***2023 Annual Quality Assurance Report to the Secretary***

**Division of Environmental Assessment and Restoration**

**Water Quality Standards Program**

**Florida Department of Environmental Protection**

**October 14, 2024**

# Acknowledgments

This document was prepared by staff in the Florida Department of Environmental Protection, Division of Environmental Assessment and Restoration, Water Quality Standards Program, Aquatic Ecology and Quality Assurance Section. The division thanks the reporting units within the department that contributed to this report, which are listed in each program area chapter of the report.

***Table of Contents- Hover the mouse over each section, press “Ctrl” and left click, to navigate to the section.***

[Acknowledgments ii](#_Toc175731499)

[List of Figures- Hover the mouse over each section, press “Ctrl” and left click, to navigate to the figure. v](#_Toc175731500)

[List of Tables- Hover the mouse over each section, press “Ctrl” and left click, to navigate to the table. vi](#_Toc175731501)

[List of Acronyms and Abbreviations vii](#_Toc175731502)

[Executive Summary ix](#_Toc175731503)

[1. Introduction 1](#_Toc175731504)

[1.1. Background and Overview 1](#_Toc175731505)

[1.2. Report Organization 1](#_Toc175731506)

[2. Ecosystems Restoration 3](#_Toc175731507)

[2.1. Ecosystems Restoration: Overview and Expected QA Activities 3](#_Toc175731508)

[2.2. Ecosystems Restoration: Quality Plans and QA Officers 5](#_Toc175731510)

[2.3. Ecosystems Restoration: Data Activity and Associated Documentation 7](#_Toc175731511)

[2.4. Ecosystems Restoration: Training 10](#_Toc175731512)

[2.5. Ecosystems Restoration: Audits 11](#_Toc175731513)

[2.6. Ecosystems Restoration: Data Repositories 12](#_Toc175731514)

[2.7. Ecosystems Restoration: Summary 15](#_Toc175731515)

[3. Land and Recreation 16](#_Toc175731516)

[3.1. Land and Recreation: Overview and Expected QA Activities 16](#_Toc175731517)

[3.2. Land and Recreation: Quality Plan and QA Officer Status 17](#_Toc175731518)

[3.3. Land and Recreation: Data Activity and Associated Documentation 18](#_Toc175731519)

[3.4. Land and Recreation: Training 18](#_Toc175731520)

[3.5. Land and Recreation: Audits 19](#_Toc175731521)

[3.6. Land and Recreation: Data Repositories 19](#_Toc175731522)

[3.7. Land and Recreation: Summary 19](#_Toc175731523)

[4. Regulatory 19](#_Toc175731524)

[4.1. Regulatory: Overview of Expected QA Activities 20](#_Toc175731525)

[4.1.1. Regulatory: Quality Plans and QA Officers Status 21](#_Toc175731526)

[4.1.2. Regulatory: Data Activity and Associated Documentation 23](#_Toc175731527)

[4.1.3. Regulatory: Training 26](#_Toc175731528)

[4.1.4. Regulatory: Audits 26](#_Toc175731529)

[4.1.5. Regulatory: Data Repositories 28](#_Toc175731530)

[4.2. District Wastewater and Drinking Water Programs 30](#_Toc175731531)

[4.2.1. Drinking Water Program in the Districts 30](#_Toc175731532)

[4.2.1.1. Drinking Water Program in the Districts: Training 31](#_Toc175731533)

[4.2.1.2. Drinking Water Program in the Districts: Data Review/Audits 31](#_Toc175731534)

[4.2.2. Wastewater Program in the Districts 32](#_Toc175731535)

[4.2.2.1. Wastewater Program in the Districts: Training 32](#_Toc175731536)

[4.2.2.2. Wastewater Program in the Districts: Data Review/Audits 33](#_Toc175731537)

[4.3. Regulatory: Summary 34](#_Toc175731538)

[5. Department QA Goals and Initiatives 35](#_Toc175731539)

[Appendix A: QA Officer and Quality Plans by Reporting Unit as of February 2024 37](#_Toc175731540)

[Appendix B: Questionnaire Responses from Data Generators, Users and Managers about Quality System Activities and Documented Components 41](#_Toc175731541)

[Appendix C: Quality Assurance Information from Regulatory January 2023 – December 2023 47](#_Toc175731542)

# List of Figures- Hover the mouse over each section, press “Ctrl” and left click, to navigate to the figure.

[Figure 2.1 Ecosystem Quality Plan Status in 2023](#Figure21).………………………………………….……………..………………..……………………………….6

[Figure 2.2 Quality System Document Status for Ecosystems Restoration](#Figure22)………………………………………….………………………………7

[Figure 2.3 Self-Reported Program Activities in Ecosystems Restoration](#Figure23)………………………………………….………………………………..8

[Figure 2.4 Data Generator Information for Ecosystems Restoration](#Figure24) ………………………………………………...................................8

[Figure 2.5 Data User Information for Ecosystems Restoration](#Figure25)………………………………………………………………………………………….9

[Figure 2.6 Data Repository Manager Information for Ecosystems Restoration](#Figure26)……….………….…….…………………………………….10

[Figure 2.7 Percentage of Ecosystems Restoration Employees that Received Training](#Figure27)………….…….……................................10

[Figure 2.8 Expectations of Audits Conducted by Reporting Units in Ecosystems Restoration](#Figure28)……………...............................12

[Figure 2.9 Ecosystems Restoration Reporting Units with Quality Checks & Documentation for Data Entry](#Figure29)……………………………………………………………………………………………………………………………………………………………………………….13

[Figure 2.10 Ecosystems Restoration Reporting Units with Quality Checks, Feedback Mechanisms and Documentation for Data Retrieval](#Figure210)…………………………………………………………………………………………………………………………………………………………………14

[Figure 2.11 Ecosystems Restoration Reporting Units with Quality Checks, Feedback Mechanisms and Documentation for Database Management](#Figure211)…………………………………………………………………………………………………………………………………………………..15

[Figure 3.1 Land and Recreation Quality Plan Status in 2023](#Figure31)….…………….………………………………………………………….………………18

[Figure 4.1 Regulatory Quality Plan Status in 2023](#Figure41)………………….…….…………….…………………………………………………………………..22

[Figure 4.2 Self-Reported Program Activities for Regulatory](#Figure42)…………………………………………….………………………………………….…..23

[Figure 4.3 Data Generator Information for Regulatory](#Figure43)………………………………………………………….………………………………………..24

[Figure 4.4 Data User Information for Regulatory](#Figure44)……………………………………………………………….….…………………………………….….25

[Figure 4.5 Data Repository Manager Information for Regulatory](#Figure45)……………………………………….…..…………………………..………….25

[Figure 4.6 Categories that Employees Received Training in QA in 2020 for Regulatory](#Figure46)……….…………………………………..……..26

[Figure 4.7 Expectations of Audits Conducted by Reporting Units in Regulatory](#Figure47)………..……………..........................................27

[Figure 4.8 Regulatory Reporting Units with Quality Checks & Documentation for Data Entry](#Figure48) ……………………………………………………………………………………………………………………………………………………………………………………….28

[Figure 4.9 Regulatory Reporting Units with Quality Checks, Feedback Mechanisms and Documentation for Data Retrieval](#Figure49) …………………………………………………………………………………………….……………………………….…………..…………………………………………..29

[Figure 4.10 Regulatory Reporting Units with Quality Checks, Feedback Mechanisms and Documentation for Data Management](#Figure410) ………………………………………………………………………………………………….…….……….……………….................................30

[Figure 4.11 Drinking Water Training Needs per District](#Figure411)………………………………………………………………..…………………………………31

[Figure 4.12 Drinking Water Data Reviews per District](#Figure412)………………………………………………………………….…………………………………32

[Figure 4.13 Wastewater Training Needs per District](#Figure413)……………………………………………………………………………………………………….33

[Figure 4.14 Wastewater Data Reviews per District](#Figure414)……………………………………………………………………………..………………………….34

# List of Tables- Hover the mouse over each section, press “Ctrl” and left click, to navigate to the table.

[Table 2.1 Functions of reporting units within Ecosystem Restoration](#Table21)………………………………………………………………………………5

[Table 2.2 Audits Reported by Ecosystems Restoration](#Table22)………………………………………………………….…..……………………………………11

[Table 3.1 Functions of reporting units within Land and Recreation](#Table31)……………………………………………………….……………………….17

[Table 4.1 Functions of reporting units within Regulatory](#Table41)………………………………………………………………………………………………..21

[Table 4.2 Audits Reported by Regulatory](#Table42)………………………………………………………………………………………………………………………..26

# List of Acronyms and Abbreviations

Note: Abbreviations for each reporting unit are at the beginning of the respective sections.

|  |  |
| --- | --- |
| ACHD | Approved County Health Departments |
| AEQAS | Aquatic Ecology and Quality Assurance Section |
| AP | Aquatic Preserve |
| CA | Compliance Assistance |
| CEI | Compliance Enforcement Inspection |
| CERCLA | Comprehensive Environmental Response Compensation and Liability Act |
| CBP | Clean Boating Program |
| DARM | Division of Air Resource Management |
| DEAR | Division of Environmental Assessment and Restoration |
| DLE | Division of Law Enforcement and Emergency Response |
| DRP | Division of Recreation and Parks |
| DSL | Division of State Lands |
| DWM | Division of Waste Management |
| DWRA | Division of Water Restoration Assistance |
| DWRM | Division of Water Resource Management |
| DEP/department | Florida Department of Environmental Protection |
| DOD | Department of Defense Projects Section |
| DQO | Data Quality Objective |
| EPA | U.S. Environmental Protection Agency |
| FCMP | Florida Coastal Management Program |
| FGS | Florida Geological Society |
| FRWA | Florida Rural Water Association |
| FUDS | Formerly Used Defense Sites |
| GIS | Geographical Information System Section |
| GWIS | Generalized Water Information System |
| LOS | Level of Service |
| NASA | National Aeronautics and Space Administration |
| NERR | National Estuarine Research Reserve |
| NOAA | National Oceanographic and Atmospheric Administration |
| NPL | National Priority List |
| ORCP | Office of Resilience and Coastal Protection |
| OWPER | Office of Water Policy and Ecosystems Restoration |
| PO | Purchase Order |
| PPA | Performing Partnership Agreement |
| PWSS | Public Water Systems Supervision |
| QA | Quality Assurance |
| QAO | Quality Assurance Officer |
| QC | Quality Control |
| QMP | Quality Management Plan |
| QP | Quality Plan |
| SOP | Standard Operating Procedure |
| STORET | Storage and Retrieval (Database) |
| TMDL | Total Maximum Daily Load |

# Executive Summary

The Annual Quality Assurance (QA) Report to the Secretary of the Florida Department of Environmental Protection (department or DEP) summarizes QA activities of department programs and evaluates the effectiveness of [DEP’s QA Policy](https://www.floridadep.net/resources/dear-972-quality-assurance-collection-analysis-and-interpretation-environmental-data-dep) for each calendar year. Established in 2009 as the QA Directive (Directive 972), revised in 2016 and converted to a policy in 2020, the QA Policy provides internal department QA policy and outlines the areas of staff responsibility for ensuring the quality of data used by the department. The QA Policy describes how the department will implement the requirements in the [QA Rules (Chapter 62-160, Florida Administrative Code)](https://www.flrules.org/gateway/ChapterHome.asp?Chapter=62-160) through a distributed approach in which department reporting units develop, document and maintain their own Quality System with clear QA objectives for data they generate or use. A Quality System is how an organization ensures the quality of the products and services it provides and includes a variety of elements, such as policies and objectives, procedures and practices, organizational authority, responsibilities and performance measures. A Quality System provides the framework for planning, implementing, assessing and improving work performed by an organization to provide and use data of a known and documented quality. This report details the QA efforts and accomplishments made by the department in 2023 and identifies areas for improvement needed to fulfill QA responsibilities outlined in the QA Policy. The only part of the agency not included in the QA Policy, or this report, is the Division of Air Resource Management (DARM), which manages its own QA program.

While department reporting units, excluding DARM, operate under the QA Rules and QA Policy, QA activities vary based on the purpose and function of the division, program or section (collectively reporting units). For the 2023 Annual QA Report, the Division of Environmental Assessment and Restoration (DEAR), Aquatic Ecology and Quality Assurance Section (AEQAS) collected information from 47 reporting units via written questionnaires and personal communication to assess the status of the Quality System for each reporting unit. More reporting units are represented in this report than in previous years, including additional programs from the Division of Water Resources Management (DWRM). The report is organized by the three department program areas: Ecosystems Restoration, Land and Recreation and Regulatory. This QA report includes tasks completed in 2023 in the following five QA categories that address one or more department policies and areas of responsibility outlined in the QA Policy:

1) Quality Plan and Quality Assurance Officer Status

Two components are used to assess whether department reporting units meet the minimum requirements for a Quality System: the designation of QA officers (QAO) and the existence of current quality plans (QPs). For 2023, most, but not all, reporting units had designated QAOs and current QPs that describe the policies and activities developed to help ensure that the quality of data generated or used by the program is defensible. Some QPs need updating to reflect changes in organizational structure, policies and/or activities of the programs covered by the plans. Some noteworthy 2023 observations include:

* AEQAS and QAOs have maintained yearly communication.
* Most QAOs have taken the “Introduction to Quality Assurance” course on the Learning Management System (LMS).
* The Division of Waste Management (DWM) continued to participate in a series of Quality of Science Reviews.

2) Data Activity and Associated Documentation

Approximately half of the department’s reporting units generate data; nearly all use data; and approximately one third manages data. Data generators follow a mix of DEP standard operating procedures (SOPs) and other procedures. Some reporting units still need to better document their methods in their QPs. Most data users have documented data quality objectives (DQOs) to evaluate whether certain data are of sufficient quality for their use, and some reporting units have goals for the proportion of data packages that receive a thorough regimented QA review. Improved documentation of expectations, procedures and corrective actions regarding data generation, use and management is needed.

