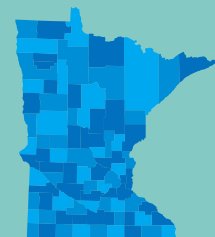


October 2023

Minnesota Pollution Control Agency Quality Management Plan

The Minnesota Pollution Control Agency's Quality Management Plan describes the quality management structure and the processes used to maintain a Quality Management System consistent with U.S. Environmental Protection Agency requirements.



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Document number: p-eao2-15

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Definitions

Quality Assurance - Quality Assurance (QA) is an integrated system of management activities involving planning, implementation, assessment, reporting, and quality improvement to ensure that a process, item, or service is of the type and quality needed, and expected, by the customer.

Quality Control - Quality Control (QC) is the overall system of technical activities that measures the attributes and performance of a process, item, or service against defined standards to verify that they meet the stated requirements established by the customer, operational techniques and activities that are used to fulfill requirements for quality.

Quality Assurance Program Plan - Quality Assurance Program Plan (QAPrP) are documents that describe Quality Assurance details that are specific to a Program or a Division. The QAPrPs are used when the QMP is too general to encompass the unique circumstances for all Programs. The appropriate level of planning will be determined within the Program. Some programs may use a QAPrP in lieu of a Quality Assurance Project Plans (QAPPs).

Quality Assurance Project Plans - Quality Assurance Project Plans (QAPPs) document the planning, implementation, and assessment procedures for a particular project, as well as any specific Quality Assurance (QA) and QC activities. It integrates all the technical and quality aspects of the project to provide a "blueprint" for obtaining the type and quality of environmental data and information needed for a specific decision or use. All work performed or funded by the Environmental Protection Agency (EPA) that involves the acquisition of environmental data must have an approved Quality Assurance Project Plan.

Sampling and Analysis Plan - Sampling and Analysis Plans (SAPs) document the project sampling and analytical methods that are going to be followed for a particular project, and make sure that they are appropriate for the scope and purpose of the project. SAPs are developed when decisions will be made based upon the analytical data, the project purpose is to identify possible human health and/or environmental impacts, or the project work is relatively innovative or sensitive. The MPCA references the QA/R-5 document in its application of SAPs.

Data Quality Objectives - Environmental data collected should be of adequate quality and quantity to support intended assessment or regulatory decisions, and when necessary be legally defensible. MPCA staff use the Data Quality Objectives (DQOs) process in the planning phase of agency data generating activities. This process helps staff define objectives for the project before any sampling starts. The Guidance for the Data Quality Objectives Process (2006) and EPA's QA/G-4 is used as appropriate for the development of agency DQOs. In many situations, regulatory criteria and standards limits are the basis for environmental decisions. In these situations, the appropriate planning document (i.e., QAPrP, QAPP), or standard operating procedures (SOP) should state regulatory limits are the driving force for the Data Quality Objectives

Standard Operating Procedures - A Standard Operating Procedure (SOP) is an organization's approved method for performing functions or tasks, including operation, analysis, or action with specific and required techniques and steps. SOPs should be developed in consultation with MPCA staff performing the work.

Environmental Data - any measurements or information that describe environmental processes, location, or conditions; ecological or health effects and consequences; or the performance of environmental technology.

Environmental Information - Includes data and information that describe environmental processes or conditions which support EPA's mission of protecting human health and the environment.

1 Introduction

The Minnesota Pollution Control Agency's (MPCA) Quality Management Plan (QMP) describes the quality management structure and the processes used to maintain a Quality Management System consistent with U.S. Environmental Protection Agency (EPA) requirements. The MPCA updates the QMP through a yearly letter to EPA and produces a full rewrite of the QMP for EPA review at least every five years. The MPCA's QMP is based on:

- EPA Quality Manual for Environmental Programs (CIO 2105-P-01.2),
- EPA Requirements for Quality Management Plans, EPA QA/R-2, March 2001 (EPA/240/B-01/002),
- Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs ANSI/ASQC E4-2014, and
- Guidance on Systematic Planning Using the Data Quality Objectives Process, EPA QA/G-4, February 2006 (EPA/240/B-06/001).

1.1 Agency Level Quality Management

The mission of the Minnesota Pollution Control Agency (MPCA) is to protect and improve the environment and human health. Through the authority of state and federal statutes and guidelines, the MPCA focuses on preventing and reducing the pollution of air, land, and water. Core products and services provided by the MPCA include:

- Monitoring environmental quality and providing access to that data and information
- Setting standards, rules and policies that protect the environment and public health
- Providing assistance and education to prevent pollution
- Provide opportunity for meaningful involvement in decisions about activities that may affect the environment and/or human health
- Issuing permits or licenses and enforcing environmental regulations
- Finding and cleaning up contamination or pollution that affects our health and environment
- Responding to emergencies
- Planning and actions to prevent and prepare for climate change
- Ensuring pollution does not have a disproportionate impact on any group of people

The MPCA products and services are delivered directly to a wide spectrum of individuals, companies, governmental entities, and non-profit organizations. This Quality Management Plan applies to all work performed by and for the MPCA through contracts, interagency agreements, grants, regulatory actions, and consent agreements.

The MPCA's system of governance includes both vertical and horizontal accountability components. Decision-making occurs at all levels of the MPCA depending on the issue, but the primary lines of authority and responsibility are headed by the Commissioner's Office and senior leaders, (vertical components) and by the management teams, lateral teams, and media forums (horizontal components). MPCA's vertical leadership components include the Commissioner's Office who directs high-level policy

and strategic direction in conjunction with the seven Division Directors who manage the day-to-day operations of their divisions. The horizontal leadership components include teams and forums that work across Division lines to bring efficiency and effectiveness to our environmental programming and operational decision-making.

There are three categories of horizontal teams: management teams, lateral teams, and media forums. These teams/forums, which include managers, selected supervisors, and key program staff direct operational issues and share decision-making for higher-level policy and budget issues that affect multiple divisions. Senior leaders appoint the team members and members rotate to gain broad experience where possible.

Management teams and associated lateral teams develop policy and build agency-wide acceptance for solutions that ensure consistency in conducting agency business. The teams are led by managers and championed by Division Directors. These teams include:

- Information Systems Management Team
- Human Resources Management Team
- Fiscal Systems Management Team
- Continuous Improvement Management Team
- Environmental Results Management Team
- External Engagement Management Team
- Emergency Preparedness Management Team

Media forums were created to ensure programs and activities are consistent, coordinated, and aligned with the MPCA's strategic plan. Team members are appointed by senior leaders and led by Assistant Commissioners. The media forums include:

- Air
- Land
- Water
- Operations

Staff also frequently work in less-formal teams, many of which have leaders who are liaisons with the regulated community and who coordinate team activities. Other members of the team may include technical and field staff. For example, in site remediation programs, a project leader coordinates the team activities and may have a hydrologist and subject matter expert such as ecotoxicologist as technical experts and an Environmental Specialist who serves as a field expert and on-site inspector.

1.1.1 Working Philosophy of MPCA

The MPCA is committed to continuous improvement and periodically reviews the environmental work we do to show progress on the agency's strategic plan goals and objectives, and on the operational work that supports the agency's plan. In this way, the MPCA uses the plan, do, check, and adapt cycle.

1.2 Operational and Strategic Performance Review

The MPCA Executive Team or its designee conducts an internal Operational and Strategic performance review on a yearly basis. The internal Operational and Strategic review consists of evaluating the MPCA's

internal management structure to determine whether the agency is implementing policies and achieving goals outlined in the Agency Strategic Plan, and thereby measuring whether its quality system is effectively facilitating the implementation and achievement of such policies and goals. The Operational and Strategic review identifies any deficiencies in programs.

Annual Review of division dashboard measures—organized by media and focusing on off-target metrics answers the questions “how much are we doing and how well are we doing it?” The MPCA’s operation performance review vision is to demonstrate excellence in operations. To evaluate our progress, three goals have been established:

1. Does the MPCA continuously strive to improve and regularly evaluate performance?
2. Does the MPCA recruit and retain an engaged, motivated, and creative workforce?
3. Does the MPCA deliver data and services in a timely, transparent, and reliable manner?

Divisions provide dashboards to forums with recommended changes based on the data. Forums then review dashboards and perform adaptive management. Finally, forum champions present dashboards and changes to senior leaders.

The MPCA updates the strategic plan every five years, the current plan goes from 2018 – 2022. The 2023-2027 strategic plan is under development. Forums establish accountability for tracking. The reviews generally follow the same process as operational review. Past performance reviews are available for inspection by staff on our Intranet web page.

The MPCA leaders conduct the Strategic review in the spring and the Operational review in the Fall of each year. Various division directors and section managers who are responsible for specific objectives within the strategic plan brief the Executive Leaders. The directors and managers give each objective within the Strategic Plan a red, yellow, or green designation, depending on the status of the objective, along with notes on correcting deficiency found. The section managers share the findings with supervisors and staff of programs in need of quality improvements, discussing and planning potential corrective action. The unit supervisors are responsible for implementing necessary follow-up actions at their level of authority.

The MPCA division directors present the findings and suggested responses to the Commissioner. The reports track progress toward meeting the goals and objectives of the strategic plan. Other programs are reviewed in accordance with statutory requirements or deadlines, most of which are related to funding cycles as required by the EPA or the State Legislature. If the State Legislature or Commissioner's Office identify or suspect significant problems, they may initiate an audit. The MPCA’s Environmental Data Quality unit may conduct a data quality review upon request or based on the specific needs of a project or program. MPCA leaders post the results of the yearly reviews on the intranet for staff review.

1.3 Quality Assurance Policy of the MPCA

The Policy of the Minnesota Pollution Control Agency (MPCA) is to perform its mission, meet the goals stated within the MPCA Strategic Plan, and ensure all MPCA programs and leaders use quality data to make decisions. The MPCA achieves quality goals by using a system of quality assurance practices, consistent with the guidance and requirements of the United States Environmental Protection Agency (U.S. EPA). The MPCA strives to meet the U.S. EPA quality requirements for all work funded by U.S. EPA and State, including, but not limited to the acquisitions and/or use of environmental data:

- Generated by Agency staff
- Collected by our partners and other State agencies
- Compiled from computerized databases and information systems

The objective of the MPCA's quality assurance policy is to ensure that the data used by the MPCA are of known quality and are appropriate for the environmental decisions made using the data. The MPCA's quality organization structure is such that the QA staff are independent and do not report to program managers.

The QMP applies to all programs, grants, contracts, and interagency agreements that collect and/or evaluate environmental data used to make decisions. The QMP is distributed to all staff responsible for implementing the QA policies and procedures detailed in the document. The QMP (along with all policies, procedures, and guidance documents) is posted on the MPCA Science and Data webpage (<https://www.pca.state.mn.us/about-mpca/science-and-data>). Divisions can have more stringent QA requirements than those presented in the QMP but not less stringent. These program specific QA requirements are documented in Quality Assurance Project Plans (QAPP) and Program Plans (QAPrP).

The MPCA uses approved QAPPs and QAPrP that meet U.S. EPA standards in all projects that generates or collects data. In addition, the MPCA requires an approved QAPP or other quality documentation for any project undertaken by any entity that generates data on behalf of or as a grantee of the MPCA. To meet its mission and goals, the MPCA Commissioner (and the senior leaders) ensure that adequate resources are allocated to achieve the quality policy.

1.4 Minnesota Pollution Control Agency Organizational and Structure

The Commissioner leads the MPCA and reports to the Governor of Minnesota. The Deputy Commissioner is the chief administrator of the MPCA and reports to the Commissioner (Figure A). The MPCA has seven divisions led by Division Directors. The Environmental Data Quality Section is in the Environmental Analysis and Outcomes division.

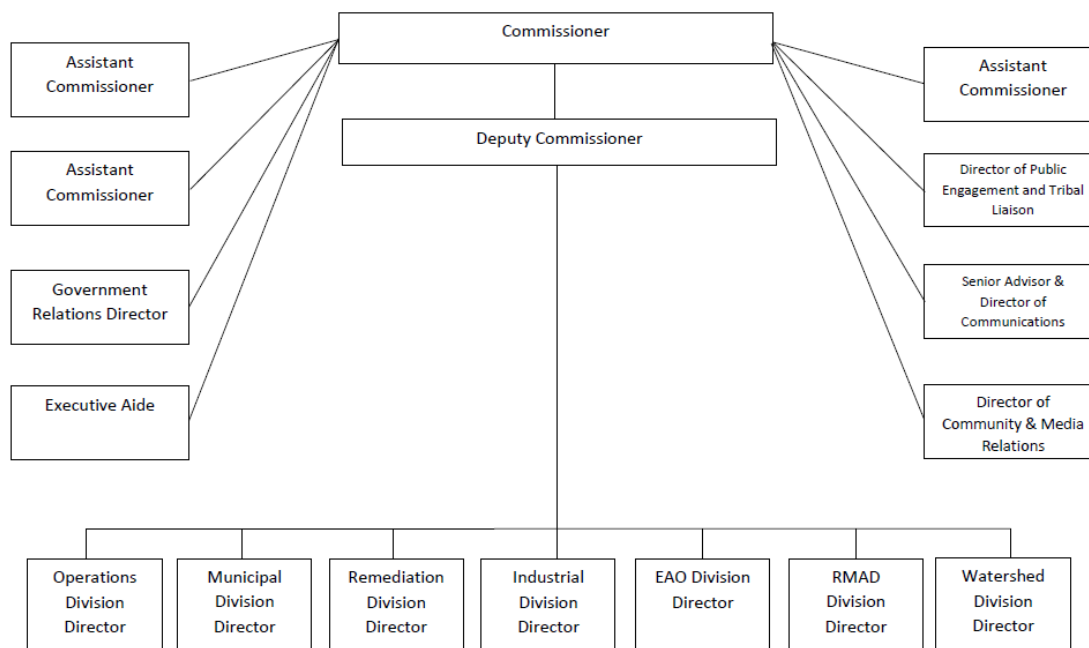
The MPCA is organized both geographically and programmatically. In addition to the main office in St. Paul, MN, the MPCA has six regional offices throughout the State: Detroit Lakes (Northwest Region), Brainerd (North Central Region), Duluth (Northeast Region), Marshall (Southwest Region), Rochester, and Mankato (Southeast Region). This geographic structure allows the MPCA to work closely with local communities. The programmatic structure allows appropriate staff and managers to make routine program decisions and resource allocation within each division as delegated by the Commissioner, with ultimate operational accountability to the Deputy Commissioner. Strategic issues that involve new or changing directions fall under the guidance of Assistant Commissioners who have the corresponding media (air, water, and land) responsibilities.

Each division has sections with managers overseeing the development of work products specific to their areas of responsibility. Each section generally has multiple units, each with a supervisor who is responsible for the quality of work planned and performed by the unit. The unit supervisor oversees staff activities to ensure daily work is being accomplished.

All programs that collect or analyze environmental data have minimal QA requirements as defined by the program. The majority use a form of the MPCA Data Review Guidelines for review of analytical data as found on the MPCA Science and Data webpage (<https://www.pca.state.mn.us/about-mpca/science->

and-data). Some programs such as Underground Storage, Toxic Substances Control Act and Superfund programs have program QAPrPs which define minimal QA for work. Other programs have specific site QAPPs or other QA documentation.

