EIM Help – Fish and Shellfish Tissue Data

(formerly Aquatic Vertebrate and Shellfish Tissue Data)

Version 4.1
October 2026

Overview

One reason aquatic vertebrates and shellfish are collected by scientists is to gather information concerning toxic chemicals in our marine and freshwater environments. Analyzing vertebrate and shellfish tissue helps determine the presence and levels of toxic contaminants. After vertebrates or shellfish are collected and their measurements documented, the tissue is prepared and sent to the laboratory for analysis.

This document explains how to enter aquatic vertebrate and shellfish tissue laboratory results (samples), their associated organism metrics (like lengths and weights), as well as the sampling locations into EIM. Examples below refer to fish, but the same information applies to crustacean or mollusk tissue. For related data entry help, see: Aquatic Vertebrate and Shellfish Counts.

How to Enter Sampling Locations

In addition to EIM's standard required fields described in the Location Help, follow this guidance for entering your Locations into your Location template.

Before entering new sampling Locations into EIM, search for existing EIM Locations in your sampling area by using EIM Map Search. If EIM Locations already exist and they work for your Study, link to those instead of adding new ones. To link to an existing EIM Location, enter the EIM **Location ID** and your own **Study-Specific Location ID** into your Results template. When the data is loaded into EIM, it will create a link between that Location and your data.

Do not enter Locations into EIM for each place you gathered an organism. Instead, enter the *centroid* of the waterbody in which you sampled. If you sampled from a small waterbody, create an EIM Location using coordinates representing its center. If you sampled from a larger waterbody, create an EIM Location for the center of each distinct area (e.g. north end of lake).

For waterbody centroids, fill out the following fields this way:

- **Location Description** (D): Enter "*Location represents center of lake/sampling area"* or *"Location represents center of north end of lake/sampling area,"* etc.
- **Horizontal Coordinates Represent** (AC): Enter "***25***" (Centroid of Monitoring Area)

How to Enter Organism Measurement and Tissue Sample Data

About Composite Samples

A composite sample contains tissue from more than one organism. For each composite sample analyzed by your lab, we need to know:

(1) The number of organisms in the composite
(2) The range of time over which the composite was collected

In your Result template, **fill out a separate row for each composite sample analyzed by your lab**. See the *Number of Organisms in Composite Sample* column below for instructions.

Organism Metrics (Length, Weight, etc) Determined in Field (in-situ)

Lengths, weights, and sex of the organisms you determined while in the field (in-situ) are considered Measurements. Measurements can be for individuals or composites. If your tissue sample was a single organism, enter individual measurements. If your tissue sample was a composite, enter the mean length and weight of the organisms in the composite. If required by your project, enter the minimum and maximum length and weight.

Organism Metrics (Length, Weight, etc) Determined in the Lab

If you collected your specimens and transported them to a secondary location (such as a mobile lab in a vehicle or a lab at your office) to take lengths, weights, and sexes, enter those values as samples. Your lab analysis date will be the day you recorded length, weight, etc.

Filling Out Your Result Template

In addition to EIM's standard required fields described in the Result Help, follow this guidance for entering your data into the Result template:

EIM Field Name	Col	Number of Organisms in Composite Sample Fill out for each composite sample	Organism Length or Weight Individual or composite mean, min, max	Fish Sex Individual	Fish Age Individual or composite mean Done in lab	Organism Lab Tissue Analyses
Field Collection Type	D	*Measurement (if done in field) Sample (if done in lab)*	*Measurement (if done in field) Sample (if done in lab)*	*Measurement (if done in field) Sample (if done in lab)*	*Sample*	*Sample*
Field Collection Start Date	F	*DD/MM/YYYY*				
Field Collection Start Time	G	Required for composite samples collected over time *HH:MM:SS* (24 hour time)				
Field Collection End Date	H	Required for composite samples collected over time *DD/MM/YYYY*				
Field Collection End Time	I	Required for composite samples collected over time *HH:MM:SS* (24 hour time)				
Field Collection Comment	J	For **field replicates**, enter same comment for first/original sample and replicate sample(s): "*Sample ID XX is a field replicate of XX*" (e.g. "*Sample ID 04123456 is a field replicate of 04123457*")				For certain fish species, enter info from Table 1 - Life History Form
Sample ID	R	Enter Sample ID of associated lab tissue sample (e.g. *04123457*)				Enter Sample ID supplied by lab (e.g. *04123457*)

