



Annual Quality Assurance Report to the Secretary 2022



Division of Environmental Assessment and Restoration
Water Quality Standards Program
Florida Department of Environmental Protection

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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 (AEQAS). AEQAS thanks the reporting units within the department that contributed to this report, which are listed in each program area chapter of the report.

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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
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
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
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 Loads

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 \(Policy DEAR 972\)](#) 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 \(Chapter 62-160, Florida Administrative Code\)](#) 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. This report details the QA efforts and accomplishments made by staff throughout the department in 2022 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 is the Division of Air Resource Management (DARM), which manages its own QA program and is not included in this report.

Although all department reporting units, excluding DARM, operate under a common QA Rule Chapter and QA Policy, QA activities vary based on the purpose and function of the division, program or section (collectively reporting units). For the 2022 Annual QA Report, Division of Environmental Assessment and Restoration (DEAR) QA staff in the Aquatic Ecology and Quality Assurance Section (AEQAS) collected information from programs via written surveys and personal communication with staff to assess the status of the Quality System for each reporting unit. AEQAS received information from 54 reporting units, which is two more than for 2021. AEQAS staff organized the QA information by the three program areas of the agency: Ecosystems Restoration, Lands and Recreation and Regulatory. Department programs provided an account of tasks completed in 2022 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 & Quality Assurance Officer Status

AEQAS uses two components to assess whether department reporting units have the minimum requirements for a Quality System: the designation of QA officers (QAO) and the existence of current quality plans (QP). For 2022, 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 to be updated to reflect changes in the organizational structure, policies and/or activities of the programs covered by the plans. Some noteworthy 2022 observations about QPs or QAOs include: AEQAS has maintained yearly communication with QAOs; the Division of Water Resource Management (DWRM) identified QAOs at the division level; the Division of Waste Management (DWM) began a series of Quality of Science Reviews and the Division of Recreation and Parks (DRP) updated its QP and plans to implement a structure of QA leads in each park district.

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 and some reporting units still need to better document their methods in their QPs. Most data users have documented data quality objectives (DQOs) with which 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 2022 to execute their assigned functions. Throughout 2022, AEQAS also hosted 11 webinars and in-person trainings focused on the DEP Standard Operating Procedures (SOPs) and 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 ever before.

4) Audits

It is the department's policy to audit 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), the DWM and the Division of Law Enforcement (DLE) conducted audits in 2022. The need and feasibility of audits in the other divisions of the agency are determined by leadership in those areas. The total number of audits conducted decreased from 2021 to 2022. This change is due to QAO vacancies in reporting units that typically conduct audits.

5) Data Repositories

Programs throughout the agency identified more than 60 different data repositories, both internal and external to the agency, 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); however, improvements should be made in the documentation of these activities, primarily by adding procedures and including reference documents in QPs. 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. Of the reporting units that manage data repositories, most perform QA/QC procedures for the data repositories but not all have QA/QC procedures documented in their QPs. 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 2022 include:

- AEQAS increased the number of trainings given from previous years (11 vs 9 in previous years);
- The beginning of a DWM Quality of Science Review series;
- DRP revised its quality plan and began considering an improved structure for its Quality System;
- AEQAS and OWPER developed quality assurance resources for OWPER staff reviews of innovative grant project plans;
- Districts reduced the amount of time spent to conduct QA reviews by increasing QA training;
- AEQAS presenting frequent audit findings to the laboratory community;
- AEQAS started drafting revisions to Chapter 62-160, F.A.C., the QA Rules and incorporated documents.

Suggested or reported quality assurance goals in 2023 for various parts of the agency include:

- DRP will further document its Quality System components and implement a new division of QA responsibilities;
- 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;
- Regulatory program area will work to develop and train QAOs at the District Level to ensure consistency across the state;
- AEQAS will improve QA templates for contracts/grants deliverables;
- RCP will provide standardized, publicly available data through SEACAR Data Discovery Interface; and
- AEQAS will facilitate and support QA communications between Regulatory divisions and district offices.

1. Introduction

1.1. 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 2022 by the Aquatic Ecology and Quality Assurance Section (AEQAS) within 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 purpose of the Annual QA Report is to provide an assessment of the status of the department's Quality System, per the functional responsibilities described in the department's QA Policy (DEAR 972). According to the 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 program areas of the department (Ecosystems Restoration, Lands and Recreation and Regulatory Programs), with the focus of the evaluation on whether the reporting units met the QA expectations for their program activities. As in previous years, AEQAS staff sent spreadsheet questionnaires (templates) to QAOs throughout the department to gather information about their Quality System and QA activities in 2022. The contents of this report are based on the responses submitted by the QAOs in the template provided by AEQAS.

1.2. Report Organization

The 2022 Annual QA Report is organized by the three program areas of the department 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 AEQAS request for information is referred to as a reporting unit.

The *Ecosystems Restoration*, *Lands and Recreation* and *Regulatory Programs* branches of this report outline broad categories of job functions for each branch of the department to provide context for QA status and expected QA activities and then report on the 2022 QA activities for those areas.

The 2022 reported QA activities fall into five sub-sections that address one or more department policies within the QA Policy:

1. **Quality Plans (QPs) and Quality Assurance Officer (QAO) Status:** Report of whether the reporting unit has an up-to-date QP, as determined by AEQAS as 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, as required by the QA Policy.

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. Division and District Directors along with Program and Section Administrators are responsible for designating QAOs to represent specific reporting units. The QPs describe the organization of the program, list one or more QAOs, delineate staff QA responsibilities and outline data quality objectives (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 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.

2. **Data Activity and Associated Documentation:** Report of whether the reporting unit is a data user, generator, manager or a combination of the three; 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; including pertinent QA information in their Quality Plan (QP); and revising DQOs for the data generated in the reporting year. 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. Some reporting units are involved in any combination of data generation, data use or data repository management.

3. **Training:** Report of whether reporting units met all QA-related training needs. The trainings reported are related to environmental data generation, environmental data review, environmental data storage, trainings for agreements that involve environmental data and environmental data use, including programmatic requirements and decisions for or with environmental data. Metrics include percentage of employees who received training in various categories and how many training events the reporting units held.
4. **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, Florida Administrative Code (F.A.C.) and 62-160.670, F.A.C.

Audits are in one of three categories:

- a. **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.
 - b. **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.
 - c. **System:** Evaluation of procedures, equipment and documentation. These audits include lab certification audits and DEP Quality of Science Reviews.
5. **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.

2. Ecosystem Restoration

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

Division of Environmental Assessment and Restoration (DEAR)

Water Quality Standards Program (WQSP)
Water Quality Monitoring Program (WQMP)
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)

Non-point Source Management Program (NPSM)
Deepwater Horizon (DWH)
Water Supply Restoration Funding Program (WSRFP)

Office of Water Policy and Ecosystems Restoration (OWPER)

Office of Resilience and Coastal Protection (RCP)

Northwest Florida Aquatic Preserves (NWAP)
Central Panhandle Aquatic Preserves (CPAP)
Big Bend Seagrasses Aquatic Preserves (BBSAP)
Wekiva River Aquatic Preserve (WRAP)
Northeast Florida Aquatic Preserves (NEAP)
Indian River Lagoon Aquatic Preserves (IRLAP)
Tampa Bay Aquatic Preserves (TBAP)
Rookery Bay Aquatic Preserves & NERR (RB)
Estero Bay Aquatic Preserve (EBAP)
Charlotte Harbor Aquatic Preserves (CHAP)
Statewide Ecosystem Assessment of Coastal and Aquatic Resources (SEACAR)
Florida Keys National Marine Sanctuary & Aquatic Preserve (FKNMS)
Biscayne Bay Aquatic Preserves (BBAP)
Coral Reef Conservation Program (CRCP)
Guana River Marsh Aquatic Preserve, Pellicer Creek Aquatic Preserve, & Guana Tolomato Matanzas NERR (GTM)
Apalachicola NERR (ANERR)
Rainbow-Oklawaha Florida Aquatic Preserve (ROAP)
Tomoka Marsh Aquatic Preserve (TMAP)
Lake Jackson Aquatic Preserve (LJAP)
Coral Protection and Restoration Program (CPR)

2.1. 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. 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 of the agency samples and analyzes a significant number of environmental samples. The program area consists of the Office of Water Policy and Ecosystems Restoration (OWPER), the Office of Resilience and Coastal Protection (RCP), the Division of Environmental Assessment and Restoration (DEAR) and the Division of Water Restoration Assistance (DWRA). For 2022, there were 33 reporting units from Ecosystems Restoration, which is up from the 32 that reported in 2021. This increase is due to more offices within RCP reporting. The groups within the Ecosystems Restoration area have a wide range of expected QA activities (Figures 2.1 and 2.2).

The 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.)). The OWPER has one QA reporting unit and six organizational units. OWPER staff perform minimal sample collection. This reporting unit primarily manages contracts, grants and purchase orders (PO) 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 includes Innovative Technology Grants for harmful algal blooms, OWPER staff review 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 data quality objectives (DQOs). Program staff involved in generation, review or interpretation of data should receive the required training for their daily tasks.

The RCP houses the Florida Coastal Management Program (FCMP), Aquatic Preserves (AP), National Estuarine Research Reserves (NERRs), the Coral Reef Conservation Program (CRCP), Clean Boating Program (CBP), Resilient Florida Program (RFP) and the Florida Keys National Marine Sanctuary (FKNMS). The CBP and RFP do not collect or use environmental data and are not included in this report. The following programs, which were moved from the Regulatory Program Area into the RCP at the start of 2020, do not collect environmental data and therefore are not included in this report: 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 (DEAR 972). AEQAS identified 23 organizational units within RCP, with 20 QA reporting units. Various RCP offices 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 RCP 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 9 QA reporting units and eight organizational units, including 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 for these activities includes DQO and SOP establishment, training for SOPs, evaluation of data and auditing data providers both internal and external to the DEAR reporting unit. DEAR also houses AEQAS, which 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 the Deepwater Horizon program. In prior years, DWRA reported as one unit for the entire division. Since 2020, three of six DWRA programs (Water Supply Restoration Funding Program, Nonpoint Source Management Program and Deepwater Horizon) provided information for this report. It was determined that these are the only programs within DWRA 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 fund recipients.

The data reported in the following sections are based on 33 reporting units consisting of 20 from RCP, nine from DEAR, three from DWRA and one from the OWPER. Figures 2.1 and 2.2 provide context for the QA activities that AEQAS expects reporting units to report. All program functions listed require reporting units to have and document 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 PO 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.

2022 Organization & QA-related Activities in Ecosystem Restoration

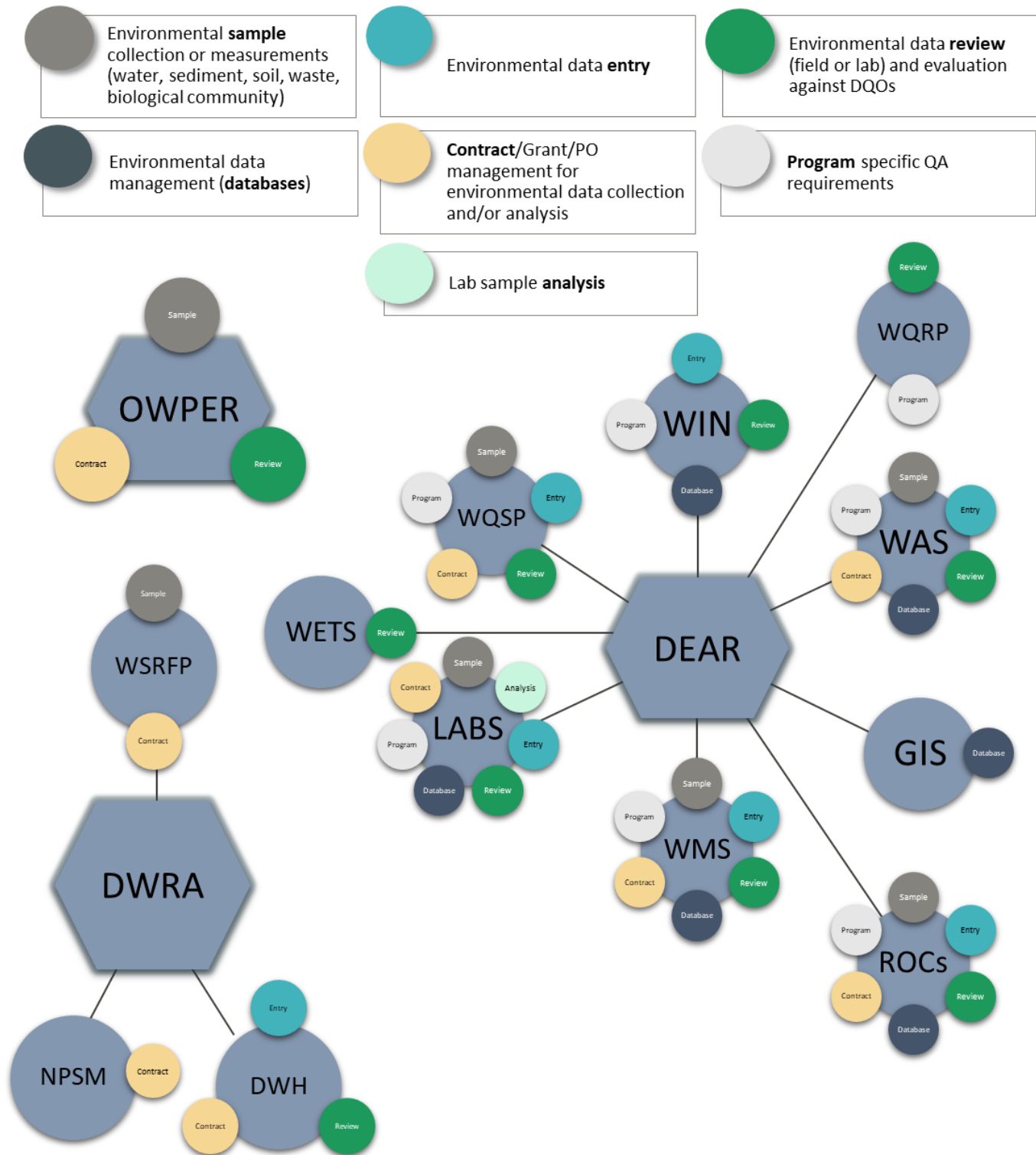


Figure 2.1. Diagram of reporting units from DEAR, OWPER and DWRA showing each work unit's functions that require QA activities, represented by color-coded circles. The circles do not indicate whether that program or section reported on that function.

2022 Organization & QA-related Activities in Ecosystem Restoration (RCP)

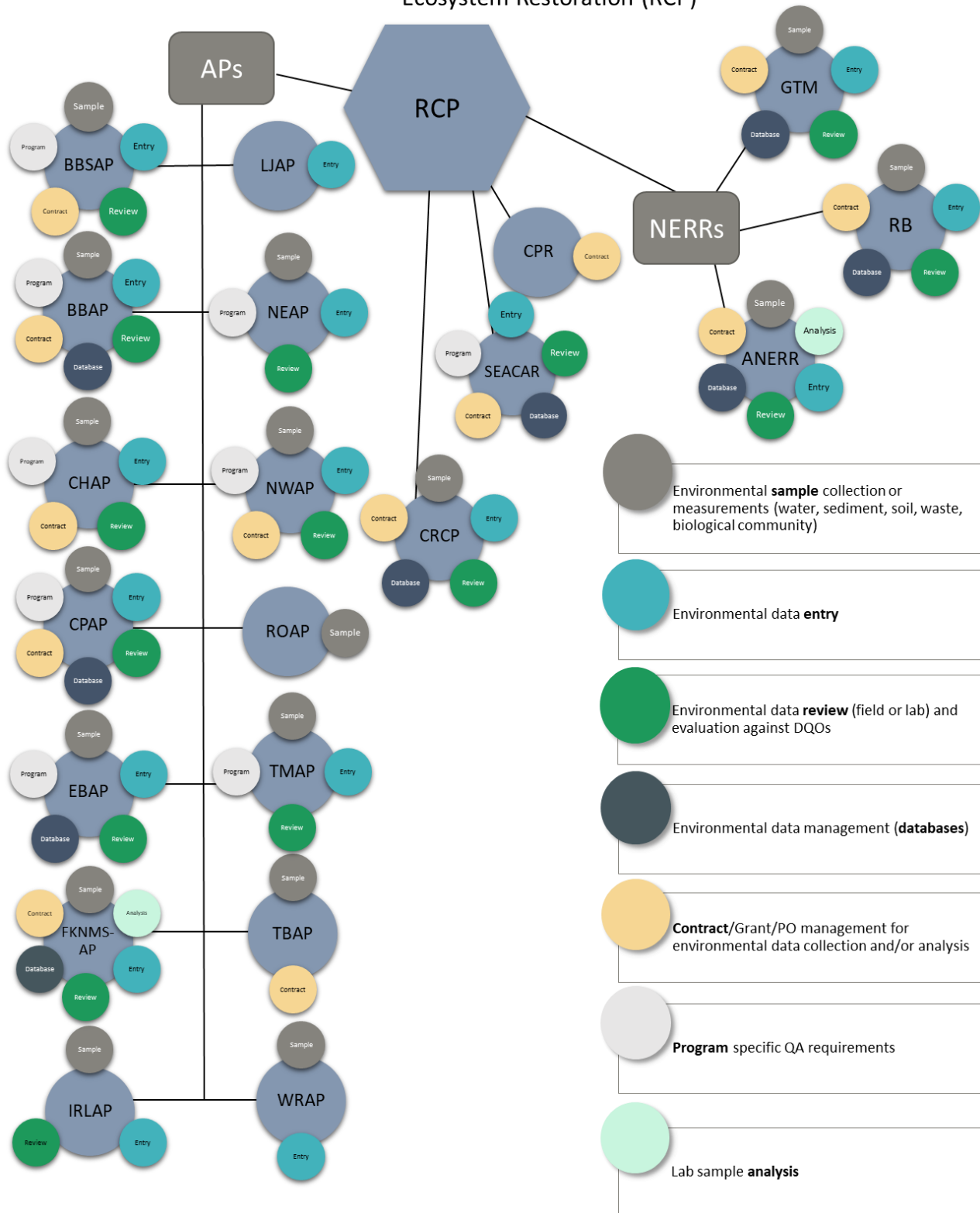


Figure 2.2. Diagram of reporting units from RCP showing each work unit's functions that require QA activities, represented by color-coded circles. The circles do not indicate whether that program or section reported on that function.

2.2. Quality Plans and QA Officers

All Ecosystem Restoration divisions and offices have appointed QAOs, for a total of 14 QAOs. DEAR appoints QAOs at the program/section level which equals nine QAOS for the division. DWRA has three QAOs at program levels. Both OWPER and RCP have a QAO at the division level. Out of the 14 QAOs in Ecosystem Restoration, 11 have taken the “Introduction to Quality Assurance” course available on LMS based on submissions provided January 2023.

For the calendar year 2022, 15 QPs were available on the [QP webpage](#) for the Ecosystem Restoration program area and three of these were outdated (Figure 2.3). There is not a required frequency for which QPs must be updated; for the purposes of this report AEQAS targets documents older than four years for review to determine if they are out of date and need revisions. DEAR maintains QPs at the program/section level. OWPER and DWRA maintain QPs at the division level. The RCP maintains QPs at various levels; some of RCP’s QPs apply to all offices that carry out the associated activities while some RCP offices maintain their own QPs.

Six Ecosystem Restoration reporting units revised their QPs and 14 reporting units revised and finalized the updated QPs. Since the beginning of 2023, several QPs have been submitted to AEQAS and updates will be reflected in the 2023 report. Upon request, AEQAS staff conduct 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, three reporting units (WETS, DWRA, WAS) within Ecosystem Restoration have participated in Quality of Science Reviews.

