

CW4CB PROJECT DATABASE

GUIDANCE FOR USING PRE-PROGRAMMED TABLES AND RUNNING QUERIES

In addition to the raw project data, a number of pre-programmed tables and queries are included in the CW4CB Project Database (Microsoft Access). These tables and queries are explained below in Section 1. Database users may also define their own custom queries, as explained in Section 2.

1. PRE-PROGRAMMED TABLES AND QUERIES

1.1 Tables:

- Raw Data Tables:
 - *LabBatch*: Information related to tracking the batches of results processed by the analytical laboratory. This table includes both the ‘LabAgencyCode’ which identifies the institution that provided the results, and the ‘SubmittingAgencyCode’ which identifies the institution that prepared/collected/delivered the samples for analysis.
 - *LabResults*: Comprehensive sample data provided by the analytical laboratory. The field ‘MethodName’ indicates the analytical method used by the laboratory for the analyte. The ‘MatrixName’ field indicates the matrix for which the analysis was performed (e.g., sample water, sediment, sediment <2mm). The field ‘AnalyteName’ identifies the parameter that was analyzed. The ‘Result’ field provides the numerical value for the parameter in terms of the ‘Unit’ field.

The user should note that the *LabResults* table includes QA/QC data in addition to field sample data. Field sample results are distinguished from the QA data in the “SampleType” field.
- Reference Data Tables:
 - *Locations*: List of unique project sampling locations. Enter one of these as user input in the ‘i_All_data_by_monitoring_location_input’ query.
 - *tbl_AnalyteGroup_LU* (Table Analyte Group Lookup): List of high-level groupings of parameters. Enter one of these as user input in the ‘i_All_data_by_analyte_group_input’ query. Analyte groups are explained below in Table 1.

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Table 1: Definition of Analyte Groups

Analyte Group	Description
Acids	Benzoic Acid only
ANC	Physical measurements such as bulk density, total suspended solids, etc.
DX	Dioxins
Grain	Grain size analysis
PAH	Polycyclic aromatic hydrocarbons
PBDE	Polybrominated diphenyl ethers
PCB	Polychlorinated biphenyls
PEST	Pesticides
SVOCs	Semi-volatile organic compounds
TE	Metals
Total Organic Carbon	Total Organic Carbon
Total Solids	Total Solids
Turbidity	Turbidity
VOCs	Volatile Organic Compounds

- *tbl_AnalyteName_LU* (Table Analyte Name Lookup): List of unique analyte names (based upon the AnalyteName field). Enter one of these as user input in the 'i_All_data_by_analyte_name_input' query. For example, enter 'mercury' into the query to return results for all mercury analyses in the database.

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- *tbl_ProjectName_BASMAA_LU* (Table Project Name BASMAA Lookup): List of unique CW4CB project names. Enter one of these as user input in the 'i_All_data_by_project_name_input' query. For example, enter 'bransten' into the query to return results for all analyses results related to Bransten Road in the database.

- *tbl_StationName_BASMAA_LU* (Table Station Name BASMAA Lookup): List of unique monitoring locations. Enter one of these as user input in the 'i_All_data_by_monitoring_location_input' query. For example, enter 'ett121' into the query to return results for all analyses results related to the sampling site designated 'ETT121' in the database. Also refer to the [Map of Project Locations](#).

1.2 **Pre-Programmed Queries:**

- *Filter-type queries:* Queries with the prefix 'a' through 'h' are filter queries on the LabResults table. The purpose of each of these default queries is to help the user filter the LabResults table based on the name of the filter. For example, the query 'e_All_sediment_data' provides all of the rows of data in the LabResults table that represent an analysis performed on sampled sediment and 'filters out' analyses performed on aqueous samples.

- *Search-type queries:* Queries with the prefix 'i' enable the user to search based on the field identified in the query name. These queries also have the 'input' tag to indicate that the user is required to provide input into the query parameters before a view of the data can be returned. Refer to the Reference Data tables for searchable values.

- For the queries that include the monitoring_event_number, the event number refers to sequential storm events. Leave the event number blank if data from all storm events are desired.

2. **USER-DEFINED QUERIES**

In addition to the pre-programmed queries, users may define and save their own filter-type queries. The simplest and most straightforward way to define a query is to use the graphical user interface of Microsoft Access to define a query based on column headings. Advanced users may also create queries using Structured Query Language, but this technique is outside the scope of this document.

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To create a custom query, first select a pre-programmed table. Most queries will likely be performed on the 'LabResults' table.

Next, click on the small black arrow in a particular column header. A list of all unique values in that column will appear; select which value or values should be included in the query. This step should be repeated on as many column headers as is necessary to define the query.

For example, to create a query for "all influent mercury data collected on January 5, 2016", select **only** the "mercury" value from the 'Analyte_Web' column, **only** the "influent" value from the 'InfluentEffluent' column, and **only** the "1/5/2016" value from the 'SampleDate' column (see Figure 1). The number of rows returned by the query will reduce with each step until only the rows which satisfy each criteria are left.