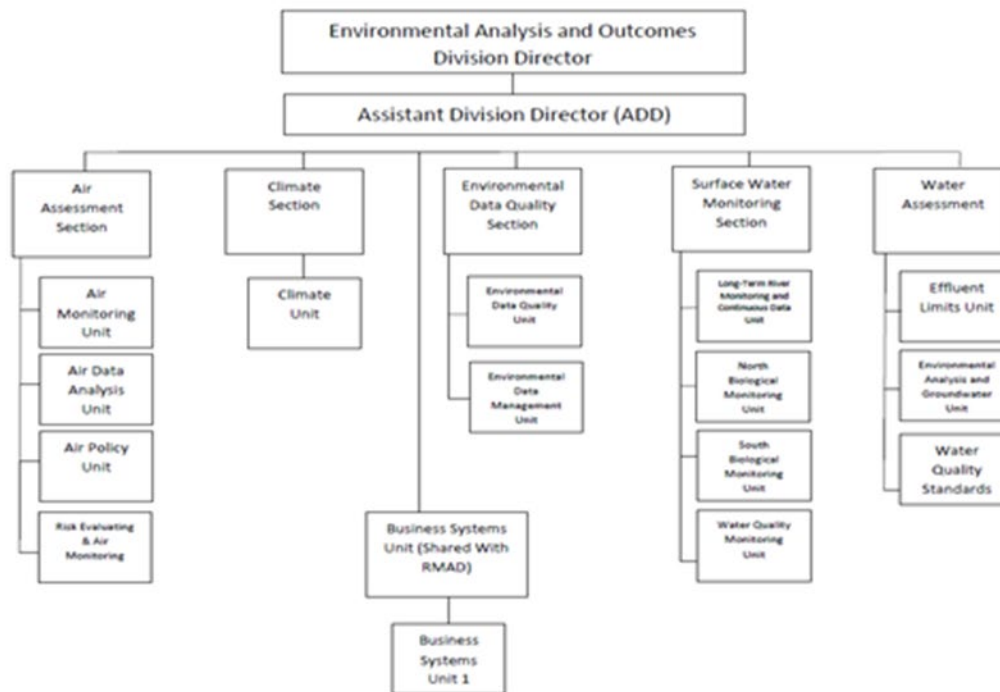
Figure A: Commissioner’s Office Organizational Chart



1.4.1 Environmental Analysis and Outcomes Division

The Environmental Analysis and Outcomes (EAO) Division monitors and evaluates the physical, chemical, and biological conditions of Minnesota’s environment. This includes identifying environmental threats and impacts to human and ecosystem health, helping set environmental goals, establishing standards, measuring progress toward meeting environmental goals, conducting risk assessments and developing effluent limits in support of regulatory programs, and making data accessible. The Environmental Analysis and Outcomes division’s organization chart is outlined in Figure B.

Figure B: Environmental Analysis and Outcomes Division Organization Chart



1.4.1.1 Air Assessment Section

Core functions of this section include:

- Operate statewide air monitoring networks and collect and manage emissions data for criteria pollutants, air toxics and greenhouse gases
- Model air dispersion of pollutants
- Support development and application of ambient air quality standards and health benchmarks
- Provide risk assessment expertise for facilities based on human health assessment
- Manage air data and make it readily available to internal staff and external stakeholders
- Coordinate implementation of state and federal statutes, laws, rules and guidance throughout the MPCA air program

1.4.1.1 Water Assessment Section

Core functions of this section include:

- Develop water quality standards that protect human health and aquatic life and ensure waters are suitable for uses like fishing, swimming, and drinking water.
- Assess, track and report whether Minnesota waters support their uses.
- Coordinate and support agency work on PFAS
- Set water quality effluent limits for permitted discharges
- Evaluate groundwater conditions and interactions between groundwater and surface water.

- Conduct and coordinate work – from environmental monitoring and studies to policy – around potential, persistent and emerging contaminants, and toxics.

1.4.1.2 Surface Water Monitoring Section

Core functions of this section include:

- Monitor the physical, chemical, and biological condition of Minnesota’s surface and ground water.
- Coordinate water monitoring activities within MPCA, with EPA, and with external partners
- Support and promote volunteer monitoring.
- Assess monitoring data to identify sources of pollution, track changes over time, and identify waters for protection and restoration.
- Effectively communicate with stakeholders and the public on water quality issues and results.
- Manage surface water quality data and make it available to internal staff and external stakeholders.

1.4.1.2 Climate Section

Core functions of this section include:

- Accelerate progress in meeting the Agency’s goals of reducing GHG emissions and increasing resiliency of communities and the environment to climate impacts.
- Serve as a hub for the existing interagency coordination that is required of the MPCA via Executive Order 19-37.
- Assist the Agency in identifying strategic goals, measurements, and policy options to reduce GHG emissions, build resiliency, and prioritize policies that will help the MPCA address climate change in Minnesota.

1.4.1.3 Environmental Data Quality Section

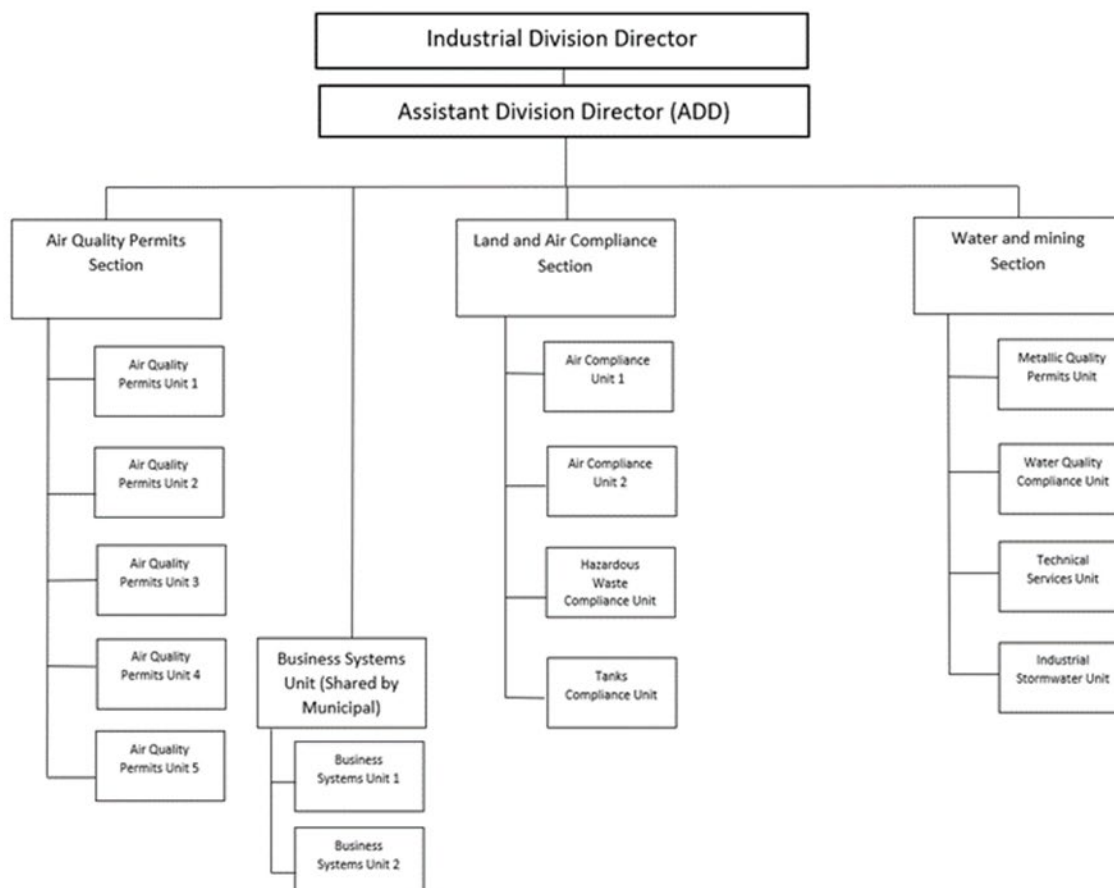
Core functions of this section include:

- Coordinate the Agency’s Quality Management System including oversight and implementation of monitoring plans, quality assurance, QAPPs, SOPs, and performance audits for air and water data collection
- Ensure environmental data used by the Agency is accurate, reliable, and defensible
- Manage laboratory analytical methods
- Develop a DQMP (Data Quality Management Plan)
- Perform data quality audits and analysis,
- Technical support for laboratory analytical services contract.

1.4.2 Industrial Division

The Industrial Division operates the agency’s core regulatory programs with a focus on industrial facilities in Minnesota to ensure they comply with air quality, water quality, underground tanks, and hazardous waste regulations. The organization chart for the MPCA’s Industrial Division is outlined in Figure C.

Figure C: Industrial Division Organizational Chart



1.4.2.1 Air Quality Permits Section

Core functions of this section include:

- Perform permitting activities for industrial air emission facilities and to provide multimedia permitting leadership for key sectors (power plants, incinerators, refineries)
- Process permit applications for both construction and operating permits

1.4.2.2 Land and Air Compliance Section

Core functions of this section include:

- Provide leadership and coordination for industrial compliance and enforcement activities.
- Determine and manage compliance at regulated point-source air emission facilities, tank facilities, and RCRA compliance at both hazardous waste generators and treatment, storage, and disposal facilities.
- Provide regulatory data management for air, tanks, and hazardous waste programs.
- Manage HW generator licensing and fee administration progress and assist in HW program training and coordination.

- Manage the contractor certification for the underground storage tank program.

1.4.2.3 Water and Mining Section

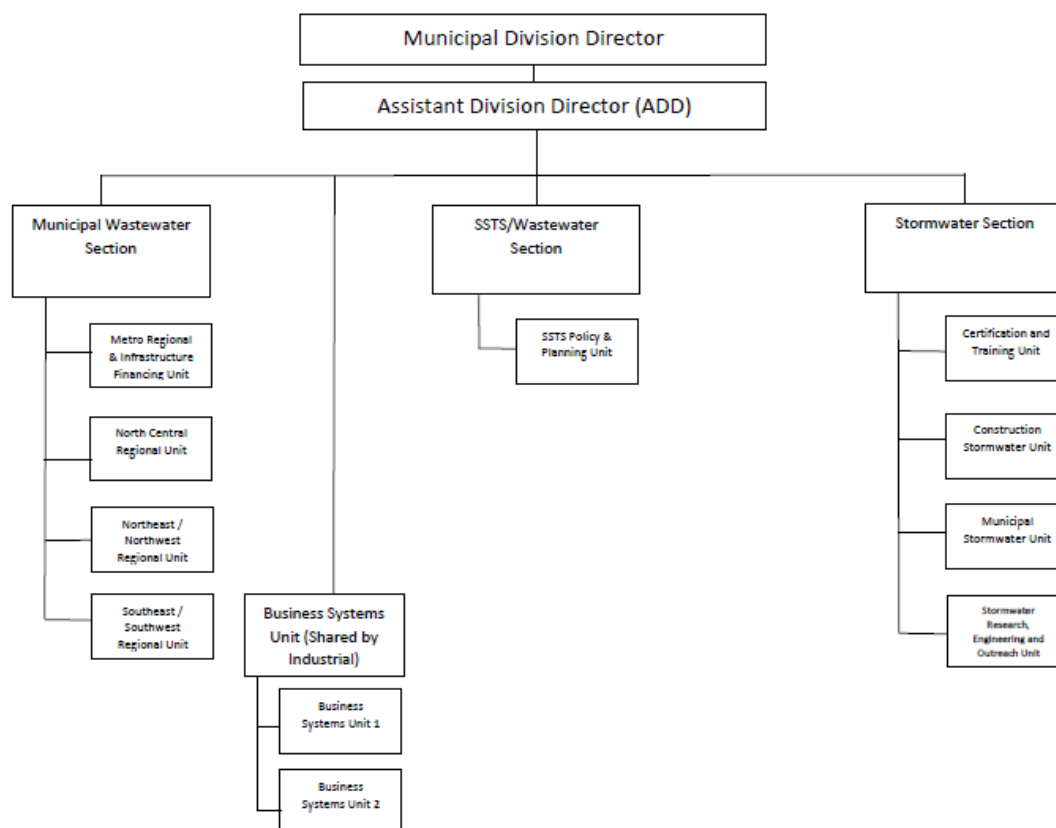
Core functions of this section include:

- Perform water quality and industrial stormwater (ISW) permitting for industrial facilities.
- Conduct technical review and permitting activities to issue National Pollutant Discharge Elimination System (NPDES) and State Disposal System (SDS) Permits for industrial facilities.
- Determine and manage compliance at regulated NPDES and SDS industrial facilities, including enforcement actions as appropriate.
- Provide regulatory support to the agency and multi-media permitting leadership for key (priority) sectors (metallic mining).
- Analyze existing policies, procedures, and practices. To recommend revisions as appropriate to ensure efficient, effective, and economical delivery of services for assigned projects

1.4.3 Municipal Division

Municipal Division regulates municipal wastewater, municipal storm water, construction storm water, and subsurface sewage treatment system (SSTS) activities. This division also provides technical and financial assistance to municipalities and counties responsible for wastewater and storm water facilities and SSTS regulation. NPDES wastewater program lead, storm water program lead, and SSTS program lead reside in this Division as well as management of the Rochester and Detroit Lakes Regional offices. The organization chart for the MPCA's Municipal Division is outlined in Figure D.

Figure D: Municipal Division Organizational Chart



1.4.3.1 Municipal Wastewater Section

Section manager provides statewide wastewater program leadership for the NPDES permits. Core functions of this section include:

- Set overall water quality and wastewater management vision and work plans for municipal and industrial facilities.
- Conduct municipal wastewater permitting, compliance and enforcement.
- Works with Public Facilities Authority (PFA) to manage municipal financial assistance programs including State Revolving Fund (SRF), Wastewater Infrastructure Fund (WIF) and Point Source Implementation (PSI) grants.
- Implement pretreatment and sludge programs.

1.4.3.2 Stormwater Section

Section manager is the NPDES storm water program lead. Core functions of this section include:

- Sets the overall water quality storm water vision,
- Establishes work plans for municipal, construction, and industrial facilities and activities,
- Conduct Municipal Separate Storm water Sewage System (MS4) and construction storm water permitting, compliance, and enforcement activities.

1.4.3.3 Subsurface Sewage Treatment Systems (SSTS) Section

Core functions of this section include:

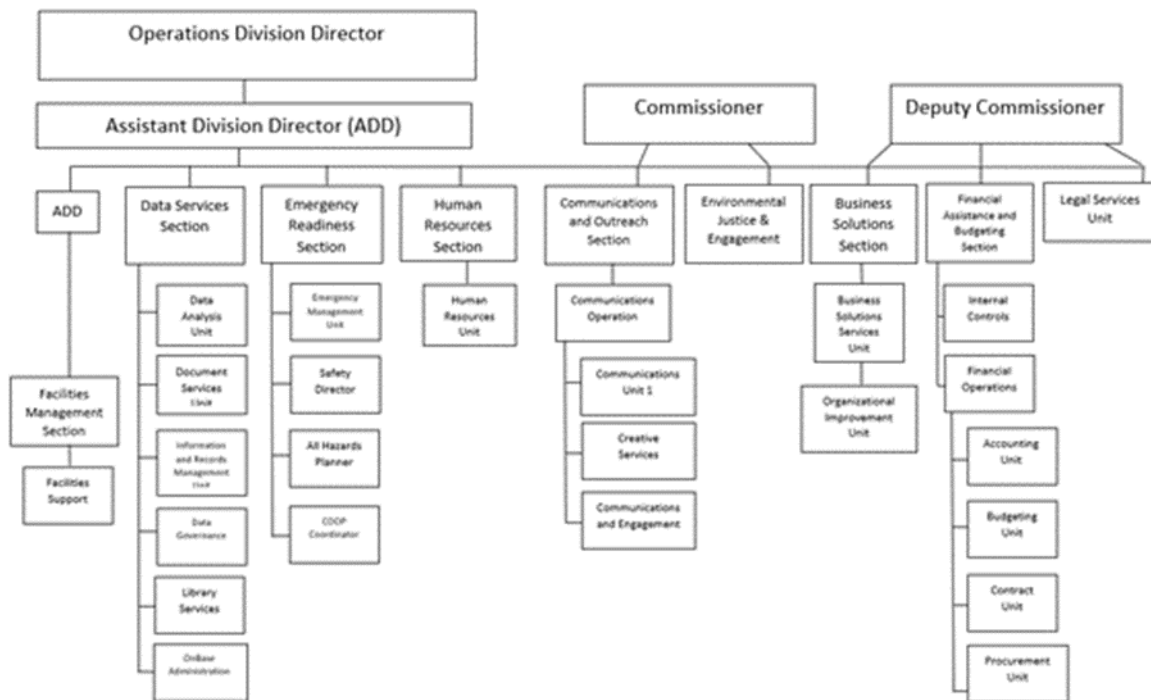
- Set overall SSTS vision and work plan for the program,

- Provide technical assistance to SSTS professionals and local programs,
- Conduct compliance and enforcement activities in support of SSTS Rules,
- Provide financial assistance to counties.

