Michigan Department of Environmental Quality
Water Bureau

ANNUAL REPORT TO EPA ON CAPACITY DEVELOPMENT PROGRAM – FY 2009

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List of Acronyms

ACO	Administrative Consent Orders
Act 399	Safe Drinking Water Act, 1976 PA 399, as amended
AWWA	American Water Works Association
CCR	Consumer Confidence Reports
CWS	Community Water Systems
DACO	District-Initiated ACO
DWRF	Drinking Water Revolving Fund
eDWR	Electronic Drinking Water Reporting
ERG	Expense Reimbursement Grant
ERP	Emergency Response Plan
FAP	Financial Action Plan
FY	Fiscal Year
GWR	Ground Water Rule
LHD	Local Health Departments
MCL	Maximum Contaminant Level
MDEQ	Michigan Department of Environmental Quality
MIGWWP	Michigan Interactive Groundwater for Wellhead Protection
MiWARN	Michigan Water/Wastewater Agency Response Network
MMBA	Michigan Municipal Bond Authority
MOR	Monthly Operation Reports
MRWA	Michigan Rural Water Association
NCWS	Noncommunity Water Systems
NTNCWS	Nontransient Noncommunity Water Systems
OTCU	Operator Training and Certification Unit
PSI	Pounds Per Square Inch
PWSID	Public Water System Identification Number
RCAP	Rural Community Assistance Program
RUS	Rural Utilities Service
SDWA	Federal Safe Drinking Water Act
SDWIS	Safe Drinking Water Information System
SDWIS/State	Safe Drinking Water Information System/State
SNC	Significant Noncomplier
SWIPP	Surface Water Intake Protection Program
TMF	Technical, Managerial, and Financial
USDA-RD	United States Department of Agriculture – Rural Development
USEPA	United States Environmental Protection Agency
VA	Vulnerability Assessments
WB	Water Bureau
WHPP	Wellhead Protection Program

1 Introduction

The 1996 Amendments to the federal Safe Drinking Water Act (SDWA) added provisions for each state to develop a capacity development program. The objective of the program is to enhance public health protection by helping water systems to develop and maintain the technical, managerial, and financial (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 United States Environmental Protection Agency (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 Drinking Water Revolving Fund (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 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 (FY) that ends on September 30, so this report is due by December 30 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 capacity development program is implemented by the Water Bureau (WB) of the Michigan Department of Environmental Quality (MDEQ) through amendments to the Safe Drinking Water Act, 1976 PA 399, as amended (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 Community Water Systems (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 nontransient noncommunity water systems (NTNCWS), the WB has delegated the authority to the local health departments (LHD) to review, approve, and issue construction permits. When water systems begin the permit application process, the LHD helps them outline their financial and managerial capacity. Prior to receiving approval to commence operation, the NTNCWS must submit a financial plan and a managerial plan that includes a contingency plan and designation of a certified operator.

2.3 List New Systems

Lists of CWS and NTNCWS that became active during the last three FYs are in Appendix A. The lists indicate which systems appeared on a Significant Noncomplier (SNC) list during those years. A new system's appearance on an SNC list is primarily due to a failure to collect samples during the first monitoring period for lead and copper or due to a single missed sampling event of disinfection byproducts. Missed monitoring is not taken lightly by the staff. However, violations incurred by new systems are the result of the inevitable learning curve with monitoring requirements, despite field staff's best efforts. For example, 6 of the 13 NTNCWS that appeared on an SNC list forgot to take their initial round of lead and copper samples. Half of those monitored in the following period and the remaining have or are planning to monitor soon. When adjusted for this learning curve, the percent of new systems appearing on an SNC list in recent years remains greater than systems overall, as indicated in the following table:

	CWS		NTNCWS	
	New	**New & Existing**	**New**	**New & Existing**
Number of systems	16	1,403	68	1,449
Number of systems on an SNC list	1	43	14 [1]	155 [1]
Adjusted number of systems [2]	1	28	7 [1]	115 [1]
Percent of systems on a SNC list	6%	2%	10%	8%

[1] One of the systems on the SNC list has since become inactive. The system appeared on the SNC list for failure to sample lead and copper in the initial monitoring period. The violation was addressed.

[2] Omitted systems that appeared on an SNC list for only one of the following: a single failure to sample lead and copper in the initial monitoring period, or a single failure to sample disinfection byproducts, or a single failure to issue the Consumer Confidence Report (CCR).

As a final note, violations incurred by new systems are much less serious than those incurred by systems overall, which include chronic monitoring violations and violations of state drinking water standards.

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 Noncommunity Water Systems (NCWS)

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

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

In CWS, sanitary surveys are conduced every third year by WB field staff. This frequency coincides with the requirements of the series of Surface Water Treatment Rules and the Ground Water Rule. Sanitary surveys result in systems being rated satisfactory, marginal, or deficient. Ratings are based on compliance with health-based standards, monitoring and reporting requirements, qualified operator requirements, and requirements in Act 399 or TMF sufficiency, such as well construction, general and contingency plans, and financial requirements for privately-owned systems. The WB staff detail their sanitary survey 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. Note that the number of construction permit applications received has declined significantly, likely due to a downturn in the state's economy.

CWS Evaluations, Visits, and Construction Permits			
	FY 2007	**FY 2008**	**FY 2009**
Number of Sanitary Surveys Conducted	515	507	449
Percent Rated Satisfactory	83	85	83
Percent Rated Marginal	12	11	10
Percent Rated Deficient	4	4	6
Percent Not Rated	1	0	2
Number of Visits	1,667	1,665	1,701
Number of Construction Permits Received and Issued	1,425 / 1,411	1,204 / 1,163	921 / 883
Of Permits Issued, Percent Issued Within 10 Business Days of Receipt	69	69	65

The surveillance visits listed in the previous table are conducted by field staff according to policy that requires the following frequency:

Type of CWS	Smaller / Less Complex	Larger / More Complex
Wholesale customer supplies	Once per three years, though most field staff strive to visit these systems annually	Once per year
CWS with no treatment*	Once per three years for very small systems	Once per year
CWS with treatment*	Twice per year for systems employing treatment that is less 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 visits water systems to investigate problems discovered as a result of routine monitoring. 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 WB and LHD field staffs are the primary implementers of the capacity development program. Water system operators develop a relationship with field staff who are the primary contacts for capacity development. Each CWS is served by WB staff from 1 of 8 district offices, and each NCWS is served by staff from 1 of 44 LHD under contract with the WB. A primary objective of WB 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 WB maintains communication with each of the 44 LHD 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 work are conducted to assure and maintain water system compliance. Training of LHD staff is conducted to inform, explain, and discuss new and updated program issues and procedures. The NCWS staff distributes and maintains a *Noncommunity Staff Reference Manual* and the *WaterTrack Operator* manual containing policies, procedures, guidance, templates, and forms for LHD staff to implement the drinking water program. The NCWS staff also routinely presents topics at groundwater and other environmental health conferences.

