



Annual Quality Assurance Report to the Secretary 2019



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. The following reporting units within the department contributed to this report:

Ecosystem Restoration Area

Division of Environmental Assessment and Restoration

Water Quality Standards Program

Watershed Assessment Section

Watershed Monitoring Section

Regional Operating Centers

Watershed Evaluation and Total Maximum Daily Loads Section

Groundwater Management Section

Water Quality Restoration Program

Watershed Services Program

WIN/STORET

GIS

Laboratories

Office of Water Policy and Ecosystems Restoration

Office of Resilience and Coastal Protection

Northwest Florida Aquatic Preserves

Central Panhandle Aquatic Preserves

Big Bend Seagrasses Aquatic Preserve

Wekiva River Aquatic Preserve

Northeast Florida Aquatic Preserves

Indian River Lagoon Aquatic Preserves

Tampa Bay Aquatic Preserves

Rookery Bay Aquatic Preserves & NERR

Estero Bay Aquatic Preserve

Charlotte Harbor Aquatic Preserves

Florida Keys Aquatic Preserves & National Marine Sanctuary

Biscayne Bay Aquatic Preserves

Coral Reef Conservation Program

Guana-Tolomato-Mantanzas NERR

Apalachicola NERR

Division of Water Restoration Assistance

Land and Recreation

Division of State Lands

Regulatory Programs

Division of Waste Management

Petroleum Restoration Program

Site Investigation Section

Solid and Hazardous Waste Section

Waste Cleanup Section
Federal Programs (DOD and Brownfields)
Hazardous Waste
Operational and Program Performance
Business and District Support
Permitting and Compliance Assistance Program
Division of Water Resources Management
Florida Geological Survey
Division of Law Enforcement

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List of Acronyms and Abbreviations

ACHD	Approved County Health Departments
AEQAS	Aquatic Ecology and Quality Assurance Section
AP	Aquatic Preserve
CA	Compliance Assistance
CEI	Compliance Enforcement Inspection
CBP	Clean Boating Program
CD	Central District
DARM	Division of Air Resource Management
DEP/department	Florida Department of Environmental Protection
DLE	Division of Law Enforcement
DOD	Department of Defense Projects Section
DQO	Data Quality Objective
DRP	Division of Recreation and Parks
DWRM	Division of Water Resource Management
EPA	U.S. Environmental Protection Agency
FCMP	Florida Coastal Management Program
FRWA	Florida Rural Water Association
GIS	Geographical Information System Section
GWIS	Generalized Water Information System
HW	Hazardous Waste Program
IRLAP	Indian River Lagoon Aquatic Preserves
LOS	Level of Service
NED	Northeast District
NERR	National Estuarine Research Reserve
NOAA	National Oceanographic and Atmospheric Administration
NPL	National Priority List
NWD	Northwest District
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
RCRA	Resource Conservation & Recovery Act
SD	South District
SOP	Standard Operating Procedure
STORET	Storage and Retrieval (Database)
SW	Solid Waste Program
SWD	Southwest District
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 Directive \(DEP 972\)](#) for each calendar year. Established in 2009 and revised in 2016, the QA Directive provides internal department QA policy and outlines the areas of staff responsibility for ensuring the quality of data used by the department. The QA Directive 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 a 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 2019 and identifies areas for improvement needed to fulfill QA management responsibilities outlined in the QA Directive. The only part of the agency not under the QA Directive 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 Directive, QA activities vary based on the purpose and function of the program, section or reporting unit. For the 2019 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 program or reporting unit. AEQAS received information from 39 reporting units, which is five less than in 2018. This decrease is due to some reporting units not participating in 2019 reporting, as well as some reporting units from past years consolidating and reporting together. Staff organized the QA information by the three areas of the agency: Regulatory Programs, Ecosystems Restoration, and Lands and Recreation. Department programs provided an account of tasks completed in 2019 in the following four QA categories that address one or more department policies and areas of responsibility outlined in the QA Directive: 1) Quality System; 2) training; 3) audits; and 4) data repositories.

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 2019, 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, but they were not considered out of date per the evaluation criteria established in this report. Some noteworthy observations about QPs or QAOs include: 1) the Drinking Water and Wastewater Regulatory programs are still identifying the staff that will best serve in the role of QAOs for those units within Tallahassee and the districts, and they plan to complete an updated, unified QP for those programs in 2020; 2) the Division of Water Restoration Assistance (DWRA) has previously reported as one unit that represented the entire division, but for 2019 the QAO reported for only one organizational unit within the division, which means not all of DWRA is presented in this report; 3) the Office of Resilience and Coastal Protection (RCP) programs are still working on QPs for their work units following the reorganization at the end of 2019; 4) activities conducted in the regulatory district offices for Division of Waste Management (DWM) programs are not represented in this report; and 5) the Division of Recreation and Parks (DRP) did not provide any information for this report, so the status of its Quality System is unknown; AEQAS hopes to conduct a Quality of Science Review of DRP in 2020.

Based on the submissions from QAOs, nearly all department employees who are involved with the process of data generation, data receipt, data assessment, data archival storage and data interpretation received training in 2019 to execute their assigned functions. However, AEQAS has also determined that many DEP staff need training in general requirements of the QA Rule, the QA Directive and what QA resources are available. AEQAS is adding trainings to its website and is coordinating with staff in the Communications Section to ensure all DEP employees receive department-wide training on QA expectations for the agency. Throughout 2020, AEQAS will advertise and host webinars focused on QA guiding documents and principles.

It is the department's policy per the QA Directive to audit the performance and record-keeping practices of data generators within and outside the department. 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. The Ecosystems Restoration area of the agency conducts the most audits within the agency. The need and feasibility of audits in the other areas of the agency are to be determined by leadership. The total number of audits conducted decreased slightly within the Division of Environmental Assessment and Restoration and the Division of Waste Management during 2019, though this change reflects typical workload fluctuations. More reporting units are conducting and participating in audits.

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), and improvements have been 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 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.

The regulatory programs have determined that improved knowledge and awareness of QA/QC procedures through increased training and learning opportunities are important to the improvement of their Quality System. QAOs within the Division of Waste Management have increased communication and requested AEQAS involvement in a variety of issues. Drinking Water and Wastewater QA workgroups within the Division of Water Resource Management and the regulatory districts developed data review checklists and began a phased implementation of the checklists in 2019, with a goal to fully implement the new QA protocols starting in July 2020.

Overall, DEP continues to develop and maintain a functional Quality System, but improvement is needed in the documentation of procedures that have been designed to ensure that we are making decisions based on scientifically and legally defensible data. AEQAS increased training opportunities in late 2019 and the beginning quarters of 2020. AEQAS staff met individually with QAOs to ensure that they were aware of their responsibilities. These efforts have increased the communication and rapport between AEQAS and QAOs. AEQAS will continue to reach out to QAOs and managers to provide training and other support to program staff to promote efforts and outcomes in the specific areas identified in this report and asks leadership to encourage staff to participate in QA trainings. Additionally, QA activities should be recognized as a priority in upholding DEP's vision as an agency that values integrity and accountability.

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 2019 by the Aquatic Ecology and Quality Assurance Section (AEQAS) within the Division of Environmental Assistance 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 Directive (DEP 972). According to the directive, 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 in the directive 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 under the directive is the Division of Air Resource Management (DARM), which manages its own QA program.

This report provides a review of the Quality Systems within the three primary areas of the department (Regulatory Programs, Ecosystems Restoration, and Lands and Recreation), with the focus of the evaluation on whether reporting units conducted the QA activities expected 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 2019.

1.2 Report Organization

The 2019 Annual QA Report further divides the three primary areas of the department into programs, offices and districts. Each area of the agency conducts different activities and has a different mission. This division allows AEQAS to provide a more useful picture of the department's Quality System by grouping programs based on mission and intent. For the purposes of this report, any section, program or district that responded to the AEQAS request for information is referred to as a reporting unit. Organizational units are counted at a program level; this may vary by division as not all divisions identify organizational units as programs.

The Quality System of the Agency section of the report addresses the QA infrastructure of all reporting units in the department. The Ecosystems Restoration, Lands and Recreation and Regulatory Programs sections outline broad categories of job functions to provide context for expected QA activities, and also report on the 2019 QA activities for those areas.

The following four categories comprise the 2019 reported QA activities and address one or more department policies within the QA directive:

1. **Quality System:** Report of whether the reporting unit is a data user, generator, both or neither; includes information on the associated data quality objectives (DQOs). Reporting units identifying themselves as 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. Reporting units indicated a variety of DQO related activities, including following appropriate Standard Operating Procedures (SOPs); establishing DQOs; having procedures to evaluate and qualify data; using corrective

actions when the data generated does not meet the DQOs, including pertinent QA information in their Quality Plan (QP); and revising DQOs for the data generated in the reporting year. Reporting units that identified themselves as 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 reported 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 both data generation and data use. Individual reporting unit responses are located in Appendix B.

2. **Training:** Report of whether reporting units met all training needs, percentage of employees who received training in various categories, and how many training events the reporting units held.
3. **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, and evaluated data usability, per Rules 62-160.650, Florida Administrative Code (F.A.C.), and 62-160.670, F.A.C. Audits were placed 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. Are they doing everything correctly?
 - b. **Project:** Tracking specific sample results through field records and/or lab records for data validation and usability assessment. The QA directive 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.
4. **Data repositories:** Report of whether the reporting unit entered, retrieved or managed data in repositories, and if so, whether the reporting unit has quality assurance procedures for data management in practice and documented in its QP.

2. Quality System of the Agency

2.1 Overview

A Quality System includes policies, procedures and criteria utilized to monitor, evaluate, and improve an organization's QA processes. With the adoption of the QA Directive, the department developed a structured management approach to distribute the functions necessary for the implementation of a Quality System and monitor QA requirements throughout the system.

A Quality System requires planning, implementation and assessment. Two key factors in a functioning Quality System are the use of documents to guide staff in carrying out QA activities and designating QAOs to assist management and technical staff with the implementation and evaluation of QA activities throughout all levels of the department. The department's Quality Management Plan (QMP), which is approved by the U.S. Environmental Protection Agency (EPA), documents the Quality System for the department, with focus on

department programs that receive funding from EPA. The QMP incorporates other DEP QA documents, including the QA Rules (Chapter 62-160, F.A.C.) and the QPs developed by the department programs and reporting units that detail their individual Quality Systems. The QMP Revision 8 was approved in 2018 and revision of Chapter 62-160, F.A.C., went into effect in 2017. AEQAS is currently revising the QMP to incorporate recent organizational changes.

2.2 Quality Plans

Department programs and reporting units document their Quality System in QPs. These QPs describe the organization of the program, designate one or more QAOs, delineate staff QA responsibilities, and outline DQOs that will ensure data used by the program is appropriate and reliable. Quality System details vary among divisions, districts and offices. It is the responsibility of each program and section administrator to ensure that their Quality System is fully operational and documented in a QP.

QPs are “living documents” and require revisions as program organization, duties and criteria evolve. AEQAS offers education and support to programs and divisions that are reviewing and updating their QPs. 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. If administrators would like assistance from AEQAS for QP updates, they should request a Quality of Science Review. AEQAS asks QAOs to submit their QPs for review and publishing on the QA webpage. There is not a required frequency with 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. AEQAS encourages annual review of QPs by QAOs and administrators. AEQAS publishes the QPs on the [QP webpage](#) once staff have resolved accessibility compliance issues (ADA section 508).

For the 2019 calendar year, 26 QPs were available on the AEQAS webpage. Eleven of the 26 QPs were out of date, mainly due to continuing work within the regulatory programs to update their QPs and a lack of updates from the Division of Recreation and Parks (DRP) (Figure 2.1). The Water Services Program and the Watershed Monitoring Section updated and finalized their QPs in 2019. The Division of Waste Management (DWM) and the Watershed Assessment Section finalized their QPs in 2020. Units within the Office of Resilience and Coastal Protection (RCP) have not established a consistent process for QP development, and AEQAS will provide training in 2020 to help RCP reporting units better understand and prepare a QP. RCP set a goal in 2018 to evaluate and restructure its Quality System, but reorganization has slowed those efforts. RCP has a goal for 2020 that one reporting unit will create and share a QP template that can be used by other RCP reporting units. A complete list of reporting units, their designated QAOs, and QP revision dates can be found in Appendix A.

Quality Plan Status 2019

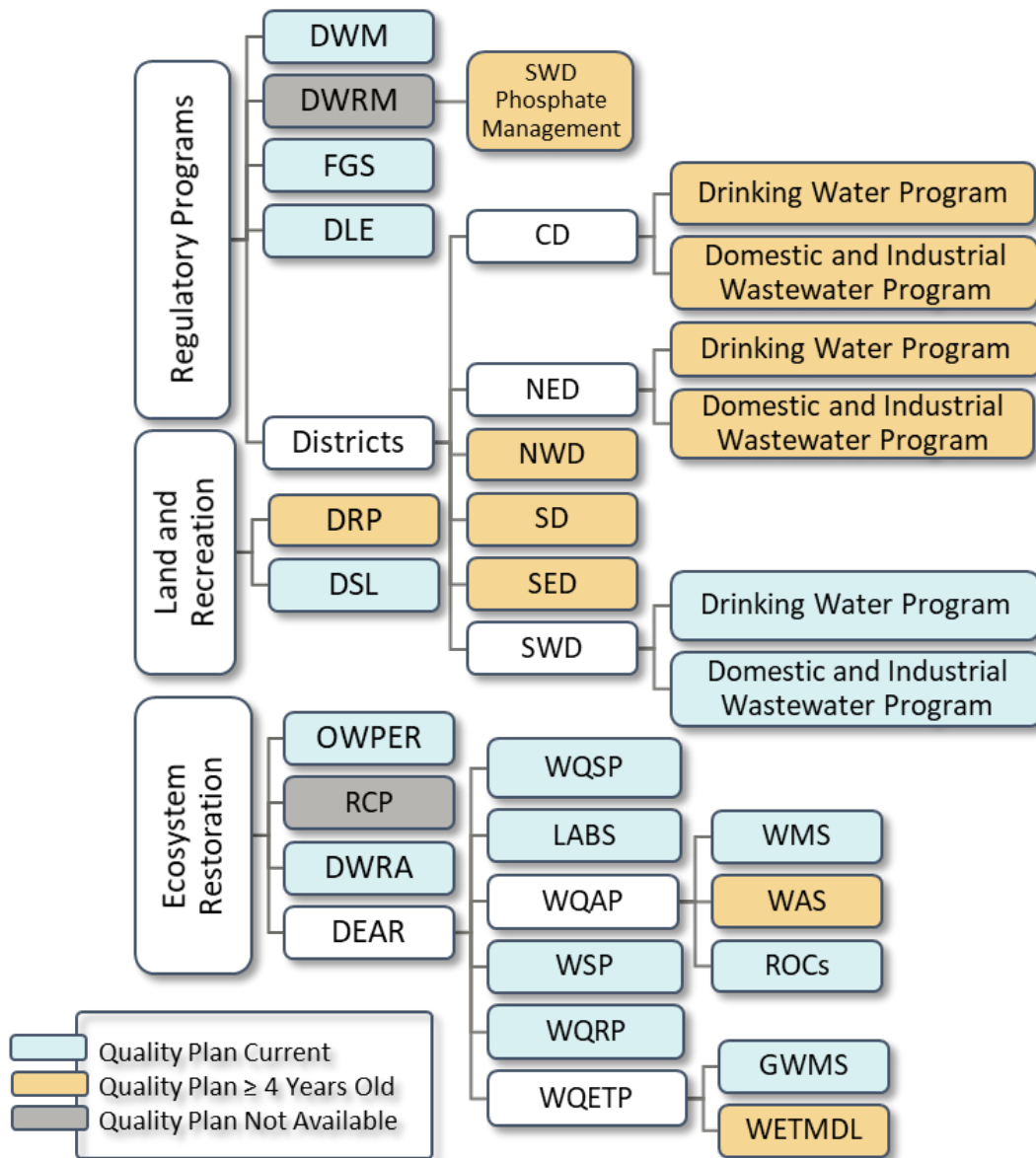


Figure 2.1. Quality Plans that are current, outdated or in revision for programs in the department's divisions, districts or offices for 2019. The number of plans required for each division, district or office is dependent on the program groupings included in each plan. Each color-coded box in the diagram represents a quality plan. The white boxes show relationships between the work units.