Quality Plan Status 2022

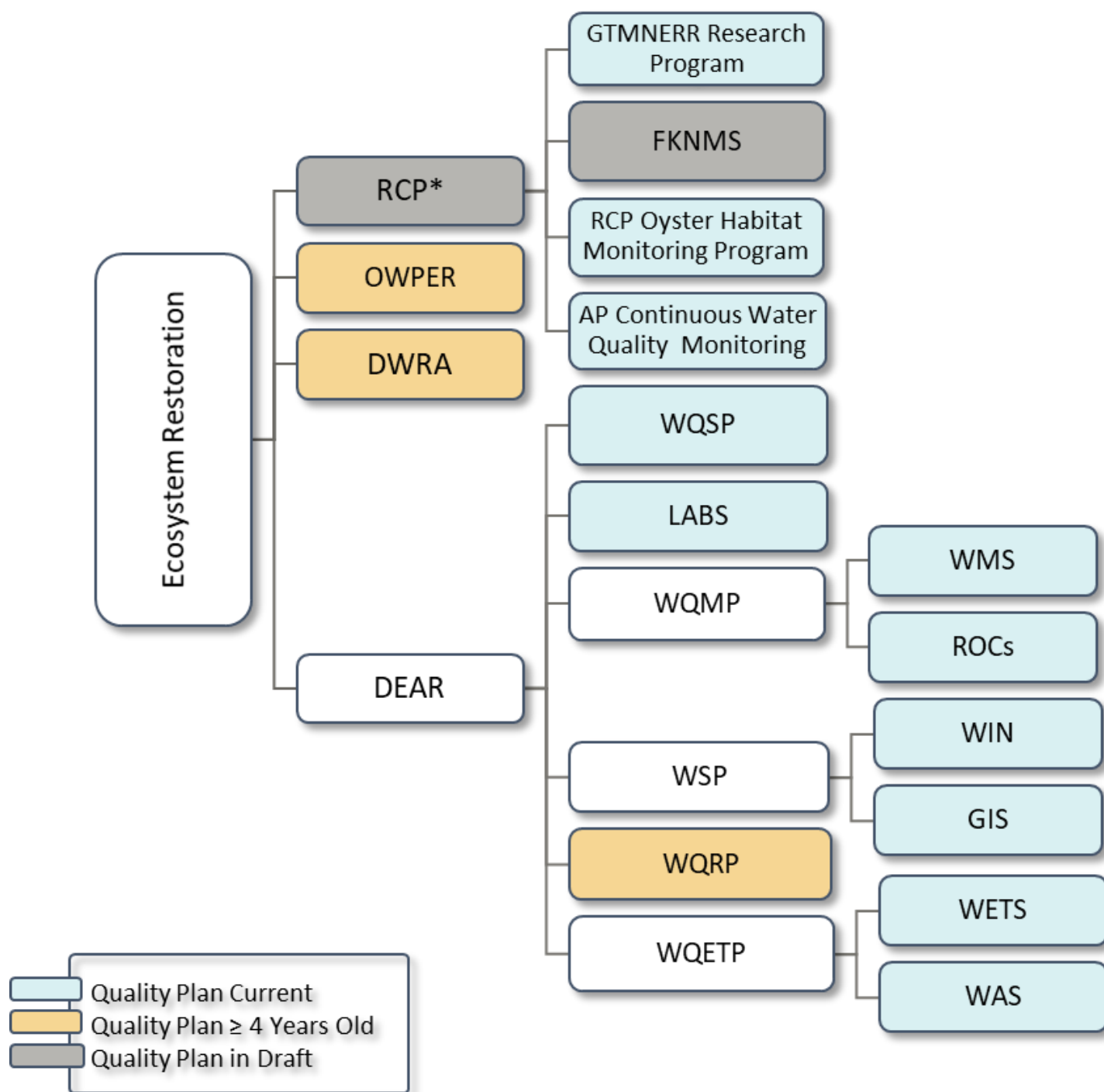


Figure 2.3. Quality Plans that are current, outdated or in revision for programs in Ecosystem Restoration for 2022. The number of plans required for each division or office is dependent on the program groupings included in each plan. Each color-coded box in the diagram represents a quality plan found on the [QP webpage](#). The white boxes show relationships between the work units. *All QPs for programs may not be available.



2.3. Data Activity and Associated Documentation

Data activity was broken into three categories: data use, data generation and data management. Of the 33 total reporting units from Ecosystems Restoration, 28 use data, 27 generate data and 13 manage data repositories. Figure 2.4 breaks down what combinations of data use, generation and management exist between all reporting units.

2022 Self Reported Program Activities for Ecosystem Restoration

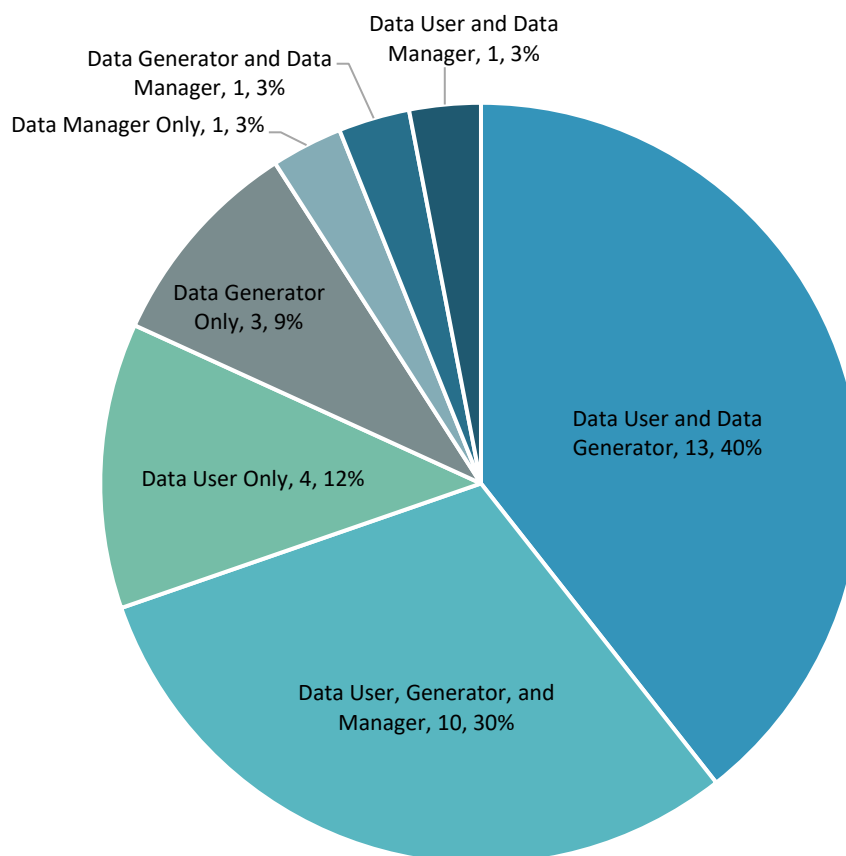


Figure 2.4. Number and percentage of reporting units within Ecosystems Restoration that identified their program activity functionality as data user, data generator, data manager or any combination of the three.

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 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 to the questions. Note that reporting units that indicated that the information is not included in the QP may not have a QP. Reporting units that do not have a QP are: ANERR, ROAP, RB, IRLAP, CRCP, TBAP, WRAP, LJAP & SEACAR. RCP has a QP in draft. Only select reporting units within RCP have QPs: GTM, BBSAP, CHAP, EBAP, NEAP, TMAP, NWAP, BBAP, CRP & FKNMS.

Figure 2.5 shows the percentage of 27 total reporting units that have quality system components as reported by **data generators**. Nineteen of the 27 reported data generators have quality plans. Data generators are required to document all sampling techniques in their QP and 5 reporting units with existing QPs are deficient in meeting this quality system goal: GIS, GTM, EBAP, NWAP & BBAP. Units that do not incorporate all SOPs used into their QP need to revise their QP to include missing SOPs. All 19 reporting units with QPs include all DQOs and procedures for evaluating data in their QP. Only 17 reporting units document corrective actions in their QP. Those deficient in meeting this quality system goal are GIS and WSRFP. Twelve reporting units that generate data revised their DQOs in 2022.

Data Generator Information for Ecosystems Restoration

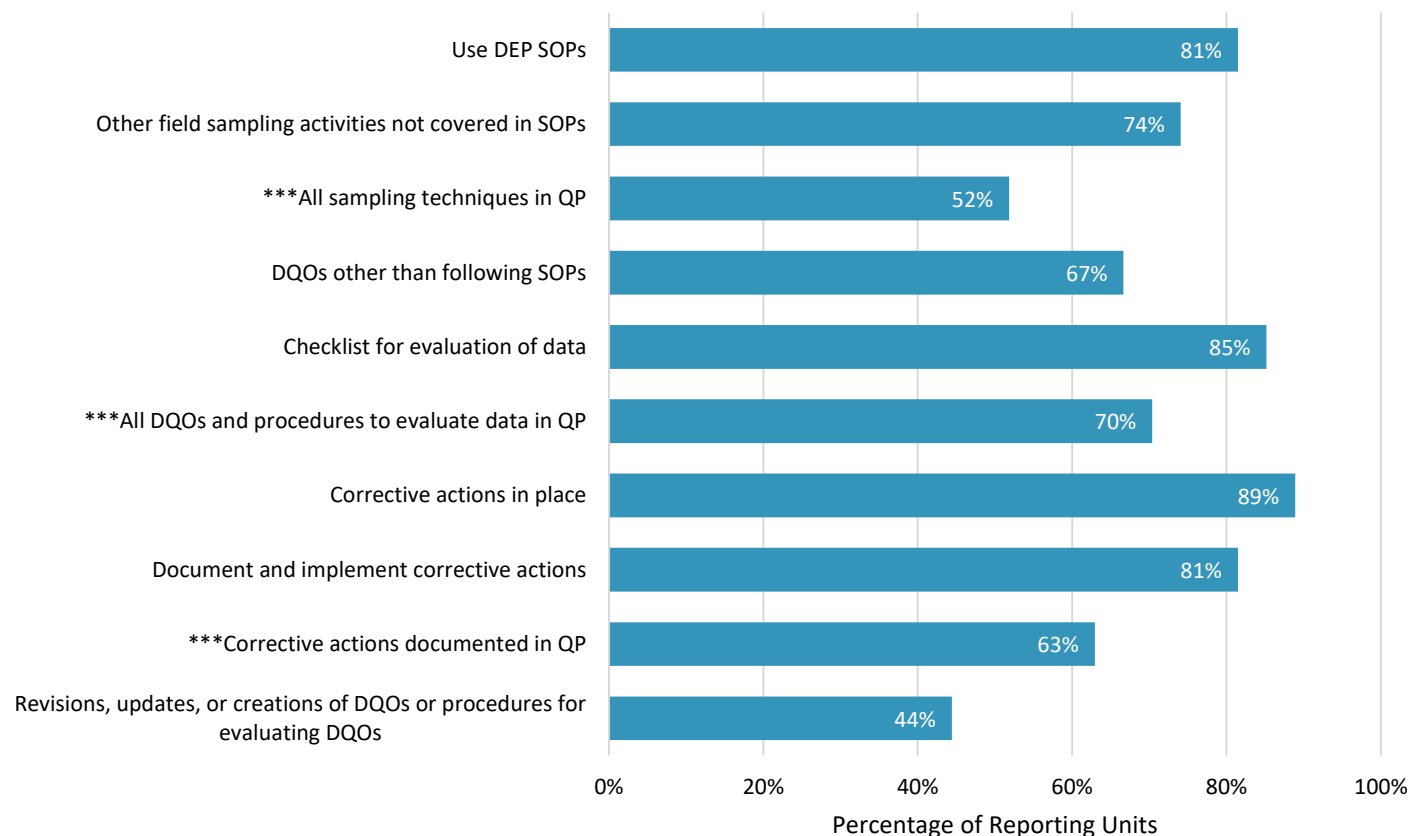


Figure 2.5. Percentage of reporting units in Ecosystems Restoration that answered “yes” to dichotomous questions regarding data quality objective use and documentation specific to roles as data generator in the 2022 survey template. Note that reporting units that indicated that the information is not included in the QP may not have a QP.

Figure 2.6 shows the percentage of 29 total reporting units that have quality system components as reported by **data users**. Twenty-two data users have an established QP. Twenty-five reporting units that identified as data users have written DQOs and 24 reporting units indicated that data used are evaluated against DQOs. Four reporting units (GIS, NEAP, CRCP and FKNMS) should establish documentation of their DQOs. Five reporting units (GIS, NWAP, WRAP, CPR and FKNMS) need to evaluate to ensure that their documented DQOs are being met. GIS, WRAP, NWAP and CPR reported data are not evaluated to ensure DQOs are being met despite having documented DQOs. NEAP and CRCP indicated that they evaluate the data used to ensure that it meets their DQOs but did not report having DQOs documented. Only 19 reporting units have checklists for evaluation of data documented in their QP. Reporting units with QPs deficient in this area are GIS, NEAP, & CPR. Twenty-five reporting units have corrective actions implemented for instances when data do not meet DQOs. GIS, WRAP, CPR and FKNMS are deficient in meeting this quality system goal.

Four data users with a QP, GIS, WSRFP, CPR and FKNMS do not have corrective actions documented in their QP. Data users deficient in meeting this quality system goal must establish and document corrective actions into their QP.

Data User Information for Ecosystems Restoration

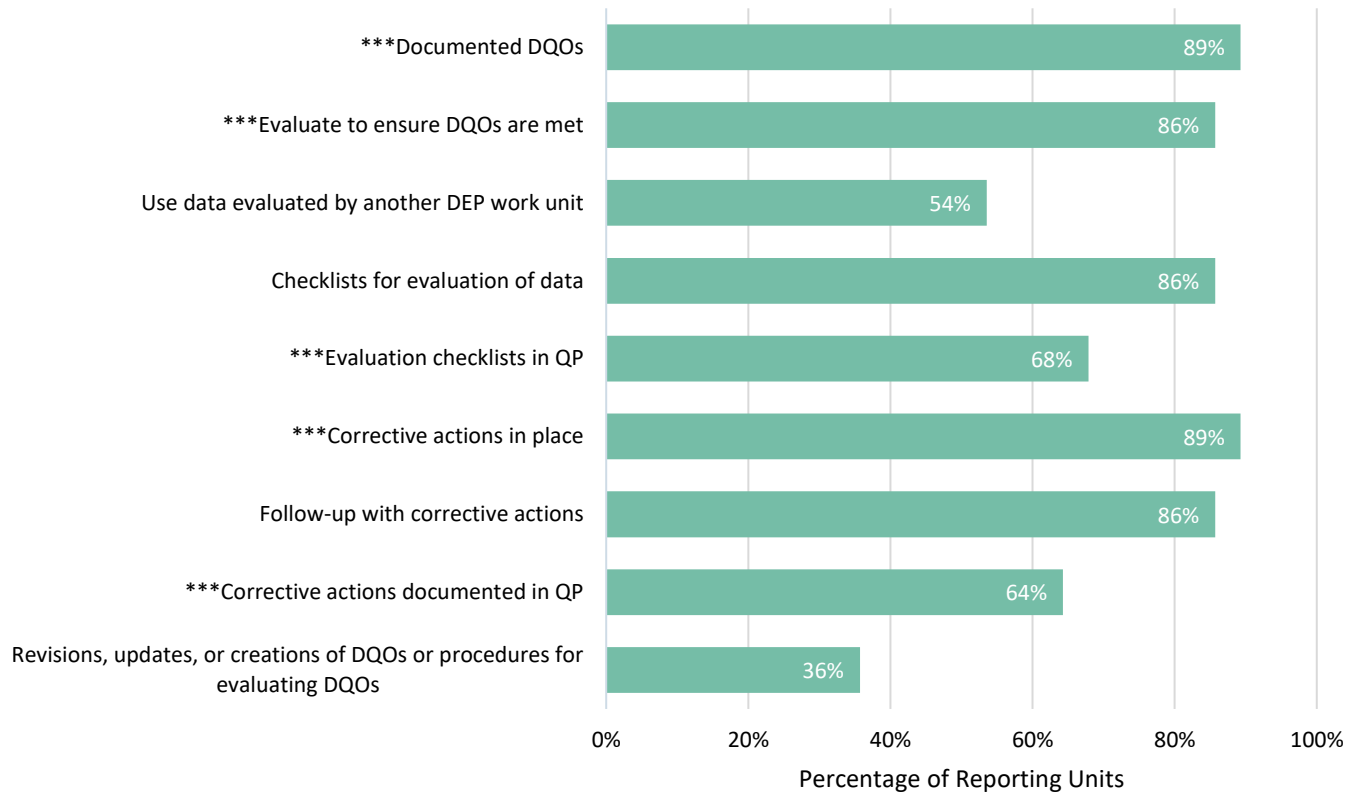


Figure 2.6. Percentage of reporting units in Ecosystems Restoration that answered “yes” to dichotomous questions regarding data quality objective use and documentation specific to roles as data user in the 2022 survey template. Note that reporting units that indicated that the information is not included in the QP may not have a QP.

Percentages of 13 total reporting units’ quality system components as reported by **data managers** are illustrated in Figure 2.7. Data managers include those units that manage data repositories housing department environmental data. Eight data managers have an established QP. Eleven reporting units reported having documented DQOs, however all 13 reporting units reporting evaluating their data repositories to ensure DQOs are met. CPAP and CRCP must work to document the DQOs they are using to evaluate their data repositories. Seven reporting units reported having checklists to evaluate data in repositories against the DQOs in their QP. One unit, CPAP, must update their QP to include their checklists. Twelve reporting units have corrective actions in place. Only seven reporting units have corrective actions documented in their QP. Seven units revised, updated or created DQOs or QA/QC procedures.

Data Manager Information for Ecosystems Restoration

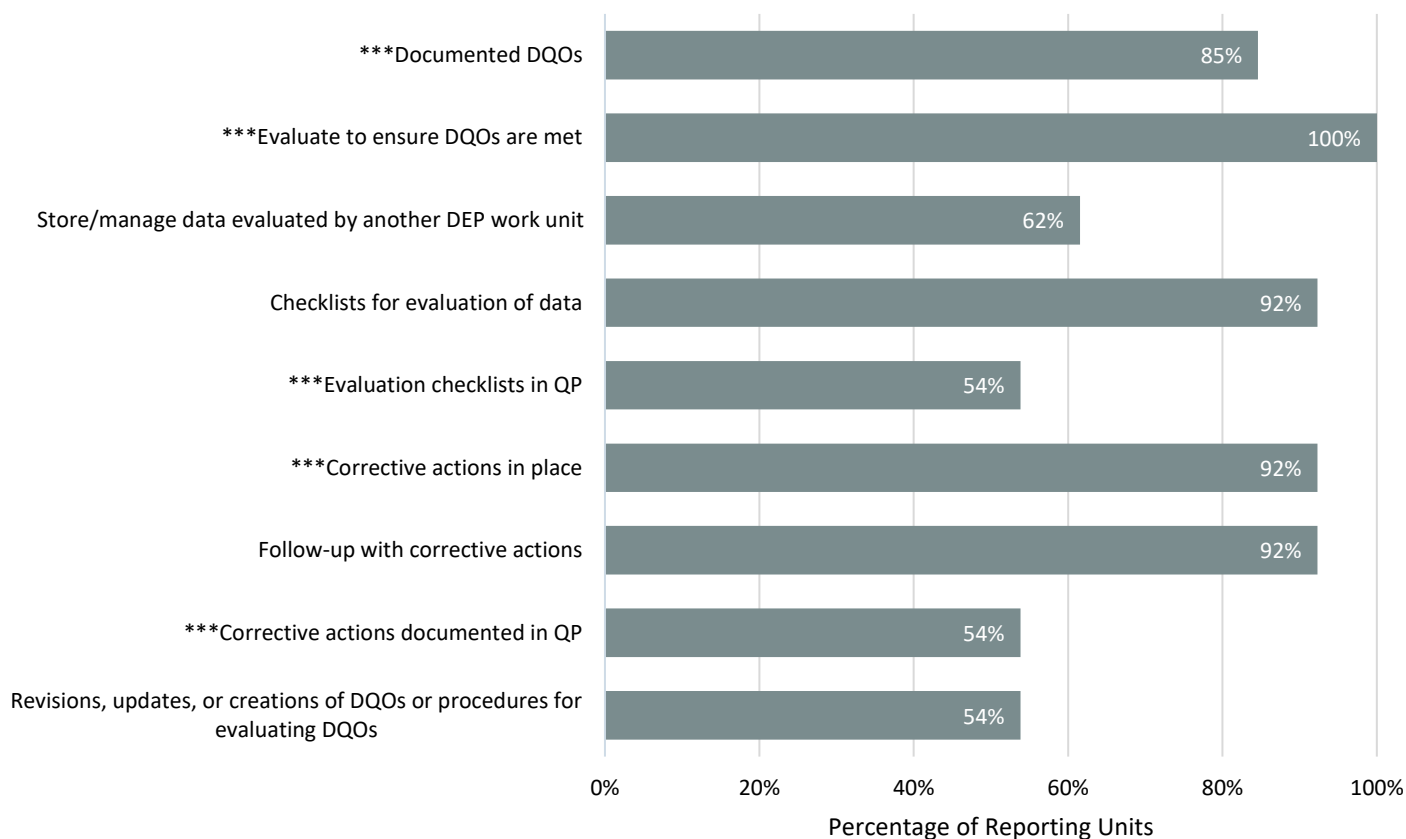


Figure 2.7. Percentage of reporting units in Ecosystems Restoration that answered “yes” to dichotomous questions regarding data quality objective use and documentation specific to roles as data manager in the 2022 survey template. Note that reporting units that indicated that the information is not included in the QP may not have a QP.

2.4. Training



QAOs identified QA training needs by reporting the number of staff that needed the 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. When reviewing the information from individual reporting units, three units (WMS, WSRFP and GTM) reported not meeting all their training needs, while four reporting units (WQRP, DWH, WRAP and LJAP) did not identify training needs in 2022.

All employees in Ecosystems Restoration who required training in laboratory analysis, data review, data entry and database management received the training (Figure 2.8). Four percent of employees who required training on field sampling did not receive it; only one percent of employees who required training on program specific QA requirements did not receive the training; and 10 percent of employees who required contract/grant/PO did not receive training in 2022.

