

Quality Management Plan



Alaska Department of Environmental Conservation

Division of Water

410 Willoughby Avenue

PO Box 111800

Juneau, Alaska 99801-1800

January 2025 – January 2029

Quality Management Plan Approval

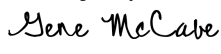
Approval for Implementation:

This Quality Management Plan for the Division of Water is hereby recommended for approval and commits the Water Programs to follow the elements described within.

DEC Approvals

Gene McCabe, Director
Division of Water

Signature: _____

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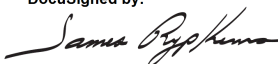
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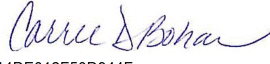
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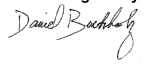
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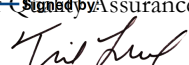
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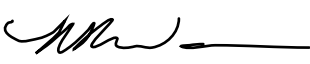
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1.0 Introduction

The Alaska Department of Environmental Conservation (DEC), Division of Water (DOW) Quality Management Plan (QMP) describes the quality assurance policy and procedures utilized by the Division to ensure credible environmental data is collected. The QMP describes the Quality Program's organizational structure, functional responsibilities of management and staff, lines of authority, and required interfaces for those planning, implementing, and assessing environmental sampling or monitoring. Due to its broad scope, implications of the QMP are significant.

This QMP is implemented across DOW programs and assures that all data collection and measurement activities are conducted in accordance with EPA's data collection and quality assurance requirements¹. All organizations conducting environmental programs funded by EPA are required to establish, implement and document a Quality Program per Information Technology/Information Management (IT/IM) Directive [CIO 2105](#) Statement of Quality Assurance.

DEC is committed to robust and comprehensive quality assurance (QA) and quality control (QC) practices. Adherence to the QMP ensures that environmental data generated by, or on behalf of, the State of Alaska is suitable for their intended use, scientifically valid, of known precision and accuracy, of acceptable completeness, representativeness, comparability, and where appropriate, legally defensible.

DOW Programs have integrated QA practices into data collection and measurement activities within its purview. The means by which DOW Programs strive to implement the QA Program includes the following:

- DOW management and staff will establish the intended use(s) for environmental data and the level of data quality necessary to support decisions prior to initiation of data collection efforts.
- All new environmental data generated by DOW will be of known and documented quality using a systematic planning process. This quality and associated level of effort will meet the needs of the intended use of the data as stated in programmatic and individual Quality Assurance Project Plans (QAPPs). This QMP serves as the "umbrella" document under which project-specific and programmatic QAPPs will be developed.
- Acceptable and effective QAPPs and, when appropriate, SOPs will be developed and implemented. DOW Programs adopts the EPA requirements for project-specific QAPPs².

¹ U.S. Environmental Protection Agency (EPA) in Quality Management Plan Standard (<https://www.epa.gov/quality/agency-wide-quality-program-documents#standards>).

² EPA Quality Assurance Project Plan Standard, CIO 2105-S-02 <https://www.epa.gov/irmpoli8/quality-assurance-project-plan-qapp-standard> and its companion document, EPA Guidance for Quality Assurance Project Plans, EPA QA/ G-5, December 2002 http://www.epa.gov/quality/qa_docs.html.

- Project-specific QAPP documents will be submitted to the Water Quality Assurance Officer (WQAO) or designee prior to any new environmental data collection activity. The WQAO is the technical authority for all QA/QC matters. The WQAO is the focal point for interaction between EPA's Regional QA/QC Program and DOW Programs.
- Data quality information will be documented in final reports for all DOW led or funded monitoring projects.
- Regular technical assessment audits will be conducted of program and projects involving environmental data collection to ensure they comply with QA/QC requirements. Deficiencies highlighted in these assessments will be addressed in a timely manner.
- Management will define personnel and training requirements. Adequate resources to support quality assurance efforts will be provided. As DEC's partner in Water Quality, EPA supplies some of the resources to support the DOW's Quality Program through the Cooperative Agreement process.
- Management will provide and support QA training. Training may be achieved through internal training and/ or external sources to staff at all levels to ensure that QA/ QC requirements and responsibilities are understood and implemented at all stages of projects. The EPA will provide complementary training as needed to support the DOW QMP.

2.0 Management and Organization Charts

The DOW consists of five programs that are involved in data collection and/or management of environmental data: Wastewater Discharge Authorization; Compliance and Enforcement; Water Quality (WQ); Water Information; and Facilities Programs. See Appendix A for organizational charts of each group.

WQAO provides technical implementation assistance to the Quality Program and works with the DOW Programs Managers and their staff to ensure that QA/QC is practiced before, during, and after the collection of environmental data.

3.0 Roles, Responsibilities and Authorities for Quality Assurance

DOW Programs Managers establish and implement project objectives and data quality indicators during the planning of grants, drafting of permits, or establishment of environmental monitoring projects. DOW Programs Managers are responsible for ensuring that the quality of the information generated meets the requirements in the approved QAPPs and provide DEC staff with QA/QC directives and training in a manner that it

relevant and pertinent to the project. DEC staff are responsible for adhering to approved QAPPs, conducting data reviews, and ensuring quality controls are implemented in the field.

DEC Water Division Director

Name: Gene McCabe

Phone: (907) 269-7580

Responsibilities: The Director is the overall authority for directing activities in accordance with DOW policies and regulations, particularly 18 AAC 70 Alaska Water Quality Standards (as amended through April 28, 2024); 18 AAC 72 Wastewater Disposal (as amended through December 23, 2009); and 18 AAC 83 Alaska Pollutant Discharge Elimination System (APDES) (as amended through April 8, 2012).

DEC DOW Program Managers

DOW Program Managers, or their successors, are responsible for their respective program's performance in the following areas:

- Facilitate the development, renewal, and implementation of QAPPs by providing technical assistance and training to permittees, grant recipients, consultants, federal, state and local government representatives, tribes, and DOW staff.
- Prior to the collection of environmental data, ensure that all projects collecting data in accordance with a DEC authorized permit, DEC authorized grant, or similar programmatic requirement are adhering to policies and procedures outlined in the DOW QMP.
- Review of division collected environmental data as it is generated to ensure compliance with the QAPP.
- Work with the Water Information Program (WIP) to assure that relevant data become part of databases utilized by the DOW, including:
 - Environmental Data Management System (EDMS),
 - EPA-hosted Integrated Compliance Information System - National Pollutant Discharge Elimination System (ICIS/NPDES), and
 - Water Quality Exchange.

Wastewater Discharge Authorization Program (WDAP)

Program Manager: Jim Rypkema

Phone: 907-344-2288

Activities authorized under WDAP program that require a QAPPs and subject to the QMP include all wastewater discharge permit self-monitoring projects and projects developed, implemented, and/or administered by DOW Programs

Managers and their staff. Types of monitoring include direct measurements or data generation; environmental modeling; compilation of data from literature or electronic media; and collection of data to support the design, construction, and operation of environmental technology.