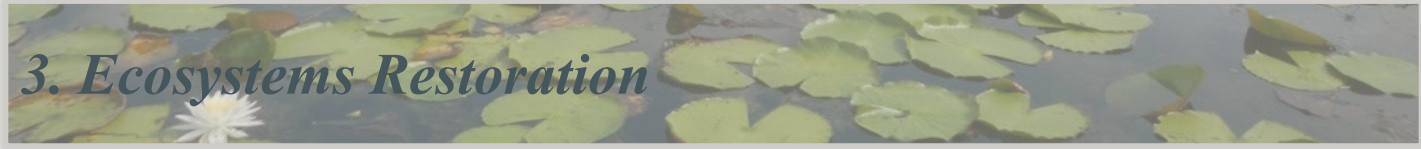
2.3 Quality Assurance Officers

The implementation of the internal policies outlined in the QA Directive requires active participation throughout all levels of the department. The department implements its Quality System through the execution of each program's QP and the coordination and direction of QA activities for the program by a designated QAO. The QA

Directive 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. Division and district directors along with program and section administrators are responsible for designating QAOs to represent specific reporting units.

For 2019, not all programs that required a QAO (as identified by program and section administrators) had one or more designated QAOs. The role of the QAO for the water regulatory programs is still under review and no QAOs are designated.

AEQAS held quarterly teleconferences for QAOs prior to 2019. Due to low participation rates, the quarterly teleconferences were discontinued. In 2019, AEQAS participated in division and district teleconferences to share information regarding QA and to better understand the activities of programs and the existing tasks of staff. AEQAS also made efforts to meet in-person with each QAO to understand their programs and hurdles associated with QA. AEQAS increased the number of trainings and modified existing trainings to better educate staff on quality assurance activities and principles.



3. *Ecosystems Restoration*

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

Division of Environmental Assessment and Restoration (DEAR)

Water Quality Standards Program (WQSP)

Watershed Assessment Section (WAS)

Watershed Monitoring Section (WMS)

Regional Operating Centers (ROCs)

Watershed Evaluation and Total Maximum Daily Loads Section (WETMDL)

Groundwater Management Section (GWMS)

Water Quality Restoration Program (WQRP)

Watershed Services Program (WSP)

WIN/STORET

GIS

Laboratories (LABS)

Office of Water Policy and Ecosystems Restoration (OWPER)

Office of Resilience and Coastal Protection (RCP)

Northwest Florida Aquatic Preserves (NWFAP)

Central Panhandle Aquatic Preserves (CPAP)

Big Bend Seagrasses Aquatic Preserve (BBSAP)

Wekiva River Aquatic Preserve (WRAP)

Northeast Florida Aquatic Preserves (NEFAP)

Indian River Lagoon Aquatic Preserves (IRLAP)

Tampa Bay Aquatic Preserves (TBAP)

Rookery Bay Aquatic Preserves & NERR (RB-AP & NERR)

Estero Bay Aquatic Preserve (EBAP)

Charlotte Harbor Aquatic Preserves (CHAP)

Florida Keys Aquatic Preserves & National Marine Sanctuary (FKNMS)

Biscayne Bay Aquatic Preserves (BBAP)

Coral Reef Conservation Program (CRCP)

Guana-Tolomato-Mantanzas Aquatic Preserve & NERR (GTM-AP & NERR)

Apalachicola NERR (ANERR)

Division of Water Restoration Assistance (DWRA)

3.1 Overview and Expected QA Activities

The Ecosystems Restoration area protects and improves water quality and aquatic resources, including the Everglades, 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 area of the agency consists of the Office of Water Policy and Ecosystems Restoration [OWPER, includes the former Office of Ecosystem Projects (OEP) and Office of Water Policy], 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 2019, there were 26 reporting units from the Ecosystems Restoration area, which is down from the 29 that reported in 2018. This reduction is due to some offices within RCP not reporting and others choosing to report together instead of separately. The groups within the Ecosystems Restoration area have a wide range of expected QA activities (Figures 3.1 and 3.2).

The OWPER oversees Everglades restoration activities for the state of 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, F.S.). The OWPER has one QA reporting unit and six organizational units. This reporting unit primarily manages contracts, grants and purchase orders that fund environmental sample collection and laboratory analysis. Staff should have training on how to ensure that the agreements incorporate adequate QA measures, and how to review the agreements and deliverables with respect to the contracted data quality objectives (DQOs). In addition, a limited number of staff are involved in the review and interpretation of data (data users).

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), Florida Resilient Coastlines Program (FRCP) and the Florida Keys National Marine Sanctuary (FKNMS). The CBP and FRCP do not collect environmental data and are not included in this report. The following programs, which were moved from the regulatory area into the RCP at the start of 2020, have not provided annual QA reports in the past and are not discussed in this report: Beaches Field Services; Beaches, Inlets and Ports; and the Coastal Construction Control Line Program. These units new to RCP need to connect with the current QAO and evaluate what content should be included in their QP. AEQAS identified 23 organizational units within RCP, with 14 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's. Depending on the location and activities of the offices within RCP, data entry into databases may occur along with limited data review. The 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. Three reporting units from this area (TMAP, SJBBP and ROFAP) have previously reported but did not provide information for the 2019 report.

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 10 QA reporting units and six organizational units, including the department's environmental laboratory. The GIS section within the WSP provided information for the 2019 annual report; this is their first contribution to this report. 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.

DWRA is responsible for providing financial assistance to fund 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 ground water, 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. For 2019, one of six DWRA programs, Water Supply Restoration Funding, provided information for this report that addresses only that program. 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 26 reporting units consisting of 14 from RCP; 10 from DEAR; one from DWRA; and one from Office of Water Policy and Ecosystems Restoration.

Organization & QA-Related Activities in Ecosystems Restoration

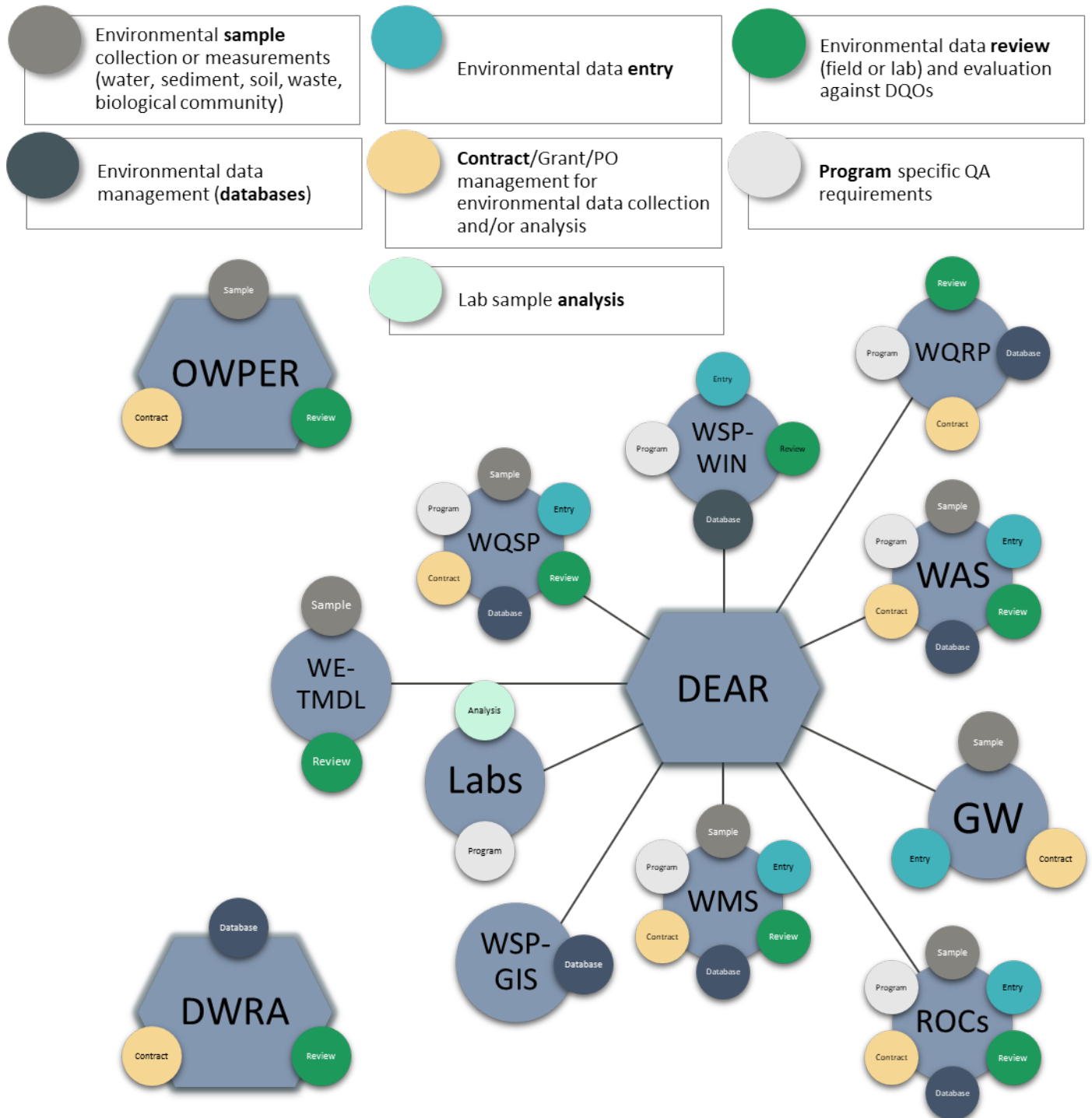


Figure 3.1. Diagram of reporting units from DEAR, OWPER and DWRA showing each work unit's functions that require QA activities, represented by color-coded circles. The circles do not indicate whether that program or section reported on that function.

Organization & QA-Related Activities in Ecosystems Restoration (RCP)

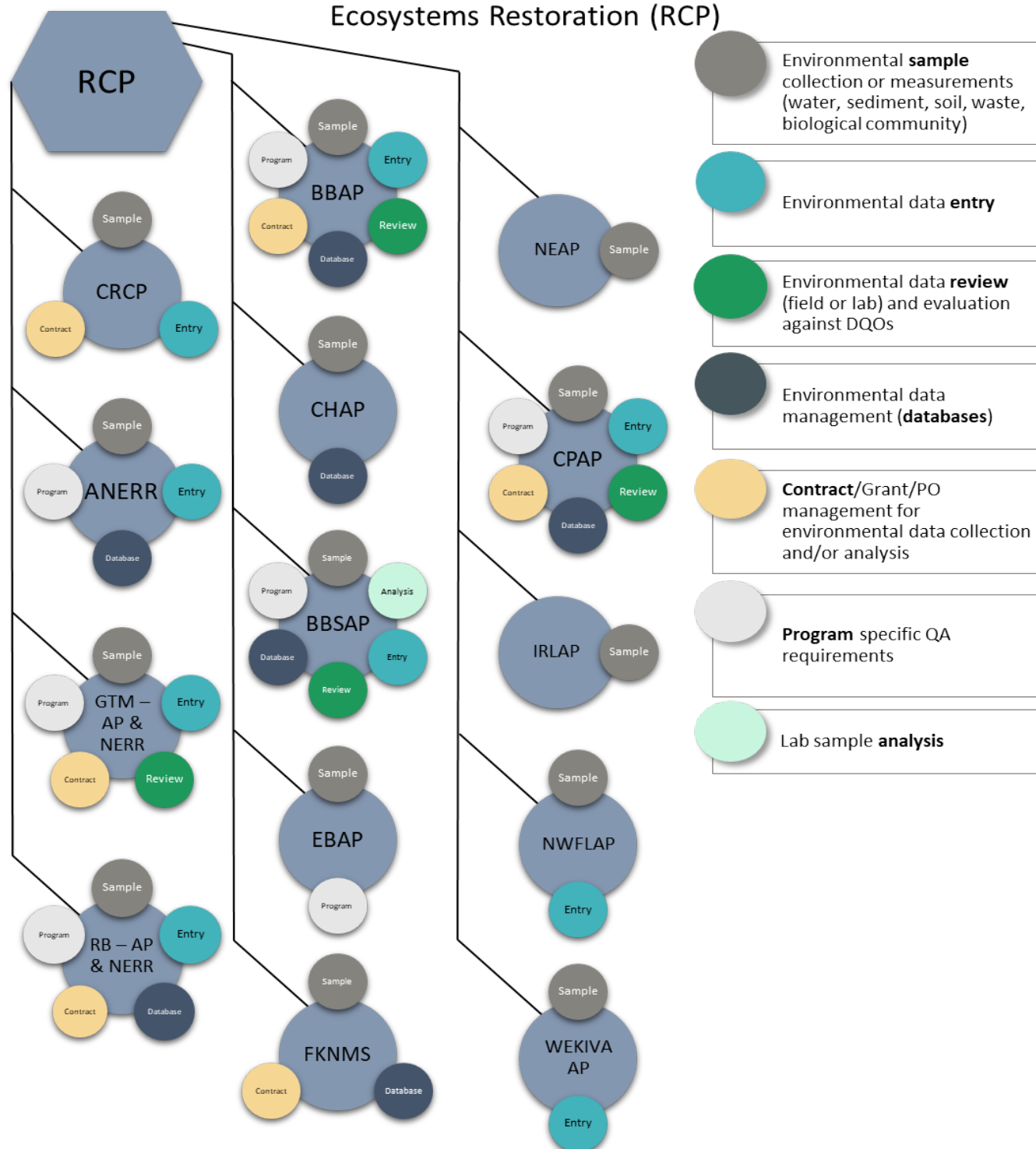


Figure 3.2. Diagram of reporting units from RCP showing each work unit's functions that require QA activities, represented by color-coded circles. The circles do not indicate whether that program or section reported on that function.

Figures 3.1 and 3.2 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 audit external entities that provide data to the department with some established consistency and frequency. Reporting units that manage contracts, grants or purchase orders (PO) for environmental data collection or analysis 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.

3.2 Quality System



The majority (65 percent) of reporting units from the Ecosystems Restoration area of the agency reported as both data generators and data users. Less than a quarter (19 percent) reported only as data generators, and a small number (8 percent) reported only as data users. Two units (GIS and WIN/STORET of the Watershed Services Program) identified themselves as neither data generators nor data users (Figure 3.3).

Self-Reported Program Activities for Ecosystems Restoration

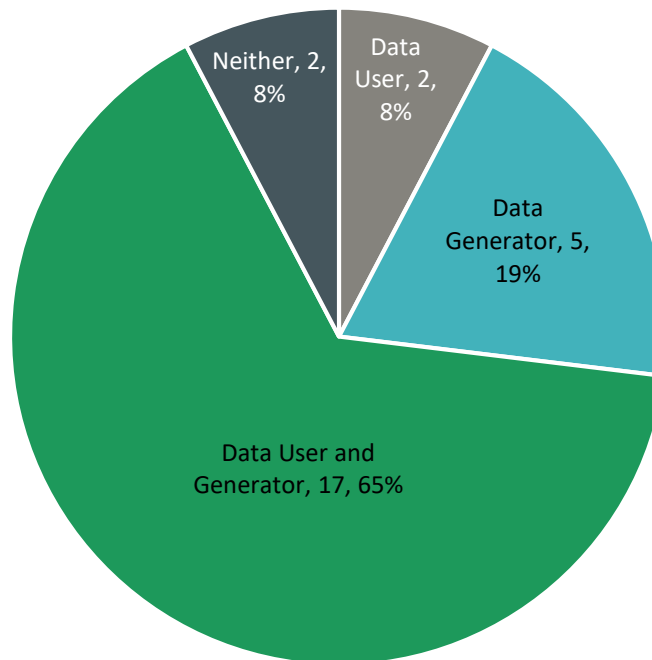


Figure 3.3. Number and percentage of reporting units within the Ecosystems Restoration area that identified their program activity functionality as data user, data generator, both or neither.

Percentages of reporting units with Quality System components as reported by **data generators** are illustrated in Figure 3.4. Individual reporting unit responses are located in Appendix B. All programs that generate data follow DEP SOPs, other SOPs, or a combination of both. The majority use DEP SOPs. Only 13 of the 22 units that generate data reported that their QP incorporates all the SOPs used by the reporting unit, which means the remaining units need to revise their QPs to include references to SOPs. Eighteen reporting units indicated they have checklists to evaluate the data generated against the DQOs. However, only 12 of those 18 reporting units indicated the QP incorporates the checklists, and all checklists should be included or cited in QPs. Sixteen reporting units stated that there were corrective actions for when data did not meet the DQOs, but only 14 units document the corrective actions and only 11 units have the corrective actions in their QP. AEQAS instructs reporting units to include a process for documenting corrective actions in QPs. Five of the 22 reporting units that generate data revised their DQOs.