Number and Percentage of Ecosystems Restoration Employees that Received the Required QA Training in 2022

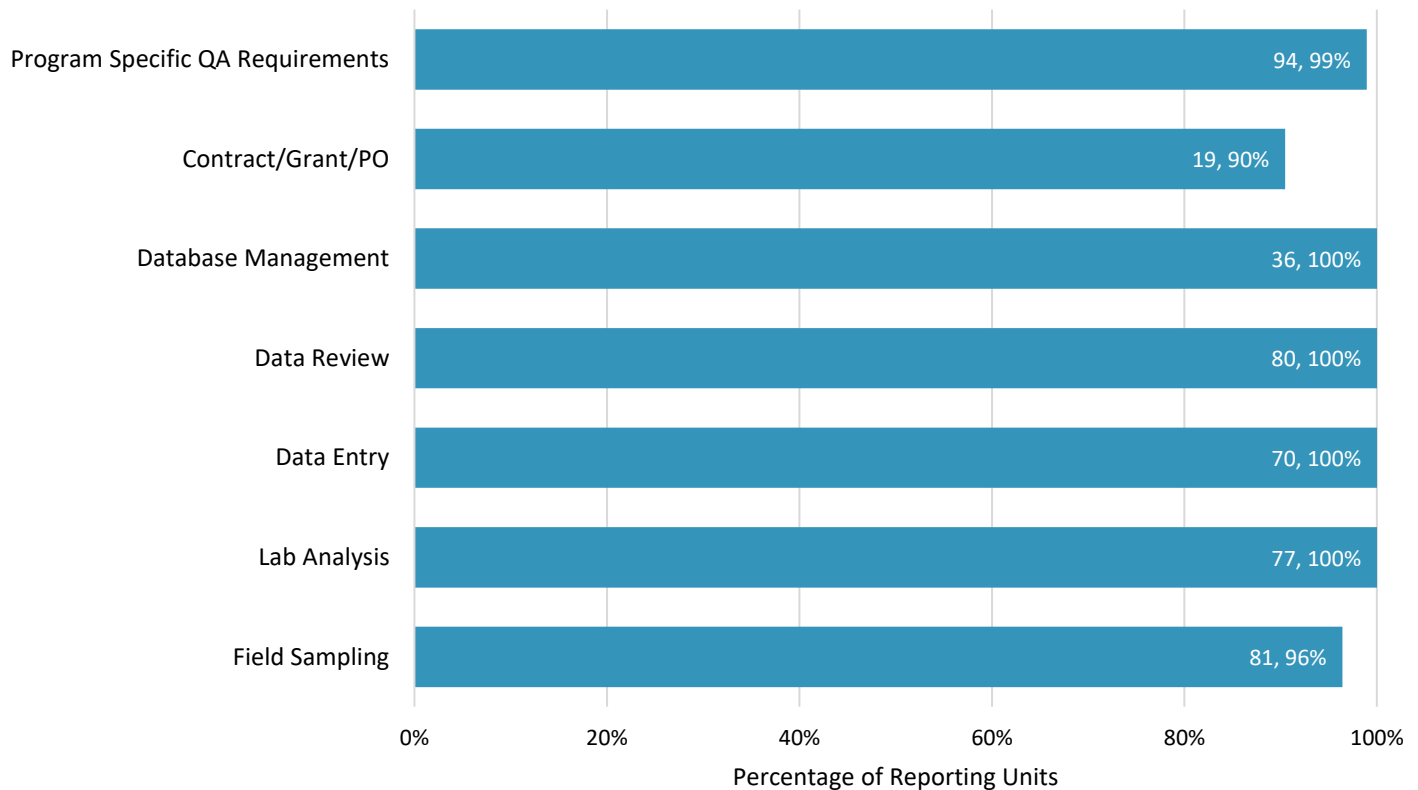


Figure 2.8. Number and percentage of employees in Ecosystems Restoration who required QA training in 2022 that received the training for their job responsibilities within each QA training category. Number of employees is included to provide more information.

2.5. Audits



AEQAS asked reporting units within Ecosystems Restoration of the agency to tally their audits from four different perspectives (Table 2.1). In total, 32 audits were reported for 2022, a decrease from the 56 reported for 2021. Slight increases or decreases are expected from year to year and are based on need. These 32 audits are composed of 12 performance audits, 15 project audits and 5 system audits (Table 2.1).

Table 2.1. Audits reported by Ecosystems Restoration reporting units for 2022.

Audit Perspectives	Audit Types			Total
	Performance	Project	System	
Audits of another unit within DEP	0	0	2	2
Audits of entities external to DEP	3	5	0	8
Audits of the reporting unit by another entity	1	5	2	8
Self-audits conducted by the reporting unit	8	5	1	14
Total	12	15	5	

Reporting units were asked a series of questions to provide information on how reporting units manage their audits. 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. AEQAS encourages reporting units to establish expectations and procedures for audits. Figure 2.9 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.

Seven reporting units conducted at least one audit. One unit, WQSP, conducted audits of entities within DEP and three units (WQSP, WMS and BBAP) conducted audits of entities external to DEP. Most units reported generating an audit report and used checklists to conduct audits, with the exception of BBAP. Work units conducting audits of units within DEP had report time frames and met them. Only one unit (BBAP) conducting audits of an entity external to DEP did not have an established time frame (Figure 2.9). Two of the three units that conduct audits from each perspective follow up with corrective actions but only one reporting unit received responses to the report within the pre-determined time frame. Reporting units should follow-up to ensure corrective actions are implemented and make efforts to encourage auditees to respond within the determined time frame. Auditors are not ultimately responsible for the audited parties' timeliness.

Audit Spotlight

"Frequent findings:

- *Make sure I qualifiers include a sufficient comment when uploading data to WIN so that data users know why the result was considered estimated. Data users often don't have easy access to the original lab report.*
- *Ensure method procedures are being followed carefully and consistently to produce accurate results.*

Overall, the audit process:

- *Helps point out specific issues to improve lab procedures, including SOPs, analyst or sampler performance.*
- *An auditor can provide a different perspective on an auditee's process, whether that be lab or field performance.*
- *Informs the usability of data."*

-Water Quality Standards Program's QAO

"AEQAS began conducting a series of chlorophyll audit and have shared tips and tricks to a wider laboratory community to improve their processes."

-AEQAS Staff

Ten reporting units were audited by an external entity or themselves in 2022. ROC, LABs, CPAP and BBAP indicated they were audited by an entity outside of their reporting unit. WQSP, ROC, LABs, ANERR, CHAP, EBAP and BBAP conducted one or more internal audits of their work units. Of the four units that were audited by an entity outside of their reporting unit, two (LABS and ROC) followed up with corrective actions. Each of the six units that conducted internal audits had an established frequency requirement and followed through with corrective actions. 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. Currently, 10 reporting units have audit goals, which are discussed in their QP.

2022 Procedures for Audits Conducted by Reporting Units in the Ecosystems Restoration Area

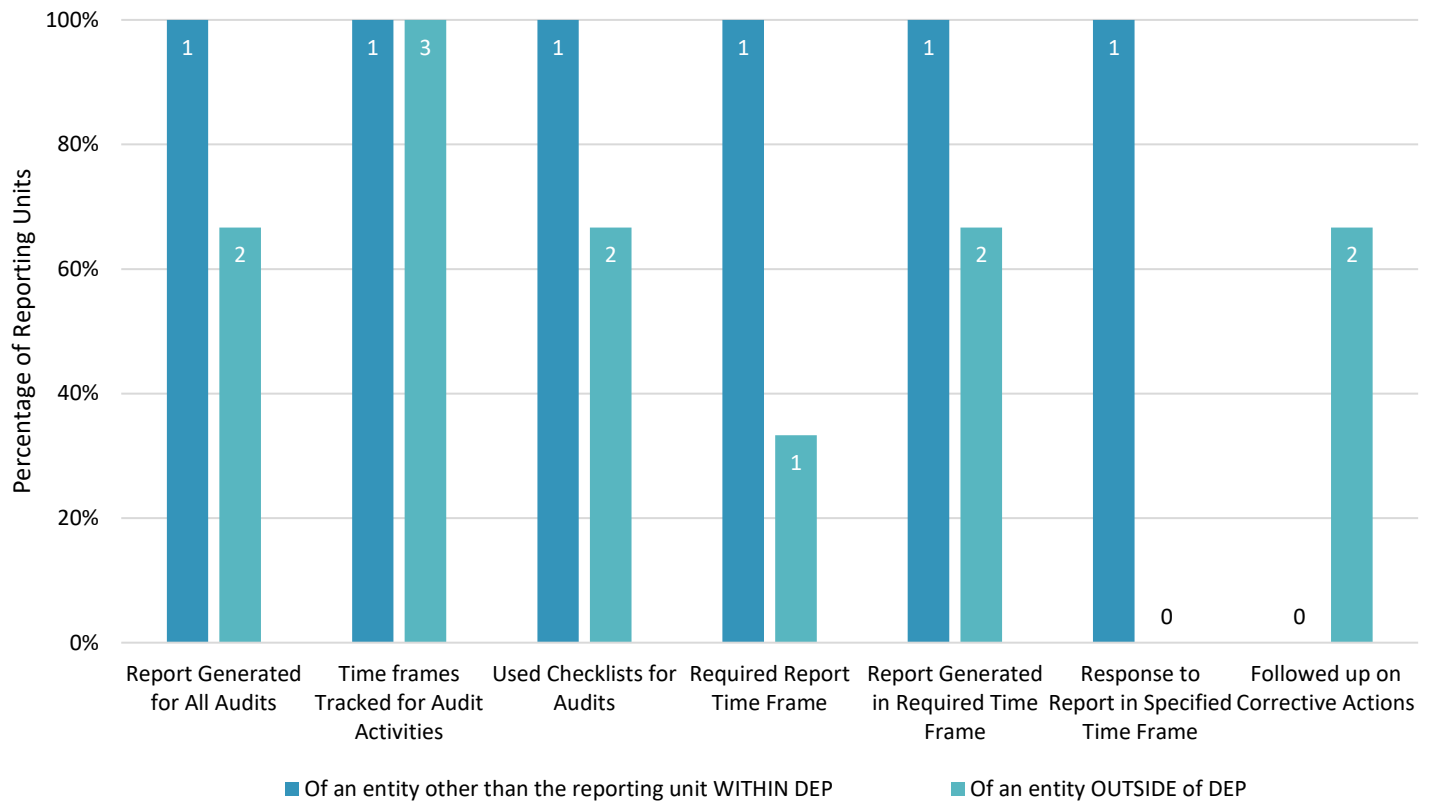


Figure 2.9. Percentages of Ecosystems Restoration reporting units meeting seven QA criteria for conducting audits in two audit categories: audits that are conducted by the reporting unit of entities within DEP and audits conducted by the reporting unit of an entity outside of DEP. Numbers of reporting units that answered “yes” to each criterion are included in the bars to provide more information.

2.6. Data Repositories



Of the reporting units within Ecosystems Restoration, 79 percent (26 of the 33 reporting units) indicated that staff enter data into at least one data repository. Eighty-two percent (27 of 33 reporting units) retrieve data and 40 percent (13 of 33 reporting units) are responsible for managing data in repositories.

Reporting units in Ecosystems Restoration enter data into 38 different data repositories. Many reporting units verify the data that are entered (Figure 2.10). However, several reporting units (WMS, CHAP, CPAP and EBAP) only have verification steps in place for some data that are entered. A few reporting units (CPR and WRAP) do not have verification steps for any of the 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 its data. Of the reporting units that verify data entry, 38 percent (10 of the 26 reporting units) have all the protocols documented in the QP for all the repositories, just over one-third (9 of the 26 reporting units) have protocols documented for some of the repositories in which data are entered and just over 25 percent (7 of the 26 reporting units) do not have any of the protocols 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.

2022 Ecosystems Restoration Reporting Units with Quality Checks & Documentation for Data Entry

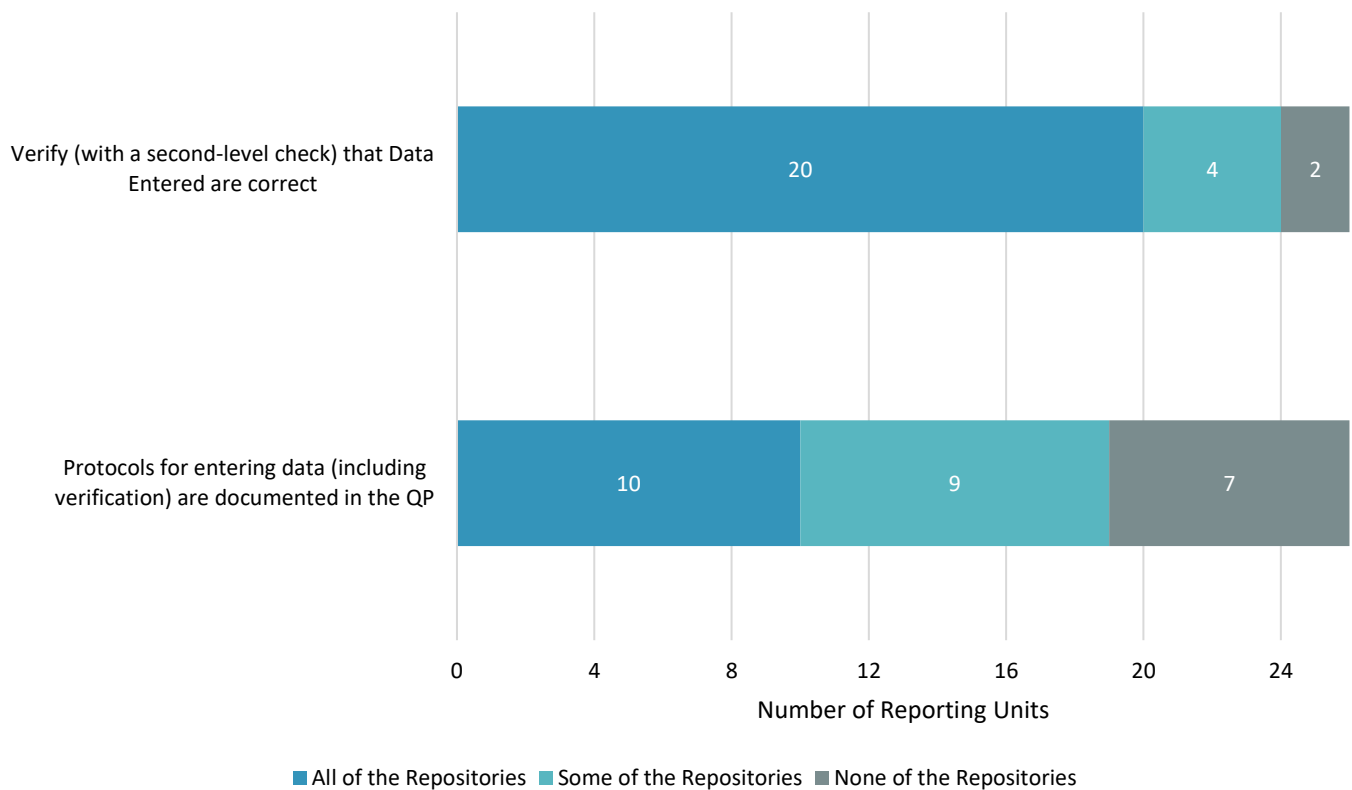


Figure 2.10. Number of reporting units in Ecosystems Restoration that enter data into data repositories in which data entered is verified with a second-level check for all repositories and have documented protocols in place for entering data for all repositories. Note that reporting units that indicated that the information is not included in the QP may not have a QP.

Twenty-five reporting units retrieve data from 48 different data repositories. Half of the reporting units perform QA/QC checks on the data retrieved from all their data repositories; eight reporting units (WMS, ROC, WETS, WIN, GIS, CPAP, RB and NWAP) perform QA/QC checks on the data retrieved from some of their data repositories; and the remaining six units (WSRFP, EBAP, IRLAP, ROAP, WRAP, CPR) do not perform any checks on the data retrieved (Figure 2.11). Those programs that do not perform QA/QC checks on all data retrieved should incorporate QA/QC checks. Less than a fifth of reporting units have written protocols for the retrieval of data from all repositories, with nine units reporting that there are written protocols for some of the repositories and another fourteen indicating no protocols are used for retrieval. The fourteen reporting units without written protocols for some or all data repositories used for retrieval should evaluate their QPs and include the protocols. The majority of reporting units have feedback mechanisms in place to notify the data generator of suspect data for all data repositories. Less than a quarter of the reporting units described these feedback mechanisms in their QP for all data repositories. The reporting units without feedback mechanisms for all data repositories or none of the data repositories should develop feedback mechanisms. The reporting units without feedback mechanisms described in their QP should revise the document to include the feedback mechanisms. 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.

2022 Ecosystems Restoration Reporting Units with Quality Checks, Feedback Mechanisms & Documentation for Data Retrieval

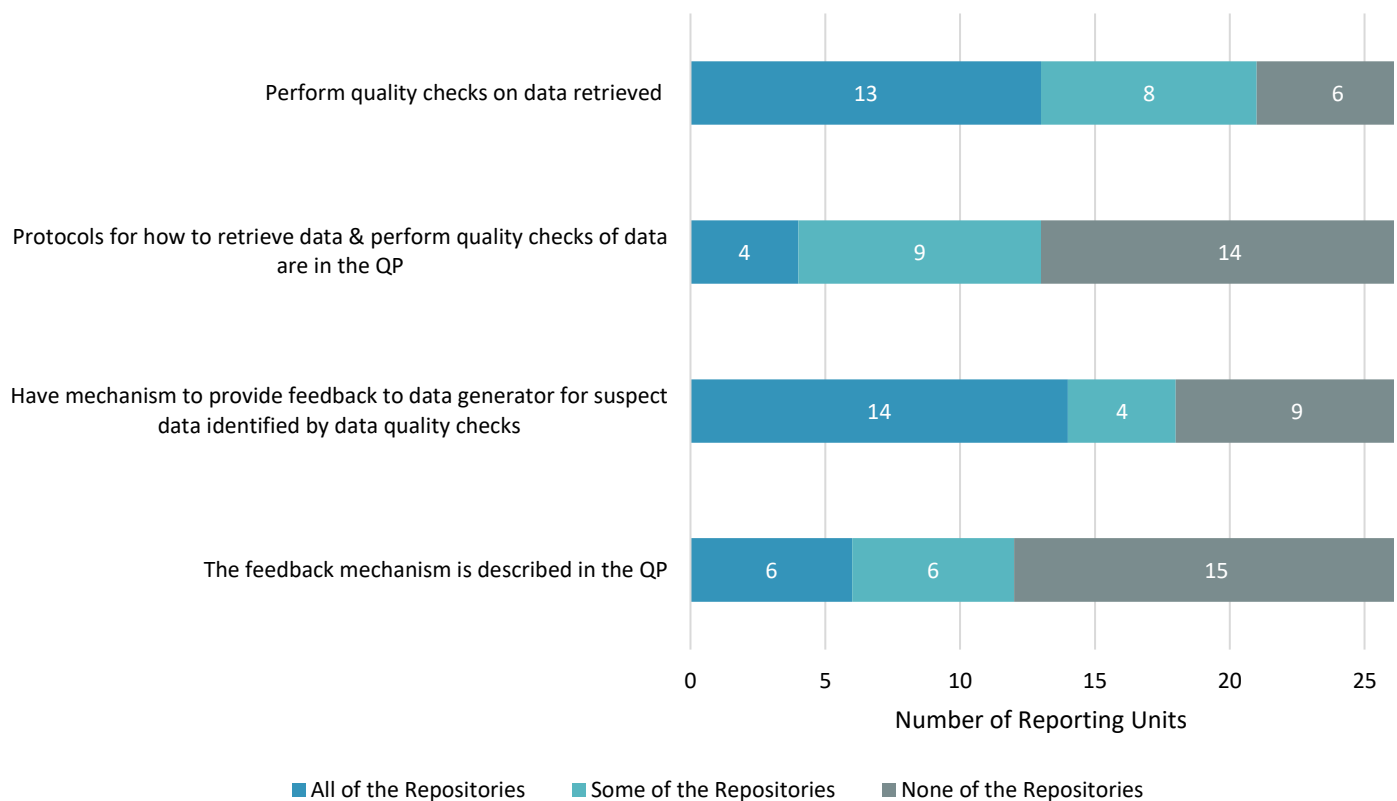


Figure 2.11. Number of reporting units in Ecosystems Restoration that retrieve data from data repositories in which data quality checks were performed on all data retrieved, documented protocols are in place for all repositories used, a feedback mechanism is in place to notify the data generator of suspect data for all repositories and the feedback mechanism is described in the reporting unit's quality plan for all repositories. Note that reporting units that indicated that the information is not included in the QP may not have a QP.

Thirteen reporting units within Ecosystems Restoration manage 25 data repositories. Almost all reporting units perform checks on all data repositories managed but most of them do not have protocols on how to perform quality checks in their QP for all the data repositories they manage. One unit (WIN) performs checks on only some of the repositories they manage and four units (BBAP, LABS, WAS, WMS) perform checks on all data stored or managed (Figure 2.12). The eight reporting units without written protocols for checking data 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. However, less than half have the feedback mechanisms for all or some repositories documented in the QP (Figure 2.12). 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.

