

Michigan Department of Environment, Great Lakes, and Energy  
Drinking Water and Environmental Health Division

# **ANNUAL REPORT ON CAPACITY DEVELOPMENT PROGRAM FISCAL YEAR 2019**

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[Michigan.gov/EGLE](http://Michigan.gov/EGLE)

## List of Acronyms

ACO	Administrative Consent Order
Act 399	Michigan Safe Drinking Water Act, 1976 PA 399, as amended
ALE	Action Level Exceedance
AWOP	Area-Wide Optimization Program
AWWA	American Water Works Association
CCR	Consumer Confidence Report
CDP	Capacity Development Program
CPE	Comprehensive Performance Evaluation
CWS	Community Water Supply
DDBPR	Disinfectants and Disinfection Byproducts Rule
DWEHD	Drinking Water and Environmental Health Division
DWGIS	Drinking Water Geographic Information System
DWRF	Drinking Water Revolving Fund
DWSRF	Drinking Water State Revolving Fund
EGLE	Michigan Department of Environment, Great Lakes, and Energy
EFCN	Environmental Finance Center Network
EN	Enforcement Notice
ETT	Enforcement Tracking Tool
FAP	Financial Action Plan
FY	Fiscal Year
GWR	Ground Water Rule
HAB	Harmful Algal Bloom
LARA	Michigan Department of Licensing and Regulatory Affairs
LCR	Lead and Copper Rule
LHD	Local Health Department
MCL	Maximum Contaminant Level
MDAG	Michigan Department of Attorney General
MDHHS	Michigan Department of Health and Human Services
MEHA	Michigan Environmental Health Association
MGMT	Michigan Groundwater Management Tool
MRWA	Michigan Rural Water Association
MSU-CEE	Michigan State University, Department of Civil and Environmental Engineering
MOR	Monthly Operation Report
NCWS	Noncommunity Water Supply
NTNCWS	Nontransient Noncommunity Water Supply
OTCU	Operator Training and Certification Unit
PFAS	Per- and Polyfluoroalkyl Substances
PWS	Public Water System
Q	Quarter
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
TA	Technical Assistance
TMF	Technical, Managerial, and Financial
TOC	Total Organic Carbon
USEPA	United States Environmental Protection Agency
WHPA	Wellhead Protection Area
WHPP	Wellhead Protection Program

List of Acronyms .....	1
1. Introduction .....	3
2. New Systems Program.....	3
2.1 Identify Legal Authority.....	3
2.2 Identify Control Points .....	3
2.3 List New Systems .....	4
3. Existing Systems Program Tools and Activities Used .....	4
3.1 Sanitary Surveys to Evaluate Systems.....	4
3.2 One-on-One TA and Consultation .....	6
3.3 Other PWS Program Efforts .....	8
3.4 Enforcement .....	11
3.5 OTCU .....	12
3.5.1 Training.....	13
3.5.2 Small CWS and NCWS Training.....	13
3.6 DWRP .....	14
3.7 Source Water Protection .....	14
3.7.1 Groundwater Source Protection.....	15
3.7.2 Water Withdrawal Legislation .....	16
3.7.3 Surface Water Source Protection .....	16
3.8 PFAS Sampling and Outreach .....	17
3.9 Financial Assessments .....	18
3.10 Security and Emergency Response .....	19
3.11 Electronic Reporting and Data Management .....	20
3.11.1 Electronic Reporting .....	21
3.11.2 Tracking Compliance Using SDWIS .....	21
3.11.3 WaterTrack.....	21
4. Identify Existing Systems in Need.....	22
5. Identify Capacity Development Needs and Provide Assistance .....	22
5.1 New Rules Implementation and Training .....	22
5.2 Follow Up on Needs Identified.....	23
5.2.1 Implement New Federal Rules.....	23
5.2.2 Capture Sanitary Survey Data .....	23
5.2.3 Implement Newly Revised Nonfederal Provisions of the Administrative Rules .....	23
5.2.4 Encourage Asset Management .....	24
5.3 Participate in National Workgroups .....	24
6. Review Existing Systems Program Implementation and Address Findings .....	25
7. Modify Existing Systems Program Strategy .....	25
8. Summary.....	25
Appendix A: List of New Systems.....	27
Appendix B: Outline of a Typical Financial Assessment and FAP.....	30

## 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 of Michigan 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 EGLE, DWEHD, 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 CWSs, 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 NTNCWSs, the DWEHD 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 2017 to FY 2019	CWS		NTNCWS	
	New	New & Existing	New	New & Existing
Number of systems on ETT Tracker Report	10	1,380	49	1,300
Number of systems with ETT score of 11 or more	1	15	0	8
Percent of Systems with ETT score of 11 or more	10%	1.1%	0%	0.6%

One CWS system that became active during the last three fiscal years scored 11 or more on the ETT. The one system is MI0006079, Sodus Township. It scored a 15 in Q2 of 2019, which was for a Total Trihalomethane MCL and reporting violation. By Q3 of 2019, the score was down to a 1 indicating that the majority of the violations had been resolved.