Data Generator Information for Ecosystems Restoration

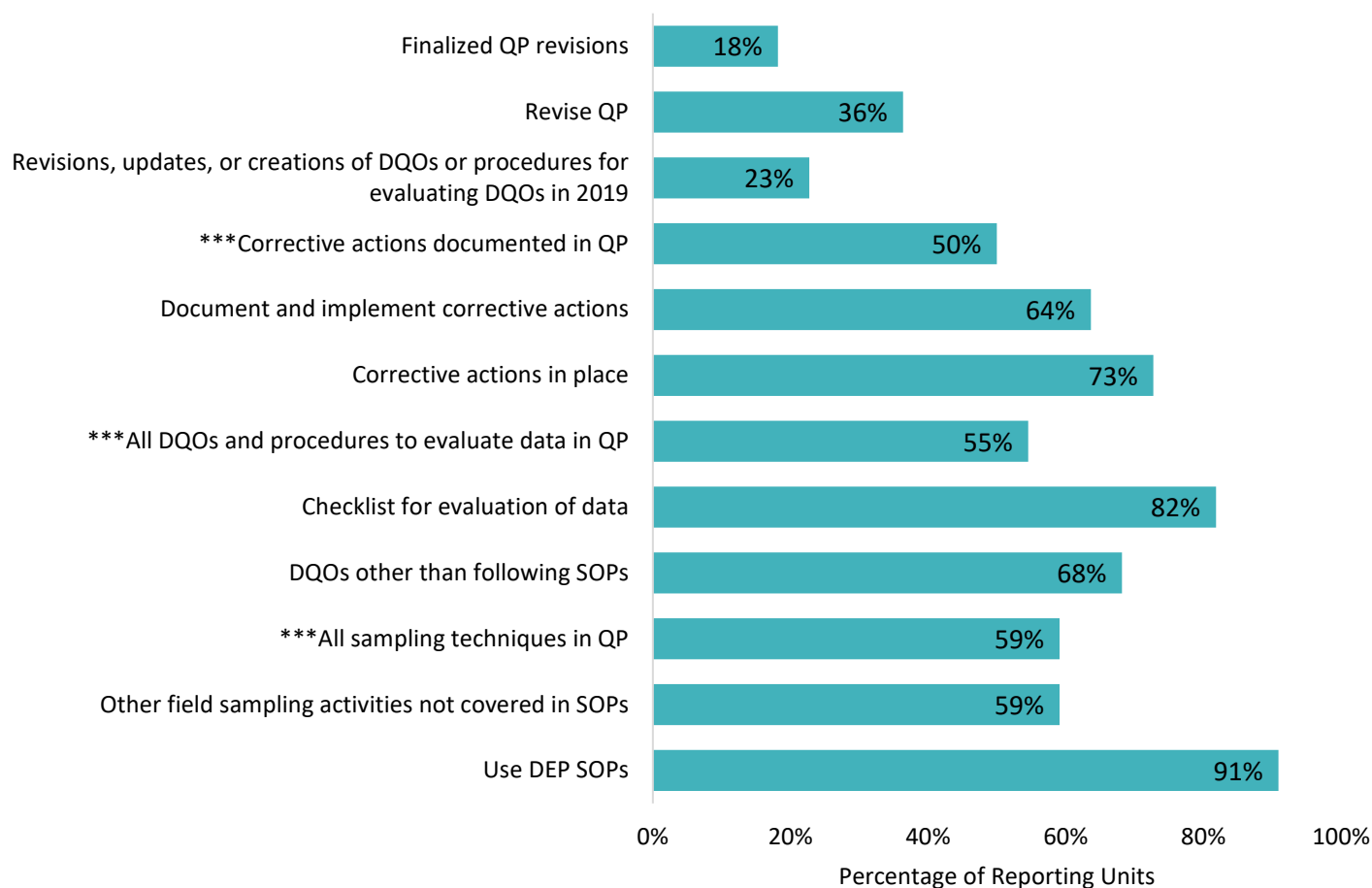


Figure 3.4. Percentage of reporting units in the Ecosystems Restoration area that answered “yes” to dichotomous questions regarding data quality objective use and documentation specific to roles as data generator in the 2019 survey template. Categories with three asterisks (*) are expected to be 100 percent.**

There are 22 total data generators. Note that reporting units that indicated that the information is not included in the QP may not have a QP.

Percentages of reporting units with Quality System components as reported by **data users** are illustrated in Figure 3.5. Individual reporting unit responses are located in Appendix B. Only thirteen of the 19 reporting units that identified as data users have written DQOs, and 12 reported that the data used are evaluated against the DQOs to ensure data quality for the unit's purpose. Eleven units reported that another DEP unit evaluates the data used. Eleven units have a checklist for evaluation, and nine units documented the checklist in their QP. Nine reporting units have corrective actions for instances when data do not meet DQOs. Eleven units reported following up with corrective actions, and eight reported that those corrective actions are in their QP. Two reporting units revised DQOs or procedures documented in 2019. Six reporting units reported revising their QP in 2019, with four reporting units finalizing their revisions. It is department policy that all data users have established DQOs and corrective actions and document them in their QP.

Data User Information for Ecosystems Restoration

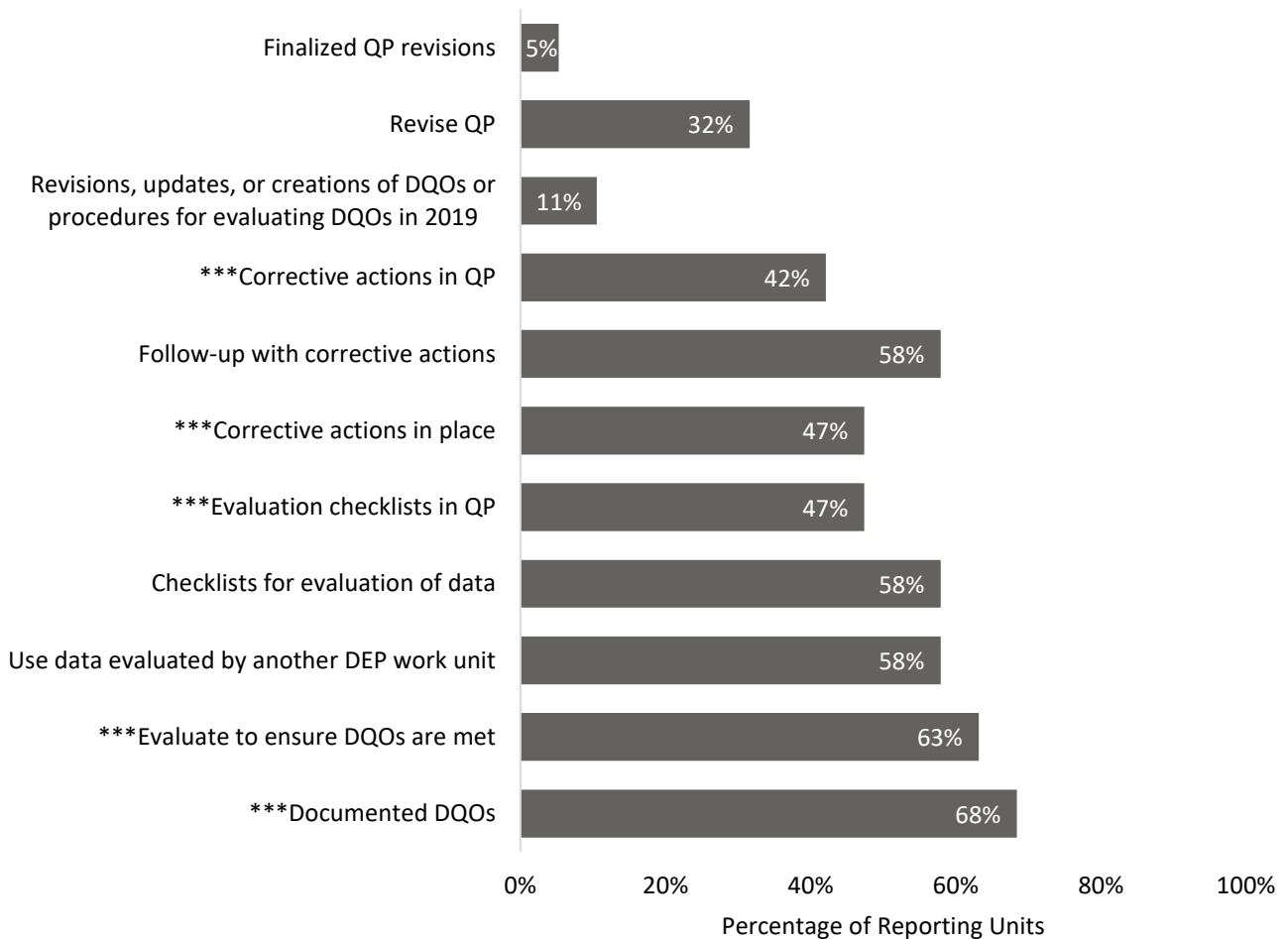


Figure 3.5. Percentage of reporting units in the Ecosystem Restoration area that answered “yes” to dichotomous questions regarding data quality objective use and documentation specific to roles as data user in the 2019 survey template. Categories with three asterisks (*) are expected to be 100 percent. There are**

19 total data users. Note that reporting units that indicated that the information is not included in the QP may not have a QP.

3.3 Training



QAOs identified QA training needs by reporting numbers of staff that needed the training versus the staff that received the training. Combining all staff from all reporting units and the training categories, 99 percent of employees received training for QA tasks in the Ecosystems Restoration area (Figure 3.6). When reviewing the 26 reporting units of Ecosystems Restoration that reported independent of each other, three units (DWRA, FKNMS and BBAP) reported not having their training needs met, while four reporting units did not identify training needs in 2019.

All employees in the Ecosystems Restoration area who required training in laboratory analysis, data entry, contract or grant requirements and program-specific QA requirements received the training (Figure 3.7). Only 2 percent of employees who required training on field sampling did not receive it, and 12 percent of employees who required training on data review and 6 percent on database management trainings did not receive it.

Percentage and Number of Ecosystems Restoration Employees that Received QA Training in 2019

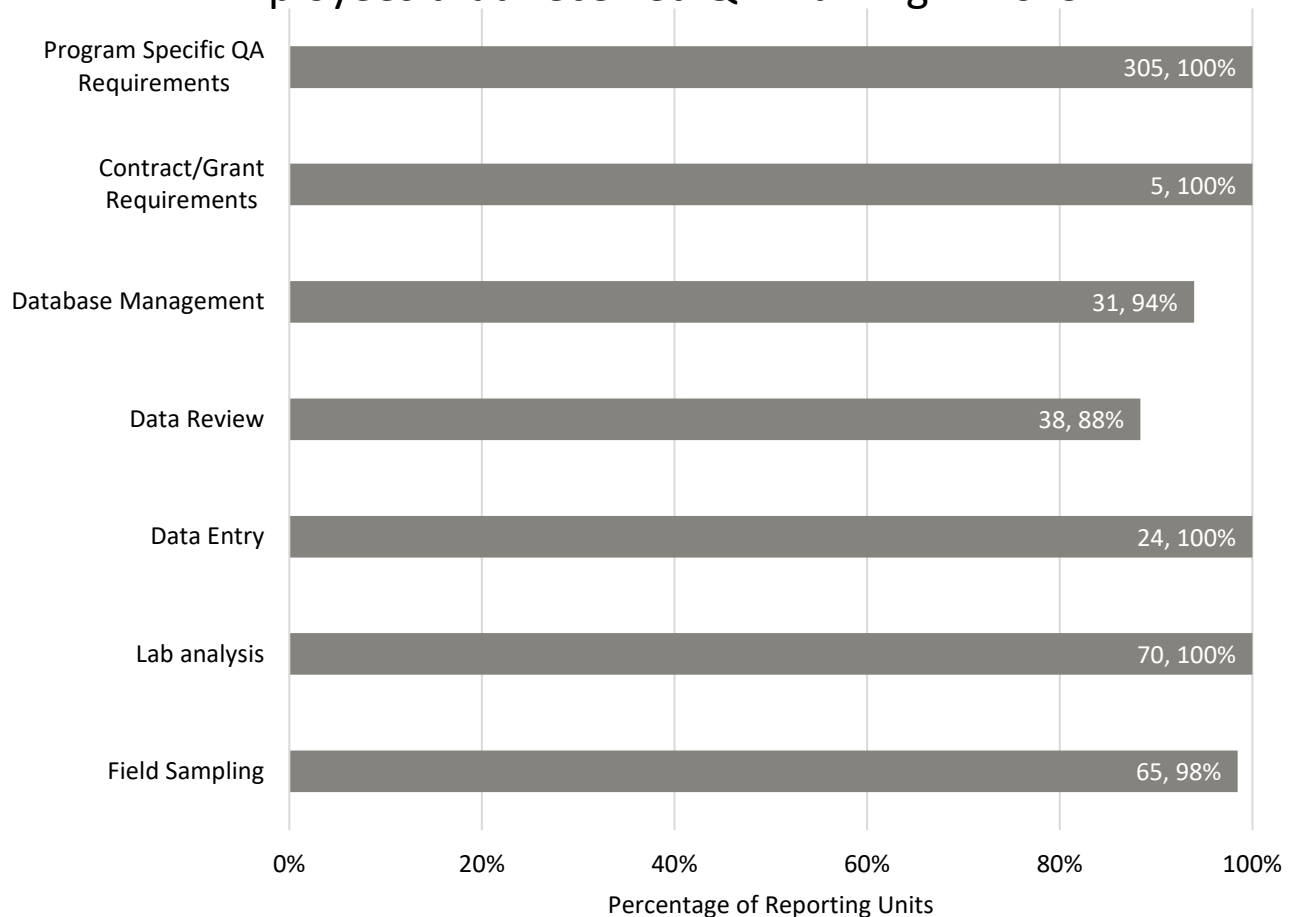


Figure 3.6. Percentage of employees in Ecosystems Restoration who required QA training in 2019 that

received the training for their job responsibilities within each QA training category. Number of employees is included to provide more information.

3.4 Audits



AEQAS asked reporting units within the Ecosystems Restoration area of the agency to tally their audits from four different perspectives (Table 3.1). In total, 50 audits were reported for 2019, a slight decrease from the 57 reported for 2018. These 50 audits are composed of 36 performance audits, two project audits and 12 system audits (Table 3.1).

Table 3.1. Audits reported by Ecosystems Restoration reporting units for 2019

Audit Perspectives	Audit Types			Total
	Performance	Project	System	
Audits of another unit within DEP	9	0	1	10
Audits of entities external to DEP	19	0	2	21
Audits of the reporting unit by another entity	6	1	2	9
Self-audits conducted by the reporting unit	2	1	7	10
Total	36	2	12	

Four reporting units conducted at least one audit. WQSP and WMS conducted audits of entities within DEP, and WQSP, WAS, WMS and ROCs conducted audits of entities external to DEP. All of these units reported generating an audit report and used checklists to conduct audits. More than half of the reporting units established a required report time frame and met the established time frame goal (Figure 3.7). The WMS is the only unit that follows up with its corrective actions for the audits conducted of entities outside of DEP. Nearly half of reporting units received responses to the report within the determined time frame.

Five reporting units were audited by an external entity or themselves in 2019. ROCS, ANERR and BBAP indicated they were audited by an entity outside of their reporting unit, and LABS, WAS, ROCs and BBAP conducted one or more internal audits of their work units. Of these four units that conducted internal audits, all had an established frequency requirement and followed through with corrective actions at the time of reporting. 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 the internal audit goals in their QP. The reporting template will incorporate questions in the future to determine if reporting units have goals for the number of audits to be conducted and the frequency of internal audits, and if these audit goals were met.