2022 Ecosystems Restoration Reporting Units with Quality Checks, Feedback Mechanisms & Documentation for Database Management

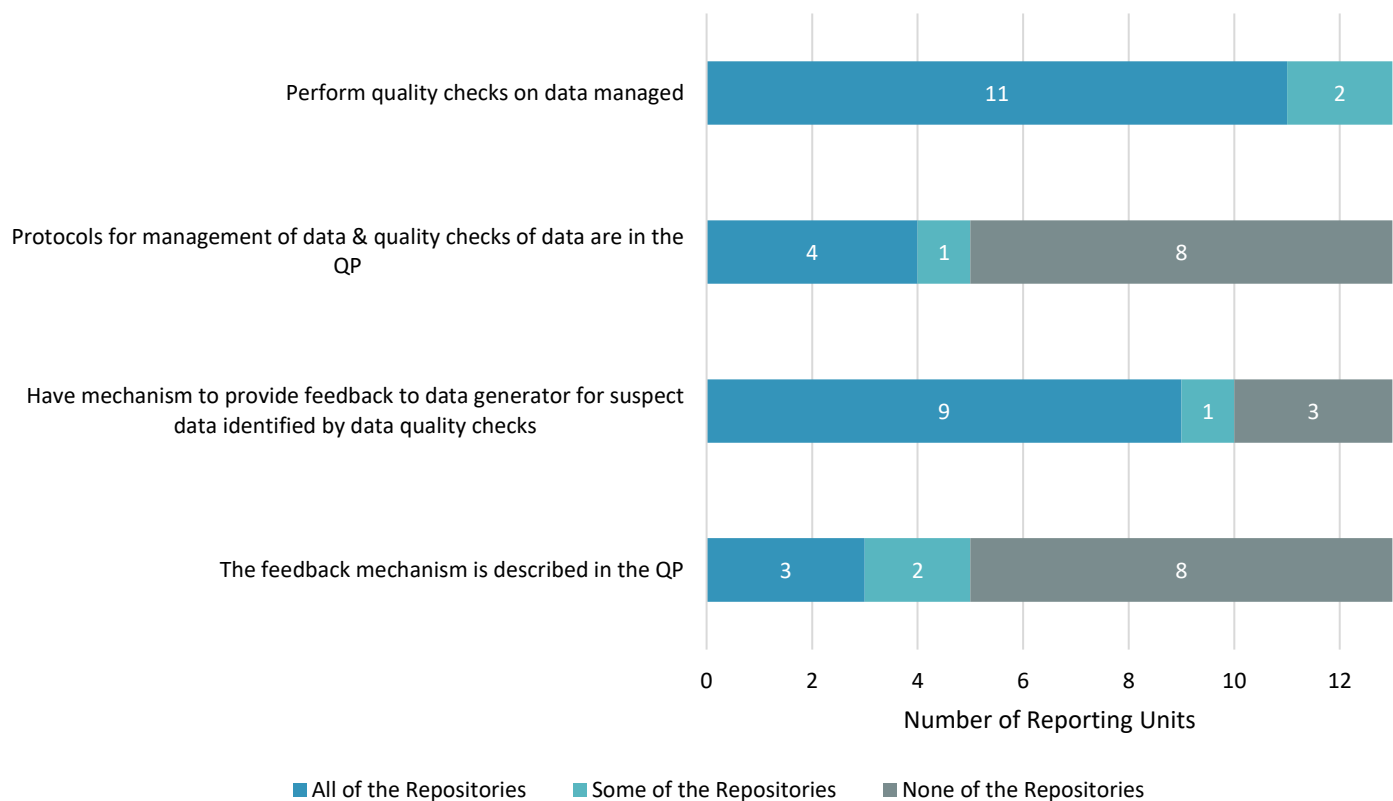


Figure 2.12. Number of reporting units in Ecosystems Restoration that manage data repositories in which data quality checks were performed on all repositories managed, documented protocols are in place for quality control checks of the stored data for all repositories, a feedback mechanism is provided 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. Note reporting units indicating that the information is not included in the QP may not have a QP.

2.7. Summary

The programs and sections of DEAR, OWPER, DWRA and the APs and NERRs within RCP make up the 33 reporting units within Ecosystems Restoration. The number of reporting units has consistently risen over the last 3 years due to increased reporting from RCP, though there may be changes to how organizational units within RCP report in future years. The reporting units within Ecosystems Restoration function under an established Quality System, though improvements are needed in documentation of the Quality System and data repository use by all units.

All Ecosystem Restoration divisions and offices have appointed QAOs, for a total of 14 QAOs. This number could increase over time as there are programs within RCP that have not yet been represented in this report. RCP may also consider adding additional QAOs for regional assistance as their offices are across the state. The number of QPs for this program area have increased as RCP increases documentation of its quality system. Only three reporting units have QPs out of date. The QAOs were made aware and in the case of WQRP, the QP has been updated in 2023.

In Ecosystems Restoration, the data generators reported a decrease in the citation of all SOPs utilized in their QPs. This could be attributed to more awareness of the QA documentation or to increased data generation activities that have not

been included in the QPs; all changes in reporting for the category were in RCP offices. The majority of the data generators have checklists for evaluating the data produced and no change was observed in the reporting units using checklists. Though not all the data users who have checklists incorporated the checklists in their QP, there has been a steady increase of checklist incorporation in QPs since 2017. Data users showed an increase in the documentation of DQOs and evaluation of data against the DQOs. There has also been an increase in the reporting units that follow up with corrective actions; there has not been an increase in the documentation of those corrective actions in the QP by data users. Also, many data users have established consistent procedures for data evaluation in the last four years. There was a decrease in reporting units classifying as data repository managers. This is partly due to the Statewide Ecosystem Assessment of Coastal and Aquatic Resources (SEACAR) program for RCP contributing to this report and it acquired much of the data management duties for other offices. Data repository managers is a new category and AEQAS has not collected enough years of information to discuss quality system trends. Data managers need more quality system education to improve reporting.

Nearly all the employees received required QA training in 2022 and some employees received training that was not required. The areas where staff did not receive required training falls under field sampling, contract/grant management and program specific requirements. AEQAS increased the number of contract/grant trainings in 2022 to meet the need that was present in 2021. AEQAS will work to record the next occurrence of the training. Overall, training opportunities and employees receiving needed training has remained consistent since 2017.

Reporting units in Ecosystems Restoration performed various field and lab audits, with project audits as the most common. The number of audits has decreased by more than 20 from 2021 reporting. Variability in number of audits conducted is expected from year to year as many audits are conducted on an as needed basis. Most 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. This is especially true for audits of external entities. Some reporting units have established auditing goals, though not all have documented the goals in their QPs. AEQAS continues to work with QAOs and their management to establish audit goals and encourage them to document the goals in their QPs. Staff conduct very few performance and project audits for contracts and grants. More effort is needed in performance and project audits as 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 train staff on how to conduct audits.

Most reporting units enter data into and retrieve data from repositories. Most units verify all entered data and about half of those have written protocols for data entry and verification. Less than half 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. Less reporting units are responsible for managing data repositories in 2022 than in 2021 due to RCP's SEACAR taking over data repository management activities. Some perform QA/QC checks on the repository records but not the majority. 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 actions process. Overall, management should work with staff and encourage them develop documentation of data repository activities to improve the quality of data entered, retrieved and the managed.

3. Land and Recreation

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

Division of Recreation and Parks (DRP)

Division of State Lands (DSL)

3.1. Overview and Expected QA Activities

The Land and Recreation branch 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: Division of Recreation and Parks (DRP) and Division of State Lands (DSL). DRP reports as one unit, though organizationally there are eight programs and five districts. DSL also reports as one unit, though six programs make up the division. Figure 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 POs. Some sampling is for research purposes, while some is 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 data quality objectives (DQOs), training for staff to review data against the DQOs and training to understand when to incorporate QA 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 2022. DSL did report contract or grant management-related QA activities in 2022, when in previous years this has varied.

Figure 3.1 provides context for the QA activities that AEQAS expects reporting units to report. All program functions listed require reporting units to have and document 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 POs 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.

2022 Program Functions that Require QA

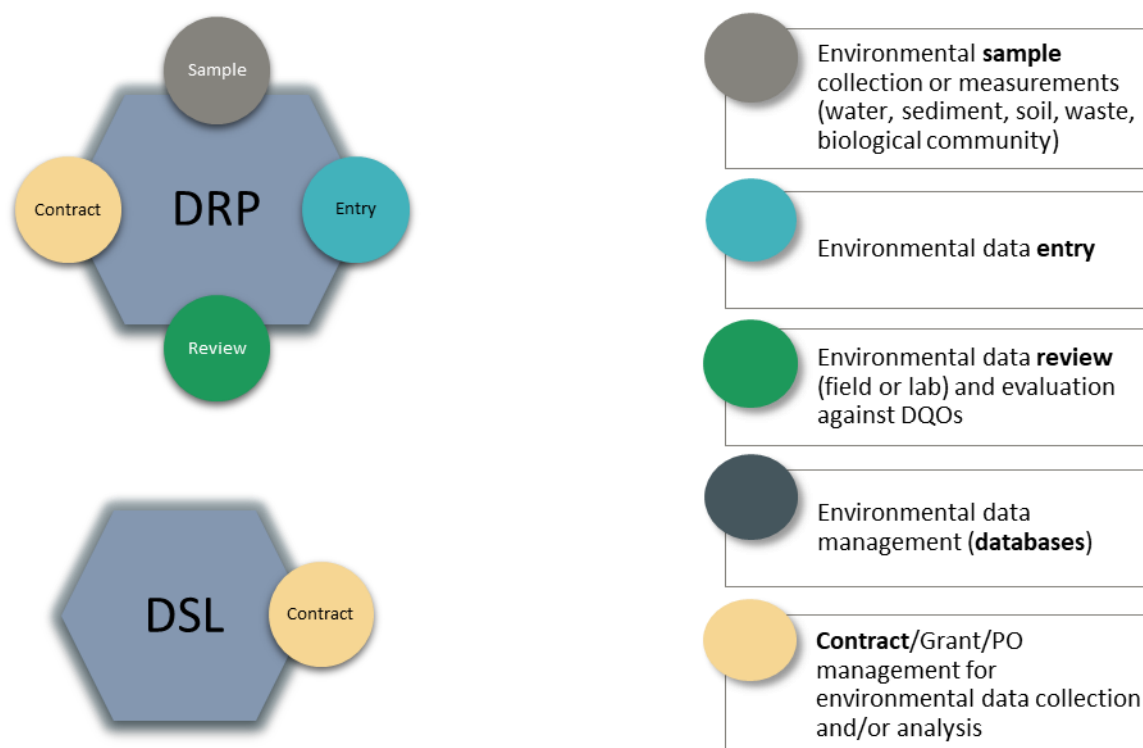


Figure 3.1. Diagram of the reporting units for DRP and DSL showing each unit's 2022 functions that require QA activities, represented by color-coded circles. The circles do not indicate whether that program or section reported on that function.

3.2. Quality Plan and QA Officer Status

The DRP and DSL both keep their QPs and QAO roles at the division level. Figure 3.2 illustrates the QP status in Lands and Recreation. Since DSL is a small division and does not have many activities that involve QA, its QAO does not have difficulty making QP updates, sharing QA information with staff or collecting QA information for this annual report. The DRP is a large division and it is difficult for its QAO to reach all districts. Updates in 2023 to the DRP QP assign each District Bureau Chief as the respective District QA lead and maintain 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. Both QAOs in Lands and Recreation have taken the "Introduction to Quality Assurance" course available on LMS.

The DSL finalized revisions to their quality plan (QP) at the beginning of 2020 and AEQAS does not consider it outdated in this report; however, DSL appointed a new QAO in 2022, so that change should be reflected in the QP. AEQAS identified DRP's QP as outdated through several iterations of this report. AEQAS staff conducted a Quality of Science Review with DRP in 2021 to assist in updating the QP. DRP revised its QP in early 2022 and finalized revisions in March 2023 after receiving feedback from AEQAS.

Quality Plan Status 2022

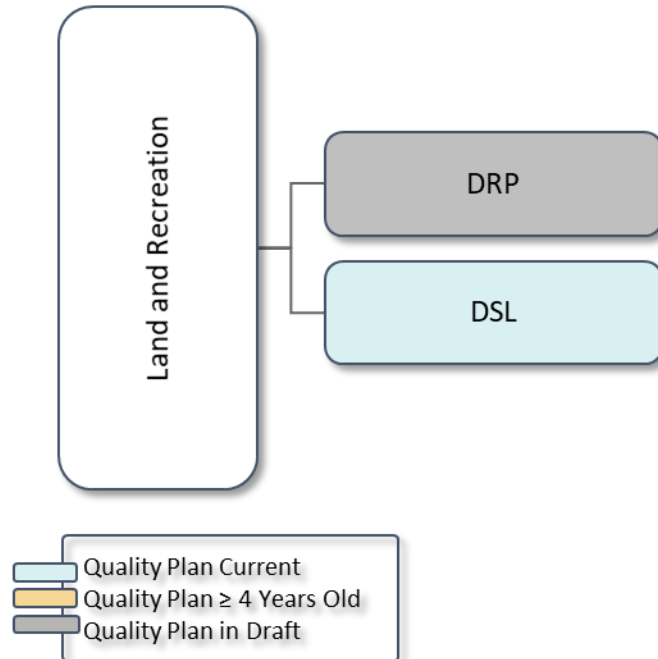


Figure 3.2. Quality Plans that are current, outdated or in revision for programs in Land and Recreation for 2022. The number of plans required for each division or office is dependent on the program groupings included in each plan. Each color-coded box in the diagram represents a quality plan found on the [QP webpage](#). The white boxes show relationships between the work units.

3.3. Data Activity and Associated Documentation



The 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 flora and fauna surveys. Some additional sampling techniques are used for local resource management decision making and not described in the DRP's QP. DRP did not have any DQOs other than following the SOPs and there were no checklists for evaluating the data in 2022. 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 staff. The most recent version of the QP needs further edits to better discuss how data activities occur within DRP.

3.4. Training



DSL did not report QA training needs in 2022. DRP reported that they needed field sampling training for nine staff members and all received the required training. AEQAS suggested all staff in these reporting units take the *Introduction to Quality Assurance* course available on the LMS.

3.5. Audits



The Land and Recreation branch did not report any audits. Reporting units within Land and Recreation are not likely to report audits in the volume or frequency of other branches of the agency. However, environmental data collected

through compliance monitoring or sampling for research is subject to audits. For example, some of the data generated by DRP is subject to performance or project audits.

3.6. Data Repositories



DSL reported that staff do not enter, retrieve nor 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 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.

3.7. Summary

Both the DSL and the DRP have designated QAOs. DSL has an up to-date QP but has not reported on training needs nor audits in the last four 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 of 2023. AEQAS will continue to work with DRP to ensure the QP is a valuable tool for the division and will conduct outreach with the newly designated QA contacts.

4. Regulatory

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

Division of Water Resource Management (DWRM)

- Compliance and Enforcement (C&E)*
- Wastewater Management (WWM)*
- Drinking water and Aquifer Protection (DW & AP)*
- Mining and Mitigation (M & M)*
- Phosphate Management (PM)*
- Stormwater and Technical Services (S&TS)*
- Budget/Grants & Personnel (BG & P)*
- Administrative Services (Admin Services)*
- 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 and Business Support Program (DBSP)*
- 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)

4.1. Overview of Expected QA Activities

The regulatory district offices (Districts), Division of Waste Management (DWM), Division of Water Resource Management (DWRM), the Florida Geological Survey (FGS) and Division of Law Enforcement (DLE), which includes the Office of Emergency Response, comprise the Regulatory Program Area of the agency. The data presented in this section of the report are based on the 12 reporting units that submitted information for 2022 from DWM, DLE and FGS, which includes all organizational units for these offices. This is the same number of reporting units as in 2020 and 2021. 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. Efforts of the districts are in a separate section because they report their QA activities and goals differently from other reporting units. The DWRM division level offices are not providing data in all sections for the 2022 report but expected QA activities for all programs in the division were determined by division leadership and are shown in Figure 4.2.

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 the DWM: District and Business Support Program (DBSP); Federal Programs Section (FPS); Brownfields and CERCLA Site Screening (BCSS); Site Investigation Section (SIS); Waste Site Cleanup Section (WSCS); Hazardous Waste Program & Permitting (HW) Section; Solid Waste Program & Permitting (SW) Section; Operation and Program Performance (OPP) Section; Permitting and Compliance Assistance Program (PCAP); and Petroleum Restoration Program (PRP). Brief responsibilities of each section/program are as follows.

The DBSP provides technical support services to the DWM and six district offices across the state. These services include professional consultation on all aspects of site assessment and remediation, including human health and ecological risk assessment.

The Department of Defense (DOD), Brownfields and CERCLA sections reported as one unit (FPS) in 2019 but were split into three distinct programs in late 2019. For the 2020 report, they are addressed in two groups as the Federal Programs FPS and BCSS and continue to report separately. FPS provides oversight of site rehabilitation activities, program guidance and technical support at DOD and National Aeronautics and Space Administration (NASA) sites and facilities in Florida (which also includes sites in the Formerly Used Defense Sites (FUDS) Program). BCSS works with the U.S. Environmental Protection Agency (EPA) to administer the Brownfields Program in Florida and conducts site screening assessments on sites with confirmed or suspected contamination to document if there was a release of hazardous substances and to evaluate the site for possible inclusion on the National Priority List (NPL).

The SIS investigates reports of known or suspected soil and groundwater contamination statewide and issues technical reports to support district assessment and cleanup decisions. The section also manages the State-Owned Lands Cleanup Section, which is responsible for addressing contaminated sites on land owned by the state of Florida.

The WSCS is responsible for managing the Drycleaning Solvent Cleanup Program, which addresses contamination resulting from the operation of eligible drycleaning facilities. In addition, the WSCS coordinates with EPA during EPA-

managed remediation of NPL/Superfund sites in Florida. For sites that do not meet NPL criteria and have no viable responsible party, the WSCS manages these as “State-Lead” sites using state funding.

The HW Cleanup Section is working under the Resource Conservation and Recovery Act (RCRA) and is responsible for the remediation of hazardous waste sites.

The SW Section develops solid waste policy and provides technical assistance to the district offices concerning the permitting, compliance and enforcement activities associated with solid waste facilities. These facilities can include landfills, material recovery facilities, transfer stations, composting/processing facilities and waste tire management sites.

The OPP Section provides information and technology services related to data management, reporting and presentation for DWM applications. The section is responsible for the circulation, transfer and disposition of DWM’s property. The section also coordinates purchases and maintains property acquisitions, storage and disposal in accordance with DEP policies.

The PCAP implements state and federal laws related to recycling, pollution prevention, solid and hazardous waste management and storage tank compliance. The PCAP works closely with Districts to implement permitting, compliance and enforcement activities to protect the environment from improper handling and disposal of solid and hazardous waste.

The PRP provides technical oversight for assessment and cleanup of sites contaminated by discharges of petroleum and petroleum products from stationary petroleum storage systems.

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. The Districts carry out this office’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 Division of Water Resource Management (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), Drinking Water (DW), Underground Injection Control (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 also responsible for permitting phosphate mineral processing facilities and associated phosphogypsum stack systems, the environmental resource permitting of mines and mitigation banks and coordinates the interagency review and certification for building, operating and maintaining power plants, transmission lines and natural gas pipelines. DWRM has not determined whether they will report as one unit or as nine individual units for future QA annual reports.

Figure 4.1 and 4.2 provides context for the QA activities that AEQAS expects these reporting units to report. All listed program functions require reporting units to have and document 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 POs 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.

2022 Organization & QA-related Activities in Regulatory (DWM, FGS & DLE)

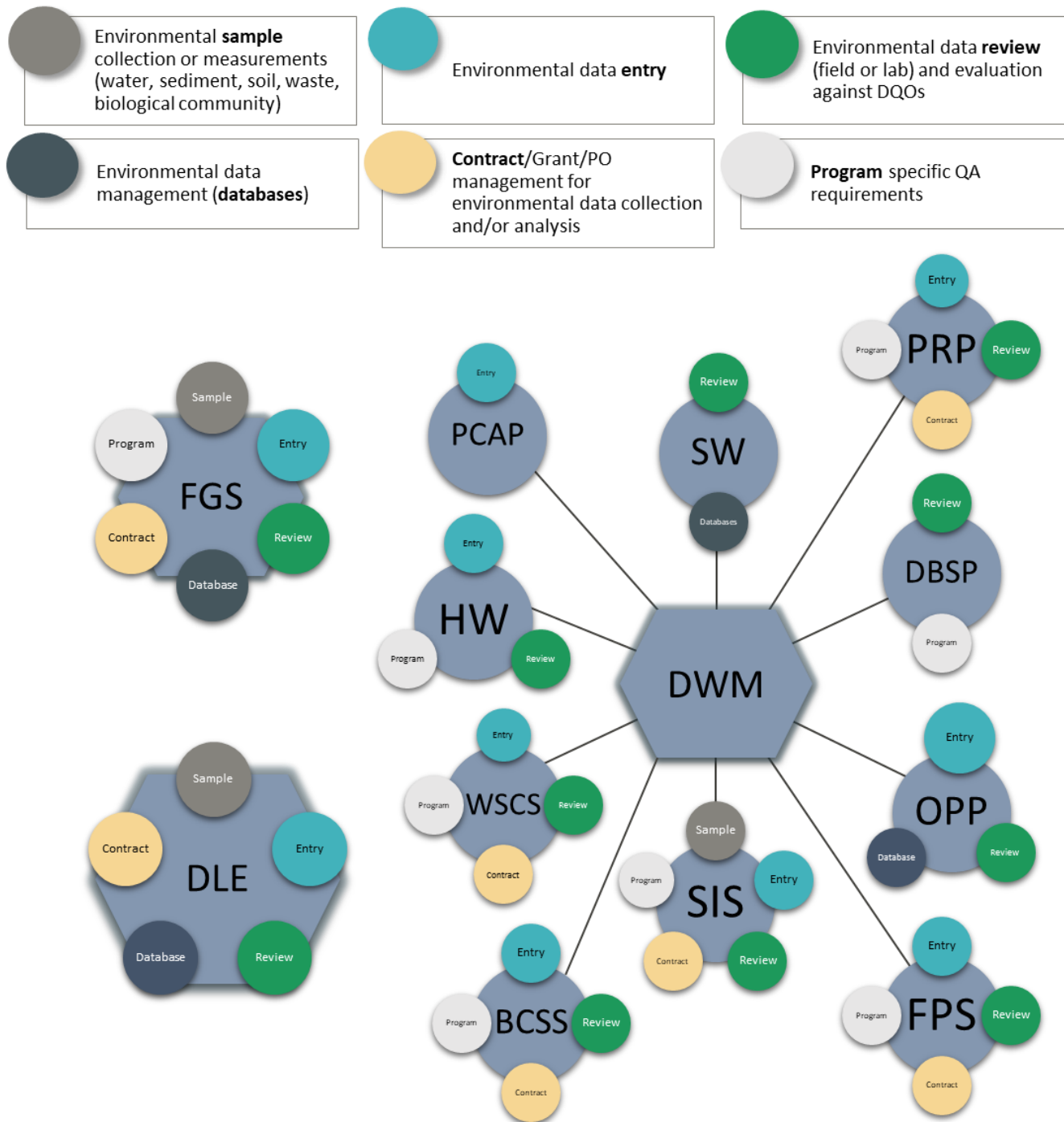


Figure 4.1. Diagram of the reporting units from DWM, FGS and DLE showing each unit's functions that require QA activities, represented by color-coded circles. The circles do not indicate whether that program or section reported on that function.