1.4.4 Operations Division

The Operations Division manages Agency people, finances and knowledge resources to ensure that the MPCA can fulfill its mission to protect and improve the environment and enhance human health and meet its strategic and program objectives. This Division helps initiate organizational change through continuous improvement and Baldrige and is instrumental in the success of other Division's program and processes. The organization chart for the MPCA's Operations Division is outlined in Figure E.

Figure E: Operations Division Organizational Chart



1.4.4.1 Human Resources (HR) Section

The Agency HR Director leads this section, which manages collective bargaining agreements and plans; state and federal labor laws; rules, policies and procedures governing human resources and related topics, and agency policies and procedures related to human resources for the agency's employees. The responsibilities of this section include:

- Strategic human resources management support and training
- Policy developing and maintenance- Management consulting
- Employment – recruiting, examining, and selection

- Employee safety and workplace ergonomics
- Diversity/Equal Employment Opportunities (Compliance with Affirmative Action and Americans with Disabilities Act)
- Labor Relations including position classification and compensation
- Human Resource Information Systems and Employee Performance Management System administration
- Benefits administration (insurance, FMLA leaves, etc.)
- Human resources administration, compliance monitoring and reporting

1.4.4.2 Financial Assistance and Budgeting Section

The Financial Assistance and Budgeting section, led by the CFO, serves as the Agency's financial management experts. They are responsible, along with the Senior Management Team, for development of biennial and capital budget requests, annual spending plans, procurement and contracting and financial management. This section's duties include:

- Spending controls
- Accounts receivable and payable
- Loan management
- Internal controls (data and information security)
- Internal audits
- Grants and contract development

1.4.4.3 Communications and Outreach Section

State and Federal law establish specific methods, such as public notices and meetings, by which our customers can seek information and support. The Communications section goes beyond these requirements to obtain feedback and provides Agency-wide support in:

- Communications planning
- Publications including the Agency website, legislative reports, factsheets, etc.
- Crisis communications
- News media relations
- Speechwriting
- Design and graphics
- Community relations and civic engagement

1.4.4.4 Data Services Section

Data Services Section is responsible for the maintenance, operation and analysis of the Agency data systems, which manage millions of pieces of information each year. Some of the responsibilities include:

- Responding to data and information requests from stakeholders and the general public
- Provide high level statistical analysis
- Provide complex data visualization and data management services to the staff and leadership
- Collaborating with agency programs to develop data quality standards, data entry practices and minimum data requirements

- Providing web access to agency data through Tableau reports or What's in my Neighborhood
- Identifying how to improve data to create a valuable resource for the decision-making process, and to create an Agency-wide integrated data network.

1.4.4.5 Facilities Management Section

The agency leases offices through the state with most of the staff located in St. Paul and about a quarter of the staff located in offices in Duluth, Brainerd, Detroit Lakes, Rochester, Mankato, Marshall and Willmar. This section provides agency-wide support of:

- Building business management
- Lease administration
- Copier and Fleet management services
- Space planning
- Security

In addition, provides the following additional services for the agency's main office in St. Paul:

- Field Operations Center where all the field supplies and equipment are stored and maintained, and sample delivery services
- Building reception area staffing
- Agency-wide business support, such as incoming calls and guest management
- Mail and print services
- Central supplies management and receiving

1.4.4.6 Legal Services Unit

The Legal Services Unit (LSU) provides non-litigation legal support to the agency. The purpose of the unit is to ensure that the agency's actions and decisions have the appropriate legal basis. Goals of the LSU are to:

- Provide high quality, objective legal advice and counsel,
 - Assist leadership and staff with making informed decisions with awareness of associated legal risks
 - Ensure that all requests for legal services are timely satisfied, subject to MPCA priorities
 - Ensure that LSU has redundancy in its expertise so that the inability of any given attorney to provide advice in a subject area does not leave the MPCA without assistance from an attorney with adequate experience
- Ensure that the MPCA can satisfy its day-to-day legal needs from its own resources

1.4.4.7 Organizational Improvement Unit

Leads activities to support the goal of achieving excellence in leadership, staff and processes at all levels of the Agency. Duties include:

- Developing and providing training, such as the year-long Leadership Academy course, and several Continuous Improvement courses (Process Mapping, Measurement, Results-Based Accountability, Lean 101, Continuous Improvement Problem Solving and the five-month Leading Continuous Improvement class)

- Providing coaching and facilitation for the Agency's continuous improvement projects, and tracking improvement results
- Managing the Baldrige Performance Excellence application and follow-up on Opportunities for Improvement

1.4.4.8 Business Solutions Section

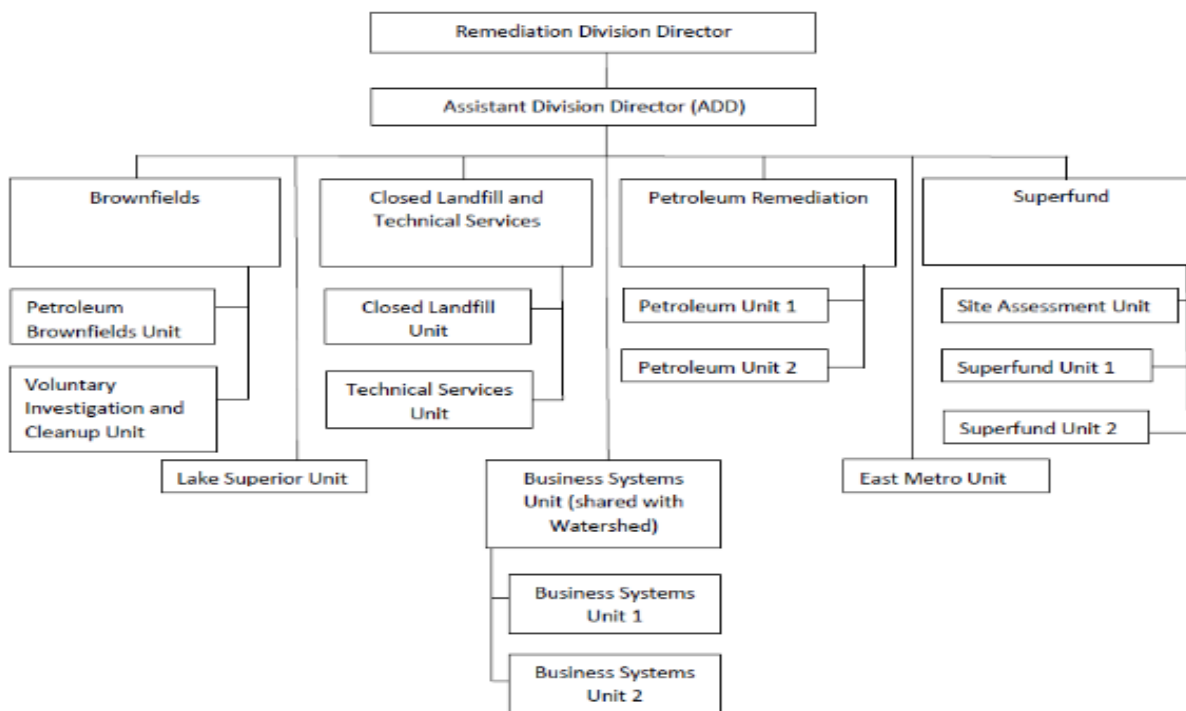
This unit manages systems that are developed or used by the agency. The Business Solution Section manager is the MNIT liaison for the PCA. The management of the Tempo system, which is the agency's web-based application software that includes information from the agency permitting, compliance, enforcement, inspection and assistance programs, and e-services for permits, monitoring and license renewal, is part of the unit's responsibilities. Duties include:

- Working with Senior leaders to determine Business IT strategy and support for all applications
- Working with business function teams to ensure Tempo functionality is maximized and business functions are standardized where appropriate
- Provide ongoing Tempo training to staff
- Development, analysis, testing and implementation of Tempo templates and forms
- Quality assurance of the Tempo database – reviewing data and working with programs on options to correct or improve data
- Lead development of online services to meet the business needs of the agency and its regulated parties
- Maintenance of reference tables and the requirements library across the agency
- Reviewing change requests for functionality and completeness

1.4.5 Remediation Division

The Remediation Division conducts investigation, remediation and management of contaminated properties to reduce risks to human health and the environment and ensure safe reuse of property. The Remediation Division consists of four sections: Petroleum Remediation, Superfund, Closed Landfill and Technical Services, and Brownfields Redevelopment. The organizational chart for the MPCA's Remediation Division is located in Figure F.

Figure F: Remediation Division Organizational Chart



1.4.5.1 Petroleum Remediation Section

The petroleum remediation program assists and oversees responsible parties as they perform investigation and cleanup activities at underground, aboveground, and large aboveground storage tank sites, while ensuring all efforts are protective of human health and the environment. When responsible parties do not exist the Petroleum Remediation Program will complete investigation and corrective actions where a risk to human health of the environment exists.

1.4.5.2 Superfund Section

Superfund Section programs (Superfund, Site Assessment, and RCRA Corrective Action) respond to releases or threatened releases of hazardous substances that may endanger public health, welfare, or the environment. Regulatory authority for Minnesota's Superfund Section is provided through the Minnesota Environmental Response and Liability ACT (MERLA) which established the Minnesota Superfund program in 1983. Superfund programs oversee the work of responsible parties and their consultants along with completing investigations and remedial actions at sites when risks exist, but no responsible party is found.

1.4.5.3 Closed Landfill and Technical Services Section

The Closed Landfill Program (CLP) oversees cleanup and long-term management of 112 closed landfills and works with local units of government on land use at and near the closed landfills to ensure the highest possible use of property.

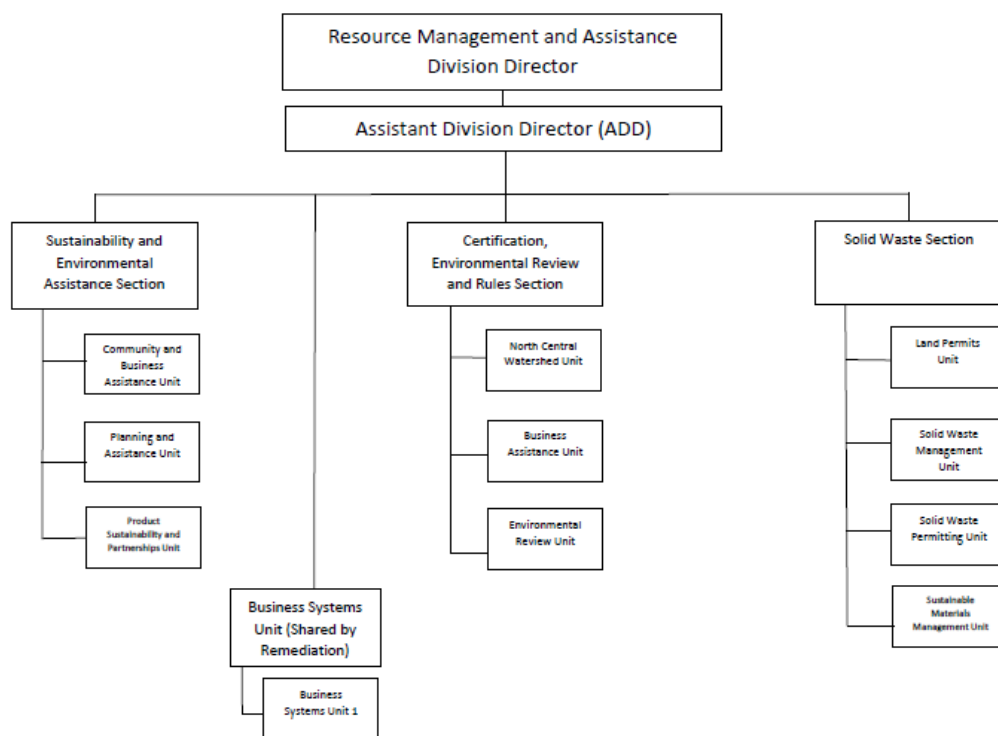
1.4.5.4 Brownfields Section

The Brownfield Program is a fee-for-service program that provides technical assistance and issues liability-assurance letters to promote the investigation, cleanup, and redevelopment of property that is contaminated with petroleum and hazardous substances. Program customers include property owners, prospective purchasers, developers, development agencies, lending institutions, nonprofit organizations, and local units of government.

1.4.6 Resource Management and Assistance Division

The Resource Management and Assistance Division (RMAD) emphasizes the use of voluntary, innovative environmental approaches, including pollution prevention, technical and financial assistance. MPCA's Resource Management and Assistance Division's organizational chart is outlined in Figure G.

Figure G: Resource Management and Assistance Division Organizational Chart



1.4.6.1 Solid Waste Section

The Solid Waste Section works with industry, government and citizens to prevent, reduce and manage waste in Minnesota's open landfills by:

- Permitting mixed municipal waste (garbage), construction and demolition debris, and industrial solid waste.
- Compliance inspections and enforcement when rules are violated.
- Passes through funding for local units of government to build capacity to properly manage solid waste

- Manages the Eco Experience at the Minnesota State Fair.

1.4.6.2 Sustainability & Environmental Assistance Section

The Sustainability and Environmental Assistance Section works to create stronger and healthier communities by:

- Working with community decision makers and other leaders to educate and inform on environmental issues,
- Promoting eco-industrial development, electric vehicles, green chemistry, product stewardship, and policy initiatives, technical assistance, and financial incentives to promote partnerships that advance the agency's environmental goals and objectives,
- Supporting and promoting sustainability, through the GreenStep Cities Program, enterprise sustainable procurement, and major conferences and events.

1.4.6.3 Environmental and Business Assistance Section

Certification and Training Unit: Provides statutorily required training for employees and supervisors in the following industries:

- Solid waste landfill operators
- Wastewater facility operators
- Septic system professional certification and licensing

1.4.6.4 Environmental Review Unit

Environmental review is a formal process for thoroughly investigating the environmental impacts of a proposed project's impacts on air, water, land, and human health — before a project is started. The purpose of the State of Minnesota's environmental review is twofold:

- To inform the decision makers so we can write better permits and better protect the environment before the project is built,
- To give the public access to decision makers, to help ensure public awareness and meaningful input into public and private decision-making.

1.4.6.5 Agency Rules Unit

Under Minnesota law, State agencies promulgate Rules under various State statutes that explicitly give the MPCA that authority. Agency rules staff are responsible for working directly with program staff to write the draft rules, the justification for the rules, issue public comment notices, and revise existing rules when needed.