Expectations of Audits Conducted by Reporting Units in the Ecosystems Restoration Area

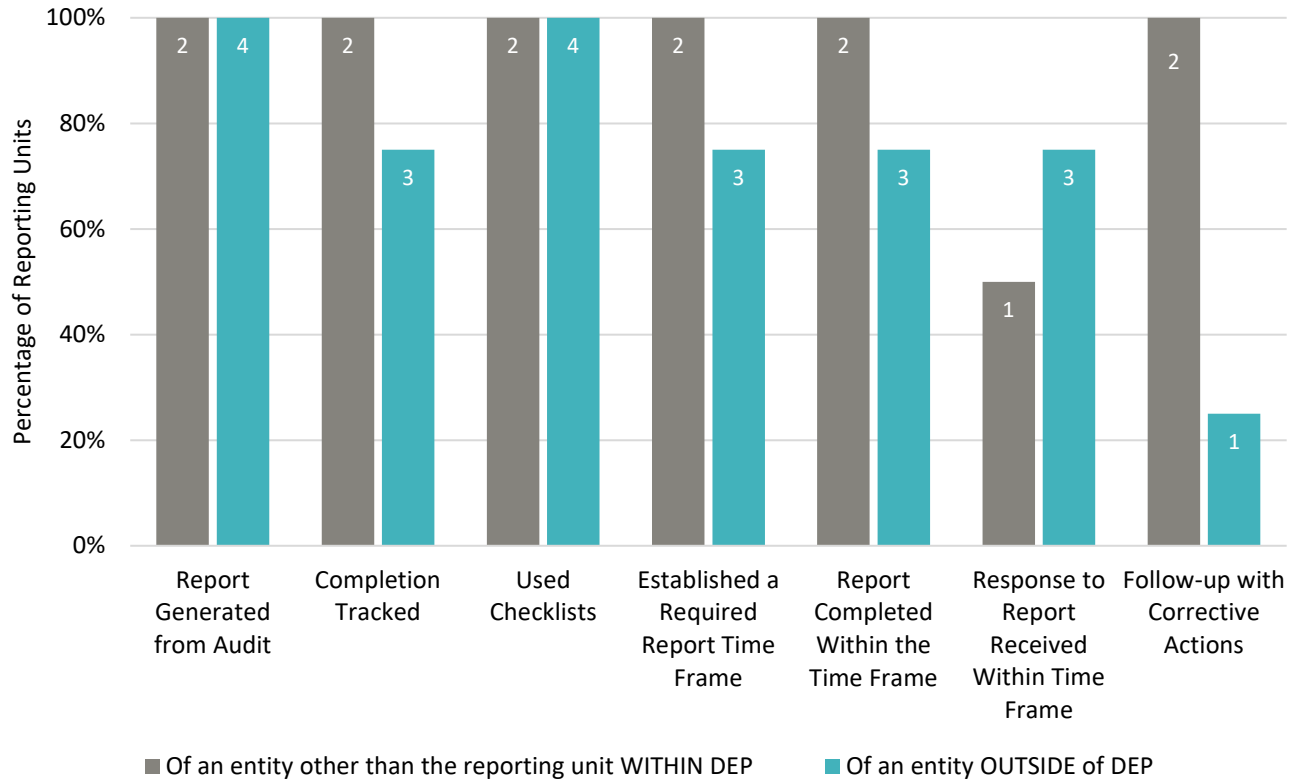


Figure 3.7. Percentages of Ecosystems Restoration reporting units meeting seven QA criteria for conducting audits in two audit categories: external audits that are conducted by the reporting unit of entities within DEP and external audits conducted by the reporting unit of an entity outside of DEP. Numbers of reporting units are included in the bars to provide more information.

3.5 Data Repositories



Of the reporting units within Ecosystems Restoration, 81 percent (21 of the 26 reporting units) indicated that staff enter data in to at least one data repository. Seventy-seven percent (20 of 26 reporting units) retrieve data, and 50 percent (13 of 26 reporting units) are responsible for managing data in repositories.

Reporting units in the Ecosystems Restoration area enter data into 28 different data repositories. The majority of reporting units verify the data that are entered (Figure 3.8). However, there are a few reporting units (DWRA, NEAP, IRLAP) that do not have verification steps in place for all 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, only half have all of the protocols documented in the QP, and all protocols should be documented or referenced in QPs.

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

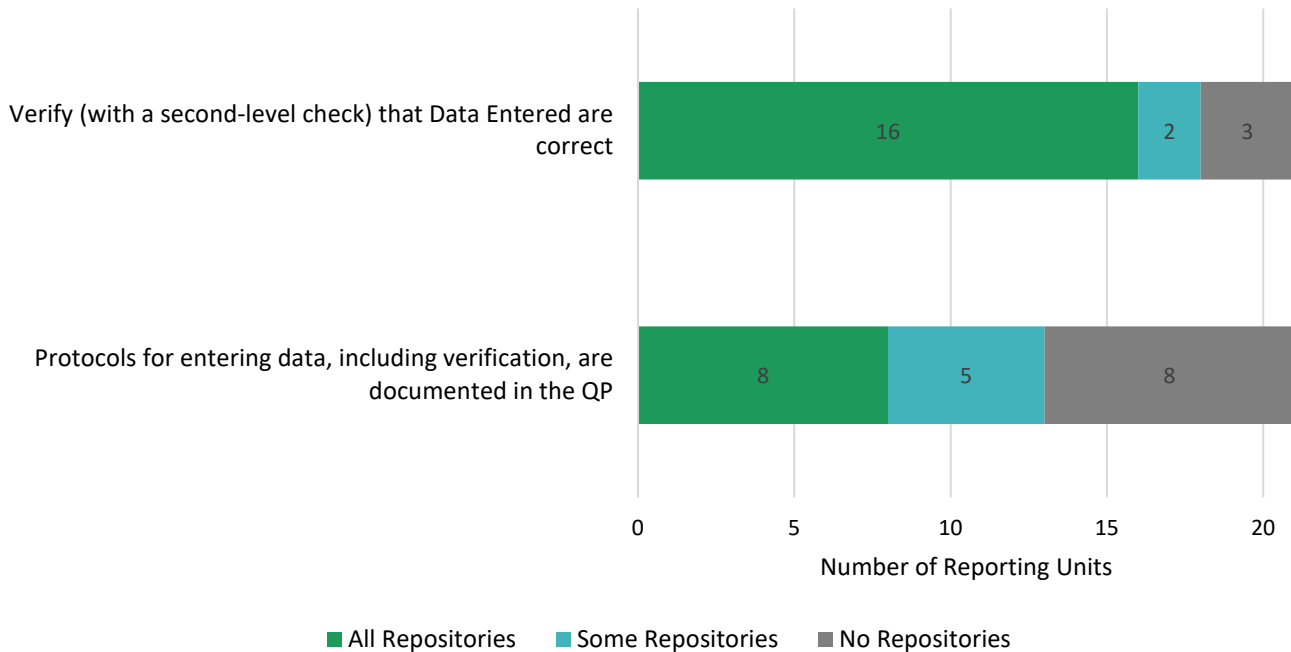


Figure 3.8. Number of reporting units in the Ecosystems Restoration area that enter data into data repositories in which data entered is verified with a second-level check for all repositories and have documented protocols in place for entering data for all repositories. Note that reporting units that indicated that the information is not included in the QP may not have a QP.

Twenty reporting units retrieve data from 36 different data repositories. Half of the reporting units perform QA/QC checks on the data retrieved from all of their data repositories; one-fourth (WMS, ROCs, WETMDL, GWS, GTMNERR) perform QA/QC checks on the data retrieved from some of their data repositories; and the remaining fourth (WSP-GIS, DWRA, CPAP, EBAP, NEAP) do not perform any checks on the data retrieved (Figure 3.9). Those programs that do not perform QA/QC checks on all data retrieved should determine whether QA/QC checks are necessary. Less than half of reporting units have written protocols for the retrieval of data from all repositories, with fewer reporting that there are written protocols for some of the repositories used for retrieval. The reporting units without written protocols should evaluate their QPs and include the protocols for data retrieval. Most reporting units have feedback mechanisms in place to notify the data generator of suspect data for all data repositories. However, only a quarter of reporting units described these feedback mechanisms in their QP for all data repositories. The few reporting units without feedback mechanisms for all data repositories need to evaluate the need for feedback mechanisms. The reporting units without feedback mechanisms described in their QP should revise the document to include the feedback mechanism. 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.

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

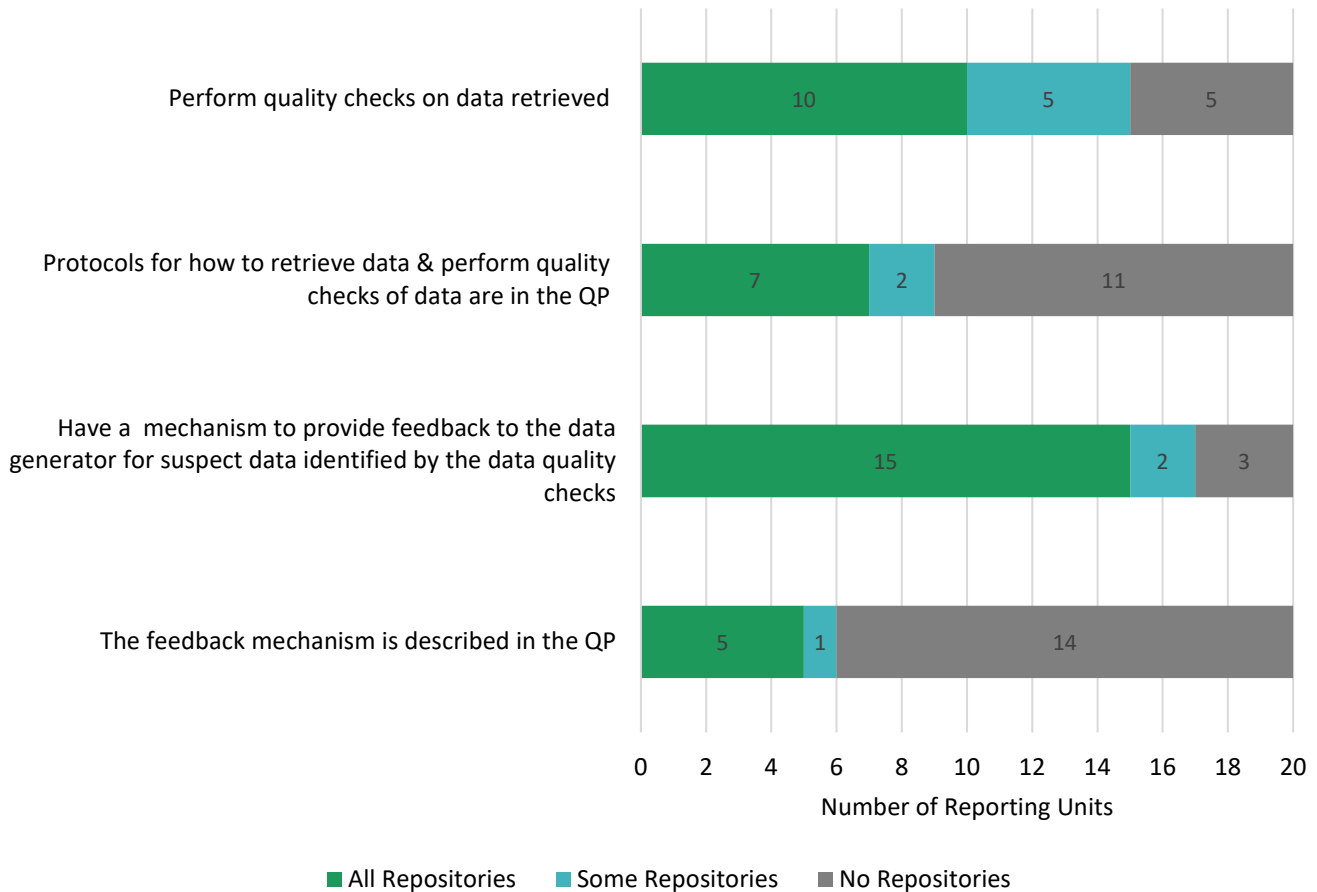


Figure 3.9. Number of reporting units in the Ecosystems Restoration area that retrieve data from data repositories in which data quality checks were performed on all data retrieved, documented protocols are in place for all repositories used, a feedback mechanism is in place to notify the data generator of suspect data for all repositories, and the feedback mechanism is described in the reporting units quality plan for all repositories. 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 17 data repositories. Most reporting units perform checks on all data repositories managed and have protocols on how to perform quality checks in their QP. One unit (WSP-WIN) performs checks on only some of the repositories they manage, and two units (WSP-GIS, NEAP) do not perform checks on data stored or managed (Figure 3.10). Reporting units without protocols for checking data should evaluate the need for checks and add relevant documentation for performing checks of stored data in the QP.

The majority of reporting units have a mechanism to provide feedback to the data generator for suspect data. However, only a few reporting units (OEP, NERR, BBAP) have all protocols and feedback mechanisms documented in the QP (Figure 3.10). A couple of others have documented their feedback mechanism for some repositories. Reporting units without protocols and feedback mechanisms for all data repositories should

evaluate their QPs and include the protocols for data storage. To validate data housed, documented protocols should be in effect and described in the QP for all data repositories.

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

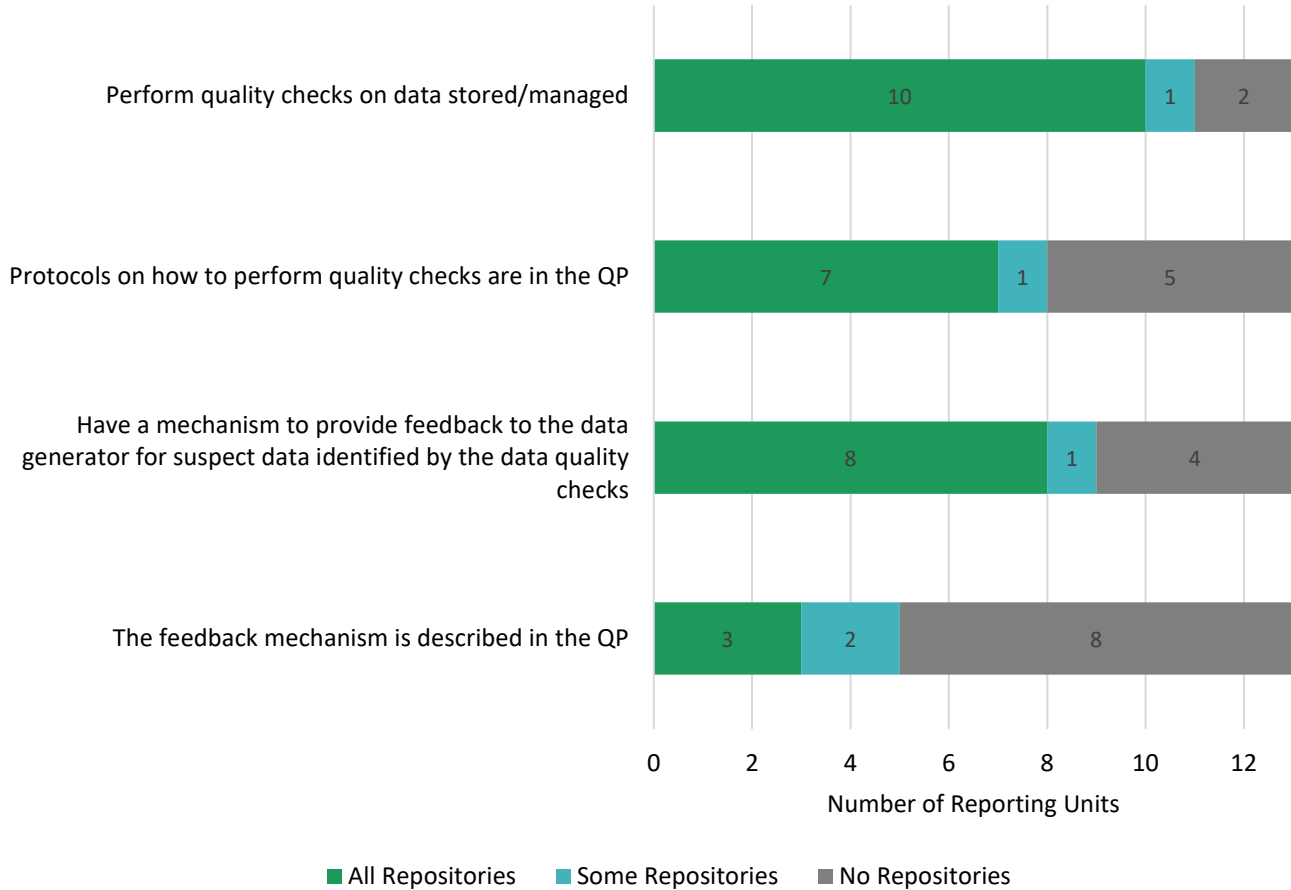


Figure 3.10. Number and percentage of reporting units in the Ecosystems Restoration area that manage data repositories in which data quality checks were performed on all repositories managed, documented protocols are in place for quality control checks of the stored data for all repositories, a feedback 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. Note reporting units indicating that the information is not included in the QP may not have a QP.

4. Land and Recreation

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

Division of State Lands (DSL)

4.1 Overview and Expected QA Activities

The Land and Recreation area of DEP acquires and protects lands for preservation and recreation. It includes 175 state parks and trails, more than 12 million acres of public lands, and 4 million acres of coastal uplands and submerged lands. Land and Recreation includes two divisions: 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 4.1 indicates the functions of DRP and DSL that involve QA activities.