3) Training

Based on the submissions from QAOs, nearly all department employees who are involved with the process of environmental data generation, data receipt, data assessment, data storage and data interpretation received training in 2023 to execute their assigned functions. Throughout 2023, AEQAS also hosted 14 webinars and in-person trainings focused on the DEP SOPs and the requirements of Chapter 62-160, F.A.C. These trainings and webinars are advertised through emails to QAOs and announced on division monthly calls. Recorded presentations and training videos have made training resources more accessible than before.

4) Audits

The department’s policy requires audits of the performance and record-keeping practices of data generators within and outside the department. However, the extent to which agency programs conduct QA audits of any type varies widely, as does the use of established audit procedures and the oversight of required corrective actions. DEAR, the Office of Resilience and Coastal Protection (ORCP), DWRM, the DWM and the Division of Law Enforcement (DLE) conducted audits in 2023. The need and feasibility of audits in other department divisions are determined by leadership in those areas.

5) Data Repositories

Programs throughout the department identified more than 60 different data repositories, both internal and external to the department, where data are stored and retrieved for program-specific uses. Most of the reporting units that enter data have procedures in place for quality assurance and quality control (QA/QC). Many of the programs that retrieve data rely on the QA/QC procedures of the data provider or reviews performed by other programs and lack documented protocols to verify data. Most of the reporting units that retrieve and manage data have mechanisms to provide feedback to the data generator for suspect data but not all have described the feedback mechanisms in their QPs.

Quality Assurance successes for 2023 include:

* AEQAS met individually with 36 QAOs to ensure they understand QA requirements and to offer assistance.
* AEQAS increased the number of trainings given from previous years (14 in 2023 vs 11 2022).
* DWRM programs (7) participated in this report and have started evaluating their Quality System.
* Source and Drinking Water Program (SDW) provided two sanitary survey trainings for new and existing staff to prevent system compliance issues.
* SDW is continuing to implement best management practices, rule guidance and trainings.
* Total number of audits conducted increased from 46 in 2022 to 62 in 2023.
* Regulatory doubled the number of reported audits from 14 in 2022 to 28 in 2023.
* Division of Recreation and Parks (DRP) revised its quality plan and is considering an improved Quality System structure.
* Regulatory districts reduced the time needed to conduct QA reviews because of increased QA training.
* AEQAS continued drafting revisions to Chapter 62-160, F.A.C., the QA Rules, and incorporated documents.

Suggested or reported quality assurance goals in 2024 include:

* AEQAS will assist in the continuous refinement and documentation of DEP reporting unit Quality Systems.
* Florida Geological Survey (FGS) will work to update and improve the overall content and structure of their QA plan to include updated manuals and SOPs.
* The Phosphate Management Program will work to update its QP and set up an annual review of the document.
* SDW will continue to implement best management practices, rule guidance and provide trainings.
* DWRM Division Office programs will take steps to evaluate and document their Quality System, including the establishment of appropriate QA metrics for the annual report and development of a QP.
* Regulatory program area will continue to train QAOs at the district level for consistency across the state.
* DRP will work with AEQAS to train QAOs at the district level for consistency between DRP districts.
* AEQAS will improve QA templates for contracts/grants deliverables.
* AEQAS will facilitate and support QA communications between Regulatory divisions and district offices.

# Introduction

# Background and Overview

The Annual Quality Assurance (QA) Report to the Secretary of the Florida Department of Environmental Protection has been compiled for the calendar year 2023 by the Division of Environmental Assessment and Restoration (DEAR), in coordination with the Quality Assurance Officers (QAO) for the department’s various reporting units and Districts. The Annual QA Report provides an assessment of the department’s Quality System, per the functional responsibilities described in the department’s [QA Policy](https://www.floridadep.net/resources/dear-972-quality-assurance-collection-analysis-and-interpretation-environmental-data-dep).

A Quality System is how an organization ensures the quality of the products and services it provides and includes a variety of elements, such as policies and objectives, procedures and practices, organizational authority, responsibilities and performance measures. A Quality System provides the framework for planning, implementing, assessing and improving work performed by an organization to provide and use data of a known and documented quality. According to the QA Policy, DEAR is responsible for coordinating the department’s Quality System, and all programs within the agency are responsible for defining and implementing their individual Quality Systems. The QA Policy is applicable to all activities that include measurements of environmental matrices for biological, chemical or physical characterization (i.e., environmental data). The only part of the agency not included in the Policy is the Division of Air Resource Management (DARM), which manages its own QA program.

This report provides an evaluation/review of the Quality Systems within the three department program areas (Ecosystems Restoration, Land and Recreation and Regulatory Programs), with the focus on whether the reporting units met the QA expectations for their program activities. As in previous years, spreadsheet questionnaires were sent to QAOs throughout the department to gather information about their Quality System and QA activities in 2023.

# Report Organization

The 2023 Annual QA Report is organized by the three department program areas and then further divided into divisions, programs, offices and districts within those areas. For the purposes of this report, any section, program, office or district that responded to the request for information is referred to as a reporting unit. For each program area, this report outlines broad categories of job functions to provide context for QA status and expected QA activities and then reports on the 2023 QA activities for those areas.

All program functions listed require reporting units to have and document Data Quality Objectives (DQOs) and provide adequate QA training to staff. Entities that collect or analyze environmental samples or measurements are expected to conduct internal audits and/or be audited by external parties to ensure proper collection and analysis of data. Reporting units that use data are expected to have data review procedures and may conduct audits of external entities that provide data to the department with some established consistency and frequency. Reporting units that manage contracts, grants or purchase orders for environmental data collection or analysis must incorporate QA requirements in those agreements and may conduct audits of procured services. Reporting units that enter data, retrieve data or manage environmental data repositories must have documented procedures for QA/QC.

The 2023 reported QA activities fall into five areas that address one or more requirements within the QA Policy:

1. **Quality Plans (QPs) and Quality Assurance Officer (QAO) Status:** Report of whether the reporting unit has a current QP (any document less than four years old) and whether division/district directors or program/section administrators designate QAOs to cover all activities in their reporting units.

The implementation of the QA Policy requires active participation throughout all levels of the department. The department implements its Quality System through the execution of each program’s QP and the coordination and direction of QA activities for the program by a designated QAO.The QPs describe the organization of the program, list one or more QAOs, delineate QA responsibilities and outline DQOs that will ensure data used by the program are appropriate and reliable. QPs are “living documents” and require revisions as program organization, duties and criteria evolve. The QA Policy lists the following duties of the QAOs: familiarity with and maintenance of Quality System documents; coordination and performance of internal and external audits; implementation of corrective actions after incidents of non-conformance with DQOs; communication with the Aquatic Ecology and Quality Assurance Section (AEQAS); and attend, provide and track staff training. A complete list of reporting units, their designated QAOs and QP revision dates can be found in Appendix A, and submitted QPs are available at [Quality Assurance Resource webpage.](https://floridadep.gov/dear/quality-assurance/content/quality-assurance-resources)

1. **Data Activity and Associated Documentation**: Report of whether the reporting unit is a data user, generator, manager or a combination of the three, and includes information on the associated DQOs.

Data generators participate in activities that involve field sampling or laboratory analysis and are responsible for taking measures to ensure the quality of the data produced by those activities. Data generators report on following appropriate standard operating procedures (SOPs); establishing DQOs; having procedures to evaluate and qualify data; using corrective actions when the data generated do not meet the DQOs; and including pertinent QA information in their QP.

Data users are involved in the use of environmental data generated by DEP or another source and are responsible for ensuring the quality of the data used. Data users report on the source of data, written standards for the use of the data, data evaluation procedures, corrective actions taken when the data do not meet DQOs, inclusion of pertinent QA information in the QP and revision of DQOs for the data used in the reporting year.

Data repository managers are involved in the management of environmental databases that contain data generated and used by DEP or another source. Data repository managers report on the source of data, written standards for the use of the data, data evaluation procedures, corrective actions taken when the data do not meet DQOs, inclusion of pertinent QA information in the QP and revision of DQOs for the data used in the reporting year.

1. **Training**: Report on whether reporting units met all QA-related training needs. The trainings reported are related to environmental data generation; environmental data review; environmental data storage; and agreements that involve environmental data and environmental data use, including programmatic requirements and decisions for or with environmental data. Metrics include the percentage of employees who received training in various categories and how many training events the reporting units held.
2. **Audits**: Report of instances where staff directly observed sample collection or analysis; conducted an in-depth review of data generation; validated and verified data records; reviewed records to reconstruct data generation; or evaluated data usability, per Rules 62-160.650 and 62-160.670, Florida Administrative Code (F.A.C.)

Audits are in one of three categories:

* 1. **Performance**: Evaluation of sampler’s or analyst’s technique and knowledge of sample collection and field testing, lab methods or record-keeping in the field or lab. These audits verify methods and ensure technicians follow and perform tasks correctly.
  2. **Project**: Tracking specific sample results through field records and/or lab records for data validation and usability assessment. The QA Policy refers to these audits as Data Usability Audits. The audits evaluate whether the documentation shows adherence to sampling/analytical procedures and documentation requirements.
  3. **System**: Evaluation of procedures, equipment and documentation. These audits include lab certification audits and DEP Quality of Science Reviews.

1. **Data repositories**: Report of whether the reporting unit entered, retrieved or managed data in repositories and if so, whether the reporting unit has QA procedures for data management in practice and documented in its QP.

# Ecosystems Restoration

**The following Divisions, programs and sections contributed to this report:**

Division of Environmental Assessment and Restoration (DEAR)

*Water Quality Standards Program (WQSP)*

*Watershed Monitoring Section (WMS)*

*Regional Operating Centers (ROC)*

*Watershed Evaluation and Total Maximum Daily Loads Section (WETS)*

*Watershed Assessment Section (WAS)*

*Water Quality Restoration Program (WQRP)*

*Water Information Network and STORET Section (WIN)*

*Geographical Information Systems Section (GIS)*

*Laboratories (LABS)*

Division of Water Restoration Assistance (DWRA)

*Nonpoint Source Management Program (NPSM)*

*Deepwater Horizon (DWH)*

*Water Supply Restoration Funding Program (WSRFP)*

*Water Quality and Supply Program (WQ&SP)*

Office of Water Policy and Ecosystems Restoration (OWPER)

Office of Resilience and Coastal Protection (ORCP)

*Aquatic Preserves (AP)*

*Statewide Ecosystem Assessment of Coastal and Aquatic Resources (SEACAR)*

*Florida Keys National Marine Sanctuary (FKNMS)*

*National Estuarine Research Reserves (NERR)*

*Coral Reef Conservation Program (CRCP)*

*Coral Protection and Restoration Program (CPR)*

# Ecosystems Restoration: Overview and Expected QA Activities

The Ecosystems Restoration program area protects and improves water quality and aquatic resources, including the Everglades, lakes, streams, springs and coastal resources. Ecosystems Restoration programs work with communities, local governments and other agencies to protect and restore water quality and provide funding assistance for water restoration and infrastructure projects. The programs also coordinate the protection of Florida’s submerged lands and coastal areas. This program area samples and analyzes a significant number of environmental samples. The groups within the Ecosystems Restoration have a wide range of expected QA activities (Table 2.1). The program area consists of OWPER, ORCP, DEAR and DWRA. For 2023, there were 19 individual reporting unit submissions and a joint submission provided by the 15 APs of ORCP.

OWPER oversees Everglades restoration activities for Florida, exercises general supervisory authority over the state’s five water management districts and ensures effective implementation of the department’s responsibilities under the Florida Water Resources Act (Chapter 373, Florida Statutes (F.S.)). OWPER has one QA reporting unit that reports for six organizational units. This reporting unit primarily manages contracts, grants and purchase orders (POs) that fund environmental sample collection and laboratory analysis. They also issue permits under the Comprehensive Everglades Restoration Plan, which include environmental monitoring and those data are reviewed by staff. OWPER is also responsible for activities associated with the Everglades Forever Act and the Northern Everglades Estuaries Protection Program. In addition to managing agreements, which also include Innovative Technology Grants for harmful algal blooms, OWPER reviews the data submitted under the agreements to ensure QA requirements and deliverables are met. Staff should receive training to ensure the agreements and deliverables incorporate adequate QA measures to fulfill contracted DQOs. Staff involved in the generation, review or interpretation of data should receive the required training for their daily tasks.

ORCP houses the following 12 organizational units Florida Coastal Management Program (FCMP); SEACAR; APs; NERRs; CRCP; CPR; Clean Boating Program (CBP); Resilient Florida Program (RFP); FKNMS; Beaches Field Services; Beaches, Inlets and Ports; and the Coastal Construction Control Line Program. SEACAR, AP, NERRs, CRCP, CPR and FKNMS provided information for this report. FCMP, CBP and RFP do not collect or use environmental data and are not included in this report. RCP programs that use environmental data but did not participate in annual QA reporting are Beaches Field Services; Beaches, Inlets and Ports; and the Coastal Construction Control Line Program. These programs need to assess the status of their Quality System related to requirements of the QA Policy. Various ORCP units collect environmental data for National Oceanic and Atmospheric Administration (NOAA) projects and for the department, so some of their DQOs are aligned with NOAA expectations and some with DEP expectations. All ORCP data is made publicly available through the SEACAR data discovery interface. RCP also manages department contractual agreements for environmental sampling and analysis. Reportable QA information for these activities includes DQO establishment, training for SOPs, data entry and review of data with respect to DQOs and understanding QA requirements for the management of agreements.

