

Michigan Department of Environmental Quality
Drinking Water and Municipal Assistance Division

ANNUAL REPORT ON CAPACITY DEVELOPMENT PROGRAM FISCAL YEAR 2018

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List of Acronyms

ACO	Administrative Consent Order
Act 399	Safe Drinking Water Act, 1976 PA 399, as amended
AWWA	American Water Works Association
CCR	Consumer Confidence Report
CDP	Capacity Development Program
CMDP	Compliance Monitoring Data Portal
CWS	Community Water System
DDBPR	Disinfectants and Disinfection Byproducts Rule
DWGIS	Drinking Water Geographic Information System
DWMAD	Drinking Water and Municipal Assistance Division
DWRF	Drinking Water Revolving Fund
EFCN	Environmental Finance Center Network
EN	Enforcement Notice
ETT	Enforcement Tracking Tool
FAP	Financial Action Plan
FY	Fiscal Year
GWR	Ground Water Rule
LHD	Local Health Department
MDAG	Michigan Department of Attorney General
MDEQ	Michigan Department of Environmental Quality
MDHHA	Michigan Department of Health and Human Services
MEHA	Michigan Environmental Health Association
MGMT	Michigan Groundwater Management Tool
MPART	Michigan PFAS Action Response Team
MRWA	Michigan Rural Water Association
MSU-CEE	Michigan State University, Department of Civil and Environmental Engineering
MHC	Manufactured Housing Community
MOR	Monthly Operation Reports
NCWS	Noncommunity Water Systems
NTNCWS	Nontransient Noncommunity Water Systems
OTCP	Operator Training and Certification Program
PFAS	Per- and polyfluoroalkyl substances
PWS	Public Water System
RCAP	Rural Community Assistance Program
RTCR	Revised Total Coliform Rule
SDWA	Federal Safe Drinking Water Act
SDWIS	Safe Drinking Water Information System
SWIPP	Surface Water Intake Protection Program
SWPP	Source Water Protection Program
TA	Technical Assistance Provider
TMF	Technical, Managerial, and Financial
TOC	Total Organic Carbon
USEPA	United States Environmental Protection Agency
WHPA	Wellhead Protection Area
WHPP	Wellhead Protection Program

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1. Introduction

The 1996 Amendments to the federal SDWA added provisions for each state to develop a CDP. The objective of the CDP is to enhance public health protection by helping water systems develop and maintain the TMF capacity they need to consistently deliver a safe, reliable, and abundant supply of drinking water to all customers.

The purpose of this document is to demonstrate to the USEPA that the state is implementing a capacity development strategy as required in the SDWA, Section 1420(c)(1)(C), or risk losing 20 percent of the annual DWRf allotment that the state is otherwise entitled to receive under the SDWA, Section 1452.

This report corresponds to the criteria set forth in the USEPA's memo "Reporting Criteria for Annual State Capacity Development Program Implementation Reports" dated June 1, 2005. The report is due to the USEPA within 90 days of the end of the reporting period. Michigan's reporting period is the state fiscal year that ends on September 30, so this report is due by December 31 of each year. Elements discussed in this report are:

- New Systems
 - Identify legal authority.
 - Identify control points.
 - List of new systems.
- Existing Systems
 - Identify tools and activities.
 - Identify systems.
 - Identify needs and provide assistance.
 - Review implementation and address findings.
 - Modify strategy.

2. New Systems Program

2.1 Identify Legal Authority

The legal authority remained unchanged during the reporting period. The CDP is implemented by the MDEQ, DWMAD, through amendments to Act 399, by application of capacity development policies and guidance documents and through cooperation and partnerships with other agencies.

2.2 Identify Control Points

The control points remained unchanged during the reporting period. As outlined in the *New Community Water System Capacity Guideline Document*, dated May 1, 2000, new systems must demonstrate TMF capacity before serving water to the public. The new systems program relies on two control points: construction permits, which are required by law, and final inspection, which is required by policy. Generally, a construction permit is issued based on the technical capacity of the proposed system. For CWS, the financial and managerial capacity requirements may still be pending while the system is under construction. Approval to commence operation is not granted until after an acceptable final inspection and approval of a financial plan and operations plan that address financial and managerial capacity. For

NTNCWS, the DWMAD has delegated the authority to the LHDs to review, approve, and issue construction permits. When water systems begin the permit application process, the LHD helps them outline their TMF capacity. Prior to receiving approval to commence operation, the NTNCWS must submit a TMF, contingency plan, and designate a certified operator.

2.3 List New Systems

The list of CWS and NTNCWS that became active during the last three fiscal years is in Appendix A. Each year, the list indicates which systems, if any, scored 11 or more (indicator of noncompliance) on the ETT during the reporting period. New system compliance data is more meaningful when compared to all systems of the same classification, as summarized in the following table.

FY 2016 to FY 2018	CWS		NTNCWS	
	New	New & Existing	New	New & Existing
Number of systems on ETT Tracker Report	9	1383	52	131
Number of systems with ETT score of 11 or more	0	13	2	22
Systems with ETT score of 11 or more (percent)	0	0.9%	3.8%	1.7%

Two NTNCWS systems that became active during the last three fiscal years scored 11 or more on the ETT. The two systems are MI8320306, Lacross- Buckley LLC and MI2521616, Performance Fabricating. They scored 15 (Q3 2018) and 11 (Q2 2018) respectively.

3. Existing Systems Program Tools and Activities Used

The *Capacity Development Strategy for Existing Public Water Systems*, dated August 1, 2000, lists the programs, tools, and/or activities to help systems acquire and maintain capacity. This section describes each of the major program elements, the target audience, and a discussion of how each helps to achieve and enhance capacity.

3.1 Sanitary Surveys to Evaluate Systems

Target: CWS and NCWS

Capacity of existing systems is assessed through sanitary surveys, on-site surveillance visits, and through the construction permit process.

For NCWS, sanitary surveys are conducted every five years. Construction permits and inspections are required when new wells are installed or treatment is added. While a change in classification from transient to NTNCWS results in a capacity assessment of the existing system, these systems are not included in the list of new systems in Appendix A.

For CWS, sanitary surveys are conducted every third year by DWMAD field staff. This frequency coincides with the requirements of the series of Surface Water Treatment Rules and the GWR. Each of the eight required sanitary survey components is rated individually and entered into SDWIS. The required components include the source, treatment, distribution system, finished water storage, pumps and controls, monitoring and reporting, system management and operation, and operator compliance. Each component may be rated as a

significant deficiency, minor deficiency, recommendations made, or no deficiencies/recommendations.

DWMAD staff detail their findings and recommendations in a letter to the system. These letters may include a list of milestones with dates by which the items are expected to be addressed. Options for capacity assistance may also be offered, such as recommending a financial assessment or contacting available technical assistance providers for specific assistance. These evaluation letters help systems understand the severity of the deficiencies and prioritize response activities.

The following table summarizes data on CWS sanitary surveys, visits, and construction permits in recent years.

CWS Evaluations, Visits, and Construction Permits			
	FY 2016	FY 2017	FY 2018
Number of Sanitary Surveys Conducted	377	427	476
Number of Significant Deficiencies	11 at 7 systems	14 at 8 systems	33 at 20 systems
Number of Minor Deficiencies	85	119	277
Number of Visits **	1,677	1,599	2,134
Number of Construction Permits Issued	1,011	1,047	1,002
Number of Water Main Permits	838	870	823
Average Number of Days to Issue Simple Water Main Permits*	13.7	17	16

* DWMAD strives to issue simple water main permits within two weeks.

