



Introduction to DEP's Quality Assurance System

Florida Department of Environmental Protection
Division of Environmental Assessment and
Restoration

Aquatic Ecology and Quality Assurance Section
(AEQAS)



Objectives of this course

- Define Quality Assurance (QA) and its importance
- Identify DEP's authority and the guiding principals of QA
- Review how QA applies to you and your position
- Discuss where to find resources and help for QA issues



What is QA?

***QA** is the act of maintaining and improving the quality of work (data) produced. This is accomplished by giving attention to every stage of the process*

- For DEP, this means implementing and managing a Quality System that sets data quality requirements for environmental data, and specifies criteria and procedures by which to verify that those requirements have been met



Why is QA important?

What happens when QA is not incorporated?

- If “real” result is higher than reported
 - Environment is not protected
- If “real” result is lower than reported
 - Costly, unneeded treatment activities
- In either case:
 - Legal challenges
 - Adverse publicity
- Ultimately results in more staff time and \$\$



DEP's Authority and Quality Assurance Obligations

Legislative statutes, Florida Administrative Code, and Department Directive

This training applies to all Department Divisions except for the Division of Air Resource Management, which has its own QA Program.



Authority and Obligation

- **Chapter 403.0623, Florida Statutes**
 - Directs DEP to “establish, by rule, appropriate quality assurance requirements for environmental data submitted to the department and the criteria by which environmental data may be rejected by the department”
- **Chapter 62-160, Florida Administrative Code (F.A.C.)**
 - DEP’s “QA Rule” contains requirements for field and lab data submitted to DEP



Authority and Obligation

- **DEP Directive 972**

- QA Directive establishes internal agency policy and distributed responsibility for QA throughout DEP

- **Quality Management Plan (QMP)**

- Explains DEP's QA processes to EPA, and is a requirement for funding and delegation of federal programs to DEP



QA Rule: Chapter 62-160, F.A.C.

<https://www.flrules.org/gateway/ChapterHome.asp?Chapter=62-160>

CHAPTER 62-160 QUALITY ASSURANCE

- 62-160.110 Purpose, Scope and Applicability
- 62-160.120 Definitions and Standards
- 62-160.210 Approved Field Procedures
- 62-160.220 Approval of Alternative and Modified Field Procedures
- 62-160.240 Record Keeping and Reporting Requirements for Field Procedures
- 62-160.300 Laboratory Certification
- 62-160.320 Approved Laboratory Methods
- 62-160.330 Approval of New and Alternative and Modified Laboratory Methods
- 62-160.340 Record Keeping and Reporting Requirements for Laboratory Procedures
- 62-160.400 Sample Preservation and Holding Times
- 62-160.405 Electronic Signatures
- 62-160.600 Research Field and Laboratory Procedures
- 62-160.650 Field and Laboratory Audits
- 62-160.670 Data Validation by the Department
- 62-160.700 Tables
- 62-160.800 Documents Incorporated by Reference
- 62-160.900 Forms (Repealed)



QA Rule: Chapter 62-160, F.A.C.

- The **QA rule applies** to all entities involved with sampling, field testing, lab analysis, data review & presentation, and vending services for sampling supplies (kits) or instrument calibration
- **More stringent requirements** can be imposed by contracts, orders, permits or other DEP rules
- Most sampling and field testing is routine and must follow the **DEP Standard Operating Procedures (SOPs)**
- There are **minimum documentation and reporting requirements** for both field & lab records
 - DEP can ask for any required records at any time
 - DEP can specify the format of data reports submitted to the Department
- Most lab analyses must be performed by **certified labs**



QA Rule: Chapter 62-160 F.A.C.

- Most **lab methods** are routine, are “recognized” as approved by DEP, and may be specified in DEP rules, contracts, orders or permits, where required
- **Alternative or modified field & lab procedures & methods** must be pre-approved by DEP
- Most **sample preservation & holding time procedures** are standard and are required as listed in the DEP SOPs (FS 1000 tables)
- **Research** field & lab procedures must be pre-approved via work plans, sampling & analysis plans, or contracts and grants that provide required minimum information
 - Includes purchase orders for sampling, field testing, lab tests



QA Rule: Chapter 62-160 F.A.C.

- DEP can **audit** samplers, field records and lab records at any time
- There are **minimum criteria for validating data** generated for DEP
- Specific **Data Qualifier Codes** must be used for reported data associated with quality control (QC) failures (Table 1 in the QA Rule)



Quality Assurance Directive

<https://floridadep.gov/sites/default/files/DEP-Directive-972.pdf>

Florida Department of Environmental Protection



DEP 972

Quality Assurance for the Collection, Analysis, and Interpretation of Environmental Data for the DEP Regulatory, Ecosystem Restoration and Land and Recreation Programs

POLICY MAINTENANCE ADMINISTRATOR: Division of Environmental Assessment and Restoration

PURPOSE AND SCOPE: This Directive outlines procedures and staff responsibilities for the comprehensive implementation of DEP's Quality Management Plan for DEP's Regulatory, Ecosystem Restoration, and Land and Recreation Programs. This Directive instructs those DEP Programs responsible for the generation and use of environmental, scientific data to implement a management system (involving planning, reviewing, training, and assessment) that will ensure that data collection, generation, interpretation, reporting, evaluation and archival storage will be of sufficient quality to support DEP decisions. This directive is applicable to all DEP Regulatory, Ecosystem Restoration, and Land & Recreation Programs (except the Division of Air Resources Management).