DEAR monitors, analyzes and assesses surface water and groundwater quality, which includes identifying, verifying and prioritizing impaired waters; developing strategies to address impairments; and implementing those strategies through comprehensive restoration action plans in partnership with local stakeholders. DEAR consists of nine QA reporting units, which comprise the whole division and include the department’s environmental laboratory. DEAR collects, analyzes, enters, reviews and manages data in databases and oversees agreements that include environmental sample collection. Reportable QA information includes DQO and SOP establishment, training on SOPs, evaluation of data and auditing internal and external data providers. AEQAS within DEAR has additional QA duties as described in this report.

DWRA is responsible for funding projects that improve the quality and quantity of the water resources of the state. The projects improve stormwater quality, reduce pollutants entering surface water and groundwater, conserve energy or water, protect springs, collect and treat wastewater, produce and distribute drinking water, provide alternative water supply and restore habitat; and enhance recreation through DWH. In prior years, DWRA reported as one unit for the entire division. Since 2020, four of seven DWRA programs (SWRFP, NPSM, DWH and WQ&SP) provided information for this report because they are the only programs that need to report QA activities. The primary function of this division is to manage agreements, so staff are responsible for including appropriate QA requirements in contracts and grants and reviewing deliverables to ensure adherence to those requirements. Reportable QA information for these activities includes establishment of DQOs, program-specific training related to QA requirements and potential audits of the funding recipients.

In total, 20 Ecosystems Restoration reporting units provided information for this report. Table 2.1 provides context for the QA activities expected from the reporting units.

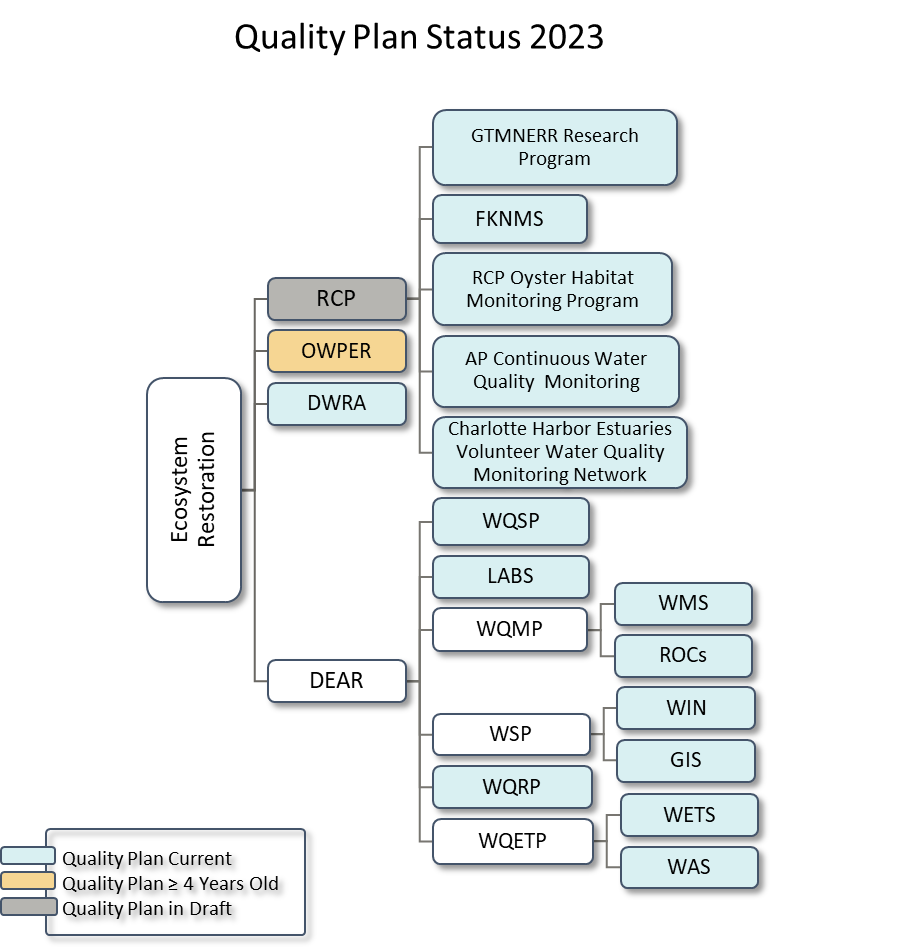
Table 2.1. **Reporting units’ functions that require QA activities are represented with an “X.” The “X” does not indicate whether that program or section reported on that function.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Reporting Unit** | **Sample Collection** | **Lab analysis** | **Data Entry** | **Data Review** | **Database Management** | **Contract/Grant/PO management** | **Program Specific QA Requirements** |
| **DEAR-GIS** |  |  |  |  | X |  |  |
| **DEAR-Labs** | X | X | X | X | X | X | X |
| **DEAR-ROCs** | X |  | X | X |  | X | X |
| **DEAR-WAS** | X |  | X | X | X | X | X |
| **DEAR-WETS** | X | X |  | X |  |  |  |
| **DEAR-WIN** |  |  | X | X | X |  | X |
| **DEAR-WMS** | X |  | X | X | X | X | X |
| **DEAR-WQRP** |  |  |  | X |  |  | X |
| **DEAR-WQSP** | X |  | X | X |  | X | X |
| **DWRA-DWH** |  |  | X | X |  | X |  |
| **DWRA-NPSM** |  |  |  |  |  | X |  |
| **DWRA-WSRFP** | X |  |  |  |  | X |  |
| **DWRA-WQ&SP** |  |  |  |  |  | X | X |
| **RCP-AP** | X | X | X | X | X | X | X |
| **RCP-CRCP** | X |  | X | X | X | X |  |
| **RCP-CPR** |  |  |  |  |  | X |  |
| **RCP-FKNMS** | X |  | X | X |  | X | X |
| **RCP-NERR** | X | X | X | X | X | X | X |
| **RCP-SEACAR** |  |  | X | X | X | X | X |
| **OWPER** |  |  |  | X |  | X |  |

# Ecosystems Restoration: Quality Plans and QA Officers

All Ecosystems Restoration divisions and offices have appointed QAOs (18 QAOs). DEAR appoints QAOs at the program/section levels (10 QAOS). DWRA has four QAOs at program levels. OWPER has a QAO at the division level. ORCP has a QAO at the division level and two additional QAOs for specific programs. Of the 18 QAOs in Ecosystems Restoration, 15 took the “Introduction to Quality Assurance” course available on LMS in 2023.

A specific frequency for QP updates is not required. For the purposes of this report, the review focus is on documents older than four years to determine if they are out of date and need revisions. See Figure 2.1 for the status of QPs. Note that ORCP maintains QPs at various levels. Some of ORCP’s QPs apply to all offices that carry out the associated activities, while some ORCP offices maintain their own QPs. Additional QPs are in draft within ORCP and not currently available on the [Quality Assurance Resource webpage](https://floridadep.gov/dear/quality-assurance/content/quality-assurance-resources).



**Figure 2.1. Status of QPs for in Ecosystems Restoration for 2023. The number of plans required for each division or office is dependent on the program groupings included in each plan. Each color-coded box in the diagram represents a quality plan found on the** [**QP webpage**](https://floridadep.gov/dear/quality-assurance/content/quality-plans)**. The white boxes show relationships between the work units**.

Figure 2.2 provides the reported status of the QPs and the revisions within Ecosystems Restoration. Upon request, AEQAS conducts Quality of Science Reviews with program staff to help evaluate their Quality System, including a review of their QP to ensure QA activities are documented and carried out consistently. To date, four reporting units (WETS, DWRA, WAS and WQSP) have participated in Quality of Science Reviews. A complete list of reporting units, their designated QAOs and QP revision dates are in Appendix A.

**Figure 2.2. Number of reporting units in Ecosystems Restoration (20) that answered “yes” to the survey questions regarding QP or DQO revisions.**



# Ecosystems Restoration: Data Activity and Associated Documentation

Data activity was divided into three categories: data use, data generation and data management. Of the 20 total reporting units in Ecosystems Restoration, 18 use data, 12 generate data and nine manage data repositories. Figure 2.3 displays what combinations of data use, generation and management exist between all reporting units.

To ensure consistent quality data recording, reporting and usage, reporting units should have QA/QC procedures in place. Their QP should contain information about the unit’s QA activities; how those activities are carried out; and how to access the tools associated with those activities. The following figures display Quality System components and QP documentation associated with the three data activity categories. Components denoted with three asterisks (\*\*\*) are expected to be 100 percent, and any lesser value indicates quality component deficiencies. See Appendix B for individual reporting units’ responses. Note that reporting units that indicated the information is not included in the QP may not have a QP. All three are in ORCP. NERR and AP have office and activity-specific QPs that were not counted as they do necessarily apply to the entire program.

Figure 2.4 shows the percentage of 12 total reporting units that have Quality System components as reported by data generators. Nine of the 12 reported data generators have quality plans. Data generators are required to document all sampling techniques in their QP and one reporting unit with an existing QP is deficient in meeting this Quality System goal. Units that do not incorporate all SOPs used into their QP need to revise their QP to include missing SOPs. GIS and WSRFP are deficient in documenting corrective actions in their QP.

**Figure 2.3. Number and percentage of reporting units within Ecosystems Restoration that identified their program activity functionality as data user, data generator, data manager or any combination of the three.**

**Figure 2.4. Percentage and number of reporting units in Ecosystems Restoration that answered “yes” in the questionnaire regarding data quality objective use and documentation specific to roles as data generator.**

Figure 2.5 shows the percentages of the 18 total reporting units’ Quality System components which reported as data users. Thirteen reporting units have an established QP. CRCP must work to document the DQOs used to evaluate the data. WQ&SP and CPR should use their documented DQOs to evaluate the data to ensure the objectives are met. Data users that have not documented all Quality System elements should work towards establishing these actions and ensuring the process is documented in their QP.

**Figure 2.5. Percentage and number of reporting units in Ecosystems Restoration that answered “yes” to survey questions regarding data quality objective use and documentation specific to roles as data user.**

Percentages of nine total reporting units’ Quality System components as reported by data managers are illustrated in Figure 2.6. Five data managers have an established QP. CRCP needs to work to document the DQOs they are using to evaluate their data repositories. GIS needs to update their QP to include their evaluation checklists.

**Figure 2.6. Percentage and number of reporting units in Ecosystems Restoration that answered “yes” to survey questions regarding data quality objective use and documentation specific to roles as data manager.**

# Ecosystems Restoration: Training



QAOs identified QA training needs by reporting the number of staff that needed training versus the number of staff that received the training. Combining all staff from all reporting units and the training categories, 98 percent of employees received the required training for QA tasks in Ecosystems Restoration (Figure 2.7). When reviewing the information from individual reporting units, three units (ROC, OWPER and WSRFP) reported not meeting all their training needs, while four reporting units (WQRP, DWH, NPSMP and WQ&SP) did not identify training needs in 2023.

**Figure 2.7. Number and percentage of employees in Ecosystems Restoration who required QA training in 2023 that received the training for their job responsibilities within each QA training category.**

# Ecosystems Restoration: Audits



Reporting units within Ecosystems Restoration were asked to tally their audits from four different perspectives (Table 2.2). In total, 34 audits were reported for 2023, an increase from the 32 reported for 2022. Slight increases or decreases are expected from year to year and are based on need.

**Table 2.2. Audits reported by Ecosystems Restoration reporting units for 2023.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Audit Perspectives** |  | **Audit Types** |  |  |
|  | **Performance** | **Project** | **System** | **Total** |
| **Audits of another unit within DEP** | 1 | 4 | 2 | **7** |
| **Audits of entities external to DEP** | 3 | 6 | 0 | **9** |
| **Audits of the reporting unit by another entity** | 8 | 2 | 2 | **12** |
| **Self-audits conducted by the reporting unit** | 3 | 1 | 2 | **6** |
| **Total** | **15** | **13** | **6** | **34** |

While there are some required audit report and response timeframes in Rule 62-160.650, F.A.C., there are no department-wide protocols for audit tracking, use of checklists or audit follow-up. All reporting units are encouraged to establish expectations and procedures for audits. Figure 2.8 includes seven QA criteria for evaluating the audits conducted by the department’s reporting units. It does not include survey information regarding audits of the reporting units themselves.

Nine reporting units conducted at least one audit. Three units (WQSP, WMS and SEACAR) conducted audits of entities within DEP and two units (WQSP and WMS) conducted audits of entities external to DEP. All three units that conduct audits from each perspective followed up with corrective actions but, at the time of writing this report, not all audits have concluded. Reporting units should follow-up to ensure corrective actions are implemented and make efforts to encourage auditees to respond within the determined timeframe. Auditors are not ultimately responsible for the audited parties’ timeliness. Self-reported responses from districts are in Appendix C.

**Audit Highlights From WQSP:**

* Documentation inconsistencies found in a routine field sampling performance audit led to records review of other field teams collecting data for the same project and resulted in development of a standardized field sheet for data collection.

**Audit Goals from WMS:**

* Audit all sampling entities at least once within an 18-month period;
* Train WMS project managers to conduct audits independently; and
* Develop a process for multi-program audits.

**Figure 2.8. Percentages of Ecosystems Restoration reporting units meeting seven QA criteria for conducting audits in two audit categories: audits conducted by reporting units of DEP entities and audits conducted by the reporting unit of an entity outside of DEP. Numbers of reporting units that answered “yes” to each criterion are included in the bars.**

Seven reporting units were audited by an external entity or themselves in 2023. ROC, NERR, AP and FKNMS indicated they were audited by an entity outside of their reporting unit. WQSP, LABS, WAS and AP conducted one or more internal audits of their reporting units. Of the four units that were audited by an entity outside of their reporting unit, three (ROC, NERR and AP) followed up with corrective actions. When FKNMS submitted information for the report, the timeframe for audit responses had not concluded. Three (WQSP, LABS and AP) of the four units that conducted internal audits had an established frequency requirement and followed through with corrective actions. Internal audits conducted by WAS did not have an established frequency requirement and the corrective actions were not followed through. The internal audit is an important tool for work units to evaluate their practices and procedures, which provides their data users with greater confidence in the data. Units that generate data but do not conduct internal audits should evaluate the value of internal audits and possibly include internal audit goals in their QP. Of the nine reporting units who participated in audits in 2023, eight reporting units have audit goals discussed in their QP.