** Includes Sanitary Surveys

The frequency of surveillance visits above are as follows:

Type of CWS	Smaller/Less Complex	Larger/More Complex
Wholesale customer supplies	Once per year	Once per year
CWS with no treatment*	Once per year	Once per year
CWS with treatment*	Twice per year for systems employing treatment other than "complete treatment"	Four times per year for systems employing "complete treatment"

*Treatment employed for public health protection. Excludes water softeners or other point of entry aesthetic treatment.

In addition to scheduled surveillance visits and sanitary surveys, field staff visit water systems to conduct Level 2 Assessments per the RTCR, investigate problems discovered as a result of routine monitoring, or that arise as a result of emergencies. If water system issues need to be elevated to local officials, the community leadership may include field staff on the agenda of council or board meetings.

3.2 One-on-One Technical Assistance and Consultation

Target: CWS and NCWS

The DWMAD and LHD field staff are the primary implementers of the CDP. Water system operators develop a relationship with field staff who are the primary contact for capacity development. Each CWS is served by DWMAD staff from one of the eight district offices, and each NCWS is served by staff from one of the 44 LHDs under contract with the DWMAD. A primary objective of DWMAD field staff and the LHD is to provide excellent customer service from the construction permit process for new infrastructure through the continual assessment and oversight process during operation. Field staff achieves that objective through assistance to systems during site visits, at meetings and conferences, during training events, and consultation by telephone and e-mail. Field staff attends, participates, and presents at periodic regional operator meetings to discuss upcoming regulations, regional issues, and to network with operators and managers.

The NCWS Program staff of the DWMAD maintains communication with each of the 44 LHDs during the year. This communication occurs routinely via phone calls, e-mail, joint office and field work, and group and individual training. Also, quarterly data reviews and annual evaluations of each of the 44 LHD's performance are conducted to assure and maintain water system compliance.

In order for CWS and NCWS staff to provide complete and accurate technical assistance to water systems, the PWS Program is committed to increasing and enhancing staff training. In FY 2018, CWS and NCWS staff participated in the DWMAD Rule School, which is a training program that has been ongoing since FY 2016. The DWMAD Rule School is a series of all-day training sessions focusing on details of the Act 399 Administrative Rules. Five Rule School sessions were held during FY 2018, and attendance was required for all CWS technical staff. A variety of topics were taught by DWMAD staff members as well as MDEQ staff from other divisions and state agencies. The topics for FY 2018 included:

- DWRP Program and Project Plan Scoring
- SRF and SAW Programs
- Radiological (RAD) Rule
- MDHHS Lead Sampling Protocol
- MDHHS/DEQ partnership on fluoride regulation
- MDEQ/USEPA Relationship
- Compliance and Enforcement
- Well Construction

Each topic covered a brief history, the importance of the regulation, DWMAD staff responsibilities, rule citations, and all requirements related to monitoring and reporting. All staff members were encouraged to attend in-person, but sessions were live-streamed through Skype for some remote staff. Rule School sessions act as a refresher course for seasoned staff and are an important part of the training for new staff. The technical knowledge gained through these training sessions will help staff explain the regulations to the water systems in a clear and concise manner. Rule School sessions for FY 2019 are

currently being planned to allow DWMAD staff to continue to develop their fundamental knowledge and provide the most accurate technical support possible.

The following examples illustrate how the PWS Program staff provide technical assistance to water systems:

- Field staff worked with the cities of Kalamazoo and Parchment to provide an alternate source of water for Parchment after high per- and polyfluoroalkyl substances (PFAS) concentrations were detected in their water. Field staff helped Parchment connect to Kalamazoo's water supply which will provide a long-term sustainable option with increased TMF.
- Multiple DWMAD staff worked with a seasonal type II groundwater system to convert it to a year-round surface water membrane filtration plant. This was the culmination of a multi-year effort and will ultimately provide the customers of the water supply with better quality water.
- The MDEQ awarded a \$750,000 pilot study grant as part of a supplemental funding package to Plainfield Township. The ongoing study is looking at the ability of rapid sand filters, retrofitted with Granular Activated Carbon, to remove PFAS. Observations and conclusions from the pilot study will be highly beneficial to Plainfield Township, as well as other rapid sand filtration water plants with PFAS detections.
- DWMAD staff held a half day training on May 16, 2018, to help operators understand the enhanced coagulation requirements, as a result of developing Total Organic Carbon (TOC) removal compliance issues in some of the Great Lakes water supplies. The training was free, offered Continuing Education Credits (CEC), and included speakers from the private sector as well as the MDEQ. The technical and regulatory focused training provided excellent information for water supplies at a time when it was most needed.
- As part of the Areawide Optimization Program implementation, the MDEQ arranged an all-day exercise facilitated by USEPA contractors at the Holland Water Treatment Facility. With a focus on turbidity collection, data integrity, and process optimization, the training provided significant benefits in the form of observations provided to the Holland operators. It also helped build relationships between the operators and the regulatory staff.
- DWMAD staff worked with an apartment complex who had persistent total coliform positives to connect to a local PWS. This solution should provide the apartment complex with a permanent, higher quality water source.

These examples are only a few instances of the one-on-one technical assistance provided by staff to help water systems gain TMF capacity.

3.3 Other PWS Program Efforts

PWS program staff (DWMAD for CWS and LHD staff for NCWS) develops and distributes individual monitoring schedules for each CWS and NCWS as a tool to help systems comply with monitoring and reporting requirements. Many NCWS staff use a calendar style schedule for the LHDs to communicate specific sampling requirements to the NCWS. Both types of schedules are based on each system's applicable monitoring requirements and schedule. To supplement the schedule, staff may enclose or provide an Internet link to the following, depending on that year's monitoring requirements:

- Lead and Copper Report and Consumer Notice of Lead Result Certificate. This form provides a fill-in-the-blank version of the consumer notice for the

convenience of systems with limited computer ability. The FY 2018 instructions were revised to help achieve better compliance rates.

- Drinking Water Lead and Copper Sampling Instructions. The system may provide this document to the occupants that will be performing the sampling.
- Revised Total Coliform Rule Sample Siting Plan. This form incorporates RTCR and GWR-triggered source monitoring requirements.
- Revised Total Coliform Rule Level 1 Assessment Form. This form is completed by the PWS to determine the cause of contamination after a Level 1 Assessment is triggered.
- Stage 2 DDBPR Sampling Site Plan.
- List of approved laboratories.
- Annual Pumpage/Usage Report for Community Water Supply (applicable to CWS that do not submit MORs with monthly pumpage).
- Cross Connection Report. Systems use this form to demonstrate ongoing implementation of their Cross Connection Control Program.
- Water Quality Parameters Form. CWS can use this form to report the results of any Water Quality Parameter monitoring.
- CCR Certificate of Distribution.
- MDEQ Water Sampling 101 – Thermal Preservation video

Methods and additional opportunities to communicate PWS monitoring and reporting requirements include:

- Reminder phone calls, e-mails, or post cards.
- Distribution and entry point monitoring reminder letters. CWS that have not completed their required distribution or entry point monitoring receive a reminder within 30 to 90 days before the deadline to prevent a violation.
- Lead and copper reminder letters. Lead and copper monitoring is so complex that this reminder letter also serves as monitoring guidance.
- Lead and copper 90th percentile letter or action level exceedance letters. These letters outline the results of the system's monitoring and remind systems of further requirements, such as distributing the Consumer Notice of Lead Result, conducting water quality monitoring or installing corrosion control treatment.
- CCR reminder letters. By the end of May each year, DWMAD staff reminds systems of the annual requirement to distribute the CCR by July 1 and provides tools to comply: (1) A variety of templates are made available on the Community Water Supply homepage including the Internet link to the USEPA *CCRwriter*, as well as (2) the guidance documents *Preparing Your CCR* and *Reporting TOC on the CCR*, as applicable.
- Violation letters, discussed in Section 3.4 below, include requirements to post public notice, when applicable. Templates for typical monitoring and reporting violations, and many state drinking water violations, are available to field staff. Staff either

provides the template for the system to edit and place on its own letterhead, or staff may prepare the final public notice for the system to distribute.