Compliance and Enforcement Program

Program Manager: Jon Wendel

Phone: 907-344-2281

The Compliance and Enforcement (C&E) Program conducts regulator inspections and responds to complaints as necessary. Sampling activities authorized under the Compliance and Enforcement Program include permit compliance, complaint response, and civil enforcement case development. All C&E activities are subject to the QMP.

Water Quality (WQ) Program

Program Manager: Terri Lomax
269-7635

Phone: 907-

Activities authorized under WQ Program that require QAPPs and subject to the QMP include routine and special water monitoring projects led, managed, or reviewed by WQ program staff or its subcontractors. Examples of monitoring projects include nonpoint source grant projects, Total Maximum Daily Load (TMDL) development, forestry best management practices, storm water assessments, and wetlands projects. The WQ Program also provides funding and technical assistance for regional or community-based water quality monitoring efforts via the Alaska Clean Water Action program.

Facilities Programs

Program Manager: Carrie Bohan

Phone: 907-465-5153

The Village Safe Water (VSW) Program, a component of the Facilities Programs, supports rural communities in their efforts to develop sustainable sanitation facilities. VSW implements the Capital Improvement Project funding allocation system, which is funded by grants from the EPA and USDA Rural Development, as well as the required state match for each. VSW is responsible for allocating and distributing funds to specific projects, which may be administered by either VSW staff or the Alaska Native Tribal Health Consortium, as well as ensuring compliance with all federal funding conditions. For projects managed by VSW staff, the program is responsible to implementing project funding agreements with the community for which the project is intended and providing project management oversight for the life of the project.

On occasion, VSW also facilitates special monitoring projects targeting threats to human health and the environment. Select projects conducted by the VSW program

or its contractors may require QAPPs should they involve the collection and analysis of environmental information and are subject to the QMP.

Water Information Program (WIP)

Program Manager: Dan Buchholz

Phone: 907-451-2158

The WIP is comprised of Data Management (Data) group, a Water Information Management (WIM) group, and the Quality Assurance Officer. The data group is responsible for training DEC staff in the use of the EDMS, which is the DOW permit management database. The WIM group is the analyst/programmer section. WIM educates DOW staff and the regulated public in its role and responsibilities, assists with data entry and flow verification to EPA's Integrated Compliance Information System (ICIS), and conducts regular data reviews. WIM provides accurate and timely web page publishing for DOW and develops internal and external facing custom applications to present data without loss of its integrity or history.

Water Quality Assurance Officer

WQAO: Vacant
269-3066

Phone: 907-

The WQAO provides division-wide focus on quality management. The WQAO ensures that management and staff recognize their respective QA responsibilities, reporting mechanisms, and methods of dispute resolution. The WQAO ensures staff are aware, informed, and knowledgeable of QA/ QC issues by providing training and guidance on current QA/ QC policy, requirements, and guidance documents. The WQAO serves as quality program liaison between the Water Programs and the EPA regional office and maintains a resource file of quality-related documents. The WQAO reports to DOW leadership on issues specific to the QMP via mid-year and end-of-year QA review and to the EPA via the Performance Partnership Grant reporting requirements. The WQAO performs system assessments of the Water Programs and reports the findings to the Water Programs Managers. The WQAO is responsible for coordinating annual review and update of the QMP. The WQAO position holds other responsibilities in addition to the role of QA/QC oversight. In the event the WQAO position is vacant, the Director will select a Program Manager to serve as the WQAO until the position is filled.

The WQAO officer is responsible for assuring the reliability of the state-wide environmental monitoring sampling through:

- Provision of recommendations and guidance to Program/project managers regarding the development and acceptability of QAPPs.

- Service as the DOW Liaison with commercial and state-run laboratories to address general performance or data concerns.
- Lead the development of contractual relationships with commercial and state-run laboratories, field and scientific instruments used by the DOW for internally lead projects.
- Review and approval of QAPPs.
- Completion of data reviews (including data validation/verification) to ensure compliance with approved QAPPs.
- Completion of data reviews (including data validation/verification) of commercial and state-run laboratories for general performance or data reports.
- Providing training to ensure staff incorporate quality controls measures in the field designs.
- Provide training on the interpretation of laboratory reports and field results.
- Provide training on the use and care of field instruments.
- Administers the Discharge Monitoring Report Quality Assurance study.

Enters appropriate/select QA/QC data into EDMS.

- Ensure data and metadata supplied to various national databases corresponds to DEC databases.

4.0 Technical Activities and Programs Supported by the QMP

All DOW Programs that fund or conduct environmental sampling are supported by the QMP. Each program maintains its own standard operating procedures, policies, and quality project plans for generating environmental data. When new procedures are established, programs collaborate with the WQAO to develop the necessary QA documents and ensure compliance with the DOW QMP. The Division routinely conducts the following type of projects and technical activities:

- Ambient environmental monitoring projects;
- Targeted environmental monitoring projects;
- Special projects addressing unique parameters, conditions, or circumstances; or
- Data management of environmental data collected from various sources.

5.0 Conformance with DOW Policies, Procedures, Standards, and Regulations

All DOW Programs generating, using, or requiring the collection of water quality data and measurements under the State of Alaska's jurisdiction will follow the requirements outlined in this

QMP. Policies, procedures, standards, and regulation used by the Division to ensure quality management include the following:

- DEC will meet the requirements of the EPA Forum on Environmental Measurement's (FEM) Policy of Competency (<https://www.epa.gov/sites/production/files/2015-03/documents/competency-policy-aaia-new.pdf>). Management and staff will establish the intended use(s) of water quality data and thus the level of quality necessary to support the intended use prior to data collection efforts.
- DOW will develop and implement acceptable and effective QAPPs and subsequent Standard Operating Procedures (SOPs) in accordance with the most recent EPA directives, currently including EPA Quality Assurance Project Plan Standard (<https://www.epa.gov/quality/quality-program-directives>) or most recent QAPP guidance document (<https://www.epa.gov/quality/quality-program-directives>). Project-specific QAPP documents will be submitted to the WQAO for approval prior to new data collection activities. Technical and administrative authority for all QA/QC resides with the WQAO. In matters of QA and QC, the WQAO reports directly to the Division Director (Appendix A, Figure A1). The WQAO is the primary contact between EPA's Regional QA/QC Program and DOW Programs.
- Data quality information will be documented in final reports for all DOW lead or funded monitoring projects.
- The WQAO is responsible for auditing DOW programs and projects involving environmental data collection to ensure compliance with QA/QC requirements. The WQAO targets auditing 5% of DOW projects with QAPPs, generally prioritizing the review of monitoring projects over program audits. Deficiencies highlighted in these assessments will be addressed in a timely manner. If discrepancies cannot be addressed, or consensus cannot be reached, DEC may solicit an independent auditor.
- DOW will integrate data verification and validation as key components of each QAPP. Initial data review, verification, and validation are the responsibilities of permittees, grant recipients, consultants, and contractors.
- DOW project managers and the WQAO will oversee reviews, validate data, and may conduct audits of QAPP-related projects to ensure compliance. DOW project managers will provide the WQAO with project data and summary reports as needed.
- Whenever possible, the WQAO and the DOW project manager will join grantees, permittee project managers, and their QA officers during monitoring events or laboratory analyses. Audits will verify that monitoring is conducted according to the QAPP and may involve reviewing data verification/validation, observing sample collection and laboratory procedures, and examining field notes. Any deviations from the approved QAPP must be addressed promptly, with amendments documented by DEC staff and the grantee or permittee.

