Sample Arrival and Log-in Procedures

1. SCOPE AND APPLICATION

1.1 This procedure outlines the protocols for handling samples received for analysis in the Invertebrate Taxonomy Subsection.

2. SUMMARY OF METHOD

2.1 Samples for Invertebrate Taxonomic identification are logged in by the Receiving staff. Samples are typically placed in the B227 walk-in refrigerator by Receiving staff for Biology staff to collect. If samples are not stored in the refrigerator, Biology staff will retrieve them directly from Receiving.

2.2 Invertebrate Taxonomy staff prints the submittal forms and related paperwork from Receiving's electronic folder and organizes them in the appropriate sample folder. All logged information is checked against the submittal paperwork and sample containers for accuracy. Any errors are reported to the Receiving staff to be corrected.

2.3 Sample preservation is checked. Unpreserved samples are preserved.

2.4 Biology staff enters samples into the Invertebrate Taxonomy's logbook to track the check-in date, formalin kit lot number, and the person performing the preservation check.

2.5 Samples are placed on a shelf to await preparation and analysis.

3. APPARATUS AND EQUIPMENT

3.1 U.S. #30 mesh sieve
3.2 Safety equipment (refer to section 9.1)

4. REAGENTS AND CHEMICALS

4.1 EM Quant® Formaldehyde Test kit
4.2 Formalin (10%) - prepared following Standard Operating Procedure (SOP) IZ-10
4.3 Ethanol (80%) - prepared following SOP IZ-09

5. SAMPLE COLLECTION, PRESERVATION, AND HANDLING

5.1 Samples are collected, preserved, and delivered to the lab according to SOP FS 7000 – *General Biological Community Sampling*, SCI 1000 – *Stream Condition Index Methods*, or BRN 1000 – *Biological Reconnaissance Field Methods*.

5.2 Each sample **must** be accompanied by a submittal form that includes the signature and date of the individual receiving the samples.

5.3 The receiving staff logs samples into the Laboratory Information Management System (LIMS) and affixes a LIMS sticker to each sample. Biology staff should periodically check throughout the day for new samples using the LIMS Backlog Report Generator. Samples should be transported using a cart.

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5.3.1 If Biology staff pick up samples directly from Receiving after they have been logged in, an employee ID card must be used to check them out, thereby transferring custody to Biology. If someone does not pick up the samples from Receiving, the samples are assigned to Biology's custody and placed in the B227 walk-in refrigerator.

5.3.2 Receiving staff will notify Biology staff about any samples that are labeled as needing preservation before they log the samples into LIMS. Biology staff will go to Receiving, pick up the samples, preserve them immediately (see step 5.6 below) and return the samples to Receiving.

5.4 For all new samples, print the corresponding submittal forms and related paperwork that Receiving scanned and saved in Receiving's electronic folder, currently located X:DEAR/Labs/Receiving. Double-check that the correct Test ID, Field ID, replicate number (if applicable), and collection date are assigned to each sample. If Receiving has already affixed a LIMS sticker to the sample container, check that the information is correct, and the proper sticker was affixed to the appropriate sample. Correct any errors with Receiving **immediately**.

5.4.1 This is the time to make sure that all information has been logged in properly, both by Receiving and by Invertebrate Taxonomy. This information is very difficult (sometimes impossible) to recover once the samples have been processed.

5.4.2 Separate any samples that may be unusual (lacking information, etc.) and notify the appropriate supervisor.

5.5 Using the Laboratory/Receiving/Print Preparation Labels utility in LIMS, print out a logbook label for each sample and place it in numerical order in the appropriate location in the Bioassessment Sample Log-In logbook. This sticker lists: the LIMS Sample#, the Project, Site ID, Field ID, type of sample (test), sample date, and customer.

5.6 Put on the proper safety equipment. Check that each sample container has been preserved using a formaldehyde test kit (except for Hester Dendy samples, MI-FW-QNAC, which are preserved in 80% ethanol in the lab). Place the used test strips in the proper formalin disposal container. If any liquid is removed from the sample container for testing and tests positive for formalin, pour the waste formalin into the proper disposal container. Record the sample's preservation location and lot number of the formalin test kit. Then, initial and date your entry next to the appropriate sample sticker in the Bioassessment Sample Log-In logbook on Form IZ-LOG-(version #).

If the sample is not preserved, follow this procedure:

In the laboratory sink, using a #30 mesh sieve, pour the water out of the sample through the sieve. Put whatever contents that fell into the sieve back into the sample container. Under the fume hood pour enough 10% formalin into the jug to cover the material inside. Label the container using a piece of tape on the lid with your initials and the date the sample was preserved. If the sample has not yet been logged in by Receiving and assigned a LIMS number, take the sample back to Receiving.

5.6.1 Formalin disposal containers are located in the main laboratory (B205).

5.7 If a sample is represented by multiple containers, tape them together and verify they belong to the same sample. Place each sample in the proper storage area to await sample preparation.

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5.8 In the appropriate project file folder add the submittal forms and related paperwork. Record the sample location, and collection date to the sample processing log located inside the project file folder, and place in the file cabinet in the lab.