- The NCWS program e-mail List-serve called GovDelivery. This is used to inform NCWS owners and operators of issues of interest to small systems.

Tools to help systems manage operational requirements include:

- MOR templates. Staff reviews each MOR to assure compliance with treatment techniques and to evaluate treatment processes for optimal operating practices.
- Privately-owned CWS Stipulation to Conditions. While it is clear in the administrative rules that new systems must demonstrate TMF capacity before commencing operation, the 2009 amendments to Act 399 clarified that these requirements also apply to new owners of existing systems. The Stipulation to Conditions, which owners must sign, covers the minimum elements to ensure owners are able to provide an adequate supply of drinking water.
- Water well site inspections and approvals. The LHD and DWMAD field staff conduct inspections and approvals of water wells serving the NCWS and CWS, respectively.
- Guidance documents: The DWMAD staff develops and distributes guidance documents as needed. Examples include:
 - *Water Well Disinfection Manual*.
 - *Seasonal Public Groundwater Supply Handbook (May 2015)*.
 - *Suggested Practices* outlines design, construction, and operation criteria for CWSs.
 - The *Cross Connection Rules Manual* outlines program requirements.
 - *New Community Water System Capacity Guideline Document* developed in 2000 guides field staff and owners of proposed or new systems through the process. It includes a capacity assessment checklist, a financial workbook, policies related to new systems, and templates and forms for planning purposes.
 - Source water protection guidance documents.
 - NCWS program guidance documents include the *Noncommunity Staff Reference Manual*, and the *WaterTrack Operators Manual* for LHD staff. NCWS staff revised and updated the Noncommunity Manual in FY 2018 to be used by LHDs. New appendices include Classification Change Approved Letter, Isolation Deviation Request Form, Arsenic Increase Monitoring Letter, Arsenic Reduction Monitoring Letter, Thermal Preservation Not Met Letter, Thermal Preservation Fact Sheet, Total Coliform Sampling Postponement Waiver Form, Operator Designation Form, PFAS Treatment Application
 - The *Level 5 Drinking Water Operators Guide* for those individuals pursuing certification to operate a small PWS.
 - Additional brochures and informational publications were produced to address the issue of lead and copper in household drinking water.
- USEPA tools. In addition to state-developed products, the field staff distributes, as needed, USEPA tools and guidance documents, promotes the Check Up Program for Small Systems and other system capacity development and sustainability tools, and promotes USEPA Webinars.

Field staff hosts and presents material at meetings, conferences, and training sessions throughout the year for LHD field staff, consulting engineers, operators, and local decision makers.

Ongoing activities include serving as instructors at several operator training courses throughout the year, speaking at other meetings and conferences related to drinking water, and attending USEPA sponsored webinars. Specific activities in FY 2018 include:

- DWMAD staff presented the *MDEQ Update* at each of the eight Michigan Section, AWWA, regional meetings, updating participants on new rule implementation. The Division Director also presented the *MDEQ Update* at the annual conference of the Michigan Section, AWWA.
- The MDEQ contributes to a quarterly newsletter, *Water Works News*, with the Michigan Section, AWWA. The newsletter is distributed to members and all CWS, including approximately 700 privately-owned CWS that might not otherwise receive drinking water-related information.
- The NCWS Program staff participates in association conferences relevant to NCWS systems, such as the Michigan Chapter of the Association of Recreational Vehicles and Campgrounds, the Michigan School Business Officials, the Michigan Ground Water Association, the Michigan Association of Local Environmental Health Administrators, and the MEHA Annual Education Conference.
- DWMAD program staff worked with the MDHSS, Oral Health Program, to administer a Fluoride Grant Program to promote public water system fluoridation by offering grants to water systems wishing to purchase new or replacement fluoride feed equipment. One water system was awarded a grant in FY 2018, totaling \$24,000 and serving a population of 31,784.
- To continue to offer quality training to DWMAD staff and water systems, the DWMAD takes advantage of USEPA and AWWA webinars. Certified operators can meet continuing education requirements with USEPA or AWWA-sponsored webcasts. The DWMAD promotes webinars and encourages field staff to forward information to water systems so they can participate at their site. The DWMAD will continue to take advantage of opportunities to interact with water systems and their consulting engineers, municipal leaders, and others interested in drinking water issues.
- Eleven DWMAD staff were able to attend the USEPA Small System Workshop in Cincinnati in August 2018, which focuses on treatment and emerging issues for small CWS and NCWS.
- Three day-long trainings, which included half a day on CCRs and half a day on the LCR, directed at small system operators, were offered. In addition, one webinar specifically on CCRs was also offered to operators.
- In FY 2018, the school drinking water coordinator began developing a school drinking water program which provides training and guidance on school water management practices and lead sampling for all public and registered non-public schools in Michigan. The program is focused on schools that are supplied by a CWS. The purpose of the initiative is to give school personnel tools to promote

quality school drinking water and reduce the risk of lead exposure to children. Guidance materials, instructional videos and on-site technical visits are being developed.

3.4 Enforcement

Target: CWS and NCWS

Evaluations and compliance information become the basis for enforcement. When a system violates a requirement, they receive a letter that clearly states what was violated, when the violation occurred, how to return to compliance, and when to respond to the letter. It is believed that enforcement will be viewed as more predictable if the systems better understand the cause of the violation and how to prevent it. In the long run, this may result in systems making a greater effort to comply and avoid enforcement altogether.

When systems fail to return to compliance, escalated enforcement, including enforcement notices, ACO, unilateral department orders (MDEQ order), and referrals to the MDAG, or USEPA Region 5 can be initiated. Before escalated enforcement is used, many systems return to compliance when they are assessed administrative fines for monitoring and reporting requirements. Water systems generally return to and remain in compliance with monitoring and reporting requirements after receiving a fine. During FY 2018, 17 CWS received a fine at least one time for at least one monitoring or reporting violation. Small systems received the majority of the fines, which is expected as large systems typically have the resources and systems in place to ensure monitoring is timely and performed correctly.

When a fine is not applicable or does not prevent further violations, the DWMAD moves to an escalating series of enforcement actions that include an EN, ACO, and in rare cases, a MDEQ Order or referrals to the MDAG or the USEPA. However, field staff prefer technical assistance over enforcement to bring systems back into compliance. The DWMAD referred seven MHCs with serious issues to the Michigan Department of Licensing and Regulatory Affairs for consideration during the 2018 triennial licensing cycle. Copies of ENs are sent to the Liquor Control Enforcement Section for systems that have liquor licenses and the Michigan Department of Agriculture and Rural Development or LHD for systems having food licenses. No ENs were issued in FY 2018. All ACOs are developed and sent by an enforcement specialist in Lansing, with assistance from district staff, to ensure consistency across the state. The DWMAD entered into nine ACOs with CWS and one ACO with a NCWS in FY 2018.

Some water systems are not willing to enter into an ACO. In those cases, the DWMAD must escalate the enforcement level to an MDEQ Order or a referral to the MDAG or the USEPA. There were no MDEQ orders or referrals to the MDAG in FY 2018.

Under the provisions of the contract to implement the NCWS program, each LHD is required to conduct enforcement necessary to address NCWS in noncompliance. The DWMAD field staff assists the LHD upon request, and in extreme cases, the DWMAD central staff may take the enforcement lead or refer it to the USEPA, Region 5, when state resources are unavailable.

Typical tools used by the LHD include administrative fines, informal hearings, local license suspension procedures, and bilateral compliance agreements. 114 fines were issued to NCWS in FY 2018 for monitoring and reporting violations. The vast majority of these were for RTCR violations.