Meeting the revised arsenic standard has been particularly difficult for small water systems. Most did not treat their water and did not generate sufficient funds to install treatment to remove arsenic. The field staff are providing technical assistance and consulting to find and implement solutions to bring systems into compliance as quickly as possible. Based on initial compliance monitoring conducted in 2005, 164 NTNCWS

and 108 CWS exceeded the revised standard, almost all serving less than 3,300 residents. Many of the NTNCWS that exceeded this revised standard are now serving bottled water to remove the public health threat as they work toward compliance. Other solutions involve connecting to an existing public water supply, drilling new wells, or installing arsenic treatment systems. Many systems entered into Administrative Consent Orders (ACO) with the MDEQ, which included a compliance schedule. In some cases, the WB staff provided technical assistance when the treatment needed adjusting to maintain arsenic levels below the maximum contaminant level (MCL). For example, the arsenic removal system in a manufactured housing community in Genesee County was not sufficiently removing arsenic due to low iron content in the raw water. The WB staff evaluated the operation and suggested adding ferric to increase the iron content and expand the backwash line to gain efficiencies in the backwash process.

To increase reliability, gain efficiencies, and improve water quality, field staff serves as consultants to encourage regionalization, foster consolidation, and create partnerships among water systems. For example:

- The city of Muskegon and its customers were all due to update their reliability studies. Rather than spend years developing reliability studies for the city and each of its customers, the WB staff suggested the wholesale and customer systems develop a combined reliability study. A combined study would more effectively look at how water is managed, the hydraulics of the combined distribution system, and other issues relative to all the systems. The city took a major role in negotiating with customer systems. It was decided the cost share would not be based on population per se, but on current and future needs as some systems were expected to grow (greater cost share) while others were already fully developed (lesser cost share). The traditionally difficult issue of selecting a firm was solved by a contractor who suggested that proposals be accepted only from firms that none of the participants had used previously.

- A ten year process to restore the operating condition of the standby water treatment plant in the city of Flint in Genesee County came to fruition in FY 2009. The plant exists as an alternative to the single source from Detroit. Funding the design and construction of the plant was spread over several phases using a series of DWRF loans. However, the operators could not conduct a test run and obtain entry point disinfection data because they are prohibited from discharging chlorinated water into the nearby river. Therefore, they could not demonstrate that the water treatment plant could produce water meeting drinking water standards, should an emergency arise. Simultaneously, but separately, the WB staff and the operators formed the idea to install dechlorination tanks prior to discharging into the river, thus allowing the collection of real time disinfection data and conducting a good test run. As a result, when the 72-inch water main from Detroit was down for scheduled service in September, Flint was confident the plant's water supplied to the system met drinking water standards and avoided issuing an expensive and burdensome boil water advisory.

- The city of Flint and Genesee County are joining forces on two issues. First, the city and county are together evaluating using Lake Huron as a source rather than relying solely on purchased water from Detroit. Secondly, the city and county have entered into a mutual aid agreement that allows for Genesee County to provide operational oversight of the Flint standby water treatment plant during

test runs and emergencies. Coincidently, the operators in Genesee County are former operators of the Flint plant and very familiar with its operation.

- Countless other instances of one-on-one technical assistance help water systems gain TMF capacity. For example, a WB staff spent time with a reluctant operator discussing the chlorine break point concept, after which the operator solved a chronic low disinfection residual issue. A WB staff member is encouraging the leaders of two communities to overcome the legal and political hurdles to create an emergency connection with each other.

3.3 Other Public Water System Program Efforts

Helping systems to comply with requirements is an ongoing effort throughout each year. The following are tools used on a regular basis:

- Monitoring schedules: The WB and LHD staff develop and distribute monitoring schedules each year for every CWS and NCWS based on each system's applicable monitoring waivers and schedule in the standard monitoring framework. When certain monitoring is due in an upcoming calendar year, the field staff provides applicable resources, such as lead and copper report forms and a list of approved radiological laboratories. Field staff may follow up with reminder letters and reminder telephone calls as resources allow. Each year WB staff notifies CWS that have not completed all their sampling. This effort has prevented many monitoring and reporting violations.

- Well site inspections and approvals: The LHD and the WB field staff conduct inspections and approvals of wells serving the NCWS and CWS, respectively.

- Privately-owned CWS requirements: WB staff routinely advises owners, managers, and operators of privately-owned systems about the regulatory requirements for operating a water system. Under Michigan administrative rules, new privately-owned CWS are subject to requirements to ensure they are able to provide an adequate supply of drinking water. Proposed systems must stipulate to certain requirements; obtain a local government's refusal to accept ownership of the system, establish an escrow account available to the MDEQ for immediate repair or maintenance of the system, and agree to seek WB approval before transferring ownership. These provisions ensure private owners understand their responsibilities prior to establishing the water system. Amended administrative rules, scheduled to be promulgated in December, will increase the minimum required escrow amount that has been unchanged since 1979.

- CCR: As resources allow, WB staff may assist water systems in preparing CCR, particularly new systems and systems with personnel turnover. Technical assistance providers also lend this service to small systems. The CCR reminder letters, which are mailed up to three months before the due date, provide helpful tips and hints to prepare the CCR based on new regulations and guidance. The LHD inform the NTNCWS of the administrative rule requirement to prepare a water quality report that contains a summary of compliance monitoring data for NTNCWS that serve K-12 schools and day care centers.

- Monthly Operation Reports (MOR): Field staff often instructs operators on how to complete the MOR. Staff reviews each MOR to assure compliance with treatment techniques and to evaluate treatment processes for optimal operating practices.

- Forms and templates: These tools are developed and made available to CWS and NCWS on the Internet or in guidance documents, such as the *Level 5 Drinking Water Operator Guide* or the *Cross Connection Rules Manual*, or are mailed to the system as needed. Templates and forms range from public notices to monitoring plans to comply with federal rules and pumpage report forms and contingency plan templates to comply with state provisions. Efforts completed during FY 2009 are the following:

    - Provided forms and templates in the *Noncommunity Staff Reference Manual* and in the *Level 5 Drinking Water Operator Guide*.

    - Finalized the MOR template for those water systems using less than complete treatment. The CWS field staff is transitioning water systems onto this new form when appropriate.

    - Created a convenient one-page template for the consumer notice of a lead result that can be completed by hand or by using a computer. Attached to the template are a distribution checklist and a certificate of distribution.

    - Streamlined the lead and copper reporting by creating a form that combines requirements of the lead and copper reporting with the consumer notice of lead results certification.

    - Updated the bacteriological sample siting plan. Created an addendum to the siting plan to help water systems determine if they meet criteria to reduce triggered monitoring under the Ground Water Rule (GWR).

- Guidance documents: The WB staff develops and distributes guidance documents as needed. This year's efforts include:

    - The *Cross Connection Rules Manual*, finalized in FY 2008, was made available on the Internet, and mailed to every CWS, except manufactured housing communities.

