

A. Project Management:

The Water Quality Standards Program (WQSP) resides within the Division of Environmental Assessment and Restoration (DEAR), and includes the Standards Development Section (SDS) and the Aquatic Ecology and Quality Assurance Section (AEQAS). A comprehensive list of the responsibilities of the WQSP Staff are in Section 4 of the [WQSP Quality Plan](#). The WQSP is responsible for the development and maintenance of surface water quality standards (Chapters [62-302](#), [62-303](#), and [62-4](#), Florida Administrative Code [F.A.C.]), overseeing FDEP's Quality Assurance (QA) Program and QA Rule (Chapter [62-160](#), F.A.C.), and directing FDEP's biological assessment program. The WQSP provides a wide variety of technical support by conducting environmental studies and analyses, data interpretation and usability analyses, training, and audits of FDEP and external organizations. Additional information about the section's role is available on the WQSP [website](#).

The SDS maintains the surface water quality standards rule, including criteria, designated uses, and anti-degradation policies. This maintenance involves conducting rulemaking at least every three years for Triennial Review, and for other rule changes as needed. SDS also reviews and adopts site specific alternative criteria (SSAC) through the water quality standards rulemaking. SDS uses data collected by DEP and other entities for criteria development. These data are screened for usability as described in section 8.1 of the WQSP Quality Plan. When new criteria are developed, SDS staff prepare technical support documents (TSD). These TSDs include descriptions of the data used to develop the criteria, including which data points were excluded and reasons for exclusion.

The WQSP coordinates and assists in the development, review, and implementation of [biological assessment methods](#). This implementation includes a rigorous biological QA program which includes field audits and data comparability assessments, as described in section 9.2 of the WQSP QA Plan. The WQSP Biological QA coordinator schedules field audits with individuals wishing to become proficient in performing the Stream Condition Index (SCI) or Biological Reconnaissance (BioRecon) methods, and coordinates comparability testing for the Lake Vegetation Index (LVI) and stream habitat assessment (HA). Results of this QA testing are maintained by the WQSP Biological QA coordinator in an [online registry](#).

The AEQAS provides coordination and oversight as well as training and audits to other departmental programs to ensure that data are defensible. The AEQAS provides training biannually for water sample collection using the [DEP SOPs](#), and annual training for biological assessment methods. Trainees include DEP employees, consulting firms, other government agencies, and the public. The section also maintains a [training web page](#) with links to various training presentations; training topics include field and lab audits, the QA Directive and QA Rule updates, approved analytical methods, and QA considerations for contracts. Assistance is also given to other DEP programs for development of training materials.

The AEQAS also provides technical assistance for a broad range of QA topics via the following: correspondence; attendance at meetings and teleconferences; presentations to DEP staff and public; review of QA planning documents for contracts and projects; review of purchase orders for sampling and

analysis; review of procedures and technical criteria; data assessment and usability reviews; interpretation of rules and program requirements; and finally, coordination with DEP district QA Officers about various QA issues and tasks. The QA requirements that are incorporated into the contracts are found at <http://www.dep.state.fl.us/water/sas/qa/officer.htm> under “QA for DEP Contracts.” Any DEP contract that involves laboratory or field analyses requires review and signature by the DEP QA Officer, housed within the AEQAS.

The AEQAS maintains a Data Usability Document ([DEP-EA-001/07](#)) which provides guidance for determining the usability of data for FDEP purposes. The principles characterized in the document draw an “overall conclusion” concerning the usability of the data with respect to the project objectives and dataset evaluated. Evaluating the Data Quality Indicators determine the usability of the analytical data and thus the defensibility for the Department. The assessment of data usability is generally described in section 8 of the WQSP Quality Plan.

WQSP conducts field data and sample collection per DEP SOPs, and sends all samples to the DEP Central Laboratory in Tallahassee for analysis. The Biology Section within the Laboratory maintains the field instruments used for field testing of pH, specific conductance, temperature, and dissolved oxygen. WQSP maintains sampling and field-testing documentation as required in the [QA Rule](#) and DEP SOP FD 1000, as well as any additional documentation requirement specified in the applicable procedures found in other DEP SOPs. Documentation requirements are included in Section 11 of the WQSP Quality Plan. The results of audits and environmental assessment studies are posted on the FDEP [Labs Reports website](#).

For selected DEP biological assessment tools, staff must maintain proficiency to conduct the sampling. The WQSP maintains an internet-based list of proficient samplers statewide, and WQSP staff are included on that list if they pass the appropriate QA measures as described in SOPs associated with biological tools, as follows:

The Stream Condition Index (SCI) proficiency requirements are contained in SCI 1200 and SCI 1300, and consist on an online test of concepts and a field audit every five years. The Stream Habitat Assessment (HA) proficiency and training requirements are in FA 5720. Samplers must demonstrate consistency in scoring with the expert group every two years to remain in “pass” status. The Lake Vegetation Index (LVI) requirements are in LVI 1200 and consist of a team consistency demonstration every two years, and passing of an online plant test by one team member annually.