## 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 NCWSs, sanitary surveys are conducted every five years. Surveillance visits are required annually for any system with regulated treatment or that is on a reduced (annual) total coliform sampling schedule. 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.

The frequency of NTNCWS surveillance visits is as follows:

Type of NTNCWS	Site Visit Frequency	Sanitary Survey Frequency
System with regulated treatment	Once per year	Every 5 years
System with annual total coliform sampling requirement	Once per year	Every 5 years
System without regulated treatment and on quarterly total coliform monitoring	No visit beyond sanitary survey	Every 5 years

NTNCWS Evaluations and Visits			
	FY 2017	FY 2018	FY 2019
Number of Sanitary Surveys Conducted	2,064	1919	2,025
Number of Annual Treatment Surveillance Site Visits	223	225	228

For CWSs, sanitary surveys are conducted every three years by DWEHD 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 of a sanitary survey 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.

DWEHD 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 TA 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 2017	FY 2018	FY 2019
Number of Sanitary Surveys Conducted	427	476	379
Number of Significant Deficiencies	14 at 8 systems	33 at 20 systems	14 at 12 systems
Number of Minor Deficiencies	119	277	518
Number of Visits *	1,599	2,134	1,914
Number of Construction Permits Issued	1,047	1,002	1,363

\* Includes Sanitary Surveys

The CWS program reported an increase in the number of minor deficiencies that were cited in FY 2019. This increase is likely due to updates made to the sanitary survey process in late

FY 2018. The new process involves a series of questions used to ensure consistency between engineers throughout the state. Adoption of new survey questions, new areas of emphasis, and updated survey guidance likely contributed to new deficiencies or recharacterization of findings previously identified as recommendations.

In addition to sanitary surveys, DWEHD staff perform routine visits to CWSs at a variety of intervals, based on the type of system. The purpose of these visits is to continue to build relationships between EGLE and the CWSs, as well as to ensure that systems are not experiencing problems between the sanitary survey visits.

The frequency of CWS surveillance visits is as follows:

Type of CWS	Less Complex	More Complex
<b>Wholesale customer supplies</b>	Once per year	Once per year
<b>CWS with no treatment*</b>	Once per year	Once per year
<b>CWS with treatment*</b>	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.

### 3.2 One-on-One TA and Consultation

Target: CWS and NCWS

DWEHD and LHD field staff are the primary implementers of the CDP. Water system operators work with field staff who are the primary contact for capacity development. Each CWS is served by DWEHD 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 DWEHD. A primary objective of DWEHD 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 through telephone and e-mail consultation. Field staff attends, participates, and presents at periodic regional operator meetings to discuss upcoming regulations, regional issues, and to network with operators and managers.

DWEHD NCWS Program staff maintain 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 trainings. Also, quarterly data reviews and annual evaluations of each of the

44 LHD's performance are conducted to help maintain water system compliance.

In order for CWS and NCWS staff to provide complete and accurate TA to water systems, the PWS Program is committed to increasing and enhancing staff training. In FY 2019, CWS and NCWS staff participated in the DWEHD Rule School, which is a training program that has been ongoing since FY 2016. The DWEHD Rule School is a series of all-day training sessions focused on details of the Act 399 Administrative Rules and related topics. Five

Rule School sessions were held during FY 2019, and attendance was required for all CWS technical staff. A variety of topics were taught by DWEHD staff members as well as EGLE staff from other divisions, and other state agencies. The topics for FY 2019 included:

- Michigan LCR Updates and Implementation
- HABs
- Secondary Treatment Systems
- Third Party Standards
- Source Water Assessment
- Effective communication
- Private System Escrow requirement
- Rulemaking and policies

Where appropriate, the sessions included a brief history, the importance of the regulation, DWEHD staff responsibilities, rule citations, policies related to the rule, 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 serve 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. In addition to training on specific topics, several of the sessions also included time to discuss various situations to ensure consistent decisions are being made across the state. Rule School sessions for FY 2020 are currently being planned to allow DWEHD 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 provided TA to water systems during FY 2019:

- Engineers in the DWEHD's AWOP program performed a CPE with the city of Saginaw as part of the AWOP training. This CPE assisted the city by clearly identifying treatment optimization goals, evaluating plant design, operation, data, and administration. Using this information, they were able to evaluate how closely their plant is operating compared to goals, as well as identify performance limiting factors. Operators were also introduced to special studies they can use to optimize treatment to be able to perform some of this work on their own in the future.
- A well in a city had to be suddenly retired in FY 2019 due to a failure. A DWEHD engineer worked with the city to help them have a replacement well installed and troubleshoot issues during construction. The new well was finished in summer of 2019 and has since been placed into service.
- A damaged and, therefore, unprotected well was discovered during a routine visit to a system. DWEHD engineers promptly brought this to the attention of the system owner and discussed what could, and needed to be, done. The well was fixed, and several other improvements have been made since the visit.
- A noncommunity system had a lead ALE in January 2019 while struggling to maintain their point-of-entry reverse osmosis treatment system with calcite injection. EGLE NCWS staff and engineers performed a joint site visit with the LHD to evaluate the treatment systems and discuss the lead issues. Following the visit, EGLE engineers made recommendations on improving their cross connection control and treatment



systems. After continued correspondence via e-mail and conferences calls, the system entered into an ACO with EGLE to establish a timeline to resolve the ALE, which may include connecting to a municipal system. The system is continuing to work with EGLE to resolve their treatment issues.

- A DWEHD engineer worked with a financial specialist in the EGLE revolving loans section and the MRWA to help several communities prepare their Asset Management plans and perform a financial review and user rate analysis. A DWEHD engineer also worked with these systems to develop a five-year budget and attended a utility committee or city council meeting to train the committees and councils on TMF and the need to meet TMF. This resulted in the communities adopting higher user rates that should allow them to meet their five-year budget needs.

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

### 3.3 Other PWS Program Efforts

PWS program staff (DWEHD for CWSs and LHD staff for NCWSs) develop and distribute 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 NCWSs. 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.
- Drinking Water Lead and Copper Sampling Instructions. The system may provide this document to the occupants that will be performing the sampling.
- RTCR Sample Siting Plan. This form incorporates RTCR and GWR-triggered source monitoring requirements.
- RTCR 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 CWS (applicable to CWSs 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. CWSs can use this form to report the results of any Water Quality Parameter monitoring.
- CCR Certificate of Distribution.
- EGLE Water Sampling 101 – Thermal Preservation video.
- Noncommunity seasonal system certification form and instructions.

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

- Efforts to remind water supplies of reporting deadlines before violations were issued.
- Distribution and entry point monitoring reminder letters. CWSs 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 ALE 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 and Copper Results, conducting water quality monitoring, or installing corrosion control treatment.
- CCR reminder letters. By the end of May each year, DWEHD 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 CWS 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.

Examples of tools to help systems manage operational requirements include:

- MOR templates. Staff review MORs 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 DWEHD field staff conduct inspections and approvals of water wells serving the NCWS and CWS, respectively.

- Guidance documents. DWEHD 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 2019 to be used by LHDs. New appendices include, Classification Change Approved Letter, Isolation Deviation Request Form, Thermal Preservation Not Met Letter, Thermal Preservation Fact Sheet, Reduction in coliform monitoring frequency letter, ODWMA Policy 399-030, PE Violation Letter, Nitration confirmation required letter, LCR ALE Summary of Requirements, LCR ALE tracking form, Lead Copper Reduction Letter, Generic Violation Notice letter, Lead Public Advisory and Certificate of Distribution, LCR MR Violation form, Operator Designation Form
  - 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.
- PWS staff presented 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 2019 included:

- DWEHD staff presented the *EGLE Update* at each of the eight Michigan Section, AWWA regional meetings, updating participants on new rule implementation. The Division Director also presented the *EGLE Update* at the annual conference of the Michigan Section, AWWA.
- EGLE 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 CWSs 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.

- The NCWS Program staff provided training to Michigan Department of Agriculture and Rural Development field inspectors on the RTCR, cross connections, and bottled water regulations.
- DWEHD staff worked with the MDHHS, Oral Health Program, to administer a Fluoride Grant Program to promote PWS fluoridation by offering grants to water systems wishing to purchase new or replacement fluoride feed equipment. Two water systems were awarded grants in FY 2019, totaling \$32,400 and serving a population of 32,433.
- To continue to offer quality training to DWEHD staff and water systems, the DWEHD takes advantage of USEPA and AWWA webinars. Certified operators can meet continuing education requirements with USEPA or AWWA-sponsored webcasts. The DWEHD promotes webinars and encourages field staff to forward information to water systems so they can participate at their site. The DWEHD 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.
- Eight DWEHD staff attended the USEPA Small System Workshop in Cincinnati in August 2019, which focuses on treatment and emerging issues for small CWSs and NCWSs.
- Eight trainings on the revisions to the Michigan LCR were held across the state.