6.0 Quality Assurance Project Plans

DOW requires a QAPP for all division water monitoring projects, permit monitoring projects, or department-funded monitoring projects. A QAPP may either be project-specific

or generic. A project-specific QAPP is developed by the grantee, permittee, contractor, and the DOW project manager or DOW staff with technical assistance from the WQAO.

Examples of environmental data that require QAPP development include:

- Monitoring data collected by Citizens' Environmental Monitoring Groups under Clean Water Act (CWA) Section 319 and other grants.
- Research data collected by non-profit environmental groups and universities under CWA Section 319 and other grants.
- Baseline data collected by prospective permittees and monitoring data collected by permittees as required by wastewater discharge permits under CWA Sections 402 and 404.
- Data collected by DOW staff or its contractors as baseline data or for inspection, compliance, or complaint response to answer environmental questions and to assist DEC to make sound policy decisions.

Generic guidance has been developed to assist in writing QAPPs for water and wastewater monitoring projects, categorized into three tiers based on the scope and complexity of the projects. Each tier corresponds to the level of data quality needed to support the monitoring project's objectives.

Tier 1: This tier is suitable for screening assessments and is not intended for comparison with state or federal water quality standards.

- **Tier 2:** Data from this tier is used for comparing with state and federal water quality standards and requires more extensive Quality Assurance/Quality Control (QA/QC) measures to ensure data validity. Most monitoring projects under the Water Programs fall into this category.
- **Tier 3:** This tier is reserved for cases where data must withstand rigorous legal scrutiny, such as probable legal enforcement actions. Few projects are expected to fall into this category.

A generic QAPP template has been developed for water and wastewater monitoring to guide staff, grantees, and permittees through the process of writing a *Tier and project specific* QAPP that is consistent with the intent of the project and EPA's guidance documents. Tier determination are governed by several factors including the quality objectives of the project (e.g., APDES permit compliance), pollutant of concern, and reporting requirements. This template and additional guidance documents provide types of specific monitoring criteria (EPA water/wastewater approved methods of analysis, detection limits, accuracy, precision, data completeness and sample representativeness, sample preservation, and holding times) that are integral components of Quality Assurance. The guidance documents can be found on the DEC webpage at <https://dec.alaska.gov/water/water-quality/quality-assurance/>

The WQAO provides training and technical assistance to DOW project managers, staff, grant and permit recipients, and consultants throughout all stages of the QAPP, from development to

implementation and validation. The WQAO provides guidance on developing project objectives, data quality indicators, appropriate sampling and analytical methods, and other QAPP-related aspects. The final drafts of DOW QAPPs are reviewed and approved of by the WQAO. The DOW project managers and the WQAO ensure that data quality indicators are clearly stated in DOW project QAPPs regarding the method detection levels required to meet the project-specific objectives. The WQAO ensures that the most current analytical procedures approved of at 40 C.F.R. 136 or by EPA on a case-specific basis are identified in the QAPP.

Substantive modifications of DOW-approved QAPPs require that all signers review and approve/sign off on proposed modification(s). A minor modification of an approved QAPP (e.g., changes in sample location or timing that are within 10% of the QAPP data collection methods), only requires that the WQAO and the DEC project manager agree to the modification and notify all members listed in the QAPP Distribution List.

Data Quality Requirements - The type, quality, and number of data measurements required to support the project purpose must be defined for monitoring, sampling, and analyses. The type and number of samples collected must be appropriate to achieve the level of precision, accuracy, and data completeness required by the QAPP. The selection of field and laboratory analytical test methods and appropriate detection and reporting levels are the responsibility of DOW project managers, with concurrence from the WQAO. The analytical methods selected must be referenced in either 40 C.F.R. §136, unless pre-approved by EPA, or in Alaska Water Quality Standards at 18 AAC 70 depending on data uses. Other parameter requirements can be found in 40 CFR §136.3.

Data Quality Indicators - Data quality indicators can include but are not limited to the following: blanks, standard reference materials, QC check samples, replicates, spikes, and matrix spike duplicates. The QAPP defines each measurement parameter/method including minimum data acceptance criteria: precision, accuracy, detectability, and data completeness.

Analytical Results - DOW project managers, with assistance from the WQAO, are responsible for ensuring that analytical results are consistent with each other, and that they meet the project objectives as specified in the QAPP. The Project manager communicates data requirements to those collecting the data and are responsible for ensuring that data results are received in a manner consistent with QAPP specification.

Laboratory Standard Operating Procedures - These are the standard procedures used by laboratories to accomplish laboratory operations. All monitoring projects implemented by DOW staff, grantees, permittees, and contractors follow methods approved in 18 AAC 70; unless noted in the QAPP or project-specific QAPP checklist. Contracted laboratories are required to have SOP documents for the methods performed. When a contracted laboratory is used for analyses, the laboratory's QMP will be referenced in the project-specific QAPP.

Laboratories will submit data QC sheets to the DOW project manager in addition to analytical data results. APDES permittees will maintain QC data sheets used to validate all permit required reported monitoring data and have available to DOW upon request for a minimum of five years. When data quality objectives are not met, laboratories will provide DOW and the permittee with information
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about these anomalies, as well as a discussion regarding the appropriate QA/ QC corrective actions taken.

Laboratory Records - As analyses are completed, it is the responsibility of the DEC laboratory or privately contracted laboratory personnel to review, verify, and validate these data. The laboratory supervisor must review and approve the data results file before it is sent to DOW Project managers and to DOW grant/permit recipients or consultants. The laboratory will submit QC data sheets, along with analytical results, and will provide information to DOW regarding deviations from data quality objectives. Completed chain-of-custody or transmission forms will also be provided to DOW. DOW may require that the laboratory provide the following information: observations and interpretations made during analyses by the analyst, records of when and how analyses were performed, and permanent records of raw analytical results produced by various instruments.

Other Generated Environmental Data - DOW has the capacity to utilize drones and similar remote sensing tools to conduct aerial surveying for compliance monitoring. These instruments generate data in the form of alphanumeric values, images, and videos. The utility of these instruments is specific to the DOW project of interest and QAPPs and SOP's specific to their use will be developed and approved by the WQAO during the development phase of DOW projects.

7.0 QA Field Activities

Qualified and trained personnel must be used to perform all sampling and monitoring activities. Technical functions may include sampling, testing, shipping/transporting, evaluating, reviewing, validating, and verifying data. These activities are conducted by DOW staff, grantees, permittees, subcontractors, and others as prescribed in a QAPP. Final QAPP approval rests with the WQAO for all field related QAPPs statewide. Field activities subject to QAPP approval and QA/QC can include the following:

Field kits and lab equipment - Equipment will be calibrated and in working order. Kits will be fully stocked, and reagents will be up-to-date. Expired reagents will be disposed of properly.