2022 Organization & QA-related Activities in Regulatory (DWRM)

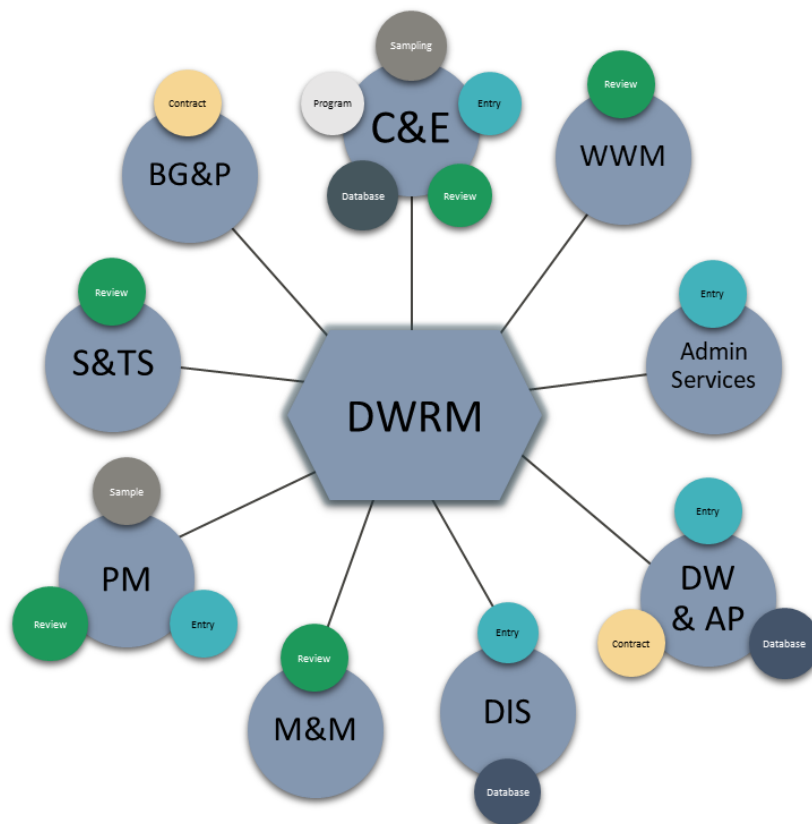
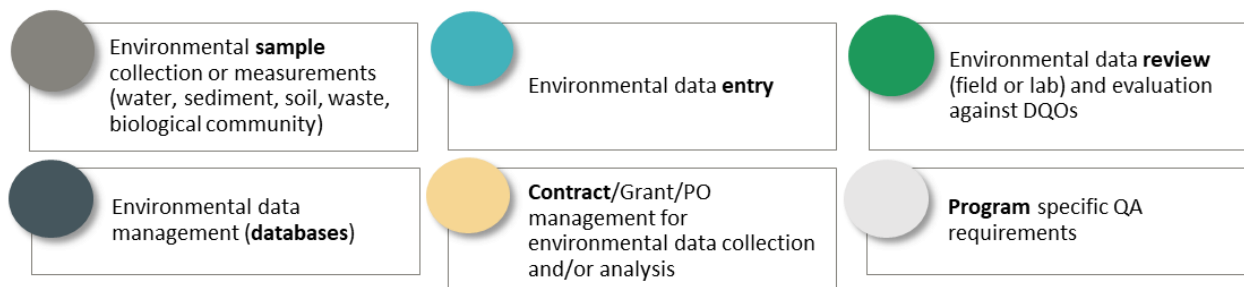


Figure 4.2. Diagram of the reporting units from DWRM showing each unit's functions that require QA activities, represented by color-coded circles. The circles do not indicate whether that program or section reported on that function.

4.1.1. Quality Plans and QA Officers Status

All Regulatory divisions and districts have appointed QAOs, for a total of 36 QAOs. DWRM appoints one QAOs per program/section which equals 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. Out of the QAOs in DWRM, FGS and DLE, eight of the twelve QAOs have taken the "Introduction to Quality Assurance" course available on LMS. AEQAS did not collect Information about participation of the QAOs with the LMS training for 2022 from the DWRM and districts as they are not completing the traditional template for QA information collection.

In 2022, six QPs were available on the [QP webpage](#) for Regulatory and three of them are outdated. There is not a required frequency for which QPs must be updated but for the purposes of this report AEQAS targets documents older than four years for review to determine if they are out of date and need revisions. Figure 4.3 illustrates QP status for the Regulatory program area for 2022.

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 is not considered a finalized QP as it does not contain all of their QA activities, nor does it contain all the components of a complete QP. The District draft QP must be updated annually to list the number of expected QA reviews for each district. AEQAS has previously worked with Regulatory leadership to edit and provide more detail in the QP but further work is needed.

Per self-reporting from the units in DLE, FGS and DWM, one reporting unit revised their QPs and another reporting units revised and finalized the updated QP. Upon request, AEQAS staff conduct 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, two reporting units within DWM have participated in Quality of Science Reviews and AEQAS continues to conduct these reviews for DWM programs/sections.

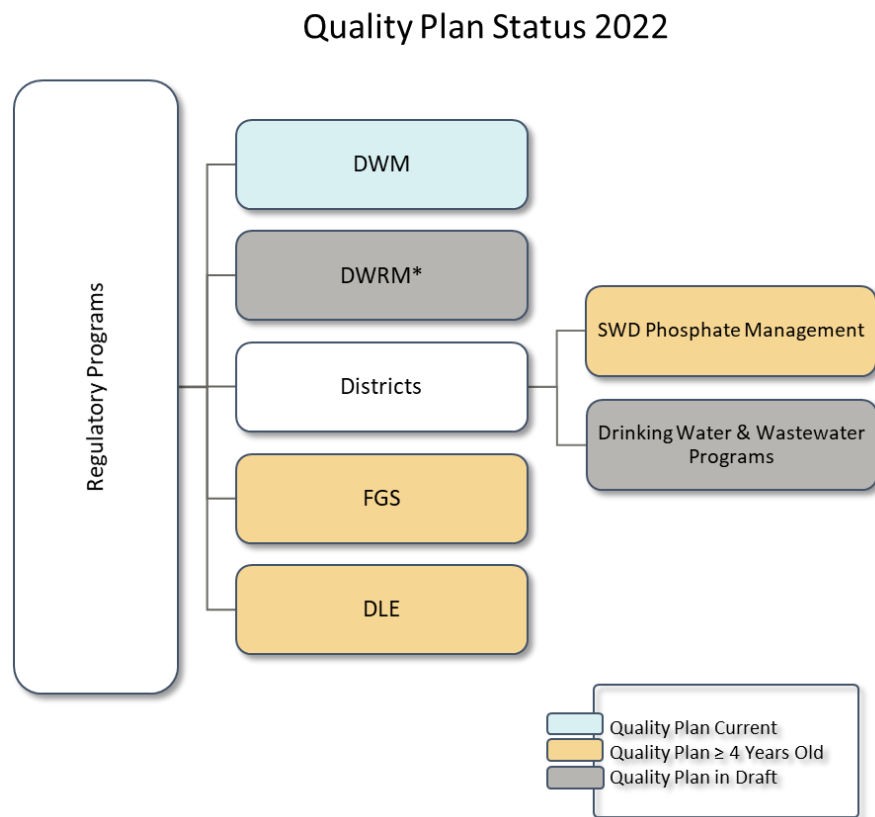


Figure 4.3. Quality Plans that are current, outdated or in revision for programs in Regulatory for 2022. The number of plans required for each division or office is dependent on the program groupings included in each plan. Each color-coded box in the diagram represents a quality plan found on the [QP webpage](#). The white boxes show relationships between the work units. *All QPs for programs may not be available.

4.1.2. Data Activity and Associated Documentation



Data activity is divided into three categories: data use, data generation and data management. Of the 12 total reporting units from Regulatory, all use data, three generate data and four manage data repositories. Figure 4.4 breaks down what combinations of data use, generation and management exist between all reporting units.

2022 Self Reported Program Activities for DWM, FGS & DLE

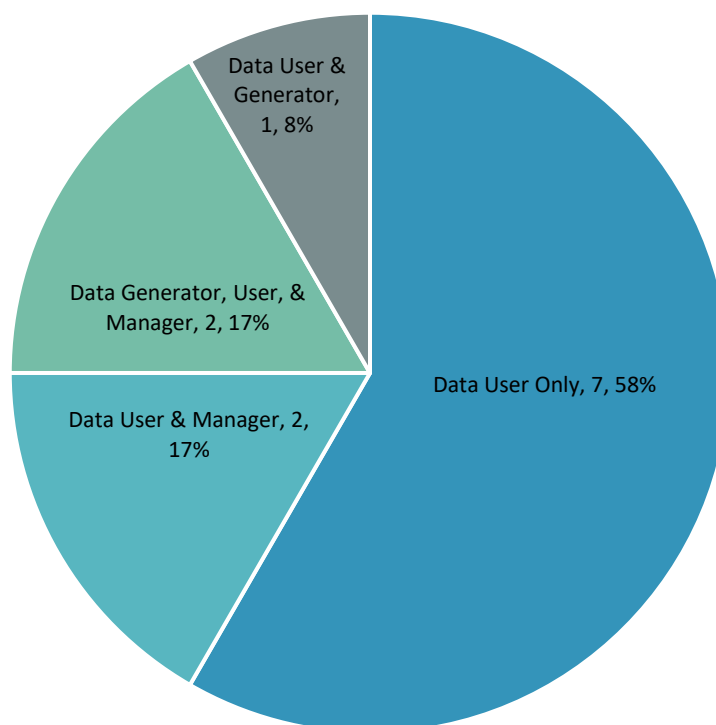


Figure 4.4. Number and percentage of reporting units in Regulatory reporting as data users, data users and data generators, data users and data managers or all three for the 2022 QA Annual Report. There are 12 reporting units total from DWM, DLE and FGS combined.

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.

Information in Figure 4.5 is related to quality system components as it pertains to data generation. AEQAS surveyed reporting units on the presence of SOPs, DQOs, checklists, data evaluation procedures and corrective actions in their QP. FGS indicated their QP does not incorporate all sampling techniques they use, while SIS indicated their QP does not include all DQOs and procedures they use to evaluate their data. Both FGS and SIS should revise their QP accordingly to

include references for all SOPs, DQOs and similar methods used. All units stated that there were corrective actions for when data did not meet the DQOs and the corrective actions are documented in the QP.

2022 Data Generator Information for DWM, FGS & DLE

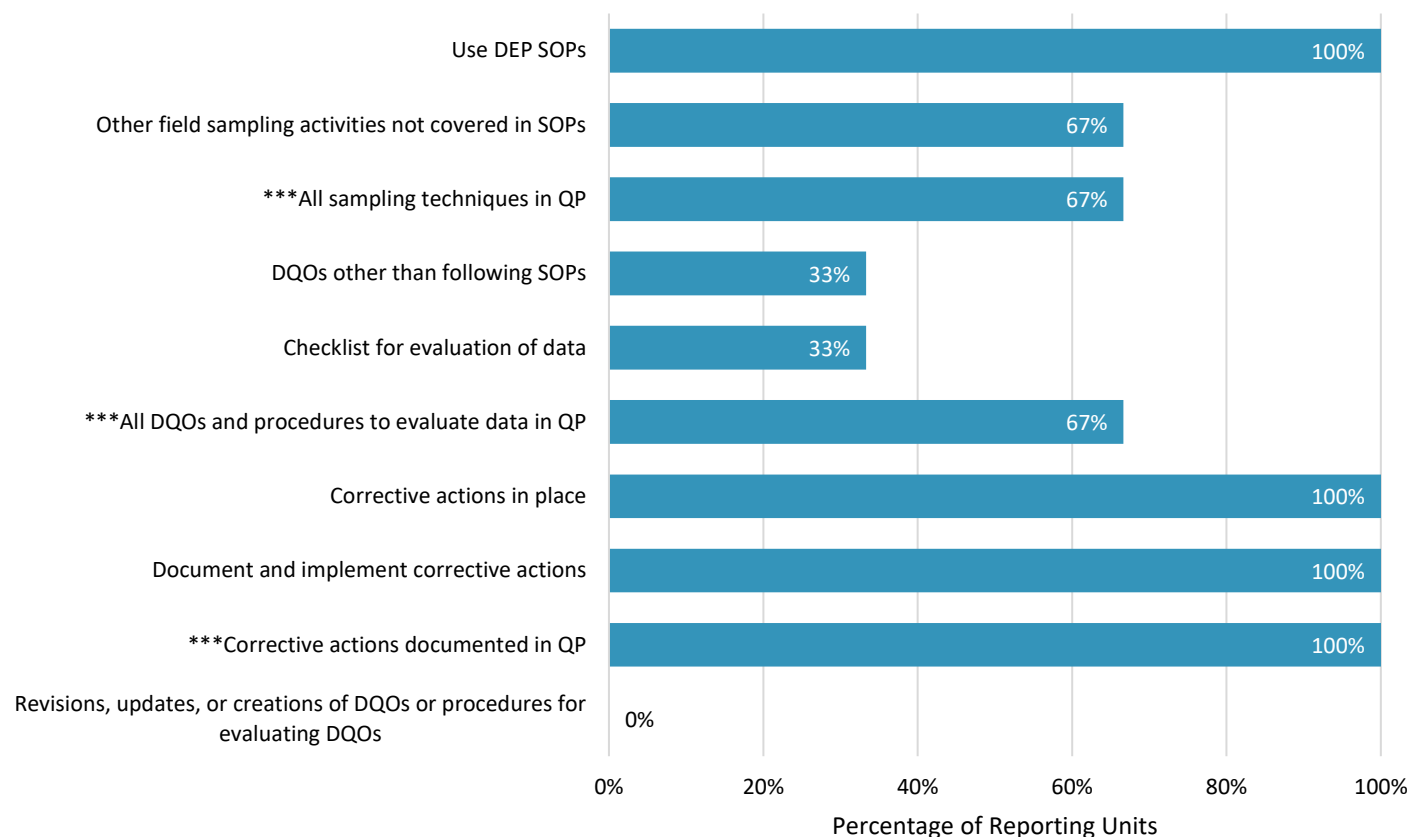


Figure 4.5. Percentage of Regulatory reporting units that answered “yes” to dichotomous questions regarding data quality objective use and documentation specific to roles as a data generator in the 2022 survey template.

Figure 4.6 presents information regarding quality system components as reported by data users. SW indicated they do not evaluate data to ensure their DQOs are met and should adopt methods to do so. OPP indicated they use checklists for evaluating data but do not include the checklists in their QP. OPP should revise their QP to include the checklists. SIS and DBSP indicated they do not have corrective actions in place at all while WSCS and PCAP indicated they do have corrective actions in place but do not document them in their QP. SIS and DBSP should adopt corrective actions and all of the aforementioned programs (SIS, DBSP, WSCS and PCAP) should revise their QP to include these corrective actions.

2022 Data User Information for DWM, FGS & DLE

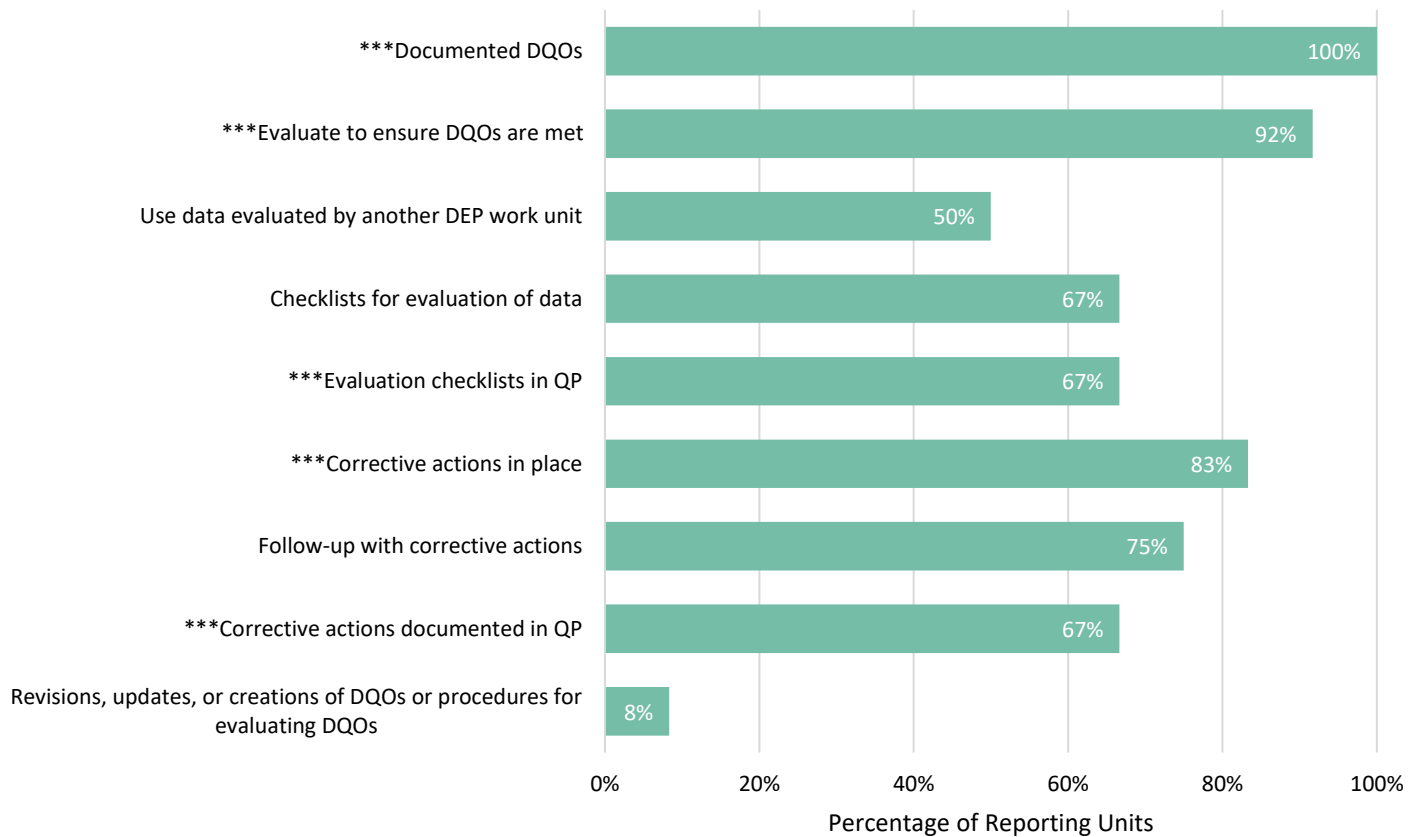


Figure 4.6. Percentage of Regulatory reporting units that answered “yes” to dichotomous questions regarding data quality objective use and documentation specific to roles as a data user in the 2022 survey template.

Figure 4.7 contains information related to quality system components as reported by data managers. Data managers include those units that manage data repositories housing department environmental data. All data repository managers indicated there are documented DQOs and evaluate data in the repositories to ensure the data meet the established DQOs. All data repository managers indicated using checklists to evaluate the data and the reporting unit incorporated the checklists in their QPs. All units 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 three units follow-up with corrective actions.