# Ecosystems Restoration: Data Repositories

Of the 20 reporting units within Ecosystems Restoration, 14 reporting units indicated that staff enter data into at least one data repository; 17 reporting units retrieve data; and eight reporting units are responsible for managing data in repositories.

Fourteen reporting units in Ecosystems Restoration enter data into 22 different data repositories. Figure 2.9 shows the number of reporting units that verify data they enter and document the process in the QP. WMS and NERR only have verification steps in place for some data that are entered. To ensure that data are entered correctly, reporting units without verification protocols should determine if data verification is needed to increase the reliability of their data. WQSP, LABS, ROCs, WETS, WIN, GIS and DWH have all protocols for data entry documented in the QP. WAS, WMS, NERR, AP and FKNMS have protocols for data entry documented for some of their repositories. CRCP and SEACAR do not have any protocols for data entry documented in the QP. To safeguard against data entry errors and improve data repository understanding by staff, all protocols should be documented or referenced in QPs.

**Figure 2.9. Number of reporting units in Ecosystems Restoration that enter data into data repositories in which data entered is verified with a second-level check for all repositories and have documented protocols in place for entering data.**

Seventeen reporting units retrieve data from 53 different data repositories. WMS, ROCs, WETS, NERR, AP and FKNMS perform QA/QC checks on the data retrieved from some of their data repositories. WIN, GIS, WSRFP, DWH and CPR do not perform any checks on the data retrieved (Figure 2.10). Those programs that do not perform QA/QC checks on all data retrieved should incorporate QA/QC checks. The reporting units without written protocols for some or all data repositories used for retrieval should evaluate their QPs and include the protocols. The reporting units without feedback mechanisms for all data repositories should develop feedback mechanisms, and these should be documented in QPs. To obtain data consistently and uniformly, reporting units that do not have protocols for QA/QC checks, data retrieval and feedback mechanisms for retrieving data from each data repository utilized by those units should establish such QA/QC processes and describe them in their QPs.

**Figure 2.10. Number of reporting units in Ecosystems Restoration that retrieve data from data repositories in which data quality checks were performed on all data retrieved; documented protocols are in place for all repositories used; a feedback mechanism is in place to notify the data generator of suspect data for all repositories; and the feedback mechanism is described in the reporting unit’s quality plan for all repositories.**

Eight reporting units within Ecosystems Restoration manage 11 data repositories. WIN performs checks on only some of the repositories they manage and NERR performs checks on none of the data stored or managed (Figure 2.11). WIN, CRCP, NERR and SEACAR do not document all protocols for checking data in their QP. These reporting units should evaluate the need for checks and add relevant documentation for performing checks of stored data in the QP.

Most reporting units have a mechanism to provide feedback to the data generator for suspect data. WMS and NERR do not have feedback mechanisms in place. WAS, WMS, CRCP, NERR, SEACAR and AP do not have the feedback mechanisms documented in their QP (Figure 2.11). Reporting units without feedback mechanisms and description of the feedback mechanism for all data repositories should incorporate protocols and document the protocols in the QP for data storage. To validate data housed, documented protocols should be in effect and described in the QP for all data repositories.

**Figure 2.11. Number of reporting units in Ecosystems Restoration that manage data repositories in which data quality checks were performed on all repositories managed; documented protocols are in place for quality control checks of the stored data for all repositories; a feedback mechanism is provided to the data generator for suspect data for all repositories; and the feedback mechanism is described in the reporting unit’s quality plan for all data repositories.**

# Ecosystems Restoration: Summary

The programs and sections of DEAR, OWPER, DWRA and ORCP make up the 20 reporting units within Ecosystems Restoration. Reporting efforts from 2022 to 2023 were the same. Improvements are needed in documentation of the Quality System and data repository use by most units.

All Ecosystems Restoration divisions and offices have appointed QAOs (18 QAOs). This number could increase over time as ORCP programs are not represented in this report. ORCP may also consider adding additional QAOs for regional assistance as their offices are across the state. The number of QPs remained the same for this year with an improvement of Quality System documentation. OWPER is the only unit with an out-of-date QP; however, the QAO for OWPER is aware and working to update the document.

In Ecosystems Restoration, the data generators reported no change in the citation of SOPs utilized in their QPs. All data generators reported having checklists for evaluating the data produced, which is an improvement from 2022.

Nearly all the employees received the required QA training in 2023. The areas where staff did not receive the required training are field sampling, data review and contract/grant management. AEQAS increased the number of field sampling and data review trainings in 2023 to meet the need. Overall, training opportunities and employees receiving needed training remained consistent since 2017. All reporting units said they had sufficient opportunity to provide the needed training. Where training needs were not met, it was due to the timing of the employee hire date.

Reporting units in Ecosystems Restoration performed various field and lab audits, with performance audits as the most common. The number of audits increased from 32 in 2022 to 34 in 2023. Variability in the number of audits conducted is expected from year to year as many audits are conducted on an as needed basis. All programs that conducted audits generated reports and used checklists; however, improvement is needed for receiving timely responses for audit reports and follow up with corrective actions. Most reporting units have established auditing goals, though not all goals are documented in QPs. Very few performance and project audits are conducted for contracts and grants. More effort is needed in performance and project audits because there is an increasing number of projects involving data generation. AEQAS can provide guidance and offer audit shadowing events to other reporting units as needed to help with training.

Most reporting units enter data into and retrieve data from data repositories. Most units verify all entered data, and about half of those have written protocols for data entry and verification. About a third of the units perform QA/QC checks on all the data retrieved, and many of those units document the procedures for at least one of their data repositories. Most of the units that retrieve data have established feedback mechanisms to initiate corrective actions for suspect data found in their data repositories, and more than half document the procedures for at least one repository in their QPs. Half of the units that manage data perform QA/QC checks on the repository records. Most of the units have a mechanism to provide feedback to the generator for suspect data but units should place greater effort on documenting the corrective action process. Overall, management should work with staff and encourage them to develop documentation of data repository activities to improve the quality of data entered, retrieved and managed.

# Land and Recreation

**The following divisions, programs and sections contributed to this report:**

Division of Recreation and Parks (DRP)

Division of State Lands (DSL)

# Land and Recreation: Overview and Expected QA Activities

The Land and Recreation program area of DEP acquires and protects lands for preservation and recreation. It includes 175 state parks and trails, more than 12 million acres of public lands and 4 million acres of coastal uplands and submerged lands. Land and Recreation includes two divisions: DRP and DSL. DRP reports as one unit, though organizationally there are eight programs and five districts. DSL also reports as one unit with six programs. Table 3.1 indicates the functions of DRP and DSL that involve QA activities.

Although its primary missions are to manage public land and provide recreational opportunities for the public, DRP collects some environmental data for the department, either directly or indirectly through agreements. Sampling is for research purposes or for compliance with drinking water, wastewater and bathing beach monitoring requirements. Sampling projects and procedures vary across the DRP districts based on regional needs. For all environmental data collected for programmatic use, expected QA activities include using published or recognized methods, training staff and volunteers to appropriately use the methods, as well as training for data entry, data review and data management. Because DRP manages sampling agreements, it must have established DQOs, training for staff to review data against the DQOs, and training to understand when to incorporate QA requirements into agreements with the department.

DSL manages, purchases and maintains state lands and conservation easements and is not directly involved with the collection and analysis of environmental data; therefore, DSL has limited QA reporting. DSL reports on DQOs and training related to program-specific QA requirements. In previous years, they have reported limited data retrieval, but that activity was not performed in 2023. DSL did report contract or grant management-related QA activities in 2023, when in previous years this has varied. Table 3.1 provides context for required reporting of QA activities.

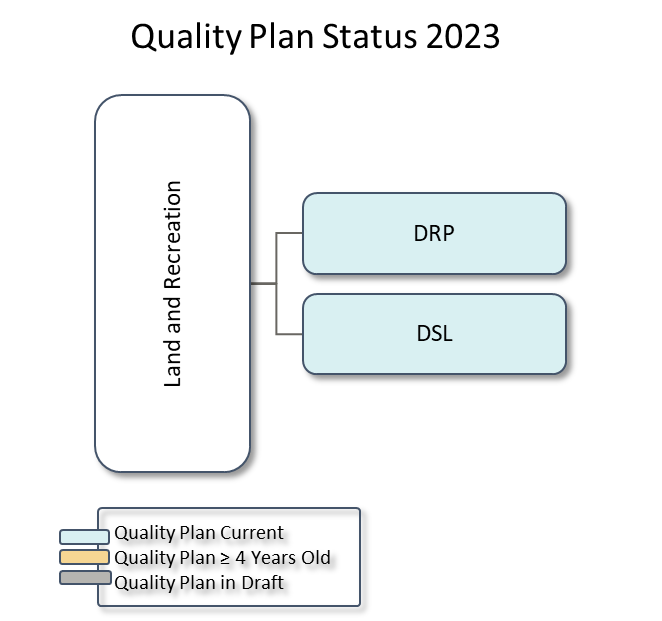
**Table 3.1. Table of the reporting units for DRP and DSL showing each unit’s 2023 functions that require QA activities. An “X” does not indicate whether that program or section reported on that function.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Reporting Unit** | **Sample Collection** | **Data Entry** | **Data Review** | **Database Management** | **Contract/Grant/PO management** | **Program Specific QA Requirements** |
| **DRP** | X | X | X | X | X |  |
| **DSL** |  |  |  |  | X |  |

# Land and Recreation: Quality Plan and QA Officer Status

DRP and DSL both keep their QPs and QAO roles at the division level. Figure 3.1 illustrates the QP status in Land and Recreation. DSL’s QAO recently retired, and they have not appointed a new representative. Since DSL is a small division and does not have many activities that involve QA, typically its QAO does not have difficulty making QP updates, sharing QA information with staff or collecting QA information for this annual report. DRP is a large division, and it is difficult for one QAO to reach all districts. In 2023, DRP assigned each District Bureau Chief as the respective district QA lead and maintained the QAO in the division Central Office as the primary QAO liaison. AEQAS will reach out to those new QA leads to provide training and assistance. The DRP QAO has taken the “Introduction to Quality Assurance” course available on LMS. Once DSL appoints a new QAO, AEQAS will share guidance for finding the introductory course, and all relevant QAO information will be shared with them.

DSL finalized revisions to their QP at the beginning of 2020, and it is not considered outdated in this report. Once appointed, the new QAO should be reflected in the QP. DRP finalized its QP revision in March 2023.



**Figure 3.1. QPs that are current, outdated or in revision for programs in Land and Recreation for 2023. The number of plans required for each division or office is dependent on the program groupings included in each plan. Each color-coded box in the diagram represents a quality plan found on the** [**QP webpage**](https://floridadep.gov/dear/quality-assurance/content/quality-plans)**. The white boxes show relationships between the work units**.



# Land and Recreation: Data Activity and Associated Documentation

DRP and DSL are both data users. Portions of DRP are also data generators. DRP uses DEP SOPs and county health department methods to collect water quality samples and uses additional techniques not covered by DEP SOPs to conduct vegetation, imperiled species and invasive species monitoring. Some additional sampling techniques are used for local resource management decision making that are not described in the DRP’s QP. DRP has DQOs other than following the SOPs, and there were no checklists for evaluating the data in 2023. In the March 2023 QP update, several DQOs were established, but additional DQOs may be considered to cover the wide range biological data collection conducted by DRP. The most recent version of the QP needs further edits to better discuss how data activities are carried out and the staff that are responsible for those activities.



# Land and Recreation: Training

DSL did not report QA training needs in 2023. A total of 435 employees needed and received training in DRP. During 2023, DRP further investigated training needs and found that 362 employees needed field sampling training, 50 employees needed data entry training, and 23 employees needed contract/grant/PO management for environmental sample collection and/or analysis. DRP reported they had sufficient expertise and support to ensure all staff are trained in the necessary areas. It has been recommended that all employees take the *Introduction to Quality Assurance* course available on LMS, as well as use AEQAS’ online training resources for the topics relative to their data activities.



# Land and Recreation: Audits

Land and Recreation did not report any audits. Reporting units within Land and Recreation are not likely to report audits in the volume or frequency of other program areas. However, environmental data collected through compliance monitoring or for research is subject to audits. For example, some of the data generated by DRP is subject to performance or project audits.



# Land and Recreation: Data Repositories

DSL reported that staff do not enter, retrieve or manage environmental data. DRP reported that staff enter and retrieve environmental data. DRP staff verify all data entered but do not have documented protocols for data entry and verification. DRP does not perform standardized QA/QC checks on the data retrieved from repositories. There is a feedback mechanism for suspect data, but the feedback mechanism is not standardized across the division and therefore not documented in their QP. DRP is working to update its Resource Management Standards, and future QP revisions will reflect these updates. They are also evaluating the need for QA/QC checks on data retrieved and will include their feedback mechanism for suspect data in QP updates.

# Land and Recreation: Summary

DRP has a designated QAO and representation in their districts. DSL is working on appointing the recently vacated QAO role. DSL has an up-to-date QP but has not reported on training needs nor audits in the last five years. Although DSL is a data user, it did not report any data repository activity involving environmental data. DRP has provided annual information since 2020. DRP finalized its QP revision in March 2023. AEQAS will continue to work with DRP to ensure the QP is a valuable tool for the division and will continue to support DRP in evaluating and understanding QA responsibilities.