Custody Documents - Chain-of-custody or transmission forms are usually provided by contracted laboratories and include chain-of-custody forms, receipt for sample forms, and sample tags.

Field Log Books and Field Notes - Log Books are bound, page-numbered books. Log books and data sheets contain a detailed record of what, when, where (including site maps), why, how, and who took each sample. The results of associated field measurements, field calibration results, and background readings are recorded. Other factors that might affect sample quality or interpretation of results, such as ambient temperature and climatic conditions, may also be recorded in the logbook or on the field notes.

Field Photographs - A visual record of site conditions, processes, samples, and sample source may be taken.

Standard Operating Procedures (SOPs) for sampling, field and analytical measurements - SOPs are procedures used for routine activities which may be incorporated into or referenced in the

QAPP. DEC project managers are responsible for ensuring that procedures are understood and followed in the field and laboratory and that deviations from these procedures are documented.

Field Monitoring

Prior to field monitoring, quality assurance occurs through calibration and verification of instruments, review of lab supplies, and care and maintenance of equipment. Ensuring all field instruments are calibrated and operating correctly ensures the accuracy and precision of field measurements. Calibration measurements must be logged and recorded in accordance with QAPP requirements. In the event laboratory samples are to be collected, a careful review of sampling handling instructions and storage of lab bottles reduces the risk of sample contamination. All field equipment should be cleaned, stored, and maintained in such a manner as to ensure future sample integrity.

Once field monitoring is completed, the group responsible for the monitoring must review, verify, and validate the data in accordance with QA/QC procedures outlined in the project specific QAPP. The supervisor overseeing the field monitoring must then review and approve the data results before they are submitted to the WQ Project managers. The field monitoring group is required to submit to DEC complete QA/QC information sheets along with the data results, providing explanations for any deviations from data quality objectives. Additionally, they will submit completed chain-of-custody or transmission forms where applicable. DEC may also require that responsible field monitoring personnel provide the following information: observations and interpretations made during sampling or analyses, records of when and how analyses were performed, and permanent records of raw analytic results.

Post field monitoring quality assurance actions should include post sampling instrument verification, proper storage and transport of sample bottles, and adhering to the QAPP's and manufactures recommendation on equipment cleaning, storage, and maintenance.

8.0 Data Review, Validation and Verification, and Data Usability Reporting

Data review, verification, and validation are assessment techniques used to accept, reject, or qualify data in an objective and consistent manner.

Data review – Data review is the process that evaluates the overall data package to ensure procedures were followed and that reported data is reasonable and consistent with associated QA/QC results.

Data verification – Data verification is the process of evaluating the completeness, correctness, and conformance/compliance of a specific data set against the method, procedural, or contractual requirements.

Data validation – Data validation is an analyte- and sample-specific process that extends the evaluation of data beyond method, procedural, or contractual compliance (i.e., data verification) to determine the analytical quality of a specific data set to ensure that the

reported data values meet the quality goals of the environmental data operations (method specific data validation criteria).

These assessment techniques are performed by persons implementing the environmental data operations, as well as by personnel “independent” of the operation, such as the respective organization’s QA personnel, and at some specified frequency. These activities occur prior to official use of the environmental data generated, for example submitting data to Ambient Water Quality Monitoring System, or as in the NPDES program, reporting data to DEC Water Permits and EDMS.

Procedures for data review, validation and verification are program specific and specified in the Program’s SOPs and QAPPs.

9.0 Computer Hardware and Software

Information Technology (IT) professionals employed by the State’s Office of Information Technology (OIT) are responsible for maintaining information systems. Documentation is available on the OIT website under OIT Policies and Planning (<https://oit.alaska.gov/About-Us>). These documents outline the processes for developing, installing, testing, using, maintaining, controlling, and documenting computer hardware and software. The processes for assessing and documenting the impact of changes to user software and hardware are also found in this document.

The Department uses a computer architecture including multiple systems, servers, and digital storage, with Local Area and Wide Area Networks including Internet providing interconnectivity of local, state, and federal computing resources. Access onto the networks and systems require the use of user credentials, including (at least) username and security password. OIT professionals maintain the systems, servers, storage, and the network. Technology professionals perform back-up functions on a pre-defined periodic schedule.

OIT establishes policies and standards for the purchase of network hardware and software. Development and adoption of policies regarding data management are conducted pursuant to a policy adoption SOP.

Computer hardware and software installation, support and maintenance are provided by OIT. Staff from OIT install new computers and software and provide performance checks and verification with test data. All computers are accessed through the Department’s Local Area Network, which is password protected.

Computer software for completing basic office tasks is made available and maintained by OIT staff. This software provides word processing, database, geographic information system, and internal communication function. OIT installs and maintains computers equipped with updated Microsoft Office and other essential software. The Division Water receives desktop and server support from OIT. Within DOW, the Water Information Program oversees contractors who provide databases for the management of water quality data and they develop and manage internal custom databases. These systems include those for permit management, water quality data, financial tracking, web-based permit applications, permit searches, and various smaller software applications.

10.0 Organization Competence

DEC uses standardized job specifications and classifications to guarantee a base level of competency. Staff hired within DOW generally must meet minimum qualification standards that are established prior to the time of recruitment in detailed position descriptions. These qualification standards are incorporated into position requirements to ensure that personnel have the appropriate experience, skills, and education to fulfill the necessary job functions. DOW provides access to training, on-the-job and through course work and encourages employees to continue their education, especially in job-related fields.

11.0 Personnel Training

All DOW personnel involved in the collection, documentation, and interpretation of data will have adequate education, training, and experience both in the area of their technical field and in QA/QC procedures. All contractors, grantees, and permittees who serve similar functions as DOW staff are required to demonstrate adequate experience and knowledge to competently perform their assigned duties.

11.1 Training Requirements

DOW Programs provide comprehensive training for both management and staff to meet all statutory, regulatory, and professional requirements for their roles and responsibilities. Each DOW Program has developed training requirements unique to those job duties within that program. Trained professionals carry out environmental monitoring tasks including sampling, field and laboratory measurements, instrument calibration, data review, verification, and validation. DOW staff participate in training courses that cover a wide range of topics such as QA/QC, Development of Water Quality Monitoring Programs, Statistics, Water Quality Standards and Monitoring, Permit Writing, Grant Writing, Nonpoint Source Pollution Control, Enforcement, Computer Technology, Safety, and Supervision. Water Programs staff may be required to complete EPA's Water Quality Standards Academy, NPDES Permit Writers Course, and Whole Effluent Toxicity training.

11.2 Training Processes and Documentation

The process for identifying training needs, providing training opportunities, and documenting the training received is outlined as follows:

Each fiscal year, all Water Program staff prepare individual work plans detailing training needs and creating development plans. Water Programs Managers then use this information to build the annual budget for the DOW. Each employee receives annual performance evaluations in which employee qualifications and training needs are discussed. Employee personnel files include records of employee qualifications and training received.

The WQAO receives annual training in QA/QC processes. The WQAO, in consultation with Programs Managers, provides QA/QC training for Water Programs. In addition to

formal training conferences and workshops, the WQAO continually works with Water Program staff to ensure that all data generated and or utilized by DEC Water Program staff meet the requirements of this QMP.