2022 Data Repository Manager Information for DWM, FGS & DLE

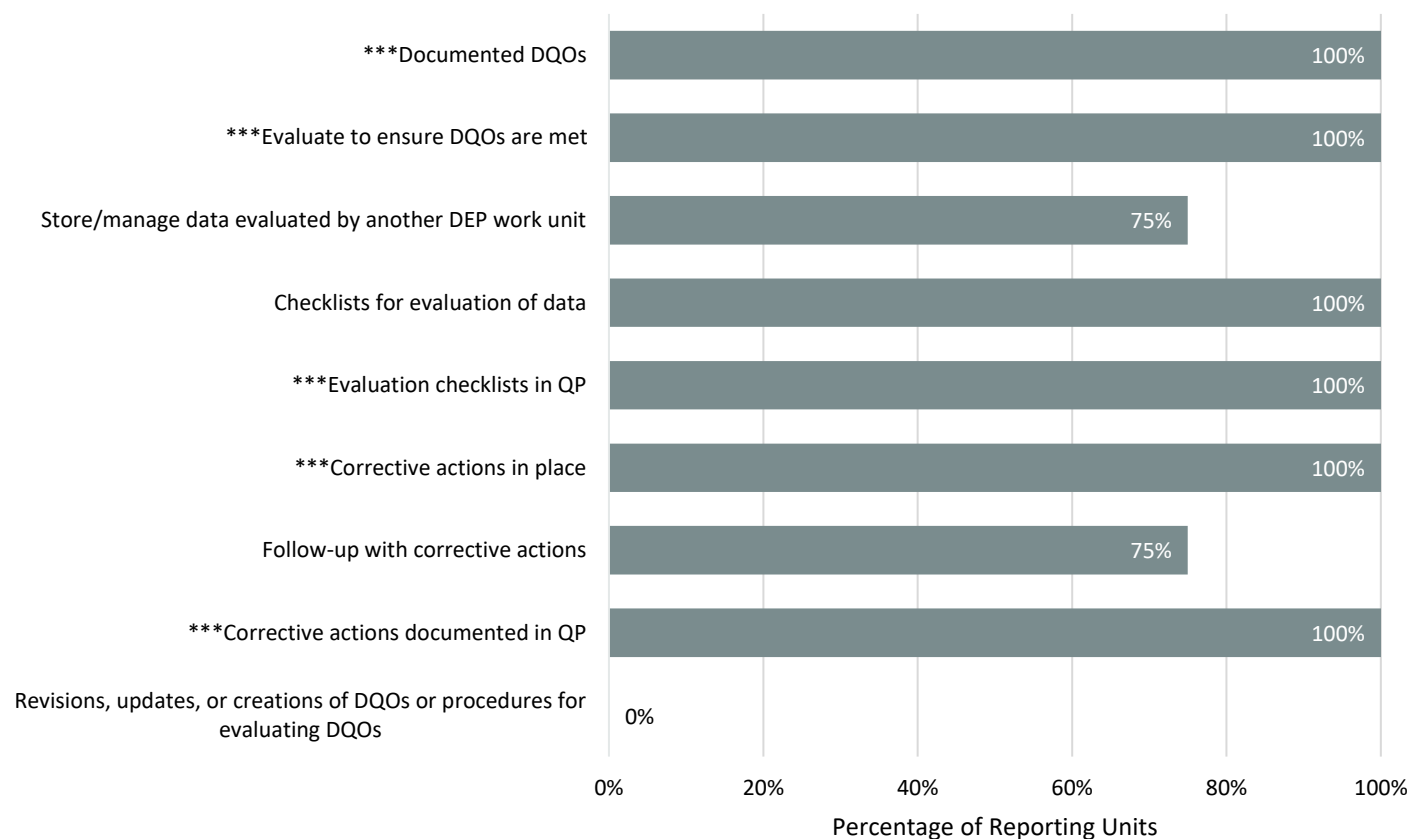


Figure 4.7. Percentage of Regulatory reporting units that answered “yes” to dichotomous questions regarding data quality objective use and documentation specific to roles as a data repository manager in the 2022 survey template.

4.1.3. DWM, FGS, & DLE Training



QAOs reported on the number of staff that required training and those that received training. For DWM, FGS and DLE, all employees that required training received the training during 2022. Three units did not report training needs or requirements for 2022 (OPP, SW and HW). More employees were trained on data review than any other training category in 2022 (Figure 4.8). Two reporting units (PRP and WSCS) provided trainings to entities external to DEP. Approximately 200 people participated in 10 external trainings.

Percentage and Number of DWM, FGS & DLE Employees that Received the Required QA Training in 2022

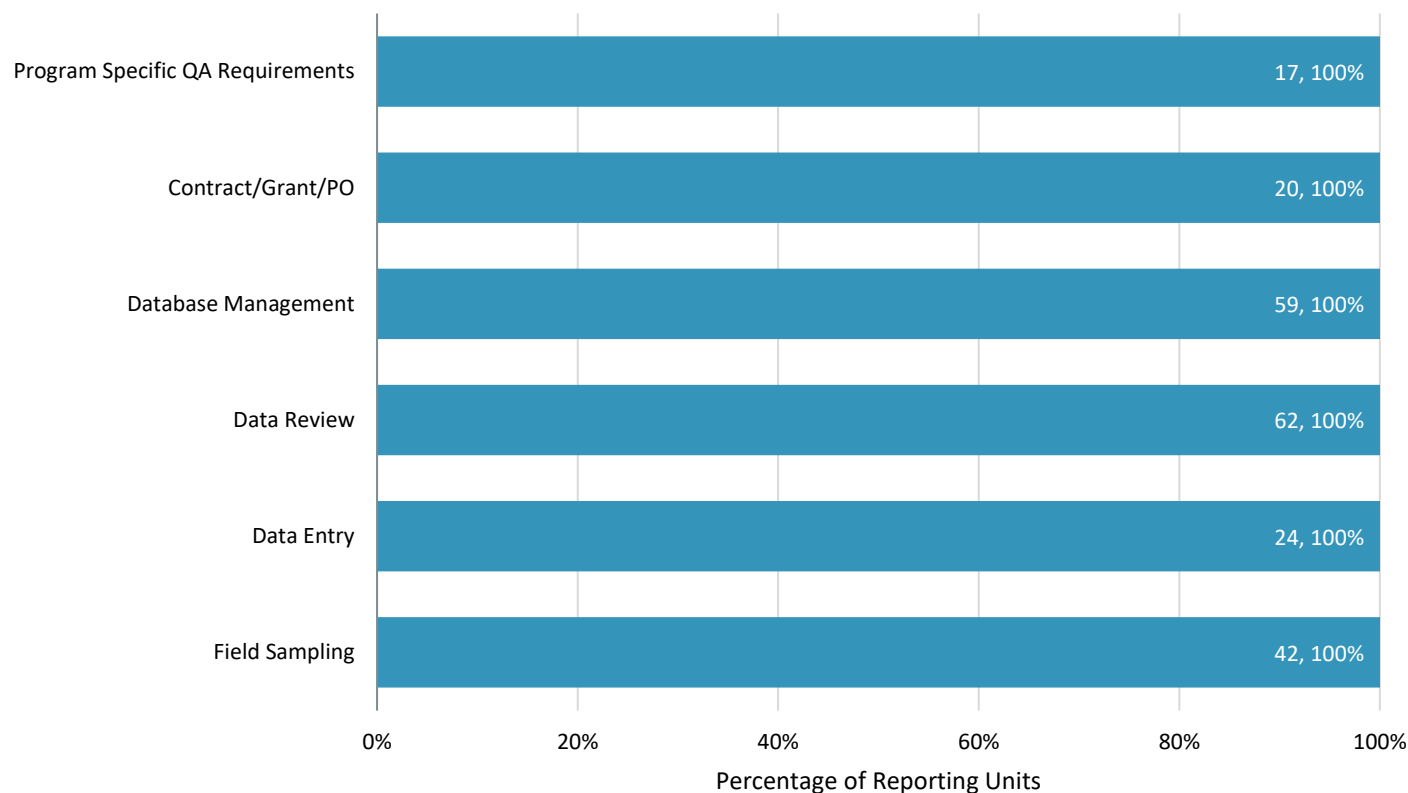


Figure 4.8. Number and percentage of employees in DWM, FGS and DLE that received training within each QA training category in 2022.

4.1.4. DWM, FGS, & DLE Audits



AEQAS asked reporting units within the Regulatory area of the agency to tally their audits from four different perspectives (Table 4.1). In total, Regulatory reported 14 audits in 2022.

Table 4.1. Audits reported by DWM, FGS & DLE reporting units for 2022.

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

Reporting units were asked a series of questions to provide information on how reporting units manage their audits. While there are some required audit report and response timeframes in 62-160.650, F.A.C., there are no department-wide protocols for audit tracking, use of checklists or audit follow-up. AEQAS encourages reporting units to establish

expectations and procedures for audits. Figure 4.9 includes seven QA criteria for evaluating the audits conducted; it does not include survey information regarding audits of the reporting units themselves.

PCAP, HW and DLE were the three reporting units that conducted audits of other entities within and external to DEP in 2022. PCAP conducted one system audit, HW conducted nine performance audits and DLE conducted one performance audit in 2022. There were reports generated for the PCAP and HW audits but not the DLE audit. All three reporting units tracked timeframes for their audit activities, though only HW required audit activities be completed within a specific timeframe for audit completion (Figure 4.9). HW generated all their audit reports and all audited parties responded within the required timeframe. All reporting units' auditors used checklists to perform the audits. HW and DLE followed up on corrective actions while PCAP did not.

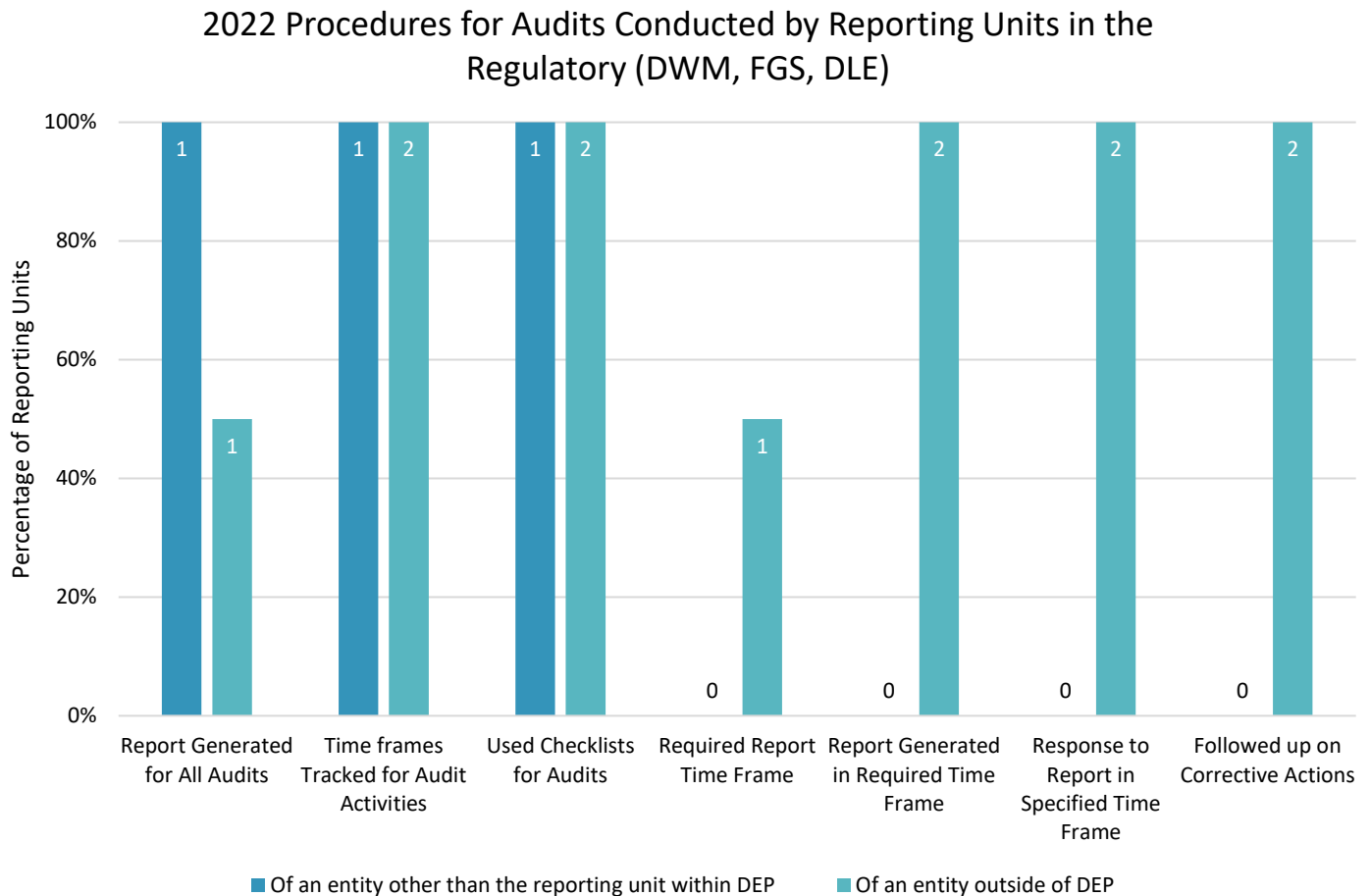


Figure 4.9. Percentages of Regulatory reporting units meeting seven QA criteria for conducting audits in two audit categories: Audits conducted by the reporting unit of entities within DEP and audits conducted by the reporting unit of an entity outside of DEP. Numbers of reporting units that answered “yes” to each criterion are included in the bars to provide more information.

No work units reported conducting an internal audit of their own unit. Three reporting units (PRP, PCAP and HW) were auditees of an entity outside of their work unit. PCAP and HW followed up on corrective actions required by these audits while PRP’s audit began in 2022 and is currently still ongoing. They have not had an opportunity to initiate corrective actions.

Many reporting units (HW, FPS, PRP and WSCS) conduct extensive data reviews of permit packages that do not constitute an audit. Section 4.1.1 of this report captures data review activities and tools used by reporting units.

Currently four reporting units indicated having audit goals in 2022 and all four reporting units have those audit goals documented in their QPs.

Audit Spotlight

"...facilities still use the FD 9000 24 groundwater sampling form but are also looking at extra data for selecting a groundwater remediation system, so include the extra info on the customized form. Not sure if facilities know they can alter the form (as long as it contains all the required information) and customize to their needs when looking at collecting additional information. Another consultant has the forms set up on a Toughbook in a format that the program will highlight the columns in red when stabilization criteria aren't met and they won't get a green "go ahead" highlight to sample until all the stabilization criteria are met."

– Hazardous Waste's QAO

4.1.5. DWM, FGS, & DLE Data Repositories



Among the reporting units of DLE, FGS and DWM, 10 of the 12 reporting units reported that staff in the unit enter data into at least one data repository. Nine of the 12 reporting units retrieve data and four of the 12 reporting units are responsible for managing data repositories.

Reporting units of DWM, DLE and FGS enter data into 17 different data repositories. Seven of the reporting units indicated they verify data entered in all repositories, while three reporting units (OPP, WSCS and HW) do not verify data. Five have documented protocols for data entry for all the data repositories, one reporting unit (DLE) has documented protocols for some of the data repositories and four reporting units (BCSS, SIS, WSCS and OPP) do not have any documented protocols for the data repositories (Figure 4.10). Reporting units entering data should verify to improve data quality. Reporting units should document their verification protocols in their QP for consistency between staff. Reporting units should work toward documenting protocols in the QP for each data repository used.

2022 DWM, FGS & DLE Reporting Units with Quality Checks & Documentation for Data Entry

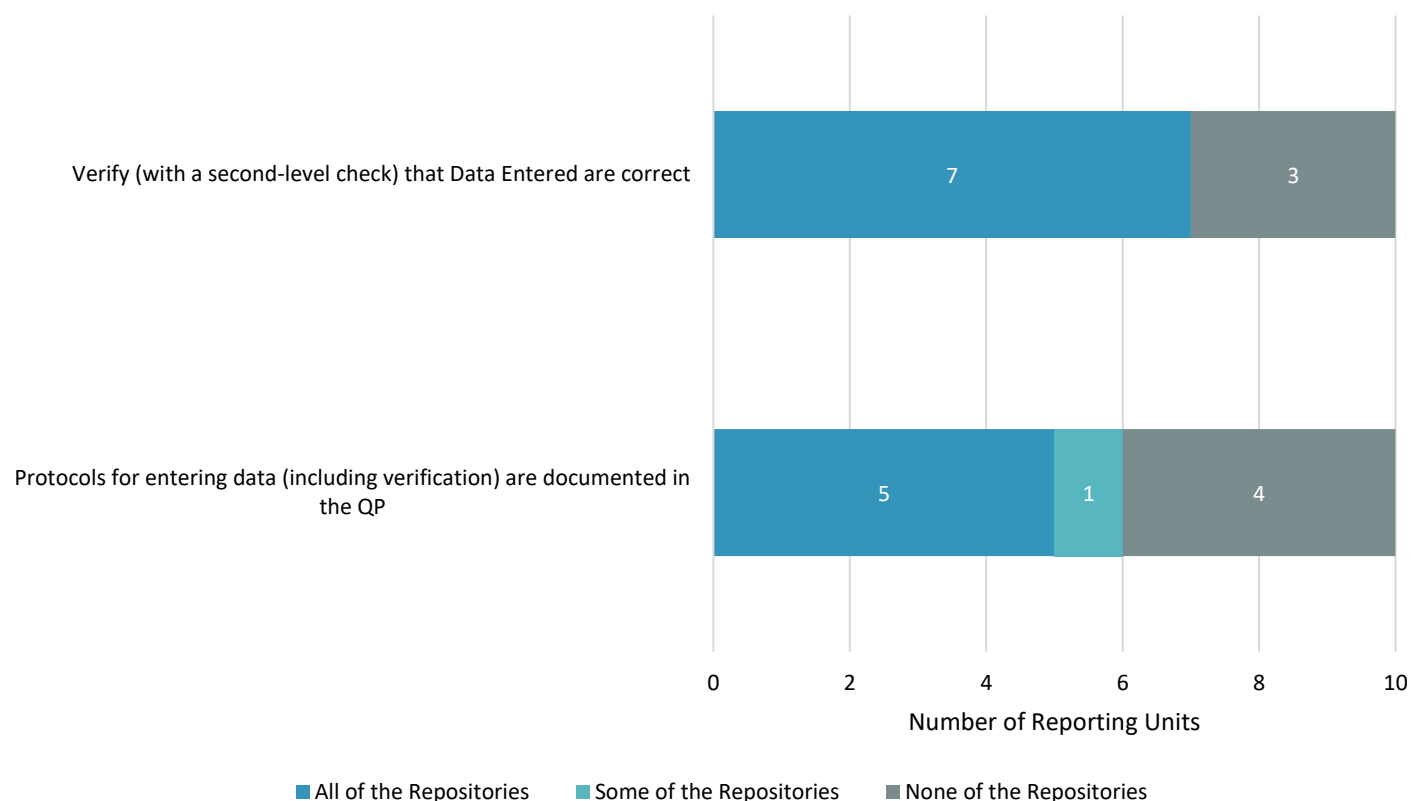


Figure 4.10. Number of reporting units in DWM, DLE and FGS that enter data into data repositories in which data entered is verified with a second-level check for all repositories and documented protocols are in place for entering data for all repositories.

More than half of the reporting units that retrieve data perform QA/QC checks on the data retrieved from 17 data repositories (Figure 4.11) but not all of them have documented protocols for how they retrieve all data. Four reporting units (FGS, PRP, SIS and OPP) do not perform any QA/QC checks on the data retrieved from any data repositories. To obtain data consistently and uniformly, the reporting units without QA/QC checks for data retrieval need to incorporate QA/QC checks and include protocols in their QPs. Most of the reporting units that retrieve data have a mechanism to provide feedback to the data generator regarding suspect data for all repositories. Two reporting units have feedback mechanisms described in their QPs for contacting data generators for all repositories and two reporting units indicated their QPs contains the mechanism for some repositories. Five reporting units did not have any feedback mechanisms documented in their QP. 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.

2022 DWM, FGS & DLE Reporting Units with Quality Checks, Feedback Mechanisms & Documentation for Data Retrieval

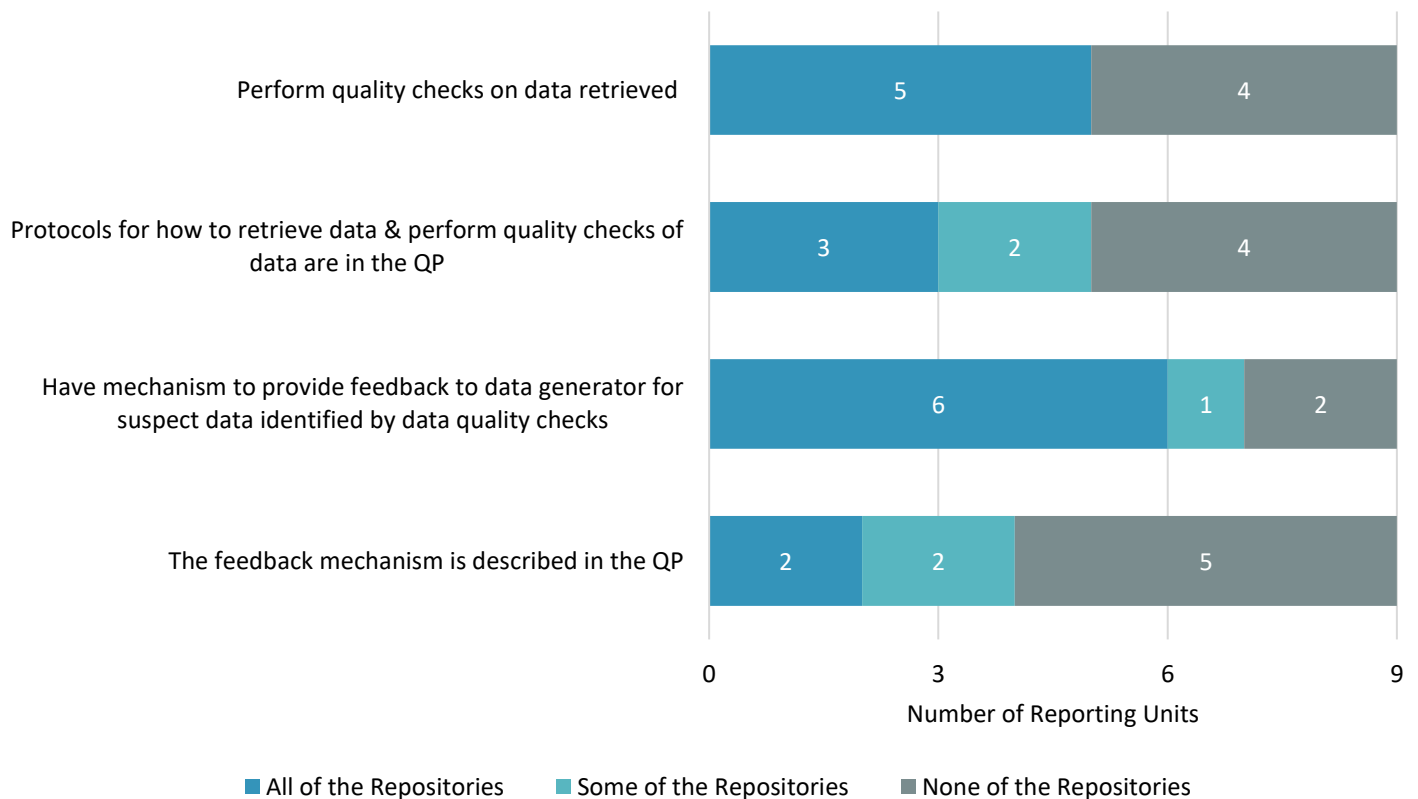


Figure 4.11. Number of reporting units in DWM, DLE and FGS that retrieve data from data repositories in which data quality checks were performed on all data retrieved, documented protocols are in place for all repositories used, a feedback mechanism is in place to notify the data generator of suspect data for all repositories and the feedback mechanism is described in the reporting units' quality plan for all repositories.