In FY 2019, EGLE continued its efforts to promote quality drinking water in schools that receive their water from CWSs with the Healthy Water Healthy Kids initiative.

On-site plumbing assessment and lead sampling plan development continued for any schools that reached out for the service. More guidance and training materials were developed, and the school water webpage was modified to provide more tools and resources for school administrators.

The DWEHD has also been utilizing new forms of communication, including YouTube videos to offer additional training and guidance to operators and water supplies. Videos produced in FY 2019 include:

- A general overview of how water moves through a distribution system
- Lead and copper sampling
- School flushing programs
- How to fill out the Drinking Water Certification Exam Application

Additional videos are planned for production in FY 2020.

### 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 ENs, ACOs, unilateral department orders (EGLE Order), and referrals to the MDAG or the 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 2019, 27 CWSs 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 DWEHD moves to an escalating series of enforcement actions that include an EN, ACO, and, in rare cases, an EGLE Order or referrals to the MDAG or the USEPA. The DWEHD referred seven manufactured housing communities with serious issues to LARA for consideration. Copies of ENs are provided to other associated regulatory agencies, including MDHHS, LARA, and the Michigan Department of Agriculture and Rural Development. No ENs were issued in

FY 2019. All ACOs are developed and sent by an enforcement specialist in Lansing, with assistance from district staff, to ensure consistency across the state. The DWEHD entered into 20 ACOs with CWSs and two ACOs with a NCWS in FY 2019.

Some water systems are not willing to enter into an ACO. In those cases, the DWEHD must escalate the enforcement level to an EGLE Order or a referral to the MDAG or the USEPA. There was one EGLE Order or referral to the MDAG in FY 2019.

Under the provisions of the contract to implement the NCWS program, each LHD is required to conduct enforcement necessary to address NCWSs in noncompliance. The DWEHD field staff assists the LHD upon request and, in extreme cases, the DWEHD 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. Seventy-three fines were issued to NCWSs in FY 2019 for monitoring and reporting violations. The vast majority of these were for RTCR violations.

### 3.5 OTCU

Target: CWS and NCWS

A properly certified operator must be responsible for each of the 1,388 CWSs and

1,300 NTNCWSs, and at the 79 transient NCWSs 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 DWEHD, OTCU, 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 OTCU 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 OTCU are taught by DWEHD field staff under a joint funding agreement between EGLE and the Michigan Section, AWWA. OTCU staff schedule instructors and instruct the Water Treatment and Distribution System 2.5-day Short Courses. Significant work continued in FY 2019 to update the course curricula, making them more accessible and understandable for operators. Additionally, new DWEHD 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 OTCU 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 2019, TA providers provided training and assistance such as:

- The EFCN provided an Intermediate Asset Management training
- The RCAP provided several training sessions focusing on cross connections, sampling, and water quality

### 3.5.2 Small CWS and NCWS Training

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 NCWSs. This training occurs in many ways, including formal educational events and during the program evaluation process. Formal educational events with the LHDs in FY 2019 included:

- In September 2019, DWEHD staff hosted a Noncommunity Drinking Water Workshop and provided funding for every LHD to participate. This two-day workshop consisted of both EGLE and USEPA, Region 5 updates in addition to training on annual evaluations, and training on arsenic, well isolation distances, and PFAS. About 70 regulators attended this annual training.
- EGLE 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. Approximately 100 operators attended the trainings. The trainings covered proper sampling procedures and sample siting plans, changes to the LCR, and water treatment.

In June 2019, 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. 154 people registered, which represents many more supplies as several of the attendees are “circuit rider” operators who operate more than one water supply. This year’s topics included a regulatory update, how to complete MORs, meters, lead/copper site selection, CCRs, emergency response, system maintenance, and bacteriological sampling and Level 1 assessments. In addition to these formal training events, EGLE attended or hosted meetings and trainings based on request or needs of individual LHDs. Common topics included training on WaterTrack database and conducting level 2 and/or annual site visits under the RTCR.

### 3.6 DWRP

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 DWSRF allotment.

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

In FY 2019, \$65.2 million in low-interest loans were committed for eight projects bringing the total, since the fund's inception in 1998, to \$1.045 billion for 300 projects. Some systems receive commitments from the DWRP 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.

