

CABIN Benthic Data QA/QC Checklist

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| TAXONOMY CONTRACT | Preparing for Taxonomy Contract (Project Manager responsibility) | |
| | <input type="checkbox"/> | Contract lab has experience processing CABIN samples |
| | <input type="checkbox"/> | Society for Freshwater Science (SFS) certification or similar experience recommended. |
| | <input type="checkbox"/> | Requirement for contract lab to follow CABIN Laboratory Protocol is identified. |
| | <input type="checkbox"/> | Contract lab is prepared to handle and accept shipments with the specified preservative. |
| | <input type="checkbox"/> | Contract lab will store or return identified organisms, sorted debris or residual sample (if required by Project Manager). |
| | <input type="checkbox"/> | Contract lab is required to provide QA/QC report to the Project Manager. |
| | <input type="checkbox"/> | Contract lab will provide voucher specimens to the National CABIN Laboratory as required. |
| | <input type="checkbox"/> | Contract lab will refer to ITIS and CABIN nomenclature standards. |
| <input type="checkbox"/> | Contract lab is certified to enter data into the CABIN database (if required by Project Manager). | |
| CONTRACT TAXONOMIST | Sample Processing (Taxonomist responsibility) | |
| | <input type="checkbox"/> | Samples received by the taxonomic laboratory are verified against the sample submission form to ensure the shipment is complete. |
| | <input type="checkbox"/> | Small specimens are slide-mounted where necessary for proper identification. |
| | Contract Taxonomist QA/QC | |
| | <input type="checkbox"/> | Results of sorting efficiency is reported and any corrective actions described in a QA/QC report. |
| | <input type="checkbox"/> | Identification errors are reported and corrective actions described in a QA/QC report. |
| DATA ENTRY | Data Entry | |
| | <input type="checkbox"/> | Taxonomic names referenced to valid ITIS numbers and reviewed for accuracy before bulk upload. |
| | <input type="checkbox"/> | Taxonomy data is uploaded by CABIN data entry certified personnel. |
| | <input type="checkbox"/> | Bulk upload report downloaded and kept for verification if needed at a later date (if used). |
| | New Vouchers | |
| | <input type="checkbox"/> | Identify any unverified taxa present in the sample (i.e. does not align with current CABIN standards). |
| | <input type="checkbox"/> | Ensure vouchers for new unverified taxa are sent to the CABIN National Taxonomy Lab. |
| | <input type="checkbox"/> | If specimen cannot be verified by CABIN National Taxonomy Lab, Project Manager to change taxonomic name or status in project as suggested by National Taxonomist. |
| AFTER DATA ENTRY | Receiving Samples and Review Data from the Database | |
| | <input type="checkbox"/> | Samples received from the taxonomic laboratory checked against the sample submission form to ensure the shipment is complete. |
| | <input type="checkbox"/> | A selection of benthic data checked against original raw data sheets to ensure all numbers were properly recorded in the bulk upload file. |
| | National Taxonomy Audit (Project Manager responsibility) | |
| | <input type="checkbox"/> | If collecting reference samples used in a CABIN model, ensure they are sent to the National Taxonomy Lab for further audit as per CABIN Laboratory Manual. Select samples which were not part of the contract lab QAQC step. |
| <input type="checkbox"/> | Project Manager to follow up with any corrective actions identified in the audit report. | |



CABIN Habitat Data QA/QC Checklist

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| ACQUIRING GIS DATA | Acquire GIS Data for RCA Models (Project Manager responsibility) | |
| | <input type="checkbox"/> | Confirm site coordinates to be sent to GIS technician are accurate |
| | <input type="checkbox"/> | Review model predictor variables and associated metadata to ensure comparability† |
| | <input type="checkbox"/> | Record metadata for all data layers used (name, year, published by, link) by GIS technician |
| | Receiving/ Reviewing GIS Data | |
| | <input type="checkbox"/> | Review watershed delineations to ensure correct data were derived |
| DATA ENTRY | Bulk Uploading GIS and Water Chemistry Data | |
| | <input type="checkbox"/> | Ensure correct units for all data according to CABIN standards - consult Data Upload Template |
| | <input type="checkbox"/> | Ensure formats and variable names in bulk upload file match Data Upload Template guide exactly (if in doubt, test your template with one site) <i>Note: Dates must be a TEXT field in YYYY-MM-DD format</i> |
| | <input type="checkbox"/> | Enter zeroes where the value should be zero, not a missed value - e.g. GIS Landcover or Geology |
| | <input type="checkbox"/> | Include water quality data that were below detection (e.g. "<0.001 mg/L") |
| | <input type="checkbox"/> | Verify bulk upload sheet against original data sources before upload |
| | <input type="checkbox"/> | Check upload report for errors or 'data already exists' messages - save reports for future reference |
| | Entering Field Sheet Data | |
| | <input type="checkbox"/> | Field sheet data is uploaded by CABIN data entry certified personnel |
| | <input type="checkbox"/> | For a subset of data, review the sample summary page or sample report for data entry errors |
| AFTER DATA ENTRY | Export and Review Study Data from the Database | |
| | <input type="checkbox"/> | Export current year's data (Optional: include samples taken at same sites in previous years*) |
| | <input type="checkbox"/> | Check for empty cells - missing data? Missing zeroes? |
| | <input type="checkbox"/> | Check sample status has been entered correctly. <i>Note: CABIN defaults to "test"</i> |
| | <input type="checkbox"/> | Check sample coordinates by mapping lats and longs |
| | <input type="checkbox"/> | Check for unexpectedly large or small values compared to previous years or similar/nearby sites (especially helpful for field measured variables and water quality data) |
| <input type="checkbox"/> | | Document important notes about missing or unusual data in description field |

† Refer to CABIN Model Documentation for predictor variables, and Data Upload Template for their definitions

§ GIS variable types that should add to 100%: Bedrock Geology (BG), Land Cover (LC), Substrate (SU - percent variables only), Surficial Geology (SG), and the 4 Topography variables SlopeLT30%, Slope30-50%, Slope50-60%, and SlopeGT60%

* Reviewing new data alongside past data can help potential errors and data gaps stand out