) after being transferred into CEDEN format (as described in [section 2.3](#))

Tips/Notes:

- Oaks Arm CL04: 39.01398, -122.701836
Lower Arm CL03: 38.96621, -122.680822
Upper Arm CL01: 39.06618, -122.865036
- Multiple ways to navigate to Geoprocessing tools, do what you know
- ALL DATES in or at the end of the project names are subject to change as they are edited

Helpful links (Internal for Water Resources staff as of July 2023):

- ArcPro Project: CCLAMP_QAQC_20221103
W:\GIS\ArcPro_Projects\WQ_CLMonthly
- W drive for excel sheets
W:\Water Quality\Data\Monthly Lake WQ data\2022\RAW data\Exported RAW Field Data

2.2 Sample identification information for lab-analyzed samples

In order to submit results for water and sediment samples in CEDEN data format, analytical labs will need to be provided sample identification information for the samples they are analyzing. The agency collecting the samples needs to record this information and convey it to the laboratory.

CEDEN data templates require the following pieces of sample identification information for each sample:

StationCode
SampleDate
ProjectCode
EventCode
ProtocolCode
AgencyCode
LocationCode
CollectionTime
CollectionMethodCode

SampleTypeCode
 Replicate
 CollectionDeviceName
 CollectionDepth
 UnitCollectionDepth
 PositionWaterColumn
 SampleID
 PrepPreservationName
 PrepPreservationDate (yyyy-mm-dd hh:mm)

All fields except SampleDate, CollectionTime, Replicate, CollectionDepth, SampleID, and PrepPreservationDate must use CEDEN controlled vocabulary terms. (Existing controlled vocabulary terms for these fields can be found on CEDEN's [Lookup Lists page](#), and new controlled vocabulary terms can be requested by filling out a [New Vocabulary Request Template](#) and sending it to ceden@waterboards.ca.gov). To prevent additional work later in the process, whenever possible, the field collection agency should provide values for these fields to the labs using CEDEN controlled vocabulary terms. *If the lab would be unable to ascertain values for any of these fields from the COCs provided to them alone, the collection agency will need to communicate to the lab the correct values to use for the samples, supplementarily to the COC.* Additional information on how to fill out these fields can be found in the [Chemistry Data Submission Guidance Document](#).

2.3 Field WQ measurements and habitat observation results

Field measures and observations are recorded during sampling and exported into an excel spreadsheet following the process outlined in [Section 2.1](#). They then need to be transferred from that file into the [CEDEN Field Data Template](#). Field water quality (WQ) measures (e.g., pH, conductivity) are recorded in the [Field Data Template](#)'s FieldResults tab and habitat observations (e.g., wind direction, water clarity) are recorded in the [Field Data Template](#)'s HabitatResults tab, following the requirements outlined in the CEDEN [Field Collection and Result Data Submission Guidance Document](#).

As with other CEDEN data formats, many [CEDEN Field Data Template](#) fields use CEDEN controlled vocabulary terms. Existing controlled vocabulary terms for CEDEN Field Data Template fields can be found on CEDEN's [Lookup Lists page](#), and, when necessary, new controlled vocabulary terms can be requested by filling out a [New Vocabulary Request Template](#) and sending it to ceden@waterboards.ca.gov.

Most of the fields used in the [CEDEN Field Data Template](#) overlap with the [CEDEN Chemistry Data Template](#) and thus, use the same controlled vocabulary lookup lists. One exception that is unique to the field data template, is the VariableResult field in the HabitatResult table. The VariableResult field is used to record categorical (rather than numerical) habitat observation result values (such as "Light Breeze" for "WindSpeed"), using vocab terms from the [FieldObsVarLookup](#) list.

The [FieldObsVarLookup](#) differs slightly from other CEDEN lookup lists, in that the valid VariableResult values listed in the lookup list's ValueCode field can only be used with the analyte listed in the lookup list's AnalyteName field (e.g. "Light Breeze" is a valid VariableResult value to report for the AnalyteName "WindSpeed", but not is not a valid VariableResult value to use for "WaterClarity"). See example below:

AnalyteName	ValueCode
WaterClarity	Clear
WaterClarity	Cloudy (> 4" vis.)
WaterClarity	High Turbidity
WaterClarity	Low Turbidity
WaterClarity	Moderate Turbidity
WaterClarity	Murky (< 4" vis.)
WaterClarity	Not Recorded
WaterClarity	Other
WindSpeed	Calm
WindSpeed	Gusty
WindSpeed	Light Breeze
WindSpeed	Not Recorded

Once field WQ measurement and habitat observation data are recorded in the [CEDEN Field Data Template](#) using CEDEN controlled vocabulary and following CEDEN business rules outlined in the CEDEN [Field Collection and Result Data Submission Guidance Document](#), they can be uploaded to CEDEN using the steps outlined in [Section 3.2](#).