EIM Field Name	Col	Number of Organisms in Composite Sample Fill out for each composite sample	Organism Length or Weight Individual or composite mean, min, max	Fish Sex Individual	Fish Age Individual or composite mean Done in lab	Organism Lab Tissue Analyses
Sample Replicate Flag	T	***N*** if sample is not a field replicate ***N*** for first/original sample in a field replicate series ***Y*** for second and any additional samples in a field replicate series				
Sample Composite Flag	V	***Y***	***Y*** for composite mean, min, or max ***N*** for individual	***N***	***Y*** for composite mean ***N*** for individual	***Y*** for composite sample ***N*** for individual organism
Sample Matrix	X	*Tissue*				
Sample Source	Y	*Animal Tissue*				
Sample Collection Method	AA	See Table 2 - EIM Sample Collection and Preparation Methods for Fish and Shellfish or EIM Method valid values for valid values				
Sample Preparation Method	AB	See Table 2 - EIM Sample Collection and Preparation Methods for Fish and Shellfish or EIM Method valid values for valid values				
Sample Taxon Name	AD	Enter scientific or common name. See EIM Taxa valid values for valid values. (EIM stores both scientific and common name – and downloads both too) Contact us if you cannot find a specific taxonomic entry. We will add it for you.				
Sample Tissue Type	AF	*Whole organism (animal)*				See EIM Tissue Types valid values for valid values
Result Parameter Name	AH	Enter one: *Fish, Number in Composite Sample* *Mollusk, Number in Composite Sample* *Crustacean, Number in Composite Sample* *Worm, Number in Composite Sample*	Enter value from Table 3 (e.g. *Fish Total Length, Mean of Individuals in Composite Sample)* Composites: Enter means. Enter min and max if required. Individuals: Enter individual length and weight.	Enter: *Fish Sex (individual)*	Enter one: *Fish Age (individual)* *Fish Age, Mean of Individuals in Composite Sample*	Enter analyte name supplied by lab. See EIM Parameter valid values for valid values. Contact us if you cannot find a specific parameter. We will add it for you.
Lab Analysis Date	AJ	*MM/DD/YYYY* The day you recorded length, weight, etc. *Only enter for sample (lab) data.*			*MM/DD/YYYY* If not provided by lab, enter date you received lab results	*MM/DD/YYYY*
Result Value	AM	Enter the number of organisms in your composite sample	Enter length or weight value	Enter "*1*"	Enter value in years (e.g. "*2*")	Enter value supplied by lab

EIM Field Name	Col	Number of Organisms in Composite Sample Fill out for each composite sample	Organism Length or Weight Individual or composite mean, min, max	Fish Sex Individual	Fish Age Individual or composite mean Done in lab	Organism Lab Tissue Analyses
Result Value Units	AN	*Count*	Enter one: for length: *mm* for weight: *g*	Enter one: *Male* *Female*	*Years*	Enter value supplied by lab. See EIM Units valid values for valid values.
Result Basis	AV	Leave blank				*Wet* *Dry (rare)*
Result Method	AY	*ID-COUNT*	Enter one: *LENGTH* *WEIGHT*	*FISHSEX*	*FISHAGE*	Enter analytical method supplied by lab. See EIM Method valid values for valid values.
Result Lab Name	BC	Leave blank if measurement. If sample enter "Wet lab at data collector's office/lab," "Mobile lab at data collector field site," or "Dept of Ecology Wet Lab, Spokane WA etc." Each Ecology office has its own wet lab valid value. If you're not sure what your lab name is, try searching the online lab Valid Values.	Leave blank if measurement. If sample enter "Wet lab at data collector's office/lab," "Mobile lab at data collector field site," or "Dept of Ecology Wet Lab, Spokane WA etc." Each Ecology office has its own wet lab valid value. If you're not sure what your lab name is, try searching the online lab Valid Values.	Leave blank if measurement. If sample enter "Wet lab at data collector's office/lab," "Mobile lab at data collector field site," or "Dept of Ecology Wet Lab, Spokane WA etc." Each Ecology office has its own wet lab valid value. If you're not sure what your lab name is, try searching the online lab Valid Values.	See EIM Lab valid values for valid values.	See EIM Lab valid values for valid values.
Result Taxon Life Stage	BH	Leave blank	Enter one: *Adult* *Juvenile*	Enter one: *Adult* *Juvenile*	Enter one: *Adult* *Juvenile*	Enter one: *Adult* *Juvenile*
You are done - check the Result Help to make sure you filled in any other required fields						