    - The NCWS program staff completed and distributed a comprehensive *Noncommunity Staff Reference Manual* to each LHD. Also distributed are a *WaterTrack Operators Manual* and a study guide for individuals pursuing certification to operate an NCWS called the *Level 5 Drinking Water Operators Guide*. It may also be useful for operators of small CWS. Topics range from regulatory authority through source protection and system construction to operation oversight. The guide is available to the public on the Internet.

- USEPA tools: In addition to these state-developed products, the field staff distribute, as needed, USEPA tools and guidance documents.

- Additional forums: Field staff host and present material at meetings, conferences, and training sessions throughout the year for water system personnel, consulting engineers, and local decision makers. Ongoing activities include serving as instructors at several operator training courses throughout the year, speaking at other meetings and conferences of various associations related to drinking water, and attending USEPA sponsored Web casts. Specific activities in FY 2009 include:

    - The WB field staff presented the *MDEQ Update* at each of eight Michigan Section, American Water Works Association (AWWA), regional meetings updating participants on new rule implementation. These updates were repeated at WB field staff meetings for those that could not attend the regional meetings.

    - The WB central staff hosted a workshop to assist Schedule 2 CWS to complete a Standard Monitoring Plan Report Form to comply with the Stage 2 Disinfectants and Disinfection Byproducts Rule. The workshop was designed so each of the 25 participants that brought their sample results could leave with a rule compliant monitoring plan.

    - The MDEQ cosponsors a quarterly newsletter 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 MDEQ share of the distribution cost is funded by the capacity development set-aside of the DWRF through a Joint Funding Agreement with the Michigan Section, AWWA.

    - The NCWS staff occasionally participates in conferences of associations relevant to NCWS systems, such as the Michigan Manufactured Housing Recreational Vehicle & Campground Association, the Michigan School Business Officials, the Michigan Groundwater Association, and the annual Groundwater Conference sponsored by the Michigan Environmental Health Association.

    - The WB treatment specialist attended the AWWA Membrane Conference and the USEPA Workshop on Small Drinking Water Systems and transferred that knowledge to WB field staff.

    - To continue to offer quality training to WB staff and water systems, the WB takes advantage of the Web casts. Certified operators can meet continuing education requirements with USEPA or AWWA sponsored Web casts. The quality of the Web casts has ranged from excellent to poor, and the WB will continue to participate and disseminate information about these Web casts if the quality trends toward excellent.

The WB will continue to take advantage of other opportunities to interact with water systems and their consulting engineers, municipal leaders, and others interested in drinking water issues.

3.4 Enforcement

Target: CWS and NCWS

Evaluations and compliance information become the basis for enforcement. When systems fail to return to compliance, escalated enforcement, including ACO and MDEQ orders, 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 remain in compliance with monitoring and reporting requirements after receiving a fine. During FY 2007 to 2009, the number of fines issued was 71, 53, and 45, respectively. The high number of fines in FY 2007 is directly attributed to noncompliance with the revised arsenic MCL. Water systems in violation of the arsenic standard sometimes missed quarterly monitoring or forgot to issue repeat public notices. However, eventually water systems either returned to compliance with the arsenic standard or conducted monitoring and posted public notice.

When a fine is not applicable or does not prevent further violations, the WB moves to a Notice of Violation, ACO, and in rare cases an MDEQ order. However, field staff prefers technical assistance over enforcement to bring systems back into compliance. As a result, only two ACO were entered into in FY 2009; a manufactured housing community failed to provide adequate water pressure and the city of Muskegon Heights in Muskegon County failed to update the reliability study and conduct inspections according to their cross connection program. The economically depressed city was struggling to remedy deficiencies noted in sanitary surveys and violation letters. However, the city has met all deadlines to date. The WB staff looks forward to the city completing its capital improvements plan and the treatment plant portion of the reliability study, after which the WB will conduct a follow-up sanitary survey and hopes to change the overall rating from deficient to satisfactory.

An effort was made to streamline processes across the WB. An enforcement effort is the district-initiated ACO (DACO) to be used under certain circumstances instead of the traditional ACO. This process bypasses the enforcement staff involvement; the WB field staff drafts the DACO using templates and calculates penalties based on enforcement staff guidance. The enforcement staff conducted field staff training on DACO and the penalty calculations in January and February 2009. To date, a DACO has not been used for a water system issue, but about 30 DACO in other WB programs have been initiated. When a water system DACO is necessary, the WB field staff will be familiar with DACO process.

Some water systems are not willing to enter into an ACO. In those cases, the WB must escalate the enforcement level to an MDEQ order. Just such an order has been issued to the city of Three Rivers in St. Joseph County to continuously disinfect the city water supply. Systems are not required to disinfect; however, the city has a history of total coliform violations and is one of very few systems of similar size in Michigan that does not chlorinate as a means of preventing waterborne disease. The city prefers to remain unchlorinated and an order, as opposed to an ACO, is being used.

Each LHD conducts enforcement necessary to address NCWS in noncompliance. The WB field staff assists the LHD upon request and in extreme cases the WB central staff may take the enforcement lead. Typical tools used by the LHD include administrative fines, informal hearing, local license suspension procedures, and bilateral compliance agreements.

3.5 Operator Training and Certification

Target: CWS and NCWS

Due to amendments to Act 399, a properly certified operator must be available at each of the 1,403 CWS and 1,449 NTNCWS and at the 80 transient NCWS that employ treatment. Operators maintain their certification by meeting continuing education requirements through training offered in a variety of venues.

3.5.1 Operator Training and Certification Unit (OTCU)

The OTCU of the WB provides over 30 training courses each year and certifies nearly 80 other organizations and training providers that offer other opportunities for continuing education including online courses. The OTCU also administers the Expense Reimbursement Grant (ERG) Program for operators employed by systems serving fewer than 3,300 people to cover approved training registration fees up to $300 per individual. For more information, see the *2009 Operator Certification and ERG Annual Report*, dated September 10, 2009, submitted to the USEPA.

Many of the training courses coordinated by the OTCU are taught by WB field staff under a Joint Funding Agreement between the MDEQ and the Michigan Section, AWWA. Field staff time is significant as the sessions usually require overnight travel. 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.

3.5.2 Small CWS and NCWS Training

Under contract with the WB, 15 LHD provide continuing education for the level 5 operators. The intent is to provide training for NCWS, but any operator employed by a CWS with no treatment and limited distribution system may attend.

Staff of the NCWS conducted train-the-trainer sessions for LHD staff. Topics range from current requirements and practices to discussions of new requirements and regulations. Surveillance visits and sanitary surveys are additional opportunities for the LHD staff to provide training for NCWS operators.