Commitments in FY 2019 included projects for water main replacement and water treatment plant upgrades. An example for FY 2019 is:

- The city of Bay City received \$5,000,000 for water main replacement. Work included water main replacement and lead/galvanized water services replacement.

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 DWSRF projects in communities that are participating in a Source Water Protection Plan.

In addition to the loans granted through the DWSRF allotment, \$77,740,825 in WIIN funds were issued to the City of Flint.

### 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, Water Supply and Sewer Systems, of the Public Health Code, 1978 PA 368, as amended, and in the rules for Act 399. Programs in EGLE, such as the Groundwater Discharge Permit Program and the Onsite Wastewater 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 concept of source water protection, DWEHD 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 438 municipal systems in Michigan using groundwater as their source, 231 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 231 systems, 157 have completed the steps to have an approved WHPP which meets the substantial implementation standard. An additional 113 groundwater systems have attained substantial implementation by completion of a source water assessment with no issues identified. As a result, 59 percent of the population obtains drinking water from a municipal or nonmunicipal community groundwater supply substantially implementing source water protection efforts.

The WHPP grants for FY 2019 awarded over \$491,000 to 44 CWSs, as compared to the WHPP grant cycle for FY 2018 that awarded over \$361,000 to 41 communities.

The DWEHD has an ongoing contract with the MSU-CEE, under which MSU-CEE developed the MGMT. The 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 EGLE 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 nontransient, noncommunity public water supplies throughout Michigan. Currently, an effort is underway to identify additional software that will enhance the capabilities of the department delineating WHPAs.

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. 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.

The DWEHD Source Water Assessment Program redefined “Substantial Implementation,” allowing smaller systems to obtain this source water protection status and increasing Michigan’s population that is protected by these activities. CWSs 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. CWSs may also achieve substantial implementation status by having a source water assessment updated and having no issues identified in the process. During FY 2019, six CWSs achieved substantial implementation by having an updated source water assessment with no issues identified.

Starting in 2016, EGLE allocated additional resources and training to LHDs to aid in updating source water assessments of existing and new NTNCWSs. The source water assessment is a study and report that is unique to each water supply source and is a tool to help identify vulnerability to contamination. The assessment study and report also provide an opportunity to educate owners on protecting ground water and in identifying and managing risk.

### 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 DWEHD 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. The city of Alpena submitted a SWIPP Plan that was approved in 2019. As with an approved WHPP, an approved SWIPP will result in additional priority points being awarded to DWRP applicants, encouraging more CWSs 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 DWEHD 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 the Detroit River. In FY 2018, the DWEHD 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.

The DWEHD initiated voluntary source water microcystin screening for public water supplies utilizing surface water in 2017 and 2018 to identify system susceptibility to HABs and microcystin, one of the most common algal toxins. Abraxis microcystin test strips were used which provided semi-quantitative results of microcystins greater than 1 microgram per liter (ug/L). Approximately 12 systems voluntarily screened for microcystins at their raw water taps weekly from July through October. All test strips were negative except for a few unconfirmed low-level detections at one system.

In 2019, funding became available to conduct monthly (July through October) raw and finished tap cyanotoxin samples for all surface water systems, including two tribal owned systems, and weekly sampling (July through mid-December) for those systems which were considered vulnerable to HABs. These samples were analyzed by the MDHHS laboratory for microcystins and nodularins by EPA method 546, and for cylindrospermopsin and anatoxin-a by EPA method 545. These methods provided more accurate quantitative results with detection limits as low as 8 parts per trillion for microcystins. Ten systems detected low levels of microcystins in their raw water, but no microcystins were detected in the finished water. Cylindrospermopsin and anatoxin-a were not detected in this sampling effort.

In another area of source water protection, a DWEHD 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 DWEHD staff person also began coordinating with EGLE'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 Michigan PFAS Action Response Team's (MPART) larger mission to address the threat of PFAS contamination in Michigan, the Drinking Water Workgroup administers multiple statewide public drinking water PFAS sampling efforts. These initiatives are designed to assess the presence and level of these contaminants within Michigan's public drinking water resources, which serve 75 percent of the state's residents.

The primary piece of this effort is a statewide survey, conceived as an accelerated discovery effort to test drinking water supply entry point locations across the entire state. Prior to sampling, priority for Michigan's 83 counties was assigned based on population and other risk factors. Sampling was performed by AECOM – the state's environmental consultant partner.

Phase I of the statewide survey began during FY 2018 and included the sampling of all Type I community PWSs with their own source, as well as select Type II NTNCWSs (schools on their own well).