Organization & QA-Related Activities in Land and Recreation

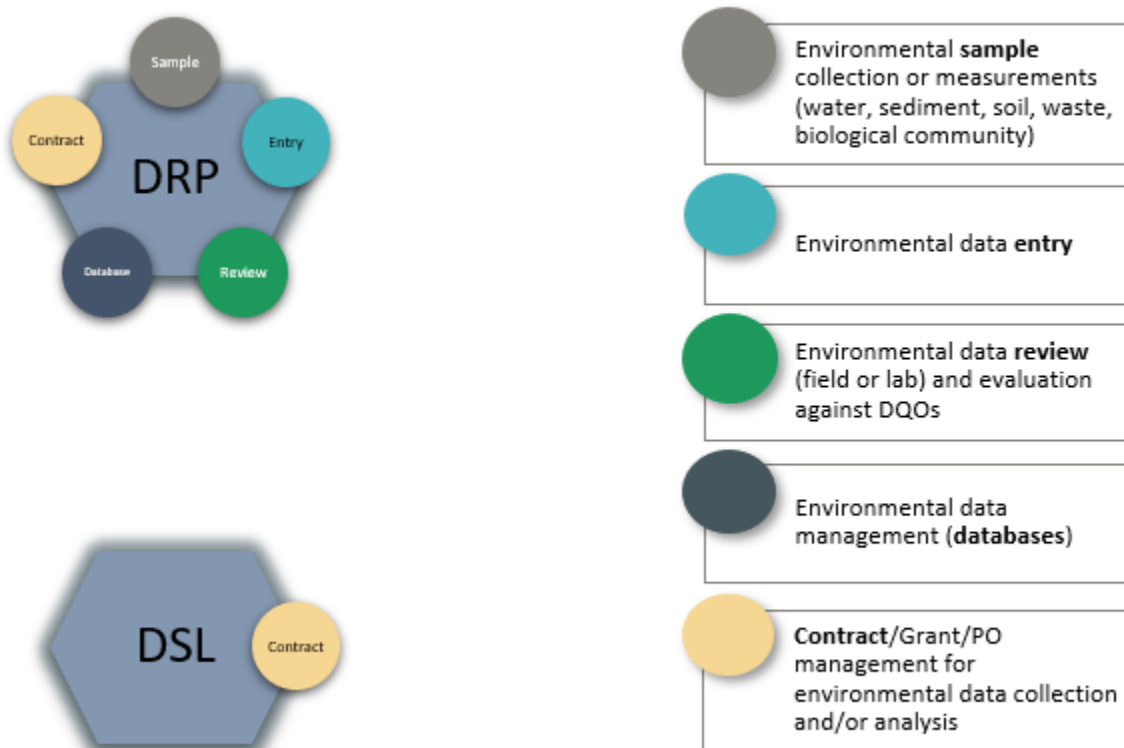


Figure 4.1. Diagram of the reporting units for DRP and DSL showing each unit's functions that require QA activities, represented by color-coded circles. The circles do not indicate whether that program or section reported on that function.

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 purchase orders. 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 sampling, expected QA activities include adherence to standard procedures (i.e., SOPs) and training for SOPs, 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 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, as well as limited data retrieval. DSL did not report contract or grant management-related QA activities in 2019.

Figure 4.1 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 audit external entities that provide data to the unit with some established consistency and frequency. Reporting units that manage contracts, grants or POs for environmental data collection or analysis 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.

4.2 Quality System



The DRP and DSL are both data users. Portions of DRP are also data generators. The DSL quality plan (QP) was revised in 2019 to include DQOs and corrective actions, and revisions were finalized in the beginning of 2020. DRP's QP is out of date, and the division did not report its QA activities for the 2018 or 2019 QA Annual Report. AEQAS hopes to conduct a Quality of Science Review in 2020 with the DRP QAO and other representatives to evaluate current implementation of DRP's quality system and determine which specific QA-related tasks should be documented in this report.

4.3 Training



No QA training was reported by the DSL. DRP did not report for 2019.

4.4 Audits



The Land and Recreation Area did not report any audits. Reporting units within this area are not likely to report audits in the volume or frequency of other areas of the agency. However, environmental data collected through compliance monitoring or sampling for research is subject to audits.

4.5 Data Repositories



DSL reported that staff do enter and retrieve environmental data. DSL does not verify the data they enter or retrieve and does not have protocols documented in their QP. DSL also does not have a feedback mechanism for correcting or questioning data. DRP did not provide any information about its data repositories.

5. Regulatory Programs

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

Division of Waste Management (DWM)

Petroleum Restoration Program (PRP)

Site Investigation Section (SIS)

Solid and Hazardous Waste Section (SW)

Waste Cleanup Section (WCS)

Federal Programs (DOD and Brownfields) (FPS)

Hazardous Waste (HW)

Operational and Program Performance (OPP)

Business and District Support Program (BDSP)

Permitting and Compliance Assistance Program (CA)

Division of Water Resources Management (DWRM)

Florida Geological Survey (FGS)

Division of Law Enforcement (DLE)

5.1 Division of Waste Management, Division of Law Enforcement, and Florida Geological Survey

The regulatory district offices (Districts), Division of Waste Management (DWM), Division of Water Resource Management (DWRM), Division of Law Enforcement (DLE) [previously known as Office of Emergency Response (OER)], and the Florida Geological Survey (FGS) comprise the Regulatory Programs area of the agency. The data presented in this section of the report are based on the 11 reporting units that submitted information for 2019 from DWM, DLE and FGS, which includes all organizational units for these offices and is an increase from 10 reporting units in 2018. This additional reporting unit is from the DWM and has not reported in previous years. 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 and DWRM are in the next section. See Figure 5.1 for a list of reporting units and an overview of the expected QA activities within the reporting unit.

DWM implements state and federal laws to protect the environment from the improper handling and disposal of solid and hazardous wastes. Nine reporting units representing seven organizational units make up the DWM: District and Business Support Program (DBSP); Department of Defense (DOD), Brownfields, and CERCLA Programs, also known as the Federal Programs Section (FPS); Site Investigation Section (SIS); Waste Site Cleanup (WSC) Section; Hazardous Waste (HW) Section; Solid Waste (SW) Section; Operation and Program Performance (OPP); Permitting & Compliance Assistance Program (CA); 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 DOD, Brownfields and CERCLA programs were split into three distinct programs in late 2019. For the purposes of this report, they will be addressed together as the Federal Programs Section (FPS). FPS provides oversight of site rehabilitation activities, program guidance and technical support at DOD sites and facilities in Florida (which also includes sites in the Formerly Used Defense Sites or FUDS Program), 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 Program, which is responsible for addressing contaminated sites on land owned by the state of Florida.

The WSC Section is responsible for managing the Dry-cleaning Solvent Cleanup Program, which addresses contamination resulting from the operation of eligible dry-cleaning facilities. In addition, the WSC coordinates with EPA during EPA-managed remediation of National Priority List (NPL)/Superfund sites in Florida. For sites that do not meet NPL criteria and have no viable responsible party, the WSC Section 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 acquisition, storage and disposal in accordance with DEP directives.

The CA implements state and federal laws related to recycling, pollution prevention, solid and hazardous waste management, and storage tank compliance. The CA works closely with districts to implement permitting, compliance and enforcement activities in order 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 reported for the division office as well as the district offices in 2019.

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.

Figure 5.1 provides context for the QA activities that AEQAS expects 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 audit 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 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.

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

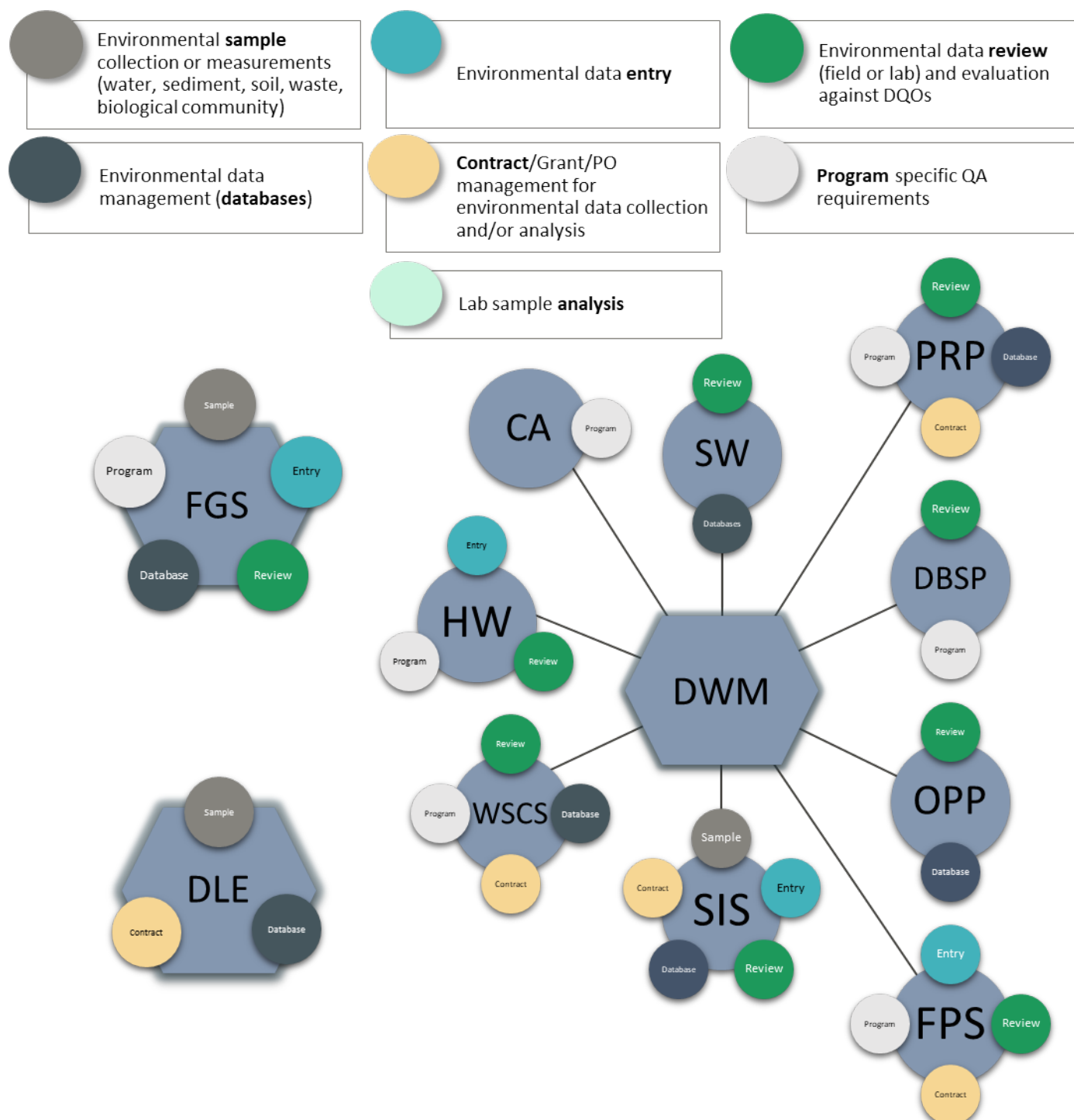


Figure 5.1. Diagram of the reporting units from DWM, DLE and FGS showing each unit's functions that require QA activities, represented by color-coded circles. The circles do not indicate whether that program or section reported on that function.

5.1.1 Quality System



Eleven units reported on the Quality System content for the 2019 Annual QA Report. Four units reported as both data generators and data users, and seven units reported as a data user only (Figure 5.2). Individual reporting unit responses to the survey are located in Appendix B.

Self-Reported Program Activities for DWM, FGS & DLE

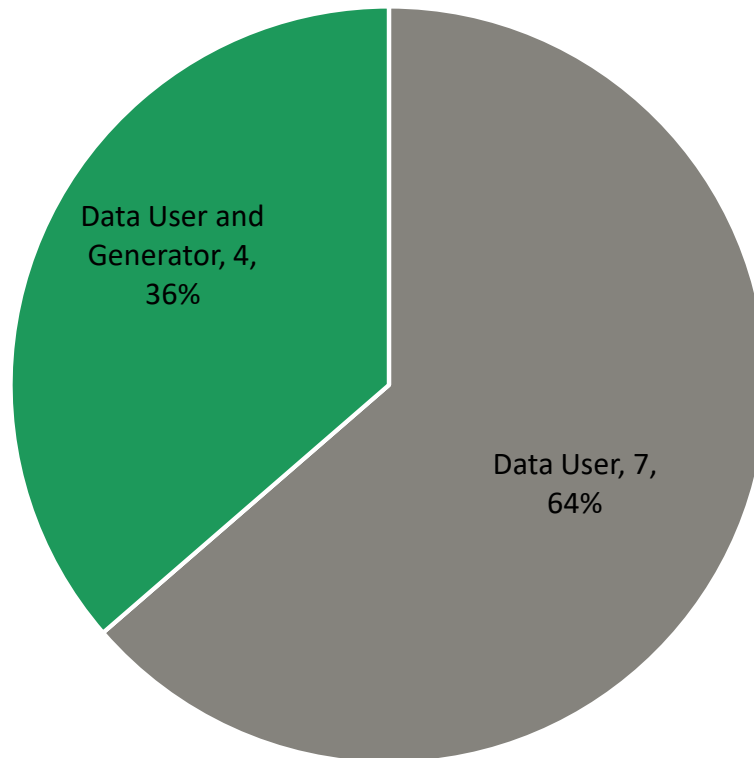


Figure 5.2. Number and percentage of units in Regulatory Programs reporting as data users, data generators or both for the 2019 QA Annual Report. There are 11 reporting units total from DWM, DLE and FGS combined.

Four units reported generating data for department use. Data generation includes sample collection and/or analysis. All data generating units indicated they follow DEP SOPs, other SOPs, or a combination of both (Figure 5.3). Two of the four data generating units indicated their QP incorporates all SOPs, and the other two units should revise their QPs to include references to all SOPs used. Two units have DQOs other than SOPs. All units indicated having checklists to evaluate the data generated against DQOs, but only three have incorporated the checklists into the QP. All units should have checklists, and all the checklists should be included or cited in 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. None of the reporting units identifying as data generators revised their DQOs

and corrective actions during 2019. Two of the units reporting as data generators reported revising their QP in 2019.

Data Generator Information for DWM, FGS & DLE

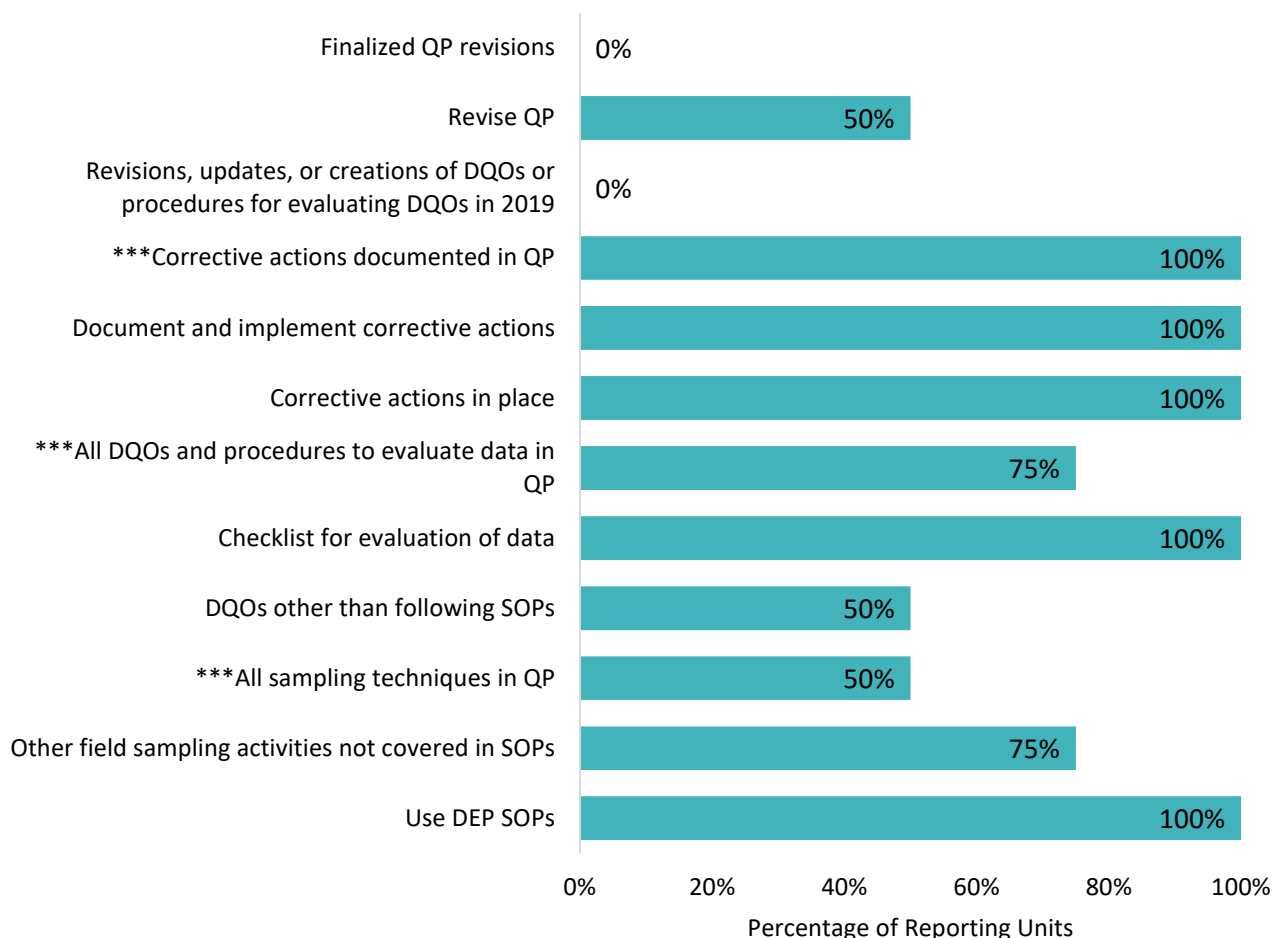


Figure 5.3. Percentage of Regulatory program reporting units that answered “yes” to dichotomous questions regarding data quality objective use and documentation specific to roles as a data generator in the 2019 survey template. Categories with three asterisks (*) are expected to be 100 percent. There are four total data generators.**

All 11 reporting units in DWM, DLE and FGS reported as data users. Eight of those 11 units reported using data generated by both the department and external sources, while three units indicated that they only use a source outside of DEP. Ten of the data users reported having DQOs for the data used, and nine reporting units evaluate the data used to ensure data meet the DQOs (Figure 5.4). Three units indicated that another DEP unit evaluates the data used by their reporting unit. Nine units have documented the DQOs in their QP. Ten units reported that there are corrective actions in place when data do not meet DQOs. Nine units follow up to ensure corrective actions are implemented. Nine of the 11 reporting units with corrective actions have documented them in their QPs. Two reporting units indicated revising Quality System components in 2019.