B. Data Generation and Acquisition:

The WQSP collects its own data and uses data collected by other groups. The section’s data collection efforts are driven by project needs, including water quality standards development, bioassessment method development, and response to questions and issues that arise from throughout FDEP. Section 6 of the WQSP [QA Plan](#) describes typical study designs that are used to answer various questions. The most typical sampling conducted by WQSP are surface water, stream and river habitat, Rapid Periphyton

Survey (RPS), Linear Vegetation Survey (LVS), Stream Condition Index (SCI), Lake Vegetation Index (LVI), and other biological measurements described in SOP FS 7000.

The WQSP follows the [DEP SOPs](#) for all sampling activities, including field-meter testing, sample collection, and documentation. Surface water sampling follows SOP FS 2100, sediment sampling follows SOP FS 4000, and biological community and habitat sampling follows SOP FS 7000, SCI 1000, BRN 1000, LVI 1000, and FT 3000. WQSP follows SOP FD 1000 for documentation requirements for field sampling activities, and SOP FQ 1000 for quality control requirements, including required field quality control blank collection frequency of 5%. WQSP follows the field instrument calibration and verification procedures in the FT 1000-FT 1700. Meters are verified for pH, specific conductance, and dissolved oxygen before each sampling trip, and calibrated if the verifications fail. For biological assessment, WQSP samplers also follow guidelines described in the [Stream Condition Index Primer](#) and [Lake Vegetation Index Primer](#).

The WQSP obtains sampling kits and necessary preservatives from, and sends all samples for analysis to the FDEP Central Laboratory, whose operations comply with all lab requirements of the [QA Rule](#). Procedures for all sample analyses are described in the [Lab Quality Manual](#). All information regarding field collections, preservation, preservation checks, and staff performing the sampling is recorded on the DEP Water Sampling form (located on the WQSP common drive). All preservation, holding times, equipment, and collection materials follow requirements in SOP FS 1000. WQSP staff share field meters with the FDEP Central Laboratory, and specific instrument maintenance information is contained in Sections 5.5 and 5.6 of the [Lab Quality Manual](#). Minor maintenance for meters is conducted in the Biology Section of the Central Laboratory, and meters are sent to the manufacturer in cases of major maintenance needs.

As stated in section 4.1.2.1 of the WQSP QA Plan, the WQSP QA Officer ensures that corrective actions are implemented for data non-conformance incidents as determined by evaluation of the data against our program's Data Quality Objectives (DQOs). The corrective action procedures listed in section 9.1. include an analysis of the root cause of the issue and implementation of additional training or testing, as needed.

Section 11 of the WQSP QA Plan describes WQSP data management and documentation procedures. Data collected by WQSP are either entered by the lab into the Central Laboratory Lab Information Management System (LIMS) or Statewide Biological Database (SBIO), or entered by WQSP staff into the Central Laboratory Vascular Plant Database. Data entry accuracy is verified by a second staff member for all data entry. Water quality data are uploaded into the Florida STORET database by WQSP staff.

C. Assessment and Oversight:

The AEQAS is responsible for QA coordination for the DEP water, waste and land and recreation programs. The section performs audits at various levels ranging from internal section audits, audits of other DEP work units and programs, to audits of external organizations. Program audits and performance audits are carried out on an as-needed basis. Section 9 of the [WQSP QA Plan](#) describes the

various audits conducted by AEQAS staff. Those audits include internal section sampling performance audits, field audits to demonstrate proficiency in statewide bioassessment methods, and both field sampling performance audits, program or project audits, and lab audits for other DEP units or non-DEP entities. The AEQAS maintains and uses audit checklists available on its [Data Review and Audits](#) webpage.

The procedures for conducting and documenting the audits are in section 9, which addresses audit evaluations as well as corrective actions. The DEP QA Coordinator, Michael Blizzard, is lead auditor and organizes or delegates the audit preparation. The AEQAS conducts sampling performance and field-testing audits upon the request of FDEP Programs and compiles audit reports. The audit reports can be accessed on the [audit search page](#).

The AEQAS prepares an annual QA Report to the FDEP Secretary, which has been submitted annually since 2012. This annual report is a compilation of types and outcomes of QA activities conducted throughout the year in all FDEP programs. Section 12 of the WQSP QA Plan describes the contents and purpose of this report.

D. Data Review, Validation and Verification:

The WQSP reviews data to determine its usability for determination of compliance with permits or rules and as input for water quality standards development. These procedures are based on our established Data Quality Objectives and Data Quality Indicators discussed in Section 8 of the WQSP Quality Plan, which incorporate the concepts and criteria found in FDEP's "Process for Assessing Data Usability", [DEP- EA-001/07](#). Section 8.1 of the WQSP Quality Plan contains qualifiers used to evaluate the data (from Table FM 1000-1 of SOP FM 1000). These activities are conducted using a "team approach," providing for multiple staff and management review to ensure accuracy and defensibility of any decisions associated with the data.

If data quality is in question for data generated in-house, the results and sampling circumstances are evaluated to determine the potential cause for the quality issue(s). If an analyte is detected in a field QC blank, then accompanying samples are given a J qualifier and not used if the associated blank value is greater than ten times the sample concentration. If a sample result was a high outlier based on expectations for a given site, but no QC measure failed and no errors can be found with the lab or field team, the data are retained in the dataset. If data quality or consistency is in question for data generated by another party, WQSP requests QC records from that party, or coordinates a lab and field comparison study, in which replicate samples are collected and analyzed by DEP and the other party to determine comparability of results. These investigations are conducted by the AEQAS staff in conjunction with SDS staff associated with the project.