In early FY 2019 (November), the Phase I statewide survey was expanded to include 164 additional Type II NTNCWSs (childcare providers and Michigan Head Start programs on their own well).

Beginning in March of FY 2019, three additional sampling initiatives also began.

1. Quarterly monitoring for all systems tested during Phase I which received this recommendation. Sixty-one supplies were sampled quarterly for one year, and three-quarters of sampling was completed during FY 2019.
2. Phase II of the statewide survey, wherein another approximately 750 additional Type II NCWSs were selected for sampling (serving sensitive populations and to address worker safety).
3. Monthly monitoring for all 72 Type I CWSs and Tribal water supplies utilizing a surface water source. This initiative also included sampling for select cyanotoxins related to HABs.

All results were reported to supplies by EGLE staff using a tiered approach, with recommendations provided to the supplies and local public health partners based on 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, DWEHD staff worked closely with LHDs, as well as directly with schools and water supplies, to offer TA as needed.

Sampling results continue to inform further sampling efforts, which have included investigatory activities around systems with results over the USEPA Lifetime Health Advisory for perfluorooctanoic acid (PFOA) + perfluorooctanesulfonic acid (PFOS) (70 ppt), additional sampling and environmental review for supplies with seasonal variability of PFAS in source water, and targeted source well sampling around PFAS areas of interest.

Sampling efforts continue in FY 2020 and further initiatives are currently in the planning stages.

### 3.9 Financial Assessments

Target: CWSs Municipally Owned or Subject to Association Bylaws

While no official financial assessment reports were generated, DWSRF staff did meet with the Clean Water Association to conduct an assessment.

To help existing CWSs improve financial capacity, EGGLE 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 TA to small systems set-aside of the DWRF. 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 DWRF 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 DWEHD 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 Check-Up Program for Small System, or CUPSS, software and the EGGLE asset management workbook. With the recent EGGLE 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 State Revolving Fund 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 ensure 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.

### 3.10 Security and Emergency Response

Target: CWS

EGGLE's Water Security and Emergency Management Program is responsive to the various federal programs and the needs of the PWSs. 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.

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

- The DWEHD emergency response coordinator was trained to use the Michigan Critical Incident Management System, which is Michigan's version of web Emergency Operations Center
- The DWEHD emergency response coordinator attended training on the changes to emergency response requirements in America's Water Infrastructure Act.
- EGLE staff participated in a training exercise, Michigan Water and Power Black Sky Workshop, for power, water, and wastewater utilities to improve communication and coordination during large scale power outages.
- Planning annual emergency training for all staff, particularly new staff.
- Participating on the EGLE Emergency Management Support Team.
- Participating in the Association of State Drinking Water Administrators' (ASDWA) Security and Resiliency Committee.
- Membership in Michigan Water/Wastewater Agency Response Network Steering Committee.
- MiWARN (Michigan Water/Wastewater Agency Response Network)
- HAZWOPER (Hazardous Waste Operations and Emergency Response)
- 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.

An example of an emergency response effort the DWEHD participated in began in October 2018 when Robinson Elementary received PFAS results above 70 ppt. For more than 12 months, EGLE and the LHD worked closely with the NTNCWS to reduce exposure and ultimately install treatment to remove PFAS from the drinking water. The efforts included:

- Eight phone consultations in the first three days (EGLE, MDHHS, LHD, school district, township)
- Two site visits in first two months
- Coordination of emergency bottled water delivery
- Office consultations with parties listed above
- Correspondence via email and letters to help the school develop their message to students, parents, and the community
- EGLE engineers provided significant technical support regarding treatment system design

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 DWEHD to focus assistance more effectively.

### 3.11.1 Electronic Reporting

Target: CWS and NCWS

The DWEHD is working to adopt electronic reporting systems to provide convenience and accuracy for data reporting. The DWEHD is working toward use of the USEPA's new Compliance Monitoring Data Portal as a means for laboratories to report analytical results electronically to DWEHD. The DWEHD 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 DWEHD 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 LCR 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 federal reporting data needed for the NCWS program is being migrated into the SDWIS-Noncommunity 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.

In FY 2018, the DWEHD was awarded a \$6.1 million grant from the state of Michigan to build a new data system. The new system is intended to interface with the USEPA's revised SDWIS platform when made available, as well as support the OTCU and NCWS program. In FY 2019, the project was put out to bid and a vendor was selected. Project development is scheduled to begin in 2020.