1.4.6.6 Business Assistance Unit

Works to create stronger and healthier communities by:

- provides technical assistance through internships with GreenCorps for local governments and tribes to advance environmental initiatives.
- reduces lead tackle in the environment.
- promotes eco-industrial development, green buildings, and relies upon policy initiatives, technical assistance, and financial incentives to promote partnerships that advance the agency's

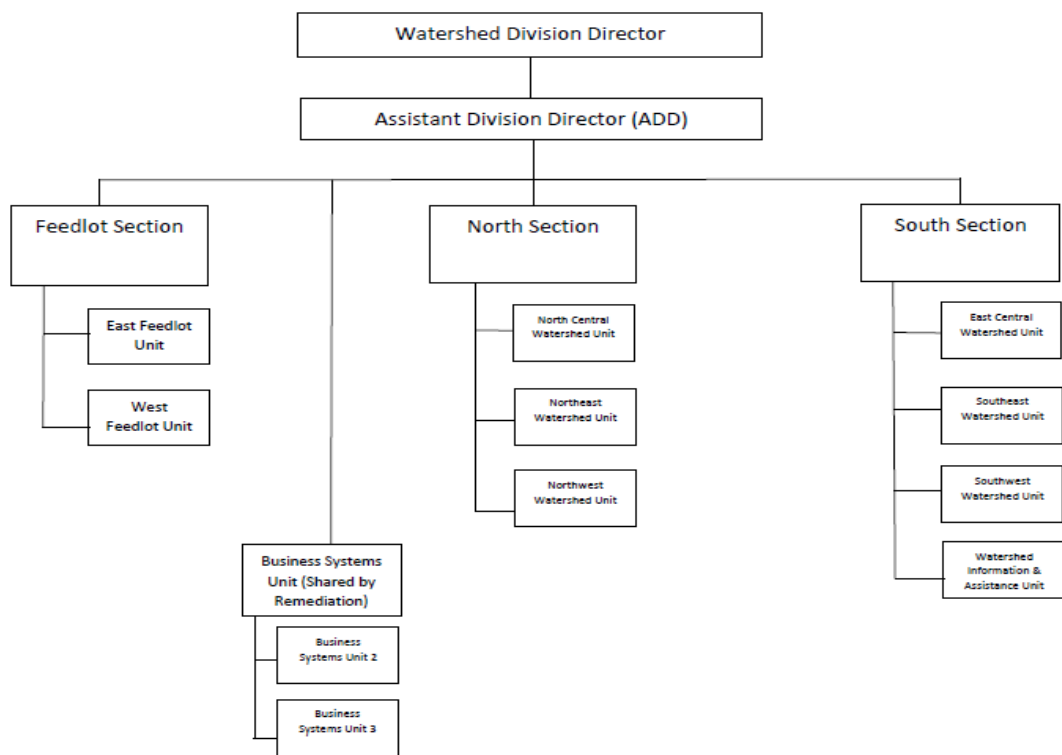
environmental goals and objectives through the Small Business Environmental Assistance Program.

- answers questions from regulated parties and citizens about air quality, water quality, solid and hazardous waste and storage tank regulations, and help them identify opportunities to prevent pollution.

1.4.7 Watershed Division

The MPCA Watershed Division delivers environmental problem-solving support at the local level. Focus is on building local capacity to restore and improve the environment. Most of Watershed division staff are in the regional offices and therefore can deliver local programs and services more effectively and efficiently. The organization chart for the MPCA's Watershed Division is outlined in Figure H.

Figure H: Watershed Division Organizational Chart



1.4.7.1 North and South Watershed Sections

The North and South Watershed Sections engage in the following activities for major watersheds in their respective areas:

- Watershed Restoration and Protection (WRAPS) and Total Maximum Daily Load (TMDL) development and project management
- Clean Water Partnership (CWP) loans and Federal 319 grant project

- Technical support to local watershed partners including local water planning, and “one watershed one plan” program
- Watershed monitoring, mapping, and modeling
- Public Engagement

Table 1: Activities of Individual Sections of Watershed Division

Section	Regional Office(s)	Major Watersheds	Other Projects/Programs
North	Brainerd, Detroit Lakes, and Duluth	Great Lakes/St. Louis River Area of Concern, Lake of the Woods/Rainy, Upper Mississippi and Red River of the North.	Red river flood damage reduction and water quality portion of International Joint Commission (IJC) in partnership with Canada
South	Mankato, Marshall, Rochester, and St. Paul	Cedar, Des Moines, Lower Mississippi, Missouri, Minnesota, and the St. Paul / Minneapolis metro portions of the Mississippi and Minnesota and St. Croix	Basin Alliance for the Lower Mississippi in Minnesota (BALMM) and division-wide contracts & grants administration, stressor ID reports and Hydrologic Simulation Program FORTAN (HSPF) model building for watersheds

1.4.7.2 Feedlot Section

Responsibilities of the Feedlot Section include:

- Issue permits to feedlot owners
- Educate and assist feedlot owners to understand and comply with feedlot rules and regulations,
- Conduct inspections to determine compliance with feedlot rules and regulations,
- Support and provide oversight of county feedlot programs.

1.4.8 Minnesota Information Technology (MNIT) Services

MNIT Services provides enterprise and local IT services to over 70 agencies, boards, and commissions in the State of Minnesota’s executive branch by building, maintaining, and securing the State’s IT infrastructure, applications, projects and services. Additionally, MNIT protects the state’s information systems and the private data of Minnesotans by setting IT strategy, direction, policies, and standards for enterprise IT.

The MNIT staff and leaders assigned to MPCA (MNIT@MPCA) work in St. Paul and regional offices. The Chief Business Technology Officer (CBTO) leads MNIT@MPCA and works directly with the MPCA Commissioner and Deputy Commissioner ensure that MPCA has the information technology necessary to carry out its mission. The MNIT@MPCA consists of over 70 staff and leadership who work on special projects such as Agency-wide compliance and permitting system, Tempo. MNIT@MPCA staff work as integral part the MPCA project teams that has major IT components. In addition, MNIT manages the

Help Desk, software and hardware requests, GIS services, technical aspects of MPCA websites and nearly 200 other applications and systems.

1.4.9 Legislative Director

The MPCA has a fulltime Legislative Director who coordinates all legislative activities. Legislative director is part of the senior management team, which consist of the commissioner, deputy and assistant commissioners, general counsel, and division directors. Each year the MPCA works with the Governor's Office, the State Legislature, and other partners to ensure that legislation affecting Minnesota's environment achieves improvements in the state's land, air, and water quality.

During each session, agency staff routinely provide reports, testimony, suggestions, cost estimates and other information to the legislators and their staff. The MPCA often works with specific legislators on key initiatives and provides factsheets and reports on legislative issues to legislators and other stakeholders on specific issues, which are available through the MPCA webpage. Each factsheet contains contact information for more detailed information and references.

During the legislative session, many issues and initiatives involve the MPCA. The Agency leaders identify key staff members as primary contacts on specific topics. The legislative contact at MPCA works directly with management and technical staff as needed at the MPCA to answer questions posed by the legislature, follows up on bills moving through the houses, and track issues of interest to the MPCA during the session.

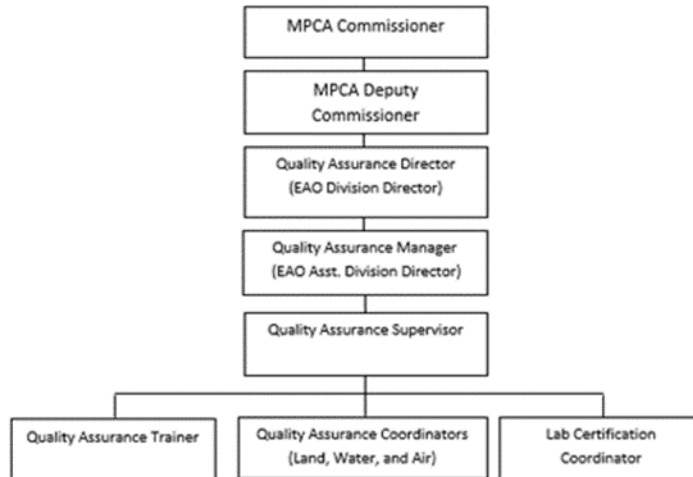
1.5 Minnesota Pollution Control Agency Quality Activities and Programs

The MPCA has numerous programs targeting specific environmental areas. These programs vary in size and scope and have QA/QC policies to ensure that they meet quality objectives. Managing the QA/QC policies is the responsibility of Program staff, MPCA management, Quality Assurance Coordinators (QACs), and other MPCA staff. All have the responsibility to ensures that adequate QA/QC is adhered to in all MPCA programs. The type of quality documentation is indicated in the Division and Section descriptions that follow.

1.5.1 Environmental Data Quality Unit Roles, Responsibilities and Authorities

The quality functions of the agency are housed in the Environmental Data Quality (EDQ) Section within the Environmental Analysis and Outcomes (EAO) Division. The section is managed separately from other agency programs, giving the QA Team autonomy within the agency (Figure I).

Figure I: Quality Assurance Organizational Chart



1.5.1.1 Quality Assurance Director

The Environmental Analysis and Outcomes Division Director has the ultimate responsibility for quality activities at the MPCA. The EAO Division Director gives final approval on any issues dealing with other state and federal Agencies, major issues requiring an approval, and major policy documents. As the Quality Assurance Director, the EAO Division Director is the final arbitrator for any large-scale quality assurance issues. The QA Director receives regular check-ins from and directly supervises the QA Manager.

1.5.1.2 Quality Assurance Manager

The Environmental Data Quality (EDQ) Manager is the QA Manager for the MPCA. The QA Manager systematically guides the environmental data quality work within the EDQ section and across the agency, reviews data quality issues raised throughout MPCA, makes decisions on resources and Agency wide policy decisions, negotiates, and mediates assurance disputes, and works with the EAO Division Director to resolve highly contentious and or legal issues involving quality assurance decisions or policies. The QA Manager has the responsibility to make the final decision for any contested QA-related issues that cannot be resolved through discussion and negotiation of the affected parties. The QA Manager is not involved in day-to-day operations at the staff level or with normal laboratory oversight but is available to meet with any laboratory or consultant with a concern. The QA Manager receives regular check-ins from and directly supervises the QA Supervisor.

1.5.1.3 Quality Assurance Supervisor

The QA Supervisor oversees the day-to-day QA efforts of the EDQ unit within the EDQ section, including oversight of the QMP and supervision of the Quality Assurance Coordinators (QACs), EQuIS™ data system staff, and Geographical Information System (GIS) who support the EAO division. The QA Supervisor works with the QACs, sections, and units across the MPCA to ensure a balance of QA support for Agency programs. The QA Supervisor works directly with management and programs across the agency on data quality issues and with the Quality Assurance Manager on more complex or contentious issues surrounding data quality. The QA Supervisor takes direction from the Quality Assurance Manager on issues that arise in Senior Management meetings. The QA Supervisor meets with external agencies and parties as needed to assist with QA programmatic or policy issues.

1.5.1.4 Quality Assurance Coordinators

The QACs are responsible for day-to-day quality operations across MPCA programs including Superfund, Resource Conservation and Recovery Act, Toxic Substances Control Act, Solid and Hazardous Waste, Petroleum Remediation and Underground Storage Tanks, Air Quality, Water Quality, Wastewater Laboratory Certification, and Environmental Quality Information System (EQulS). This includes the review and/or approval of QAPPs, correction of deficient QAPPs with the Project Manager and the responsible management, training of staff, interactions with EPA and other agencies involved in different aspects of programmatic and site work, and technical assistance to staff and consultants on environmental chemistries. As part of this, the QACs are responsible for the effectiveness of the MPCA's Quality System.

The QACs also ensure the development and implementation of corrective actions in conformance with external and/or internal assessments. The MPCA QACs have the authority to internally audit sections throughout the Agency to ensure that QAPPs exist, are up to date, and are being followed. Upon completion of the internal audit, the results are given to the appropriate section managers and the QA Manager and Supervisor for resolution. The QACs will work with project staff on any deficiencies found to ensure MPCA meets the goals found within the Agency QMP. QACs work with program staff on EPA Technical System Audits (TSA) performed triennially by EPA Region 5 Staff. QACs coordinate completion and documentation of TSA findings, implementing corrections, and communication with EPA.

QACs report to the QA Supervisor when contested issues or new and emerging questions arise. This helps ensure consensus is gained and there is a consistent QA approach. QACs also serve as Agency environmental laboratory contract technical experts. QACs will review data generated for the programs to ensure technical defensibility and provide a document describing their findings and an assessment of the impact of any QC failures on the usability of the data. QACs will also audit laboratories to verify that their operation can produce data that will meet the requirements of the program and complies with any applicable contract. They support the QA needs across the agency as well as assist outside groups.

1.5.1.5 Great Lakes Restoration Quality Assurance Coordinator

The Minnesota Great Lakes Restoration Initiative (GLRI) QAC is a position funded by the EPA GLRI. This position independently acts as the Office of the Great Lakes (OGL) liaison between MPCA, EPA, States, Tribes, Canada, and other Federal Agencies on matters of quality. This position is responsible for developing and maintaining MN GLRI funded projects and coordination of quality management efforts. The GLRI QAC reviews data, resolves QA/QC concerns and manages QA documentation for GLRI projects.

1.5.2 Overall MPCA Staff QA Roles, Responsibilities and Authorities

1.5.2.1 Management

Division directors and section managers are responsible for setting the QA policies for their programs. Divisions can have more stringent QA requirements than those presented in the QMP but not less stringent. Division QA requirements are documented in program specific QAPrPs. Each section has multiple units, each with a supervisor who is responsible for the quality of work planned and performed by the unit. The supervisor ensures daily work completed according to QAPrPs or individual QAPPs.

MPCA management supports the QACs in their work and the program staff through mediating issues that arise on site and being supportive of the QA program at the MPCA. The program managers are

responsible for ensuring their staff have appropriate QA training and for forwarding staff questions to the QACs. Management participates in the construction of the QMP for the Agency and supports the QA unit through staffing and funding. Further, management is available to work across agencies and with EPA when questions arise needing clarification or approval of QAC answers.

1.5.2.2 Project managers and technical staff

Project managers and technical staff work with the EDQ Unit to develop QAPrPs or individual project QAPPs, when they have QA or data questions, or when something goes wrong. These staff participate in QA/QC training and webinars given by the QACs related to data interpretation and laboratory QC reports. Having a solid working relationship between project managers, technical staff, and the EDQ unit is key to the QA system as projects managers and technical staff are often first to discover a problem as it emerges and bring the laboratory or site issue to the attention of the QA staff for follow up. Further, these program staff make site decisions based on the data and are keenly interested in ensuring the data is of acceptable quality for the decisions being made. The MPCA staff frequently work in teams and QACs are integral part of these project teams. A given team may include technical experts such as a hydrogeologist, human and/or ecological toxicologist and field staff who obtain samples or inspects the work performed by others.

2 Quality System Components

2.1 MPCA's Mission and Quality System Description

The MPCA's mission is to protect and improve the environment and human health. Senior Leaders have developed strong, consistent communication internally and externally about the environmental vision and goals that underlie the work of our agency and regularly seeks feedback on the results of that work. The current vision and values from the MPCA Strategic Plan are detailed in Table 2.

Table 2: MPCA Vision and Values

Vision
MPCA is a national leader in delivering services that support healthy people and ecosystems and a thriving economy.
Values
People —We value and support a motivated, talented and diverse workforce.
Leadership – We set a vision of environmental and human health protection in an open, ethical, and accountable manner.
Collaboration – We seek out and promote alliances because we value others' knowledge, opinions, and abilities.
Outcomes – We measure our success by the environmental and public health outcomes achieved.
Data Driven – Our decisions and policies are supported by data and analysis.
Learning Organization – We promote innovation, learn from our mistakes, and strive to continuously improve our processes and outcomes.

The MPCA's Quality System helps staff and leaders achieve its mission by ensuring that staff and leadership have the resources they need to conduct the daily activities and ensure that data used for decision-making are of known quality and are suitable for the decision being made. The MPCA's quality systems include planning, implementing, and assessing the QA/QC operations as they apply to the MPCA's environmental data and programs.

2.1.1 The Baldrige Program

The MPCA has a long history of overall performance in excellence at an enterprise level and follows the Baldrige framework (<http://baldrigefoundation.org/>). The key process architecture of the MPCA is Management, Environmental and Business.

2.2 The MPCA Quality System Components

2.2.1 Data

At the MPCA, data quality affects every aspect of the work. In regulatory programs, it is critical that the data used for corrective and enforcement actions are legally defensible. In addition to the legal implications, using data of known and appropriate quality also makes it defensible in a public arena, either in situations where we are establishing new, legally binding standards such as Total Maximum Daily Loads (TMDLs) and Water Quality standards, or Sediment Quality Targets (SQT) that are not legally binding but need to be scientifically valid.