Data User Information for DWM, FGS & DLE

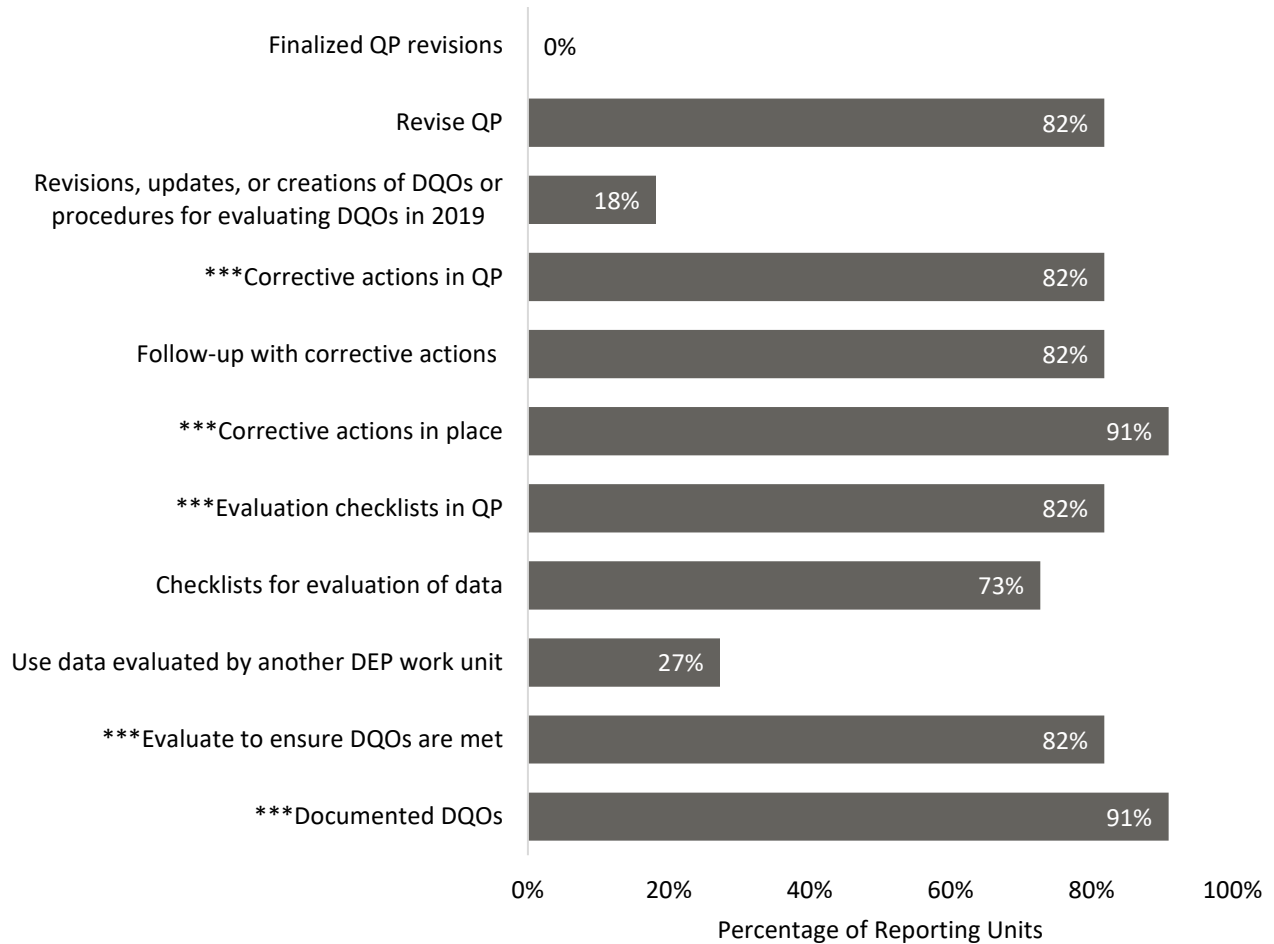


Figure 5.4. Percentage of Regulatory program reporting units that answered “yes” to dichotomous questions regarding data quality objective use and documentation specific to roles as a data user in the 2019 survey template. Categories with three asterisks (*) are expected to be 100 percent. There are 11 total data users.**

5.1.2 Training



QAOs reported the staff that required training and those that received training. For DWM, DLE and FGS, all employees that required training received the training during 2019. Two units did not report training needs or requirements for 2019. More employees were trained on contract and grant management requirements than any other training category in 2019 (Figure 5.5). Three reporting units (PRP, SIS and FGS) provided training to entities external to DEP. They provided three trainings to approximately 200 people.

Percentage and Number of DWM, DLE and FGS Employees that Received QA Training in 2019

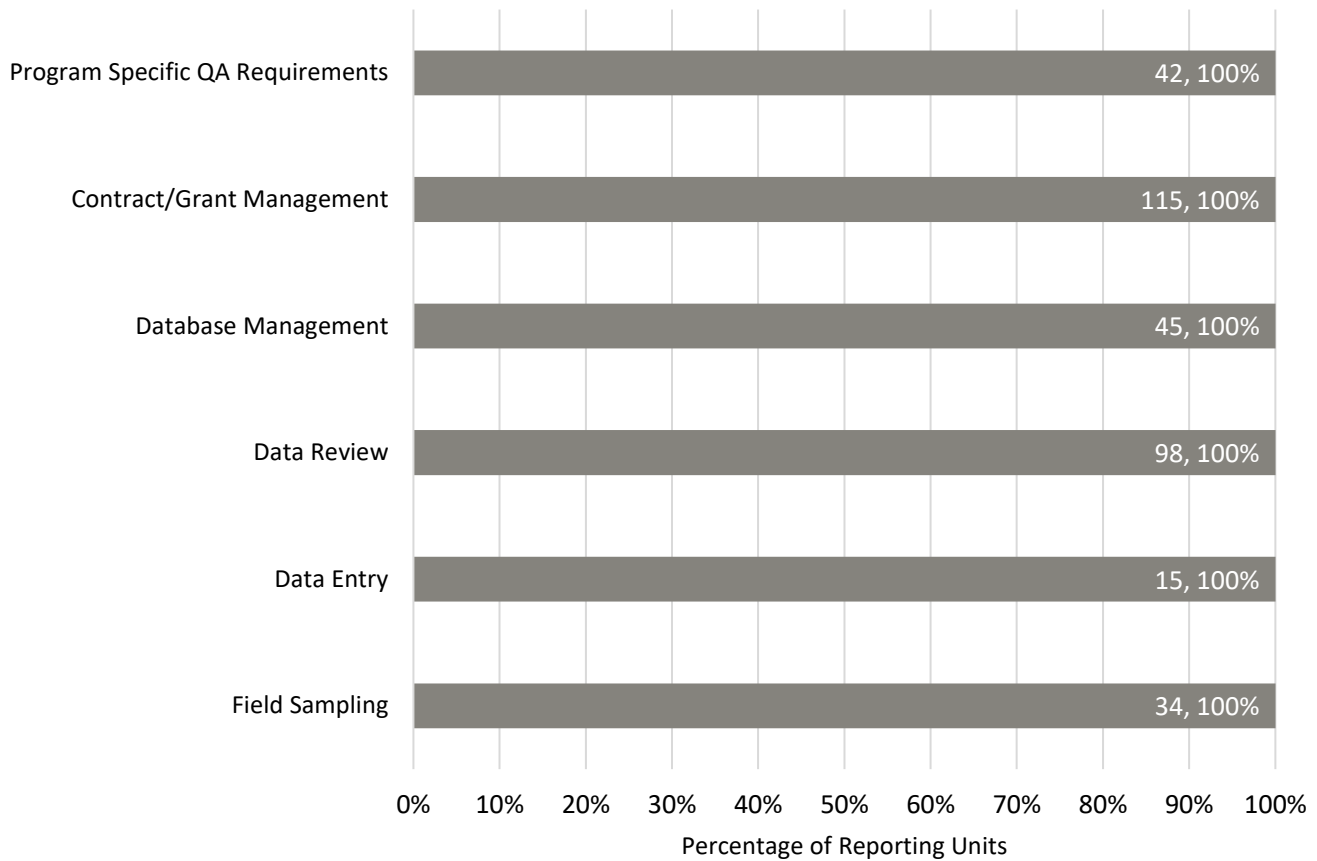


Figure 5.5. Percentage and number of employees in DWM, DLE and FGS that received training within each QA training category in 2019

5.1.3 Audits

AEQAS asked reporting units within the Regulatory area of the agency to tally their audits from four different perspectives (Table 5.1). In total, 14 audits were reported for 2019 (12 external and two internal audits).

HW and FPS were the two reporting units in DWM, DLE and FGS that conducted audits of external entities in 2019. HW conducted 11 audits in 2019, a decrease from 18 audits reported in 2018. There were reports generated for the HW audits, and the reporting unit tracked their completion. FPS conducted a project audit but did not generate an audit report, nor did they track the completion of the audit. Both reporting units' auditors used checklists to perform the audits. HW reported they require responses and follow-up with corrective actions following the audit.

Two reporting units, DLE and FGS, conducted internal audits of their unit. No reporting units within DWM, FGS or DLE reported conducting any audits of entities within DEP, and none of the reporting units were audited by

an outside entity in 2019. Some reporting units conduct extensive data reviews of permit packages that do not constitute an audit. Future reporting could include higher audit counts as DWM defines audits for the purposes of this report and sets data review goals for its units.

Table 5.1. Audits reported by DWM, DLE & FGS reporting units for 2019

Audit Perspectives	Audit Types			Total
	Performance	Project	System	
Audits of another unit within DEP	0	0	0	0
Audits of entities external to DEP	11	1	0	12
Audits of the reporting unit by another entity	0	0	0	0
Self-audits conducted by the reporting unit	1	1	0	2
Total	12	2	0	

5.1.4 Data Repositories



Among the reporting units of DLE, FGS and DWM, seven of the 11 reporting units reported that staff in the unit enter data into at least one data repository. Seven of the 11 reporting units retrieve data, and four of the 11 reporting units are responsible for managing data in repositories.

Reporting units of DWM, DLE and FGS enter data into 10 different data repositories. Most of the reporting units indicated they verify data entered into all repositories and have documented protocols for data entry for all the data repositories they use, while two reporting units (SIS and HW) do not. One reporting unit identified having written protocols for data entry in some repositories, while the remaining units do not verify any data entered (Figure 5.6). Reporting units that do not verify data entry should determine if verification would improve data quality. If verification protocols are enacted, the reporting unit should document the protocols for each data repository used in their QP to ensure consistent and correct data entry.

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

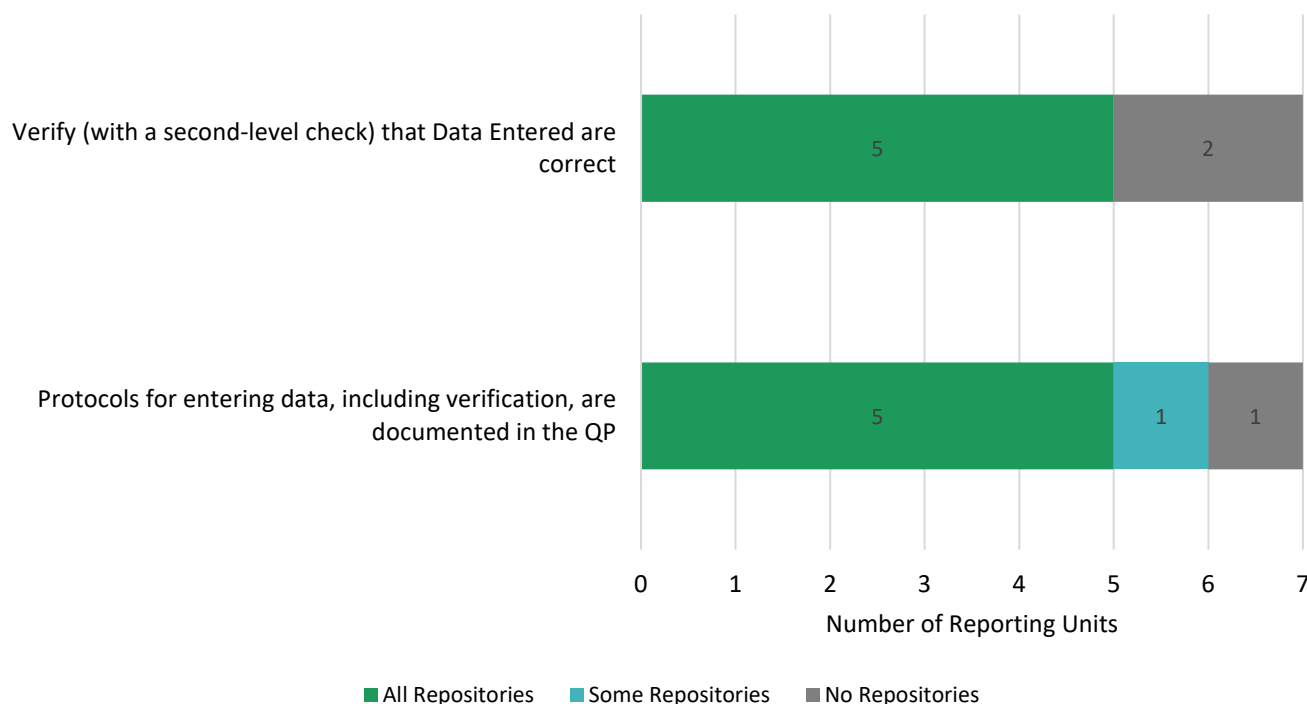


Figure 5.6. Number of reporting units in DWM, DLE and FGS that enter data into data repositories in which data entered is verified with a second-level check for all repositories and documented protocols are in place for entering data for all repositories.

Less than half of the reporting units that retrieve data perform QA/QC checks on the data retrieved from data repositories (Figure 5.7), and not all of them have documented protocols for how they retrieve all data. Four reporting units (PRP, SIS, OPP, FGS) do not perform any QA/QC checks on the data retrieved from data repositories. To obtain data consistently and uniformly, the reporting units without QA/QC checks for data retrieval should evaluate their need for protocols and determine if QA/QC checks are appropriate. If those checks are deemed appropriate and implemented, the reporting units should document the protocols in the QP. Most of the reporting units that retrieve data have a mechanism to provide feedback to the data generator regarding suspect data for all repositories. A few reporting units have feedback mechanisms described in their QP for contacting data generators for all repositories and indicated their QP contains the mechanism for some repositories. Two 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 evaluate the value of the protocol and include it in their QP if it is decided protocols are valuable.