2.4 Geospatial coordinates

In order for monitoring results to be mappable, they need to be associated with geospatial coordinates (i.e. latitude and longitude values). There are two ways to do this in the CEDEN data structure.

The first way, which is required, is by populating TargetLatitude and TargetLongitude values for a new station in the Station tab of CEDEN's [New Vocabulary Request Template](#). This only needs to be done once for a given station, when it is first added to CEDEN's lookup list. After that, any results reported with that StationCode will be associated with that target latitude and target longitude. (If you are using an existing StationCode value, you can see the station's associated TargetLatitude and TargetLongitude values in [CEDEN's StationLookUp list](#).)

If there is a desire or project requirement to go beyond recording the station's target geocoordinates, and store the actual coordinates where each sample was collected, CEDEN

provides a means to do that as well (though it is optional). You can do this by populating the Locations tab of the [CEDEN Chemistry Data Template](#) (if you are reporting ChemistryResults) or [CEDEN Field Data Template](#) (if you are reporting FieldResults or HabitatResults). You can enter a record for each unique combination of StationCode, SampleDate, ProjectCode, EventCode, ProtocolCode, AgencyCode, LocationCode that is present in your results, and provide the geocoordinates in the ActualLatitude and ActualLongitude fields, and then submit the Locations records to CEDEN along with your results. More details on filling out the Locations table can be found in the [Chemistry Data Submission Guidance Document](#) and the [Field Collection and Result Data Submission Guidance Document](#).

3. Data Reporting

3.1 Lab reporting guidance

3.1.1 Chemistry Data

Analytical results for water and sediment samples should be reported in a CEDEN format Electronic Data Deliverable (EDD), using the [CEDEN Chemistry Data Template](#). When filling in the EDD, the laboratory must follow the CEDEN guidance document for reporting water and sediment chemistry results, the [Chemistry Data Submission Guidance Document](#). The [guidance document](#) describes each CEDEN Chemistry Data template field's data type, and provides definitions and business rules. (Any additional project-specific business rules should be specified in the QAPP and contracts with laboratories.)

In the CEDEN Chemistry template's ChemistryResult table, for each water or sediment (or related QA sample) result, the laboratory is required to report data in each of the fields listed below:

StationCode
 SampleDate
 ProjectCode
 EventCode
 ProtocolCode
 AgencyCode
 LocationCode
 CollectionTime
 CollectionMethodCode
 SampleTypeCode
 Replicate
 CollectionDeviceName
 CollectionDepth
 UnitCollectionDepth
 PositionWaterColumn
 LabBatch
 AnalysisDate (yyyy-mm-dd hh:mm)
 MatrixName

MethodName
 AnalyteName
 FractionName
 UnitName
 LabReplicate
 Result
 ResQualCode
 MDL
 RL
 QACode
 DilutionFactor
 ExpectedValue *(required for spiked QA samples only)*
 PrepPreservationName
 PrepPreservationDate (yyyy-mm-dd hh:mm)
 DigestExtractMethod
 DigestExtractDate
 SampleID
 LabSampleID
 LabResultComments *(PR and/or RPD required in this field for relevant QA samples)*

Additionally, for each LabBatch included in the EDD, the laboratory is required to report data in each of the template's LabBatch table fields listed below:

LabBatch
 LabAgencyCode
 LabSubmissionCode
 BatchVerificationCode
 SubmittingAgencyCode

While the CEDEN chemistry data template is lengthy, much of the information (i.e. the sample identification-related fields) can be passed along to the lab in an already CEDEN-compliant format. Likewise, the [CEDEN Chemistry Data Submission Guidance Document](#) comprehensively details how to fill out the template, and should contain the answers to labs' questions about how to report their results.