High quality data (which meet the needs of a program or strategic goal) are needed for strategic planning and program needs. These data are normally reviewed and approved by program staff. When needed, QA staff will review the data to ensure that the project requirements are met.

Quality data is needed to evaluate the physical, chemical, and biological conditions of Minnesota's environment; to identify environmental threats and impacts to human and ecosystem health; to help set environmental goals, establish standards, and measure progress toward meeting environmental goals; and to conduct risk assessments and develop effluent limits in support of regulatory programs.

2.2.2 Staff

The MPCA's leadership strives to create a workplace environment where highly skilled and knowledgeable staff can be developed and taught appropriate quality assurance knowledge. Highly trained and motivated staff are critical to maintaining a high level of quality. Section 3.0 describes staff qualifications, hiring and training.

2.2.3 Oversight

The MPCA staff and leaders have several layers of oversight. Unit Supervisors and Section managers oversee staff, Division Directors supervise managers, and the Commissioner's office leads the division directors. The MPCA Commissioner reports to the Governor. The State Legislature allocates funds for State Agency operations and oversees the Agency activities. The citizens have the right to request any government data that is not classified as private. Therefore, the MPCA is ultimately responsible for the citizens and their representatives, the Legislature. This ensures that the MPCA conducts its work as desired by the citizens of Minnesota.

2.2.4 Policies

The MPCA has many policies that pertain to quality as well as staff conduct, business functions, decision-making information technology, etc. Together, these policies govern the MPCA and its actions. Policies are developed by agency management teams, reviewed by the legal team, and signed by the Deputy Commissioner. Mandatory policies are read annually by all staff and many policies also include associated training modules. Examples of these include new hire and annual trainings found in the State of Minnesota Self Service Portal's Learning Management. These typically include a pre-recorded presentation of the policy which includes staff acknowledgments before advancing to the next topic.

2.2.5 Systems

MPCA organizes and correlates its data through the development of guidance documents, reports, process maps, permit applications, inspection data, monitoring information, investigations, and data collection. The various methods of storage for organizational knowledge include Tempo, EQuIS™, shared drives, and OnBase. Tempo is the MPCA's web-based application software that includes a complex collection of information from agency permit, compliance, enforcement, inspection, and assistance programs. Tempo provides e-services for permits, monitoring, and license renewal. Tableau is business intelligence software that helps the MPCA understand its data for agency goals and performance measures. Environmental data are housed in customized data systems, covered in section 6.3.

To visualize data and to create agency dashboards and other materials, staff use multiple approaches and data visualization tools such as Tableau, Excel, and InDesign. Data for these dashboards is generally stored in data systems such as EQuIS™, Tempo or shared drives. Agency dashboards show measures to follow progress from across the MPCA towards goals established within the MPCAs Strategic Plan. These measures are used for high level reporting to the MPCA Senior Management Team, the Governor's Office, the Legislature, and the public.

The process or system for sharing organizational knowledge involves program communication plans that share information on the internal and external agency websites. Other methods of communication are used such as email, GovDelivery (electronic newsletters), and social media. The MPCA does proactive media placement on agency topics with print, television, radio, and online news media for agency reports, legislative initiatives, and rulemaking and policy changes for air, water, and land programs.

The MPCA transfers knowledge, best practices, and innovative ideas internally using agency teams. These include agency management teams, media forums, and lateral teams such as the permit business function team, and the compliance and enforcement teams. These efforts are performed weekly, monthly, and annually depending upon the need, method, and tool required to share information. Participation on media forums and management teams ensures knowledge is developed and shared among leadership. MPCA also emphasizes process mapping as a means of capturing and transferring organization knowledge.

Another aspect of knowledge transfer involves mentoring efforts such as the MPCA's Leadership Academy. The Leadership Academy is designed to develop leadership skills for employees from all levels and areas of the agency. It is a succession planning effort and a building block to develop and support high-quality staff. A list of Leadership mentors is developed each year that are willing to provide guidance to staff in the Academy. Additionally, workforce knowledge is transferred through the internal web. Finally, Human Resources provides new employee training and provides policies, hiring information, and information for staff on the internal website.

The MPCA uses and teaches a plan, do, check, adapt cycle when evaluating program activities and updating program plans. As part of the Operational Review and Strategic Reviews by senior leaders, conversations occur about how to improve programs and measures and provide results-based accountability based on agency measures and goals. These conversations require program managers and staff to talk about innovation and how to improve the programs to meet goals or adjust strategies.

Agency management are expected to plan for and carry out training for staff based on program needs. Agency culture also promotes and expects staff to share their training experiences with other staff through activities such as scheduled training for other staff in their program area and brown bag

seminars. Training needs are discussed both periodically at a division or program leadership level as well as during the annual performance review and work plan process.

The MPCA use the GovDelivery email system to communicate to external parties who are interested in specific topics, such as quality assurance laboratory guidance. The MPCA employs numerous lists to communicate on a range of issues from water to cleanups to fines. Additionally, webpages specific to various media and programs are used to provide FAQs, points of contact, and policy/rules documents for the public. Further, the MPCA employs social media as an effective communication tool, both to share messages out and to gain feedback and insight.

The MPCA's quality system functions to ensure the acquisition of accurate, reliable, and defensible environmental data. The system gives us the highest confidence in data used for environmental assessments and decisions to preserve and enhance the quality of Minnesota's environment and the quality of life for all its citizens.

2.2.6 Reporting

The MPCA is required to meet all state and federal laws and meet appropriate administrative requirements (Fig. P1-2). Processes are in place to keep current and comply with the required laws, regulations and standards established by key regulatory organizations and Governor's Executive Orders. Additionally, the MPCA implements federal environmental laws and regulations under EPA program delegations, funding and workplan agreements. MPCA may also implement state environmental laws that are more stringent than federal laws and regulations. MPCA is required under state law to implement environmental laws, to regulate the many organizations and individuals covered by the law and rules/regulations, and to offer support for actions that helps prevent pollution.

Table 3: Regulatory Oversight by Function

Function	Regulation	Measure used to track Compliance (AOS)
State Laws	229 state laws (not including appropriations) apply to the MPCA and direct program operations.	21 standing reports are required by the Legislature to measure progress.
Environmental Protection Agency delegations	Air Programs: Ambient Monitoring, Permit, Air Toxics, Compliance & Enforcement, Regional Haze, Rules, Etc. Water Programs: Monitoring, Permit, TMDL, C&E, Stormwater, Feedlot, etc. Land Programs: Solid Waste, HW Monitoring & Enforcement, RCRA, etc.	Environmental Performance Partnership Agreement (EnPPA) and funding (Performance Partnership Grant –PPG)
Employment	Minnesota Management and Budget (FLSA, FML, ADA, Affirmative Action,	Affirmative Action Plan MMB Compensation/ Classification Audits

	EEO) and Compensation Classification	Veteran Hires
Emergency Management	Continuity of Operations Plan, Duty Officer	DPS review of 10 required elements of COOP.
Financial	Government Accounting Standards	Scheduled Financial and Program Audits (Legislative Auditor), GAAP
Governor's Executive Orders	14 Executive Orders (to date)	Inter-Agency Pollution Prevention reporting and MPCA Sustainability Dashboard Reporting as required by Governor's Office
Public Data and Information	Records retention, public records and information access for effective document knowledge transfer	Staff trained Information request timeliness
Safety	MN SAFE (ADM) and OSHA	Workers Compensation
Risk	Internal Control Plan and Risk Assessments	Annual certification to MMB
Procurement	Chapter 16C	Audits by MMB
Rulemaking	Chapter 14	Needed and Reasonable Office of Admin. Hearings

2.2.7 Planning and Implementation

The QMP describes the policies, procedures, and systems governing Agency data collection activities. Quality Management at the MPCA is a continuous effort to document, review, and manage quality. Quality management is the responsibility of everyone at the MPCA. MPCA staff are responsible for planning, executing, documenting, and reviewing all work performed to ensure that the work conforms to the data quality objectives (DQOs) established for the program, project, and services. Program staff, with the help of QACs, document the DQOs in the applicable QAPrP or QAPP to ensure all personnel associated with the project have a clear understanding of the objectives of the project. Management and QA staff ensure all facets of quality in the QMP are adhered to in agency work. The MPCA's quality related policies, which are incorporated into work plans and QAPPs by staff, are written and audited against by the QACs. Planning also includes ensuring management and staff receive training and assistance from QACs. Quality System and QA training is further detailed in Section 3.0.

Proper documentation is a necessary element of planning to ensure work is done correctly and available for review, saves resources by enabling staff to review proposed work, minimizes errors and omissions, and enables future work to build smoothly upon already completed work. Additionally, as experienced staff move to other positions or retire, documentation becomes particularly important to the new staff. New staff must be able to review past work to ensure ongoing project consistency and quality. Examples of QA documents include:

- Quality Management Plan
- QAPrPs and QAPPs
- Sampling and Analysis Plans
- Work Plans
- Request for Response Action
- Standard Operating Procedures
- Field Notes
- Data Quality Objectives
- Technical Assessments
- Data Quality Assessments

These processes and documents help ensure the work planned and performed yield data or results that are of sufficient quality to support the intended use of the data collected or the decision to be made based on the analysis of those data. The various documents provide all parties involved written documentation of work they will be performing, their responsibilities and requirements, and information as to how quality will be ensured. For specific site work, the documents are legally binding. Any QAPPs requiring EPA Approval are submitted for review after an initial review is conducted by appropriate MPCA staff. After the EPAs adds their comments and suggested changes, the QAPP is updated, reviewed, and approved by appropriate third party and MPCA staff before being sent to the EPA for its final review and approval. Any self-approved QAPPs are reviewed and approved by appropriate third party and MPCA staff before being submitted to the EPA for loading into the EPA's QA Track. The MPCA or EPA project officer file all Great Lakes National Program Office (GLNPO) funded project QAPPs under the GLNPO tab. Once finalized QAPPs are stored in the MPCAs document management system as described in section 6.2.

2.2.8 Assessment and Quality Improvement

Once finalized, it is required that all MPCA staff follow any quality documents that have been established. It is the responsibility of the MPCA Project Managers and Quality Assurance staff to enforce any policies/requirements established by these quality documents with any third-party agencies/companies. This includes consistent data review and validation. QACs conduct contract audits at least once every contract cycle to confirm that any data provided to the MPCA meets the established agency Data Quality Objectives. Audits include reviewing laboratory analytical reports, quality assurance documents such as standard operating procedures and quality assurance manuals, training records, performance testing results, corrective actions, and any other records deemed necessary. In addition, the MPCA has several Guidance Documents published relating the different requirements for data submitted for MPCA projects.

The MPCA is a learning organization and committed to quality improvement. All staff are encouraged to review projects and identify opportunities for quality improvement. Quality documents and guidance are regularly reviewed by appropriate program staff and QACs to keep documents current and evaluate effectiveness. Program staff and QACs collaborate to track laboratory or data concerns and corrective actions are completed in a timely manner.

2.2.9 MPCA quality system tools

The MPCA has a variety of tools available to ensure quality. These tools include guidance documents (QMP, QAPPs, DQOs, and SOPs), training and auditing. Guidance documents that deal with sample collection, specific analyses, QAPP review, and quality assurance and data quality objectives are posted on the MPCA external web pages. The MPCA staff use the project DQOs to evaluate if the proposed project would meet the program needs. Accordingly, the project managers and technical members of a project team review all data obtained and, if necessary, refer to a QAC for additional scrutiny.

2.2.10 Quality Management Plan Approval Authority

The EPA Region 5 and the Great Lakes National Program Office QA Managers have the authority to sign the QMPs. MPCA Quality Assurance Director, Manager, and Supervisor review and approve the QMP with the Commissioner of the MPCA being the final authority on what resides within the QMP for the Agency. The MPCA also has the assistance of subject matter experts who review the QMP to ensure it adequately addresses all elements of the MPCA Quality Systems. The EPA requires that States review their QMP annually and update it every five years, or sooner if they made significant changes to the QA program elements. The MPCA uploads all QA policies referenced in the QMP on the MPCA Science and Data webpage (<https://www.pca.state.mn.us/about-mpca/science-and-data>).

2.2.11 Dispute Resolution

Implementation of quality management activities may sometimes result in disagreements among involved parties. When these disputes occur, the individuals involved must document the situation and present it to management. The MPCA QA leadership strives to find a resolution at the lowest management level and encourages the staff to resolve the dispute through discussion and negotiation.

If a QA related issue cannot be resolved at QA Supervisor level, the QA Manager may convene a committee, consisting of staff with relevant experience and expertise to address specific quality issues. The committee will identify the problem, gather information, examine the courses of action available, define the criteria for evaluation of possible solutions to the problem, evaluate the possible solutions, and decide on the best course of action. If the committee can resolve the issue, the group's decision will be documented and provided to appropriate staff. If the committee cannot resolve the issue, the issue may be brought forward to the QA Director and/or a management team or forum for review and consideration. If the issue is resolved here, the committee will be disbanded. If not, the committee reconvenes to investigate possible alternate solutions.

2.3 Quality Documents at MPCA

The MPCA uses variety of documents to record how it ensures the quality of its work products. Data collected by the MPCA is supported by an approved quality document, such as Quality Assurance Project Plans, Quality Assurance Program Plans, Sampling and Analysis Plans or standard operating procedures. Quality assurance project plans are most frequently used. The MPCA also uses Quality Assurance Program Plans, which document technical and quality aspects of a program, and Sampling and Analysis Plans, which documents collection and analytical requirement for a time-limited project.

2.3.1 Quality Assurance Project Plans

The QAPPs are the key documentation step for assuring quality acquisition of environmental data and information within the MPCA and with our stakeholders and partners. QAPPs are an important tool for project managers and planners to document the type and quality of data needed for environmental decisions and to use as the blueprint for collecting and assessing those data from environmental programs. The development, review, approval, and implementation of the QAPPs are part of the mandatory agency-wide Quality System. All organizations performing work for the MPCA and the EPA are required to develop and operate management processes and structures for ensuring data or information collected are of the needed and expected quality for their desired use. The QAPP is an integral part of the fundamental principles of quality management that form the foundation of the

MPCA's Quality System. It is MPCA policy that no work related to the project can be started without a finalized QAPP. The EPA document *EPA Requirements for Quality Assurance Project Plans* EPA QA/R5 March 2001 outlines these requirements.

2.3.1.1 Quality Assurance Project Plan Approval Authority

The MPCA has designated individuals either through formal or informal delegation, to review and approve QMPs, QAPPs and other documents. For MPCA funded work, normal signatory authority for QAPPs within the MPCA includes the project manager and a QAC. In addition to the MPCA staff members qualified representatives from the laboratory performing the work, and in some cases, a third-party sampler providing the data to the MPCA may also be included. Federal sites require further programmatic and EPA approval, and therefore, appropriate lines of approval are added to the signature page. The MPCA Management and QA staff ensure the reviewers are of an appropriate level of authority. When a question of signatory authority arises, the QA Manager will determine who has the signatory authority to sign QAPPs or other quality documentation. The EPA Region 5 QA and or appropriate EPA program and project staff approve the QAPPs when federal program approval is required. The project managers are responsible for distributing the signed QAPPs to individuals working on the project, and then file them at MPCA for use during site reviews, audits, or investigations. The MPCA submits all QAPPs to the EPA for storage and approval. The MPCA considers QAPPs as the ultimate document governing the work and analytical data produced by the site.

2.3.1.2 Program Quality Documents at the MPCA

2.3.1.2.1 Remediation

The MPCA Remediation division uses a combination of both QAPPs and QAPrPs in its operations. All EPA funded and sites listed on the National Priorities List required an EPA-approved QAPP or QAPrP.

Petroleum Remediation uses a QAPrP and an extensive list of guidance documents to enforce proper data quality. Superfund and Site Assessment programs use quality documents; specifically, both programs use the current Superfund and Site Assessment Program QAPP as the default overarching QAPP. Site-specific SAPs are also used when required. All Superfund QAPPs are required to follow the Uniform Federal Policy's (UFP) format.