3.5 OTCP

Target: CWS and NCWS

A properly certified operator must be responsible for each of the 1,394 CWS and 1308 NTNCWS, and at the 71 transient NCWS that employ treatment for either public health purposes or aesthetic reasons. Operators maintain their certification by meeting continuing education requirements through training offered in a variety of venues.

3.5.1 Training

The DWMAD, OTCP, provides over 30 training courses each year and approves continuing education credits for nearly 80 organizations and training providers that offer other opportunities for continuing education, including online courses. The OTCP has also approved a number of courses in the hands-on training or “HOT” category that can provide operators with at least 50 percent practical experience in a three-or-more-hour training session. These courses include bacteriology and chemistry courses.

Many of the training courses coordinated by the OTCP are taught by DWMAD field staff under a joint funding agreement between the MDEQ and the Michigan Section, AWWA. OTCP staff schedule instructors and instruct the Water Treatment and Distribution System 2.5-day Short Courses. Significant work continued in FY 2018 to refresh and revamp the course curricula, making them more accessible and understandable for operators. Additionally, new DWMAD staff are encouraged to attend these training courses.

During on-site visits or other consultation opportunities, field staff discusses the certification status of the operator and may suggest training sessions to hone skills or prepare for the examination required to obtain or to upgrade certification.

The OTCP works with TA providers RCAP, EFCN, and MRWA to provide additional training and support to operators and systems throughout the state. Staff meets annually with the organizations to set out priorities for the upcoming year, and to get a report of their activities in the state for the previous year.

In FY 2018 TA providers provided training and assistance such as:

- EFCN provided an Asset Management training in Grand Rapids, Michigan. They chose the location based on which systems had not submitted Asset Management plans to the State of Michigan.
- RCAP provided several training sessions focusing on NTNCWS and Transient Non-Community systems

- MRWA provided 29 trainings throughout the state. Corrosion control, cross connections, sampling, and chlorination are a few of the courses that were offered.

The OTCP is required to report annually to the USEPA on program activities.

3.5.2 Small CWS and NCWS Training

This training is now conducted primarily by DWMAD staff, with only one LHD, Tuscola County, continuing to conduct this training voluntarily.

Training targeted toward LHD staff is developed to inform, explain, and discuss new and updated program issues and procedures. This information is then relayed to the owners and operators of NCWS. This training occurs in many ways, including formal educational events and during the program evaluation process. Formal educational events with the LHDs in FY 2018 included:

- In September 2018, DWMAD staff hosted a Noncommunity Drinking Water Workshop and provided funding for every LHD to participate. This two-day workshop consisted of both MDEQ and USEPA Region 5 updates in addition to training on annual evaluations, and discussions on program differences between counties. 86 regulators attended this annual training.
- MDEQ staff hosted six statewide Level 5 (the lowest level of operator certification) Operator Trainings to help operators prepare for the level 5 exam and better perform their jobs. The trainings covered proper sampling procedures, upcoming changes to the LCR, and a refresher on RTCR and triggered assessments.
- MDEQ staff hosted two “RTCR Back to Basics” webinars to assist Type II systems with the new RTCR requirements

In May 2018, CWS staff hosted three “small system” trainings. These trainings are marketed to all owners and operators of privately-owned community supplies with a population of 3,300 or less. 116 people registered, which represents many more supplies as several of the attendees are “circuit rider” operators who operate more than one community’s water supply. This year’s topics included a regulatory update, how to complete MORs, radiological monitoring, lead/copper site selection, construction permit requirements, common complaints (and solutions), and an interactive “what’s wrong with this picture.” In addition to these formal training events, the MDEQ attended or hosted meetings and trainings based on request or needs of individual LHDs. Common topics included training on WaterTrack database and conducting L2 and/or annual site visits under RTCR.

3.6 DWRF

Target: CWS and Nonprofit NCWS

The 1996 Amendments to the SDWA authorized the creation of a revolving fund to provide low-interest loans for repairs or enhancements to help water systems comply with the SDWA. The capacity development provisions of the SDWA are funded through the DWRF allotment.

Michigan's DWRF is co-administered by the MDEQ and the Michigan Finance Authority. The MDEQ handles all programmatic issues, while the Finance Authority serves the DWRF Program with its financial expertise. Prior to the creation of the DWRF, project financing for CWS was left largely to the local unit of government or to individuals investing in their own systems.

In FY 2018, \$31.1 million in low-interest loans were committed for four projects bringing the total, since the fund's inception in 1998, to \$980 million for 292 projects. Some systems receive commitments from the DWRF but may not be ready to proceed with the project until they are able to assure the revenues will be generated to repay the loan. In these cases, the system remains on the priority list for the next year. Of the projects committed, 264 have been completed for a total cost of \$741.9 million, and the loan payments are revolving back into the fund.

Commitments in FY 2018 included projects for water main replacement and water treatment plan upgrades. An example for FY 2018 is:

- The city of St. Joseph received \$16,095,000 for water main replacement and improvements to the water treatment plant (WTP). The WTP improvements included a new high-service pump station, new chemical systems, improvements to the filter systems, and the below-grade concrete reservoirs.

Michigan's drinking water program relies heavily on proper water system design and construction to prevent jeopardizing the safety of both the source and finished water. To that end, additional priority points are given to those DWRF projects in communities that are participating in a SWPP.

3.7 Source Water Protection

Systems are continuing to take steps to protect their drinking water sources.

3.7.1 Groundwater Source Protection

Target: CWS and NCWS

Minimum isolation areas around drinking water wells are established in Part 127 of the Public Health Code, 1978 PA 368, Water Supply and Sewer Systems, and in the rules, Act 399. Programs in the MDEQ, such as the Groundwater Discharge Permit Program and the On-Site Waste Water Program, reference these isolation distances as they review applications for discharge permits or site approvals to assure the facility or activity will be protective of the drinking water sources. Act 399 requires the isolation area around a proposed CWS water well site be owned or controlled by the CWS.

To expand beyond this long-standing but minimal concept of source water protection, DWMAD staff is actively encouraging municipalities to conduct WHPP activities. Municipalities are encouraged to apply for a WHPP grant using a 50 percent local match to fund activities involved in protecting their public water supply well capture zones (based on a 10-year time-of-travel). Of the 428 municipal systems in Michigan using groundwater as their water supply, 222 are involved in some aspect of wellhead protection, such as performing a delineation, inventorying the potential sources of contamination, and planning for emergencies. Of those 222 systems, 144 have completed all the steps and have an

approved WHPP or have met the substantial implementation standard. An additional 99 groundwater systems have attained substantial implementation by completion of a source water assessment with no issues identified. As a result, 54 percent of the population that obtains drinking water from groundwater is in communities taking action to protect their sources. Municipalities are encouraged to apply for a WHPP grant using a 50 percent local and 50 percent state match to fund activities involved in protecting their wellheads and updating their approved programs.

The WHPP grants for FY 2018 awarded over \$361,000 to 41 community water systems, as compared to the WHPP grant cycle for FY 2017 that awarded over \$378,000 to 38 communities.

The DWMAD has an ongoing contract with the MSU-CEE, under which MSU-CEE developed the MGMT. MGMT is a software platform that utilizes spatially compiled groundwater data and allows for the automated analysis of groundwater flow. As a tool in groundwater modeling, the software allows for the interactive analysis of groundwater flow based on available data. The MGMT software has been employed by the MDEQ in conjunction with existing groundwater databases, such as those generated during the Ground Water Inventory and Map project in 2003, to analyze and assess groundwater flow and delineate wellhead protection areas for community and non-transient, non-community public water supplies throughout Michigan

The DWGIS application has been updated to include chemistry data from the water supply chemical monitoring database (WaterChem), geocoding (*i.e.*, assign latitude/longitude coordinates based on street addresses) the records, and creating a file format making the data amenable to spatial display in DWGIS. DWGIS has been modified to include a multi-function query tool capable of generating customized reports from the water chemistry database. This effort should provide an extraordinarily useful tool in conducting desktop analyses of chemical occurrence in the groundwater and for comparing sites of environmental contamination with WHPAs. This new version of DWGIS went live in 2018.

