

*Note: Starting in Federal Fiscal Year 2011, EPA Administration made a change in the Self-Assessment reporting. The MPCA only needs to report on all joint priorities within the Performance Partnership Agreement (PPA) annually and the whole PPA doesn't require annual update. This helps streamline the process as the PPA does not need to be re-signed every year within the four year agreement timeframe (MPCA still reports on all PPG or Performance Partnership Grant work plan commitments annually but separately).*

## **FFY 2012 Self-Assessment**

(FFY 2012 Report in red text, EPA response in shaded yellow)

### ***Air Toxics Program Development***

October 1, 2008 – September 30, 2012

#### **Objective:**

MPCA and EPA Region 5 staffs propose to collaborate, develop and implement a program to address sources of air pollutant emissions. This joint priority proposal is directed at improving the EPA and the MPCA's ability to identify potential areas of concern with respect to air toxic pollutants and seek mitigation as necessary and appropriate to protect the state environment.

EPA Region 5 and the MPCA staff will continue to collaborate on the statewide cumulative risk assessment screening tool and in developing a systematic statewide air toxics program.

MPCA Contact: Frank Kohlasch  
EPA Region 5 Contact: Jacqueline Nwia

In the upcoming years (2009-2012), we propose to initiate the next phase of this effort and continue the joint priority of previous PPAs in developing a systematic statewide air toxics program. Previous phases focused on the initial development of Minnesota Risk Screening (MnRiskS) tool and EPA staff peer review of the tool. This software tool estimates combined health risks from air emissions of multiple contaminants from multiple sources and through multiple exposure pathways.

MPCA staffs have recently updated the strategic plan for the agency. One of the goals is that outdoor air quality will meet environmental and human health benchmarks for toxic and other air pollutants. The updated objective for this goal is:

The MPCA will target reductions in statewide risk from air toxics by:

- Calculating cancer and non-cancer risks in statewide ambient air using modeling and ambient monitoring by July 1, 2009.
- Identifying the pollutants that largely contribute to cancer and non-cancer risk by July 1, 2009.
- Developing strategies to reduce emissions and concentrations of these risk drivers by July 1, 2010.

MnRiskS will be used to develop our statewide air toxic program and meet these objectives.

We have recently (Summer 2008) accepted the production version of the software after updating and validating the input data (e.g., emissions, toxicity values, chemical and physical parameters important for fate and transport) and completing a series of acceptance tests. MPCA staff currently are familiarizing themselves with all aspects of MnRiskS and completing a series of validation and comparison tests of the results. We anticipate that a more comprehensive discussion of respective responsibilities for MPCA and EPA Region 5 staff will be constructive in the 2<sup>nd</sup> quarter of 2009.

**FFY 2009 Report:**

Updates for future years' actions were agreed to at the July 2009 meeting with EPA Region 5 Air Program. These are:

MPCA actions:

1. Complete first phase of validation and comparison tests and initial results (2002 emissions and ISC):
  - Compare monitoring and modeled values (air concentrations, available fish tissue data).
  - Compare calculated results of past studies with calculated results from MnRiskS.
  - Document findings, strengths and weaknesses.
2. Develop and implement a communication plan
3. Update MnRiskS with processed 2005 emissions and AERMOD
4. Continue extraction, evaluation and validation of database
5. Apply MnRiskS to issue specific questions
6. Develop framework to develop and implement strategies to reduce impact of Pollutants.
  - How and when to engage stakeholders.
  - How to better communicate risk issues.
  - Options for permitting facilities in areas with high background risks.

EPA Region 5 actions (from the previous PPA and from July conversation):

1. Provide accreditation and concurrence regarding validity on the use of MnRiskS.
2. Provide information about Community Action for a Renewed Environment (CARE) program and experiences working with groups in other states, i.e., the Detroit program.
3. Provide information on how other states in the nation address air toxics from all types of sources.
4. Provide assistance as needed.
5. Facilitate discussions with EPA Headquarters, other offices and regions on identified issues.
6. Provide assistance in interpreting MnRiskS results and in scoping statewide air toxics program options.

**Results:**

MPCA staff have completed the first phase of validation and comparison tests of the initial MnRiskS tool - this version used 2002 emissions and the ISC model to disperse pollutants. The results have been summarized in a report that has been accepted for presentation at annual conference of the International Society of Exposure Science. The results of this version have been shared internally and with EPA Reg. 5. The results from MnRiskS are also used (in concert with our monitoring results) to inform our strategic objectives - calculation of cancer and non-cancer risks and identification of pollutants that largely contribute to these risks. Pollutants identified in August 2009 are acrolein, diesel PM, dioxins/furans, PAHs, formaldehyde and PM<sub>2.5</sub>.

We have also initiated processing of 2005 emissions for the next version of MnRiskS that will use AERMOD to disperse pollutants.

### **FFY 2010 Report:**

#### **Improvements and Maintenance of MNRiskS (Action 3 and 4)**

MPCA has contracted with Lakes Environmental to assist in a new version of MNRiskS that will incorporate improvements and enhancements:

- 2005 emissions using AERMOD to disperse emissions
- improved spatial resolution of emissions from on road sources
- improved risk receptor coverage in areas with few point sources
- ability to group subcategory information and results from area and mobile sources
- user enhancements in querying

Status: in progress. MPCA anticipates receipt of next version in winter 2011 and will evaluate and validate this version. Lessons learned from this update will be used to prepare for updating with 2008 emissions.

#### **Communication (Action 2)**

The MPCA staff have provided overviews and electronic tours of MNRiskS to parties to internal and external interested parties. External include:

- Minnesota Environmental Initiative representative
- Minnesota Center for Environmental Advocacy representatives
- EPA Region 5 staff
- Clean Air Minnesota members

#### **Using data from MNRiskS (Actions 5 and 6)**

Recent uses of MNRiskS:

- MNRiskS is part of dataset to inform cumulative levels and effects in permitting arena. This aids in implementing a statutory change in MPCA authority on considerations for air permitting in a region of Hennepin County.
- Providing context for environmental review of specific projects.
- Data from MNRiskS was used to inform the Air Pollution Reduction Strategy – Phase 1 Technical Team.

#### **Continuing actions:**

The MPCA staff will continue actions 2-6 listed above under FFY 2009 Report.

### **FFY 2011 Report (October 1, 2010 to September 30, 2011):**

**Improvements and Maintenance of MNRiskS (Action 3 and 4):** Completion of the contract to improve and update to MNRiskS2005 occurred. The MPCA purchased a server to house MNRiskS 2005 and to enable multiple users of the data and tool. Internal training has been provided to section staff on accessing and use.

**Communication (Action 2):** the MPCA staff have provided overviews and electronic tours of MNRiskS to parties to internal and external interested parties. External include:

- Clean Air Minnesota –October 2010
- Minnesota Chamber of Commerce – December 2010
- EPA Clean Diesel webinar - September 2011

A scientific article presenting method used to validate MNRiskS with our monitoring data was published in the Journal of Risk Analysis. Title of the article is "Validation of a Novel Air Toxic Risk Model with Air Monitoring," authors are Greg P, Mary D, Kristie D and Jesse The. (Electronic version June 2011.)

### Using data from MNRiskS (Actions 5 and 6)

#### Recent uses of MNRiskS:

- MNRiskS is part of dataset to inform cumulative levels and effects in permitting arena. This aids in implementing a statutory change in MPCA authority on considerations for air permitting in a region of Hennepin County. (Met Transit permit was issued in August 2011; the MPCA recently received an application for another project in this geographic area.
- Providing context for environmental review of specific projects and to inform the MPCA Improving Ambient Air focus area – defining source categories (generally non-point) to focus on in the non regulatory arena to develop strategies with others for the reduction of impacts.
- Data was used to help inform a successful response to an EPA grant proposal on Community Scale Air Toxics Ambient Monitoring (May 2011) - “Calibrating Concern About PAHs (Polycyclic Aromatic Hydrocarbons) in Urban Air Using Monitoring and Modeling” the MPCA staff was recently informed that the award would soon be forthcoming.

#### Continuing actions:

The MPCA staff will continue actions 2-6 listed above.

#### **EPA RESPONSE:**

The MPCA should be recognized for continuing to improve MNRiskS and integrating the results into their programs despite decreasing budgets. Region 5 is particularly looking forward to learning more about the MPCA’s Improving Ambient Air focus area effort. In addition, the MPCA staff have been exceedingly responsive in working with us to work through the 2005 NATA facility list.

#### **FFY 2012 Report:**

MNRiskS is an operational tool for the MPCA; we continue to use to provide context and information when facility specific AERAs are being conducted, for cumulative levels and effects analysis in the South Minneapolis area and to provide information about relative impacts from different types of sources (point, area, mobile) and specific source categories and pollutants.

We have begun work to update the MNRiskS database and tool with the 2008 emission inventory including processing emissions and source categories (e.g. preferred methods to represent highly trafficked roads, apportion specific types of area sources), updating toxicity data and census data. This work is scheduled to be complete June 30, 2013.

The MPCA staff are also investigating the use of MNRiskS to develop background concentrations for use in facility dispersion modeling. We are in communication with Region 5 Modeling staff.

#### **Additional information:**

For more information on the Air Toxic Joint Priority, contact:

At MPCA, Frank Kohlasch at 651-757-2500 or [frank.kohlasch@state.mn.us](mailto:frank.kohlasch@state.mn.us); or Shelley Burman at 651-757-2255 or [shelley.burman@state.mn.us](mailto:shelley.burman@state.mn.us);

At EPA Region 5, Jacqueline Nwia at 312-886-6081 or [nwia.jacqueline@epa.gov](mailto:nwia.jacqueline@epa.gov).

# *Impaired Waters*

October 1, 2008 – September 30, 2012

## Statement of Environmental Problem/Issue:

Based on the Minnesota's **inventory of all impaired waters, there are now 3,638 impaired lakes and stream segments, which includes 2,171 impairments that require TMDLs.** Minnesota is committed to using the impaired waters approach to restore waterbodies to meeting their designated uses, while at the same time maintaining those waters that are meeting designated uses.

The MPCA will continue to work on its impaired waters approach with stakeholders through the Clean Water Council (see program development section below), with other state agencies through the Clean Water Fund Interagency Coordination Team and its subteams, and while working with Region 5 to meet the commitments set out in 303(d) of the Clean Water Act. This revision of the joint priority addresses these mutual efforts over the next four years.

This joint priority is broken into three components: **Program Development, Total Maximum Daily Load Studies (TMDLs), and Implementation.** Assessment and impaired waters listing activities are addressed in the Monitoring and Assessment shared priority section of this report.

**MPCA Strategy:** Restore the chemical, physical and biological integrity of Minnesota lakes, streams, and wetlands that do not support designated uses.

**EPA Strategy:** Improve water quality conditions in impaired watersheds and restore impaired waterbodies to achieve designated uses.