12.0 Procurement of Items and Services

12.1 Non-Professional Items and Services - Review and Approval

Procurement items include general supplies, computer hardware and software, field and laboratory analytical equipment, field and laboratory parts and supplies, calibration standards, and chemical reagents, etc. Requisition forms are available to all staff for procuring these items. These forms require specific information for procurement to occur, such as financial coding, item description, recommended vendor, costs, delivery date and signatory approval by the individual granted spending approval authority. Information regarding procurement can be found on the Alaska Department of Administration's Office of Procurement and Property Management website ([Home, Office of Procurement and Property Management, State of Alaska](#)).

The Alaska Department of Administration's Office of Information Technology (OIT) provides hardware and software computer services for ADEC. Purchases of computer hardware and software must have the signed approval of OIT staff. Information regarding hardware and software services can be found on the OIT website ([Home, Office of Information Technology, State of Alaska](#)). Professional Services, Contracts and Grants

DOW Programs may use private contractors, grantees, permittees, partners, or volunteers to conduct sampling at various locations across Alaska. Professional services are procured according to the requirements in the DEC *Procurement and Building Services, Purchasing Document, Request for Proposal*. The contract must comply with Alaska Statute 36.30, *State Procurement Code*.

Any DOW lead or funded projects that generate environmental data are required to show competency under *Policy to Assure the Competency of Organizations Generating Environmental Measurement Data under Agency-funded Assistance Agreements* FEM-2012-02, Revision 1; Approved: March 13, 2013. The document establishes the EPA's policy requiring organizations generating or using environmental data under certain Agency-funded assistance agreements to submit documentation of their competency prior to award of the agreement or if that is not practicable prior to beginning any work involving the generation or use of environmental data under the agreement.

13.0 Document and Record Process

DEC policy 02.02.103 requires regulatory correspondence and documentation be stored in a secured electronic format. All non-confidential documents are stored either on websites, Division network drives, or in federal or Division databases such as the EDMS, ICIS-

NPDES, or AWQMS. Confidential documents are stored on protected network drives or secured databases.

DOW Databases:

- EDMS allows the DOW to track APDES permittee discharge monitoring report (DMR) data, other required reports, and compliance and enforcement data. While EDMS is contract service provided by Winsor, the Division has invested significant resources to customize tools and configurations unique to Alaskan needs.
- All ambient (i.e., non-permit discharge data) water quality data generated or collected in support of DOW programs is entered into AWQMS. This system was developed by a consortium of states and EPA in Region 8 and is managed through a contract with Goldsystems. AWQMS was implemented in Alaska in 2009 with its first use in production occurring early in 2010. DEC staff and grantees are trained in the quality requirements for AWQMS data uploads and in the upload processes with the commitment by DEC that DEC-generated and grantee-generated data is being entered in AWQMS. The approved project QAPP lists the specific project minimum data requirements, including QA/QC collection and analysis information required of AWQMS for a project. Annually, data is transmitted from AWQMS to EPA Water Quality Exchange for hosting on the Water Quality Portal.
- Information and chronology related to specific waterbodies will be tracked in Water Tracking and Reporting System (WTRS). This database is currently in development and will allow the Division to more effectively track actions, projects, and commitments related to individual waterbodies.

DOW follows the retention schedule spelled out in Alaska Statute, Management & Preservation of Public Records, which may be found at: <https://archives.alaska.gov/rims/schedules/dec.html>

Records management and preservation is defined in Alaska Statute, Management & Preservation of Public Records at <https://www.akleg.gov/basis/statutes.asp#40.21.010>

The disposition of state records must be in accordance with 4 AAC 59 and records management policies and procedures. These regulations, policies/procedures, applicable forms, etc. may be found at: <https://archives.alaska.gov/rims/index.html>.

14.0 Plan, Do, Check, Act (PDCA) Quality Model

The DOW Quality Program provides a framework for the planning, collection, documentation, and assessment of data conducted by DOW programs. This approach enables DOW to generate the type and quality of information required to fulfill its statutory responsibilities.

All DOW personnel have a responsibility for quality and will continually strive to build it into work processes, products, and services.

14.1 Quality Assurance Project Plans (QAPPs)

DOW Programs managers and staff are responsible for implementation of project specific and programmatic QAPPs in the field and in the laboratory. Each quality assurance project plan (QAPP) contains four major elements for managing (*Plan*), planning (*Do*), implementing (*Check*), and administering (*Act*) continual improvement for environmental data collection. Detailed information regarding QAPPs can be found on the DEC DOW QA website (<https://dec.alaska.gov/water/water-quality/quality-assurance/>).

The Four major QAPP elements are:

Plan - This element covers project management. This includes information regarding:

- Project objectives
- Identification of project managers and personnel
- Roles and responsibilities of project managers and personnel
- Project goals
- Description of processes for the development of performance criteria such as DQOs
- Description of data analysis (review, validation, verification)
- QA/QC activities used for data quality assessment
- Projected schedule, timeline, and milestones
- Resources needed to complete the project
- Regulatory and contractual obligations

Do - This element describes the processes for how produced data will be high quality, scientifically valid, legally defensible, and appropriate for meeting the project goals. This includes information regarding:

- Procedure documentation such as SOPs and reference methods
- Performance and acceptance criteria
- Processes for use of measurement equipment
- Processes for ensuring sample integrity

Check - This element describes Quality Program assessments. These assessments are performed at least once per year to ensure that projects are being executed effectively. This includes information regarding:

- Assessment tools
- Performance evaluations
- Technical system audits
- Data quality assessments
- Assessment frequency
- How assessments are conducted, evaluated, and documented
- Who is conducting Quality Program assessments
- Training and experience required for Quality Program assessors

Actions to be taken following assessment findings

Act - This element describes the corrective actions process following data collection. This includes information regarding:

- How management and staff respond to corrective action recommendations
- Documentation procedures for the corrective action process
- Processes for identifying and correcting Quality Program non-conformance

14.2 Water Quality Monitoring, Sampling and Measurements

Activities carried out by DEC staff, grantees, permittees, subcontractors, and others involved in baseline, inspection, compliance, and complaint-response monitoring may encompass sampling, testing, shipping/transporting, and data validation and verification. As such, DEC project managers are responsible for coordinating with internal (i.e., DEC staff and WQAO) and external agents (e.g., grantee project managers, subcontractors) to ensure that an approved QAPP is in place before any data collection occurs.

15.0 Dispute Resolution Process

DEC project managers, grantees, contractors, or permittees serve as the first points of contact as data are received. If problems occur with monitoring protocols or elements of the approved QAPP cannot be adhered to, project managers discuss and resolve these problems in coordination with the WQAO.

When technical issues regarding quality assurance arise or the results of WQAO auditory process (See Section 5.0) are in dispute, resolution should occur at the lowest management level practicable. All parties should resolve disputes through discussion and negotiation. If unsuccessful, final resolution will rest with the DOW Director with deference given to recommendations from the WQAO for all disputes not outlined in 18 AAC 15.010. Disputes regarding decisions outlined in 18 AAC 15.010 must adhere to the process outlined in 18 AAC 15 Administrative Procedures.