The SWIPP of DWMAD, redefined “Substantial Implementation,” allowing smaller systems to obtain this source water protection status and increasing Michigan’s population that is protected by these implemented activities. Nonmunicipal water systems can obtain substantial implementation by using a self-assessment to identify specific risks to their drinking water sources. Once risks have been identified, corrective actions can be put in place to reduce risk of contamination. This process allows these systems to obtain substantial implementation since they have limited control of their WHPA as compared to municipal systems that may have local control by land use planning and ordinances. During FY 2018, 27 privately-owned CWS achieved substantial implementation by having an updated source water assessment with no issues identified.

3.7.2 Water Withdrawal Legislation

Target: CWS, NCWS, and Other Interested Parties

The Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, was amended in 2006 and again in 2008 in response to increased water use demands, pressure to divert water outside the Great Lakes Basin, and an increase in groundwater use conflicts. The legislative amendments were intended to enhance the state’s ability to manage the water resources of Michigan.

Since 2006, any proposed new or increased large quantity withdrawal, defined as a water withdrawal of 70 gallons per minute or more, requires an environmental assessment and approval prior to making use of the water resource. The new system capacity assessment checklist was amended to address large quantity water withdrawals and ensure authorization is obtained prior to DWMAD district staff issuing an Act 399 construction permit. A staff person in Lansing coordinates with district, and other department staff, through the process of obtaining a water withdrawal permit for a large quantity withdrawal for public water supplies.

3.7.3 Surface Water Source Protection

Target: CWS and NCWS Using Surface Water

The SWIPP is the surface water counterpart to the WHPP. Under this program, communities develop partnerships with surrounding communities to identify and take action to protect the area around the intake. The ten communities that have completed a SWIPP serve small to medium-sized populations. No SWIPPs were submitted in FY 2018. As with an approved WHPP, an approved SWIPP will result in additional priority points being awarded to DWRf applicants, encouraging more CWS to develop a plan. A matching grant program, equivalent to that used in the WHPP, was incorporated into the administrative rules in 2009. SWIPP grant applications were available for the first time in May 2014, and approximately \$100,000 is made available to surface water systems annually.

Monitoring of surface water sources can alert utility personnel of changes in water quality in time to respond quickly and avoid public exposure to contamination. To achieve this quick response at CWS in the connecting channels between Lakes Huron and Erie, beginning in 2008, the DWMAD worked with federal and local governmental agencies to install a continuous, real-time water quality monitoring network in the St. Clair River, Lake St. Clair, and Detroit River. In FY 2018, the DWMAD worked with the Office of the Great Lakes, Southeast Michigan Council of Governments, and Wayne State University to reestablish the Real Time Monitoring Network with all of the original facilities. The Michigan Legislature allocated \$375,000 for the equipment installation to be installed by November 2018. The monitoring system includes data transmission, data visualization, automated notification/alarm service, data archiving, and a publicly accessible website for data retrieval. In addition, rapid toxicity test equipment is being used to monitor water distribution systems in southeast Michigan served by these surface water intakes. Nearly instantaneous communication is key to protecting surface water intakes in the Lake Huron to Lake Erie corridor because of the rapid rate of flow, periodic chemical spills, and corresponding changes in water quality.

Eleven surface water systems monitored for total microcystin in July through October 2018. This included inland as well as Great Lakes systems. Additionally, Monroe continued to conduct weekly sampling utilizing a sensor installed in FY 2016.

In another area of source water protection, a DWMAD staff person coordinates the notification to district staff about proposed Aquatic Nuisance permits to surface waters that may impact drinking water sources. Some permits have been streamlined by previous applications when it has been known to not impact a drinking water source. Other permit applications may present a concern and require further communication between district

staff and a CWS to resolve the issue. A DWMAD staff person also began coordinating with the MDEQ's Water Resources Division to identify water bodies with cyanotoxin and perfluorinated compound (PFC) detections that may initiate additional monitoring where drinking water intakes may be impacted.

3.8 PFAS Sampling and outreach

As part of the larger MPART directive, the Drinking Water Workgroup has administered a statewide sampling effort, designed to assess the presence and level of PFAS contamination within Michigan's drinking water resources serving 75 percent of the state's residents.

This program is an accelerated discovery effort, wherein drinking water samples are taken at supply entry point locations across the entire state, in accordance with USEPA Method 537 v. 1.1. Sampling priority has been assigned based on population and other risk factors, for Michigan's 83 counties.

Three sampling teams (AECOM – our environmental consultant partner) worked simultaneously across the state to complete the main body of this sampling by December 2018. In all, approximately 836 community water supplies and 342 schools on their own well (Type II NTNCWS) were sampled in FY 2018. An invitation to participate was also extended to Michigan's tribal entities, of which a number asked to be included in sampling efforts.

The results of this sampling effort represent a valuable source of information, both for the public drinking water supply systems sampled, and for the public at-large. Notification of results employs a tiered approach, where recommendations are provided to the supplies and local public health partners in a manner appropriate to the analytical results. In all cases, considerations are made to promote monitoring and, when warranted, to minimize public exposure to the extent possible through appropriate means (treatment, alternative source, site investigation, etc.). In addition, DWMAD staff worked closely with LHDs, as well as directly with schools and water supplies, to offer technical assistance as needed.

Thus far, two systems sampled have returned analytical results in exceedance of the USEPA lifetime health advisory of 70 parts per trillion (ppt) for Perfluorooctanoic acid (PFOA) + Perfluorooctanesulfonic acid (PFOS). These are Parchment, Michigan, and Robinson Elementary (Grand Haven Area Public Schools). Investigations are ongoing in relation to both.

Sampling efforts continue in FY 2019 and an additional 168 supplies are slated for sampling – these are child care providers and Michigan Head Start programs which also fall under the Type II NTNCWS program.

3.9 Financial Assessments

Target: CWSs Municipally Owned or Subject to Association Bylaws

To help existing CWS improve financial capacity, the DWMAD conducts financial assessments of systems that serve a population of less than 10,000 that are willing to participate and could benefit from a financial assessment. As a result, systems that are

concerned about current and future challenges are making progress toward that end by improving their financial capacity.

Funding for these assessments is from the technical assistance to small systems set-aside of the DWRP. Systems serving more than 10,000 people may also participate in the program, but the funding would be drawn from the capacity development set-aside.

A financial expert in the DWRP Program conducts the assessment of the community's existing financial health and develops a FAP. The assessment is a review of financial and legal documents and an on-site meeting with system representatives. This review can identify a wide variety of problems, including water loss and its impact on rates.

A FAP is a tailor-made, comprehensive plan to strengthen the system's financial situation based on the assessment. Short- and long-range goals are identified in the FAP followed by a step-by-step process to reach the goals. Information on obtaining funding is provided with the FAP. The system is expected to carry out the FAP, and the DWMAD is available to assist when requested. An outline of a typical assessment report is included in Appendix B.

In the last five years asset management has become an integrated component of the FAP, including tutorials on CUPSS software and the MDEQ asset management workbook. With the recent MDEQ initiatives for asset management planning, communities are becoming more interested in the financial assessment process and asset management. As of January 1, 2018, all CWSs with populations greater than 1,000 are required to have an asset management program. Funding to help systems with asset management is available through the SRF when asset management is part of a proposed construction project. A key component of the drinking water asset management program is an ongoing review of a community's rate methodology to insure sufficient revenues are being generated to cover system expenses.