## Program Development Priorities:

The MPCA's program development activities are driven in large part by Minnesota's Clean Water Legacy Act (CWLA). Signed into law on June 2, 2006, the purpose of the law is "to provide authority, direction and resources to protect and restore the state's surface waters, as required by section 303(d) of the federal Clean Water Act." (MN statutes, chapter 114D). The law led to one-time appropriations in each of the past two biennia (\$24.95 million in FY 2007 and \$54 million in FY2008-09).

**In 2008, long term funding to implement CWLA was approved by the voters of Minnesota through approval of the "Clean Water, Land and Legacy Amendment to the Constitution" which constitutionally dedicates a portion of state sales tax receipts to clean water and other programs for a period of 25 years. Revenue from the Legacy Amendment is appropriated by the Minnesota Legislature through a new "Clean Water Fund."**

**Appropriations from the Clean Water Fund for water quality programs were \$151 million for FY2010-2011 and \$183 million for FY2012-2013 and included the following activities:**

- Accelerate assessment of Minnesota's waters with a goal of comprehensive assessment of the state every 10 years.
- Develop TMDLs with an emphasis on 3<sup>rd</sup> party projects led by local government and other local agencies.

- Provide grants to implement TMDLs and protection activities through existing state and local programs designed to improve water quality.

MPCA Program Development Priorities for FFY 2009-2012:

**1. Administer Clean Water Council**

The CWLA created a governor-appointed Clean Water Council, a 23-member citizen/state agency advisory group which advises on the administration and implementation of the Clean Water Legacy Act, including making recommendations to the Governor on the appropriation of funds, and to the MPCA on the prioritization of TMDLs and other program/policy development issues. The inaugural meeting of the Council was held in March 2007.

The MPCA will continue to provide administrative and policy support for the Council and its Work Groups, including meeting planning and follow-up, maintenance of Council's website, report writing and processing, guidance on policy and program budgets, and special projects. **The Council is required to provide biennial reports to the Legislature and the Governor and include budget recommendations for the Clean Water Fund through these reports. The reports provide a good summary of the MPCA's program activities. Here are links to the current reports:**

**2008 Biennial Report to the Legislature (with progress from FFY 2008 and 2009):**

<http://www.pca.state.mn.us/index.php/view-document.html?gid=6125>

[http://search.pca.state.mn.us/query.html?charset=iso-8859-](http://search.pca.state.mn.us/query.html?charset=iso-8859-1&style=joomsearch1&col=newsiteandqt=December+2008+Clean+Water+Council+biennial+report)

[1andstyle=joomsearch1andcol=newsiteandqt=December+2008+Clean+Water+Council+biennial+report.](http://search.pca.state.mn.us/query.html?charset=iso-8859-1&style=joomsearch1&col=newsiteandqt=December+2008+Clean+Water+Council+biennial+report)

**2010 Biennial Report to the Legislature (with progress from FFY 2010 and 2011):**

<http://www.pca.state.mn.us/index.php/view-document.html?gid=14944>

**2012 Biennial Report to the Legislature (with progress from FFY 2012 and 2013):**

<http://www.pca.state.mn.us/index.php/view-document.html?gid=18792>

**2. Develop Statewide Watershed Approach to prioritize and integrate Monitoring and Assessment, TMDL, and Restoration and Protection Activities**

The CWLA called for the Clean Water Council to develop prioritization strategies for restoration and protection activities. Over the past four years, the MPCA designed and put this new Watershed Approach in place.

The goal of the Watershed Approach is to increase efficiency and predictability through a watershed management system that integrates monitoring and assessment, TMDL, and restoration and protection activities. **The planning process will ultimately result in a watershed plan that integrates both restoration and protection implementation activities, consistent with EPA's 9-element watershed planning approach.**

**This integrated Watershed Approach is being implemented with our state agency partners and local government partners. Over a 10-year cycle, the state will: 1) monitor and assess all major watershed (81 HUC8's), 2) develop watershed restoration and protection strategies (WRAPS), including TMDLs and protection plans for both surface water and ground water, targeting tools for conservation practices, source water protection, etc.; and 3) conduct implementation activities, ranging from nonpoint source grants/loans to local government to modification of NPDES permits and upgrades to wastewater and stormwater. The cycle will restart in 2018 with new condition monitoring.**

### **FFY 2009 Report:**

The MPCA is making good progress on integrating the watershed approach into its operations. Link to the Watershed Approach Fact Sheet Summary is posted at:

<http://www.pca.state.mn.us/index.php/water/water-types-and-programs/surface-water/basins-and-watersheds/watershed-approach.html>

Design and initial implementation of stressor identification monitoring, watershed modeling, implementation planning, and related activities continues. Pilot projects in the Cannon River and Buffalo River Watersheds are underway. Selection of state fiscal year 2010 and 2011 TMDL projects emphasized full watershed projects, moving more and more away from reach-by-reach TMDLs. Scheduling of the 2010 Impaired Waters list was done by grouping listings into full watershed projects as much as possible.

The Buffalo River Watershed Project is a pilot project for the development of a methodology to guide surface water quality management activities based on an 8-digit HUC. The project will encompass a wide range of activities and goals directed at the restoration of impaired waters and the protection of surface waters within the watershed where water quality conditions meet water quality standards. The local project sponsor is the Buffalo Red River Watershed District. End products of the project will include the assessment of all surface waters within the watershed, the implementation of a very extensive local stakeholder involvement/public participation process, the development and implementation of a stressor ID process, the development of a multi-parameter watershed-wide TMDL report, the development of a TMDL implementation and protection plan for appropriate areas throughout the entire watershed, and the linking of all these products into the watershed districts 10-year management plan. Phase 1 of the project was initiated in March of 2009 and runs through October of 2010. It is anticipated that the entire project will take 4 to 5 years to complete. Activities undertaken up to this point in time include: two years of surface water chemistry monitoring at 32 sites within the watershed; flow monitoring at 13 locations for 2 years; biotic monitoring at 13 sites (the MPCA's intensive monitoring program) for 1 year; the development of a civic engagement strategy geared towards maximizing the involvement of the watershed residents in the process; and, GIS activities. Two project kick off meetings were held in early summer to present and discuss the scope of the project with the local citizenry and the members selected for participation on the various local technical and advisory committees. The collection and review of relevant information (water quality data, local plans, and other relevant literature) has begun. Discussions have begun with technical advisory committee members, state agency staff, and the watershed district concerning what type of stressor identification process would be effective and timely given the size and the nature of the watershed.

A comprehensive Cannon Watershed Plan is being developed that will guide and coordinate implementation activities across political boundaries. The first step was completion of the Lower Cannon River turbidity TMDL implementation plan in October 2009 to ensure eligibility for restoration and protection funding. Currently the water planners from the multiple counties in the Cannon River Watershed are working together to create a unified vision of watershed management to share with stakeholders for comment.

### **FFY 2010 Report:**

The MPCA has modified its earlier thinking on the timetable of watershed efforts to compress the timeframe for TMDL completion. Rather than as stated above, "TMDL studies will begin 2-3 years following completion of assessment," TMDL study efforts, such as BASINS watershed modeling and stressor identification, will begin during assessment activities.

Watershed restoration (TMDL) and protection strategy development efforts are getting underway in several additional watersheds, beyond the Cannon and Buffalo Watersheds.

List of other Watershed restoration and protection strategy development efforts initiated (or planned) in federal FY 2010—October 2009 through September 2010:

**Initiated:**

LeSueur  
Pomme De Terre  
Chippewa  
Root River  
Elm Creek  
Ramsey-Washington Metro Watershed District

**Planned:**

Snake River  
Mississippi River Red Wing (Vermillion River)  
Missouri Basin  
Cedar/Shellrock Rivers (often called Greater Cedar Basin)  
Whitewater River  
Cannon River  
Thief River  
Mustinka River  
Red Lake River  
Sand Hill River

Several more watershed projects have been allocated funding and are getting underway in early federal fiscal year 2011.

**Cannon River One Water Project Update**

Local Partner is Cannon River Watershed Partnership (CRWP)

**FFY 2010 (October 2009 through September 2010):**

- October 14, 2009: Lower Cannon Implementation Plan was approved by MPCA (this is an implementation plan for a specific TMDL project, but it was wrapped into the One Water Pilot contract; the project area is the entire Cannon River watershed).
- The *Cannon River Watershed Strategy Document* Table of Content was completed (providing an outline of the document), and the local partner began work on the document body.
- The *Cannon River Trends Report* was drafted by Minnesota State University (subcontractor).
- CRWP and partners developed an approach for identifying priority management zones – the following tools were employed:
  - Stream Power Index Analysis: identifies where areas of low and high erosion are likely.
  - Compound Topographic Index: identifies areas of lesser and greater “wetness.”
  - Shoreland Land Use Mapping, including non-public waterways such as drainage ditches.



**FFY 2011 (October 2010 through September 2011):**

- MPCA and CRWP presented to all MPCA offices a Cannon River One Water Pilot overview/update on 10/14/10. The presentation was well received, and good questions/discussion followed.  
(Contract ends 6/30/11; the schedule for the remaining milestones is pasted below)
- December 2010: *Cannon River Trends Report* completed.
- January 2011: Watershed Summit
  - MPCA Watershed Approach Presented
  - Draft of Watershed Management Strategy
- January-May 2011:
  - Refine strategy based on feedback.
  - Determine PMZs with partners.
  - Present Cannon River Watershed Trends report to public around the watershed.
- June 2011: Watershed Management Strategy finished. Project ends.

**FFY 2010:**

Activities continued or initiated in 2010 included the development of a GIS based stressor ID process (including field reconnaissance and channel morphological assessment in select pilot sub-watersheds), water quality and flow monitoring, review and analysis of available 2009 data, completion of the literature review, the development of a stakeholder/public involvement process, the development of a communication plan, numerous internal project team meetings and development of the work plan for Phase II.

**FFY 2011:**

Proposed activities include the continuation of the stressor assessment process (including field reconnaissance and channel morphological assessments) for all sub-watersheds, further water quality and flow monitoring, data review and analysis, creation of the SWAT model for the watershed, beginning the development of flow and load durations curves, beginning creation of load and waste load allocations, continuing public involvement and stakeholder activities, the development of a lake classification system for critical lakes within the watershed, and beginning the development of a draft TMDL and watershed assessment for the watershed.

**FFY 2011 Report:**

Initiated:

Buffalo River  
Missouri Basin  
Mustinka River  
Thief River  
Red Lake River  
Sand Hill River  
St. Louis River  
Nemadji River  
Lake Superior South Watershed  
Little Fork River  
Big Fork River  
Snake River

Twin Cities Metro Chloride Management Plan  
Elm Creek  
Upper Mississippi River Bacteria  
Sunrise River  
Watershed Wide Stormwater Approach Pilot Project

Planned:

Minnesota River – Granite Falls (a.k.a. – Hawk Creek/Yellow Medicine River)  
Vermillion River  
Grass Lake  
Pioneer –Sara Creek  
Lower Mississippi River  
Pool 2 PFOS TMDL- Mississippi River  
Upper Red  
Lower Red

Update: On Watershed restoration and protection strategy efforts for the Cannon River completed in 2011.