For the past several years, WB staff has conducted training specifically for small CWS. Attendees are primarily operators, managers, or owners of manufactured housing communities, though all small systems are invited. General topics covered new regulatory requirements, monitoring and reporting, communicating with the public, and operational issues. Special topics change each year to keep the participants interested. Special topics in the 2009 training were system reliability, well basics and maintenance, and a case study in total coliform response, investigation, and solution. A total of 196 small system operators attended at one of five locations around the state.

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. This fund is similar to the State Revolving Fund created to assist water pollution control projects. The capacity development provisions of the SDWA are funded through the DWRF allotment.

Michigan's DWRF is coadministered by the MDEQ and the Michigan Municipal Bond Authority (MMBA.) The MDEQ handles all programmatic issues, while the MMBA 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. 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, priority of DWRF projects favors those communities that are participating in a Source Water Protection Program.

In FY 2009, $43 million in low-interest loans was committed for 12 projects bringing the total since the fund's inception in 1998 to $570 million for 202 infrastructure 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, 148 have been completed for a total cost of $344 million and the loan payments are revolving back into the fund.

Commitments in FY 2009 include projects to increase systems' capacity to reliably provide an adequate supply of water. Most of the projects involve replacing aging infrastructure, others to provide redundancy, and still others to meet drinking water standards. Van Buren Township in Wayne County is the year's largest project of $11 million to construct a 2 million gallon elevated storage tank and water main installations and upgrades to increase system capacity and provide water during service interruptions from Detroit. The $9.9 million project in the city of St. Joseph in Berrien County is to construct a new 5,000-foot intake into Lake Michigan to reduce the influence of the St. Joseph River and the catastrophic failures resulting from migrating sand bars. Upgrades to the city's 70-year-old water treatment plant will enhance the ability to reduce the disinfection byproducts precursors. Lansing Township in Ingham County qualified for the Green Project Reserve Funding through conservation. The township's water main replacements will be installed at a greater depth to decrease the frequency of breaks and will be encased to minimize corrosion.

The WB field staff often influences whether water systems will apply for DWRF money. The city of Greenville in Montcalm County was struggling with total coliform issues. The city is one of the largest communities of its size without disinfection, though city officials were reluctant to install a chlorination system. The WB staff found a similar minded person in the new water operator and together communicated the importance of disinfection to city officials. As a result, the city submitted the state's highest scoring DWRF project for FY 2010 funding that includes chlorination and other system improvements.

When a system begins to develop the project plan to apply for a DWRF loan, the field staff consults with the system and works with its consulting engineer to ensure the project plan addresses system priorities. The city of New Buffalo in Berrien County and the WB field staff worked closely to submit a high scoring project plan in time to meet the application deadline for FY 2010 and to take advantage of stimulus funding. The binding commitment of $2 million will fund water main replacements and water treatment plan

upgrades to meet maximum daily demand. The economically disadvantaged city of Benton Harbor, also in Berrien County, made a special effort to submit a DWRF project plan for FY 2010 funding. The $13 million project will address deficiencies the WB staff presented to the city officials and the local media following the 2007 sanitary survey.

3.7 Source Water Protection

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

3.7.1 Groundwater Source Protection

Target: Municipal CWS and Not-for-Profit NCWS

The Michigan administrative rules require a minimum area around proposed well sites to be owned or controlled by the CWS or the NCWS. To expand beyond this long-standing, but minimal concept of source water protection, WB staff now encourage municipalities to also participate in Wellhead Protection Program (WHPP) activities and apply for a WHPP grant to fund the activities. Municipalities are encouraged to apply for a WHPP grant using a 50 percent local match to fund activities involved in protecting their wellhead capture zones. Of the 444 municipal systems in Michigan using groundwater as a source of drinking water, 245 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 245 systems, 185 have completed all the steps and have an approved WHPP. As a result, 86.4 percent of the population of the state served by municipal systems using groundwater is in communities taking action to protect their groundwater sources or purchase water from communities involved in protecting their sources. The WHPP grants, although delayed until July 1, 2008, were again awarded to 43 communities totaling $699,200 to continue implementing their WHPP. The grant cycle for FY 2010 awarded $642,900 to 43 communities. Four communities are new to the wellhead grant program: the village of Lakeview in Montcalm County, the city of St. Louis in Gratiot County, Stambaugh Township in Iron County, and the city of Williamston in Ingham County.

A pilot program entitled *Protecting Drinking Water with Innovative Tools* began in FY 2007 to target source protection in small CWS and NCWS. During the workshops, WB and LHD staff used the Michigan Interactive Groundwater for Wellhead Protection (MIGWWP) tool that scientifically maps the recharge area for a water system based on existing information in State of Michigan databases. Participants used the MIGWWP output and a self assessment tool to identify actions to reduce the risk of source water contamination and improve source protection practices. The fourth and final pilot workshop will take place in Jackson County in late 2009. MIGWWP will be rolled out on a statewide basis in 2010.

3.7.2 Tools as a Result of Water Withdrawal Legislation

Target: CWS, NCWS, and Other Interested Parties

The Natural Resources and Environmental Protection Act, 1994 PA 451, was amended in 2006 and further amended 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 are intended to help manage water resources. In preparation to comply with provisions that require a permit for withdrawals

above a minimum threshold, the WB established baseline capacities for each CWS in 2007. New or increased withdrawals above the baseline capacity require an assessment to determine the likelihood the withdrawal will harm fish populations in nearby streams, rivers, and lakes. To provide a preliminary determination for communities, the Water Withdrawal Assessment Tool (WWAT) was fielded in FY 2009. Depending on the WWAT results, a site-specific assessment may be necessary for some intended withdrawals. Otherwise, the community can register its intended large water withdrawal on the WWAT and apply for a water withdrawal permit using the WWAT output.

3.7.3 Surface Water Source Protection

Target: CWS and NCWS Using Surface Water

The Surface Water Intake Protection Program (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 three communities that have completed an SWIPP serve relatively small populations. A funding source for SWIPP grants has been identified and a matching grant program equivalent to that used in the WHPP has been drafted for administrative rules that are expected to be finalized in early 2010.

Monitoring can alert utility personnel of changes in water quality in time to respond quickly. To achieve this in the connecting channels between Lakes Huron and Erie, the WB 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. Thirteen drinking water treatment facilities equipped with a range of analytical devices have continued to operate in FY 2009. The monitoring system includes data transmission, data visualization, automated notification/alarm service, data archiving, and a publicly accessible Web site 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 city of Monroe in Monroe County is the last plant located on the connecting channels to receive the monitoring system. Unfortunately, financial issues may jeopardize the long-term governance and funding of the Huron to Erie Alliance for Real-Time Monitoring and Information System.