3.1.2 Toxicity Data

Toxicity test results for water and sediment samples should be reported in a CEDEN format Electronic Data Deliverable (EDD), using the [CEDEN Toxicity Data Template](#). When filling in the EDD, the laboratory must follow the CEDEN guidance document for reporting water and sediment chemistry results, the [Toxicity Data Submission Guidance Document](#). The [guidance document](#) describes each CEDEN Toxicity Data template field's data type, and provides definitions and business rules. (Any additional project-specific business rules should be specified in the QAPP and contracts with laboratories.)

The CEDEN toxicity template has a ToxSummaryResult table for reporting toxicity summary results and a ToxReplicateResults table for reporting toxicity replicate results and in-test water

quality measurements. It is desired that labs populate both the ToxSummaryResult and ToxReplicateResults tables.

In the CEDEN Toxicity template's ToxSummaryResult table, for each water or sediment (or related QA sample) toxicity summary result, the laboratory is required to report data in each of the fields listed below:

StationCode
SampleDate
ProjectCode
EventCode
ProtocolCode
AgencyCode
LocationCode
CollectionTime
CollectionMethodCode
SampleTypeCode
Replicate
CollectionDeviceName
CollectionDepth
UnitCollectionDepth
PositionWaterColumn
ToxBatch
MatrixName
MethodName
TestDuration
OrganismName
TestExposureType
QAControlID
SampleID
LabSampleID
Treatment
Concentration
UnitTreatment
Dilution
WQSource
ToxPointMethod
AnalyteName
FractionName
UnitAnalyte
TimePoint
RepCount
Mean
StdDev
StatisticalMethod
AlphaValue
bValue
CalcValueType

CalculatedValue
 CriticalValue
 PercentEffect
 SigEffect
 TestQACode
 ComplianceCode

In the CEDEN Toxicity template's ToxReplicateResult table, for each water or sediment (or related QA sample) toxicity replicate result, or in-test WQ measurement, the laboratory is required to report data in each of the fields listed below:

StationCode
 SampleDate
 StationCode
 SampleDate
 ProjectCode
 EventCode
 ProtocolCode
 AgencyCode
 LocationCode
 CollectionTime
 CollectionMethodCode
 SampleTypeCode
 Replicate
 CollectionDeviceName
 CollectionDepth
 UnitCollectionDepth
 PositionWaterColumn
 ToxBatch
 MatrixName
 MethodName
 TestDuration
 OrganismName
 TestExposureType
 QAControlID
 SampleID
 LabSampleID
 Treatment
 Concentration
 UnitTreatment
 Dilution
 WQSource
 ToxPointMethod
 AnalyteName
 FractionName
 UnitAnalyte
 TimePoint
 LabReplicate

OrganismPerRep
 Result
 ResQualCode
 ToxResultQACode
 ComplianceCode

Additionally, for each ToxBatch included in the EDD, the laboratory is required to report data in each of the template's ToxBatch table fields listed below:

ToxBatch
 StartDate
 LabAgencyCode
 LabSubmissionCode
 BatchVerificationCode
 RefToxBatch
 SubmittingAgencyCode

While the CEDEN toxicity data template is lengthy, and includes an additional table for reporting results, much of the information required in both results tables (i.e. the sample identification-related fields) can be passed along to the lab in an already CEDEN-compliant format. Likewise, the [CEDEN Toxicity Data Submission Guidance Document](#) comprehensively details how to fill out the template, and should contain the answers to labs' questions about how to report their results. And examples of [populated toxicity template tables](#) are available on CEDEN's website, for the lab's reference.

For Toxicity data relevant to the project Pyrethroid monitoring between the years 2023-2025, the site information corresponds with the MS4 project, and has many overlapping vocabulary entries.

3.2 Submitting Data to CEDEN

As described on [CEDEN's website](#), any party collecting water quality-related data in California can submit data to CEDEN by following the six steps outlined below:

1. **Review the [Guidance](#)**
Each template for submitting data to CEDEN is accompanied by a guidance document. These are important to read at the beginning of preparing data for CEDEN submission so you know what fields CEDEN collects.
2. **Register Project**
Contact ceden@waterboards.ca.gov or your [Regional Data Center](#) (RDC) [SFEI](#) to register your project.
3. **Populate Templates**
Use CEDEN [controlled vocabulary](#) and your data to complete the templates.

4. **Use Template [Checker](#)**

The Template Checker confirms that CEDEN controlled vocabulary is used and that the data follow certain business rules.