As mentioned in a previous section, new owners or developers are required to demonstrate TMF capacity before approval to commence operation or assume this role from a previous owner. In FY 2018, three systems submitted financial capacity information and were determined to have sufficient resources to address water system costs.

3.10 Security and Emergency Response

Target: CWS

The MDEQ's Water Security and Emergency Management Program are responsive to the various federal programs and the needs of the public water systems. Planning, training, and coordinating are all a part of the effort to emphasize emergency management for all hazards; terrorism and malevolent acts, as well as weather-related incidents and accidents.

In FY 2018, the USEPA sponsored an emergency preparedness exercise that took place on November 29, 2017, at the State Emergency Operations Center. The DWMAD Emergency Management Coordinator was involved in planning this exercise and several DWMAD staff participated as well. This emergency drill simulated a widespread storm system that resulted in multiple power outages and significant infrastructure damage. Many members of the water sector, along with the Michigan Water/Wastewater Agency Response Network and the Michigan State Police, Homeland Security Division, were involved in this full-day exercise and a post-drill report has been prepared.

In July 2018, DWMAD staff responded to a water system emergency in Parchment, Michigan, after an investigatory sample revealed elevated levels of PFAS in Parchment's municipal drinking water. This response was extensive, involving an emergency declaration and involvement from multiple agencies. Staff prepared a post-incident analysis document and the DWMAD is planning future training based on this incident.

Several DWMAD staff are involved in security and emergency management activities, including:

- Planning annual emergency training for all staff, particularly new staff.
- Participating on the MDEQ Emergency Management Committee.
- Participating in the Association of State Drinking Water Administrators' (ASDWA) Security & Resiliency Committee.
- Membership in Michigan Water/Wastewater Agency Response Network Steering Committee.
- Response to MDEQ emergency drills, including one on September 19, 2018, involving a train derailment into the Manistique River.
- Involvement in public water supply safety and security enhancements through the construction permit process and the operation of new systems.
- Review of public water supply emergency response plans during inspections.
- Circulation of USEPA Water Security Division notifications.

Field staff will continue to be involved in safety and security enhancements through the construction permit process and the operation of new systems as well as during inspections.

3.11 Electronic Reporting and Data Management

Target: CWS and NCWS

Electronic reporting and data management are tools to help the central office identify and analyze statewide trends in contaminant levels, treatment, distribution operations, and compliance. This ability will allow the DWMAD to focus assistance more effectively.

3.11.1 Electronic Reporting

Target: CWS and NCWS

The DWMAD is working to adopt electronic reporting systems to provide convenience and accuracy for data reporting. The DWMAD is working toward use of the USEPA's new Compliance Monitoring Data Portal as a means for laboratories to report analytical results electronically to DWMAD. DWMAD is pursuing other electronic reporting opportunities for public water supplies as part of a Division-wide information technology upgrade. These tools will provide for more timely and accurate collection of data and will allow the DWMAD to query additional parameters to assess capacity on a system wide and statewide basis.

3.11.2 Tracking Compliance Using SDWIS

Target: CWS and NCWS

The federally supported database for tracking drinking water compliance activities (SDWIS/State), stores analytical results entered either manually or via an electronic reporting tool as discussed above. This allows for more automated compliance determinations, which is particularly necessary when staff resources are stretched. In FY 2005, the CWS Program began tracking Total Coliform Rule compliance monitoring in the SDWIS, and in FY 2010, this was expanded to include Lead and Copper Rule tracking. In FY 2012, the CWS Program began to enter Stage 2 DDBPR Schedule 1 and Schedule 2 monitoring schedules to track compliance and adding GWR monitoring. FY 2013 expanded tracking to include DDBPR Schedule 3 and 4 monitoring. Surveillance visits and sanitary survey data was also added to the SDWIS this year. In FY 2016, the CWS implemented the switch to RTCR in SDWIS, and began tracking Level 1 and 2 assessment compliance schedules, as well as the site visit data associated with the assessments.

A large percentage of the reporting data needed for the NCWS program is being migrated into the SDWIS-NC database. The NCWS program is currently migrating violation data from WaterTrack into SDWIS-NC and is continuing to conduct testing to verify that all data migrates properly, and that SDWIS-NC is functioning as intended.

The DWMAD was awarded a \$6.1 million grant from the state of Michigan to build a new data system. The new system will interface with SDWIS Prime, as well as support the OTCP and NCWS program.

3.11.3 Water Track

Target: NCWS

The LHD staff use the WaterTrack database to track NCWS inventories, certified operator information, sanitary survey reports, capacity development, construction permits, monitoring results, monitoring violations, maximum contaminant level violations, and NCWS compliance reports. The information is monitored by MDEQ staff that oversees the NCWS Program. WaterTrack uses an outdated platform, is largely unsupported, and does not contain capability to track all current rule requirements. It is currently being phased out, and data is being migrated to SDWIS.

4. Identify Existing Systems in Need

The strategy used to select and prioritize systems for assistance is outlined in the *Capacity Development Strategy for Existing Public Water Systems*, dated August 1, 2000, and remains unchanged. Briefly, the DWMAD looks at all of the following criteria:

- Compliance information.
- Quarterly ETT scores.
- Sanitary surveys and results of surveillance visits.
- Construction permit bans and correspondence from the DWMAD addressing potential bans.

- Operation and maintenance concerns.
- Field staff input.

The sanitary surveys and surveillance visits are ongoing, while identifying which systems may need capacity assistance.

5. Identify Capacity Development Needs and Provide Assistance

The MDEQ continues to recognize and identify capacity development needs and provide assistance in these areas identified. A new capacity development need is for training in new rules including capital improvement planning, asset management, and understanding the new responsibilities of owners and operators under the revised Michigan lead and copper rule requirements. The DWMAD believes the areas identified below continue to be a focus and recognizes the needs that exist at the national level while participating in workgroups to tackle them.

5.1 New Rules Implementation and Training

Several additional activities are ongoing:

The MDEQ continues to provide LHD training through many avenues. Staff is active in participating as speakers at regional MEHA seminars, locally-sponsored Environmental Health meetings, and the MEHA Annual Educational Conference. The MDEQ also continues to provide webinars as topics arise and has archived some of these trainings on a website for future viewing. This activity is in addition to the training mentioned in Section 3.3 of this report.

The MDEQ is reviewing Operator Training courses on an on-going basis to update information and improve their quality. Operator Certification reviews and updates certification examinations to ensure questions reflect new or changing regulations.

The MDEQ staff continues to provide guidance for publicly owned or operated systems that were required to have Capital Improvement Plans in place by January 1, 2016. These plans are expected to project and assess which projects (including asset improvements, repairs, replacements and such) need to be completed in the future. These plans will cover five-year and 20-year planning periods to encompass all foreseeable needs of the CWS.

Michigan's CWS serving more than 1,000 people were required to develop and implement an Asset Management Program by January 2018. This requirement is intended to improve the technical, managerial and financial capacity of the water systems. Too many utilities are not budgeting for the full cost of water service. Many establish maintenance budgets based on estimates of past reactionary activities and do not fully anticipate the growing needs of their aging infrastructure. The requirements for these asset management programs include developing an inventory of assets, criticality assessment, level of service goals, a capital improvements plan, and the funding structure and rate methodology. The asset management programs will provide a tool for water systems to ensure that all of the stakeholders have the same vision, and there is adequate funding to sustain those goals. Guidance was developed on asset management plan content and requirements, and five training sessions were held around the state to inform CWS on this subject.

5.2 Follow-Up on Needs Identified

Areas identified are continuing to be addressed.

5.2.1 Implement New Federal Rules

The DWMAD program and field staff has continued to host and participate in training on new rules. As mentioned earlier, new rule information was presented at each of the eight Michigan Section AWWA regional meetings, during visits to LHDs by NCWS staff, in webinars, and in YouTube videos.