In partnership with the Minnesota Pollution Control Agency (MPCA) and many local partners, the Cannon River Watershed Partnership (CRWP) developed the *Cannon River Watershed Management Strategy*. This work brings together existing information regarding the watershed's many lakes and rivers; it also reflects the various plans and priorities of local government units and state agencies to create an overarching strategy for the entire watershed. It was submitted to the MPCA on June 30, 2011.

To assist in developing the watershed strategy, CRWP developed additional resources that will be useful to citizens and watershed professionals. [Signs of Progress: the Status of the Cannon and Straight Rivers](#) highlights water quality trends and other signs of progress across the Cannon River watershed in a style that's easily understandable. The [Cannon River Watershed Library](#) is a central information hub for citizens and professionals; it provides easy access to the body of knowledge that pertains to the Cannon River Watershed. The library is organized by the four lobes of the Cannon River Watershed: Upper Cannon River, Straight River, Middle Cannon River, and Lower Cannon River.

This project will be helpful to CRWP and partners in providing focus for watershed management efforts. CRWP plans to use the actions identified in the Watershed Strategy as a guide for our work and we hope that our local partners will do the same.

**Products**

Cannon River Watershed Strategy (<http://crwp.net/about/watershed-strategy/>)  
Signs of Progress: The State of the Cannon and Straight Rivers ([http://crwp.dreamhosters.com/wp-content/uploads/2013/04/Signs-of-Progress\\_web.pdf](http://crwp.dreamhosters.com/wp-content/uploads/2013/04/Signs-of-Progress_web.pdf))  
Cannon River Watershed Statistical Water Quality Trends Analysis  
Lower Cannon River Turbidity TMDL Implementation Plan  
Terrain Analysis Maps of Maple Creek Watershed  
Watershed Library (<http://crwp.net/library/>)

**Update: On Watershed restoration and protection efforts for the Buffalo River Watershed Project completed in 2011 and proposed for 2012.**

Phase 1 of the project was completed about 6 months ago. That included a data gap analysis, monitoring, flow monitoring, data analysis, the development of a desk top analysis using LIDAR, and a stream power index estimator. Other activities include an extensive literature search and the beginning development of a WQ conditions reports and the institution of a survey and other related civic engagement activities.

To date, Phase 2 tasks that have been addressed are the completion of condition reports for lakes, rivers, and streams; geomorphic assessments and stressor assessments for select reaches; beginning the development of the HSPF model for the watershed; and, continued civic engagement activities. The 10X monitoring report by the agency should be completed by the end of March. More geomorphic information will be collected this spring.

**FFY 2012 Report:**

At the end of 2012, the MPCA is on pace to complete its Watershed Approach in all 81 major watersheds by the end of 2018. Currently:

- 52 percent of the state's HUC 8 major watersheds have been monitored; and
- 42 percent of major watersheds have Watershed Restoration and Protection Strategies (WRAPS) underway.
- All water-related state agencies and the Clean Water Council are working closely to continue the successful implementation of the Watershed Approach.

**3. Design and Implement an Effectiveness Tracking System**

The CWLA's implementation policies required agencies "to establish and report outcome-based performance measures that monitor the progress and effectiveness of protection and restoration." (114D.20, subd. 3(7))

Since December 2007, the MPCA has been working with state, federal and local partners, including EPA, on a process to develop an effectiveness measurement framework. The initial phase of this project concluded in the fall of 2008 and resulted in the design of a framework that will describe progress at different scale and time periods. **The MPCA participated in a similar effort sponsored by the State of Indiana in early FFY 09, and participated in a pilot program with EPA.**

EPA Region 5 also assisted the MPCA with a consultant, TetraTech, to help the MPCA and its other state agency partners design and report on measures.

EPA intends to use this process as a model for other pilot states interested in tracking program effectiveness. This effort will involve significant resources from EPA WWB. However, this project will provide a benefit to other Region V states and to EPA, in terms of being able to better report program success and manage monitoring, planning and restoration resources.

**FFY 2009 Report:**

MPCA is participating in the EPA effectiveness measures project, and participated in the State of Indiana effort. The MPCA continues to work with the Clean Water Council on development of effectiveness measures. Also, MPCA put out an RFP using "Stimulus" funds for assistance with enhancing Minnesota's ability to measure and communicate the results of TMDL development and watershed planning efforts.

### **FFY 2010 Report:**

The MPCA is working on watershed measures as a part of EPA's Region 5 pilot project and in response to the Clean Water Land and Legacy Amendment that passed in Minnesota. The work goes beyond EPA direction to include surface water, groundwater and drinking water. A framework has been created and populated with measures. Data on each measure is being gathered and testing various measures is underway. Much more work needs to be done, but a progress report on work to date will be available in early 2011.

The Clean Water Fund Interagency Coordination Team Measures and Outcomes Subteam, using information from these and other measures development processes, began developing specific measures and measures metadata. These will be finalized by mid-FFY 2011.

### **FFY 2011 Report:**

In FFY 2011, the MPCA received assistance on performance measure development from EPA who contracted with Tetra Tech (Cleveland office). Tetra Tech worked the MPCA and its sister state agencies to develop and publish the report, "Minnesota's Clean Water Tracking Framework" which was published in May 2011 (<http://www.pca.state.mn.us/index.php/view-document.html?gid=15911>).

This report outlines a multi-agency approach to evaluating the impact of Clean Water Legacy Amendment dollars (approximately \$90 million per year generated from a constitutionally-dedicated percentage of the sales tax) that are appropriated by Minnesota's Legislature to both surface water and drinking water programs. The Framework includes 36 performance measures related to financial inputs, process outputs, and environmental outcomes.

The first performance report on a subset of the 36 measures will be submitted to the Minnesota Legislature in early 2012.

In addition, the MPCA participated on a state work group initiated by EPA headquarters and the Association of Clean Water Administrators (formerly known as ASWIPCA) to develop performance measures to track incremental progress. Measures were drafted for EPA Office of Water's FY 2012 Draft National Water Program Guidance.

### **FFY 2012 Report:**

In February 2012, the MPCA and its team of seven other state agencies published the first report of the Tracking Framework. The report, "Clean Water Fund Performance Report," reported on the top 18 of the 36 measures in the Tracking Framework that were determined to be the most relevant to the Legislature and the public. This was designed to help the reader understand Clean Water Funds invested, actions taken and outcomes achieved for FY10-11, the first biennium of that funds were received. The report included:

- A Report Card on the measures, with "at a glance" symbols indicating the status and trends of each measure.
- The report included 4 investment measures, 8 surface water measures, and 6 drinking water measures.
- Each measure had easy to understand graphics and summaries of why the measure is important, what we are doing in terms of activities related to the measure, and what progress has been made.

- Metadata worksheets were also completed on each of the 18 measures in the report. These included definitions of terms associated with the measure, the measure's baseline and target, supporting data, methodology for gathering the data, a communication plan for the measure, and other information.

The report will be updated every two years and the next report will be released in 2014. For the team's innovative work, it was recently honored with the Governor's Award for Continuous Improvement.

More information on the 2012 report can be found at:

<http://www.pca.state.mn.us/index.php/water/water-types-and-programs/surface-water/clean-water-fund/new-report-on-clean-water-fund-spending.html>

#### **4. Develop a Watershed Data Integration System**

To help track and report on effectiveness measures, among many other management needs, the MPCA is developing an information management system for elements of its watershed programs including: assessment and monitoring; administrative and financial; geospatial data and information; and TMDL development and implementation and protection efforts. When fully implemented over the next four years, the system will integrate and enhance existing and new databases, and connect them through an information portal. A business object model was completed for the project in 2007 and the initial design of system requirements will be completed by the end of FFY 09. Further design and development will be conducted in FFY 09 and FFY 10 before the system is fully operational, but some important elements of the system will be completed as early as FFY10, with the full system completed by the end of FFY 11. EPA will be looking for potential transferability of what is accomplished here to other states.

##### **FFY 2009 Report:**

Business and system requirements were identified, and a report including the requirements and a plan for development of the full system was completed in FFY 09. A contracts database selection project is underway in early FFY 10 with the Minnesota Management and Budget Office. Two other components of the overall system will begin development in FFY 10 - the "GIS" component and the "managing waterbodies" component. Another component, "workload management" has been deferred as a stand-alone project, and may be incorporated into an agency-wide project in the future.

##### **FFY 2010 Report:**

While the original projection stated above was that "some important elements of the system will be completed as early as FFY 10, with the full system completed by the end of FFY 11," this timeline was overly optimistic. While high-level design work was completed in FFY 10, elements of the system will not be built and implemented until FFY 11. Full implementation will not occur until FFY 13. A legislative report on progress to date is found at:

<http://www.pca.state.mn.us/index.php/about-mpca/legislative-resources/legislative-reports/index.html#2010>

##### **FFY 2011 Report:**

The Watershed Data Integration Program (WDIP) Phase 3 aims to enable the PCA to comply with federal requirements to identify all Total Maximum Daily Load (TMDL)-impaired water in Minnesota and reduce pollutants to at least TDML levels as well as to define protective measures for all unimpaired waters. WDIP will also improve data systems to support access to and management of critical surface water data.

Minnesota has 81 watershed areas intensively monitored at a rate of 8 per year. Each watershed has and generates large volumes of data, and provisions for electronic handling and sharing of data have not kept pace with the surface water program's rapid maturation. The MPCA has 8 separate data systems which have few interconnections, additional data is stored in spreadsheets or text files and other government units that store data of importance to the assessment process. Generating reports and analysis of data is time consuming and manual, and the data is not easily accessible by the public.

The key benefit of executing this program is that it moves the MPCA closer toward its goals of improving public and internal access to the data associated with water quality protection and restoration. This program consolidates varied data sources, creates connections between and to data not being moved, and builds user-friendly web access tools for the public and for professionals.

- Create a master list of all of the Minnesota waterbodies with all the information each agency program desires about each waterbody (or the ability to readily link to the additional information).
- Enable all program areas to link to the master list of Minnesota waterbodies (e.g., watershed program, stormwater program, wastewater program, professional judgment team) to further provide a more comprehensive centralized information retrieval system.
- Provide access to the master list of the Minnesota watersheds and waterbodies on the web so that all citizens have easy access to this information.