### 3.11.3 Water Track

Target: NCWS

LHD staff use the WaterTrack database to track NCWS inventories, certified operator information, sanitary survey reports, capacity development, construction permits, monitoring results, monitoring violations, MCL violations, and NCWS compliance reports. The information is monitored by EGLE 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. WaterTrack will continue to be used until such time as an alternative platform, such as SDWIS Prime, is made available. Until such time, EGLE will continue utilizing

alternative tracking of rule requirements not captured within WaterTrack.

#### **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 DWEHD 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 DWEHD 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**

EGLE 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 LCR requirements. The DWEHD 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:

EGLE 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. EGLE 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.

EGLE 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.

EGLE 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 CWSs 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 TMF 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. DWEHD staff are continuing to review submitted Asset Management plans, and work with water supplies to improve plans when necessary.

## 5.2 Follow-Up on Needs Identified

Areas identified are continuing to be addressed.

### 5.2.1 Implement New Federal Rules

While no new federal rule implementation occurred in FY 2019, the DWEHD program and field staff continued to host and participate in trainings on the more recent rule changes such as the RTRC.

### 5.2.2 Capture Sanitary Survey Data

Detailed sanitary survey data is captured in SDWIS and on survey questionnaires for every CWS. To enhance decision making, the CWS program is continuing to investigate options to capture data electronically in a format that can be more readily queried. Currently, CWS staff track basic survey data, specifically survey date, rating of the eight required elements, and deficiencies in SDWIS.

NCWS sanitary survey data is tracked in WaterTrack but will be tracked in the USEPA's revised SDWIS platform once made available and adopted.

### 5.2.3 Implement Newly Revised Nonfederal Provisions of the Administrative Rules

The DWEHD 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 NCWSs 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 CWSs 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 DWEHD 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 supplies 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 DWEHD hopes the Asset Management Rule, which went into effect January 1, 2018, will foster better water system management. DWEHD 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 DWEHD 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.

The DWEHD engineering manager is participating in AWOP and has involved several other surface water engineers and analysts in AWOP training and implementation.

In addition, members of the CDP and OTCU assisted with the planning of the Region 5 Capacity Development and Operator Training and Certification conference in June 2019. CDP staff are involved in planning the 2020 conference. CDP and OTCU staff were also

members of the National Capacity Development and Operator Training and Certification Collaboration workgroup, and CDP staff served on the tabletop exercise subcommittee.

## **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 EGLE policy dictates sanitary survey frequencies for all types of CWSs and NCWSs. Follow-up on deficiencies in any system has been a long-standing practice and is required of the LHD under contract with EGLE. As stated in last year's edition of this report, the DWEHD 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 15 significant deficiencies at 13 different CWSs, and 12 significant deficiencies at 12 NCWSs identified in FY 2019. The deficiencies are in varying states of resolution; many of them have already been resolved.

Between sanitary surveys, DWEHD 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 DWEHD 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. Modify Existing Systems Program Strategy**

The strategy remained unchanged during the reporting period. EGLE 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. One CWS systems that became active during the last three fiscal years scored 11 or more on the ETT.

FY 2017 to FY 2019	CWS		NTNCWS	
	New	New & Existing	New	New & Existing
Number of systems on ETT Tracker Report	10	1,380	49	1,300
Number of systems with ETT score of 11 or more	1	15	0	8
Percent of Systems with ETT score of 11 or more	10%	1.08%	0%	0.62%

PWS ID	PWS Name	PWS Type	First Reported to SDWIS
MI0000503	BEACON HOME AT COLBY	CWS	8/20/2019
MI0002657	GLEN OAKS COMMUNITY COLLEGE DORM	CWS	11/29/2017
MI0003563	KAREGNONDI WATER AUTHORITY	CWS	5/31/2018
MI0005349	COTTAGE HS, LLC (PINEVIEW COTTAGE)	CWS	11/20/2018
MI0005566	PRAIRIE VILLAGE APARTMENTS	CWS	8/20/2019
MI0006079	SODUS TOWNSHIP	CWS	3/1/2017
MI0006446	SUGAR LOAF TOWNHOUSES	CWS	2/21/2019
MI0006477	SUNNY CREST YOUTH RANCH	CWS	8/24/2017
MI0007061	WHITE EAGLE SUBDIVISION	CWS	3/28/2017
MI0007063	WHITEFORD TOWNSHIP	CWS	5/30/2019
MI2012657	BIEWER LUMBER	NTNCWS	6/28/2019
MI2014327	EXTREME TOOL & ENGINEERING	NTNCWS	3/9/2018
MI2017610	NEW COVENANT CHRISTIAN ACADEMY	NTNCWS	2/28/2017
MI2019005	EAST JORDAN FOUNDRY	NTNCWS	11/28/2018
MI2021015	NORTHERN EXPLORERS CDC	NTNCWS	9/11/2018
MI2022733	DIVINE NEST	NTNCWS	9/11/2018
MI2023233	DART CONTAINER	NTNCWS	6/28/2019
MI2023353	MICHIGAN FOOD PROCESSORS CO-OP	NTNCWS	3/12/2019
MI2023420	BEAVER CREEK/GRAYLING TWP UTILITY AUTH	NTNCWS	3/12/2019
MI2025269	NAI GROUP	NTNCWS	9/11/2018
MI2028234	HERBRUCKS POULTRY RANCH (HENNERY)	NTNCWS	2/28/2017
MI2030718	MAGNUS CENTER	NTNCWS	3/9/2018
MI2030883	BAKER COLLEGE OF CADILLAC	NTNCWS	6/21/2018
MI2034164	WILLOW COLD STORAGE	NTNCWS	6/21/2018
MI2035914	RODGERS LAKE DEVELOPMENT - POKAGON BAND	NTNCWS	9/11/2018
MI2041024	VTE INC	NTNCWS	5/30/2017
MI2042008	HASTINGS MEDICAL	NTNCWS	9/11/2018