5. **Resolve Errors and Check Warnings**

The Template Checker returns errors, which must be fixed, and warnings, which should be confirmed. Consult the CEDEN Help Desk or your [RDC SFEI](#) with results with which you are having trouble.

6. **Confirm Data is Ready to Submit to CEDEN**

Once the errors have been resolved and the warnings checked, click the "Submit Data To CEDEN" button.

Start-to-finish, the process for reporting data to CEDEN is fairly extensive, so the roles and responsibilities involved should be communicated at the onset of a project, and documented in contracts with analytical laboratories (and any external field collection agencies).

Establishing vocabulary, using the template checker, and submitting data can be done through ceden@waterboards.ca.gov and the [CEDEN website](#) without fees. However, additional CEDEN support can be obtained from your Regional Data Center (RDC) [SFEI](#). RDCs are the Water Boards' partners in furthering the goals of CEDEN. Although their assistance costs money, they can provide a variety of data preparation and management services. They can load data into their Regional Data Center databases, which then transfers to CEDEN on a weekly basis.

3.2.1 CEDEN Data Replication to WQX

State Water Board staff at CEDEN are responsible for using the Environmental Protection Agency (EPA) Central Data Exchange (CDX) reporting tool called [WQX web](#) to facilitate the transfer of new data into WQX. As part of this process, controlled vocabulary values from CEDEN are cross-walked to valid values for the WQX system. Some of these are a one to one translation (an AnalyteName of "Mercury, methyl" in CEDEN becomes a CharacteristicName of "Methylmercury(1+)" in WQX), while others are many to one (all AgencyCode values for sampling agencies in CEDEN are assigned an OrganizationID of "CEDEN" when moved to WQX).

This process happens on a quarterly basis (previously there was a weekly process to push data from CEDEN to WQX, but it has been discontinued).

4. Data Access

4.1 CEDEN

The primary tool CEDEN provides for accessing data stored in CEDEN is the [CEDEN Advanced Query Tool](#) (CEDEN AQT). It allows users to select a data category (*Water Quality, Toxicity Tissue, Benthic, or Habitat*) and then filter on a variety of fields (*Region, County, Program, Parent Project, Parameter Group, Parameter, Matrix, and/or date range*), to download a specified dataset.



The tool's filtering picklists are dynamic, so selections alter the options of subsequent fields (for example, if a user selects a specific Program, the analytes listed in the Parameter picklist will only be those that have associated results from that Program). By default, only results with replicate and lab replicate of 1, results not flagged with a reject code, and results associated with stations with coordinate number of 1 are available through this query tool. QA sample results are available when the "include QA data" checkbox is marked.

Additionally, CEDEN data is available in [The State's Open Data Portal](#) and its [CEDEN Augmentation Data page](#). The [CEDEN Augmentation Data](#) dataset is composed of field and chemistry data submitted to CEDEN, which has not yet been loaded to the CEDEN database and made available through the advanced query tool. *Recently, a backlog has developed for datasets submitted directly (not through RDCs) to CEDEN, due to issues with CEDEN's internal data loading tools. This page is a temporary workaround for accessing those datasets.*