3.8 Financial Assessments

Target: CWS Serving Fewer Than 10,000 People That are Either Municipally Owned or Subject to Association Bylaws

To help existing CWS improve financial capacity, the WB conducts financial assessments of systems that serve a population of less than 10,000 and that could benefit from a financial assessment. As a result, several systems that are currently in compliance, but are concerned about future challenges such as complying with new rules, 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 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 Financial Action Plan (FAP). The assessment is a review of financial and legal documents and an on-site meeting with system representatives. An 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. Useful tools to help complete the steps are included with the FAP. The assessment is not designed to provide funding; however, financing options are discussed at the on-site meeting. Further information on obtaining funding is provided with the FAP. The system is expected to carry out the FAP, and the WB is available to assist when requested. The FAP is also intended to be a guide for the field staff. An outline of a typical assessment report is included in Appendix B.

In FY 2009, three CWS underwent financial assessments: the city of Hart in Oceana County, Maple Ridge Township in Delta County, and the village of Breckenridge in Gratiot County. The WB staff overseeing the city of Hart attended the on-site meeting. The financial expert will continue to invite the WB staff to the on-site meetings. This will enhance the communication among the local officials, the water supply, and the WB field staff, especially to emphasize that the capital improvements plan needed to achieve technical capacity must be coupled with the rate setting and budgeting process to achieve financial capacity. Applying for a DWRF loan can be a daunting task for small cities and villages. However, some communities that undergo a financial assessment develop the financial acuity and motivation to apply for a loan through the DWRF or the Rural Utilities Service (RUS) of the United States Department of Agriculture - Rural Development (USDA-RD). In other cases, as communities gather their financial documents, some decide to use the information to pursue funding rather than undergo a financial assessment.

3.9 Security

Target: CWS and NCWS

The USEPA water security grants funded the following multiyear contracts to improve water system security and emergency response:

- Tabletop Exercises: Under the Bioterrorism Act of 2002, water systems serving populations greater than 3,300 developed Emergency Response Plans (ERP). The first contract is intended to provide training for water systems to develop and implement successful ERP incorporating malevolent acts of terrorism into local responsiveness planning and training. Under the Bioterrorism Act, departments of public works are considered part of a community first responders' network. The contract consists of two elements to train network participants:
    - Conduct tabletop exercises. Twenty-eight tabletop exercises were completed by December 31, 2008. Participants believe these exercises are useful and should be conducted more frequently.

- Conduct train-the-trainer conferences to prepare municipalities to conduct their own tabletop exercises. Ten conferences have been held with a total of 125 participants.

Some WB field staff and LHD personnel have participated in both tabletop exercises and train-the-trainer conferences to fulfill their role as primary contact for water systems during an emergency.

- Vulnerability Assessments (VA) and Capital Improvements Plans: The second contract involves on-site reviews of VA at systems serving populations greater than 3,300. This work includes a review of capital improvements projects, Reliability Studies, Master Plans, and the like, to determine if the security needs identified in the VA are being implemented or incorporated into future plans. The last phase of the project determined if water systems have chanced policies, practices, and procedures as a result of the VA. The contract terminated December 31, 2008, at the end of the first quarter of FY 2009.

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

However, the USEPA has eliminated the Water Sector Security funding as of FY 2010. As a result, further contracting efforts will likely be curtailed.

A fundamental shift in the Water Sector security program now emphasizes emergency management for all hazards, which includes terrorism and malevolent acts as well as weather-related incidents and accidents.

3.10 Technical Assistance Providers

Target: CWS and NCWS

The efforts of other organizations deserve highlighting due to their efforts to enhance capacity.

3.10.1 Michigan Rural Water Association (MRWA)

The MRWA helps rural communities serving fewer than 10,000 people with administrative, managerial, or operational concerns. Services include on-site visits, training courses, conferences, rates studies, and a resource library. Each field technician visits at least 35 rural or RUS eligible public water systems per month, but will provide assistance to any public water system. The following is a summary of the work during the last 3 fiscal years:

- In FY 2007, 8 technicians spent 3,273 hours on 2,554 on-site visits.
- In FY 2008, 7 technicians spent 3,149 hours on 2,640 on-site visits.
- In FY 2009, 7 technicians spent 2,978 hours on 2,552 on-site visits.

These on-site visits help utilities with regulatory, operational, managerial, and financial concerns. Field technicians also work with water utilities to put together wellhead protection and source water protection plans. Each year the MRWA conducts operator

training courses across the state. In 2009, the MRWA conducted 83 sessions and trained 322 operators in management, 953 in operations, 199 in review of the certification exam, and trained 216 operators at the MRWA Annual Conference. Some conferences and training conducted in FY 2007 through FY 2009 include the Conference for Municipal Utilities Management Personnel, Hands-On Rate Study Workshop, Workplace Safety Conference, Project Management, Water Distribution and Water Limited Treatment Review Classes, Excavation and Trenching Safety, electrical training, technical maintenance practices for water plants, water math, and Permit Required Confined Space.

The MRWA receives referrals from several sources. For example, the WB may ask the MRWA to serve as a liaison between a municipality and the WB to ensure a flushing program was implemented. Specific examples from this year include help with cross connection programs and inspections in the villages of Owendale, Caseville, and Forestville in Huron County, the villages of Akron and Gagetown in Tuscola County, the village of Chesaning in Saginaw County, and the city of Beaverton in Gladwin County; assistance with the requirements of the Long Term 2 Enhanced Surface Water Treatment Rule in the cities of Au Gres and Omer and the Sims-Whitney Water Authority in Arenac County; assistance with intake problems in the village of Caseville; and assistance with cross connection control ordinance development in the city of Pinconning in Bay County.

3.10.2 Rural Community Assistance Program (RCAP)

The RCAP provides free technical assistance to rural communities with low to moderate median household incomes and populations of less than 10,000 to develop, manage, and operate water and wastewater systems affordably. RCAP staff work on site with local community officials, community leaders, and system operators to assess capacity needs, review funding options, provide public education, prepare and facilitate public communication, help select consultants, and help apply for funding for capacity projects. Local officials are taking advantage of RCAP services to achieve financial solvency through rate studies as well as help with project selection, compliance with existing and upcoming rule requirements, capital improvements planning, financing options, and VA and ERP development. Funding for this national nonprofit program is provided by the USEPA, the Health and Human Services/Office of Community Services, and USDA-RD as part of the Farm Bill. Michigan's RCAP program is administered by the Michigan Community Action Agency Association.

Over $31 million in loans, grants, and local funds were secured this year for capacity enhancement projects in the village of Breckenridge in Gratiot County, the village of Deerfield in Lenawee County, Forester Township in Sanilac County, the village of Kingston in Tuscola County, and Port Hope Gore Rubicon Township system in Huron County. The RCAP assisted 16 communities to complete funding applications. Three communities qualified for funding through the Michigan Economic Development Corporation using income surveys conducted by the RCAP.

Security and emergency management efforts included: preparing the VA and ERP for the village of Waldron in Hillsdale County; assisting four units of government prepare Identity Theft Prevention policies; participating in the Michigan Water/Wastewater Agency Response Network (MiWARN) Steering Committee; presenting information about MiWARN at two AWWA meetings; participating in a MiWARN Tabletop Exercise;

and hosting two operator training sessions on security preparedness and emergency response, which included tabletop exercises and training on source water protection planning.