The Closed Landfill Program (CLP) uses the 2023 Closed Landfill Program QAPP as its overarching QAPP and utilizes program SOPs to ensure the data quality. The QAPrP was written by a third party and was reviewed by a team of MPCA staff including program hydrologists, project managers, and members of the Data Quality Unit. Any CLP federal site is required to have a site-specific EPA Approved QAPP. The Brownfields usage of QAPPs depends on what project the work is for. The work is done by using a combination of the federal and state Superfund QAPP and the petroleum remediation program QAPrP. Brownfields also uses SAPs and program SOPs to ensure the quality of its projects.

For all remediation programs, it is the responsibility of the project staff for ensuring the quality of the data is up to the specifications set within the QAPPs. Project staff request data quality/data review assistance from QACs as needed.

2.3.1.2.2 Watershed

QAPPs used in watershed are currently utilized for any section 319 grant that is received. These QAPPs are approved by the MPCA staff overseeing the section 319 grant along with the receiver of the grant. After approval from those parties, the final copies of the QAPPs are provided to the MPCA QAC for review and approval. It is the responsibility of the project staff to ensure that the work being done conforms with the requirements set within the QAPP. This includes communication with the local

partners that perform the work. Watershed project managers review any data submitted and can have the LGU review prior to final review by EAO staff. Field data collected are checked by the project manager and LGU prior to storage in EQUIS (Section 6.3). Watershed references SOPs developed by EAO.

2.3.1.2.3 Environmental Analysis and Outcomes

QAPPs are used by EAO in the Watershed Pollutant Load Monitoring Network (WPLMN) and Surface Water Assessment Grants (SWAG). These programs exclusively use MPCA funding and are not provided to the EPA for approval. WPLM utilizes QAPPs for all its work, and SWAG utilizes QAPPs based on Intensive Watershed Monitoring QA Requirements. These QAPPs are reviewed and approved by an MPCA project manager, a MPCA QAC, and the laboratory providing the work. These QAPPs are different in how they are set up because they are not for specific sites but are for the overall work being done. Project staff work with the QACs to make sure that any data provided for these programs are acceptable against the requirements set within the QAPP. These QAPPs are supplemented with additional SOPs for sample collection.

For WPLMN and SWAG, it is required that any local partner reviews the laboratory data within five days of receiving the report to determine whether the work meets the requirements set in the QAPP. WPLMN will also utilize a MPCA PM for data review as well.

The criteria pollutant ambient air monitoring program follows three EPA reviewed and approved QAPPs. One QAPP covers particulate matter less than 2.5 microns, another covers the Photochemical Assessment Monitoring Stations (PAMS) work and the other QAPP covers the remaining criteria pollutants. These QAPPs are supplemented with additional SOPs for collecting, analyzing and reviewing data. All Air program QAPPs will be submitted to the EPA for review and approval.

2.3.2 Standard Operating Procedures

All MPCA Programs document sampling and analytical procedures in SOPs and the other sampling guidance documents. The MPCA create SOPs for critical tasks and procedures that merit standardization so that processes are consistently effective and regularly performed. The program staff and QAC typically write SOPs based on a project or set of tasks, including sampling and analytical procedures.

The MPCA uses EPA document *Guidance for Preparing Standard Operating Procedures (SOPs)*, EPA QA/G-6, April 2007, as a guide. The program staff typically review and update the SOPs based on program/project needs and can use a member of the QA team when needed. When updates occur, they may work with a member of the QA team to make sure that the SOP is up to agency standards. A MPCA-prepared or approved QAPP typically includes SOPs for field sampling and measurement procedures and enables MPCA to ensure work is of known quality that meets data quality objectives. MPCA project managers are responsible for ensuring project staff comply with applicable SOPs.

The MPCA updates their SOPs with a new revision number to identify the actual reviewing process and changes made to any SOP. Each SOP contains a revision table that tracks the document's revision date, old version number, sections changed, new version number and author. SOP revisions based on new reference material, forms, manufacturer's updated manuals, Code of Federal Regulations (CFR), and any changes of the procedure. Current SOPs are stored on MPCA's computer data system. Retired and archived SOPs are kept on file per the MPCA's document retention policy.

2.3.3 Data Verification and Validation

Data verification concerns the process of evaluating the completeness, correctness, and conformance/compliance of a specific data set against the method, procedural, or contractual requirements. Data validation concerns the evaluation of data beyond method, procedural, or contractual compliance (i.e., data verification) to determine the analytical quality of a specific data set. Data validation criteria are based upon the measurement quality objectives developed in the QA Project Plan or similar planning document or presented in the sampling or analytical method. A project team consisting of the project manager, technical experts, and project QAC are responsible for data verification and validation for their respective projects. The project managers and technical experts perform much of the verification of project data as they are aware if the data as reported is normal for the type and nature of the project. Qualified MPCA contractors or MPCA QACs perform data validation. QACs will review reports and verify data when questions arise including further investigation of laboratory issues if needed.

2.3.4 Contract Laboratory Standard Operating Procedures

Contracted labs must operate under a quality system accredited by a qualified third party, such as the Minnesota Department of Health Environmental Laboratory Accreditation Program (MNELAP), the National Environmental Laboratory Accreditation Conference (NELAC), or a similar accreditation body. By using contract laboratories who have been thoroughly vetted, the MPCA is ensured that the data produced by the lab is of the highest quality and is defensible for its intended usage. Prior to laboratories being awarded the State Sample and Analytical contract, laboratories must submit their Quality Assurance Manual (QAM), their Standard Operating Procedures (SOPs), their staff capabilities, laboratory reporting limits, and their latest Performance Testing (PTs) results to the State Solicitation team. This team is made up of qualified individuals which includes either a MPCA QAC and/or the Data Quality Unit Supervisor. It is the responsibility of the Solicitation Team to Score the laboratories based on what is submitted and decide whether to award the contract to the laboratories. The QAM documents the lab's quality system while their SOPs document the steps to be completed in a sequential fashion to complete a process that yields a result. The review of the lab's PT results documents the lab's performance at a certain point of time.

The MPCA maintains a file of the contract laboratory SOPs, QAMs, and PT results submitted during the contract approval cycle. Laboratories also submit current SOPs with any QAPPs for site work. The QAC assigned to the project reviews SOPs and QAMs. The QACs can perform an audit to verify contract compliance. Audits are conducted either via a laboratory visit or through a cloud-based team collaboration software such as Microsoft Teams. The audit is a thorough, systematic, qualitative audit of facilities, equipment, personnel, training, procedures, record keeping, data validation, data management, and reporting aspects of the contract lab.

2.3.5 Publication Support Team

The MPCA has a Publication Support Team (PST) made up of support staff from different divisions who assist with the formatting of fact sheets, reports, and brochures and the preparation of PDF documents for the web. A support staff supervisor is the lead of the PST. The PST members ensure the documents follow agency formatting and design standards, web standards, and the Office Procedures Manual style guidelines. The PST uses a smart numbering system to track authors, versions, and publication dates of the documents.

2.4 Performance Management and Quality

The MPCA promotes an integrated system of management activities involving planning, implementation, assessment, reporting, and quality improvement to ensure that all processes, items, and services are of the type and quality needed and expected by the stakeholder. The Environmental Data Quality section staff, on the authority of the Environmental Analysis and Outcomes Division Director, perform assessments of programs and/or projects to determine if Agency programs are meeting quality objectives. The EAO Division director and/or the Environmental Data Quality (EDQ) Manager communicates with other Agency management when the assessments are scheduled to begin.

The assessment consists of verifying that QAPPs, SAPs, and work plans are in place and up to date for required projects. The assessment includes auditing implementation of program or project QAPPs, interviewing project staff, and reviewing environmental data to verify that it meets the QAPP requirements. The EDQ staff use a checklist to ensure the assessments are performed and documented consistently. The assessments take place over an approximately three-month period. The results are presented to the program manager. If deficiencies are identified, EDQ staff work directly with the effected units and/or programs to build QAPPs, update documentation, and work with consultants to write these documents for sites, when appropriate. When all audit findings have been addressed, a final copy of the audit checklist containing the completed action items is provided to the program manager for tracking purposes and staff participants as a teaching tool. The EAO Division Director and/or the EDQ Manager communicate trends and major findings of assessments to the Senior Management for evaluation.

In addition to assessments, MPCA expects project managers to manage project or site work quality by routinely and thoroughly reviewing the work plans, SAPs or QAPPs. As the work proceeds, the MPCA Project Manager reviews the work performed to ensure the project staff follow the DQOs, QAPP, and Work Plan. If the MPCA project manager encounters a discrepancy within the work, they will reach out to a member of the Data Quality Unit in order to resolve the issue with the appropriate party. This will often result in the initiation of a corrective action by the responsible party. Major corrective actions identified in a program or project assessment require the MPCA Project Manager's approval. Federal Superfund sites also require EPA Remedial Project Manager approval.

If the project team wants to use an unaccredited laboratory, the project team must document justification for its use and submit all necessary quality documentation to show the data would be of known quality and acceptable for its intended use. If the project team needs to use a mobile laboratory, the mobile laboratory must meet the data quality objectives as listed on the MPCA's QA webpage (<https://www.pca.state.mn.us/about-mpca/science-and-data>) and the data submitted may only be used for on-site analytical screening purposes.

When the project is completed, the project team or its contractor must write a final report and document any deviations from the QAPP, reasons for the deviation and if the team took any corrective action. The MPCA Project Manager must verify that the work, as performed, met the site DQOs, the site work is complete, and approve the final report. The QAC assigned to the project usually reviews the QA section of the final report.

3 Personnel Qualifications and Training

Hiring and maintaining quality staff is a high priority for the MPCA. With over 900 staff working across the state (in a wide range of areas), maintaining staff proficiency requires multiple approaches. The MPCA has several general staffing standards as well as training and review requirements. The MPCA maintains high standards in their hiring practices which leads to a highly qualified and dedicated workforce who also have unique and diverse skillsets. To help maintain agency standards, the MPCA human resources maintains a Workforce Plan to help the Leaders respond to the changing demographics of the agency as well as the changing skills, knowledge, and abilities necessary to perform the MPCAs mission.

3.1 Qualifications

The MPCA employees must meet the minimum qualifications based on the duties of the position and the classification. Each classification has minimum skills, knowledge, and abilities, which may include academic qualifications, certification, licensures, experience, or a combination of these. The MPCA's Human Resources Section is responsible for identifying the minimum qualifications and preferred qualifications for a given classification and conducts position audits to ensure staff is appropriately classified.

Supervisors identify the staffing needs in their programs, develop appropriate position descriptions (PD) and work with Human Resources staff to ensure the position qualifications meet the classification and the compensation of the position.

As an alternative to internal staff, the MPCA may retain a consultant or contractor to provide the required services, particularly if the need is highly specialized or of limited duration. The Minnesota Department of Administration sets requirements and manages the contracting process for the State. The MPCA Contracts unit staff help project staff to follow these requirements in identifying and choosing qualified contractors to perform the necessary work.

3.2 Training

Employee training and development is very important to MPCA and its leaders. MPCA strives to provide its staff opportunities to participate in local, regional, and national professional conferences and workshops relevant to their job duties and responsibilities.

Annually, Agency managers determine the type of training their staff need and will receive within the budget provided to each division. Supervisors work with staff to identify training and development opportunities during their annual review to be incorporated into the employee's development plan for the upcoming year.

In addition to discretionary professional development training, the MPCA maintains a mandatory training schedule for all employees. Currently, trainings in the following areas are mandatory for all employees:

- Job specific safety training

- Office Emergency Plan and Fire Evacuation Plan
- Sexual Harassment Prevention
- Respectful Workplace
- Workplace Security Awareness
- Cultural Competency
- Ethics
- Essential administrative procedures: Data Practices, Security and File Management.
- New employee orientation

In addition, the State of Minnesota has additional mandatory training for section managers and unit supervisors.

The State of Minnesota's Enterprise Learning Management (ELM) system tracks mandatory training requirements as well as discretionary training for each employee. The supervisors can track employee training and ensure they participate in all assigned training.

3.2.1 Program Specific Training

Most QA related training is program or job specific. The QACs provide program-specific QA training to staff as needed or if requested by the program. New employees and staff that directly collect/use or supervise the collection/use of environmental data regularly receive program training. The QAPPs and QAPrP describe specific staff training requirements, such as the PCB inspector requirements specified in the Toxic Substances Control Act Polychlorinated Biphenyl Inspection Program Quality Assurance Program Plan.

The MPCA lists necessary program or project specific training requirements for grantees and contractors respectively, when soliciting contract work. All successful bidders must provide documentation that all personnel who would be involved in the program or project have completed the necessary training prior to awarding the contract.

The MPCA QACs attend EPA sponsored QA training such as Region 6 Annual Managing Environmental Data Conference or attend web-based training provided by GLNPO for the Great Lakes Restoration Initiative QACs. The MPCA QACs provide quality training to Agency staff. The training is customized to the specific needs of a group of staff, such as Superfund project managers or surface-water field crews. Specific QA training topics include:

- Laboratory Control and data policies and guidance
- DQO requirements
- New or emerging analytical techniques and associated quality assurance
- Field QC
- Flagging of data
- Electronic Data Transfer

3.2.1.1 Water quality field work training

To help ensure MPCA water programs achieve their strategic plan goals and objectives, staff within the program must meet all position classification requirements. Training requirements are reviewed periodically and redefined as needed to help ensure staff have or receive the necessary skills as program

and project objectives change, expand, or are otherwise redefined. The MPCA monitoring staff often conduct monitoring in physically challenging and difficult to access environments. As a result, the biologists are required to take several training courses to ensure their own personal safety and the safety of other crewmembers. Program managers/supervisors evaluate staff skills and training needs during periodic performance reviews. Project managers evaluate training needs on an ongoing basis.

All new MPCA water programs field staff receive training and professional development relevant to their responsibilities, and work assignments. The managers, supervisors and senior staff identify the training needs using project audits, management reviews, and information received from project managers.

An experienced field staff accompany all new water programs staff in the field until the new staff can demonstrate thorough competence in all activities, duties, and responsibilities of the field monitoring position. This includes but is not limited to field sampling, sample handling, sample preservation, sample delivery, sample shipping, field instrument use, instrument standardization, instrument maintenance, instrument repair, recordkeeping, and safety. The MPCA biological monitoring also has an annual training workshop on fish sampling procedures and aquatic invertebrate collection methods. Given the high amount of visual assessment used during biological field assessments, this training is critical for consistency among staff and to assure the quality of data collected is adequate for the decisions made using that data.

3.2.1.2 Other program technical training

RCRA, Superfund, and Underground and Aboveground Storage Tank Inspectors at the MPCA get specialized training (classroom and web-based) as well as QC training. Topics may include vapor intrusion, chain of custody procedures, sampling techniques, field documentation, laboratory reports and analytical methods, and program-specific methodologies such as understanding and interpreting chromatograms. The QACs offer training for program-wide or for a limited number of staff, depending on the program need. Occasionally, EPA provides training seminars for MPCA staff on topics such as QMPs, QAPPs, or DQOs.

Recurring problems identified by the QACs through audits often result in program-specific training. The QAC may also provide periodic refresher training on QA procedures to reinforce already-learned QA principles. Upon completion of formal training, the MPCA Training Coordinator enters the information into the ELM, so that the staff member gets credits for completing the training.

3.2.2 Employee Performance

The MPCA's performance management process is designed to:

- Drive performance improvements, productivity, and outcomes;
- Use employee strengths to their fullest to advance the agency's mission; and
- Develop and grow the employee.

Effective performance management centers on the MPCA's mission, vision, values, and long term and strategic goals. Based on the mission, vision, values, and goals, the MPCA shapes the biennial budget and managers develop program plans. Managers and supervisors develop division, section, program and/or unit goals and priorities as needed based on the plans and budget.