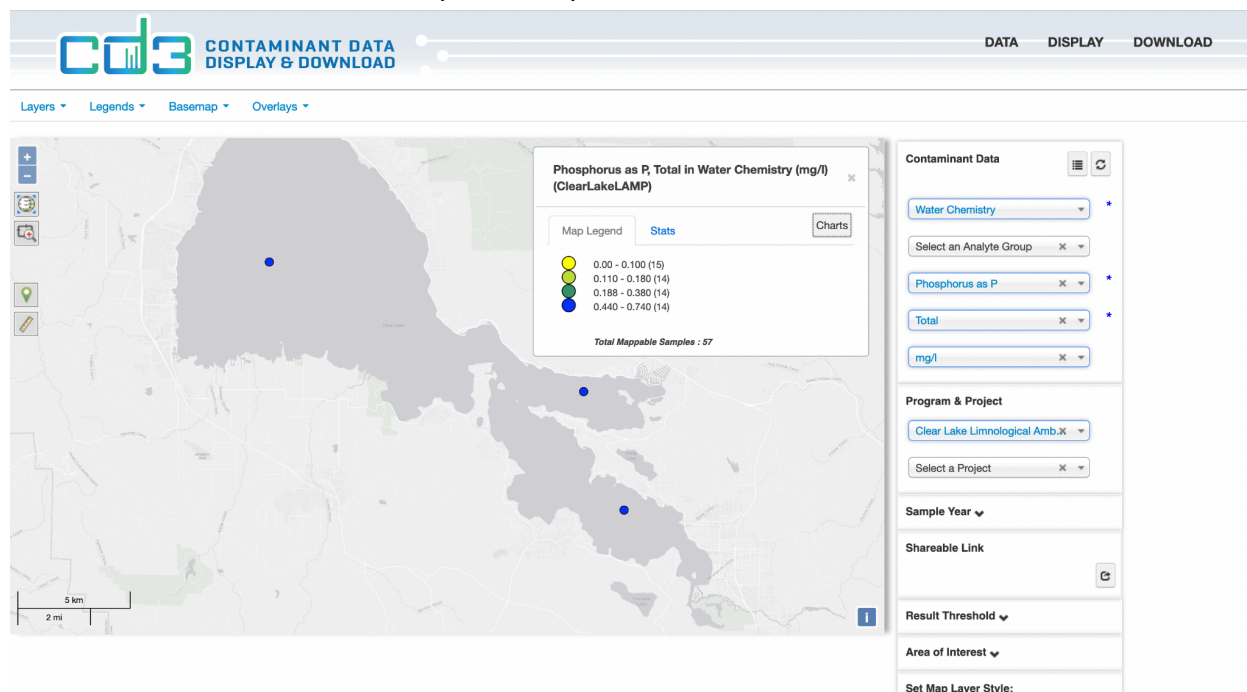
More information about the different pathways of accessing data from CEDEN is available at http://ceden.org/find_data_page.shtml

4.1.1 CD3

[Contaminant Data Display and Download Tool or CD3](#) is a visualization tool for accessing water quality data for the San Francisco Bay-Delta and northern montane regions. It displays all public

data stored in SFEI's Regional Data Center database. (Data stored in SFEI's RDC are comparable with the state's data management business rules and are regularly exchanged with CEDEN.)

CD3's interactive mapping interface includes functionality such as spatial querying and dynamic statistical summaries. It can be used to generate maps displaying your data and to customize and download charts for use in reports and presentations.



In addition to its mapping features, CD3 also includes the [CD3 Data Download Tool](#) to easily download the data. You can use the provided filters (*Test material, AnalyteGroup, Analyte, Fraction, Program, Parent Project, Project, Station, County and/or Sample Date range*) to customize your download. (Drop-down lists will dynamically update as you make selections to include only shared values based on all of the selected filters.)

Data Download Tool Clear Filters

Test Material

Basic Water Quality Benthic Habitat Sediment Chemistry Sediment Toxicity Tissue (fish, bivalves...) Water Chemistry Water Toxicity

Analyte Group

Conventional

Analyte

Oxygen, Dissolved

Fraction

Program

Haberatolet Pomo of Upper Lake Water Quality Monitoring

60 results of 4,009,375 Download

4.2 WQX

The National Water Quality Monitoring Council [Water Quality Portal](#) (WQP) is the official web access tool for downloading data from the EPA (referred to as both WQX and STORET in WQP documentation) as well as USGS (NWIS) and the US Department of Agriculture's STEWARDS program. The web form allows entering of search terms, e.g. State of California, County of Lake:

Basic **Advanced**

Download Water Quality Data

1 of 3 Location Parameters

Specify location parameters to describe the spatial extent of the desired dataset. Additional options are available in the [Advanced Download](#). All fields are optional.