Table 1 - Life History Forms for Fish: If your fish sample was one of the following species, indicate its life history form - anadromous (sea-run), resident, landlocked, or unknown per below. Life history forms of cutthroat trout, bull trout, Dolly Varden, and juvenile steelhead are difficult to determine so "unknown" can be acceptable.

Scientific Name	Common Name	Field Collection Comment (J) Enter one comment per fish tissue sample as appropriate
Oncorhynchus clarkii	cutthroat trout	*Life history form: anadromous*

		Life history form: resident *Life history form: unknown*
Oncorhynchus clarkii clarkii	coastal cutthroat trout	*Life history form: anadromous* *Life history form: resident* *Life history form: unknown*
Oncorhynchus kisutch	coho salmon	*Life history form: anadromous* *Life history form: landlocked*
Oncorhynchus mykiss	steelhead	*Life history form: anadromous*
Oncorhynchus mykiss	rainbow trout	*Life history form: resident*
Oncorhynchus nerka	Sockeye salmon	*Life history form: anadromous*
Oncorhynchus nerka	Kokanee	*Life history form: landlocked*
Oncorhynchus tshawytscha	Chinook salmon	*Life history form: anadromous* *Life history form: landlocked*
Salmo salar	Atlantic salmon	*Life history form: anadromous* *Life history form: landlocked*
Salvelinus malma	Dolly Varden	*Life history form: anadromous* *Life history form: resident* *Life history form: unknown*
Salvelinus confluentus	Bull trout	*Life history form: anadromous* *Life history form: resident* *Life history form: unknown*

Table 2 – EIM Sample Collection and Preparation Methods for Fish and Shellfish. See the EIM Method valid values for more valid values. Contact us if you cannot find the method you used. We will add it for you.

Sample Collection Method (AA)	**Description**
DIVER	Collection/measurement by diver
ELECTROFISH-BACKPACK	Fish collection, electro-shock via backpack-mounted unit
ELECTROFISH-BOAT	Fish collection, electro-shock via boat-mounted unit
FISH-ANGLING	Fish collection, with rod, hook, and line
FISH-LONGLINE	Fish collection, with multiple hooks on a long line typically anchored to the bottom
FISH-MISC	Fish collection, unspecified
FISH-NET	Fish collection, netting, type unspecified
FISH-NET-BEACHSEINE	Fish collection, netting, beach seine
FISH-NET-GILL	Fish collection, netting, gill net
FISH-POISON	Fish collection, poison
FISH-TRAP	Fish, crab, lobster, etc. collection, trap or pot
OTTERTRAWL	Fish or macroinvertebrate collection by netting, otter trawl
Sample Preparation Method (AB)	**Description**
COMP-FISHTISSUE	Composite fish tissue samples by homogenizing equal aliquots of individually homogenized fish tissue following Ecology SOP EAP007.
COMP-TISSUE	Composite tissue samples by combining individuals and homogenizing.
GRINDER	Tissue ground by grinder, food processor, or blender