#### **FFY 2012 Report:**

The Watershed Data Integration Program (WDIP) Phase 3 continued the important work of building a solid foundation to support a more effective and efficient water program data structure. WDIP works to streamline data capture, tracking and reporting, to ensure better transparency. Further, WDIP seeks to integrate water program data from many areas of the MPCA, as well as water-related data from other state agencies. Additional WDIP work will occur in 2013, and planning for 2014 and 2015 WDIP project work is currently underway. Here is a summary of 2012 accomplishments:

- Streamline Data Capture, Tracking and Reporting
  - § Interim Solution for TMDL / Allocation Data Capture
    - Built an interface to capture and store wasteload allocations in electronic formats for use by program staff
    - Project Boundary Capture, Submit, and Storage (GIS)
    - Designed spatial database and completed metadata
    - Developed data distribution plan
    - Created user guide for Watershed Project Managers, GIS Specialists, and GIS Database Administrators
  - § Project Management and Information Tracking
    - Reviewed, categorized and prioritized over 600 business functional requirements
    - Drafted a work plan for 2014/15 scoping and development based on the requirements
  - § Consolidated Assessment Data Management System
    - Conducted system modeling and initial development
  - § Database augmentation, clean-up and data population to support web site pages
  - § Data integrations with key systems and new data
    - Ensure Better Transparency
  - § MPCA Watershed Website Page Enhancements

- Re-designed and re-organized pages to add better navigation, search functions, and download capabilities
- Created new interactive maps and data-driven links to contacts, Watershed Management Organizations and MN Department of Natural Resource's LakeFinder
- cj Integrate with other areas of MPCA and other State Agencies
  - § Inter-agency portal
    - Prepared 6-agency inventory of water data sets, prioritized for portal inclusion
    - Drafted a survey for use with professional stakeholders and the general public
    - Refined a work plan for 2014/15 data portal scoping and development
  - § Multi-Agency Clean Water Fund Performance Measures
    - Captured documentation on how the information for each measure was previously compiled
    - Created inter-agency user guidance, process flows and standards framework

## 5. Special Joint Projects with EPA

In addition to the effectiveness measures project discussed in #3 above, the MPCA and the EPA are working together on several nationally recognized special projects, supported in part by EPA HQ funding. Projects include the Minnehaha Creek Watershed Stormwater TMDL effort to assess BMP effectiveness, and the Lake Pepin TMDL Implementation Plan Nutrient Reduction Strategy to reduce hypoxia problems in the Gulf of Mexico. Also, the MPCA has participated in EPA's national effort to develop guidance linking stormwater TMDLs and NPDES permits, which is due in early FFY 10. The MPCA will continue to need to work with EPA to resolve stormwater policy and permitting issues over the next four years.

### FFY 2009 Report:

Minnehaha Creek – Lake Hiawatha TMDL and Stormwater BMP Optimization Tool Development: This project is collaboration between MPCA, EPA and the Minnehaha Creek Watershed District. Work in FFY 09 focused only on the TMDL development. At this early stage partners are evaluating the available data and characterizing the watershed with respect to land use, hydrology and pollutant sources. The project held a kick-off meeting with stakeholders to present this information and discuss the plans for the project.

Lake Pepin Joint Special Project - Tetra-Tech is finalizing the documentation of candidate BMPs to evaluate in the SWAT modeling, having circulated it among Minnesota state agencies for comments. The University of Minnesota has begun to develop SWAT models calibrated to N, P and TSS in the Beauford Ditch and Seven Mile Creek Watershed.

The MPCA's construction and draft industrial stormwater permits link TMDLs and TMDL implementation plans to permit requirements. Likewise, the MPCA's draft Phase 1 MS4 permits contain language linking impaired waters and TMDLs to permit requirements. The MPCA has developed guidance and policy on writing TMDLs that link to stormwater permits.

### FFY 2010 Report

Lake Pepin Special Joint Project: The purpose of this project is to generate information for an implementation plan for the Lake Pepin watershed which will address nitrate nitrogen, a concern for Gulf of Mexico hypoxia, along with total suspended solids and phosphorus, which are pollutants being addressed in TMDLs for Mississippi River and Lake Pepin impairments. The SWAT model is being used in two small watersheds, Seven Mile Creek and Beauford Ditch watershed, to simultaneously address these three pollutants in highly agricultural watersheds. Considerable time elapsed awaiting the



availability of a new version of SWAT conformable with DRAIN MOD, which would help to include tile drainage in the modeling. Attempts to use this new version proved unsuccessful, and the University of Minnesota modelers reverted to an earlier version of SWAT which is performing satisfactorily. A thorough literature review was conducted to identify potential BMPs to evaluate in modeling runs. These were summarized in a Tetra-Tech report. Model calibration and validation is expected very soon, after which modeling scenarios can be run and evaluated.

**Minnehaha Creek and Lake Hiawatha TMDL and Stormwater BMP Optimization Tool Development:** This project concerns creek impairments for biota (fish), chloride and E. coli bacteria; the lake, which the creek flows into, is impaired due to excess nutrients (phosphorus). The MPCA funded the first half of the study using the contractor TetraTech and completed a data gap analysis, a watershed characterization and a source assessment. EPA then contracted with TetraTech and is completing a linkage analysis and the Total Maximum Daily Load study. In addition, this second phase will include as a pilot study use of a stormwater best management practice optimization tool to help identify implementation opportunities. The project team has convened periodic meetings with stakeholders in the watershed to solicit feedback as work is being done.

The MPCA submitted comments on EPA's *TMDLs to Stormwater Permits Handbook* on December 2, 2008. The EPA has not finalized the Handbook but it remains available as a Draft report. The MPCA's Stormwater and TMDL programs continue to work with EPA to resolve TMDL-stormwater permit issues as they arise. For example, in 2010, the EPA reviewed and provided comments on the MPCA's guidance document *Guidance on What Discharges Should be Included in the TMDL Wasteload Allocation for MS4 Stormwater* and met with the MPCA staff to discuss proposed approaches for addressing TMDLs in the next Phase 2 MS4 General Permit. The MPCA will continue to work with EPA during FFY 11, including continued discussions on the Phase 2 General Permit and discussions on EPA's November 12, 2010 memo *Revisions to the November 22, 2002 Memorandum "Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs."*

#### **FFY 2011 Report:**

The Lake Pepin Full Cost Accounting project will be completed in the summer of 2012. This project is using SWAT modeling completed by University of Minnesota staff and MPCA staff person Khalil Ahmad to develop sound implementation planning tools in response to the identified TMDL targets. This project focuses on TSS, sediment and phosphorous impairments.

**Minnehaha Creek-Special Joint Project:** This project continues to be led by the EPA. EPA has contracted with TetraTech to complete a TMDL for nutrients and bacteria (chloride was removed from the scope and instead will be addressed in the MPCA's Metrowide Chloride Project). Much of the reporting period was spent completing the linkage analysis for the study, with particular focus on understanding the hydrology of the watershed. This will be needed to accurately determining pollutant loading.

#### **FFY 2012 Report:**

##### **State Nutrient Reduction Strategy**

Along with Minnesota's sister state's that are part of the Mississippi River Gulf of Mexico Watershed Nutrient Task Force, Minnesota has committed to developing a state level nutrient reduction strategy by the end of 2013. The MPCA is coordinating a collaborative effort of sister state agencies within Minnesota and partners in the Federal Agencies, University of Minnesota, and Metropolitan Council to work with critical stakeholder constituencies to develop a state level plan that will be applicable state-



wide. Phase 1 of this effort, funded through an American Reinvestment and Recovery Act (ARRA) grant, helped scope the partner and stakeholder community approaches needed to successfully develop and implement a state level strategy. Phase 1 was completed in FY 12. Phase 2 is being undertaken with support from an EPA Gulf of Mexico grant, received on July 12, 2012. During FY 12, the MPCA received a commitment of cooperation from the Senior Executives of critical partner agencies and engaged several consultants to support work in the areas of 1) strategy development; 2) Watershed Rapid Assessments for Nutrient Reduction; and 3) evaluation of effectiveness tracking models.

### **Pilot Watershed-Based Stormwater Approach Project**

Implementing the *Pilot Watershed-Based Stormwater Approach (PWBSA)* project (Project) in the Ramsey-Washington Metro Watershed District embarks upon a new direction for urban runoff management in Minnesota. The *PWBSA* is based upon key outcomes from:

- 2006 *Framework* (<http://www.bwsr.state.mn.us/publications/WBframework.pdf>) and
- 2008 *Integrated* (<http://www.bwsr.state.mn.us/publications/stormwater04-07-08.pdf>) reports.

The reports addressed regulatory permit approaches from both federal and state perspectives and identified issues needing additional exploration. This Project responds to specific recommendations in the *2008 Integrated* report and builds-upon an important discussion in the National Academy of Sciences, National Resource Council [NAS/NRC] report (Urban Stormwater Management in the United States, *A Pilot Program as a Stepping Stone*, pp. 519-524; <http://www.nap.edu/catalog/12465.html>).

#### Project Goals:

1. Development of a watershed-based stormwater approach acceptable to stormwater dischargers and will result in greater efficiency by local governments.
2. Demonstrate to the MPCA and the United States Environmental Protection Agency (U.S. EPA) such an approach will work and provide a stronger assurance of receiving water quality improvement.
3. Provide appropriate tools to assist MS4 partnering in a watershed-based approach and Final Phase 1 report.

### **United States Environmental Protection Agency Great Lakes Restoration Initiative**

The USEPA Great Lakes Restoration Initiative (GLRI) resources are making a difference in efforts to restore the St. Louis River estuary – the Area of Concern and address lake-wide concerns in Lake Superior. The St. Louis River Area of Concern (SLRAOC) Implementation Framework Partners having been working for several years to articulate the suite of strategic remediation and restoration actions necessary to remove the nine identified beneficial use impairments and ultimately “delist” the in the SLRAOC. The following represents a portion of the GLRI resources obtained for Minnesota and SLRAOC related priorities.

#### U.S. EPA GLRI Capacity Grant [FFY 2011-FFY 2015 (funds from GLRI FFY 2010-FFY 2014 appropriations)]

This is a 5-year \$4,500,000 grant to provide operational capacity to MPCA and MNDNR capacity to conduct priority Lake Superior related work with a significant focus on the SLRAOC Remedial Action Plan. Later this year we will begin working on developing a proposal for capacity needs over the next 5 years.

#### U.S. EPA GLRI St. Louis River Area of Concern Implementation Framework Grant [FFY 2011-FFY 2015]

This is a critical three year grant of \$411,680 for the development of an Implementation Framework that builds on strong collaborations with regional partners. The primary purpose of this request is to identify and articulate our needs as they relate to delisting the SLRAOC. Condition assessment, establishment of

realistic endpoints, and resource management decisions rely on a variety of archived and contemporary data sets collected throughout the harbor. As recovery efforts continue remediation and restoration efforts and other identified high priority actions will be prioritized by the potential for Beneficial Use Impairment (BUI) removal, ultimately leading to recovery and AOC delisting.

The Implementation Framework effort will be completed in June 30, 2013 and will result in the development of a detailed multi-year (10-15) plan of action and budget that will be designed to provide GLRI federal agencies and state funders a clear articulation of the resources needed to remove BUI's and move the Area of Concern to an Area of Recovery and ultimately delist.