The primary goal of the agency performance management is to ensure frequent and timely feedback to employees. The MPCA performance management process provides a standard means by which supervisors communicate with their staff through check-in meetings, develop individual employee work plans, conduct annual performance reviews, and plan for individual employee development. This process is composed of four elements:

1. Frequent effective performance and individual development conversations with staff;
2. Timely feedback on work assignments and coach staff to improve performance, when necessary;
3. Develop employee workplans; and
4. Conduct annual performance reviews.

The employee performance assessment starts with routine everyday management. As such, performance management involves frequent and informal on-the-job contacts between supervisor and staff. The supervisor and employee meet periodically to review progress, and produce informal, but written, progress reports when needed and fully written performance reviews on a yearly basis.

Work planning tools include the review of the position description and the individual's work plan. The work plan forms the basis of the following year's performance review and therefore should establish the employee's annual goals, objectives, and measures that align with the MPCAs goals and the program plan. The work plan should be developed using the areas of responsibility described in the employee's position description or an interpretation/application of the position description for the current fiscal year.

Although formal performance reviews are only part of the overall employee performance management process, they are an important and required component of providing employees with an overall assessment of their performance. The employee's supervisor conducts formal performance appraisals once a year, though they may be conducted more frequently, as needed.

The performance appraisals also include written Employee Self-Assessment, and the development planning flows out of the performance appraisal meeting. The employee self-assessments identify specific goals for growth and improvement that the employees think they need/would like to have. It includes development needs and/or goals for expanding responsibilities and individual career planning.

The Employee Performance Appraisal and Employee Development Plan templates are on the intranet site and available to all MPCA staff. The HR maintain all employee annual performance appraisals and other work-related documents under lock and available for employee review.

4 Procurement of Items and Services

4.1 Procurement at MPCA

The Minnesota Department of Administration (Admin), Office of State Procurement facilitates the strategic acquisition of goods and services for the state of Minnesota and establishes the purchasing requirements the MPCA must follow. MPCA's Procurement Unit handles general purchasing, including commodities, equipment, services, and construction and the Contracts Unit handles master contracts, professional and technical contracts, and grant agreements. The MPCA contracts for services it lacks the staff and/or the equipment to complete. When contracting for services, the project manager (PM) is responsible for obtaining all required documentation and starting the contracting process in in collaboration with a contract specialist and/or purchasing specialist. Adherence to contract provisions in all areas, including QA, is generally the responsibility of the PM in charge of a specific site, facility, or program.

Admin also provides commodity or master contracts with supplying vendors, which permit all agencies to buy goods and services in a legal, efficient, cost-effective manner. If an item or service is not available through an existing master contract, then the MPCA follows alternate procurement methods allowed by state purchasing and contracting law and rule, such as open competitive bid.

Through master contracting, the MPCA accesses numerous vendors and laboratories for a variety of products and services, such as data analysis, sampling, and laboratory analysis services. As noted earlier, the MPCA requires all the laboratories performing analysis in support of its programs to be MDH accredited or registered with the MPCA, or another program as approved by the State. Admin has conditions that all contract laboratories and professional service providers must meet to ensures the State receives the services it needs while following all applicable laws.

4.1.1 Grant Agreements

Grants are financial assistance paid or services furnished by a state agency via a third party to an eligible recipient to support a public purpose instead of acquiring by professional or technical contract, purchase, lease or barter property or services. Grants always involve three parties: 1. The State agency with authority to make the grant, 2. The outside entity that will administer the grant or deliver the service, and 3. The final recipient of the service. The Department of Administration, Office of Grants Management provides comprehensive grants management policies applicable to all Executive Branch agencies, boards, commissions, councils, authorities, and task forces on the webpage: <https://mn.gov/admin/government/grants/>. Grant agreements are used for a wide variety of assistance and services and will include data quality management requirements as applicable.

4.1.2 Professional and Technical Contracts

Professional and technical services are services that are intellectual in character, including consultation, analysis, evaluation, predication, planning, or programming or recommendation and result in the production of a report or the completion of a task. Professional and technical contracts generally do not include the provision of supplies or materials except as incidental or with approval from the Department of Administration. The Minnesota Department of Administration, Office of State Procurement facilitates

the state's utilization of professional and technical contracts:

<http://www.mmd.admin.state.mn.us/mn05000.htm>. Professional/technical contracts will include requirements for data quality management as applicable. Professional and technical contracts are used for a wide variety of assistance and services not available through master contracts and will include data quality management requirements as applicable.

4.1.3 Master Contract

A master contract is an umbrella document that provide the general framework for using the services of multiple contractors and is typically used for routine services such as laboratory analysis. To develop a master contract, Admin publishes a Request for Proposal (RFP) in the State Register and resulting in a contract with several master contractors. The MPCA can select from this list of master contractors through a streamlined work order process. To select contractors for the master contract, a team of staff members representing programs that use the contract services and QAC staff assist Admin in RFP development by ensuring the MPCA's quality system requirements, including minimum technical qualifications, are included in the RFP. Admin ensures state requirements are met, attaches the State's special terms and conditions to the RFP, sets a deadline for proposal submittal, sends the RFP to known interested parties and publishes the RFP in the State Register. Question-and-answer periods and/or pre-proposal meetings for the prospective proposers and other interested parties to clarify the RFP requirements may be held while the RFP is open. At the close of the RFP, the RFP team reviews the proposals, scores them in accordance with preset criteria, and selects the winning proposal(s). Admin then notifies the successful contractor(s), and the contracts negotiate and execute the contracts.

4.1.4 Project management

Once the contract or agreement has been completed and site work commences, the PMs are responsible for assembling documentation to ensure work progresses as stated in the QAPP or SAP and required by the contract or agreement. Technical staff, including the site QAC, also review the documentation to ensure that the work is complete as required.

Although MPCA staff are primarily responsible for the day-to-day evaluation of contractor performance, supervisors also monitor performance by tracking work progress at sites and facilities assigned to their staff. The MPCA project managers continuously monitor contractor performance through work plans, project schedules, and task tracking. Oversight of work plans ensure quality and completion. Each MPCA work plan includes the following elements:

- Project Summary
- Statement of Problems and Existing Conditions
- Project Goal, Objectives, Tasks and Sub-tasks
- Measures and Outcomes
- Gantt Chart (schedule)
- Project Budget

A PM can request an audit if he/she is not sure about the quality of the data provided by the contractor. For an example, if PM requests an audit of a site contracted for sampling, a sampling expert and possibly a QAC would meet with the contractor and monitor the contractor's procedures. The sampling expert and/or QAC would prepare an audit summary for the PM with recommendations for corrective actions, if needed. The PM communicates the corrective actions to the contractor and maintains the

documentation from the audit and corrective action. Repeated failure to adhere to the terms and conditions of the contract may result in the MPCA withholding payment and, if necessary, terminating the contract.

4.1.5 Laboratory Contracts

MPCA QA staff review quality assurance documentation from laboratories before contracts are issued, perform audits upon the laboratories within the first three years of the contract and continue to monitor the labs through meetings, data reviews and follow up on any issues that arise from project management staff. Before a laboratory is hired, they submit their SOPs for relevant methods, Quality Assurance Manual, and costs for analysis. These are all reviewed and scored against a points system ensuring the best-qualified laboratories are hired for work. Whenever a change is made to an SOP or a new method added, the appropriate SOP is sent to the MPCA for review and addition to the laboratory electronic file of methodologies. Laboratories that are used within a grant or project issued by the PCA to another organization must be included within the QAPP written for the project and be an accredited laboratory. Any laboratory outside of a contract who submits work to the PCA must at a minimum, be accredited by MDH or other recognized certification body.

Laboratory Services that are contracted for the State through the Minnesota Department of Administration follow strict requirements as defined within the contracts. These requirements ensure proper documentation, ensure a pre-qualification audit is performed on each laboratory ensuring procedures are followed, and documentation of procedures (SOPs) and the laboratory QA Manual is followed. Further, upon a complaint or issue being raised with a laboratory, the contract lead will follow-up with the laboratory on corrective actions, documentation of these actions, and an assurance the issue will not arise again. The MPCA is the primary user of these contracts and the QACs are considered the technical liaison and subject matter expert for the data submitted for the contract.

4.1.5.1 Laboratory contract audits

For contracted laboratory services, the QACs may conduct an audit either before execution of the contract or at any time during the term of the contract to determine if the laboratory meets the QA requirements for the contracted work. Currently all laboratories directly contracted with the MPCA are audited by the QACs. Prior to the audit, the QAC conducting the audit provide the criteria to the laboratories. If the laboratory fails the audit, it is given a specified period to remedy the identified deficiencies and is then re-audited. A second failed audit may result in the laboratory either being disqualified from further contractual consideration or, if the contract has already been awarded to the laboratory, termination of the contract.

QACs may monitor compliance with the terms and conditions of laboratory contracts regarding data quality. MPCA staff review data reports and invoices while the QAC may submit double-blind analytical check standards and conduct data audits. All contractors are required to submit analytical results from Proficiency Testing samples to the State. All contractors are required to follow policy and guidance documents that are posted on the MPCA Quality Systems webpage.

5 Document Control and Records

5.1 Quality Documents

Quality documents are retained per the MPCA retention schedule as listed in Section 5.3. Quality documents are generally prepared, reviewed and revised in cloud-based team collaboration software. Documents are routed for approval through email or cloud-based team collaboration software and are stored on MPCA's computer data system. Documents that undergo revision based upon updates to procedures, staffing changes, or federal regulations are given a new revision number and routed for review and approval. Retired and archived quality documents are kept on file per the MPCA's document retention policy.

5.2 Record Storage

Records management at the MPCA incorporates Federal, State, and local laws governing records. All MPCA staff are expected to be aware and follow record management policy. Electronic records are stored in network drives, data repositories and electronic document management applications. Active paper records are stored on-site at the MPCA in centrally located file areas but when possible are converted to electronic records. Inactive paper records are stored off-site in a secured state contracted storage facility. All records generated or received in the course of business, regardless of format, origin or storage location are considered State of Minnesota assets and are governed by the Minnesota Government Data Practices Act (Minn. Stat. § 13), the Official Records Act (Minn. Stat. § 15.17), and the Records Management Act (Minn. Stat. 138.17). Records stored on network servers are protected using security tools including firewalls, anti-malware and antivirus applications. The security of the MPCA's network meets the State of Minnesota's security requirements set by the Minnesota Information Technology Services (MNIT) and the Minnesota Department of Administration. The MNIT backs up MPCA's computer system according to a schedule.

5.2.1 Record Chain of Custody

Paper records are scanned into the MPCAs electronic document management system (OnBase) to become the official record. Each record is considered created when it is written or received at the MPCA. Records are added to the filing systems immediately or upon final approvals. The file name is the chief identifier for a record. Each agency program file has a standard operating procedure that determines how its files will be organized. The documents to be contained in a file, as well as the organization and naming of folders are specified in the programmatic standard operating procedures. The Taxonomy is a hierarchical document and record classification scheme based on agency functions, rather than organizational structures. This taxonomy is a three-tiered classification structure; the first tier is the function, the second tier is the activity, and the third tier is the document type.

All incoming paper records should be marked with the Official File stamp. This is done as the incoming mail is processed or by the technical staff recipient as soon as the documents have been distributed to them. Technical staff are required to fill in all applicable information requested on the stamp:

- Site name, the site number (if applicable), the page number on which the document should be filed in a multi-part folder (if applicable), the name of the staff member submitting the document and the filing category to which the document belongs (if applicable).
- Staff must mark all other records not received through the incoming mail with the Official File stamp as well and fill in all the applicable information requested on the stamp.
- When multiple copies are received, only one copy should be marked with the Official File stamp and filed. Any other copies received can be used as working copies and kept at staff members' desks or recycled.
- Once Official File stamped the item is submitted for labeling (if it is a document) or filed in its appropriate folder (if loose-leaf).

Labeling and filing are to be done as soon as possible. For physical records, there are specific programmatic procedures for labeling and filing. Except for the Official File Stamp, staff are not to write on agency records. All comments made during the process of reviewing a record should be made on paper and filed within the correspondence folder belonging to the file. The date and year are placed on all records before filed.

5.2.2 Confidentiality of Records

MPCA maintains records during all phases of their lifecycle from unauthorized or inappropriate access, use modification, disclosure, or destruction wherever they are stored. Staff members have a responsibility to ensure that agency records are maintained, are available upon request by the public and the MPCAs retention policy is followed. Staff members work with the Document Services and Information and Records Management Units to access paper records to ensure that all documents can be located at all times. All relevant documents and folders must be kept together. Staff members must also comply with the MPCA's security precautions to protect and maintain the integrity of agency data. All records, information and data are public unless a statute, temporary classification, or federal laws create a not public classification. The MPCA also operates under [Minnesota Statute § 116.075](#) which specifically classifies some MPCA data as not public.

5.3 Record Control

Files are preserved pursuant to the terms prescribed in the MPCA record retention schedule which can be found on the MPCA's internal webpage ([Records management | The Lorax \(state.mn.us\)](#)) and is available upon request. The number of years files are kept at the MPCA and then archived varies with each retention schedule. When archiving documents, the file managers:

- Advise division staff as to which documents should be designated for off-site storage.
- Prepare documents according to established requirements.
- Create an index of documents within each box being sent to archival storage.
- Verify the accuracy of each index contained in the boxes being sent to archival storage.
- Complete the required paperwork and secure the necessary approval for transferring boxes to archival storage.
- Create new district retention schedules and revise existing ones as the need arises.
- Monitor the retrieval of documents from archival storage.

Most agency files sent to archival storage are in paper form. The retention period for electronic documents is the same as paper documents. When an electronic record reaches the end of its lifecycle, it will be purged from the system. File management staff retrieve files and maintain records as to which files are recalled.

5.3.1 Records Management Officer

Under the MPCAs Operation Section in the Information and Records Management Unit is the MPCAs Record Management officer. The position has oversight of the agency's filing systems in the MPCA. This position reports to the Data Services Section Manager and oversees the unit staff. The Records Management Officer is also responsible for identification and management of vital records.

5.3.2 File Managers

Agency file managers maintain the filing systems and are assigned to manage specific record collections. The file managers are charged with:

- Establishing and complying with filing policies and procedures for the MPCA.
- Developing file and taxonomy structures as needed for programs.
- Filing all paper documents according to policy.
- Reorganizing out-of-order files according to policy
- Shifting documents to redistribute space within the filing system as the need arises.
- Assisting staff members and external customers with locating documents within the file systems.
- Providing training to division staff members specific to the filing needs of their respective programs.
- Adhering to the MPCA Records Management Policy and Retention Schedule found on the MPCA Intranet.

The MPCA file managers meet on a regular basis to:

- Ensure that file management policies, procedures and practices are consistent.
- Share information and discussing file management issues that affect the agency.
- Ensure agency compliance with Minnesota rules and statutes regarding data practices issues.
- Develop ways to provide excellent service to internal and external customers.
- Make recommendations to management regarding file management issues such as daily operations and future improvements.
- Review the strategy for agency-wide document management policy.

Administrative Records are also created and maintained, as needed. The file managers:

- Compile administrative records files for new and existing Superfund remediation sites in compliance with the Superfund Memorandum of Agreement (SMOA).
- Train staff in the administrative record requirements described in the SMOA.
- Arrange for the copying and distribution of administrative record documents to appropriate information repositories throughout the state, when needed.

- Create an index of documents included in each administrative record.
- Respond to requests from external customers seeking information in administrative records.

5.3.3 Staff Responsibility

As specified in Minnesota Statute, Ch. 15.17, all staff are required to make and preserve all records necessary to their activities. All staff must attend training on record generation, preservation and data practices requirements and are responsible for following the requirements. Staff are also responsible for importing electronic files into OnBase, filing the documents in their work areas or submitting filing to the file management staff according to their program's practice. Staff determine metadata information as to how various documents should be filed within the recordkeeping system. Staff refer all requests for information, including Freedom of Information Act letters, Minnesota Data Practices Act letters, and file review requests to the appropriate file manager.