Table 3 - Result Parameter Names for Fish and Shellfish Length and Weight

Result Parameter Name (AH)
Fish Total Length (individual)
Fish Total Length, Min Individual in Composite Sample
Fish Total Length, Max Individual in Composite Sample
Fish Total Length, Mean of Individuals in Composite Sample
Fish Fork Length (individual)
Fish Fork Length, Min Individual in Composite Sample
Fish Fork Length, Max Individual in Composite Sample
Fish Fork Length, Mean of Individuals in Composite Sample
Fish Weight, Whole Individual Fish
Fish Weight, Min Individual in Composite Sample
Fish Weight, Max Individual in Composite Sample
Fish Weight, Mean of Individuals in Composite Sample
Mollusk Length (individual)
Mollusk Length, Min Individual in Composite Sample
Mollusk Length, Max Individual in Composite Sample
Mollusk Length, Mean of Individuals in Composite Sample
Mollusk Weight (individual)
Mollusk Weight, Min Individual in Composite Sample
Mollusk Weight, Max Individual in Composite Sample
Mollusk Weight, Mean of Individuals in Composite Sample
Crustacean Carapace Length (individual)
Crustacean Carapace Length, Min Individual in Composite Sample
Crustacean Carapace Length, Max Individual in Composite Sample
Crustacean Carapace Length, Mean of Individuals in Composite Sample
Crustacean Carapace Width, Mean of Individuals in Composite Sample
Crustacean Weight (individual)
Crustacean Weight, Min Individual in Composite Sample
Crustacean Weight, Max Individual in Composite Sample
Crustacean Weight, Mean of Individuals in Composite Sample

Revision History

Revision Date	Revision No.	Summary of Changes	Reviser(s)
1999	n/a	Original Document	CL

6/04	n/a	Updated Fish Parameters. Updated example spreadsheet for loading fish field data. Updated example spreadsheet for entering congeners, dioxins/furans (non-LIMS).	CL
5/06	n/a	Updated fish tissue Methods and UOMs. Updated fish specific Method Codes used for field data. Updated Tissue Types descriptions.	CL
4/08	n/a	Added link to the updated EAP QA form and procedures.	CL
9/1/13	2.0	Updated with new field names and permitted values per data model changes. Changed from the old “cheat sheet for fish” Excel document to the EIM Focused Help Word format. Added Locations, Composites, and Measurements sections. Added Result Reporting and Detection Limit requirements. Removed requirement for Result Sample Fraction for metals in tissue. Changed entering fish age as Samples to Measurements. Added requirement for the new Result Basis field. Added related help document links.	CL
10/31/14	2.1	This version was reviewed by users but not released. Changed title and content from fish/shellfish tissue only to aquatic vertebrates and shellfish. Changed entering age as Measurements to Samples because age is determined in lab, not field. Added a Sample Collection Method table. Updated Table #1 Fish Measurements and renamed to Fish EIM Parameter Name, Methods, and Units.	CL
6/24/15	3.0	Added instructions in the Field Collection Comment field in the Required Fields section for entering “Life-stage” information into the Field Collection Comment field for the listed species. Added requirement for Field Collection End Date if individuals used in a composite sample were collected over a range of different dates. Minor edits for clarification. Reformatted into grid. Document now posted for all users instead of just Ecology’s Environmental Assessment Program.	CL, CN
09/05/17	3.1	Updated links and terminology	KC
03/08/18	3.2	Added preparation method examples, two of which were previously mis-classified as collection methods.	KC
12/19/18	3.3	Updated Result Method COUNTM to ID-COUNT	KC
09/09/24	4.0	Updated Fish Age and Fish Sex parameter names, added instructions about entering organism metrics collected in a lab instead of field, removed amphibian lengths, added “sample” to crustacean and fish parameters. Updated title of document from “Aquatic Vertebrate and Shellfish Tissue Data” to “Fish and Shellfish Tissue Data” and inserted former name as a subtitle.	MP
10/16/26	4.1	Added Parameter “Worm, Number in Composite Sample.”	BV