# Regulatory

**The following divisions, programs and sections contributed to this report:**

Division of Water Resource Management (DWRM)

*Compliance and Enforcement (CE)*

*Wastewater Management (WWM)*

*Source and Drinking Water (SDW)*

*Mining and Mitigation (MM)*

*Phosphate Management (PM)*

*Stormwater and Technical Services (STS)*

*Data Information Services (DIS)*

Division of Waste Management (DWM)

*Petroleum Restoration Program (PRP)*

*Waste Cleanup Program (WCP)*

*Site Investigation Section (SIS)*

*Waste Site Cleanup Section (WSCS)*

*Federal Programs Section (FPS)*

*Brownfields and CERCLA Site Screening (BCSS)*

*District Support Program (DSP)*

*Operational and Program Performance (OPP)*

*Permitting and Compliance Assistance Program (PCAP)*

*Hazardous Waste Program & Permitting Section (HW)*

*Solid Waste Program & Permitting Section (SW)*

Florida Geological Survey (FGS)

Division of Law Enforcement and Emergency Response (DLE)

Regulatory districts conducting Wastewater and Drinking Water Activities

*Northeast District (NED)*

*Northwest District (NWD)*

*Central District (CD)*

*Southwest District (SWD)*

*South District (SD)*

*Southeast District (SED)*

# Regulatory: Overview of Expected QA Activities

District offices, DWM, DWRM, FGS and DLE, which includes the Office of Emergency Response, comprise the Regulatory program area. The data presented in this section of the report are based on the 19 reporting units that submitted information for 2023 (DWM, DWRM, DLE and FGS). At this time Underground Injection Control (UIC) and Aquifer Protection (AP) did not report for 2023. AEQAS will work with the programs to provide information in future editions of the report. This is an increase of seven reporting units from 2022 with the addition of DWRM programs. QA activities reported for DWM in this section do not include QA activities conducted in the districts. Discussion of the Drinking Water and Wastewater Regulatory programs in the districts are in section 4.2 of this report. District information is in a separate section because they report their QA activities and goals differently from other reporting units.

DWM implements state and federal laws to protect the environment from the improper handling and disposal of solid and hazardous wastes. Ten reporting units representing seven organizational units make up DWM: DSP (previously the District and Business Support Program), FPS, BCSS, SIS, WSCS, HW, SW, OPP, PCAP and PRP.

DLE responds to environmental pollution threats in every form, from incidents involving petroleum spills caused by vehicle accidents to chemical plant explosions and coastal oil spills. There is one reporting unit for DLE representing two organization units: Emergency Response and Environmental Crimes Unit. The districts carry out the division’s responsibilities across the state. The QAOs for DLE report for the division office as well as the district offices.

FGS collects, interprets and provides information about Florida’s water, mineral and energy resources. The focus of FGS is on environmental problem-solving and geological hazards as they relate to public health and safety. FGS has one reporting unit encompassing five organizational units. The five organizational units are: Education and Outreach, Geological Collections, Geologic Topics, Maps and Data, Research and Sinkholes.

DWRM is responsible for implementation of state laws providing for the protection of the quality of Florida’s drinking water, groundwater, rivers, lakes, estuaries and wetlands from permitted discharges or activities and reclamation of mined lands. The division serves as Florida’s central point of contact for federally delegated water programs, such as National Pollutant Discharge Elimination System (NPDES), SDW, UIC and the assumed State 404 Program, and has regulatory oversight of certain functions of water and wastewater facilities throughout Florida. These facilities include industrial and domestic wastewater, septic tanks, NPDES stormwater, power plants and public drinking water systems. The division is responsible for permitting phosphate mineral processing facilities and associated phosphogypsum stack systems, and the environmental resource permitting of mines and mitigation banks. It also coordinates the interagency review and certification for building, operating and maintaining power plants, transmission lines and natural gas pipelines. Seven reporting units participated from DWRM: CE, PM, SDW, MM, WWM, STS and DIS. In the future, other units may report.

In total, 19 Regulatory reporting units provided information for this report. Table 4.1 provides the required QA activities for reporting units.

**Table 4.1. Reporting units’ functions that require QA activities are represented with an “X.” The “X” does not indicate whether that program or section reported on that function.**

| **Reporting Unit** | **Sample Collection** | **Data Entry** | **Data Review** | **Database Management** | **Contract/Grant/PO management** | **Program Specific QA Requirements** |
| --- | --- | --- | --- | --- | --- | --- |
| **DLE** | X | X | X | X | X |  |
| **DWM-BCSS** |  | X | X |  | X | X |
| **DWM-DSP** |  |  | X |  |  |  |
| **DWM-FPS** |  | X | X |  | X | X |
| **DWM-HW** |  | X | X |  | X |  |
| **DWM-OPP** |  | X | X | X |  |  |
| **DWM-PCAP** |  | X |  |  |  |  |
| **DWM-PRP** |  | X | X |  | X | X |
| **DWM-SIS** | X | X | X |  | X | X |
| **DWM-SW** |  | X |  | X |  |  |
| **DWM-WSCS** |  | X | X |  | X | X |
| **DWRM-CE** |  | X | X |  |  | X |
| **DWRM-DIS** |  |  |  | X |  |  |
| **DWRM-SDW** |  |  | X | X | X | X |
| **DWRM-MM** |  |  | X | X |  |  |
| **DWRM-PM** | X | X | X |  |  |  |
| **DWRM-STS** |  |  | X | X |  | X |
| **DWRM-UIC/AP** |  | X |  | X | X |  |
| **DWRM-WWM** |  | X | X |  |  | X |
| **FGS** | X | X | X | X | X | X |

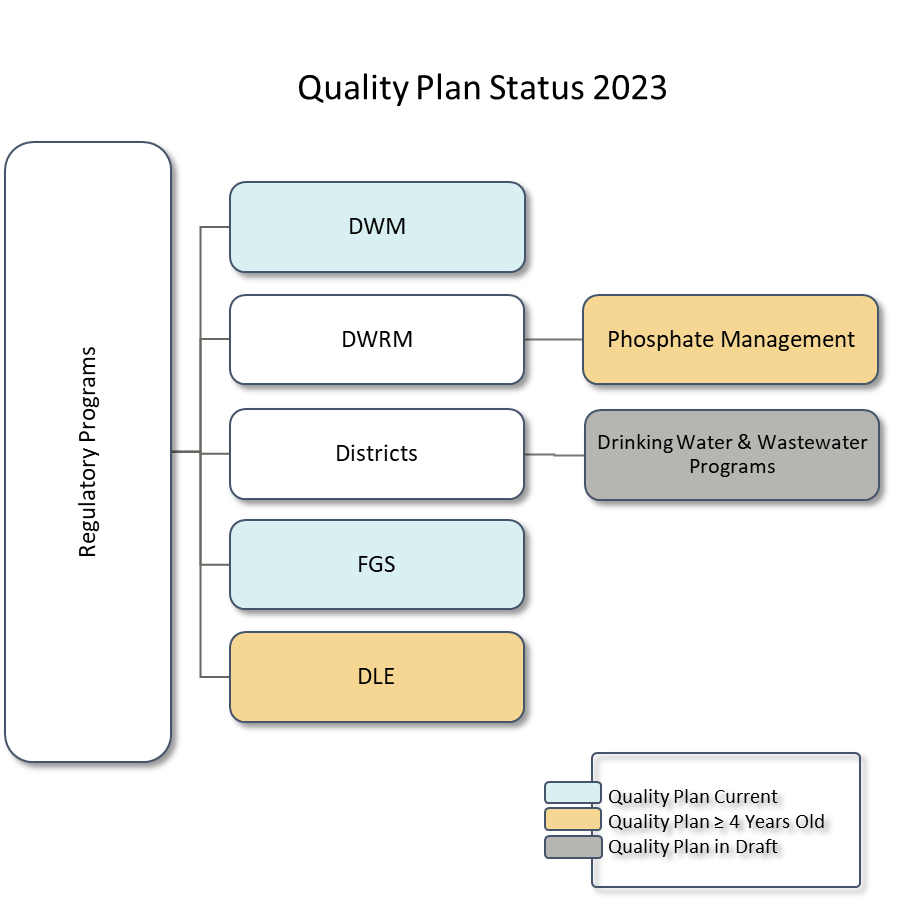
# Regulatory: Quality Plans and QA Officers Status

All Regulatory divisions and districts have appointed QAOs (38 QAOs). DWM appoints one QAO per program/section for 10 QAOs for the division. DWRM appointed 11 QAOs for nine programs, with two programs having two QAOs. Both FGS and DLE each have one QAO for their entire divisions. Of the QAOs in DWM, FGS and DLE, nine of the eighteen QAOs have taken the “Introduction to Quality Assurance” course available in LMS. AEQAS did not collect information about participation of the QAOs with the LMS training for 2023 from the districts.

In 2023, six QPs were available on the [QP webpage](https://floridadep.gov/dear/quality-assurance/content/quality-plans). There is not a required frequency for QP updates, but this report focuses reviews on QPs older than four years to determine if they are out of date and need revisions. Figure 4.1 illustrates the 2023 QP status for Regulatory.

DWM, FGS and DLE maintain QPs at the division level. DWRM does not currently have a division level QP. The districts have a combined draft QP document for drinking water and wastewater activities but have not included all Regulatory program activities. This QP is not considered finalized as it does not contain all their QA activities, nor does it contain all the components of a complete QP. The district draft QP needs to be updated annually to list the number of expected QA reviews for each district.

One reporting unit revised and finalized their updated QP. Upon request, AEQAS conducts Quality of Science Reviews to help evaluate a reporting unit’s Quality System, including a review of the QP to ensure QA activities are documented and carried out consistently. To date, two reporting units within DWM have participated in Quality of Science Reviews, and AEQAS continues to conduct these reviews for DWM programs/sections. A complete list of reporting units, their designated QAOs and QP revision dates can be found in Appendix A.



**Figure 4.1. Status of QPs in 2023 for the Regulatory program area. The number of plans required for each division or office is dependent on the program groupings included in each plan. Each color-coded box in the diagram represents a quality plan found on the** [**QP webpage**](https://floridadep.gov/dear/quality-assurance/content/quality-plans)**. The white boxes show relationships between the work units.**



# Regulatory: Data Activity and Associated Documentation

Data activity is divided into three categories: data use, data generation and data management. Of the 19 reporting units from Regulatory, 17 use data, four generate data and seven manage data repositories. Figure 4.2 displays what combinations of data use, generation and management exist between all reporting units.

**Figure 4.2. Number and percentage of reporting units in Regulatory that identified their program activity functionality as data user, data generator, data manager or any combination of the three.**

To ensure consistent quality data recording, reporting and usage, reporting units should have QA/QA procedures in place, and their QP should contain information about a unit’s QA activities, how those activities are carried out and how to access the tools associated with those activities. The following figures display Quality System components associated with the three data activity categories. Components denoted with three asterisks (\*\*\*) are expected to be 100 percent and any lesser value indicates quality component deficiencies. See Appendix B for individual reporting units’ responses to the questions. Note that reporting units that indicated the information is not included in the QP may not have a QP. The seven reporting units that do not have a QP are in DWRM.

Figure 4.3 shows the percentage of four total reporting units that have Quality System components as reported by data generators. All four reported data generators have QPs. Data generators are required to document all sampling techniques in their QP. FGS reported that not all sampling techniques are documented in their QP. Units that do not incorporate all SOPs used into their QP need to revise their QP to include missing SOPs. None of the reporting units were deficient in documenting corrective actions in their QP. SIS indicated that their QP does not include all DQOs and procedures they use to evaluate their data. Both FGS and SIS need to revise their QP accordingly to include references for all SOPs, DQOs and similar methods used.

**Figure 4.3. Percentage and number of reporting units in Regulatory that answered “yes” to questions regarding data quality objective use and documentation specific to roles as a data generator.**

Figure 4.4 shows the percentages of the 17 reporting units’ Quality System components which reported as data users. Nine reporting units have an established QP. Three units within DWRM (MM, DW and STS) need to work to document the DQOs used to evaluate the data. MM and SW should use their documented DQOs to evaluate the data to ensure the objectives are met. Data users that have not documented all Quality System elements need to work towards establishing these actions and ensuring the process is documented in their QP. DWRM has two units (WWM and CE) that indicated they use checklists for evaluating data but do not have a QP.

Percentages of seven total reporting units’ Quality System components as reported by data managers are illustrated in Figure 4.5. Data managers include those units that manage data repositories housing department environmental data. Three data managers have an established QP. STS indicated that they do not evaluate data in the repositories to ensure the data meets the established DQOs. DIS and STS indicated they do not use checklists to evaluate the data. OPP, SW, FGS and DLE stated that there were corrective actions for when data did not meet the DQOs and the corrective actions are documented in the QP, though only OPP, FGS, DLE and DIS follow-up with corrective actions.

**Figure 4.4. Percentage and number of reporting units in Regulatory that answered “yes” to questions regarding data quality objective use and documentation specific to roles as a data user in the 2023 questionnaire.**

**Figure 4.5. Percentage and number of reporting units in Regulatory that answered “yes” to questions regarding data quality objective use and documentation specific to roles as a data manager in the 2023 questionnaire.**

# Regulatory: Training



QAOs identified QA training needs by reporting the number of employees that needed the training versus the number that received the training. For Regulatory, 95 percent of employees received the required training for QA tasks. When reviewing the information from individual reporting units, five units (FGS, DLE, PM, HW and BCSS) reported not meeting all their training needs, and four reporting units (DIS, SW, OPP and MM) did not identify training needs in 2023. The percentage and number of employees who received required training is shown in Figure 4.6.