The RCAP also assisted nine communities to prepare and distribute their CCR and seven communities to comply with the Americans with Disabilities Act. The RCAP prepared environmental assessments for projects in 20 communities. Finally, RCAP assisted the MDEQ in negotiations regarding ownership of the Clean Water Association, Inc. in Lake County.

3.10.3 RUS

The RUS provides loans, grants, and loan guarantees to construct, extend, or rehabilitate water, sewer, solid waste, and storm sewer systems in rural communities serving 10,000 or fewer people. Priority is given to low income communities, those with MDEQ violations, systems with leverage from other funding sources, systems that are extending service, and entities working together. Loans are monitored until they are paid in full. Small communities serving populations under 5,000 took advantage of funding for drinking water projects in recent years: in FY 2009, 27 projects totaled $77,158,000; in FY 2008, 19 projects totaled $37,689,000; and in FY 2007, 16 projects totaled $30,517,000.

The ratio of RUS grants to loans is weighted more heavily on loans and less on grants. The goal of the USDA-RD remains to help the most needy, low income communities, targeting those at 60 percent of the state median household income, $27,461 or less. However, with minimal grant funding, communities are paying more for water services. To ensure funding goes to communities that protect their source and manage their water system, applicants must have a wellhead protection plan, install water meters, and fund short-lived asset and replacement accounts. System security is receiving continued focus and applicants must complete a VA and ERP before closing on loans, including systems serving less than 3,300 people that are not required to do so under the USEPA.

The USDA-RD administers a Technical Assistance Training Grant Program that funds tax exempt private nonprofit organizations that have the proven ability, background, experience, legal authority, and capacity to provide technical assistance or training on a regional basis. Successful applicants are typically multijurisdictional groups, such as the National Drinking Water Clearinghouse, National Rural Water Association, and Rural Community Assistance. The RUS also administers the Household Water Well Grant Program that establishes revolving loan programs through nonprofit organizations to assist homeowners with financing their private household water well systems.

3.11 Electronic Reporting and Data Management

Target: CWS and NCWS

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

3.11.1 Electronic Drinking Water Reporting (eDWR)

Target: CWS Primarily, Though Elements Designed for Laboratories That Also Serve NCWS

The successful implementation of the Internet-based reporting system for discharge monitoring reports prompted Michigan to expand the project to include eDWR. The eDWR system will provide for online submittal of drinking water laboratory results and treatment plant operational data. Participation will be voluntary, and a water system may choose at any time to no longer participate. The collection of data will allow the WB to query certain parameters to assess capacity on a systemwide and statewide basis. Although the pilot was originally planned for FY 2006, competing priorities have delayed implementation. Future plans include providing other required reports online.

3.11.2 Tracking Compliance Using Safe Drinking Water Information System/State (SDWIS/State)

Target: CWS

The SDWIS/State is a federally supported database for tracking drinking water compliance activities. The database stores actual analytical results entered either manually or via e-DWR reporting discussed above. This allows for more automated compliance determination, which is particularly necessary when staff resources are stretched. In FY 2005, the CWS program began tracking Total Coliform Rule compliance monitoring in SDWIS/State. Beginning in FY 2007, the CWS program began preparing compliance monitoring schedules for other rules for migration from the program's legacy database to SDWIS/State. The project will take at least through FY 2010 to complete.

3.11.3 WaterTrack

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, violations of MCL, and NCWS compliance reports. The information is monitored by the WB 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. A rewrite or transfer to the SDWIS/State is necessary in the very near future.

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 WB looks at all of the following criteria:

- Compliance information
- Sanitary surveys and results of surveillance visits

- Construction permit bans and correspondence from the WB addressing potential bans
- Operation and maintenance concerns
- Field staff input

The sanitary surveys and surveillance visits are ongoing and the frequency with which systems are identified for capacity assistance is continual.

5 Identify Existing Systems Program Needs and Provide Assistance

The WB identified four general areas of needs: continued implementation of new rules, capturing sanitary survey data, updating existing state rules, and encouraging asset management.

5.1 Compliance With New Rules

The WB 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, at each of the five small systems CWS training, at quarterly field staff meetings, and during LHD visits by NCWS staff. Also mentioned earlier was the workshop to assist Schedule 2 CWS to complete their Standard Monitoring Plan as required by the Stage 2 Disinfectants and Disinfection Byproducts Rule. Forms and templates were updated as a result of new rules. Changes in CCR requirements based on the new rules were communicated through CCR reminder letters sent to CWS each spring.

New training opportunities are needed for NCWS operators of systems that do not treat. To meet that need the NCWS program staff developed the *Level 5 Certified Drinking Water Operator Guidance Manual* as a tool for persons preparing to take the certification examination as well as existing operators who need guidance. As mentioned in the 2009 Operator Certification and ERG Annual Report, dated September 10, 2009, submitted to the USEPA, WB staff will increase available training in FY 2010 geared towards small system and NTNCWS certified operators to offset the reduction in training opportunities due to the expiration of the ERG training provider contracts.

5.2 Capture Sanitary Survey Data

With the Interim Enhanced Surface Water Treatment Rule, the WB integrated the required eight elements into the definition of sanitary survey applicable to all water supplies. Currently sanitary survey data is captured on individual Excel spreadsheets for each CWS. As the new federal rules are implemented, especially the GWR, it could benefit the program to be able to query sanitary survey information. The WB program staff is investigating options to capture this data in another format. In the near term, WB program staff is working to move basic sanitary survey tracking to the SDWIS/State. This basic information will include the sanitary survey date, rating of the eight required elements, significant deficiency tracking, etc.

5.3 Update Nonfederal Provisions of the Administrative Rules

The amendments to the administrative rules adopting the new federal rules are expected to be promulgated in early 2010. This rule package provided an opportunity to update the nonfederal provisions of the administrative rules intended to achieve the following:

- Improve capacity in very small systems and in licensed facilities: There have been some significant program changes and increased concerns based on experiences dealing with small systems and with licensed facilities, such as manufactured housing communities and nursing homes. The WB believes these facilities should provide the same level of health protection for their customers, be prepared to respond to emergencies, and provide routine maintenance to the same level as other similar water systems. As a result, the new provisions will remove exceptions that currently apply to licensed facilities and to water systems serving fewer than 50 connections or 200 people, such as cross connection control program, distribution and raw water pumping capacity, standby power, general plans, private ownership provisions, and contingency plans. Prior to the stakeholder meeting in early 2008, the proposed provision would require standby power in all CWS. However, attendees believed providing standby power was financially too burdensome on small systems. In response to that concern, the provision was amended to require standby power in all CWS that serve 100 or more living units. Systems that exist on the effective date of the rule will have until 2016 to comply with most of these small system provisions, while new systems will need to comply right away.