Country

All Countries

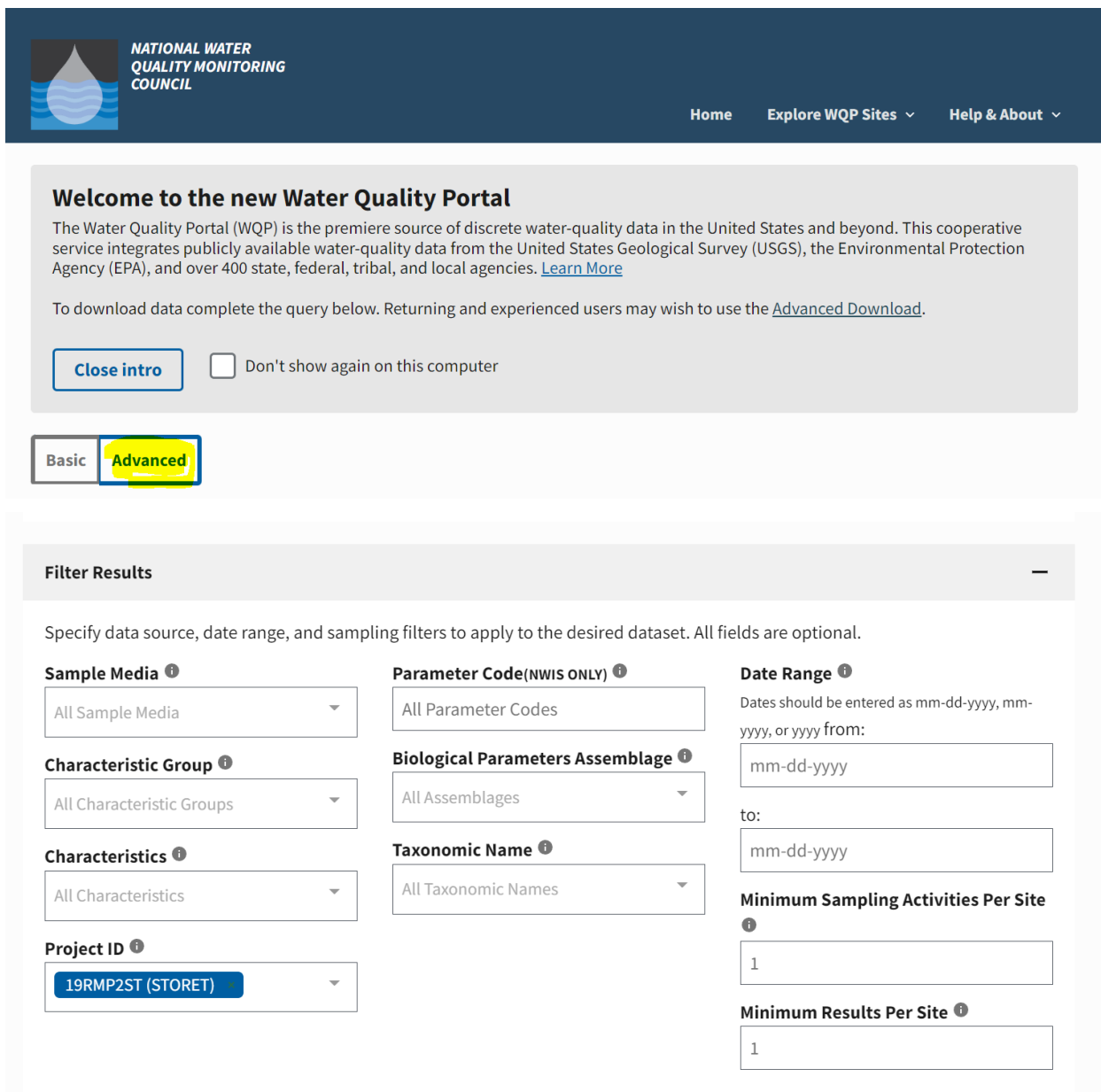
State

California (NWIS, STORET)

County

US, California, Lake County (NWIS, STORET)

There is also an advanced mode in the web portal that allows for additional filters such as ProjectID (ProjectCode from CEDEN) to be utilized:



NATIONAL WATER QUALITY MONITORING COUNCIL

Home Explore WQP Sites Help & About

Welcome to the new Water Quality Portal

The Water Quality Portal (WQP) is the premiere source of discrete water-quality data in the United States and beyond. This cooperative service integrates publicly available water-quality data from the United States Geological Survey (USGS), the Environmental Protection Agency (EPA), and over 400 state, federal, tribal, and local agencies. [Learn More](#)

To download data complete the query below. Returning and experienced users may wish to use the [Advanced Download](#).

[Close intro](#) ☐ Don't show again on this computer

Basic **Advanced**

Filter Results

Specify data source, date range, and sampling filters to apply to the desired dataset. All fields are optional.