**Figure 4.6. Number and percentage of employees in Regulatory who required QA training in 2023 for their job responsibilities within each QA training category.**



# Regulatory: Audits

Reporting units within Regulatory were asked to tally their audits from four different perspectives (Table 4.2). They reported 28 audits in 2023, an increase from the 14 reported in 2022. DWRM increased by five audits. Slight increases or decreases are expected from year to year and are based on need.

**Table 4.2. Audits reported by Regulatory reporting units for 2023.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Audit Perspectives** |  | **Audit Types** |  |  |
|  | **Performance** | **Project** | **System** | **Total** |
| **Audits of another unit within DEP** | 8 | 0 | 2 | **10** |
| **Audits of entities external to DEP** | 14 | 0 | 0 | **14** |
| **Audits of the reporting unit by another entity** | 1 | 0 | 3 | **4** |
| **Self-audits conducted by the reporting unit** | 0 | 0 | 0 | **0** |
| **Total** | **23** | **0** | **5** | **28** |

While there are some required audit report and response timeframes in Rule 62-160.650, F.A.C., there are no department-wide protocols for audit tracking, use of checklists or audit follow-up. Reporting units are encouraged to establish expectations and procedures for audits. Figure 4.7 includes seven QA criteria for evaluating the audits conducted. It does not include survey information regarding audits of the reporting units themselves.

Seven reporting units conducted at least one audit. Three units (PCAP, SDW and CE) conducted audits of DEP entities, and three units (HW, DLE and CE) conducted audits of entities external to DEP. Except for PCAP, all units that conduct audits followed up with corrective actions and have been concluded. Reporting units should follow-up to ensure corrective actions are implemented and encourage auditees to respond within the determined timeframe. Auditors are not ultimately responsible for the audited parties’ timeliness.

CE conducted audits of other entities within and external to DEP in 2023, which included one system audit and two performance audits. Of those three audits, two reports were generated. CE tracked timeframes for their external audit activities, but not the internal audit. It only required audit activities be completed within a specific timeframe for external audits. CE auditors used checklists to perform the audits and followed up on corrective actions. PCAP and SDW conducted audits of other DEP work units that consisted of eight performance audits and one system audit. In 2023, HW and DLE conducted a total of 12 audits of work units external to DEP. Responses from districts are in Appendix C.

**Figure 4.7. Percentages of Regulatory reporting units meeting seven QA criteria for conducting audits in two audit categories: audits conducted of DEP entities and audits conducted outside of DEP. Numbers of reporting units that answered “yes” to each criterion are included in the bars to provide more information.**

No work units reported conducting an internal audit of their own unit in 2023. PCAP, CE and STS indicated that they were audited by an entity outside their work unit, and they all followed up on corrective actions required by these audits. Two (SDW and CE) of the three units that conducted audits of another DEP unit had an established audit frequency and followed through with corrective actions. Many reporting units (WWM, HW, FPS, PRP and WSCS) conduct extensive data reviews of permit packages that do not constitute an audit. Section 4.1.2 of this report captures data review activities and tools used by reporting units. STS, HW, DLE, CE and DDW indicated having audit goals in 2023, but only HW has those audit goals documented in their QP.



# Regulatory: Data Repositories

Of the 19 reporting units within Regulatory, 15 reporting units indicated that staff enter data into at least one data repository; 14 reporting units retrieve data; and seven reporting units are responsible for managing data in repositories.

Fifteen reporting units of Regulatory enter data into 14 different data repositories. Figure 4.8 shows the number of reporting units verifying data they enter and documentation of the process in the QP. PRP, FPS, BCSS, PCAP, FGS, DLE, WWM and PM indicated they verify data entered in all repositories, while OPP, WSCS, HW and MM do not verify data. To ensure that data are entered correctly, reporting units without verification protocols should determine if data verification is needed to increase the reliability of its data. FPS, PCAP, HW, FGS and PM have documented protocols for data entry for all the data repositories. DLE has documented protocols for some of the data repositories. BCSS, SIS, PRP, WSCS, OPP, MM, WWM and STS do not have any documented protocols for the data repositories. To safeguard against data entry errors and improve data repository understanding by staff, all protocols should be documented or referenced in QPs.

**Figure 4.8. Number of reporting units in Regulatory that enter data into data repositories in which data entered is verified with a second-level check and have documented protocols in place for entering data into repositories.**

Fourteen reporting units retrieve data from 20 different data repositories. OPP, PRP, SIS, FGS, MM, CE and STS do not perform any QA/QC checks on the data retrieved from any data repositories (Figure 4.9). FPS, SW and PM have feedback mechanisms described in their QPs for contacting data generators for all repositories. FGS and DLE indicated their QPs contains the mechanism for some repositories. OPP, PRP, SIS, BCSS, DSP, MM, SDW, CE and STS did not have any feedback mechanisms documented in their QP for any data repositories. Feedback mechanisms help maintain data quality throughout the data retrieval and use process. Reporting units without these mechanisms should develop protocols and include them in their QPs. To obtain data consistently and uniformly, protocols for QA/QC checks, data retrieval and feedback mechanisms for retrieving data from each data repository utilized by a unit should be in place and described in their QP. Programs that do not have these should evaluate their Quality Systems and determine if these elements would improve data quality.

**Figure 4.9. Number of reporting units in Regulatory that retrieve data from data repositories in which data quality checks were performed on all data retrieved, documented protocols are in place for all repositories used, a feedback mechanism is in place to notify the data generator of suspect data for all repositories and the feedback mechanism is described in the reporting unit’s quality plan for all repositories.**

Seven reporting units manage 12 different data repositories. DLE and DIS perform checks on all repositories managed and have written QC protocols of the stored data. OPP, SW, SDW and STS do not perform QA/QC checks on any repositories (Figure 4.10). OPP, SDW and STS do not have documented protocols for QC checks. These reporting units should perform checks on stored data. Once established, these protocols should be documented in their QP. Except for SDW, all reporting units that manage data repositories have mechanisms to provide feedback to the data generator regarding suspect data. For the validity of data housed, reporting units should document protocols for all data repositories. Reporting units within DWRM need to create a QP and include the feedback mechanisms for suspect data.

**Figure 4.10. Number of reporting units in Regulatory that manage data repositories in which data quality checks were performed on repositories managed, documented protocols are in place for quality control checks of the stored data for all repositories, a feedback mechanism is provided to the data generator for suspect data for all repositories, and the feedback mechanism is described in the reporting unit’s quality plan for all data repositories.**

# District Wastewater and Drinking Water Programs

In 2020, the Regulatory districts started reporting on training and data review activities related to wastewater (domestic and industrial) and drinking water compliance. As the QA process for regulatory activities in the districts is explored and supported, additional programs’ activities may be added to this section.

The primary QA function of the Drinking Water and Wastewater Regulatory programs in the districts is to review environmental data they receive to ensure that sample collection and measurement or analysis meets the department’s QA requirements. To carry out that function, the DWRM division office created data review checklists for both programs and determined the frequency with which these checklists are used. District Assistant Directors provided a QA document that includes training requirements and accessible checklists. The District offices currently use the checklists uniformly. They appoint multiple QAOs based on subject matter expertise for a total of 13 QAOs total across the offices. In most districts, there is one QAO for drinking water activities and one QAO for wastewater activities.

# Drinking Water Program in the Districts

The state of Florida implements the Federal Safe Drinking Water Act and its corresponding Florida Safe Drinking Water Act via Florida’s Public Water Systems Supervision (PWSS) program. The program is administered by DEP and approved county health departments (ACHDs). The goal is to protect the public health of Floridians by providing safe drinking water. The program administers permitting of construction of facilities, compliance with water quality standards and monitoring requirements, operator staffing, enforcement of violations and response to natural disasters. The program also partners with the Florida Rural Water Association (FRWA) under grant agreement to support the program.

# Drinking Water Program in the Districts: Training

Training is provided throughout the year to DWRM and district staff, the ACHDs and facility operators. District leadership identified a list of training specifically related to drinking water QA in their draft QP. The Drinking Water Regulatory Program tracks whether the required QA-related trainings are completed throughout the calendar year. The six Regulatory districts reported 100 percent of staff that needed training received the training required (Figure 4.11). A total of 25 employees throughout the districts received training for drinking water QA activities in 2023. No additional staff members received the training without needing it.

**Figure 4.11. Percentage of employees that received needed training for Drinking Water QA activities in the Regulatory districts.**

# Drinking Water Program in the Districts: Data Review/Audits

The Drinking Water Program and district leadership identified the drinking water reports and data sets that will be reviewed for QA objectives and set goals for the percentage of reports to be reviewed. Leadership determined the QA review process should be applied to five percent of the total Level of Service (LOS) commitments for the following reports: bacteriological reports, chemical reports and monthly operating reports. Numbers in the figure may not reflect the number of reviews conducted in the fiscal year. Self-reported responses from districts are in Appendix C.

All districts met the QA review goals (Figure 4.12) with three exceeding the expectation. In total, districts spent over 150 total hours on the review of drinking water documents and reports.

**Figure 4.12. Data reviews conducted by each district and overall. Blue bars reaching 100 percent indicate the data review goals were met in the district. Numbers in the bar indicate the count of data reviews. Districts with a \* conducted more data reviews than their established goal.**

# Wastewater Program in the Districts

The Wastewater Management Program regulates domestic and industrial wastewater discharges. This program within DWRM is responsible for the development and administration of rules and policies that regulate these discharges, and the district offices are responsible for the permitting and compliance activities, excluding pretreatment. Similar to the Drinking Water Programs, the QA functions of these programs were reviewed by the division, districts and AEQAS in response to inconsistent QA implementation and reporting. The wastewater QA workgroup was able to identify the types of reports and data sets that require QA review as well as the level of effort. Checklists with SOPs have been developed to accompany each of these reports and data sets.

# Wastewater Program in the Districts: Training

The Wastewater Management Programs and Water Compliance Enforcement Program conducted training for division and district staff throughout the year. The required list of QA training is in their draft QP document. Four of the six districts reported all staff that needed training received it in 2023 (Figure 4.13). NWD reported that not all staff received the needed training; NED district indicated no staff needed training. A total of 37 employees of the 38 who needed training for wastewater QA activities in the districts received it.

**Figure 4.13. Percentage of employees that received needed training for Wastewater QA activities in the Regulatory Districts. Districts with a \* conducted more data reviews than their established goal.**

# Wastewater Program in the Districts: Data Review/Audits

District offices are required to conduct a set number of inspections as part of their annual LOS commitments for the EPA Performance Partnership Agreement (PPA). The expectation is to conduct at least one Compliance Evaluation Inspection (CEI) or higher-level inspection on each wastewater facility with an active discharge or located in priority watershed areas every two year for major facilities, every three years for minor facilities, or every five years for Concentrated Animal Feeding Operations (CAFOs) and stormwater facilities. The wastewater QA workgroup determined that, beginning July 1, 2020, staff will review QA elements for at least 5 percent of facilities annually at the time of inspection, but the long-term goal is for each facility to receive a QA review within the permit renewal cycle.

The following reports and forms are reviewed for QA objectives at a level of 5 percent of the total number of regulated facilities annually: Discharge Monitoring Reports (DMR) (Pre-treatment, Surface water, Land application, Reuse, Groundwater, UIC and Biosolids), Field Sheets, Chain of Custody Forms, Lab Reports, Groundwater Reports, Reclaimed Analysis Reports, Bacteriological Reports for Crypto and Giardia, Toxicity Reports, DEW/PET and Quality Reports for DMR.

All districts met their data review goals in 2023, with two districts exceeding their established goal. In total, the districts conducted 105 QA reviews as part of inspections (Figure 4.14). The QA reviews required 340 hours of staff time, 100 hours less than in 2022. This improved efficiency is due to increases in QA training.

**Figure 4.14. Data reviews conducted by each district and overall. Blue bars reaching 100 percent indicate the data review goals were met in the district. Numbers in the bar indicate the count of data reviews. Districts with a \* conducted more data reviews than their established goal.**

# Regulatory: Summary

Almost all divisions and districts participated in the 2023 report. Nineteen reporting units in Regulatory completed the questionnaire for the 2023 report. The districts reported on their established program-specific metrics for wastewater and drinking water program activities. DWRM programs completed questionnaires for this year’s report.

Of the division reporting units, most identified as data users only; about a quarter generate data; and a third manage data repositories. All data generators report including the utilized SOPs in their QP. All data generators have corrective actions in place when data do not meet DQOs, and the corrective actions are implemented and documented in their QPs. All data users within DWM, DLE and FGS have documented DQOs, and almost all evaluate data to ensure that DQOs are met. Over half of the data users have checklists to review the data used. Data repository managers should work towards incorporating protocols and feedback mechanisms for all data repositories they manage in their QPs.

Most staff within reporting units received the required QA training. Most QAOs reported that they have sufficient expertise and opportunity to provide needed trainings. BCSS commented needing Laboratory Information Systems training. BCSS and SIS require assistance with environmental sample collection training.

Regulatory division-level reporting units conducted 28 audits. This is an increase from 14 in 2022. Sixteen audits were conducted by four different reporting units which utilized checklists and generated reports. However, not all had required time frames for audit completion and one unit did not follow up with the corrective actions. Reporting units should establish goals and timeframes for audits conducted. Three additional audits were conducted of reporting units within this program area.

Several reporting units conducted reviews of permit packages. These reviews are not considered audits for the purposes of this report, but if management and QAOs would like to track goals and accomplishments for these thorough reviews, they could be added to future reports. This report did not include DWM audit activities conducted in the districts.