6. SAMPLE PREPARATION PROCEDURE

6.1 Samples are prepared for analysis per one of the following Standard Operating Procedures (SOPs): IZ-02, IZ-03, IZ-04, or IZ-39.

7. SAMPLE ANALYSIS PROCEDURE

7.1 Samples are analyzed per SOP IZ-06.

8. QUALITY CONTROL AND DOCUMENTATION

8.1 Bioassessment Sample Log-In logbook. Use a pen with black ink for all logbook and bench sheet entries.

8.2 Department of Environmental Protection (DEP) Laboratory Information Management System (LIMS)

8.3 To correct raw data entries, place a single line through the incorrect entry, write the corrected entry near the error, and initial and date the correction. If the correction requires an explanation, write a comment and reference the error.

8.4 In the event of a problem during sample processing, submit a nonconformance report (NCR) detailing the issue and the corrective action taken. To create a NCR, open LIMS and go to Laboratory/Administrative/Non-Conformance Report. For a decision tree regarding issuance of NCR's, refer to SOP LB-002.

8.5 Quality Control (QC) of Sorting is performed per SOP IZ-40.

8.6 QC of Taxonomic Identification is performed per SOP IZ-13.

8.7 Refer to the Laboratory Quality Manual.

9. SAFETY/HAZARDOUS WASTE MANAGEMENT

9.1 Lab coat, latex or vinyl gloves, and eye protection are required when working with formalin.

9.2 Prevent inhalation of formalin fumes and avoid exposing co-workers to these fumes. Use proper safety equipment, a lab hood or chemical ventilation system, and keep face away from open containers of this chemical. Work in a well-ventilated area.

9.3 Handling of waste formalin is performed per SOP IZ-10 and SOP IZ-38.

9.3.1 Formalin disposal containers are located under the sinks in the main laboratory (B205).

9.4 Refer to the Material Safety Data Sheet (MSDS) for information about reagents and chemicals in this SOP.

9.5 Refer to the Laboratory Health and Safety Plan.

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10. POLLUTION PREVENTION AND WASTE MANAGEMENT

10.1 Use caution when handling formalin. Should a spill occur, immediately notify the Biology Safety Officer, Laboratory Safety Officer, your supervisor, and the Biology Program Administrator. Proper clean-up and reporting procedures must be followed.

10.2 Refer to the Laboratory Health and Safety Plan for further information.

11. REFERENCES

11.1 DEP Laboratory Quality Manual, https://floridadep.gov/dear/florida-dep-laboratory/content/dep-laboratory-quality-assurance-manual-and-sops

11.2 DEP Laboratory Health and Safety Plan, https://www.floridadep.net/resources/health-safety-manual

11.3 Form IZ-LOG-(version #), *Macroinvertebrate Sample Logbook*

11.4 SOP FS-7000, *General Biological Community Sampling*

11.5 SOP SCI-1000, *Stream Condition Index Methods*

11.6 SOP BRN-1000, *Biological Reconnaissance Field Methods*

11.7 SOP IZ-02, *Stream Condition Index (SCI) Sample Preparation*

11.8 SOP IZ-03, *Invertebrate Hester-Dendy Sample Preparation*

11.9 SOP IZ-04, *Invertebrate Core/Grab/Dredge Sample Preparation*

11.10 SOP IZ-06, *Invertebrate Enumeration and Taxonomic Analysis*

11.11 SOP IZ-09, *Preparation of 80% Ethanol*

11.12 SOP IZ-10, *Preparation and Proper Disposal of Buffered Formalin*

11.13 SOP IZ-13, *Invertebrate Taxonomic Identification Quality Control*

11.14 SOP IZ-39, *Macroinvertebrate Subsampling Sample Preparation*

11.15 SOP IZ-40, *Invertebrate Sorting Quality Control (QC)*

11.16 SOP LB-002, *Non-conformance Reporting System*

Appendix of Changes

12/01/2009	Reformatted the layout following SOP LB-001.
11/15/2010	Updated web links to Workload Tracker spreadsheet.
11/10/2011	Updated name for the Laboratory Safety Manual.
11/04/2013	Clarified sample pick-up from Receiving. Removed formalin respirator requirement. Updated sorting QC and formalin SOP #s.
10/27/2014	Formatted for 508 compliance
11/05/2015	Updated links and SOP references. Included reference to form IZ-LOG.

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12/28/2016	Standardized SOP names
12/29/2017	Re-ordered the method summary. Removed references to the Invertebrate Workload Tracker Excel files. SBIO2 was designed to track all information that was previously contained in the workload tracker files.
01/29/2019	Updated the link to the Receiving folder.
01/07/2020	Added test strip disposal to section 5.6.
12/17/2020	Reviewed SOP, changed header
12/03/2021	Updated broken link to Health and Safety Plan.
11/14/2022	No changes.
11/07/2023	Updated receiving folder location. Added safety measures to sample preservation procedure. Added procedure for sample processing tracking in project file folders.
11/8/2024	Corrected minor spelling and grammatical errors. Revisions made to enhance clarity.

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