#### GLRI and MN Legacy – An Emerging State-Federal Collaboration

Elements of our work thus far have included priority activities leveraging MN Legacy funds with critical federal GLRI programs (links to the MN Legacy web site are provided):

#### St. Louis River Area of Concern Contaminated Sediment Sampling and Characterization

##### U.S. Army Corps of Engineers (USACE) and U.S. EPA

This project will provide technical, planning and engineering assistance to the MPCA for the development and implementation of the St. Louis River Remedial Action Plan (RAP). USACE and U.S. EPA in partnership with the MPCA will administer work plans to complete a sediment assessment for Minnesota areas within Superior Bay, St. Louis Bay, Lower St. Louis River and the Upper St. Louis River, encompassing approximately 5,349 acres of the St. Louis River and Estuary. This will provide the baseline information to resource managers necessary to establish a SLRAOC-wide analysis for remediation and restoration prioritization purposes. Source of additional funds: USACE-WRDA and U.S. EPA-GLLA.

#### St. Louis River Area of Concern (AOC) Remediation to Restoration Support-2012

The St. Louis River Area of Concern (SLRAOC) conservation partners are focused on removing Beneficial Use Impairments (BUI) in the estuary and eventually delisting the SLRAOC. Cooperative efforts between multiple resource agencies and regional stakeholders have identified a host of restoration objectives, developed project support activities, and partially secured funding that includes a state commitment through the Minnesota Clean Water Fund. Continued cooperative success to remediate and restore habitat conditions within the SLRAOC for the purpose of removing BUIs and delisting the SLRAOC depends on securing non-state matching resources. This grant will support the MPCA in coordinating the SLRAOC RAP through the following tasks: 1) Fish Tumor and Deformity Assessment, 2) Interagency and Leadership Group Development, 3) Sediment/Biotic Relationship Assessment in St. Louis Bay, 4) SLRAOC Data System Development, and 5) Completion of SLRAOC-wide Sediment Characterization. The Minnesota Clean Water Fund is supporting items 4 and 5 of this comprehensive package to achieve water quality improvements in the lower St. Louis River and Duluth harbor. Source of additional funds: Federal U.S. EPA-GLRI.

## **6. Other Program Development Activities**

- Training: The latest of 12 modules of an impaired waters training program for internal staff and external customers will be completed and web-posted in FFY 09. Other modules will be considered in the years ahead as needed. The EPA conducted 2 training sessions on TMDLs for MPCA and stakeholders in FFY 08, and will likely be asked to conduct more sessions over the course of the next few years as the MPCA expands its program.

- TMDL Development Protocols: To date, four TMDL development protocols have been completed for the parameters of low dissolved oxygen, bacteria, excess nutrients in lakes, and turbidity. Updates to some of those protocols are scheduled in FFY 09. Also in FFY 09, a new protocol for impaired biota TMDLs will be completed.
- Master Contract for TMDL Consulting Services: The MPCA utilizes private consultants in completing TMDLs. The MPCA has prequalified consultants and established a Master Contract for use of those firms selected to be in the consulting pool. The 2<sup>nd</sup> 5-year master contract will expire and the 3<sup>rd</sup> Master Contract will be put in place in FFY 09.
- Protection Strategy: A Protection Strategy for unimpaired waters has been drafted by an interagency work group and is expected to be endorsed by the Clean Water Council in FFY 09. The EPA is very interested in this at the Regional and National levels. EPA will engage MPCA to explore ways to give credit for active watershed protection planning and implementation efforts.
- Region 5 TMDL Practitioners Workshop: Minnesota will host the 2009 Workshop and plans on providing speakers on several topics, such as the Lake Pepin TMDL, other TMDL projects, stormwater policy, TMDL implementation, the watershed data integration project, or the effectiveness measures project, as requested.
- On-going policy development - The MPCA and EPA will continue to work together to resolve on-going policy issues that arise in conducting TMDLs, for example the application of concepts like "natural background conditions" and "site specific standards."

#### **FFY 2009 Report:**

Impaired waters training program modules for internal staff and external customers were completed and web-posted in FFY 09 at:

<http://www.pca.state.mn.us/index.php/water/water-types-and-programs/minnesotas-impaired-waters-and-tmdls/project-resources/tmdl-training.html>

The bacteria TMDL protocol was updated and the impaired biota TMDL protocol was completed. Both are posted at:

<http://www.pca.state.mn.us/index.php/water/water-types-and-programs/minnesotas-impaired-waters-and-tmdls/project-resources/tmdl-policy-and-guidance.html>

We also began development of a protocol to guide TMDL implementation planning, and completion is targeted in FFY 2010.

The TMDL Master Contract has been extended until 1/29/10. The 3rd TMDL Master Contract is scheduled to take effect in February 2010.

The final draft of the protection strategy working document has been developed by the Clean Water Council's Prevention and Monitoring Work Group, but the document has not yet been discussed by the full Council. This discussion is anticipated to occur in FFY 10.

The MPCA hosted the Region V TMDL practitioners' workshop in Red Wing, MN in 2009. The MPCA gave a variety of presentations. The workshop was well attended and received.

The MPCA and EPA had several policy discussions in FFY 09, including site specific standards and allocation strategies for the Lake Pepin TMDL, reasonable assurance, interstate and tribal issues.

### FFY 2010 Report:

- Aqua Terra Inc., (an EPA contractor) conducted training on the HSPF model in the BASINS environment, during the week of August 9-13, 2010. Sixteen MPCA staff and local consultants were part of this training and found it very worthwhile. EPA Region V made it possible to bring this training to Minnesota and covered the tuition for the MPCA staff who attended.
- A new TMDL development starter guide was published in FFY 10, and can be found at: <http://www.pca.state.mn.us/index.php/water/water-types-and-programs/minnesotas-impaired-waters-and-tmdls/project-resources/tmdl-starter-guide.html>
- The 3rd TMDL Master Contract was executed in FFY 10 (July 2010).

### FFY 2011 Report:

MPCA staff have been actively using Master Contract for HSPF modeling of major watersheds.

### FFY 2012 Report:

#### **Watershed Contracting Process Improvement**

Several watershed program staff, funded by the Performance Partnership Grant, participated in a watershed contracting process improvement effort in 2012. A staff team met to analyze root causes behind the agency's often confusing and time-intensive watershed contracting process. Solutions were identified in five key areas: communications, guidance, process, roles and responsibilities and training. The team's work led to a 50% decrease in the average number of days taken to submit and finalize a contract work plan. This has created better efficiency in the water program.

#### **MN Non-Point Source Management Program Plan (NSMPP)**

In the past, the Minnesota NSMPP was revised every five years, however, for development of the 2013-2017 NSMPP; the MPCA is using a "Tiered" approach. From FY 12 through FY 14, the MPCA will work with U.S. EPA Regions 5 and stakeholder work groups, comprised of multi-agency representatives, to amend and update selected groups of chapters. During FY 12, MPCA staff revised, and submitted to EPA Region 5 for approval: Sections of Chapter 1, Chapter 3 Watershed Planning and Management Framework, Chapter 4 which included Strategies 4.1 Groundwater, 4.2 Lakes, 4.3 Rivers and Streams, and 4.4 Wetlands, and Chapter 5 Monitoring. For the remaining Chapters, only the Needs, Priorities and Milestone Tables were updated.

### TMDL Priorities:

As of October, 2008, the MPCA has received EPA approval of 1,103 TMDLs – 105 for waters impaired by conventional pollutants and 998 for mercury-impaired waters. The MPCA exceeded its PPA commitment of 100 TMDLs in FFY 08, submitting 516 TMDLs to EPA for approval. This included 501 TMDLs for mercury and 15 for conventional pollutants.

### MPCA TMDL Priorities for FFY 2009-2012:

The 2007 legislative session saw an appropriation of an additional \$18 million for the FY 08-09 biennium to the MPCA to develop Total Maximum Daily Load Studies (TMDLs). This funding, along with funding from the 2006 legislative session, has been a big boost to reducing MPCA's TMDL backlog and enabled the agency to hire staff critical for technical and administrative support. As a result, by the end of 2008, TMDL projects addressing nearly 50 percent of listings for conventional impairments are now underway.

To continue this progress, the Clean Water Council is advising the Governor and the Legislature to continue TMDL appropriations at the \$18 million level for FY 2010-2011 (7/1/09-6/30/11). The MPCA believes that this funding will enable it to complete most of the projects it has underway and meet its annual commitment to the EPA over the next four years.

The number of specific conventional parameter TMDLs that the MPCA is to submit to the EPA in FFY 09 is 60, and subsequent annual goal numbers will be provided under separate cover to the EPA by November 1<sup>st</sup> of each year for review and approval, and are incorporated into this document by reference. The MPCA is working with EPA on an approach to PCB impairments, which will involve either a re-categorization of PCB impairments to CALM 4b on the 2010 impaired waters list, or submittal of a PCB TMDL in FFY 09.

**FFY 2009 Report:**

The MPCA received a legislative appropriation for FY 10 and FY 11 of \$18 million as requested.

The MPCA received approval from the EPA for 11 TMDL projects addressing 61 listings, meeting the goal of addressing 60 listings in FFY 09.

For FFY 10, the MPCA again proposes a goal of 60 listings addressed. The MPCA intends to add over 30 listings to the mercury TMDL on the 2010 list. As of October 2009, the MPCA had 7 projects on public notice addressing 16 listings, and had 7 projects addressing another 21 listings at EPA for preliminary review.

The MPCA submitted a draft PCB TMDL, but then followed with a 4B designation request. The EPA indicated to the MPCA that the 4B request did not provide enough information but did not specify what was missing. The MPCA is following up with the EPA to see what would need to be done to the 4B request to make it acceptable, and then will decide either to go forward with it, or revert to a TMDL.

**FFY 2010 Report:**

There were fifteen (15) EPA approved TMDLs in FFY 10 which addressed 132 impairments. The approach for addressing PCB impairments should be revisited in FFY 11.

**FFY 2011 Report:**

There were nineteen (19) EPA approved TMDLs in FFY 11 which addressed 31 impairments.

**FFY 2012 Report:**

There were fifteen (15) EPA approved TMDLs in FFY 12 which addressed 51 impairments.

EPA comment: MPCA counted TMDLs differently than we (EPA) did. We count them as 51 TMDLs, and the 15 is the number of TMDL reports MPCA submitted. Not a big issue, just want to make sure the numbers work out for "bean counting."

**Other TMDL Priorities:**

- Lake Pepin TMDL: The Lake Pepin TMDL project is nearing completion and it will be placed on public notice in FFY 09. The MPCA will continue to brief EPA Region 5 staff on the project's progress. As noted above in the program development section, we will also be working closely with EPA on a nutrient reduction strategy utilizing implementation activities for the Lake Pepin TMDL. Close coordination is needed on NPDES issues, including items such as stormwater allocations and timing of wastewater permit revisions.