Four reporting units manage 11 different data repositories. Nearly all those reporting units perform checks on all repositories managed and have written QC protocols of the stored data. Only one (OPP) does not perform QA/QC checks on any repositories, nor does it have protocols in its QP for QC checks (Figure 4.12). This reporting unit should perform checks on stored data. Once established, these protocols should be documented in their QP. All the reporting units managing data repositories have mechanisms to provide feedback to the data generator regarding suspect data. Most reporting units document the mechanism for providing feedback for all data repositories in their QP. For the validity of data housed, reporting units should document protocols for all data repositories. The remaining reporting unit needs to include its feedback mechanism for suspect data in their QP.

2022 DWM, FGS & DLE Reporting Units with Quality Checks, Feedback Mechanisms & Documentation for Database Management

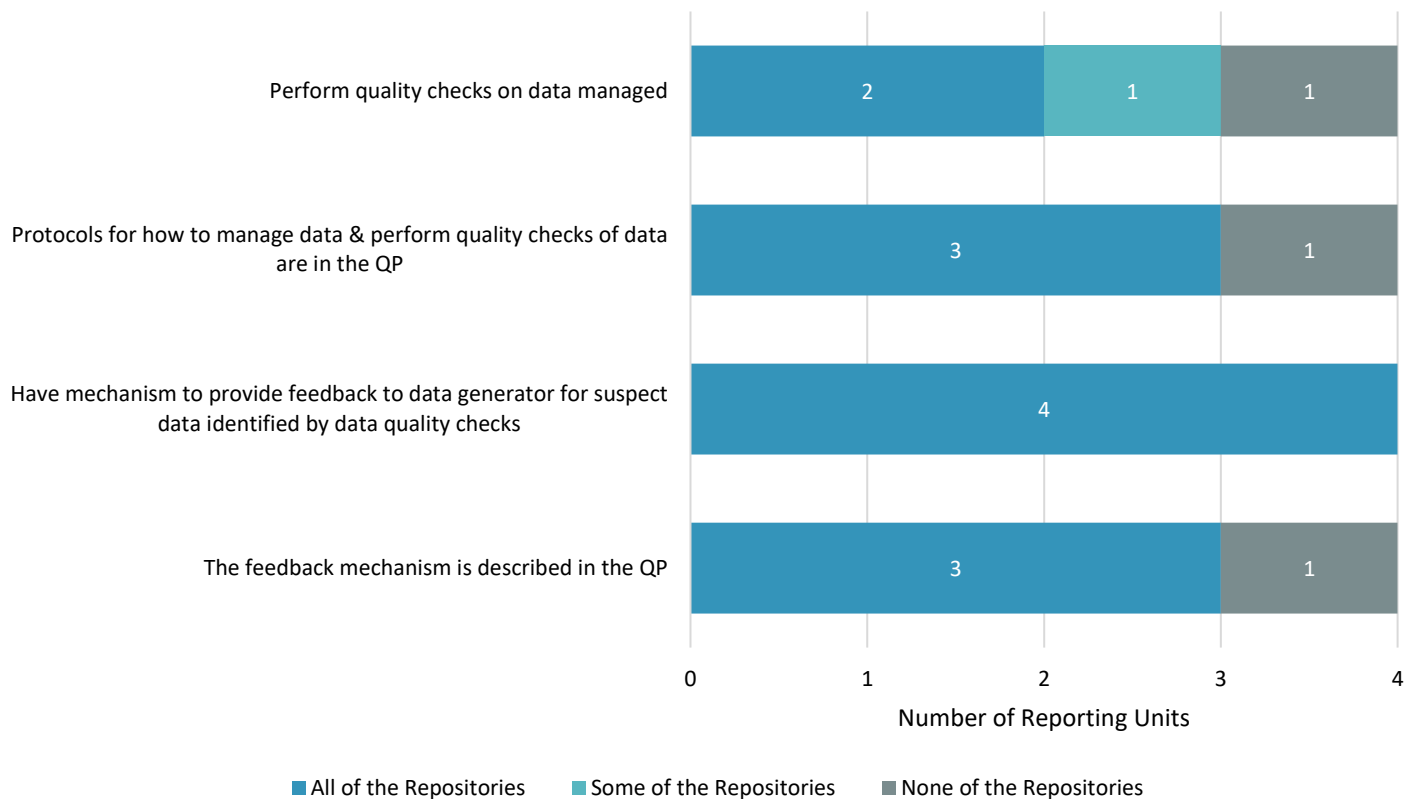


Figure 4.12. Number of reporting units in DWM, FGS and DLE that manage data repositories in which data quality checks were performed on all repositories managed, documented protocols are in place for quality control checks of the stored data for all repositories, a feedback mechanism is provided to the data generator for suspect data for all repositories and the feedback mechanism is described in the reporting units' quality plan for all data repositories.

4.2.District Wastewater and Drinking Water Programs

As identified in the 2017 Annual Report, the QA system for the water regulatory programs was inconsistent between the division office and the district offices. Recognizing the need for a unified Quality System, regulatory staff began an in-depth evaluation of the QA processes for the Drinking Water and Wastewater programs. At that time, it was determined that QA efforts would be reported per district. For this report, reporting is limited to trainings and data review activities.

The Regulatory Districts currently report on QA activities related to wastewater (domestic and industrial) and drinking water compliance. As the QA process for regulatory program activities in the districts is explored and managerial buy-in occurs, 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 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 easy access to the checklists. The District offices currently use the checklists

uniformly. The districts appoint multiple QAOs based on subject matter expertise for a total of 13 QAOs total across the offices; in most of the districts there is one QAO for drinking water activities and one QAO for wastewater activities.

4.2.1. 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 the 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.

4.2.1.1. Training

Training is provided throughout the year to division 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 97 percent of staff that needed training received the training required (Figure 4.13). One district reported that not all staff that needed training received it. A total of 38 employees throughout the districts received training for drinking water QA activities in 2022, with 34 needing it. An additional four staff members received the training without needing it.

2022 Drinking Water Training Needs per District

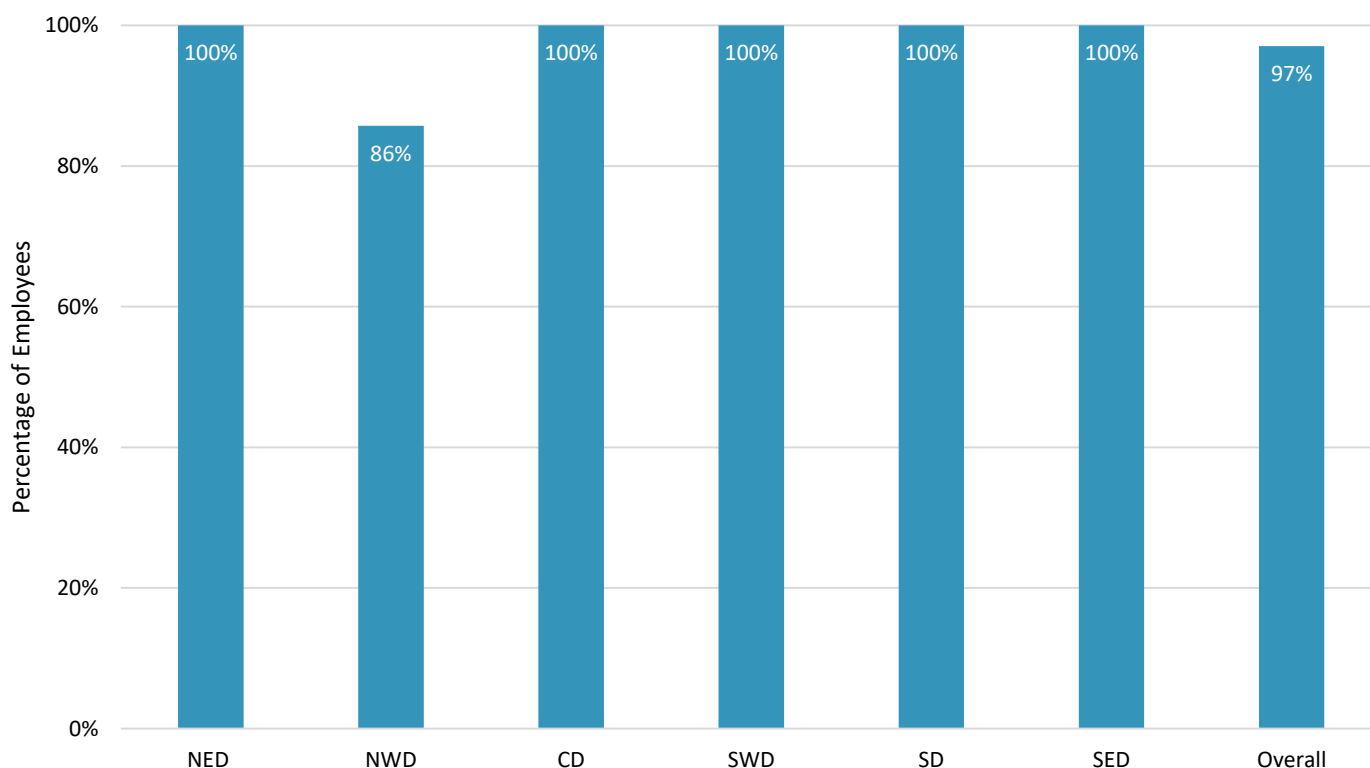


Figure 4.13. Percentage of employees that received needed training for Drinking Water QA activities in the Regulatory Districts.

4.2.1.2. Data Review/Audits

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. LOS commitments and subsequent QA goals are based on the federal fiscal year (October-September), while this report is based on the calendar year. Numbers in the figure may not reflect the number of reviews conducted in the fiscal year. AEQAS and districts need to evaluate if federal fiscal year reporting is more appropriate for the type of reviews they conduct. Original responses from districts can be found in Appendix C.

Five of the six districts met the QA review goals (Figure 4.14). In total, districts spent over 100 total hours on the review of drinking water documents and reports, nearly half the time spent in 2021 for the same number of total reviews. Staff conducted all reviews with checklists developed by the QA workgroup established in 2018.

2022 Drinking Water Data Reviews per District

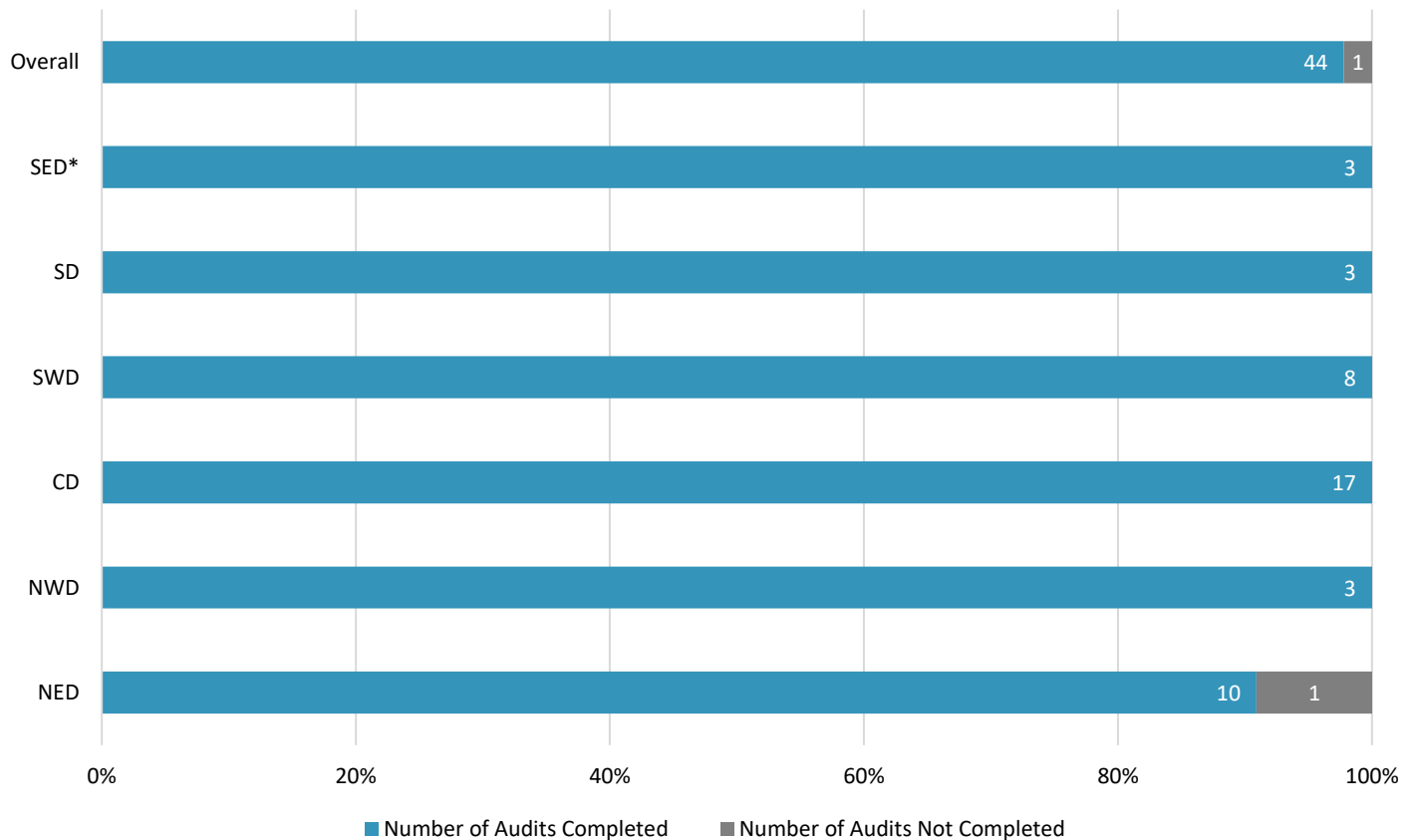


Figure 4.14. Data reviews conducted by each district and overall. Blue bars reaching 100 percent indicate the data review goals were met in the district. Numbers in the bar indicate the count of data reviews.

4.2.2. 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. 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 and SOPs for use of the checklists have been developed to accompany each of these reports and data sets.

4.2.2.1. Training

The Wastewater Management Programs conducted training for division and district staff throughout the year. The required list of QA training is in their draft QP document. Five of the six Regulatory Districts reported all staff that needed training received it in 2022 (Figure 4.15). A total 48 employees throughout the districts were trained for wastewater QA activities in 2022 with 49 needing it and two staff members receiving the training without needing it.

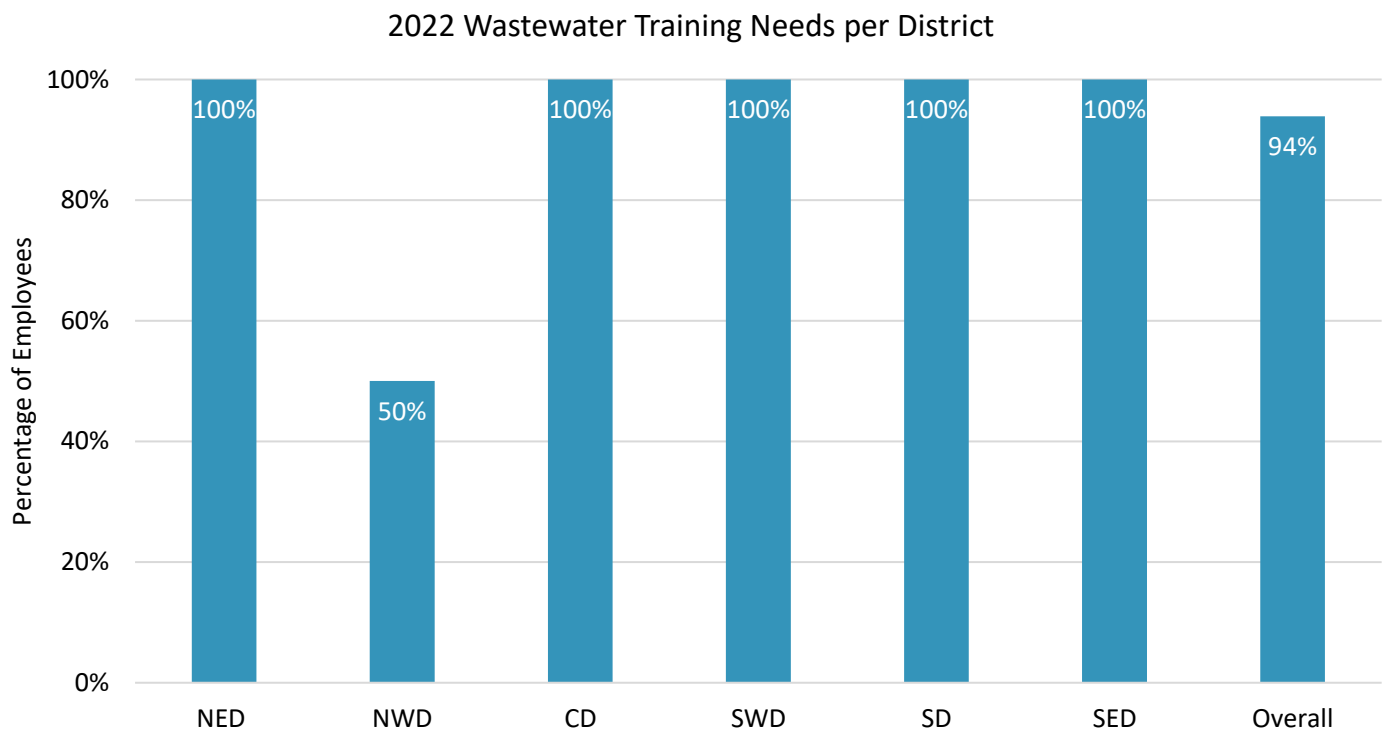


Figure 4.15. Percentage of employees that received needed training for Wastewater QA activities in the Regulatory Districts.

4.2.2.2. 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) on each wastewater facility with an active discharge or located in priority watershed areas every two years for major facilities, every 3 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 Biosolid), 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.

Five of the six districts met their data review goals, with three districts exceeding their established goal. In total, the districts conducted 113 QA reviews as part of inspections (Figure 4.16). The QA reviews required 470 hours of district staff's time, 60 hours less than in 2021. This improved efficiency is due to increases in QA training.

2022 Wastewater Data Reviews per District

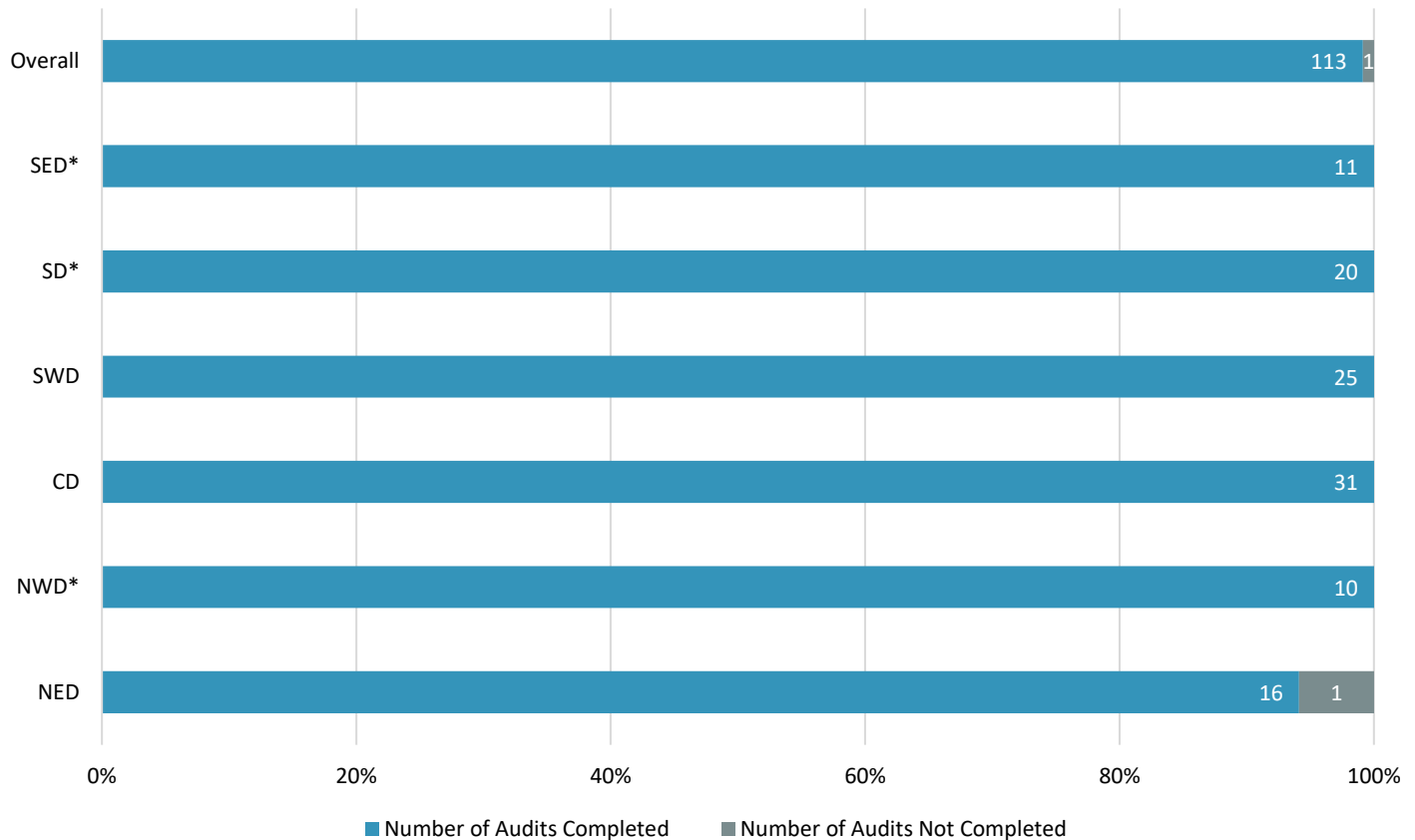


Figure 4.16. Data reviews conducted by each district and overall. Blue bars reaching 100 percent indicate the data review goals were met in the district. Numbers in the bar indicate the count of data reviews. Districts with a * next to their acronym conducted more data reviews than their established goal.