16.0 Adaptive Management

At the project level, DOW project managers coordinate with the grantees, permittees, and division staff to assure that the QAPP has all the required elements and is signed by all parties. Project managers will interact with the WQAO, grantees, contractors, permittees, and monitoring staff to ensure QA/QC issues are identified and resolved in a timely manner. This occurs while data is reviewed, validated, and verified, as well as during field and laboratory inspections and audits.

The WQAO reports on QA/QC progress in the DEC-EPA Performance Partnership Grant and/or single source funded grant reports as required. These reports include the products and processes of the previous fiscal year, QA progress, problems, and recommended improvements. The reports include a review of the projects completed during the previous fiscal year, the QA progress made, and recommended improvements.

EPA requires Quality Management Plans be reviewed and updated at least every five years. The WQAO and DOW Program Managers perform a documented review of the QMP on an annual DEC DOW Quality Management Plan 2025-2029

basis and make recommendations for improvements. The WQAO coordinates this effort. If acceptable, recommendations will be incorporated into an updated Water QMP. If needed, outside audits of DOW Programs will allow DEC to determine how well the QMP is being implemented.

16.1 Internal Assessment

All Water Programs staff involved in data generation, use, and compilation are responsible for overseeing the quality assurance activities within their purview. This includes identifying and responding to quality assurance problems and needs. It is important that appropriate corrective action is taken promptly to resolve program and project-specific problems.

Programs Managers and the WQAO must be kept informed of all Water Programs and project-specific problems, needs, and corrective actions.

The WQAO provides a level of independent oversight by conducting reviews of the Water Programs. These reviews provide an independent qualitative assessment to determine whether the QMP, policies, procedures, and practices adequately address generating the type and quality of data required. Management supports the WQAO in the efforts to assess situations, identify the problems/issues, and recommend appropriate solutions.

To ensure that the policies of the QMP are implemented, the WQAO, along with the project manager, is responsible for the review and approval of project-specific QAPPs. The QAPPs will be reviewed for adequacy and modified as necessary. The WQAO will strive to meet a 30-day turnaround time in the review and approval of QAPPs.

The WQAO and project manager will assess specific projects in two ways: site inspections or field audits and data reviews. The WQAO will accompany the DEC Project Manager and/ or the grantee or permittee project manager or quality assurance officer on routine monitoring events. Although the contracted laboratory and/ or grantee or permittee is responsible for the verification and validation of all laboratory and/or field data under their purview, the project manager will spot check all data for reasonableness.

Overall Project Assessments are based on the following:

- **Quality Assurance Project Plan** - Before the project begins, the WQAO and the project manager use the QAPP to evaluate the adequacy of facilities, equipment, supplies, personnel, and existing procedures to meet project objectives and identify the data quality indicators. Findings of deficiencies or inadequacies are discussed with the DEC staff, grantee, contractor, management, and technical experts, as necessary. Decisions are made as to how to proceed based on the findings.
- **Quality Control Indicators** - Project staff use quality control indicators to identify problems with sampling and/or analytical procedures and to highlight results outside the required Data Quality Objectives. Quality control indicators can include blanks, standard reference materials, QC check samples, replicates, spikes, and alternative methods. QAPPs will describe the precision, accuracy, completeness, comparability, and representativeness required. Problems identified are documented in the project

file. Corrective action is subject to the same technical assessment as the original procedures.

- **Project Review/Assessment** - As each project is concluded, the project manager evaluates it for completeness, accuracy, and appropriateness to meet the project objectives. The procedures used and the documents generated are evaluated for adherence to the approved QAPP and EPA and DEC policies and procedures.
- **Reports** - The preparation of the interim and final project reports and assembly of the project file and database are important milestones in the assessment process. These documents and database files provide the information necessary to make environmental management decisions based on sound science. Project report preparation is the responsibility of the project manager and/or the grantee, or contractor. The project report summarizes the project and contains observations, monitoring, and measurement results. The project manager is responsible for ensuring that observations and data are internally consistent, and meet QAPP objectives.
- **Project File** - The project file is the repository of documents related to the project, including both field and laboratory records. The project manager is responsible to ensure that relevant documents are in the file, the file is secure, and in accordance with Department policies and procedures.

16.2 External Quality Program Review

The Division of Water may undergo external audits to ensure achievement of the QA objectives expressed in the QMP, as needed or required. EPA is mandated to audit state agency Quality Programs once every three years. External audits will determine the adequacy of, and adherence to, the QMP policies within all the Water Programs and their project-specific QAPPs.

Following an external audit, the Water Programs Managers and the WQAO will review the recommendations provided by the outside auditor and evaluate these recommendations. Audit results, recommendations, and QA improvements will be reported to EPA. The Water Programs Managers decide which recommendations are to be included in an updated QMP, and the schedule for implementation.

References

Alaska Wastewater Disposal, 18 AAC 72, October 1, 2023

Alaska Pollutant Discharge Elimination System Program, 18 AAC 83, April 26, 2024

Alaska Water Quality Standards, 18 AAC 70, April 26, 2024

American Society for Quality (ASQ)/American National Standards Institute (ANSI) E4,
Quality management systems for environmental information and technology programs—
Requirements with guidance for use (2014)

EPA Quality Management Plan Standard, CIO-2105-S-01

EPA Best Practices Guide for Performance Partnership Grants with States, EPA 140-B-14-
001, June 2014

EPA Guidance for Quality Assurance Project Plans, EPA QA/ G-5, December 2002

CIO 2105, EPA 5360 Manual A1 and 40 CFR 30.54

EPA Quality Assurance Project Plan Standard, CIO-21-05-S-02

Definition of Terms

Data Quality Indicators - sampling and/ or analytical procedures used to highlight anomalous results. They can include blanks, standard reference materials, QC check samples, replicates, spikes, and alternative methods.

Environmental Information - Any measurements or information that describes environmental processes or conditions or the performance of engineered environmental systems.

Project Managers - The DEC Project managers are the lead staff in the development and implementation of Water Programs monitoring projects, in the development and administration of grants, and in the development and maintenance of wastewater discharge permits. As such, Project managers are the lead staff ensuring that each project quality assurance project plan follows the EPA Quality Assurance Project Plan Standard requirements adopted by the Water Programs.

Project Objectives - The overall objectives (reasons) for which the environmental monitoring samples are collected and analyzed.

Quality Assurance - addresses the planning of environmental projects, implementation of work activities, assessment of the process, and the results and feedback to the process.

Quality Control - includes the scientific observations made and experimental results generated during the project.

Quality Management Plan - a document that describes the quality program in terms of the organizational structure, functional responsibilities of management and staff, lines of authority, and required interfaces for those planning, implementing and assessing all activities conducted.