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

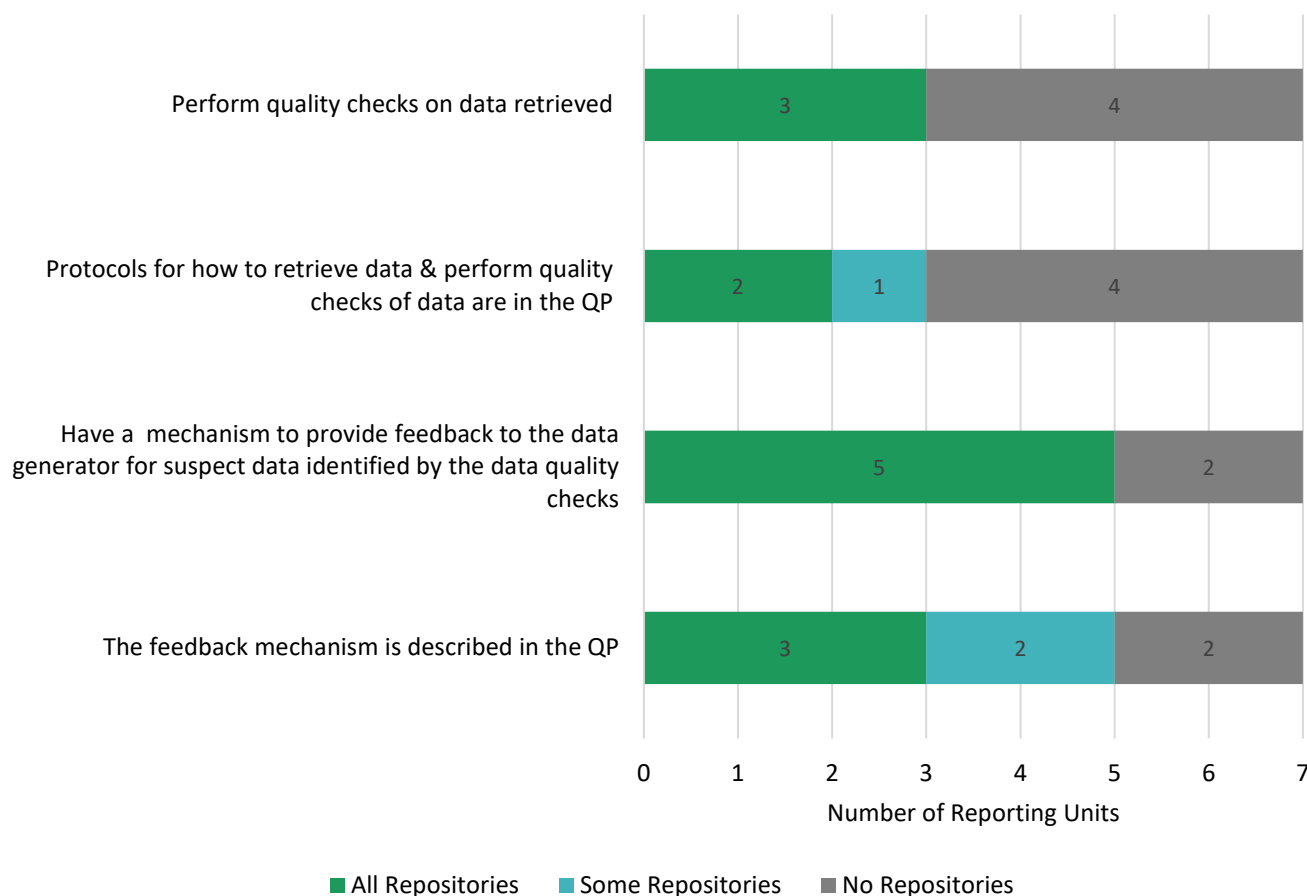


Figure 5.7. Number of reporting units in DWM, DLE and FGS that retrieve data from data repositories in which data quality checks were performed on all data retrieved, documented protocols are in place for all repositories used, a feedback mechanism is in place to notify the data generator of suspect data for all repositories, and the feedback mechanism is described in the reporting units' quality plan for all repositories.

Four reporting units manage eight different data repositories. Nearly all of 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 5.8). This reporting unit should evaluate the need to perform checks on stored data. If quality checks are found necessary, the protocols should be documented in their QP. All of 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, documented protocols should be in effect for all data repositories. The remaining reporting unit should include its feedback mechanism for suspect data in their QP.

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

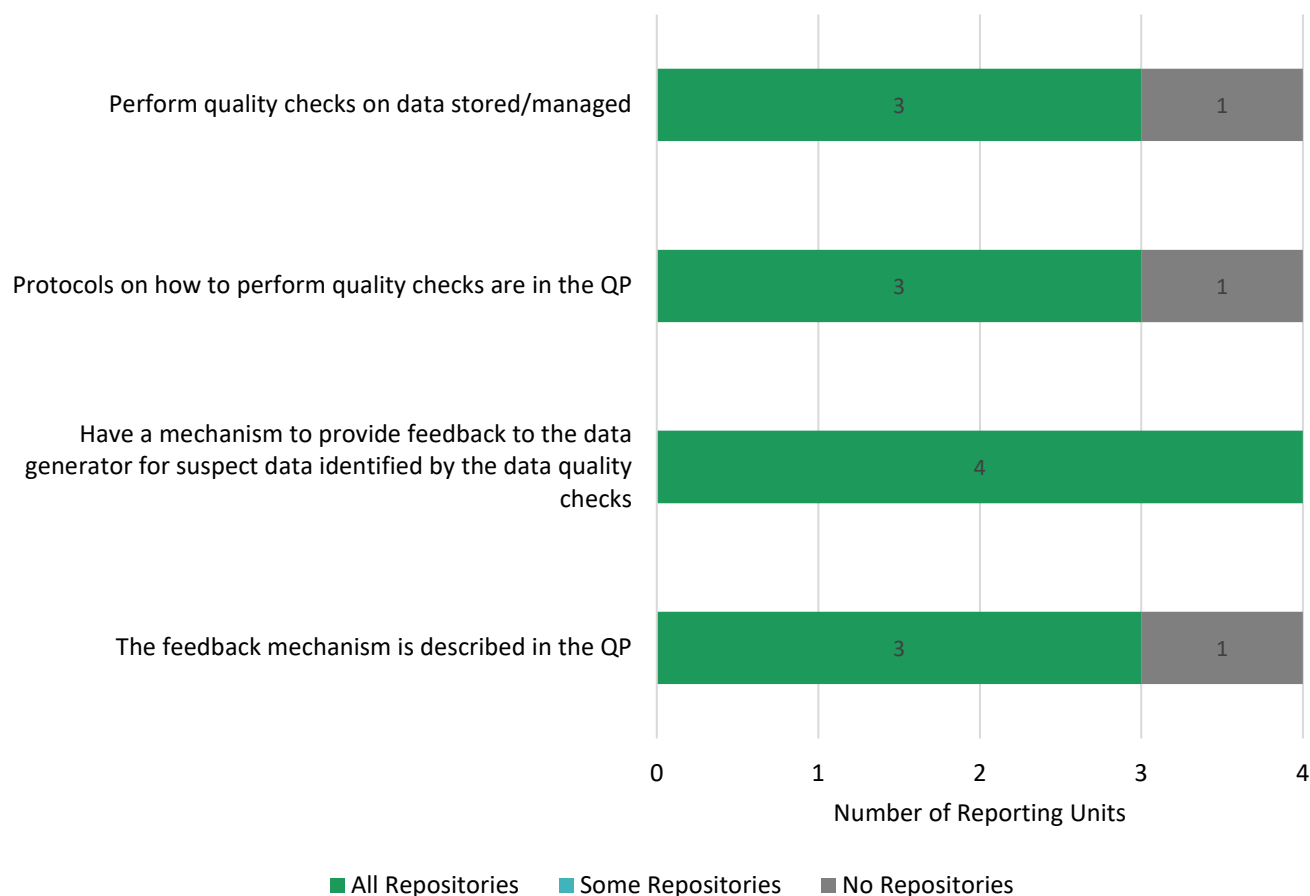


Figure 5.8. Number of reporting units in DWM, DLE and FGS that manage data repositories in which data quality checks were performed on all repositories managed, documented protocols are in place for quality control checks of the stored data for all repositories, a feedback mechanism is provided to the data generator for suspect data for all repositories, and the feedback mechanism is described in the reporting units' quality plan for all data repositories.

5.2 Division of Water Resource Management (DWRM) & Districts

DWRM is responsible for implementation of state laws providing for the protection of the quality of Florida's drinking water, ground water, rivers, lakes, estuaries and wetlands from permitted discharges or activities, as well as reclamation of mined lands and the preservation of the state's beach and dune systems. DWRM currently has two reporting units: wastewater (domestic and industrial) and drinking water. As the QA process for the water regulatory programs is revised, additional programs will be added as reporting units.

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.

In 2018, following a two-day QA workshop, Drinking Water and Wastewater workgroups were established. These workgroups include representatives from the division office and the district offices. The workgroups, with support from AEQAS, have established: 1) specific QA functions for Drinking Water and Wastewater Programs; 2) the role of the subject matter experts and the QAOs; 3) checklists and guidance documents for the QA activities; and 4) the level of effort for the QA evaluations. These efforts are described in more detail below.

The primary QA function of the Drinking Water and Wastewater regulatory programs 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 these checklists will be used. The checklists will be used uniformly by the district and division offices. Training for the use of checklists was held in May 2020, and the checklists were fully implemented on July 1, 2020. In 2020, DWRM also will finalize the comprehensive quality plan for the Drinking Water and Wastewater regulatory programs, designate QAOs, and develop the tracking and reporting mechanisms for these QA functions.

5.2.1 DWRM - The Drinking Water Program

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, enforcing violations, and response to natural disasters. The program also partners with the Florida Rural Water Association (FRWA) under grant agreement to support the program.

5.2.1.1 Drinking Water-Training

Training is provided throughout the year to division and district staff, the ACHDs and facility operators. Specific training related to drinking water QA included:

- Sampling Training
- The Focus on Change Seminar Series
- Lead and Copper Rule
- WACS and PA Database
- PWS Database Training
- PWS Reports Overview Training
- Revised Total Coliform Rule
- Advanced Sanitary Survey Training
- Florida's Groundwater Rule
- Training on the use of Drinking Water data review checklists

The Drinking Water Regulatory Program will track whether the required QA-related trainings were completed in 2020.

5.2.1.2 Drinking Water – Audits/Data Review

Prior to 2018, the types of audits reported for the Drinking Water Programs were inconsistent and not representative of program QA functions. One of the primary challenges was identifying reports that required QA and developing consistent naming conventions for each type of report or data set. Through collaborative efforts between the division, districts, and AEQAS, the workgroup was able to identify all of the drinking water reports and data sets that will be reviewed for QA objectives, as well as the percentage of reports that are to be reviewed. In addition, checklists and SOPs for use of the checklists have been developed to accompany each of these reports and data sets. The reports and data sets that will be audited using the checklists are listed below with the level of effort for QA review presented in percentages. As previously stated, the audits using the checklists were implemented by July 1, 2020.

Bacteriological Reports and Data Sets (5% of total level of service)

- Groundwater
- Well Survey
- Revised Total Coliform Rule
- Special (Precautionary Boil Water Notice and Clearance)

Chemical Reports/Data Sets (5% of total level of service)

- Primary Inorganics
- Asbestos Samples and Certification Forms
- Secondary Contaminants
- Volatile Organic Contaminants
- Synthetic Organic Contaminants
- Radionuclides
- Disinfection Byproducts
- Lead Copper Rule Analysis
- Water Quality Parameters

Monthly Operating Reports (5% of total level of service)

- Monthly Operating Reports
- Surface Water

5.2.2 DWRM - The Wastewater Program

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 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.

5.2.2.1 Wastewater-Training

The Wastewater Management Programs also conduct training for division and district staff throughout the year. One of the primary training sessions is the NPDES Basic Inspector Training Workshop. This workshop is held annually to train new inspectors and cross-train existing inspectors in the proper techniques and procedures for

conducting routine NPDES and non-NPDES inspections. In addition to Basic Inspector Training, the wastewater programs train on the following items that include QA elements:

- NPDES Stormwater Monitoring Overview
- NPDES Stormwater Inspection Reports
- NPDES Expanded Effluent Testing and Analytical Methods MDL/PQL
- Biosolids Annual Summary Reviews
- Toxicity Testing Procedures
- Whole Effluent Toxicity (WET) Training
- Reviewing WET Lab Reports for Compliance
- Pretreatment Program Overview
- 316(b) Rule - the Basics
- CAFO Rule Refresher Training
- Wastewater Water Quality Rules Training
- Florida Stormwater, Erosion and Sedimentation Control Inspector Training and Certification Program
- StormwaterOne Qualified Preparer of SWPPPs (QPSWPPP) AND Qualified Compliance Inspector of Stormwater (QCIS)
- Training on the use of wastewater data review checklists

The Wastewater regulatory program will track whether the required QA-related trainings were completed in 2020.

5.2.2.2 Wastewater-Audits/Data Reviews

District offices are required to conduct a set number of inspections as part of their annual Level of Service (LOS) commitments for the EPA Performance Partnership Agreement (PPA). In addition to the LOS commitment, in 2019, in accordance with Chapter 2019-115, Laws of Florida, the department worked internally to enhance all necessary regulatory activities to protect water quality and lay the framework for water quality improvement work around the state. The department's regulatory leadership determined the first step to this enhancement was a focused increase in inspection rates of: 1) all wastewater facilities with a permitted surface water discharge; 2) biosolids treatment and land application sites; 3) animal feeding operations; 4) large construction sites with a stormwater permit; 5) individual facilities with a stormwater permit with a nutrient limit; and 6) all non-discharging wastewater facilities that are large or are located near a water body impaired for nutrients or not attaining water quality standards.

Because of this increased effort, 100% of DEP regulated wastewater and stormwater facilities with an active discharge or located in priority watershed areas were inspected for 2019. That increased inspection workload prevented the implementation of data review checklists in 2019 as previously planned.

Specific inspection types must be performed to meet the commitment expectations. The expectation is to conduct at least a Compliance Evaluation Inspection (CEI) on each of these facilities annually. The wastewater QA workgroup determined that, beginning July 1, 2020, staff will review QA elements for 20% of facilities annually at the time of inspection so that each facility has received a QA review within the permit renewal cycle.

The following report types will be reviewed for QA objectives at a level of 5% of the total number of regulated facilities annually:

- Discharge Monitoring Reports (Pre-treatment and Biosolid)
- Field Sheets
- Chain of Custody Forms

- Lab Reports
- Groundwater Reports
- Reclaimed Analysis Reports
- Annual DMRs for Specific Parameters
- Bacteriological Reports for Crypto and Giardia
- Toxicity Reports
- DEW/PET
- Quality Reports for DMR

6. Summary of QA Activities, Successes and Goals

6.1 Quality System

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 2019, most reporting units have designated QAOs and current QPs. DWRM regulatory programs and districts decided to reevaluate and reappoint QAOs as part of their QA program review. In 2019, they set the goal to determine which staff have the qualifications and experience to serve in this capacity, but this has not been determined. QAOs should be appointed for Drinking Water and Wastewater programs by July 2020, but Waste Program functions within the divisions and other programs within DWRM still need to have QAOs and have QA activities documented in QPs. All other parts of the agency have designated QAOs, although some do not appear to be active in the role for all program areas for which they are assigned.

Some divisions and districts are missing QPs or have QPs that need to be updated. WETMDL within DEAR has recognized its need to update its QP. RCP work units do not have QPs and have expressed interest in receiving training regarding development of QPs. The Drinking Water and Wastewater regulatory programs are currently developing a unified QP, which is intended to address those programs within DWRM and the districts. DWM updated its QP and finalized it in 2020, but the regulatory districts did not adopt the DWM division-wide QP. DRP's QP is outdated and should be reviewed in 2020. DSL updated its QP in 2019 and finalized it in 2020. Some reporting units still have not incorporated all QA/QC elements and expectations into their QPs, and they should make efforts to do so in 2020. AEQAS is actively working to develop trainings to better describe the components of a QP in order to teach programs that do not have QPs how to establish the appropriate documentation for their Quality Systems. AEQAS is also willing to assist others with their QP updates. AEQAS also conducts Quality of Science Reviews for programs that want their QPs reviewed and their Quality System evaluated for consistency between documentation and QA/QC activities.

The following reporting units did not report on QA-related activities for the 2019 report: DRP, some programs within RCP and DWRA, and parts of DWRM and the regulatory districts. Management and QAOs need to actively collaborate within their reporting units to meet expectations outlined in the QA Directive. This would ensure that the data generated and data used by their reporting unit are defensible and meet applicable DQOs. AEQAS met with QAOs individually in 2020 to assist them with their reporting and help them understand their responsibilities. AEQAS is continuing to reach out, attempting to work with management and the current QAOs to identify expectations for QA activities.

6.2 Ecosystems Restoration

The programs and sections of DEAR, OWPER, DWRA, and the APs and NERRs within RCP make up the 26 reporting units within Ecosystems Restoration. The number of reporting units has remained consistent, though three reporting units from RCP did not report in 2019. 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. RCP's Quality System requires further evaluation to determine which activities are appropriate for all reporting units within the office as well as establish which new programs within the office should report. RCP has had recent success in communicating with external data providers and an increased awareness of the QA requirements for data provided to the agency, both of which lead to higher quality data used by the department.