4.3. Regulatory Summary

All divisions and districts participated in the 2022 report. Twelve reporting units in Regulatory completed the AEQAS template for the 2022 report. The districts reported on their established program-specific metrics for wastewater and drinking water program activities. DWRM programs provided QA activities but did not complete templates with complete QA information for this year's report.

Of the DWM, FGS and DLE reporting units, most identified as data users only, about a quarter generate data and a third manage data repositories. Nearly all data generators report including the utilized SOPs in their QP; those report units without SOPs in their QP need to incorporate them. All the 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 have

documented DQOs and almost all evaluate data to ensure that DQOs are met. Most data users have checklists to review the data they use and the checklists are incorporated in their QPs. Data repository managers should work towards incorporating protocols and feedback mechanisms for all data repositories they manage in their QPs.

All staff within DWM, DLE and FGS received required QA training. QAOs commented they are satisfied with AEQAS participating in monthly calls and the frequent training opportunities.

DWM, FGS and DLE reporting units conducted 14 audits; there was no substantial change in the number of audits reported from year to year. Ten audits conducted by two different reporting units utilized checklists and generated reports. However, not all had required time frames for audit completion nor did the reporting units 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; two were Quality of Science Reviews that included checklists and reports. Reviews of permit packages were conducted by several reporting units. AEQAS does not count these reviews as audits for the purposes of this report but if management and QAOs would like to track goals and accomplishments for these thorough reviews, that could be added to future reports. This report did not include DWM audit activities conducted in the districts.

DWM, FGS and DLE maintained verification of data entered and retrieved from data repositories in 2022. There is some improvement of documentation of these procedures, though some reporting units still need to improve implementation and documentation of QA/QC procedures for data entry and retrieval. Most reporting units that retrieve data have a mechanism for providing feedback to entities that enter data and the Regulatory program area should work towards all reporting units having mechanisms for feedback. All reporting units that manage data repositories have a mechanism for providing feedback to the entities that enter data, though one reporting unit needs to include this mechanism in its QP. AEQAS encourages staff to continue to improve the documentation for all activities involving the entry, retrieval and management of data repositories.

All except one district completed all QA reviews for both drinking water and wastewater. Only one district did not have its training needs met for both drinking water and wastewater activities. The districts continue to communicate with DWRM division office regarding checklists and frequent findings. For Drinking Water, there were QA checklist revisions made at the end of 2021/early 2022 between the division and Districts. A final revision was posted in 2022.

5. Agency QA Goals and Initiatives

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

2022 Highlights:

- AEQAS met with 27 QAOs one on one to ensure they understand QA requirements and to offer assistance;
- AEQAS increased the number of trainings given from previous years (11 vs 9 in previous years);
- HW and PRP participated in a Quality of Science Reviews, the beginning of a DWM Quality of Science Review series. PRP has reviewed the recommendations proposed by AEQAS and is proposing relevant updates to the Quality Plan, PRP documents and procedures and additional training for PRP staff;
- AEQAS and OWPER developed quality assurance resources for OWPER staff reviews of innovative grant project plans;
- DWRM participated in this report and has begun evaluating its Quality System;
- DRP revised its quality plan and began considering an improved structure for its Quality System;
- Districts reduced the amount of time spent to conduct QA reviews by increased QA training;
- AEQAS provided a presentation on lab chlorophyll *a* audit findings to the laboratory community;

- AP and DEAR staff received an annual Continuous Water Quality Monitoring Technician Training;
- AEQAS started drafting revisions to Chapter 62-160, F.A.C., the QA Rules and incorporated documents.

2023 Goals:

- AEQAS will assist in the continuous refinement and documentation of DEP reporting unit Quality Systems;
- DRP will further document its Quality System components and implement a new division of QA responsibilities;
- 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;
- Regulatory program area will work to develop and train QAOs at the District Level to ensure consistency across the state;
- AEQAS will improve QA templates for contracts/grants deliverables;
- RCP will provide standardized, publicly available data through SEACAR Data Discovery Interface; and
- 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 our Quality System in order to improve process consistency and increase efficiency. AEQAS asks leadership to encourage staff to utilize the introductory QA training available on LMS and take advantage of [on-demand QA trainings](#). 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](#) 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 2023

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	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
Amber Igoe	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 and Business Support	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	None	n/a
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
Dan Willis	TLH	Data Info Services	None	n/a

FLORIDA GEOLOGICAL SURVEY

QA Officer	LOCATION	PROGRAM	QUALITY PLAN TITLE	QP DATE
Mary Beth Lupo	TLH	Florida Geological Survey	Florida Geological Survey	Dec-2017

DIVISION OF LAW ENFORCEMENT

QA Officer	LOCATION	PROGRAM	QUALITY PLAN TITLE	QP DATE
Amanda Lanphere	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, Cheryl Mitchell, Joni Petry	Jacksonville	Northeast District	Division of Water Resource Management's Districts Draft Quality Plan	Jan-2023
Deneale Miller and Paula Smith	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

Kira Soroka, Ramandeep Kaur	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, Gary Maier	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	Dec-2022
Chandra Chandrasekhar	TLH	DEP Laboratory, Scientific Services Support Program	DEP Laboratory Quality Plan	Jan-2023
Gus Fischer	TLH	WQMP/Watershed Assessment	Watershed Assessment Section Quality Plan	Mar-2020
Stephanie Sunderman-Barnes	TLH	WQMP/Watershed Monitoring	Watershed Monitoring Section Quality Plan	Jun-2021
Kalina Warren & Michael King	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 Nash	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	Jun-2022
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	April-2021
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	Jan-2023
Kathryn Petrinec	Jacksonville	RCP	Guana Tolomato Matanzas National Estuarine Research Preserve Quality Plan	April-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	Jul-2017
Amanda Peck	TLH	Nonpoint Source Management Program	Division of Water Restoration Assistance	Jul-2017
Sarah Ketron	TLH	Deepwater Horizon	Division of Water Restoration Assistance	Jul-2017

DIVISION OF STATE LANDS

QA Officer	LOCATION	PROGRAM	QUALITY PLAN TITLE	QP DATE
Elaine Mann	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: Template 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 data generators from Ecosystems Restoration (DEAR, OWPER and DWRA) used for Figure 3.4

<i>Data Generators</i>	WQSP	LABS	WAS	WMS	ROC	WETS	WQRP	WIN	GIS	OWPER	WSRFP	DWH	NPSM
<i>Use DEP SOPs</i>	1	1	1	1	1	1	N/A	N/A	0	1	1	N/A	N/A
<i>Other field sampling activities not covered in SOPs</i>	0	0	0	1	0	1	N/A	N/A	0	1	0	N/A	N/A
<i>***All sampling techniques in QP</i>	1	1	1	1	1	1	N/A	N/A	0	1	1	N/A	N/A
<i>DQOs other than following SOPs</i>	1	1	1	1	1	1	N/A	N/A	0	0	0	N/A	N/A
<i>Checklist for evaluation of data</i>	1	1	1	1	1	0	N/A	N/A	1	1	1	N/A	N/A
<i>***All DQOs and procedures to evaluate data in QP</i>	1	1	1	1	1	1	N/A	N/A	1	1	1	N/A	N/A
<i>Corrective actions in place</i>	1	1	1	1	1	1	N/A	N/A	1	1	1	N/A	N/A
<i>Document and implement corrective actions</i>	1	1	1	1	1	1	N/A	N/A	0	1	0	N/A	N/A

***Corrective actions documented in QP	1	1	1	1	1	1	N/A	N/A	0	1	0	N/A	N/A
Revisions, updates or creations of DQOs or procedures for evaluating DQOs	0	1	0	1	1	1	N/A	N/A	0	0	0	N/A	N/A
Revise QP	1	1	1	0	1	1	N/A	N/A	1	1	0	N/A	N/A
Finalized QP revisions	1	1	0	0	1	1	N/A	N/A	1	0	0	N/A	N/A

Responses from data generators from Ecosystems Restoration (RCP) used for Figure 3.4

Data Generators	ANERR	BBSAP	CHAP	CPAP	EBAP	GTM	NEAP	ROAP	TMAP	RB	NWAP	IRLAP	BBAP	CRCP	TBAP	WRAP	LJAP	CPR	SEACAR	FKNMS-AP
Use DEP SOPs	0	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1	0	N/A	N/A	1
Other field sampling activities not covered in SOPs	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	N/A	N/A	1
***All sampling techniques in QP	0	1	1	1	0	0	1	0	1	0	0	0	0	0	0	0	0	N/A	N/A	1
DQOs other than following SOPs	1	0	1	1	1	1	1	1	1	0	1	1	1	0	1	0	0	N/A	N/A	0
Checklist for evaluation of data	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	N/A	N/A	1
***All DQOs and procedures to evaluate data in QP	0	1	1	1	1	1	1	0	1	0	1	0	1	0	0	0	0	N/A	N/A	1
Corrective actions in place	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	N/A	N/A	1
Document and implement corrective actions	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	N/A	N/A	1
***Corrective actions	0	1	1	1	1	1	1	0	1	0	1	0	1	0	0	0	0	N/A	N/A	1

<i>documented in QP</i>																				
<i>Revisions, updates or creations of DQOs or procedures for evaluating DQOs</i>	0	1	0	0	0	0	1	0	1	1	1	0	1	0	1	0	0	N/A	N/A	1
<i>Revise QP</i>	0	1	1	1	1	1	0	0	1	0	1	0	0	0	0	0	0	N/A	N/A	1
<i>Finalized QP revisions</i>	0	0	1	1	1	1	0	0	1	0	1	0	0	0	0	0	0	N/A	N/A	1

Responses from data users from Ecosystems Restoration (DEAR, OWPER and DWRA) used for Figure 3.5

<i>Data Users</i>	WQSP	LABS	WAS	WMS	ROC	WETS	WQRP	WIN	GIS	OWPER	WSRFP	DWH	NPSM
<i>Use data generated by DEP or other source</i>	Both	N/A	Both	Both	DEP	Both	Both	N/A	Both	Both	Both	Both	Another Source
<i>***Documented DQOs</i>	1	N/A	1	1	1	1	1	N/A	0	1	1	1	1
<i>***Evaluate to ensure DQOs are met</i>	1	N/A	1	1	1	1	1	N/A	0	1	1	1	1
<i>Use data evaluated by another DEP work unit</i>	1	N/A	1	0	1	1	1	N/A	0	1	1	1	0
<i>Checklists for evaluation of data</i>	1	N/A	1	1	1	1	1	N/A	0	1	1	1	1
<i>***Evaluation checklists in QP</i>	1	N/A	1	1	1	1	1	N/A	0	1	1	1	1
<i>***Corrective actions in place</i>	1	N/A	1	1	1	1	1	N/A	0	1	1	1	1
<i>Follow-up with corrective actions</i>	1	N/A	1	1	1	1	1	N/A	0	1	0	1	1
<i>***Corrective actions documented in QP</i>	1	N/A	1	1	1	1	1	N/A	0	1	0	1	1
<i>Revisions, updates or creations of DQOs or procedures for evaluating DQOs</i>	0	N/A	0	1	1	0	0	N/A	0	1	0	0	0

Revise QP	1	N/A	1	0	1	0	1	N/A	1	1	0	0	1
Finalized QP revisions	1	N/A	0	0	1	0	1	N/A	1	0	0	0	0

Responses from data users from Ecosystems Restoration (RCP) used for Figure 3.5

Data Users	ANERR	BBSAP	CHAP	CPAP	EBAP	GTM	NEAP	ROAP	TMAP	RB	NWAP	IRLAP	BBAP	CRCP	TBAP	WRAP	LJAP	CPR	SEACAR	FKNMS-AP
Use data generated by DEP or other source	Another	DEP	DEP	Both	Both	Both	DEP	Both	DEP	Both	DEP	Both	Both	Both	N/A	Both	N/A	Both	Both	Both
***Documented DQOs	1	1	1	1	1	1	0	1	1	1	1	1	1	0	N/A	1	N/A	1	1	0
***Evaluate to ensure DQOs are met	1	1	1	1	1	1	1	1	1	1	0	1	1	1	N/A	0	N/A	0	1	0
Use data evaluated by another DEP work unit	0	0	0	1	0	1	0	0	1	1	0	0	1	0	N/A	0	N/A	1	1	0
Checklists for evaluation of data	1	1	1	1	1	1	1	1	1	1	1	0	1	1	N/A	0	N/A	0	1	0
***Evaluation checklists in QP	0	1	1	1	1	1	0	0	1	0	1	0	1	0	N/A	0	N/A	0	0	1
***Corrective actions in place	1	1	1	1	1	1	1	1	1	1	1	1	1	1	N/A	0	N/A	0	1	0
Follow-up with corrective actions	1	1	1	1	1	1	1	1	1	1	1	1	1	1	N/A	0	N/A	0	1	0
***Corrective actions documented in QP	0	1	1	1	1	1	1	0	1	0	1	0	1	0	N/A	0	N/A	0	0	0
Revisions, updates or creations of DQOs or procedures for evaluating DQOs	0	1	1	0	1	1	0	0	1	0	1	0	0	0	N/A	0	N/A	0	1	0

Revise QP	0	1	1	1	0	1	0	0	1	0	1	0	1	0	N/A	0	N/A	1	0	1
Finalized QP revisions	0	0	1	1	0	1	0	0	1	0	1	0	0	0	N/A	0	N/A	0	0	1

Responses from data repository managers from Ecosystems Restoration (DEAR, OWPER and DWRA) used for Figure 3.5

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

Responses from data repository managers from Ecosystems Restoration (RCP) used for Figure 3.5

<i>Data Managers</i>	ANERR	BBSAP	CHAP	CPAP	EBAP	GTM	NEAP	ROAP	TMAP	RB	NWAP	IRLAP	BBAP	CRCP	TBAP	WRAP	LJAP	CPR	SEACAR	FKNMS-AP
<i>Use data generated by DEP or other source</i>	Another	N/A	N/A	Both	DEP	N/A	N/A	N/A	N/A	Both	N/A	DEP	Both	Both	N/A	N/A	N/A	N/A	Both	N/A
<i>***Documented DQOs</i>	1	N/A	N/A	0	1	N/A	N/A	N/A	N/A	1	N/A	1	1	0	N/A	N/A	N/A	N/A	1	N/A
<i>***Evaluate to ensure DQOs are met</i>	1	N/A	N/A	1	1	N/A	N/A	N/A	N/A	1	N/A	1	1	1	N/A	N/A	N/A	N/A	1	N/A
<i>Use data evaluated by another DEP work unit</i>	0	N/A	N/A	1	1	N/A	N/A	N/A	N/A	1	N/A	1	1	0	N/A	N/A	N/A	N/A	1	N/A
<i>Checklists for evaluation of data</i>	1	N/A	N/A	1	1	N/A	N/A	N/A	N/A	1	N/A	1	1	0	N/A	N/A	N/A	N/A	1	N/A
<i>***Evaluation checklists in QP</i>	0	N/A	N/A	0	1	N/A	N/A	N/A	N/A	0	N/A	0	1	0	N/A	N/A	N/A	N/A	0	N/A
<i>***Corrective actions in place</i>	1	N/A	N/A	0	1	N/A	N/A	N/A	N/A	1	N/A	1	1	1	N/A	N/A	N/A	N/A	1	N/A
<i>Follow-up with corrective actions</i>	1	N/A	N/A	0	1	N/A	N/A	N/A	N/A	1	N/A	1	1	1	N/A	N/A	N/A	N/A	1	N/A
<i>***Corrective actions documented in QP</i>	0	N/A	N/A	0	1	N/A	N/A	N/A	N/A	0	N/A	0	1	0	N/A	N/A	N/A	N/A	0	N/A
<i>Revisions, updates or creations of DQOs or procedures for evaluating DQOs</i>	0	N/A	N/A	0	1	N/A	N/A	N/A	N/A	0	N/A	0	1	0	N/A	N/A	N/A	N/A	1	N/A
<i>Revise QP</i>	0	N/A	N/A	1	1	N/A	N/A	N/A	N/A	0	N/A	0	1	0	N/A	N/A	N/A	N/A	0	N/A
<i>Finalized QP revisions</i>	0	N/A	N/A	1	1	N/A	N/A	N/A	N/A	0	N/A	0	1	0	N/A	N/A	N/A	N/A	0	N/A

Responses from data generators from Regulatory (DWM, FGS and DLE) used for Figure 5.3

Data Generators	OPP	PRP	SIS	BCSS	FPS	SWS	WSCS	DBSP	PCAP	HW	FGS	DLE
<i>Use DEP SOPs</i>	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	1
<i>Other field sampling activities not covered in SOPs</i>	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	0
<i>***All sampling techniques in QP</i>	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	1
<i>DQOs other than following SOPs</i>	N/A	N/A	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	0
<i>Checklist for evaluation of data</i>	N/A	N/A	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	0
<i>***All DQOs and procedures to evaluate data in QP</i>	N/A	N/A	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	1
<i>Corrective actions in place</i>	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	1
<i>Document and implement corrective actions</i>	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	1
<i>***Corrective actions documented in QP</i>	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	1
<i>Revisions, updates or creations of DQOs or procedures for evaluating DQOs</i>	N/A	N/A	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	0
<i>Revise QP</i>	N/A	N/A	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	0
<i>Finalized QP revisions</i>	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 data users from Regulatory (DWM, FGS and DLE) used for Figure 5.4

Data Users	OPP	PRP	SIS	BCSS	FPS	SW	WSCS	DBSP	PCAP	HW	FGS	DLE
<i>Use data generated by DEP or other source</i>	Both	Both	Both	Both	Another	Another	Both	Both	Both	Another	Both	Both

***Documented DQOs	1	1	1	1	1	1	1	1	1	1	1	1
***Evaluate to ensure DQOs are met	1	1	1	1	1	0	1	1	1	1	1	1
Use data evaluated by another DEP work unit	1	0	1	1	1	1	0	0	0	0	1	0
Checklists for evaluation of data	1	1	0	1	1	0	0	0	1	1	1	1
***Evaluation checklists in QP	0	1	0	1	1	1	0	0	1	1	1	1
***Corrective actions in place	1	1	0	1	1	1	1	0	1	1	1	1
Follow-up with corrective actions	1	1	0	1	1	0	1	0	1	1	1	1
***Corrective actions documented in QP	1	1	0	1	1	1	0	0	0	1	1	1
Revisions, updates or creations of DQOs or procedures for evaluating DQOs	0	0	0	0	0	0	1	0	0	0	0	0
Revise QP	0	0	0	0	0	0	0	1	0	0	1	0
Finalized QP revisions	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	N/A	0	N/A

Responses from data repository managers from Regulatory (DWM, FGS and DLE) used for Figure 5.4

Data Managers	OPP	PRP	SIS	BCSS	FPS	SWS	WSCS	DBSP	PCAP	HW	FGS	DLE
Store/manage generated by DEP or other source	DEP	N/A	N/A	N/A	N/A	Another	N/A	N/A	N/A	N/A	Both	Both
***Documented DQOs	1	N/A	N/A	N/A	N/A	1	N/A	N/A	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
Store/manage data evaluated by another DEP work unit	1	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	1	0
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
***Evaluation checklists in QP	1	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	1	1
***Corrective actions in place	1	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	1	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
***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
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	0
Revise QP	0	N/A	N/A	N/A	N/A	0	N/A	N/A	N/A	N/A	0	0
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

Appendix C: Quality Assurance information from Regulatory Potable Water

District	Number of Audits completed	Number of Audits to reach 5% Goal	Time Spent competing audits (hours)
Central	17	17	45.2
Northwest	3*	6	14
Southeast	3	1	12
Southwest	8	8	8
Northeast	10	12	26.7
South	3*	3*	4.5

*(Northwest) The number of QA audits completed in the chart above were from January-December 2022. Please note that the PW LOS year went from October 2021-August 2022. Staff completed 6 audits within the LOS federal fiscal year rather than within the required calendar year which is why there are only 3 reported as completed within the 2022 calendar year.

*The number of QA audits completed in the chart above were from January-December 2022, as requested. Please note that the PW and WW LOS year went from October 2021-September 2022.

Wastewater

District	Number of Audits completed	Number of Audits to reach 5% Goal	Time Spent competing audits (hours)
Central	31	31	118

Northwest	10	9	90
Southeast	11	10	55
Southwest	25	25	38
Northeast	16	17	49
South	20*	16*	119

* (South)The number of QA audits completed in the chart above were from January-December 2022, as requested. Please note that the PW and WW LOS year went from October 2021-September 2022.