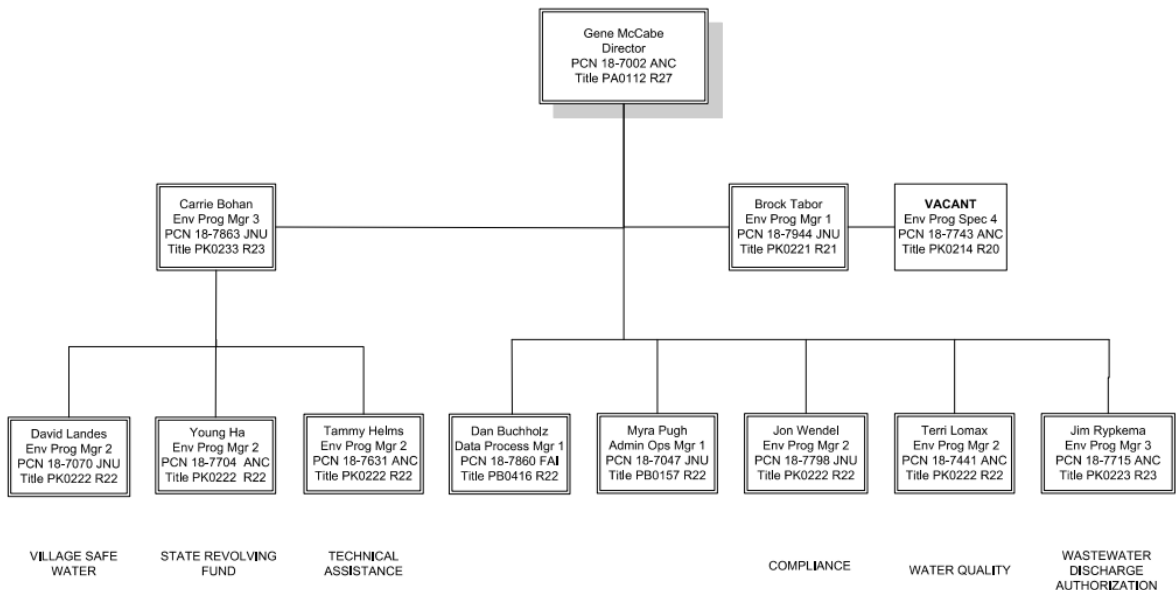
Quality Program - a structured and documented management system describing the policies, objectives, principles, organizational authority, responsibilities, accountability, and implementation plan of an organization for ensuring quality in its work processes, products (items) and services. It provides a framework for planning, implementing, documenting, and assessing work conducted by the organization and for carrying out required QA/ QC activities.

WQX (Water Quality eXchange Network) - is a repository for water quality, biological, and physical data and was developed by EPA for use by states and the public.

Organization Chart as of January 2025

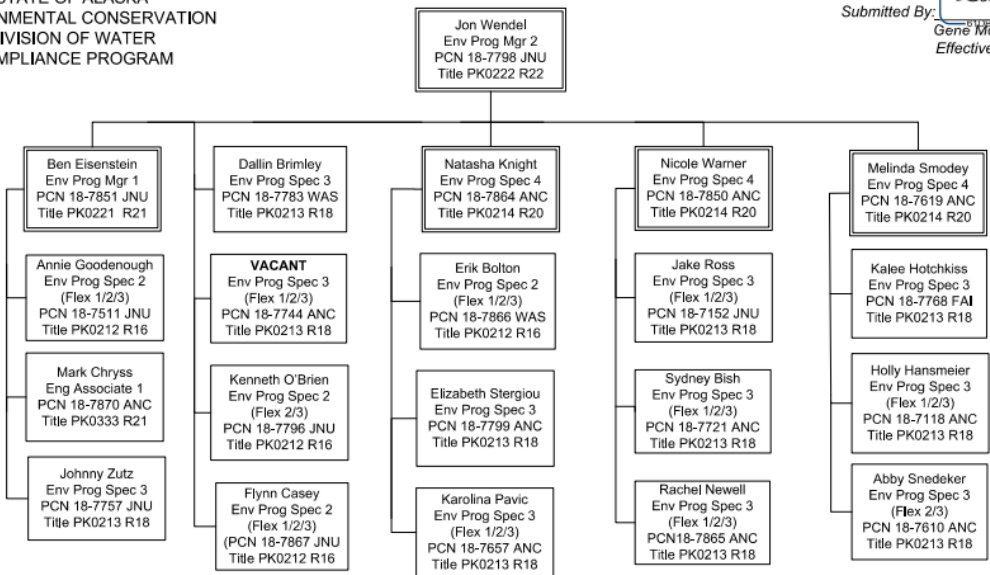
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Gene McCabe, Director
Effective January 2025