The agency is finalizing documents for public notice of two site-specific standards: for Total Suspended Solids/Submersed Aquatic Vegetation in the Mississippi River from the Minnesota River confluence through Lake Pepin; and eutrophication of Lake Pepin. We are conducting an additional run of the Upper Mississippi River-Lake Pepin model, using output from Scenario 4 of the HSPF model for the Minnesota River basin to Jordan, linked to CEQUAL2 model for Metro Minnesota River transport to the Mississippi River. Results, expected any time now, will tell us what would happen if we should meet the TSS standard for the Mississippi but allowed TP discharges from metro area point sources to expand to permitted capacity. We expect to begin public notice of the site-specific standards in December 2009 or January 2010 for 45 days, respond to comments, in Feb-March 2010, go to MPCA Board in April or May 2011, and send the final documents to EPA in May or June 2010. Upon EPA approval, we would then public notice the TMDLs in August or September 2010.

- Watershed DELTA: The MPCA will be implementing a new database called "Watershed DELTA." This will be one of the components of the watershed data integration system (mentioned above) but will be operational in FFY 09. It will track TMDL financial and project information, as well as similar information for other watershed programs, and should also be very helpful for our reporting needs.

#### **FFY 2009 Report:**

The Lake Pepin TMDL will go on public notice in 2010.

Watershed DELTA became operational in FFY 09.

#### **FFY 2010 Report:**

Lake Pepin TMDL: The MPCA adjusted its approach on the Lake Pepin TMDL in the latter half of 2009, in order to focus on the development of site-specific standards for TSS in the Mississippi River, and for eutrophication in Lake Pepin, tasks that have taken considerable time and effort and are essential prerequisites to TMDL development. A set of criteria for Lake Pepin eutrophication have been developed in the context of nutrient standards for the Mississippi River and its tributaries, as part of the MPCA's triennial review of standards. These standards are being prepared for public notice and submission to EPA. The MPCA developed a site-specific standard for TSS – 32 mg/L as a seasonal mean at Lock and Dams 2 and 3 – which were approved by EPA on Nov. 8, 2010. The agency has also submitted a preliminary draft TMDL for TSS in the South Metro Mississippi River. Once comments have been received and incorporated, the agency plans to public notice the TMDL in early 2011. The agency anticipates that public notice and eventual approval of the phosphorus and chlorophyll criteria for Lake Pepin will take several months longer. However, a considerable amount of information has been gathered for the Lake Pepin TMDL, and the agency will be able to proceed promptly once the site-specific standard receives final approval.

#### **FFY 2011 Report:**

##### Lake Pepin TMDL:

The agency is waiting for site specific standard for Lake Pepin. The agency is unable to move ahead with the lake TMDL until a SSS is approved.

##### South Metro TMDL:

The turbidity portion of the Lake Pepin TMDL has been broken out and is now referred to as the South Metro Turbidity TMDL. The public noticing of the document has been delayed by discussion between

the agency and EPA on how to manage the WLA. The draft document is currently being reviewed by the Minnesota Attorney General's Office. It is expected the South Metro Turbidity TMDL will be on public notice sometime in early 2012.

#### **FFY 2012 Report:**

##### **Twin Cities Metro Area Chloride Management Plan Development Project**

This project began in 2010 and for the last three years most of the effort has gone into collecting additional monitoring data for chloride, pulling together several stakeholder teams to support the project, educating the public on the impact of road salt on waters, and developing partnerships with key winter maintenance professionals such as the Minnesota Department of Transportation (MnDOT). This is a regional project that will develop a chloride management plan which will lay out a strategy for addressing chloride impacts to our surface waters for the 7-county metropolitan area. This chloride management plan will satisfy EPA requirements for impaired waters, address waters not yet listed, and develop a strategy to protect waters that are currently meeting the water quality standards. This management plan will also include implementation activities for reducing chloride to Twin Cities Metro Area (TCMA) waters as well as identify high priority areas to target implementation activities.

This project has 2 active contracts with consultants to work on the project both funded with Clean Water Amendment Funds. We also contracted with a graphic designer to create and build a new display to help educate the public about the negative impacts of road salt on waters (CWF funds). In addition to the display we worked with local partners to pull together all the available resources and training and created a new road salt website: <http://www.pca.state.mn.us/r0pqb86>. We also developed a YouTube video discussing the importance of this pollutant and the goals of our project. We have had great success in developing critical partnerships with winter maintenance professionals, watershed organizations and other experts to develop this management plan collaboratively. More detail about the project can be found at: <http://www.pca.state.mn.us/r0pqb86>. In addition to this project, numerous road salt training sessions were held and funded with Section 319 funds.

#### **Nitrogen Study**

In 2010, MPCA initiated a comprehensive Study of nitrogen in surface waters. This effort was also partially supported by funding provided by the Minnesota Legislature. The study includes monitoring and modeling results of stream nitrogen conditions, source and load assessment throughout the state, nitrate trend evaluation, and general consideration of reduction potential. The sources being evaluated include agriculture, atmospheric deposition and wastewater, among others. The nitrogen sources results were determined for dry, average and wet weather situations throughout the state, and for each major river basin in MN. The work of the study is wrapping up, and peer review of the draft report will occur in March and April, 2013. The completion date for the final report is dependent on the extent of the comments and needed changes to the review draft, but is expected by late spring, 2013. Technical assessments for the nitrogen study are currently being used to help inform a separate effort to develop a state-level nutrient reduction strategy (expected at the end of 2013).

#### **Implementation Priorities:**

Through Clean Water Legacy Act appropriations, a total of over \$30 million in nonpoint source restoration and protection funds has been allocated to other state agencies since 2007. In addition the MPCA has committed a total of \$4 million of its CWA section 319 funds for TMDL implementation, including \$1 million in FFY 07 and FFY 08, and \$2 million in FFY 09.

This funding is available to local government agencies in watersheds with both an approved TMDL and

implementation plan, so there is a strong incentive to get both of these plans done as quickly as possible. However, demand continues to outpace available funding. To help reduce this gap, the Clean Water Council is recommending a near tripling of funding for the FY 2010-2011 biennium for nonpoint source restoration and protection funding.

**FFY 2009 Report:**

MPCA is granting over \$3.4 million in FFY 10 Section 319 funds.

The state Board of Water and Soil Resources is allocating over \$13M for implementation projects in FFY10. Projects with completed TMDL implementation plans or identified in local water plans will receive high scores in prioritization of applications for over \$8 million of the funds.

**MPCA Implementation Priorities for FFY 2009-2012:**

- **Implementation Plan development:** The MPCA will continue to work with local government to develop implementation plans within one year of EPA approval of the TMDL. For most TMDLs, however, implementation plans are being developed concurrently with the TMDL in order to expeditiously apply for state funding through the Clean Water Legacy Act. Guidance for implementation plan development, utilizing the EPA 9 elements of watershed plans, will be completed in FFY 09. The EPA is very interested in this guidance and will be involved in the development process. This guidance may be transferable to other states.
- **Improve Civic Engagement in restoration and protection:** The MPCA will be working closely with the Clean Water Council on initiatives to improve the participation of citizens and stakeholders in restoration and protection activities. The Council is recommending state funding for needed research, pilot projects in key watersheds, and to evaluate a statewide media campaign.
- **Implementation Grant Funding Priorities:** The Clean Water Legacy Act specifies criteria for allocation of implementation funding. The MPCA will be working with other state agencies and the Clean Water Council to develop more specific ranking criteria, including prioritizing of some funding to threatened waters and watersheds.
- **Continue integration of TMDL wasteload allocations into stormwater and wastewater permits:** In addition to the Minnehaha Creek Watershed stormwater pilot project with EPA mentioned above, the MPCA is conducting policy discussions on the reissuance of the industrial stormwater permit in FF Y10 and the MS4 permit in FFY 11 to seek opportunities to improve the impaired waters requirements of these permits. We will also be working with stormwater staff on pilot projects and guidance to improve implementation of TMDL requirements. The stormwater program now has two liaison staff leading these efforts. The wastewater program has one liaison staff assigned to coordination duties and will be working on a policy and communications agenda over the next four years.

As of September 2009, MPCA has approved 20 TMDL implementation plans. Guidance for TMDL implementation plan development, utilizing the EPA 9 elements of watershed plans, will be completed in FFY 10.

The MPCA is working closely with Clean Water Council civic engagement sub team. The state legislature appropriated \$250,000 for FY 10-11 for this program development work to continue. The development work includes defining basic requirements for civic engagement and providing resources to ensure the basic requirements are implemented statewide. Also, the MPCA put out an RFP using "Stimulus" funds for assistance with promoting civic engagement in watershed planning and Total Maximum Daily Loads (TMDLs).



The MPCA implemented Clean Water Council recommendations for priorities in scoring and allocating FFY 10 Section 319 funding, and gave priority to protection projects in FY 10 Clean Water Partnership funding.

Coordination is ongoing between the TMDL program area and the stormwater and wastewater programs. The MPCA and EPA are developing a potential watershed stormwater permit pilot for a Watershed District in the east Twin Cities Metro Area in FFY 10. The MPCA produced a policy on nonpoint discharges to regulated MS4s. The MPCA produced guidance on writing TMDL implementation plans that have a regulated stormwater component. The MPCA produced several fact sheets describing regulated stormwater BMPs that can be included in a TMDL Implementation Plan. MPCA staff have developed a guidance document and TMDL language intended to assist NPDES permit writers to appropriately interpret wasteload allocations for the development of water quality based effluent limitations. The language will appear in TMDL wasteload allocation and implementation sections starting in FFY 2010.

**FFY 2010 Report:**

There were eleven (11) MPCA approved Implementation Plans in FFY 10

The Stimulus RFP will be published by September 30, 2009, and grants awarded by January 31, 2010. Each funded project will be required to provide reports and meeting records documenting the findings and results from the projects. The grants will end September 30, 2011. As of September 30, 2010, a cumulative total of \$30,807.23 has been spent by the three sub recipients.

Implementation Guidance/Protocol is still under development. The guidance will address two broad areas; regulated point sources and non-regulated sources. The focus of the guidance will be on defining Priority Management Zones and activities and how to phase-in implementation activities.

Implementing the *Pilot Watershed-Based Stormwater Approach (PWBSA)* project in the RWMWD embarks upon a new direction for urban runoff management in Minnesota. The *PWBSA* is based upon key outcomes from:

- 2006 *Framework* (<http://www.bwsr.state.mn.us/publications/WBframework.pdf>) and
- 2008 *Integrated* (<http://www.bwsr.state.mn.us/publications/stormwater04-07-08.pdf>) reports.

The reports addressed regulatory permit approaches from both federal and state perspectives and identified issues needing additional exploration. This project responds to specific recommendations in the 2008 *integrated* report and builds-upon an important discussion in the National Academy of Sciences, National Resource Council [NAS/NRC] report ([Urban Stormwater Management in the United States, A Pilot Program as a Stepping Stone](http://www.nap.edu/catalog/12465.html), pp. 519-524; <http://www.nap.edu/catalog/12465.html>). The two-phased project will be completed over the next one and half to two years.

Improve Civic Engagement in Restoration and Protection: The MPCA worked closely with the Clean Water Council during 2008-2009 on initiatives for improving civic engagement in watershed projects and TMDLs. In 2010, The Council recommended that the legislature provide funding for needed research and development in this area, as well as for hiring staff to organize citizens and stakeholders within watershed projects.