In the Ecosystems Restoration area, only half of the data generators cite all SOPs utilized in their QPs. All of the data generators have checklists for evaluating the data produced, an improvement from previous years. 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. The greatest deficiencies in this category in the previous two years are the lack of follow-up with corrective actions and the documentation of those corrective actions in the QP by both data generators and users. Reporting units with corrective actions and the documentation of those corrective actions has increased. Also, the majority of data users have established consistent procedures for data evaluation in the last two years.

Nearly all of the employees received required QA training in 2019, and some employees received training that was not required. Training has remained consistent since 2017.

Reporting units in the Ecosystems Restoration area performed various field and lab audits, with sampling performance audits as the most common. The number of audits has been fairly consistent since 2017. All audits generated reports and used checklists, ensuring consistency among audits as in previous years. However, improvement is needed in completion of reports in their required time frame and the follow-up of corrective actions for entities external to DEP to ensure deficiencies have been corrected. All reporting units tracked internal audits in 2019, but only two-thirds are tracking external audits. This is an improvement from the tracking performed in previous years, but further improvement is needed.

The majority of reporting units enter data into and retrieve data from repositories. Most units verify all entered data, but few have written protocols for data entry and verification and there has been no improvement in this area over the last three years. Half of the units perform QA/QC checks on all the data retrieved and a fourth document the procedures. Most of the units that retrieve data have established feedback mechanisms to initiate corrective actions for suspect data found in their data repositories, but only a third document the procedures in their QPs. Some reporting units are responsible for managing data repositories and perform QA/QC checks on the repository records, and most of the units have a mechanism to provide feedback to the generator for suspect data. Overall, there has been an increase in documented protocols and feedback mechanisms for suspect data.

6.3 Lands and Recreation

The two reporting units in the Lands and Recreation area are the Division of State Lands (DSL) and the Division of Recreation and Parks (DRP). Both units have designated QAOs. DSL has an up-to-date QP. The DSL has not

reported training needs nor audits in the last two years. Although DSL is a data user, it did not report any data repository activity involving environmental data.

DRP has not reported QA activities for 2018 or 2019. AEQAS is in communication with DRP and recommends that DRP participate in a Quality of Science Review to determine if QA activities are being conducted throughout the division, update the QP, and determine how QA activities should be reported in future years.

6.4 Regulatory Programs

6.4.1 Division of Waste Management, Division of Law Enforcement, and Florida Geological Survey

One additional reporting unit from DWM, DLE and FGS participated in the 2019 report. The majority of reporting units from this group identified as data users, and a few as data generators and users. All of the data generators have SOPs they follow and have checklists for evaluating data generated. However, only half of generators report that all their SOPs are included in the QP. Most data users have checklists to review the data they use, and there has been an increase in reporting units with the checklists incorporated in their QPs. There also has been an increase in the reporting units with corrective actions in place and corrective actions that are documented among data users in this area of the agency.

All employees within DWM, DLE and FGS received required QA training. This attainment was an improvement from 2018, when some training needs were not met in several categories. AEQAS has asked QAOs what types of training opportunities DWM groups would like to see in the future. Soil sampling and basic QA requirements were highlighted as the most necessary.

Two reporting units conducted 14 external audits; there was no substantial change in the number of audits conducted from year to year. All audits utilized checklists. However, only one of the two reporting units generated reports, had corrective actions and required responses to their audits. Some reporting units conduct extensive data review of permit packages that were not included as audits. This report did not include DWM audit activities that may have been conducted in the districts.

There was an increase in verification of data entered and retrieved from data repositories in 2019 compared to previous years. There is improved documentation of these procedures as well, though there are still reporting units that need to improve implementation and documentation of QA/QC procedures for data entry and retrieval. Most reporting units that retrieve from and manage data repositories have a mechanism for providing feedback to the entities that enter data. AEQAS encourages staff to continue to improve the documentation for all activities involving the entry, retrieval and management of data repositories.

The DWM QP was updated in 2019 to include more information about QA activities and criteria. However, the regulatory districts did not participate in the update nor did they adopt the QP updates finalized in 2020. DWM leadership achieved the following QA goals in 2019:

1. Improve knowledge and awareness of proper QA/QC procedures by increasing training and learning opportunities through presentations, webinars and QA/QC-focused discussion groups.
2. Ensure better access, identification and distribution of QA/QC resources to promote greater attention to and understanding of the importance of QA/QC.
3. Complete review of existing DWM QA/QC guidance, update and refine as necessary, and establish a curated library of QA resources.

In 2020, the DWM hopes to continue improving knowledge and awareness of proper QA/QC procedures, and update and refine as necessary the existing 2020 DWM QA/QC guidance. Additionally, they have established the following goals:

1. Ensure full understanding of the QA/QC screening software ADaPT functions and limitations.
2. Research other available automated QA/QC resources for optimization of the automated QA/QC functions.
3. Consult the QA team on various projects that require deviations from the QA requirements in Chapter 62-160, F.A.C.
4. Keep QAOs trained and inform AEQAS as staff changes.

6.4.2 DWRM & Districts

As identified in the 2016 and 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, the DWRM staff have evaluated the QA processes for the Drinking Water and Wastewater programs. There are other programs within DWRM that need to evaluate their Quality System and provide information for this report.

Drinking Water and Wastewater workgroups, which included representatives from the division office and the district offices, have established: 1) specific QA functions for Drinking Water and Wastewater programs; 2) the role of the subject matter experts and the QAOs; 3) checklists and guidance documents for the QA activities; and 4) the level of effort for the QA evaluations.

The DWRM developed data review checklists for Drinking Water and Wastewater programs, and the division office worked with both Drinking Water and Wastewater to determine how staff can evaluate DQIs to ensure data quality. However, the DWRM has not yet developed a comprehensive QP for the division nor have QAOs been appointed for all programs. DWRM has established the following goals for 2020:

1. Finalize comprehensive QP for the Drinking Water and Wastewater programs.
2. Designate QAOs.
3. Develop the tracking and reporting mechanisms for training and data review QA functions in 2020.

6.5 Overall Conclusions and Continuing Efforts

The maintenance of an effective quality system for the agency is an adaptive and evolving process. AEQAS recognizes the following highlights and continuing efforts for the 2019 reporting cycle.

2019 Highlights:

- AEQAS increased its in-person training QA opportunities in 2019
- Trainings for field samplers and lab analysts are well developed and implemented
- DWM revised its QP in 2019
- DWRM completed data review checklists for its Drinking Water and Wastewater programs
- DEAR conducted audits of nine contracted laboratories for microbiological tests

AEQAS Continuing Efforts and Goals:

- Hosting a quarterly webinar series in 2020 to provide QA-specific training for all DEP staff to access. The first of the series was a general QA training that was tailored to all levels of employees.
- Expanding QA trainings and making them available to employees on-demand to adapt to frequent staffing changes
- Developing QP training for reporting units
- Conducting Quality of Science Reviews for DRP programs
- Assisting in the continuous refinement and documentation of DEP reporting unit Quality Systems, to improve QA tools and clarify QA responsibilities of QAOs and staff
- Conducting annual check-in meetings between AEQAS staff and QAOs

AEQAS encourages leadership to share information regarding trainings with their staff, make QA activities a priority to upholding DEP's vision and values as an agency of integrity and accountability, and support the continued establishment and documentation of QA goals and expectations.

Appendix A: QA Officer and Quality Plans by Reporting Unit as of April 2020

DIVISION OF WASTE MANAGEMENT

QA Officers	LOCATION	PROGRAM/OFFICE Represented	QUALITY PLAN TITLE	QP DATE
John Winters & Nadine Brooks	TLH	Waste Cleanup/DOD	Division of Waste QP	Feb-2020
Dennis Jensen	TLH	Waste Cleanup/Site Investigation	Division of Waste QP	Feb-2020
Breck Dalton	TLH	Waste Cleanup/Waste Site Cleanup	Division of Waste QP	Feb-2020
Amber Igoe	TLH	Hazardous Waste	Division of Waste QP	Feb-2020
Chad Fetrow	TLH	Solid Waste	Division of Waste QP	Feb-2020
Chris Bayliss	TLH	Petroleum Restoration Program	Division of Waste QP	Feb-2020
Elena Compton	TLH	District and Business Support	Division of Waste QP	Feb-2020
Clark Moore	TLH	Operational and Program Performance	Division of Waste QP	Feb-2020

FLORIDA GEOLOGICAL SURVEY

QA Officer	LOCATION	PROGRAM	QUALITY PLAN TITLE	QP DATE
Mitra Khadka	TLH	Florida Geological Survey	Quality Plan for the Florida Geological Survey	Dec-2017

DIVISION OF LAW ENFORCEMENT

QA Officer	LOCATION	PROGRAM	QUALITY PLAN TITLE	QP DATE
Kristin Gousse & Precious Boatwright	TLH	Division of Law Enforcement	Bureau of Emergency Response QP	Apr-2017

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	Jun-2017
Chandra Chandrasekhar	TLH	Bureau of Labs, Scientific Services Support Program	Bureau of Lab QP	Jan-2020
Blake Spencer	TLH	WQAP/Watershed Assessment	Watershed Assessment Section QP	Mar-2020
Stephanie Sunderman-Barnes	TLH	WQAP/Watershed Monitoring	Watershed Monitoring Section QP	Jun-2018
Kalina Warren	CD	WQAP/Regional Operations Center	Division of Environmental Assessment and Restoration, Regional Operation Centers	Mar-2018
Gary Maddox	TLH	WQE & TMDL/GWM	Groundwater Management Section	Oct-2017
James Albright	TLH	WQE & TMDL/Watershed Evaluation & TMDL	Watershed Evaluation and TMDL Section QP	Apr-2015
Anita Nash	TLH	WQRP/Watershed Planning and Coordination	Quality Plan for the Watershed Planning and Coordination Section of the Water Quality Restoration Program	Jul-2018
Lisa Schwenning	TLH	Office of Watershed Services	Watershed Data Services Section QP	Mar-2016

OFFICE OF RESILIENCE AND COASTAL PROTECTION

QA Officer	LOCATION	PROGRAM	QUALITY PLAN TITLE	QP DATE
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Kathryn Petrinec	Ponte Vedra Beach	RCP, GTM NERR	Varies by location; some offices have QA documents that have not been submitted to AEQAS.	Unknown
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OFFICE OF ECOSYSTEM PROJECTS

QA Officer	LOCATION	PROGRAM	QUALITY PLAN TITLE	QP DATE
Alyssa Gilhooly	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
Lauren Coleman	TLH	Water Supply Restoration Funding Section	Quality Assurance Management Plan for the Division of Water Restoration Assistance	Jul-2017

DIVISION OF STATE LANDS

QA Officer	LOCATION	PROGRAM	QUALITY PLAN TITLE	QP DATE
Nicole Haugdahl	TLH	State Lands	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	Florida Park Services	Dec-2012

Appendix B: Survey results from data generators and users about quality system activities and documented components

An “X” in the column indicates the unit answered “Yes,” a blank indicates they answered “No,” and “NA” is the indicator for a response of not applicable. Only the highlighted rows are expected to be answered “Yes” by all reporting units. An asterisk **associated** with a response of NA indicates that the response is not applicable because the reporting unit reported not having a Quality Plan in 2019.

Responses from data generators from Ecosystems Restoration (DEAR and DWRA) used for Figure 3.4

Data Generators: DEAR and DWRA	WQSP	LAB	WAS	WMS	ROCs	TMDL	GWMS	DWRA
Use DEP SOPs	X	NA	X	X	X	X	X	X
Other field sampling activities not covered in SOPs		NA					X	
All sampling techniques in QP	X	NA	X	X	X	X	X	X
DQOs other than following SOPs		X	X	X	X	X	X	X
Checklist for evaluation of data	X	X	X	X	X		X	
All DQOs and procedures to evaluate data in QP	X	X	X	X	X	X	X	
Corrective actions in place	X	X	X	X	X	X	X	X
Document and implement corrective actions	X	X	X	X	X	X	X	
Corrective actions documented in QP		X	X	X	X	X	X	
Revisions, updates or creations of DQOs or procedures for evaluating DQOs		X			X			X
Revise QP		X	X	X			X	X
Finalized QP revisions	NA	X		X	NA	NA		

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

Data Generators: RCP	ANERR	BBSAP	CHAP	CPAP	EBAP	GTM- AP & NERR	NEAP	RB	WRAP	NWFAP	IRLAP	BBAP	CRCP	FKNMS
Use DEP SOPs	X	X	X	X	X	X	X	X	NA	X	X	X	X	X
Other field sampling activities not covered in SOPs	X	X	X	X	X	X	X	X	X		X	X	X	
All sampling techniques in QP	X	X	X	NA*	X	NA*	NA*	NA*	NA*	X		X	NA*	NA*
DQOs other than following SOPs	X		X		X	X	X				X	X		X
Checklist for evaluation of data	X	X	X	X	X	X	X	X		X		X	X	X
All DQOs and procedures to evaluate data in QP	X	X	X	NA*	X	NA*	NA*	NA*	NA*			X	NA*	NA*
Corrective actions in place	X	X	X	X	X		X			X		X		
Document and implement corrective actions	X	X	X		X		X			X		X		
Corrective actions documented in QP	X	X	X	NA*	X	NA*	NA*	NA*	NA*	X			NA*	NA*
Revisions, updates or creations of DQOs or procedures for evaluating DQOs		X										X		
Revise QP		X	X	NA*		NA*	NA*	NA*	NA*			X	NA*	NA*
Finalized QP revisions	NA	X	X	NA*	NA	NA*	NA*	NA*	NA*	NA	NA		NA*	NA*

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

Data Users: DEAR, OWE and DWRA	WQSP	WAS	WMS	TMDL	GWMS	WQRP	OWEP	DWRA
Documented DQOs	X	X	X	X	X	X	X	X
Evaluate to ensure DQOs are met	X	X	X	X	X	X	X	X
Use data evaluated by another DEP work unit	X	X		X		X	X	X
Checklists for evaluation of data	X	X	X	X	X	X	X	X
Evaluation checklists in QP	X	X	X	X	X	X	X	X
Corrective actions in place	X	X	X	X	X	X	X	X
Follow-up with corrective actions	X	X	X	X	X	X	X	X
Corrective actions in QP	X	X	X	X	X	X	X	
Revisions, updates or creations of DQOs or procedures for evaluating DQOs								
Revise QP		X	X		X			X
Finalized QP revisions	NA		X	NA		NA	NA	

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

Data Users: RCP	ANERR	BBSAP	CPAP	EBAP	GTM-AP & NERR	NEFAP	RB-AP & NERR	IRLAP	BBAP	CRCP	FKNMS
Documented DQOs		X	X	X					X		X
Evaluate to ensure DQOs are met	X	X			X				X		
Use data evaluated by another DEP work unit			X			X		X	X		X
Checklists for evaluation of data		X							X		X
Evaluation checklists in QP		X	NA*	NA*	NA*	NA*	NA*			NA*	NA*
Corrective actions in place		X									
Follow-up with corrective actions		X							X		X
Corrective actions in QP		X	NA*	NA*	NA*	NA*	NA*			NA*	NA*
Revisions, updates or creations of DQOs or procedures for evaluating DQOs		X							X		
Revise QP		X	NA*	NA*	NA*	NA*	NA*		X	NA*	NA*
Finalized QP revisions	NA		NA*	NA*	NA*	NA*	NA*	NA		NA*	NA*

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

Data Generators: DWM, FGS and DLE	SIS	FPS	DLE	FGS
Use DEP SOPs	X	X	X	X
Other field sampling activities not covered in SOPs	X		X	X
All sampling techniques in QP	X	X		
DQOs other than following SOPs		X		X
Checklist for evaluation of data	X	X	X	X
All DQOs and procedures to evaluate data in QP	X		X	X
Corrective actions in place	X	X	X	X
Document and implement corrective actions	X	X	X	X
Corrective actions documented in QP	X	X	X	X
Revisions, updates or creations of DQOs or procedures for evaluating DQOs				
Revise QP	X	X		
Finalized QP revisions			N/A	N/A

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

Data Users: DWM, FGS and DLE	PRP	SIS	FPS	SW	WSC	BDSP	HW	CAP	OPP	DLE	FGS
Documented DQOs	X		X	X	X	X	X	X	X	X	X
Evaluate to ensure DQOs are met	X		X		X	X	X	X	X	X	X
Use data evaluated by another DEP work unit			X	X							X
Checklists for evaluation of data	X		X			X	X	X	X	X	X
Evaluation checklists in QP	X	X	X	X			X	X	X	X	X
Corrective actions in place	X	X	X	X	X		X	X	X	X	X
Follow-up with corrective actions	X	X	X		X		X	X	X	X	X
Corrective actions in QP	X	X	X	X			X	X	X	X	X
Revisions, updates or creations of DQOs or procedures for evaluating DQOs				X					X		
Revise QP	X	X	X	X	X	X	X	X	X		
Finalized QP revisions										N/A	N/A