While some improvements have been made involving the procedures and the documentation of the procedures for entry, retrieval and management of data repositories, further improvement is still needed in adding procedures for the data repository activities to QPs. Continued improvement of the documentation for all activities involving the entry, retrieval and management of data repositories is encouraged.

All districts completed all required QA reviews for both drinking water and wastewater. Only one district did not have its training needs met for wastewater activities. The districts continue to communicate with the DWRM division office regarding checklists and frequent findings.

# Department QA Goals and Initiatives

The maintenance of an effective Quality System for the department is an adaptive and evolving process. The following highlights the continued efforts to improve QA processes for the 2023 reporting cycle.

Quality assurance successes for 2023 include:

* AEQAS met individually with 36 QAOs to ensure they understand QA requirements and to offer assistance.
* AEQAS increased the number of trainings given from the previous year (14 in 2023; 11 in 2022).
* Total number of audits conducted increased from 46 in 2022 to 62 in 2023.
* Seven DWRM programs participated in this report and have begun evaluating their Quality System.
* SDW provided two sanitary survey trainings for new and existing staff to prevent system compliance issues.
* SDW is continuing to implement best management practices, rule guidance and trainings.
* Regulatory programs increased their reported audits by half (28 audits in 2023; 14 audits in 2022).
* DRP revised its quality plan and began considering an improved structure for its Quality System.
* Regulatory districts reduced the amount of time spent to conduct QA reviews because of increased QA trainings.
* AEQAS continued drafting revisions to Chapter 62-160, F.A.C., the QA Rules, and incorporated documents.

Suggested or reported quality assurance goals in 2024 for various parts of the agency include:

* AEQAS will assist in the continuous refinement and documentation of DEP reporting unit Quality Systems.
* FGS will work to update and improve the overall content and structure of their QA plan to include updated manuals and SOPs.
* The Phosphate Management Program will work to update its QP and set up an annual review of the document.
* SDW will continue to implement best management practices, rule guidance and provide trainings.
* DWRM division office programs will take steps to evaluate and document their Quality System, including the establishment of appropriate QA metrics for the annual report and development of a QP.
* Regulatory will continue to train QAOs at the district level to ensure consistency across the state.
* DRP will work with AEQAS to train QAOs at the district level to ensure consistency between DRP districts.
* AEQAS will improve QA templates for contracts/grants deliverables.
* AEQAS will facilitate and support QA communications between Regulatory division and district offices.

The department made improvements in developing and maintaining its Quality System to ensure that decisions are based on scientific and legally defensible data. The department will continue working on the documentation and organization of procedures to advance the Quality System to improve process consistency and increase efficiency. Staff should utilize the introductory QA training available on LMS and take advantage of [on-demand QA trainings.](https://floridadep.gov/dear/quality-assurance/content/training-presentations) By recognizing QA activities as a priority, DEP’s core values of integrity and accountability are upheld.

Additional training resources related to the department’s [Quality Assurance policies and support documents](https://floridadep.gov/dear/quality-assurance) can be found online at <https://floridadep.gov/dear/quality-assurance/content/training-presentations>. AEQAS also conducts Quality of Science Reviews and provides instructor led trainings on the following topics:

* DEP SOP trainings (e.g. surface water, groundwater, bioassessment methods)
* Data Review
* Quality Plan development
* QA for Contracts/Grants/Purchase Orders

## Appendix A: QA Officer and Quality Plans by Reporting Unit as of February 2024

**DIVISION OF WASTE MANAGEMENT**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **QA Officers** | **LOCATION** | **PROGRAM/OFFICE Represented** | **QUALITY PLAN TITLE** | **QP DATE** |
| Brian Taylor | TLH | Federal Programs Section | Division of Waste Management | July-2021 |
| Allison Hankins | TLH | Brownfields and CERCLA Site Screening | Division of Waste Management | July-2021 |
| Karlee Fowler and Zachary Hale | TLH | Waste Cleanup/Site Investigation | Division of Waste Management | July-2021 |
| Breck Dalton | TLH | Waste Cleanup/Waste Site Cleanup | Division of Waste Management | July-2021 |
| Andrew Smith | TLH | Hazardous Waste | Division of Waste Management | July-2021 |
| Chad Fetrow | TLH | Solid Waste | Division of Waste Management | July-2021 |
| Chris Bayliss | TLH | Petroleum Restoration Program | Division of Waste Management | July-2021 |
| Elena Compton | TLH | District Support Program | Division of Waste Management | July-2021 |
| Clark Moore | TLH | Operational and Program Performance | Division of Waste Management | July-2021 |
| Jeff Gregg | TLH | Permitting and Compliance Assistance Program | Division of Waste Management | July-2021 |

**DIVISION OF WATER RESOURCE MANAGEMENT**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **QA Officer** | **LOCATION** | **PROGRAM** | **QUALITY PLAN TITLE** | **QP DATE** |
| Herbert Johnson | TLH | Compliance and Enforcement | None | n/a |
| Marc Harris, Sydney Cummings | TLH | Wastewater Management | None | n/a |
| Ron McCulley | TLH | Drinking water and Aquifer Protection | None | n/a |
| Marisa Rhian | TLH | Mining and Mitigation | None | n/a |
| Lance Kautz | Temple Terrace | Phosphate Management | Quality Plan for Phosphate Management program Division of Water Resource Management | Jan-2015 |
| Anna Lomasney, Michelle Bull | TLH | Stormwater & Technical Services | None | n/a |
| Rhonda Massey | TLH | Budget/Grants & Personnel | None | n/a |
| Dandra Carpenter | TLH | Administrative Services | None | n/a |
| Sami Mckee | TLH | Data Info Services | None | n/a |

**FLORIDA GEOLOGICAL SURVEY**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **QA Officer** | **LOCATION** | **PROGRAM** | **QUALITY PLAN TITLE** | **QP DATE** |
| Mary Beth Lupo and Jade Greene | TLH | Florida Geological Survey | Florida Geological Survey | Jul-2022 |

**DIVISION OF LAW ENFORCEMENT**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **QA Officer** | **LOCATION** | **PROGRAM** | **QUALITY PLAN TITLE** | **QP DATE** |
| Vickie Koenig | TLH | Division of Law Enforcement | Office of Emergency Response Quality Plan | Apr-2017 |

**DISTRICTS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **QA Officers** | **LOCATION** | **PROGRAM/OFFICE Represented** | **QUALITY PLAN TITLE** | **QP DATE** |
| Herndon Sims, Joni Petry, Shane Tierney | Jacksonville | Northeast District | Division of Water Resource Management’s Districts Draft Quality Plan | Jan-2023 |
| Deneale Miller and Michael Mucci | Pensacola | Northwest District | Division of Water Resource Management’s Districts Draft Quality Plan | Jan-2023 |
| Lu Burson, Jenny Farrell | Orlando | Central District | Division of Water Resource Management’s Districts Draft Quality Plan | Jan-2023 |
| Ramandeep Kaur, Maryn Tidwell | Temple Terrace | Southwest District | Division of Water Resource Management’s Districts Draft Quality Plan | Jan-2023 |
| Lisa Self, Jocelyn Labbe | West Palm | Southeast District | Division of Water Resource Management’s Districts Draft Quality Plan | Jan-2023 |
| Lucy Blair | Fort Myers | South District | Division of Water Resource Management’s Districts Draft Quality Plan | Jan-2023 |

**DIVISION OF ENVIRONMENTAL ASSESSMENT AND RESTORATION**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **QA Officer** | **LOCATION** | **PROGRAM** | **QUALITY PLAN TITLE** | **QP DATE** |
| Jessica Patronis | TLH | WQSP/Aquatic Ecology and Quality Assurance | Water Quality Standards Program | Jan-2024 |
| Chandra Chandrasekhar | TLH | DEP Laboratory, Scientific Services Support Program | DEP Laboratory Quality Plan | Jan-2023 |
| Jennifer Piacente | TLH | WQMP/Watershed Assessment | Watershed Assessment Section Quality Plan | Sept-2023 |
| Rachel Dragon | TLH | WQMP/Watershed Monitoring | Watershed Monitoring Section Quality Plan | Jun-2021 |
| Michael King and Sarah Meyer | CD & TLH | WQMP/Regional Operations Center | Division of Environmental Assessment and Restoration, Regional Operation Centers | Nov-2022 |
| Woo-Jun Kang | TLH | WQE & TMDL/Watershed Evaluation &TMDL | Watershed Evaluation and TMDL Section QP | Jan-2021 |
| Anita Stine | TLH | WQRP/Watershed Planning and Coordination | Watershed Planning and Coordination Section (BMAPS) Plan | Oct-2022 |
| Justin Nelson | TLH | Office of Watershed Services-WIN | Watershed Services Program, WIN Section Quality Plan | Feb-2023 |
| Janis Morrow | TLH | Office of Watershed Services-GIS | Watershed Services Program, GIS Section Quality Plan | Jan-2023 |

**OFFICE OF RESILIENCE AND COASTAL PROTECTION**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **QA Officer** | **LOCATION** | **PROGRAM** | **QUALITY PLAN TITLE** | **QP DATE** |
| Cheryl Clark & Mike Shirley | Ponte Vedra Beach & TLH | RCP | Varies by location; some offices have QA documents that have not been submitted to AEQAS. | Unknown |
| Cheryl Clark | All | RCP | Office of Resilience and Coastal Protection Aquatic Preserve Continuous Water Quality Monitoring Program Quality Plan | Oct-2023 |
| Stephen Durham | Varies | RCP | Office of Resilience and Coastal Protection Oyster Habitat Monitoring Program | Jun-2022 |
| Nicholas Parr | Florida Keys | RCP | Florida Keys National Marine Sanctuary and Florida Keys Aquatic Preserve Quality Plan | Nov-2022 |
| Kathryn Petrinec | Jacksonville | RCP | Guana Tolomato Matanzas National Estuarine Research Preserve Quality Plan | Apr-2022 |

**OFFICE OF ECOSYSTEM PROJECTS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **QA Officer** | **LOCATION** | **PROGRAM** | **QUALITY PLAN TITLE** | **QP DATE** |
| Mailin Sotolongo-Lopez | TLH | Office of Water Policy & Ecosystem  Projects | Office of Ecosystem Projects | Jan-2018 |

**DIVISION OF WATER RESTORATION ASSISTANCE**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **QA Officer** | **LOCATION** | **PROGRAM** | **QUALITY PLAN TITLE** | **QP DATE** |
| Andrew Briscoe | TLH | Water Supply Restoration Funding Section | Division of Water Restoration Assistance | Jan-2023 |
| Amanda Peck | TLH | Nonpoint Source Management Program | Division of Water Restoration Assistance | Jan-2023 |
| Nick Daigle | TLH | Deepwater Horizon | Division of Water Restoration Assistance | Jan-2023 |
| Ethan Richardson | TLH | Water Quality and Supply Program | Division of Water Restoration Assistance | Jan-2023 |

**DIVISION OF STATE LANDS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **QA Officer** | **LOCATION** | **PROGRAM** | **QUALITY PLAN TITLE** | **QP DATE** |
| Vacant | TLH | State Lands | Division of State Lands | Jan-2020 |

**DIVISION OF RECREATION AND PARKS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **QA Officer** | **LOCATION** | **PROGRAM** | **QUALITY PLAN TITLE** | **QP DATE** |
| Gregg Walker | TLH | Division of Recreation and Parks | Division of Recreation and Parks Quality Plan | Mar-2023 |

## Appendix B: Questionnaire Responses from Data Generators, Users and Managers about Quality System Activities and Documented Components

A “1” in the column indicates the unit answered “Yes”, a “0” indicates they answered “No” and “N/A” is the indicator for a response of not applicable. Rows with asterisks associated with the first column are expected to be answered “Yes” by all reporting units.

**Responses from Ecosystems Restoration Data Generators Used for Figure 2.5**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Data Generators*** | **WQSP** | **LABS** | **WAS** | **WMS** | **ROCs** | **WETS** | **WQRP** | **WIN** | **GIS** | **OWPER** | **WSRFP** | **DWH** | **NPSMP** | **WQ&SP** | **CPR** | **CRCP** | **NERR** | **SEACAR** | **AP** | **FKNMS** |
| ***Use DEP SOPs*** | 1 | 1 | 1 | 1 | 1 | 1 | N/A | N/A | 0 | N/A | 1 | N/A | N/A | N/A | N/A | 1 | 1 | N/A | 1 | 1 |
| ***Other field sampling activities not covered in SOPs*** | 0 | 0 | 0 | 1 | 0 | 1 | N/A | N/A | 0 | N/A | 0 | N/A | N/A | N/A | N/A | 1 | 1 | N/A | 1 | 1 |
| ***\*\*\*All sampling techniques in QP*** | 1 | 1 | 1 | 1 | 1 | 1 | N/A | N/A | 0 | N/A | 1 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 1 |
| ***DQOs other than following SOPs*** | 1 | 0 | 1 | 1 | 1 | 1 | N/A | N/A | 0 | N/A | 0 | N/A | N/A | N/A | N/A | 0 | 0 | N/A | 0 | 1 |
| ***Checklist for evaluation of data*** | 1 | 1 | 1 | 1 | 1 | 1 | N/A | N/A | 1 | N/A | 1 | N/A | N/A | N/A | N/A | 1 | 1 | N/A | 1 | 1 |
| ***\*\*\*All DQOs and procedures to evaluate data in QP*** | 1 | 1 | 1 | 1 | 1 | 1 | N/A | N/A | 1 | N/A | 1 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 1 |
| ***Corrective actions in place*** | 1 | 1 | 1 | 1 | 1 | 1 | N/A | N/A | 1 | N/A | 1 | N/A | N/A | N/A | N/A | 1 | 1 | N/A | 1 | 1 |
| ***Document and implement corrective actions*** | 1 | 1 | 1 | 1 | 1 | 1 | N/A | N/A | 0 | N/A | 0 | N/A | N/A | N/A | N/A | 1 | 1 | N/A | 1 | 1 |
| ***\*\*\*Corrective actions documented in QP*** | 1 | 1 | 1 | 1 | 1 | 1 | N/A | N/A | 0 | N/A | 0 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 1 |
| ***Revisions, updates, or creations of DQOs or procedures for evaluating DQOs*** | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| ***Revise QP*** | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | N/A | N/A | N/A | N/A | N/A | 0 |
| ***Finalized QP revisions*** | 1 | 1 | 1 | 1 | N/A | N/A | 1 | 1 | 1 | 0 | N/A | 1 | 1 | 1 | N/A | N/A | N/A | N/A | N/A | N/A |