The MPCA is following Clean Water Council recommendations by developing a host of products and services for watershed project staff to use to: 1) ensure early citizen involvement in all projects, 2)

develop local leaders that can develop local support for improving water quality, and 3) develop the civic infrastructure that will ensure sustainable local support for protecting and restoring water quality. The state legislature appropriated \$250,000 for the FY 11-12 biennium for this program development work. The MPCA has asked for \$300,000 for the FY 2012-13 biennium to continue these efforts.

### **FFY 2011 Report:**

There were four (4) MPCA approved Implementation Plans in FFY 11.

Three sub recipient Stimulus grants were awarded in January, 2011 and each is required to provide quarterly reports and meeting records documenting the findings and results from the projects. The grants were extended to end December 30, 2011. An additional sub recipient grant was awarded in May, 2011. As of September 30, 2011, a cumulative total of \$183,078 has been spent by the three sub recipients.

Have been working towards completing an external review including personal communication with four or five co-permittee combination Phase 1 - Phase 2 (MS4) permit examples with respect to positive and negative outcomes or challenges.

Have reviewed and researched implementation issues expected to be encountered with a Watershed-based approach, including accountability (and enforcement liability) for individual permittees (e.g., What actions can be taken if one permittee within the Watershed does not meet standards when most others do?); and what approaches can be used to address an MS4 with multiple minor watersheds within its boundaries?

Have begun to conduct final description and refinement for the three alternative approaches, co-permittee, sole-permittee and integrated planning and permitting approach.

Each approach will be described within the context of project sponsor's relationship with the member cities and the watershed management planning process already in-place.

### **Civic Engagement Approaches**

For the past four decades, watershed management efforts have typically been organized and implemented by government agencies, with limited citizen involvement. Too often, citizens and stakeholders were given opportunities to become involved too late in the process when they could do little to influence policy decisions, plans and budgetary decisions. As a result, there has been limited ownership or buy-in to these plans and water quality goals have often not been met. This experience has led the MPCA to reconsider the ways in which it manages watersheds and addresses impaired waters. The Minnesota Legislature and the Clean Water Council have both given state agencies the charge of working to encourage greater civic engagement in watershed planning. Their goals were for more individuals to become involved in the democratic process of watershed planning and to have more citizens take personal responsibility for making changes on the land that could reduce water pollution.

Encouraging changes in private land practices is controversial or challenging at best. A new approach to policy making will be needed to move us beyond the "business as usual" approaches to land and water management that have not been as successful as we would like. This shift requires putting much greater emphasis on organizing citizens and stakeholders in a more intentional manner, allowing them to have greater influence in the policy-making realm and encouraging citizens to come forward to lead their neighbors in protecting or restoring their waters.

Civic engagement is as much a philosophy of governance as it is about “activities.” Civic engagement requires a different orientation - where the government works to create the appropriate venues and opportunities for Minnesotans to take part in the watershed planning processes and to take a greater share of the responsibility for clean water. Our job is to assist local governments in building the civic infrastructure that will sustain efforts to protect the common good of clean water. This is a significant shift in traditional watershed management approaches that have focused almost exclusively on biophysical studies and assessments.

The MPCA staff has begun to make the case for a new approach to policymaking among its own staff and among local government staff. In addition to raising awareness for the need for greater civic engagement and civic organizing, the MPCA staff has developed an adaptive management framework for civic engagement planning that encourages communities to plan strategically for civic engagement in watershed work, while providing the flexibility to make their plans fit the unique circumstances within their communities.

Staff also has worked to provide greater structure and discipline around civic engagement activities, making the case that the social science aspects of watershed management are as important as the biophysical side of this work. It will take many more years to bring the same rigor to this work as exists in the biophysical sciences; however, we do see some progress in staff taking civic engagement more seriously at the project level. Civic engagement work will require staff to acquire new skills and knowledge. Civic engagement will require people to work “on the ground” organizing others for clean water.

Over the past federal fiscal year, our civic engagement program development activities have included:

- 1) Making the case for a new approach to policy-making in watershed management (with citizens at the center of these efforts)
- 2) Encouraging use of a community assessment process prior to planning for greater civic engagement in watershed projects
- 3) Encouraging careful selection of group process techniques and other activities that encourage early and authentic involvement of citizens in the planning process
- 4) Creation of local cohorts of government staff that will work together to encourage greater citizen engagement in watershed management
- 5) Linking experts in evaluation, facilitation and group process techniques to project managers to help them plan for greater citizen involvement
- 6) Keeping up-to-date on the current literature on civic engagement and sharing current techniques and philosophies with staff, as appropriate
- 7) Ensuring that most new watershed project makes at least incremental improvements in the ways they involve citizens in their assessment and planning activities
- 8) Building evaluation into our civic engagement projects to a greater degree using proven program evaluation techniques
- 9) Providing in-depth project assistance to local projects where feasible and where there is interest
- 10) Working closely with Wisconsin DNR to encourage civic engagement within the St. Croix River basin
- 11) Development of a MPCA internal lateral team for civic engagement to share experiences as we work to encourage civic engagement in watershed projects across the state
- 12) Demonstrating “out of the box” techniques for engaging citizens in ways that will keep them coming back to the table over time to plan for clean water.

### **MPCA COMMENTS/RESPONSE TO EPA NOTE:**

In addition to helping engage communities in decision-making and participation, the MPCA recognizes the importance of attempting to measure the success of these civic engagement efforts. Social measures continue to be addressed through numerous agency efforts. In 2006, MPCA became part of the EPA Region 5 pilot project to establish common social measures that could be aggregated across regions and states. The Social Indicators pilot project was a first step in bringing heightened awareness within the MPCA to the usefulness and benefits of a social measures approach. The impact of the pilot was to lay the groundwork for ongoing and future social outcomes work. The MPCA is still developing strategies that will ensure measurement occurs on civic and social efforts, and that this data can and will be reportable to all stakeholders.

### **FFY 2012 Report:**

There were eleven (11) MPCA approved Implementation Plans in FFY 12.

### **Watershed Report Template Development.**

A contractor (LimnoTech) was tasked to develop a draft template for watershed reports that summarizes the primary components of our watershed work (assessment, stressor ID for biological impairments, source analysis, and implementation strategies for restoration and protection). As part of this contract LimnoTech took an existing project (e.g., Pomme de Terre watershed) to create an actual example product. The purpose of these watershed reports is to succinctly capture in one report the major findings of our work and provide a solid foundation for our local partners to design more detailed plans for restoration and protection of lakes and streams. This work was funded by state Clean Water Funds.

### **Additional information:**

For more information on the Impaired Waters Joint Priority, contact:

At MPCA, Doug Wetzstein at 651-757-2819 or [douglas.wetzstein@state.mn.us](mailto:douglas.wetzstein@state.mn.us)

At EPA Region 5, Matthew Gluckman at 312-886-6089 or [gluckman.matthew@epa.gov](mailto:gluckman.matthew@epa.gov)

## ***WQ Monitoring***

**October 1, 2008 – September 30, 2012**

### **Objective:**

MPCA and EPA Region 5 propose to collaborate to enhance our monitoring and assessment efforts so that each agency will have sufficient data available to assess the condition of the states' waters, identify stressors and sources of water quality impairments/threats, and measure changing environmental conditions to support Clean Water Act program needs and track our progress protecting and restoring water quality.

### **Statement of Environmental Problem/Issue:**

Effective and comprehensive water quality monitoring is an essential part of our environmental protection and restoration efforts. Monitoring information is needed to assess the condition of water quality within a State or the Region, identify pollutant sources/threats, detect new and emerging water quality problems and evaluate and inform the effectiveness of water quality protection and restoration programs. Data management and reporting are also key to ensuring the data collected is available to partners and stakeholders, and also that partners and stakeholders can contribute their monitoring data to assessment and management efforts.

The passage of the state Clean Water Legacy Act (CWLA) in 2006 significantly increased the State of Minnesota's investment in and support of water quality monitoring. The law led to one-time appropriations for fiscal years 2007 through 2009 (\$24.95 million in FY 2007 and \$54 million in FY 2008-09) for the following activities:

- Accelerate monitoring and assessment of Minnesota's waters with a goal of comprehensive assessment every 10 years.
- Develop TMDLs with an emphasis on 3<sup>rd</sup> party projects led by local government and other local agencies.
- Provide grants to implement TMDLs and protection activities through existing state and local programs designed to improve water quality.

With this heightened level of effort comes a greater need for support and flexibility from the EPA in conducting water monitoring activities in a manner that meets both state and federal expectations.

The passage of the CWLA and associated funding has allowed the MPCA to make significant progress implementing the lake and stream components of the 2004 Minnesota Water Monitoring Strategy. Continued attention is needed during this PPA cycle to maintain this progress, and to further develop Minnesota's monitoring and assessment activities. Identifying monitoring and assessment as a joint priority for the next four years will provide continued focus and attention on collecting and managing the data necessary for both agencies to better understand the quality of the state's rivers, streams, lakes, wetlands and groundwater and to target future work. Identification of data management and integration needs will help the EPA and the MPCA effectively target resources, programs and efforts on the most significant environmental problems and achieve measurable environmental outcomes.

### **MPCA Monitoring and Assessment Priorities for FFY 2009-2012:**

#### **1. Continue to implement the 2004 Minnesota Water Monitoring Strategy:**

Continue implementation of the Minnesota Water Monitoring Strategy, including continued

coordination among the Minnesota Department of Health (MDH), Board of Water and Soil Resources (BWSR), Minnesota Department of Natural Resources (MDNR) and the Minnesota Department of Agriculture (MDA) on surface- and ground-water monitoring. Continue to identify and prioritize gaps that need to be filled, and identify and target additional resources that would be needed to fill the remaining gaps (funding to be provided as available). Additional activities under this priority include the following:

- Identify additional training, guidance and tools that are needed to improve monitoring programs within the state and EPA.
- Attend and participate in the annual Surface Water Monitoring and Standards Meeting.
- Refine the Water Monitoring Strategy to reflect the watershed approach (see next priority), and determine if any additional changes are needed to measure attainment or progress toward our shared environmental goals for water including those in EPA's Strategic Plan and those identified in MPCA's Monitoring Strategy.

**FFY 2009 Report:**

MPCA continued to refine the details of the Water Monitoring Strategy, including the watershed approach. A "condition monitoring" site was added to the MPCA web site <http://www.pca.state.mn.us/index.php/water/water-monitoring-and-reporting/water-quality-and-pollutants/water-quality-condition-monitoring/water-quality-condition-monitoring.html> and the strategy was posted there along with supporting documents and details. Staff attended and presented at the annual SWIMS meeting in February 2009.

**FFY 2010 Report:**

Establishment of the Clean Water Fund Interagency Coordination Team at the assistant commissioner level has placed a strong emphasis on interagency coordination. Several subteams have been tasked, including a Surface Water Monitoring and Assessment Subteam and a Groundwater/Drinking Water Subteam, both of which the Agency is an active member.