Quality Assurance Directive

Department Policy

Per Directive 972:

- a. Use scientifically and legally defensible data
- b. Districts and programs must implement a Quality System, including a Quality Plan
- c. Adaptively manage the Quality System
- d. Ensure proper QA training for individuals
- e. Develop Data Quality Objectives (DQOs) and Indicators (DQIs)
- f. Develop procedures for evaluating DQOs and DQIs
- g. Audit data generators
- h. Implement QA for DEP's data repositories
- i. Submit annual QA report to the DEP Secretary



Quality Assurance Directive

Distributed QA Function

- Department-wide culture of competence and responsibility for the management of scientific data
- No single person or work unit can manage all QA functions for DEP
- Consistent implementation of DEP QA Policy across programs and work units
- Tiered application of responsibilities for QA



Quality Assurance Directive

All Staff Will:

- Be familiar with the program's Quality Plan
- Evaluate program data using program DQOs and DQIs
- Provide feedback for improving the program quality system to the program Quality Assurance Officer



Your Role in QA

What is Environmental Data?

All measurements of environmental matrices and media for biological, chemical, or physical characterization



Your Role in QA

You may find that one or more of the following tasks are part of your job responsibility. Each of these roles has specific QA responsibilities associated with environmental data.

- Data generation
 - Environmental observation, sample collection and analysis
- Data entry
- Data use
- Grant or contract management

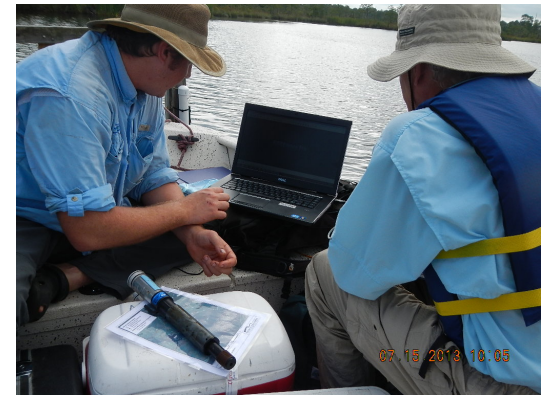


Your Role in QA

Data Generation Quality Assurance

- Environmental Samplers

- Receive appropriate SOP training
- Participate in performance audits
- Take refresher tests
- Maintain appropriate documentation and QC procedures





Your Role in QA

Data Generation Quality Assurance

- Lab Analyst

- Participate in Department of Health (DOH) audits and demonstrate capability
- Follow lab SOPs and Quality Manual
- Perform and document quality control appropriate for each method
- Have results reviewed by a second analyst
- Track QA in the Laboratory Information Management System (LIMS)





Your Role in QA

Data Entry Quality Assurance

- Have a general understanding of the database and its capabilities
- Ask questions while entering the data:
 - Were appropriate QC checks performed?
 - Are data qualifiers needed?
 - Is the documentation complete and legible?
 - Are the data provided in the appropriate format for the database?
 - Are data entries verified by another person?
 - Is there a mechanism for feedback about suspect data?



Your Role in QA

Data User Quality Assurance

- Request training on program specific requirements
- Question whether the data make sense
- Make sure data are collected and analyzed with sufficient quality for *your* use of the data
- Check to see if sampling sites were appropriate
- Review QC data to ensure appropriate use of qualifiers
- Ensure detection limits are sufficient for *your* use
- Provide feedback to data generators about suspect data



Your Role in QA

Easy checks for data users

1. Is the report complete?
 - Includes all sample data & relevant QC data
 - Sampling & analysis dates and times
 - Report of relevant field information
2. Is the lab certified?
 - Are the appropriate analytical methods used?
3. Are detection limits reported and appropriate for your data use?
4. Are the correct data qualifiers (Chapter 62-160, F.A.C. Table 1) attached to data?



Your Role in QA

Contract, grant, or purchase order management

- As an agreement manager, it is your responsibility to:
 - Discuss field and lab work with contractor during project initiation
 - Decide whether project requires a Standard or Research QA Attachment, and include it in the agreement
 - Provide a QA Plan template to contractor/grantee
 - Review and approve the QA Plan deliverable and other deliverables for adherence with QA requirements
 - Request help from AEQAS as needed



Your Role in QA

Any DEP Staff

- You have the authority to ask questions
 - Data report issues
 - Sampling procedures
 - Laboratory procedures
- Be persistent!
- Ask for documentation (QA Rule includes requirements)
- Seek other DEP resources
 - Other Division subject matter experts
 - Aquatic Ecology & Quality Assurance Section
 - Tallahassee laboratories (expert staff for chemistry and biology)



QA Resources and Assistance

The Aquatic Ecology and Quality Assurance Section (AEQAS) is the section within DEP's Division of Environmental Assessment and Restoration (DEAR) that maintains the QA Rule and DEP SOPs.

Website: <https://floridadep.gov/dear/quality-assurance>

Email: Quality_Assurance@floridadep.gov



QA Resources and Assistance

*AEQAS Supports DEP's Quality System
by...*

- Participating in division specific teleconferences to disseminate information to Quality Assurance Officers (QAOs) and managers throughout the agency
- Assisting in the review and development of Quality Plans
- Reviewing the Quality System of the agency through development of the QA Annual Report, and
- Acting as a liaison with EPA and DOH (lab certification)



QA Resources and Assistance

Get started with QA by...

- Meeting your work unit's QAO,
- Reading your work unit's Quality Plan, and
- Asking what QA training and resources you need to do your job



Submit any questions to
Quality_Assurance
@floridadep.gov