5.2.2 Capture Sanitary Survey Data

Detailed sanitary survey data is captured on individual Excel spreadsheets for every CWS. To create a tool to enhance decision making, the CWS program staff is continuing to investigate options to capture that data in a format that can be queried.

Currently, CWS staff have been tracking basic survey data, specifically survey date, rating of the eight required elements, and significant deficiency tracking in SDWIS since FY 2013.

NCWS sanitary survey data is tracked in WaterTrack but will be tracked in SDWIS Prime once adopted.

5.2.3 Implement Newly Revised Nonfederal Provisions of the Administrative Rules

The DWMAD is continuing to implement nonfederal provisions of the administrative rules that were revised along with the adoption of the new federal rules in 2009. These revisions are listed below:

- Improve capacity in very small systems.
- Provide oversight to NCWS that treat to improve aesthetics.
- Diversify the type of operator training received and update operator certification rules.
- Enhance planning by requiring a capital improvement plan for publicly-owned CWS by January 1, 2016, and Asset Management by January 2018
- Provide a source water protection grant program for surface water systems.
- Enhance technical capacity.

In 2013, the DWMAD drafted new provisions in the Administrative Rules for cross connections, asset management, and operator certification. Meetings were held in June 2013 to communicate the proposed rule concepts and to receive comments from stakeholders. A final public hearing was held in February 2014, and rules were promulgated in October 2015. A brief description of each provision is listed below:

- Cross Connections - Administrative rules currently require community water suppliers to establish a program to control cross connections in the water supply system. The proposed rules establish a minimum frequency to test backflow prevention devices and requires testing be conducted by a certified individual.
- Asset Management - The proposed rule clarifies that an asset management

program is an integral part of developing an adequate capital improvements plan and requires the implementation of an asset management program for supplies that serve more than 1,000 people. In addition, the proposed rule extends the requirement for an asset management program and a capital improvements plan to privately-owned community water supplies that serve more than 1,000 people.

In FY 2018, Michigan promulgated revised lead and copper provisions of the Administrative Rules, adopting additional, more stringent requirements. These include, but are not limited to:

- Mandatory lead service line replacement
- Enhanced sampling protocols and frequencies for lead, copper, and water quality parameters
- Mandatory submittal of updated distribution system materials inventories and sampling pools
- Reduction of the lead action level from 15 to 12 parts per billion (ppb) in 2025
- Enhanced transparency

5.2.4 Encourage Asset Management

As the infrastructure funding gap continues, field staff is stressing asset management concepts during interactions with CWS and their local decision makers. Good water system operation and management cannot be mandated, though the DWMAD hopes the Asset Management Rule, which went into effect January 1, 2018, will foster better water system management. DWMAD staff will be tracking the preparation of Asset Management Plans at water supplies and monitoring the success of these requirements.

5.3 Participate in National Workgroups

Program staff in the DWMAD is involved in national workgroups with other states, USEPA headquarters and regional offices, and others to improve implementation or affect change to federal regulations and national policy.

A senior DWMAD engineer is participating in AWOP. Training was held for DWMAD staff during FY 2018 and additional sessions are planned for FY 2019 so AWOP can be implemented in Michigan.

In addition, members of the Operator Training and Certification Program assisted with the planning of the Region 5 Capacity Development and Operator Training and Certification conference in February 2018. OTCP and CDP staff are also involved in planning the 2019 conference.

6. Review Existing Systems Program Implementation and Address Findings

Sanitary surveys are the primary tool to evaluate capacity and identify needs for specific systems. A long-standing MDEQ policy dictates sanitary survey frequencies for all types of CWS and NCWS. Follow-up on deficiencies in any system has been a long-standing practice and is required of the LHD under contract with the MDEQ. As stated in last year's edition of this report, the DWMAD was driven by the federal GWR and the requirement to identify and pursue resolution of significant deficiencies to draft two policies. The first policy sets

frequencies for sanitary surveys and the second sets criteria to identify significant deficiencies and establishes procedures to resolve them. There were 35 significant deficiencies at 22 different CWS, and three significant deficiencies at three NCWS identified in FY 2018. The deficiencies are in varying states of resolution, many of them have already been resolved.

Between sanitary surveys DWMAD field staff makes routine on-site visits to review the technical, managerial, and sometimes financial aspects of a CWS and to establish channels of communication with the CWS. The knowledge and familiarity gained by both parties as a result of routine visits are keys to maintaining a cooperative relationship in achieving mutual goals.

The frequency of these visits has been dictated in policy based on long-standing practice. Requests for financial assessments continued to remain minimal this year; however, those that have participated have made significant improvements. Rather than attempt to increase the number of financial assessments, the DWMAD has continued to follow up with previously assessed water systems informally during routine on-site visits by field staff and more formally by the financial expert that conducted the original assessment. A brief assessment of this effort was mentioned in Section 3.8 of this report.

7. Existing Systems Program Strategy

The strategy remained unchanged during the reporting period. The MDEQ is continuing to implement the original strategy of moving from capacity assessment through assistance to development.

8. Summary

Michigan is continuing to implement a program for new systems and a strategy for existing systems as set forth in May and August 2000, respectively. The new systems' program retains the legal authority and the control points established in 2000. A list of new systems in the last three years is included in this report.

The strategy for existing systems established in 2000 has remained the same, though the specific tools and activities used to implement the strategy have been added, removed, or altered as needed. The drinking water program continually identifies systems in need of capacity development primarily through the sanitary survey process, and that will now be supplemented by the information gained through Asset Management Plans. During the reporting period, needs were identified, and discussions were held to determine what areas could be enhanced. A review of implementation of various activities of the strategy occurred and changes were made. The strategy was not modified.

Appendix A: List of New Systems

New system compliance data is more meaningful when compared to all systems of the same classification, as summarized in the following table. No CWS systems that became active during the last three fiscal years scored 11 or more on the ETT.

FY 2016 to FY 2018	CWS		NTNCWS	
	New	New & Existing	New	New & Existing
Number of systems on ETT Tracker Report	9	1383	52	1311
Number of systems with ETT score of 11 or more	0	13	2	22
Systems with ETT score of 11 or more (percent)	0	0.94%	3.8%	1.7%

PWSID	PWS Name	PWS Type	First Reported to SDWIS
MI0006079	SODUS TOWNSHIP	CWS	3/1/17
MI0000794	BLUE SPRUCE APARTMENTS	CWS	6/29/16
MI0000465	BAY AREA WATER SYSTEM	CWS	11/27/15
MI0005712	RIVERWALK DEVELOPMENT	CWS	11/18/15
MI0006448	SUMMERSET MEADOWS	CWS	11/18/15
MI0007061	WHITE EAGLE SUBDIVISION	CWS	3/28/17
MI0006477	SUNNY CREST YOUTH RANCH	CWS	8/24/17
MI0002657	GLEN OAKS COMMUNITY COLLEGE DORM	CWS	11/29/17
MI0003563	KAREGNONDI WATER AUTHORITY	CWS	5/31/18
MI4121002	BUILDER'S IRON	NTNCWS	9/8/17
MI0520180	SAINT-GOBAIN (WAREHOUSE)	NTNCWS	9/26/16
MI0520179	SAINT-GOBAIN (OFFICE/PRODUCTION)	NTNCWS	9/26/16
MI8320306	LACROSS - BUCKLEY LLC	NTNCWS	9/26/16
MI2020223	KIRTLAND COMMUNITY COLLEGE HSETC	NTNCWS	3/3/16
MI1320443	EATON CORPORATION-TECH BUILDING	NTNCWS	6/21/18
MI0320672	BURNIPS EQUIPMENT	NTNCWS	9/26/16
MI0320673	SCHIPPER FARMS	NTNCWS	9/26/16
MI2020224	FLAKEBOARD AMERICA	NTNCWS	3/9/18
MI2521616	PERFORMANCE FABRICATING	NTNCWS	9/26/16
MI0320683	LITTLE VIKINGS LEARNING CENTER	NTNCWS	3/9/18
MI4121001	SPEEDRACK MIDWEST	NTNCWS	2/28/17
MI1920684	BINGHAM TOWNSHIP	NTNCWS	2/28/17
MI2420410	VTE INC.	NTNCWS	5/30/17
MI1320439	BREMBO NORTH AMERICA - CALIPER DIVISION	NTNCWS	12/2/16
MI6920240	ELL-TRON MANUFACTURING CO	NTNCWS	3/3/16
MI0520167	BELLAIRE FAMILY HEALTH CENTER	NTNCWS	11/24/15