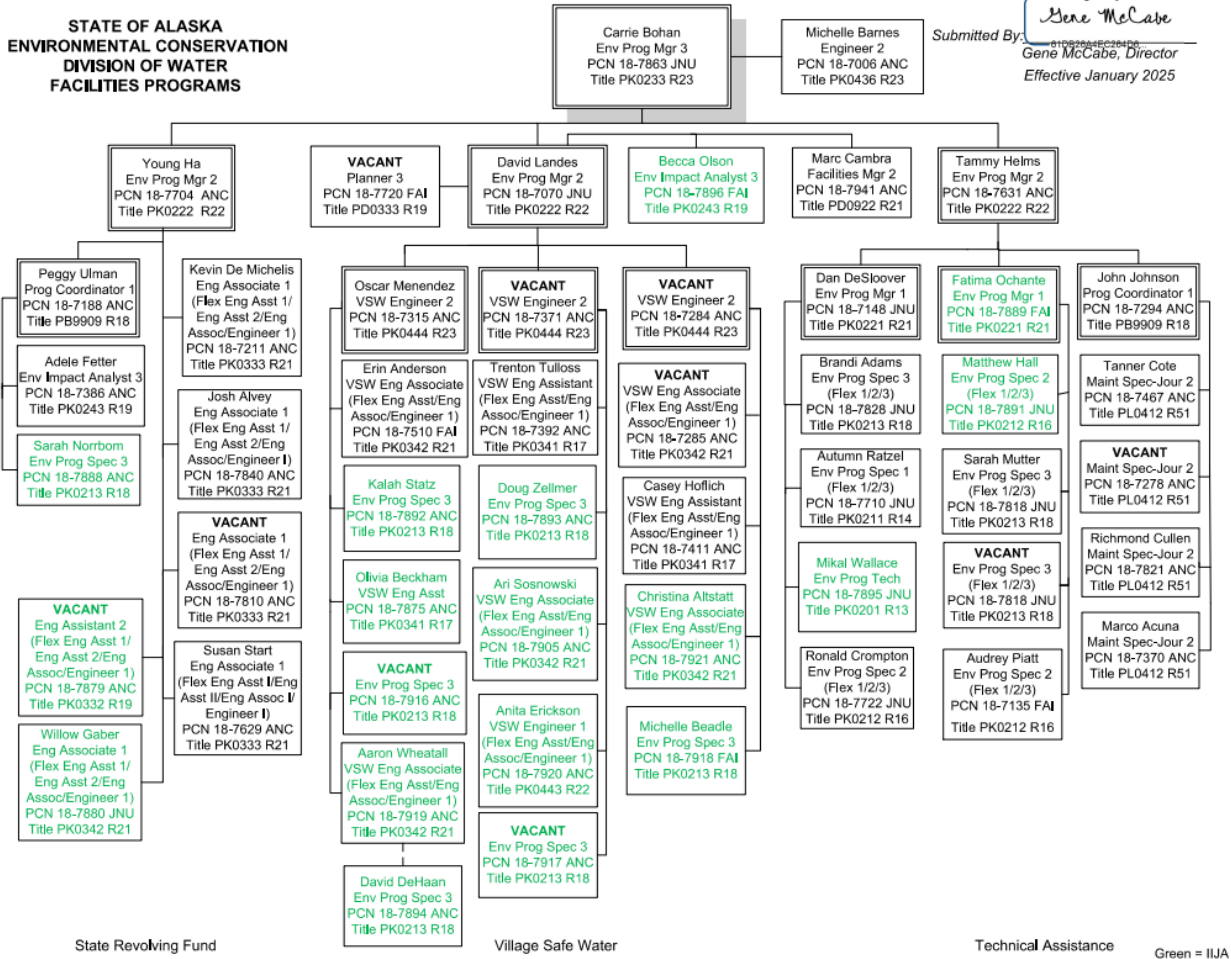


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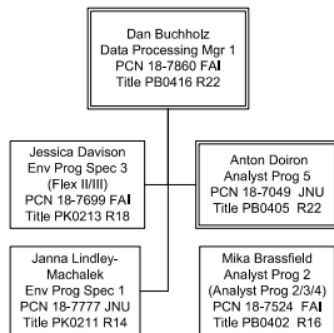
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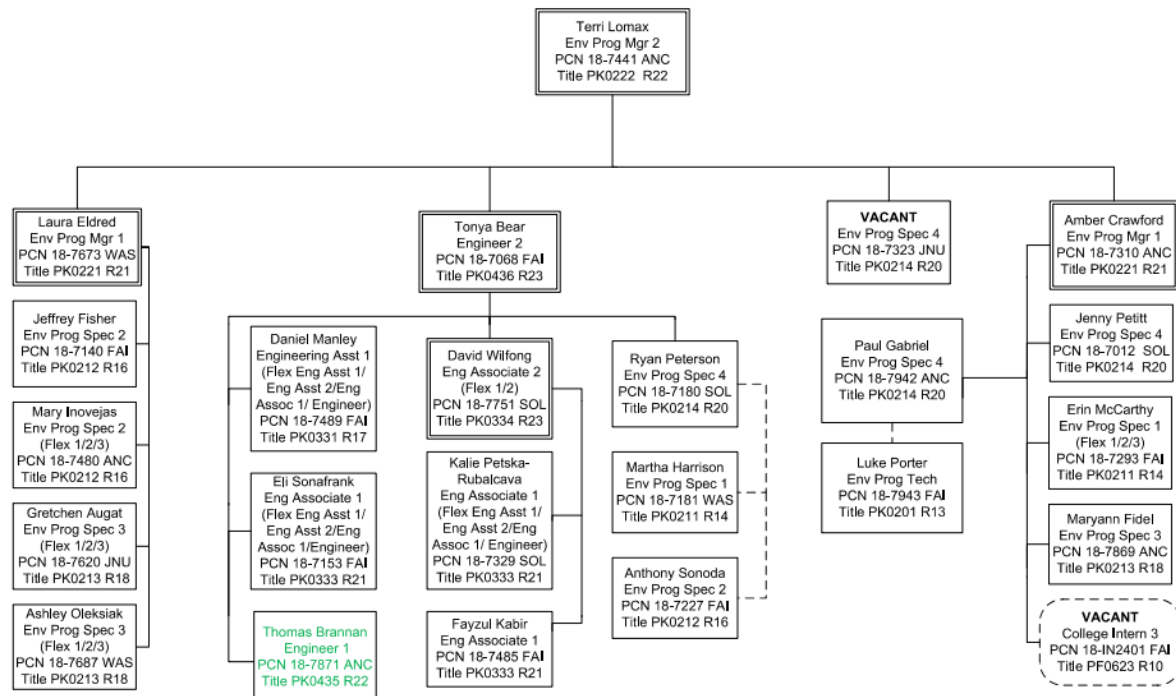


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WATER AND INFORMATION PROGRAMS



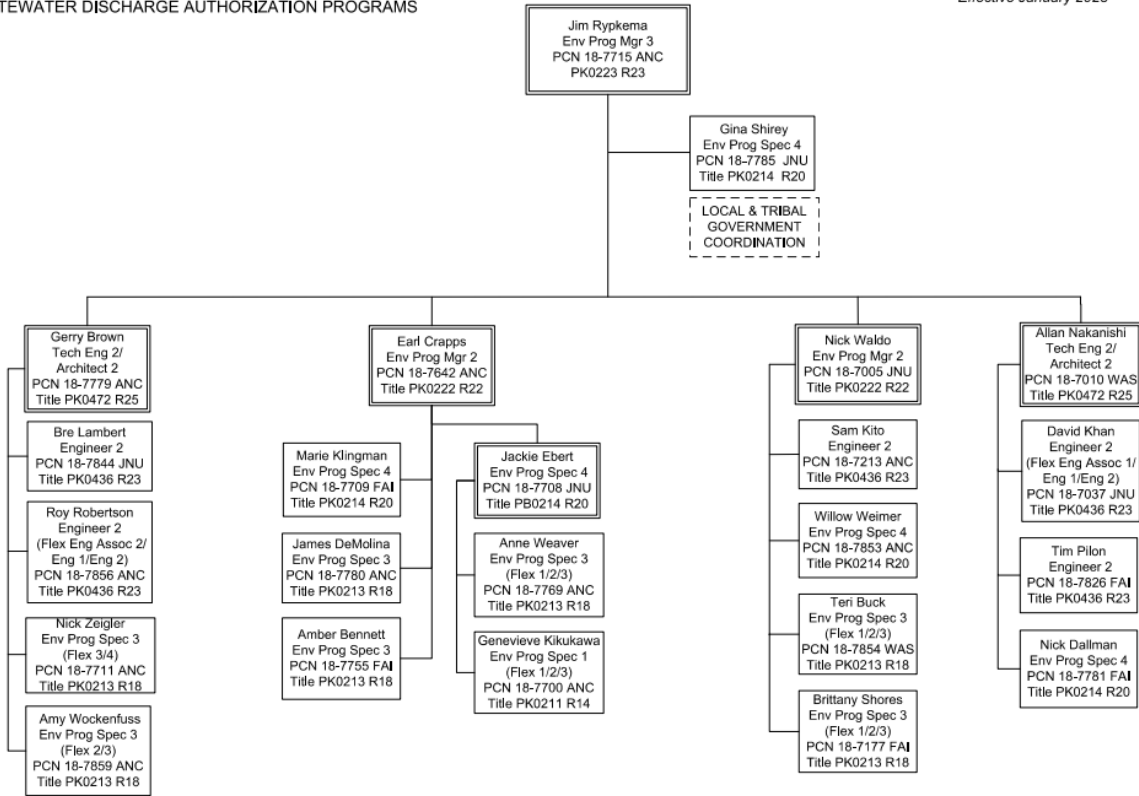
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