- Provide oversight to NCWS that treat to improve aesthetics: Currently, systems that employ treatment for the purpose of public health protection must obtain a construction permit, obtain a certified operator, and later submit an MOR, while those that treat for aesthetic purposes may bypass these requirements. Injecting chlorine for the purpose of improving aesthetics may affect public health and should receive the same oversight as those systems injecting for the purpose of health protection. The new provisions will require systems that wish to treat for any purpose to meet the same requirements.

- Diversify the type of operator training received and update operator certification rules: It was recommended that the upper level certified operators be required to attend courses for continuing education credit that are technically and/or managerially related to the operation, maintenance, or management of a public water system. The new provisions will require a minimum number of training hours in each category during a training cycle. The remainder number of required hours can be earned in any category. The proposed rules will also clarify that revocation of the operator license may result in cases of falsification of an examination, impersonation of an individual, or misrepresentation or falsification of a training certificate or report.

- Enhance planning: In addition to removing exceptions for small systems and for licensed facilities, the amended rules expand the general plan, reliability study, and contingency plan requirements. A general plan is a layout of the waterworks system and identifies areas of low pressure. Under the new provisions, a CWS with a distribution system intended for fire protection must include an inventory of water mains, a hydraulic analysis, and maps showing existing and future service

area boundaries. Additionally, publicly owned systems must include a capital improvements plan identifying needs for 5- and 20-year planning periods. The reliability study, currently required of all CWS, is expanding to include production and consumption data to identify trends for the same planning periods as general plans, water purchased from and supplied to other water systems, usage for each customer class, and a water shortage response plan for emergencies. Finally, the contingency plan is expanding to incorporate elements of the ERP, already required for water systems serving fewer than 3,300 people under the Bioterrorism Act. The ERP will include actions, procedures, and an identification of equipment that can significantly lessen the impact of emergency situations. It is hoped CWS will consider mutual aid agreements with other water systems, safety measures, and water sampling and monitoring plans to identify potential public health threats. Preparing to comply with these enhanced planning provisions are hoped to emphasize the importance of asset management.

- Provide a grant program for surface water systems: To expand the source water protection efforts to surface water systems, the amended rules provide for a surface water intake protection grant program, modeled after the existing WHPP, to disperse money available through the DWRF set-aside under assistance to state drinking water programs of Section 1452g(2) of the SDWA.

- Enhance technical capacity: Some other changes might be considered minor but it is hoped the changes will make a significant difference in certain water systems. For example, the rules are clarifying that both a raw water and a finished water tap must be available for sampling; before bringing infrastructure back into service following installation or repairs, 2 samples taken 24 hours apart must be collected and the result must indicate total coliform is not present; and adequate pressure is defined as 35 pounds per square inch (psi) under normal circumstances and 20 psi during emergencies such as fire fighting.

The rules are expected to be promulgated in early 2010. In preparation to help systems comply with these provisions, WB staff has used every opportunity to inform water systems; during site visits, in sanitary survey letters, and in training sessions and conferences.

5.4 Encourage Asset Management

As the infrastructure gap continues, field staff is stressing asset management concepts during interactions with CWS and their local decision makers. During on-site visits, technical assistance conversations, and in sanitary survey letters are the typical venues used to impart asset management concepts onto utility personnel and local officials. Good water system operation and management cannot be mandated, though the WB hopes the enhanced planning provisions of the administrative rules will shift the culture of water system management from reactive to proactive. A framework of planning provisions has existed in Michigan's administrative rules for decades. Incremental enhancements to that framework are being made within current protocols and traditions. In other words, no significant change is made to the way the WB conducts business; sanitary surveys to assess condition followed by technical assistance to achieve compliance. However, the items with which water systems must comply is changing slightly: enhanced planning provisions. The WB is optimistic that these incremental changes will foster better water system management.

6 Review Existing Systems Program 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. The WB began revising the sanitary survey policy in FY 2008, continued in FY 2009, and is expected to become effective in FY 2010. This process is being driven by the federal GWR and the requirement to identify and pursue resolution of significant deficiencies, but a policy will apply to all CWS and NCWS. To maintain the flexibility granted to states in the GWR while striving for consistent implementation, the WB decided to formalize procedures for conducting sanitary surveys and establish criteria for identifying and resolving significant deficiencies at all CWS and NCWS. These procedures and criteria have the potential to have a profound impact on CWS and NCWS and should involve stakeholders. To that end, the WB held two meetings to obtain input from representatives of all types of CWS and NCWS on policy development. The MDEQ is finalizing two policies. The sanitary survey policy will set criteria by which staff can decrease or increase sanitary survey frequencies. The significant deficiencies policy sets criteria to identify significant deficiencies and establishes procedures to resolve them.

Requests for financial assessments remained sluggish. Rather than continue the effort to increase the number of financial assessments, the WB will follow up with previously assessed water systems during routine on-site visits. The WB will return to the water system if needed to provide further financial assistance.

The unique sampling protocol under the Lead and Copper Rule usually results in quite a few inquiries from operators unsure which sites to sample. One field office suspected that water systems may not be using their original sampling pools (with the usual adjustments each year). To ensure each water system was prioritizing Tier 1, 2, and 3 sites and that they were not avoiding sites with low lead or copper results, the staff in that field office set up a spreadsheet for each water system in the district showing historical data of all sample sites and results. The field office can now help water systems to pick sites, especially when previously sampled sites become unavailable. Proper sample selection provides the best information for a water system to manage their corrosion control treatment.

7 Modify 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 and indicates which systems have appeared on an SNC list during those years. New systems appeared on an SNC list primarily due to a single failure to monitor as required in the initial monitoring period.

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. 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 CWS
FY 2007 through FY 2009

PWSID[1]	CWS Name	FY Active in SDWIS/State[2]	Date Active CWS	SNC[3]
MI0002291	FILLMORE TOWNSHIP	2009	10/30/08	
MI0062720	GOLDEN ORCHARDS	2009	08/04/09	
MI0000044	CEDAR HOLLOW CONDOMINIUMS	2008	04/17/08	
MI0002124	EMERY PINES	2008	11/29/07	
MI0003947	LONG LAKE VILLAGE SUB	2008	01/01/08	
MI0003966	LYNX GOLF VIEW	2008	08/14/08	
MI0004276	MERRILL, VILLAGE OF	2008	10/29/07	
MI0005268	PERE MARQUETTE TWP - WELLS	2008	09/05/08	
MI0005824	ROSEBUSH MANOR SENIOR LIVING COMMUNITY	2008	01/01/08	
MI0001643	COTTAGE COVE ON ELK LAKE	2007	04/02/07	
MI0004404	MILLS TOWNSHIP	2007	05/01/07	
MI0005573	OAKLAND HUNT SUB	2007	03/29/07	
MI0005925	SANILAC TOWNSHIP	2007	07/01/07	
MI0006631	MILL STREET 1 LDHA	2007	04/30/07	Yes
MI0007217	WYNSTONE SUB	2007	03/29/07	
MI0060505	CREEK VIEW LODGES	2007	08/28/07	

[1] Public Water System Identification Number
[2] Safe Drinking Water Information System/State
[3] Noted CWS on an SNC list in the years covered by this report.