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The screenshot shows the Microsoft Access interface with the 'LabResults' table selected in the 'All Access Objects' pane. A user-defined query is displayed in the main window, showing a list of records with columns: autid, CollectionDate, SampleDate, Preparation, DigestExtract, Matrix_web, Fraction_Web, Analyte_Web, Preparation, EventNumber, and InfluentEffluent. The 'SampleDate' column is filtered to show records from 1/5/2016 onwards. The 'Preparation' column is set to 'FieldAcidified'. A 'Text Filters' dialog box is open over the 'SampleDate' column, showing a list of dates with '1/5/2016' selected.

autid	CollectionDate	SampleDate	Preparation	DigestExtract	Matrix_web	Fraction_Web	Analyte_Web	Preparation	EventNumber	InfluentEffluent
46237		2/8/2014	Sort A to Z		nwater runoff	Total	Mercury	None	1	Influent
46239		2/9/2014	Sort Z to A		nwater runoff	Total	Mercury	None	1	Influent
46245		2/26/2014			nwater runoff	Total	Mercury	None	1	Influent
49740		2/26/2014			nwater runoff	Total	Mercury	None	1	Influent
46249		2/26/2014			nwater runoff	Total	Mercury	None	1	Influent
46250		2/26/2014			nwater runoff	Total	Mercury	None	1	Influent
46254		2/28/2014			nwater runoff	Total	Mercury	None	1	Influent
46257		3/26/2014			nwater runoff	Total	Mercury	None	2	Influent
46258		3/26/2014			nwater runoff	Total	Mercury	None	2	Influent
46260		3/26/2014			nwater runoff	Total	Mercury	None	2	Influent
46265		3/29/2014			nwater runoff	Total	Mercury	None	2	Influent
46269		3/31/2014			nwater runoff	Total	Mercury	None	2	Influent
46271		3/31/2014			nwater runoff	Total	Mercury	None	2	Influent
46272		3/29/2014			nwater runoff	Total	Mercury	None	3	Influent
46273		3/29/2014			nwater runoff	Total	Mercury	None	3	Influent
46275		3/31/2014			nwater runoff	Total	Mercury	None	2	Influent
46276		3/31/2014	Not Recorded	4/4/2014	stormwater runoff	Total	Mercury	None	2	Influent
55566		10/31/2014	10/31/2014	Not Recorded	stormwater runoff	Total	Mercury	FieldAcidified	3	Influent
55573		10/31/2014	10/31/2014	Not Recorded	stormwater runoff	Total	Mercury	FieldAcidified	3	Influent
55574		10/31/2014	10/31/2014	Not Recorded	stormwater runoff	Total	Mercury	FieldAcidified	3	Influent
53897		10/31/2014	10/31/2014	Not Recorded	stormwater runoff	Total	Mercury	FieldAcidified	1	Influent
55568		10/31/2014	10/31/2014	Not Recorded	stormwater runoff	Total	Mercury	FieldAcidified	3	Influent
55569		10/31/2014	10/31/2014	Not Recorded	stormwater runoff	Total	Mercury	FieldAcidified	3	Influent

Figure 1: Creating a User-Defined Query

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To save a user-defined query, click the “File” tab and select “Save As”. Then select “Save Object As”, and indicate that the current database object should be saved as a new object. Select “Save As”, enter a name for the query, and select “Query” as the object type (see Figure 2).

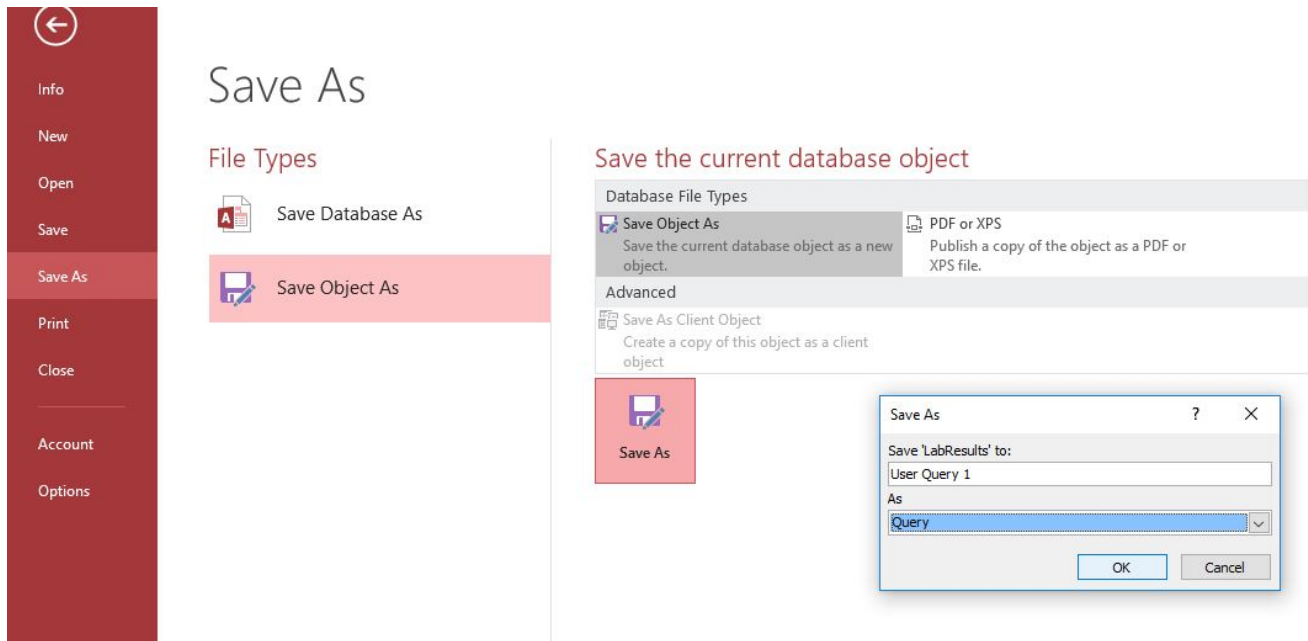


Figure 2: Saving a User-Defined Query

The saved query will appear in the list of queries along with the pre-programmed queries.