5.4 External File Review

File managers respond to written and oral requests for information through the Freedom of Information Act and the Minnesota Data Practices Act upon request for file review, file managers:

- Contact external customers to answer questions concerning the site file, explain agency file review and photocopy policies, and act as liaisons between appropriate staff and external customers to answer complex questions raised in the request.
- Conduct research on additional file information as needed based on conversations with the external customers.
- Ensure that external customers are scheduled for file reviews according to agency policy.
- Locate all division files that the external customers request to review.
- Prior to file review ensure that requested files are reviewed by division staff for confidential, security, and whistleblower-type information when appropriate and in accordance with Minnesota statutes.
- Greet external customers, explain the MPCAs file review and photocopy policies, and answer questions about division programs.
- Serve as liaisons between external customers and division staff assigned to files being reviewed and consult with appropriate division staff when questions are raised during the file review.
- Maintain a record of appropriate signatures and billing information from external customers as required by agency policy.
- Comply with document photocopy requests in accordance with agency policy.
- Verify the authenticity of agency-owned files by authorizing a notarized affidavit when records are subpoenaed by a state or federal court.

Files that require documentation for litigation purposes are number stamped by the file managers. When these files are requested, file managers:

- Gather all site documents from the central file, archival storage, and staff work areas.
- Consult with Office of the Attorney General staff to assign categories and numbers to the documents within the site file.

- Reorganize the file in accordance with the categories established in consultation with the Office of the Attorney General Staff stamp the documents with the assigned numbers.
- Compile a list of all documents in the file with their corresponding numbers and distribute this list to the Office of the Attorney General, the staff members assigned to the site, and external customers requesting a copy of the list number-stamp any new documents added to the site file, update the list, and distribute it accordingly.
- When appropriate, number stamping may be done by a vendor outside the MPCA.

5.5 Technical Guidance Documents and Factsheets

Anyone associated with a given program can identify the need for a technical guidance documents and factsheets to assist consultants, the public, and other interested parties. If the program leaders agree to the need, a team of staff from the relevant program will be assembled to define the project, complete subject research, and create a draft. The team then routes the draft document for review and comment to other staff, management, and QACs who are knowledgeable about the subject matter. If applicable, consultants, laboratory representatives, and EPA staff may review and comment on the document. The author team reviews the comments and typically revises the draft based upon comments received. A final draft is submitted to agency management and EPA staff, if necessary, for approval.

The MPCA seeks to disseminate guidance and factsheets as broadly as possible. Technical guidance documents and factsheets for all the environmental programs are found on the MPCA website: <https://www.pca.state.mn.us>. This site includes all MPCA publications by media (Air, Water, Waste, etc.) and Program (Emergency Response, Legislative documents, reports, etc.). The MPCA's Publication Support Team (PST) is available to help Staff with style guidelines, formatting, and other publication support.

The MPCA regularly update technical guidance documents and factsheets to provide end users with the most current information. Older versions of these documents and those concerning obsolete topics are taken out of circulation.

6 Information Management

Data management in the MPCA includes both preserving information and making information available. This section summarizes the MPCAs information management practices and related information technology topics. Data management encompasses a variety of activities related to planning environmental monitoring, collecting samples from different media, laboratory and in-situ analysis of samples, organizing and storing resulting data, analyzing and interpreting data, disseminating data, and communicating the monitoring results and knowledge gained. The way MPCA manages data continues to evolve with an increased emphasis on enterprise architecture, and to address the need for better security of environmental data. In addition, MPCA strives to comply with all EPA standards and regulations, as appropriate, pertaining to hardware, software, database system development, and data reporting. Additional aspects of project management, such as planning, data gathering, and evaluation by MPCA Programs, are addressed in the QAPrPs or other project planning documents as appropriate.

Minnesota Information Technology Services (MNIT) manages and maintains the hardware and software required for MPCA information management. MPCA staff must comply with MNIT established hardware and software use protocols that are available on an internal, nonpublic web page.

6.1 Information System Integration

6.1.1 Computer hardware and software standards

Minnesota Information Technology Services (MNIT) directs the MPCA Information Technology requirements. MNIT encompasses all IT professionals within the State systems. The MNIT office publishes standards and policies that affect all state agencies. These are located at <https://mn.gov/mnit/about-mnit/policies>

6.1.2 Data Quality and Data Integrity.

The MPCA uses numerous work-information management systems for efficiency and quality management. Data integrity and data quality are related in the fact that both are needed to ensure that the data are sufficient for their intended use. For the purpose of this document, data quality relates to the process used to collect, analyze, verify, and validate environmental results. Data integrity relates to the input, storage, maintenance, and retrieval of those results.

6.1.2.1 Data quality

Before environmental data are entered into any database and released for production, producers of the data use a standard QA review/validation/verification procedure to verify that they meet the requirements of their intended use. Regular training and/or guidance are provided to external data producers. After submittal to the MPCA, non-permit data is reviewed prior to finalization following program requirements. EQulS project codes assist with identifying data sources from outside the MPCA. Permit data is reviewed following program requirements. QAPrPs describe the level of QA/QC necessary for their programs and should include references to how data quality is determined. This includes descriptions on how to measure precision, accuracy, representativeness, comparability, completeness, and sensitivity. Regardless of the data entry method, manual entry or electronic file transfer, project managers verify that the data meet the above criteria prior to input into the database in a final format for use by staff. Questionable data may be entered and maintained in a database if they are appropriately documented, qualified, or separated out from use by the public.

6.1.2.2 Data integrity

The data integrity process begins once the data are ready for input into the databases. Data integrity addresses the vulnerability of the system to unauthorized access, data manipulation, theft, and environmental damage. Password protection and limited rights given to users of databases is used to ensure data integrity and maintain the security of the data systems. Further, data is screened for outliers or anomalies within the database to verify integrity remains accurate across the databases at MPCA.

6.1.2.3 Data Quality Audits

Project managers have the ultimate responsibility for the initial review of data being submitted to the MPCA for their programs. Technical staff such as a QAC are then able to perform data quality audits on data generated for use in regulatory and monitoring programs to confirm that the data meets Data Quality Objectives. The MPCA audits its data against established criteria such as the accepted reference methods, the National Functional Guidelines, the MPCA Laboratory Quality Control and Data Policy, or predetermined specifications set in a QAPP/QAPrP.

If the QACs find serious quality concerns or violations, corrective actions will be discussed with the lab, and any data associated with that lab for several previous years will be flagged. This will include notifications of the data limitations to any of the users of that data. If the QACs find major problems or if serious corrective actions have not been met, a meeting between the senior lab personnel and the QAC may be held to discuss further action. Major issues must be resolved before the lab can perform any further analytical work for the State of Minnesota.

6.2 Databases

The MPCA uses several databases. Four databases are primary to the PCA; Tempo, SWIFT, OnBase, and EQuIS™ with other smaller databases used in support of program work.

6.2.1 Tempo

Tempo is a software that acts as a master database for many activities in the MPCA to track financial expenditures, documents associated with site investigations, documents associated with permits, and more. Tempo is organized around “agency interests (AIs)”, which are codes that represent any entity that the MPCA has an interest in monitoring, regulating, or assisting. There are also “agency interest” codes for internal spending that the MPCA conducts. For each AI, there is a “central file” that includes all the documents related to that activity or site – these documents could be pdfs, data files (like excel files), images, or other documents. The central file includes a work log that tracks the specific actions that have been taken with respect to this site/activity. Tempo currently contains the following Agency program data:

- Permitting
- Enforcement
- Invoicing
- Watershed level information (not water quality data)
- Grants and work orders
- Remediation (Petroleum, Superfund, Brownfields, Closed Landfills)
- Emergency Response

Tempo can access data from other stand-alone databases used by MPCA staff. Tempo allows MPCA staff to use Tempo as their workflow station. For example: a work order documentation may start with the Project Manager in Watershed Division, and the designated contract specialist must approve the work order and then, the funding would be encumbered by fiscal coordinators in Finance. Eventually, the PM would print and send via facsimile the work order to the contractor for signature, upon return of the signed document, would sign it themselves and file the paperwork. Now all documentation and signatures are done electronically and saves time and cost of paper. Once the documents are final, the PM or other designee can “file” the documents in the OnBase document archiving database. The staff can access any document so archived in Tempo.

6.2.2 OnBase

OnBase is the MPCA’s official enterprise electronic document management system. This commercial-off-the-shelf software suite provides critical electronic records management capabilities for high volumes of data, including the conversion of paper documents and the management of electronic documents in their native format (e.g., Microsoft Word, Excel, PowerPoint, digital photos, etc.).

To ensure the proper management and retention of government records, official records are migrated into OnBase whenever possible. Programs use standard operating procedures (SOP) to determine which records should be moved. Furthermore, all records stored in MPCA’s Tempo system are automatically stored in OnBase. Search capabilities allow program staff to retrieve documents when necessary.

6.2.3 Statewide Integrated Financial Tools (SWIFT) system:

The Statewide Integrated Financial Tools (SWIFT) is the online financial, procurement, and reporting system used by the State of Minnesota. SWIFT system is connected to Tempo to provide seamless financial transactions such as work orders, invoicing, and payment processing (for permits, certifications, and licenses).

6.3 Environmental Databases

6.3.1 Environmental Quality Information System (EQuIS™)

EQuIS™ is a relational database that stores surface water, groundwater, and remediation data from several MPCA programs and other state agencies. In addition, EQuIS™ stores field parameter, lithology, well construction, and water elevation data. The MPCA also utilizes EQuIS™ as the final storage location of the State’s ambient air work. All laboratory data are submitted electronically using specified Electronic Data Deliverable (EDD) formats to ensure data quality and integrity.

6.3.1.1 Lab_MN: Lab data storage spreadsheet

Lab_MN is an electronic data deliverable (EDD) format developed by the MPCA and MNIT enabling labs to submit results in an EQuIS™ -ready format. It incorporates EQuIS™ data standards and enables remote error checking prior to submitting data to the MPCA. Beginning in 2015, all major labs supplying EQuIS™ -bound data were required to adopt this standard. Lab_MN files are available through the MPCA EQuIS webpage: <https://www.pca.state.mn.us/data/environmental-quality-information-system-equis>.

6.3.1.2 Surface Water

The most up-to-date information on the surface water data submittal and review processes is located on the MPCA Surface Water Data Submittal, Review and Reports website: <https://www.pca.state.mn.us/water/surface-water-field-data-submittal-review-and-reports>. Review of

data submitted for the surface water program is done on a yearly basis according to the following timeline:

- Through June 1: Submit project and location metadata
- Through November 1: Submit project lab and field data
- December 1: Begin final data review
- Mid-December of the following year: Complete final data review for assessment related data
- Mid-January of the next year: Data finalized and ready for assessment process

Projects are established or updated in EQuIS™ using the Project Establishment and/or Location Establishment forms before data can be loading into EQuIS™. Lab data is submitted primarily through an electronic data deliverable format called Lab_MN which includes the laboratory quality control information. Data files generated by labs are sent directly to a centralized EQuIS™ email box (wqdata.mPCA@state.mn.us). Field data are submitted electronically using the EQuIS™ Data Gathering Engine (EDGE) field data collection tool. EDGE is used to populate spreadsheets and generate EDDs, which can be used for EQuIS™ field data storage. EDGE_MN is the EDGE format that used in Minnesota. EDGE Standard Operating Procedures are available on the MPCA website (<https://www.pca.state.mn.us/data/environmental-quality-information-system-equis>) and periodic training is provided to field staff and contractors.

6.3.2 Air Quality

The Ambient Air Monitoring Program uses multiple systems to manage the high volume of data generated from all aspects of air monitoring, including data collection, validation, storage, and retrieval. Laboratory and data acquisition systems currently being used include AirVision for continuous monitors, Measurement Technology Laboratories (MTL) software for gravimetric samples, and Promium Element for samples analyzed in the air monitoring laboratory. Data from these systems are routed to EQuIS™ for permanent storage and reporting to EPA. The Ambient Air Monitoring Program uses EQuIS™ for long term central data management for field, monitor, and laboratory data, quality assurance, and EPA submittals. In addition, EQuIS™ maintains all information regarding monitoring sites, supporting equipment, inventory tracking, monitor calibration, quality control, and maintenance. EQuIS™ Collect is used as the primary tool to gather information from air monitoring field activities. Data analysts and other program staff from the MPCA use EQuIS™, Tableau, and WAIR for analysis of air data over time verifying compliance with federal and state standards and requirements.

The Air Quality System (AQS) is EPA's repository for ambient air quality data. Within 90 days of the end of each quarter, MPCA reports all ambient air monitoring data directly to AQS via the internet. All time periods must to be accounted for so invalidated samples are reported with assigned null data codes. The MPCA also reports quarterly precision, bias, and accuracy data consistent with the data reporting requirements specified for air quality data as set forth in 40 CFR § 58.35(c).

6.3.3 Time-series Stream, Basin, Groundwater, and Climate Data

Time-series stream, basin, groundwater, and climate data are stored, managed, and made available to agency staff in WISKI. WISKI is a suite of data processing software and a database backend from the KISTERS Company. The implementation of WISKI at MPCA is a joint effort with MNDNR and MDA. The client is accessible through Horizon to multiple state agencies that partner with MPCA on the WISKI project. The database is on the MPCA Oracle servers, and the application layer runs on an MPCA Windows server. User rights built into WISKI control access to the WISKI application. Access to WISKI data is provided internally to MPCA staff through a read-only WISKI account and/or a web-services application called KiWIS at <https://wiskiweb01.pca.state.mn.us/KiWIS/>. KiWIS is also available to the

public but is currently not utilized in that capacity. Some of the data (primarily streamflow) are currently available to the public through the MDNR/MPCA Cooperative Stream Gaging website at: www.MDNR.state.mn.us/waters/csg/index.html.

WISKI data are closely scrutinized through a peer-initiated audit process. The assigned staff work up data in the system according to written policies and procedures. Raw data is preserved and corrected in a new data signal. Some types of corrected data are used to create a new derived data signal (e.g., Flow from stage). Some data signals are aggregated to new time-steps (e.g., Unit Value discharge aggregated to Daily Value discharge). Comments are used throughout the data workup and all data signals are kept separate so any adjustments, derivations, or aggregations can be traced back to the raw data signal. All data are checked by a peer reviewer. In addition to a peer review, flow stations also undergo a publisher review. Annually, each publisher has one station reviewed by another publisher as a check on publisher capability. The peer and publisher review steps are repeated as necessary until the reviewer approves the data. At that time, data are marked in the system as “Approved” and are locked from further changes.

6.3.4 Environmental Data Access (EDA)

The MPCA has developed a database system to provide access to environmental data over the Internet. This system is known as the Environmental Data Access (EDA) system. This system provides access to surface water data. The development team is expanding this system to provide access to air quality and groundwater data.

The EDA system relies on EQuIS™ for the storage and retrieval of surface water data for lakes and streams. Therefore, all surface water quality data must adhere to the protocols required for data in EQuIS™. The system presents up to fourteen standard water quality parameters on the webpage for both lake and stream stations for each calendar year with measurements. Additionally, a user can download the displayed water quality data and additional parameters, if available. Users also have access to biological data, which are collected and maintained by MPCA in a separate database that includes measurements, such as the estimated number of fish and the fish species present in a stream segment. Additionally, surface-water discharge data from MPCA-permitted facilities are also available. Lastly, the system uses a map viewer to display graphically the results of 303(d) and 305(b) surface water body assessments conducted by the MPCA.

6.3.5 GoCanvas: Field data collection tool

GoCanvas is a field data gathering tool used to collect information for WISKI and EQuIS. The data are imported to WISKI from the GoCanvas cloud every four hours. EDDs are generated for EQuIS field data storage for the Watershed Pollutant Load Monitoring Network (WPLMN). Field EDDs are generated for other projects as requested.

The MPCA and DNR jointly maintain GoCanvas Standard Operating Procedures, provide training to field staff and local partners, and evaluate needed changes after each field season.