Sample Media ⓘ <input type="text" value="All Sample Media"/>	Parameter Code(NWIS ONLY) ⓘ <input type="text" value="All Parameter Codes"/>	Date Range ⓘ Dates should be entered as mm-dd-yyyy, mm-yyyy, or yyyy from: <input type="text" value="mm-dd-yyyy"/> to: <input type="text" value="mm-dd-yyyy"/>
Characteristic Group ⓘ <input type="text" value="All Characteristic Groups"/>	Biological Parameters Assemblage ⓘ <input type="text" value="All Assemblages"/>	Minimum Sampling Activities Per Site ⓘ <input type="text" value="1"/>
Characteristics ⓘ <input type="text" value="All Characteristics"/>	Taxonomic Name ⓘ <input type="text" value="All Taxonomic Names"/>	Minimum Results Per Site ⓘ <input type="text" value="1"/>
Project ID ⓘ <input type="text" value="19RMP2ST (STORET)"/>		

OrganizationID unfortunately will not work, as all data coming from CEDEN is entered with CEDEN as the originating agency. However there are many other ways of filtering data using the WQP: HUC, Site ID (StationCode in CEDEN), and an assortment of geometry based filters.

Relevant filter criteria are listed below:

HPUL

- Site IDs
 - Alley at Pitney Lane
 - Clover Creek at Elk Mt Rd
 - Clover Creek at Hwy 20
 - HPUL Storm Water-1

- HPUL Storm Water-3
- Lyon's Creek
- Middle Creek at Hwy 20
- Middle Creek at Rancheria
- Robinson Creek
- Rodman Slough
- Scotts Creek at Hwy 29
- Upper Middle Creek
- HUCs
 - huc8
 - 18020116 (Upper Cache)
 - huc10
 - 1802011603 (Kelsey Creek-Clear Lake)
 - 1802011602 (Middle Creek)
 - huc12
 - 180201160203 (Clover Creek)
 - 180201510401 (Clover Creek)
 - 180201160306 (Manning Creek-Frontal Clear Lake)
 - 180201160307 (Rodman Slough-Frontal Clear Lake)
 - 180201160204 (Salt Flat Creek-Middle Creek)
 - 180201160202 (West Fork Middle Creek)

LCWRD

- Site IDS
 - CL01
 - CL03
 - CL04
 - CL05
 - LC_MS4-UL1
 - LC_MS4-LP1
 - LC_MS4-NL1
 - LC_MS4-N1
 - LC_MS4-L1
 - LC_MS4-CO1
 - LC_MS4-CL1
 - LC_MS4-LL1
 - LC_MS4-CR1
 - LC_MS4-SB1
 - LC_MS4-K1
 - LC_MS4-HVL1
 - LC_MS4-M1
- HUCs
 - huc8
 - 18020116 (Upper Cache)

- huc10
 - 1802011603 (Kelsey Creek-Clear Lake)
- huc12
 - 180201160310 (Clear Lake)
 - 180102040306 (Clear Lake)

URLs Linked to in Document

- <http://ceden.org/>
- http://ceden.org/CEDEN_checker/Checker/
- [http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=FieldObsV
arLookUp](http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=FieldObsV
arLookUp)
- [http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=StationLoo
kUp](http://ceden.org/CEDEN_Checker/Checker/DisplayCEDENLookUp.php?List=StationLoo
kUp)
- http://ceden.org/CEDEN_checker/Checker/LookUpLists.php
- http://ceden.org/ceden_datatemplates.shtml
- http://ceden.org/ceden_namescodes.shtml
- http://ceden.org/ceden_submitdata.shtml
- http://ceden.org/data_centers.shtml
- http://ceden.org/docs/2019_documentation/ceden_chem_guidance_2019_0108.pdf
- http://ceden.org/docs/2019_documentation/ceden_field_guidance_2019_0108.pdf
- http://ceden.org/docs/2019_documentation/ceden_tox_guidance_2019_0108.pdf
- http://ceden.org/docs/2019_template/ceden_chem_template_01082019_blank.xls
- http://ceden.org/docs/2019_template/ceden_field_template_01082019_blank.xls
- http://ceden.org/docs/2019_template/ceden_toxicity_template_01082019_blank.xls
- http://ceden.org/docs/2019_template/ceden_toxicity_template_01082019_example.xls
- http://ceden.org/find_data_page.shtml
- http://ceden.org/vocabulary_request.shtml
- <http://ceden.waterboards.ca.gov/AdvancedQueryTool>
- <https://cd3.sfei.org>
- <https://cd3.sfei.org/downloads/>
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