**Responses from Ecosystems Restoration Data Users Used for Figure 2.6**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Data Users*** | **WQSP** | **LABS** | **WAS** | **WMS** | **ROCs** | **WETS** | **WQRP** | **WIN** | **GIS** | **OWPER** | **WSRFP** | **DWH** | **NPSMP** | **WQ&SP** | **CPR** | **CRCP** | **NERR** | **SEACAR** | **AP** | **FKNMS** |
| ***Use data generated by DEP or other source*** | Both | N/A | Both | Both | DEP | Both | Both | N/A | Both | Both | Both | Both | Another Source | Both | Both | Both | Both | Both | Both | DEP |
| ***\*\*\*Documented DQOs*** | 1 | N/A | 1 | 1 | 1 | 1 | 1 | N/A | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 |
| ***\*\*\*Evaluate to ensure DQOs are met*** | 1 | N/A | 1 | 1 | 1 | 1 | 1 | N/A | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| ***Use data evaluated by another DEP work unit*** | 1 | N/A | 1 | 0 | 1 | 1 | 1 | N/A | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 |
| ***Checklists for evaluation of data*** | 1 | N/A | 1 | 1 | 1 | 1 | 1 | N/A | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| ***\*\*\*Evaluation checklists in QP*** | 1 | N/A | 1 | 1 | 1 | 1 | 1 | N/A | 0 | 1 | 1 | 1 | 1 | 1 | N/A | N/A | N/A | N/A | N/A | 00 |
| ***\*\*\*Corrective actions in place*** | 1 | N/A | 1 | 1 | 1 | 1 | 1 | N/A | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| ***Follow-up with corrective actions*** | 1 | N/A | 1 | 1 | 1 | 1 | 1 | N/A | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| ***\*\*\*Corrective actions documented in QP*** | 1 | N/A | 1 | 1 | 1 | 1 | 1 | N/A | 0 | 1 | 0 | 1 | 1 | 0 | N/A | N/A | N/A | N/A | N/A | 0 |
| ***Revisions, updates, or creations of DQOs or procedures for evaluating DQOs*** | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| ***Revise QP*** | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | N/A | N/A | N/A | N/A | N/A | 0 |
| ***Finalized QP revisions*** | 1 | 1 | 1 | 1 | N/A | N/A | 1 | 1 | 1 | 0 | N/A | 1 | 1 | 1 | N/A | N/A | N/A | N/A | N/A | N/A |

**Responses from Ecosystems Restoration Data Repository Managers Used for Figure 2.7**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Data Managers*** | **WQSP** | **LABS** | **WAS** | **WMS** | **ROCs** | **WETS** | **WQRP** | **WIN** | **GIS** | **OWPER** | **WSRFP** | **DWH** | **NPSMP** | **WQ&SP** | **CPR** | **CRCP** | **NERR** | **SEACAR** | **AP** | **FKNMS** |
| ***Store/Manage data generated by DEP or other source*** | N/A | DEP | Both | Both | N/A | N/A | N/A | Both | Both | N/A | N/A | N/A | N/A | N/A | N/A | Both | Both | Both | DEP | N/A |
| ***\*\*\*Documented DQOs*** | N/A | 1 | 1 | 1 | N/A | N/A | N/A | 1 | 0 | N/A | N/A | N/A | N/A | N/A | N/A | 0 | 0 | 1 | 1 | N/A |
| ***\*\*\*Evaluate to ensure DQOs are met*** | N/A | 1 | 1 | 1 | N/A | N/A | N/A | 1 | 0 | N/A | N/A | N/A | N/A | N/A | N/A | 1 | 0 | 1 | 1 | N/A |
| ***Store/Manage data evaluated by another DEP work unit*** | N/A | 0 | 1 | 0 | N/A | N/A | N/A | 0 | 0 | N/A | N/A | N/A | N/A | N/A | N/A | 0 | 1 | 1 | 0 | N/A |
| ***Checklists for evaluation of data*** | N/A | 1 | 1 | 1 | N/A | N/A | N/A | 1 | 0 | N/A | N/A | N/A | N/A | N/A | N/A | 1 | 0 | 1 | 0 | N/A |
| ***\*\*\*Evaluation checklists in QP*** | N/A | 1 | 1 | 1 | N/A | N/A | N/A | 1 | 0 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ***\*\*\*Corrective actions in place*** | N/A | 1 | 1 | 1 | N/A | N/A | N/A | 1 | 0 | N/A | N/A | N/A | N/A | N/A | N/A | 1 | 0 | 1 | 1 | N/A |
| ***Follow-up with corrective actions*** | N/A | 1 | 1 | 1 | N/A | N/A | N/A | 1 | 1 | N/A | N/A | N/A | N/A | N/A | N/A | 1 | 0 | 1 | 1 | N/A |
| ***\*\*\*Corrective actions documented in QP*** | N/A | 1 | 1 | 1 | N/A | N/A | N/A | 1 | 0 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 0 | N/A |
| ***Revisions, updates, or creations of DQOs or procedures for evaluating DQOs*** | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| ***Revise QP*** | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | N/A | N/A | N/A | N/A | N/A | 0 |
| ***Finalized QP revisions*** | 1 | 1 | 1 | 1 | N/A | N/A | 1 | 1 | 1 | 0 | N/A | 1 | 1 | 1 | N/A | N/A | N/A | N/A | N/A | N/A |

**Responses from Regulatory Data Generators Used for Figure 4.4**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **DWM** | | | | | | | | | | **FGS** | **DLE** | **DWRM** | | | | | | |
| ***Data Generators*** | **OPP** | **PRP** | **SIS** | **BCSS** | **FPS** | **SW** | **WSCS** | **DSP** | **PCAP** | **HW** | **FGS** | **DLE** | **MM** | **WWM** | **DW** | **CE** | **PM** | **STS** | **DIS** |
| ***Use DEP SOPs*** | N/A | N/A | 1 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 1 | 1 | N/A | N/A | N/A | N/A | 1 | N/A | N/A |
| ***Other field sampling activities not covered in SOPs*** | N/A | N/A | 1 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 1 | 0 | N/A | N/A | N/A | N/A | 0 | N/A | N/A |
| ***\*\*\*All sampling techniques in QP*** | N/A | N/A | 1 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 0 | 1 | N/A | N/A | N/A | N/A | 1 | N/A | N/A |
| ***DQOs other than following SOPs*** | N/A | N/A | 0 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 1 | 0 | N/A | N/A | N/A | N/A | 0 | N/A | N/A |
| ***Checklist for evaluation of data*** | N/A | N/A | 0 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 1 | 0 | N/A | N/A | N/A | N/A | 1 | N/A | N/A |
| ***\*\*\*All DQOs and procedures to evaluate data in QP*** | N/A | N/A | 0 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 1 | 1 | N/A | N/A | N/A | N/A | 1 | N/A | N/A |
| ***Corrective actions in place*** | N/A | N/A | 1 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 1 | 1 | N/A | N/A | N/A | N/A | 1 | N/A | N/A |
| ***Document and implement corrective actions*** | N/A | N/A | 1 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 1 | 1 | N/A | N/A | N/A | N/A | 0 | N/A | N/A |
| ***\*\*\*Corrective actions documented in QP*** | N/A | N/A | 1 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 1 | 1 | N/A | N/A | N/A | N/A | 1 | N/A | N/A |
| ***Revisions, updates or creations of DQOs or procedures for evaluating DQOs*** | N/A | N/A | 0 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 0 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ***Revise QP*** | N/A | N/A | 0 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 0 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ***Finalized QP revisions*** | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

**Responses from Regulatory Data Users Used for Figure 4.5**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **DWM** | | | | | | | | | |  |  | **DWRM** | | | | | | |
| ***Data Users*** | **OPP** | **PRP** | **SIS** | **BCSS** | **FPS** | **SW** | **WSCS** | **DSP** | **PCAP** | **HW** | **FGS** | **DLE** | **MM** | **WWM** | **DW** | **CE** | **PM** | **STS** | **DIS** |
| ***Use data generated by DEP or other source*** | N/A | Both | Both | Both | Another Source | Another Source | Both | Both | Both | Another Source | Both | Both | Another Source | Another | Both | Both | Both | Both | N/A |
| ***\*\*\*Documented DQOs*** | N/A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | N/A |
| ***\*\*\*Evaluate to ensure DQOs are met*** | N/A | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | N/A |
| ***Use data evaluated by another DEP work unit*** | N/A | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | N/A |
| ***Checklists for evaluation of data*** | N/A | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | N/A |
| ***\*\*\*Evaluation checklists in QP*** | N/A | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | N/A | N/A |
| ***\*\*\*Corrective actions in place*** | N/A | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | N/A |
| ***Follow-up with corrective actions*** | N/A | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | N/A |
| ***\*\*\*Corrective actions documented in QP*** | N/A | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | N/A | 0 | 0 | 0 | 1 | N/A | N/A |
| ***Revisions, updates or creations of DQOs or procedures for evaluating DQOs*** | N/A | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ***Revise QP*** | N/A | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ***Finalized QP revisions*** | N/A | N/A | N/A | 1 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

**Responses from Regulatory Data Repository Managers Used for Figure 4.6**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **DWM** | | | | | | | | | |  |  | **DWRM** | | | | | | |
| ***Data Managers*** | **OPP** | **PRP** | **SIS** | **BCSS** | **FPS** | **SW** | **WSCS** | **DSP** | **PCAP** | **HW** | **FGS** | **DLE** | **MM** | **WWM** | **DW** | **CE** | **PM** | **STS** | **DIS** |
| ***Store/manage generated by DEP or other source*** | Another Source | N/A | N/A | N/A | N/A | Another Source | N/A | N/A | N/A | N/A | Both | Both | N/A | N/A | Both | N/A | N/A | Both | DEP |
| ***\*\*\*Documented DQOs*** | 1 | N/A | N/A | N/A | N/A | 1 | N/A | N/A | N/A | N/A | 1 | 1 | N/A | N/A | 1 | N/A | N/A | 1 | 1 |
| ***\*\*\*Evaluate to ensure DQOs are met*** | 1 | N/A | N/A | N/A | N/A | 1 | N/A | N/A | N/A | N/A | 1 | 1 | N/A | N/A | 1 | N/A | N/A | 0 | 1 |
| ***Store/manage data evaluated by another DEP work unit*** | 0 | N/A | N/A | N/A | N/A | 1 | N/A | N/A | N/A | N/A | 1 | 0 | N/A | N/A | 1 | N/A | N/A | 0 | 1 |
| ***Checklists for evaluation of data*** | 1 | N/A | N/A | N/A | N/A | 1 | N/A | N/A | N/A | N/A | 1 | 1 | N/A | N/A | 1 | N/A | N/A | 0 | 0 |
| ***\*\*\*Evaluation checklists in QP*** | 1 | N/A | N/A | N/A | N/A | 1 | N/A | N/A | N/A | N/A | 1 | 1 | N/A | N/A | 0 | N/A | N/A | N/A | 0 |
| ***\*\*\*Corrective actions in place*** | 1 | N/A | N/A | N/A | N/A | 1 | N/A | N/A | N/A | N/A | 1 | 1 | N/A | N/A | 0 | N/A | N/A | 0 | 1 |
| ***Follow-up with corrective actions*** | 1 | N/A | N/A | N/A | N/A | 0 | N/A | N/A | N/A | N/A | 1 | 1 | N/A | N/A | 0 | N/A | N/A | 0 | 1 |
| ***\*\*\*Corrective actions documented in QP*** | 1 | N/A | N/A | N/A | N/A | 1 | N/A | N/A | N/A | N/A | 1 | 1 | N/A | N/A | 0 | N/A | N/A | N/A | 0 |
| ***Revisions, updates or creations of DQOs or procedures for evaluating DQOs*** | 0 | N/A | N/A | N/A | N/A | 0 | N/A | N/A | N/A | N/A | 0 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ***Revise QP*** | 0 | N/A | N/A | N/A | N/A | 0 | N/A | N/A | N/A | N/A | 0 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| ***Finalized QP revisions*** | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

## Appendix C: Quality Assurance Information from Regulatory January 2023 – December 2023

Drinking Water

|  |  |  |  |
| --- | --- | --- | --- |
| District | Number of Audits completed | Number of Audits to reach 5% Goal | Time Spent competing audits (hours) |
| Central | 16 | 16 | 48 |
| Northwest | 6 | 6 | 26.5 |
| Southeast | 3 | 2 | 8 |
| Southwest | 10 | 8 | 4 |
| Northeast | 12 | 11 | 28.18 |
| South | 5 | 5 | 13.08 |

Wastewater

|  |  |  |  |
| --- | --- | --- | --- |
| District | Number of Audits completed | Number of Audits to reach 5% Goal | Time Spent competing audits (hours) |
| Central | 31 | 31 | 70 |
| Northwest | 8 | 8 | 67 |
| Southeast | 14 | 11 | 61 |
| Southwest | 25 | 23 | 50 |
| Northeast | 16 | 16 | 26 |
| South | 14 | 14 | 68.75 |