Annual Report on Capacity Development Program – FY 2019

<b>PWS ID</b>	<b>PWS Name</b>	<b>PWS Type</b>	<b>First Reported to SDWIS</b>
MI2044313	EATON CORPORATION-TECH BUILDING	NTNCWS	6/21/2018
MI2045158	BENORE LOGISTIC SYSTEMS, INC.	NTNCWS	2/28/2017
MI2045626	ROBINS PLAYHOUSE	NTNCWS	9/8/2017
MI2047772	SPICERS BOAT CITY	NTNCWS	3/12/2019
MI2047916	UAW FAMILY EDUCATION CTR	NTNCWS	2/28/2017
MI2048072	MICHIGAN STATE POLICE POST	NTNCWS	3/12/2019
MI2048172	CHARLTON HESTON PRESCHOOL	NTNCWS	6/28/2019
MI2052039	KIDS COURT, LLC	NTNCWS	3/12/2019
MI2052239	ST ANN CHURCH - LOC ACADEMY	NTNCWS	11/28/2018
MI2056617	KIDS KASTLE DAYCARE	NTNCWS	5/30/2017
MI2057380	BBF HLDGS - HILLTOP FARMS AG LABOR CAMP	NTNCWS	5/30/2017
MI2061047	WELKER WAREHOUSE - ETERNAL INK	NTNCWS	9/11/2018
MI2064181	FINE ARTS ACADEMY	NTNCWS	6/21/2018
MI2067070	LITTLE TYKES UNIVERSITY LLC	NTNCWS	6/21/2018
MI2068103	ARCTICLEAR	NTNCWS	9/8/2017
MI2068303	LITTLE VIKINGS LEARNING CENTER	NTNCWS	3/9/2018
MI2068419	BINGHAM TOWNSHIP	NTNCWS	2/28/2017
MI2068503	KONOS INC./VANDEBUNTE EGG FARM	NTNCWS	11/30/2017
MI2068547	USA WOOD DOOR	NTNCWS	11/28/2018
MI2069503	DYKHUIS FARMS, INC.	NTNCWS	3/12/2019
MI2070203	MATERIAL TRANSFER	NTNCWS	6/28/2019
MI2072111	HONOR CREDIT UNION - OPS CENTER	NTNCWS	2/28/2017
MI2100141	SPEEDRACK MIDWEST	NTNCWS	2/28/2017
MI2100241	BUILDER'S IRON	NTNCWS	9/8/2017
MI2100341	JACK BROWN PRODUCE	NTNCWS	5/30/2017
MI2101541	MOIRON	NTNCWS	9/11/2018
MI2163025	THE PINES OF GOODRICH	NTNCWS	6/28/2019
MI2163125	THE PINES OF GOODRICH	NTNCWS	6/28/2019
MI2292263	SHANNON DISTRIBUTION	NTNCWS	11/30/2017
MI2292463	PURE FOODS KITCHEN LLC	NTNCWS	3/9/2018
MI2293263	HOLTZ DR SW, LLC	NTNCWS	3/12/2019
MI2293863	ANDERSEN MATERIAL HANDLING	NTNCWS	11/28/2018
MI2294463	MICHIGAN CAT CORPORATE SERVICES	NTNCWS	6/28/2019

**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.**

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. DWEHD 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 Sewerage 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.

## **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.