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MI7020663	SERENITY REHAB	NTNCWS	11/24/15
MI1920666	ADDIE'S ACRES AFC	NTNCWS	11/24/15
MI3920511	WEBER SPECIALTIES	NTNCWS	11/24/15
MI4620672	MEDINA DAIRY	NTNCWS	11/24/15
MI3320221	ELDER RIDGE MANOR	NTNCWS	3/3/16
MI6322914	CENTRAL CONVEYOR	NTNCWS	3/3/16
MI0320670	CONSUMERS ENERGY	NTNCWS	6/2/16
MI1820301	CLARE-GLADWIN RESD MAGNUS CENTER	NTNCWS	6/2/16
MI3320224	PATTERSON VET CLINIC	NTNCWS	6/2/16
MI3420280	HERBRUCKS-GREEN MEADOWS	NTNCWS	6/2/16
MI4120996	ENVISION ENGINEERING	NTNCWS	6/2/16
MI0820415	EDUCATION STATION	NTNCWS	9/26/16
MI8120629	TRINITY PRESCHOOL	NTNCWS	9/26/16
MI1320438	THE LEARNING ZONE	NTNCWS	12/2/16
MI1020176	NEW COVENANT CHRISTIAN ACADEMY	NTNCWS	2/28/17
MI1120721	HONOR CREDIT UNION OPERATION CENTER	NTNCWS	2/28/17
MI1620479	U.A.W FAMILY EDUCATION CENTER	NTNCWS	2/28/17
MI3420282	HERBRUCKS POULTRY RANCH (HENNERY)	NTNCWS	2/28/17
MI5820451	BENORE LOGISTIC SYSTEMS, INC.	NTNCWS	2/28/17
MI1720566	KIDS KASTLE DAYCARE	NTNCWS	5/30/17
MI4121003	JACK BROWN PRODUCE	NTNCWS	5/30/17
MI8020573	BBF HLDGS - HILLTOP FARMS AG LABOR CAMP	NTNCWS	5/30/17
MI0320681	ARCTICLEAR	NTNCWS	9/8/17
MI2620456	ROBINS PLAYHOUSE	NTNCWS	9/8/17
MI0320685	KONOS INC./VANDEBUNTE EGG FARM	NTNCWS	11/30/17
MI6322922	SHANNON DISTRIBUTION	NTNCWS	11/30/17
MI0520184	BELLAIRE WATER COMPANY	NTNCWS	3/9/18
MI1820307	WILLIAM J MAGNUS CENTER	NTNCWS	3/9/18
MI2720143	EXTREME TOOL & ENGINEERING	NTNCWS	3/9/18
MI6322924	PURE FOODS KITCHEN LLC	NTNCWS	3/9/18
MI6420341	WILLOW COLD STORAGE	NTNCWS	6/21/18
MI7020670	LITTLE TYKES UNIVERSITY LLC	NTNCWS	6/21/18
MI8320308	BAKER COLLEGE OF CADILLAC	NTNCWS	6/21/18
MI3320227	DIVINE NEST	NTNCWS	9/11/18
MI4121015	MOIRON	NTNCWS	9/11/18

Notes:

The following supplies were listed as new in the ETT Scores Tracker. However, they are existing supplies as explained below and are, therefore, not new for the purpose of capacity development and not included in the above table.

MI0002836, GRATIOT AREA WATER AUTHORITY was created to provide water to Alma and to St. Louis. The Authority is responsible with the water plant, which was originally Alma's plant. No new infrastructure was brought online with this newly assigned PWSID.

MI0006484, SUNSET BEACH ASSOCIATION was regulated as Type III from 1972 to 1994, at which time it became a Transient Non-Community supply with the WSSN 20385-16. It was converted from a Type II to a Type I in 2016. No new infrastructure was brought on line with the classification change.

MI0004596, MYSTIC VIEW – was regulated as three different Type III water supplies starting in the mid-1990s. A resident collected a nitrate sample that exceeded the MCL in FY 2018. DWMAD staff worked with the LHD and a contract operator and determined that the system should be regulated as a Type I supply. No new infrastructure was brought online with the classification change.

MI0002838, GLWA was created to take over the Detroit Water and Sewer Department to provide water to communities in metro Detroit. The authority is responsible for all of the existing treatment plants, and major water transmission mains. No new infrastructure was brought online with this newly assigned PWSID.

MI040001, LINCOLN ESTATES is a system that was re-opened in 2016 but is not a new system and did not have any new infrastructure.

MI0006935, LAKEWOOD TERRACE ASSOCIATION is a system that was re-opened in 2016 but is not a new system and did not have any new infrastructure.

MI0000951, BRUCE TOWNSHIP was first reported in 2012, but was inactivated until the population reached greater than 25, which happened in 2017.

MI0040673, WATERS EDGE MH COMMUNITY was first reported in 2002, but was inactivated until the population reached greater than 25, which happened in 2016.

These systems will appear on the January 2019 ETT Scores Tracker but are included here because they were new in FY 2018.

MI0004820, NORTHPORT COTTAGE OWNERS is a new system that went online in July. It will appear on the January 2019 ETT tracker.

MI0005349, PINEVIEW COTTAGE is a new system that went online in July. It will appear on the January 2019 ETT tracker.

Appendix B: Outline of a Typical Financial Assessment and FAP

Financial Assessment

Introduction: Population, location, transportation routes, and community characteristics; description of the water system and major projects or concerns such as expansion, securing loans, and meeting new drinking water standards; and major financial shortfall such as the need for a rate methodology.

Requested Information: Budget, last two years of audited records, water use and water rate ordinances, latest rate ordinance or resolution, recent rate or feasibility study, and contract or service agreements with outside customers.

Submitted Information: List of information provided.

Analysis: Summary or highlights of each of the documents provided by the supply.

On-Site Meeting: Date and attendees; and list of items discussed, such as the financial concerns, the billing method, and major recent projects.

FAP

Goal One: Develop the financial capability to fund present and future needs.

Task 1: Develop a capital improvement projects plan.

Step 1: List anticipated water projects.

Step 2: Estimate the cost of each project to be funded.

Step 3: Project the anticipated date the project is to begin.

Step 4: Calculate the dollar amount necessary to be set aside annually.

Step 5: Establish a line item in the budget for capital improvement expenditures.

Task 2: Develop and implement a rate setting methodology.

Step 1: Identify water system expenses.

Step 2: Identify replacement expenses and fund the replacement account.

Goal Two: Establish the legal and managerial capability to protect the water system.

Task 1: Develop a penalties section in the water ordinance.

Task 2: Adopt the amendment to the ordinance.

Goal Three: Implement an asset management program.

Task 1: Investigate and establish an asset management program that will identify and analyze the utility assets, develop a rate methodology to sustain the system, and implement a capital improvement plan.

Tools Included With FAP

Sample resolution, sample water use and rate ordinance, service agreement checklist, DWRF

informational brochure, project plan preparation guide, and securing a DWRF loan fact sheet, Asset Management Program Workbook, Asset management Program Guide.