FY	New CWS	SNC
2009	2	0
2008	7	0
2007	7	1
Total	**16**	**1**

New NTNCWS
FY 2007 through FY 2009

PWSID[1]	NTNCWS Name	FY Active in WaterTrack[2]	Date Active NTNCWS	SNC[3]
MI2120212	CEDAR HILL FAMILY MEDICINE	2009	8/12/09	
MI2521602	GOODRICH PLAZA	2009	04/24/09	
MI3020302	BIRD LAKE BIBLE SCHOOL [4]	2009	10/21/08	
MI3320202	DART CONTAINER III	2009	09/03/09	
MI3820830	M.D.O.T. SERVICE CENTER	2009	02/10/09	
MI4120946	MEIJER #248 SOLON TWP	2009	04/10/09	
MI4520263	NORTHPORT POINT	2009	10/22/08	
MI4720097	FACE PROPERTIES LLC	2009	10/29/08	
MI4720346	OLD 23 COMMERCE CENTER	2009	02/11/09	
MI4720440	20TH CENTURY BUILDING COMPANY	2009	10/16/08	
MI4720465	20TH CENTURY BUILDING COMPANY	2009	10/17/08	
MI4720636	FOR KID'S SAKE EARLY LEARNING CENTER/ ECONO P	2009	09/24/09	
MI4720781	20TH CENTURY BUILDING COMPANY	2009	10/17/08	
MI4720899	DR. MIKA'S MEDICAL OFFICES	2009	10/23/08	
MI5620085	KIDS TIME	2009	01/07/09	
MI6322874	OAKWOOD ELEMENTARY	2009	08/19/09	
MI6520304	WBRC SCHOOLS - KIRTLAND BUILDING	2009	08/26/09	
MI6720166	WHITE PINE SPRING	2009	04/03/09	
MI6720192	MUSKEGON RIVER YOUTH HOME S.O.	2009	03/03/09	
MI7520302	FRESH SOLUTION FARMS, LLC	2009	10/21/08	
MI0320650	SEBRIGHT PRODUCTS, INC.	2008	09/04/08	
MI0820404	APPLETREE CHRISTIAN LEARNING CENTER	2008	02/08/08	
MI1820268	MID MICHIGAN COMMUNITY ACTION AGENCY [4]	2008	01/11/08	
MI1820276	NEMCSA DAY CARE	2008	08/28/08	
MI1920612	SUMMIT CHRISTIAN ACADEMY	2008	10/02/07	
MI2521601	GENOVA PRODUCTS	2008	09/29/08	
MI2620440	LYLE INDUSTRIES INC	2008	04/15/08	Yes
MI2920616	GOOD SHEPHERD CHURCH	2008	11/06/07	
MI3420266	MENARD'S INC.	2008	01/08/08	
MI3420268	PORTLAND FEDERAL CREDIT UNION	2008	05/02/08	
MI3420269	RIDGE KING	2008	01/05/08	Yes
MI3820825	SIS'S IMAGINATION STATION	2008	10/31/07	
MI4120941	SONSHINE CORNER LEARNING CENTER	2008	06/16/08	
MI4620655	BIRTH, TODDLER AND BEYOND #2 [4]	2008	01/08/08	
MI4720655	HARTLAND COMMERCE CENTER	2008	12/10/07	
MI4720908	GARDEN GATE MONTESSORI [4]	2008	09/15/08	
MI4720914	ABED PROFESSIONAL BUILDING	2008	02/26/08	
MI4720916	TMA ONE - EAGLE ONE	2008	02/29/08	
MI4720919	EXCELDA MANUFACTURING	2008	05/23/08	

PWSID[1]	NTNCWS Name	FY Active in WaterTrack[2]	Date Active NTNCWS	SNC[3]
MI4720925	DOWN ON THE FARM LEARNING CENTER	2008	08/26/08	
MI5420415	HUNTEY CLUBHOUSE	2008	08/06/08	Yes
MI6322855	HIGHLAND STATION	2008	10/10/07	
MI6322867	LAFONTAINE AUTOMOTIVE	2008	05/29/08	Yes
MI6322868	HEATHER HIGHLANDS	2008	04/15/08	
MI6820206	AMI INDUSTRIES	2008	10/15/07	
MI8120581	CHILDREN'S CREATIVE LEARNING CENTER, DBA	2008	01/22/08	
MI8320296	MDOT	2008	08/25/08	Yes
MI0320643	O SHAW WAW NO PLAZA	2007	12/29/06	
MI0520146	ARMOR EXPRESS	2007	12/19/06	
MI2020006	AVITA ARTESIAN WATER	2007	07/25/07	Yes
MI2320293	NORTHERN CONCRETE PIPE, INC.	2007	11/27/06	Yes
MI2320294	POLLY PRODUCTS, LLC	2007	11/15/06	Yes
MI3720189	HAPPY ENDING ICE CREAM PLAZA	2007	09/18/07	
MI3820823	EARLY IMPRESSIONS	2007	04/18/07	
MI4620651	ST. JOHN'S LUTHERAN CHURCH	2007	04/05/07	
MI4720893	LORD OF LIFE CHURCH	2007	12/13/06	
MI5320208	NORON COMPOSITE TECHNOLOGIES	2007	01/08/07	Yes
MI5320210	AMP TECH	2007	01/09/07	Yes
MI5420401	MORLEY ALTERNATIVE SCHOOL BUILDING	2007	02/13/07	Yes
MI5920611	EIGHT CAP ANNEX	2007	03/06/07	
MI6220291	WHITE CLOUD SPRING WATER	2007	09/13/07	Yes
MI6322863	CONTINENTAL ALUMINUM	2007	09/06/07	
MI6920233	GRACE BAPTIST COLLEGE #2	2007	07/19/07	Yes
MI7220437	LAKESIDE CLINIC	2007	02/26/07	
MI7820379	OWOSSO TWP. WATER	2007	07/24/07	
MI7820380	PFEIFLE BUILDING	2007	07/31/07	
MI8120573	CASSIDY LAKE SAI	2007	11/02/06	
MI8120582	DOROTHY'S DISCOVERY CAYCARE	2007	08/07/07	

[1] Public Water System Identification Number
[2] WaterTrack is the database of the NCWS, from which SDWIS/Federal is populated.
[3] Noted NTNCWS on an SNC list in the years covered by this report.
[4] This system was previously reported in an earlier FY. We believe it was still proposed at that time.

FY	New NTNCWS	SNC
2009	20	0
2008	27	5
2007	21	8
Total	**68**	**13**

Appendix B: Outline of a Typical Financial Assessment and Financial Action Plan

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: Supply usually does not provide all the information requested.

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.

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.