Development of a subwatershed load monitoring network operating on a rotating watershed basis is under interagency coordination. The primary focus of the network would be to provide data to better enable watershed modeling and stressor identification. A "sentinel watersheds" network is also under interagency consideration, as primarily an effectiveness monitoring tool.

The Milestones Monitoring Network will be sunset in early FFY 11 as it wraps up its latest 10-year cycle. Resources from the Milestones program will be redirected to support intensive watershed monitoring.

The Water Monitoring Strategy will be updated in early FFY 11 to more explicitly reflect the watershed approach.

**FFY 2011 Report:**

The Clean Water Fund Interagency Coordination Team Surface Water Monitoring and Assessment Subteam and Groundwater/Drinking Water Subteam continue to meet regularly and coordinate monitoring efforts among key agencies.

The subwatershed load monitoring network received funding from the legislature for the FY 12-13 biennium and groundwork is being laid to initiate portions of the network in 2012. The sentinel watersheds network concept is still being pursued.

The Milestones Monitoring Network was sunset in early 2011. A final report on the most recent 10-year cycle of Milestones monitoring, and longer term trends, will be produced in FY 13.

The state Water Quality Monitoring Strategy 2004-2014 was updated to a new 2011-2021 version, and submitted to U.S. EPA in September 2011. The strategy reflects changes and improvements subsequent to the passage of the state Clean Water Legacy Act and the state constitutional amendment that established the Clean Water Fund – particularly the shift to the Watershed Approach to monitoring.

Presented the state's various water quality monitoring approaches and revamped waterbody assessments process to U.S. EPA in September 2012.

**FFY 2012 Report:**

The Clean Water Fund Interagency Coordination Team Surface Water Monitoring and Assessment Subteam and Groundwater/Drinking Water Subteam continue to meet regularly and coordinate monitoring efforts among key agencies.

The subwatershed load monitoring network initiated portions of the network in 2012. The sentinel watersheds network concept is still being pursued.

U.S. EPA provided an evaluation of the updated 2011-2021 Monitoring Strategy to the MPCA, and follow-up conversations were held. Among the issues discussed were fecal monitoring of inland lakes, Lake Superior monitoring, and drinking water indicators for lakes and streams. EPA looks forward to further discussion on these and other issues as the MPCA continues to implement its Monitoring Strategy.

A Large River intensive monitoring approach has been drafted and is being shared with partners and stakeholders, likely to be piloted in 2013. Participated in development of Great River monitoring strategy options with UMRBA for Mississippi River from Minneapolis to the Ohio River confluence – selection likely to be made in 2013.

**2. Develop a statewide Watershed Approach to prioritize and integrate Monitoring and Assessment, TMDL, and Restoration and Protection Activities:**

Under the CWLA and the Minnesota Water Monitoring Strategy, the MPCA is relying on a watershed approach to monitor and understand lake and stream water quality. The idea behind the watershed approach is to intensively monitor the streams and lakes within a major watershed to determine the overall health of the water resources, identify impaired waters, and identify those waters in need of additional protection efforts to maintain high quality and prevent impairments. Follow-up monitoring is done in biologically impaired subwatersheds to determine the cause(s) of the impairments (the “stressors” impacting the biological community) and to begin to identify pollutant sources.

The watershed approach is not just applicable to monitoring and assessment. The MPCA is exploring ways to synchronize TMDL development and implementation in major watersheds within 2-3 years follow monitoring and assessment of the same watersheds. The current plan is to complete assessment of all of the state's major watersheds over a 10-year period, at a rate of about 8 watersheds per year. TMDL studies will begin 2-3 years following completion of assessment. The planning process will ultimately result in a watershed plan that integrates both restoration and protection implementation activities, consistent with EPA's watershed planning (9 element watershed plans) approach.

Over the next four years, the MPCA will rely on pilot efforts and other design activities to fully integrate the watershed approach into our water work. The information gained through the watershed monitoring approach will help inform this broader design effort.

**FFY 2009 Report:**

The 2009 Minnesota Legislature provided funding to fully implement the watershed monitoring approach in state fiscal years 2010 (beginning July 1, 2009) and 2011. The MPCA is making good progress on integrating the watershed approach into its operations. The link to the Watershed Approach Fact Sheet Summary is posted at: <http://www.pca.state.mn.us/index.php/water/water-types-and-programs/surface-water/basins-and-watersheds/watershed-approach.html>

Design and initial implementation of stressor identification monitoring, watershed modeling, implementation planning, and related activities continues.

Intensive watershed monitoring was initiated in seven additional major watersheds. A process for annually updating the watershed schedule was also developed; the schedule will be updated each spring. A short document (Watershed Monitoring Approach Report) describing the watershed monitoring approach was also finalized, and is available on the MPCA web site at:

<http://www.pca.state.mn.us/index.php/water/water-types-and-programs/surface-water/basins-and-watersheds/watershed-approach.html>

along with a summary of condition monitoring activities completed in 2008 (2008 MPCA Condition Monitoring Summary), available at: <http://www.pca.state.mn.us/index.php/water/water-monitoring-and-reporting/water-quality-and-pollutants/water-quality-condition-monitoring/water-quality-condition-monitoring.html> Numerous presentations were provided to agency partners and stakeholders to explain the watershed monitoring approach.

**FFY 2010 Report:**

Intensive Watershed Monitoring has proceeded in 24 watersheds, nearly 30% of the state. Watershed reports based largely on this monitoring (beyond the pilot Snake R. Watershed report) will begin being produced in FFY 11. The major watershed load monitoring network has been in operation since 2007, and will begin reporting findings in FFY 11.

The Agency worked on revising its Continuing Planning Process (CPP) document to reflect the watershed approach to the Water Program. The CPP will be finalized in early FFY 11.

**FFY 2011 Report:**

Intensive Watershed Monitoring has proceeded in 35 watersheds, about 43% of the state. Watershed reports based largely on this monitoring were produced in FFY 11 for 3 watersheds and are posted on-line:

Little Fork River Watershed - <http://www.pca.state.mn.us/index.php/water/water-types-and-programs/watersheds/little-fork-river.html>

Sauk River Watershed – <http://www.pca.state.mn.us/index.php/water/water-types-and-programs/watersheds/sauk-river.html>

Pomme de Terre River Watershed - <http://www.pca.state.mn.us/index.php/water/water-types-and-programs/watersheds/pomme-de-terre-river.html>

The major watershed load monitoring network has been in operation since 2007, and will begin reporting findings on a webpage in mid-FFY 12.



Results from the various monitoring approaches (national surveys, load network, intensive watershed monitoring, citizen monitoring, and ambient groundwater) were reported in the Agency internal strategic review in Fall 2011, and some will be reported on in the interagency Clean Water Fund measures report in early 2012.

Updated the state's Continuing Planning Process document and received approval of it from EPA in early 2011. The document included information on watershed approach to water quality monitoring.

**FFY 2012 Report:**

Intensive Watershed Monitoring has proceeded in 42 watersheds, about 52% of the state. Watershed reports based largely on this monitoring were produced in FFY12 for 11 watersheds and are posted on-line:

North Fork Crow River Watershed - <http://www.pca.state.mn.us/index.php/view-document.html?gid=17110>

Le Sueur River Watershed - <http://www.pca.state.mn.us/index.php/view-document.html?gid=17609>

Root River Watershed – <http://www.pca.state.mn.us/index.php/view-document.html?gid=17986>

Shell Rock River Watershed – <http://www.pca.state.mn.us/index.php/view-document.html?gid=18037>

Cedar River Watershed -

[http://www.pca.state.mn.us/index.php?option=com\\_k2andlayout=itemandview=itemandItemid=2893&ndid=2772](http://www.pca.state.mn.us/index.php?option=com_k2andlayout=itemandview=itemandItemid=2893&ndid=2772)

Buffalo River Watershed - <http://www.pca.state.mn.us/index.php/view-document.html?gid=18312>

Mississippi River-Lake Pepin Watershed - <http://www.pca.state.mn.us/index.php/view-document.html?gid=18230>

Chippewa River Watershed - <http://www.pca.state.mn.us/index.php/view-document.html?gid=18228>

Lower St. Croix River Watershed - <http://www.pca.state.mn.us/index.php/view-document.html?gid=18468>

Upper Mississippi-St. Cloud Watershed -

[http://www.pca.state.mn.us/index.php?option=com\\_k2andlayout=itemandview=itemandItemid=2893&ndid=2778](http://www.pca.state.mn.us/index.php?option=com_k2andlayout=itemandview=itemandItemid=2893&ndid=2778)

Vermillion River Watershed –

<http://www.pca.state.mn.us/index.php/view-document.html?gid=18751>

A report on EACs in groundwater was completed in January 2012:

<http://www.pca.state.mn.us/index.php/view-document.html?gid=17244>

**3. Continue to develop tools for stream biological monitoring and assessment:**

The MPCA has developed and is implementing a robust stream monitoring effort that integrates biological, chemical and physical monitoring to assess stream condition. Continued work is needed to finalize a statewide stream classification system, develop an IBI for each stream type and establish a biological condition gradient (BCG) for the state. Technical support and funding are needed from EPA to continue progress in this effort, so the goal of achieving a “Level 4” biological monitoring program, including establishing a Tiered Aquatic Life Use (TALU) classification system, can be met for Minnesota.

**FFY 2009 Report:**

The Minnesota state-wide biological database has been analyzed to develop 7 fish and 9 invertebrate classifications to minimize natural variability within them. Custom indices of biological integrity (IBIs) are being developed for each one of these classes (expected to be completed by spring 2010). In addition, biologists from around the state have met twice in 3 day workshops to develop bio condition

gradients to help determine the appropriated thresholds for biological condition in each of these classes. These were facilitated and technically supported by MPCA paid contractors and with EPA staff participation.

The MPCA continues to pursue the development of Tiered Aquatic Life Use standards. Public and stakeholder meetings were held to gather information to help develop the standards and the implementation plan.

**FFY 2010 Report:**

Warm water IBI development was completed, and the IBIs were piloted for stream assessments in five watersheds. Cold water IBIs for both fish and macro-invertebrates are under development, to be completed in winter of 2011. Work also continues on the development of TALU for Minnesota's water quality standards, including an implementation plan.

**FFY 2011 Report:**

Fish and macroinvertebrate IBIs and BCGs have been completed for both warmwater and coldwater streams. There are 9 fish and invertebrate IBI classes that cover the vast majority of rivers and streams in Minnesota. The IBIs were used to assess 11 watersheds during the Spring of 2011.

IBI guidance documents are in development for both fish and invertebrates. These documents will describe the fish and macroinvertebrate classification framework, IBI metric development, BCG development, and the process for establishing biological criteria.

Work continued on developing an implementation plan for adopting TALU into Minnesota's water quality standards. Internal meetings were held with water quality program areas to discuss implementation needs and challenges.

**FFY 2012 Report:**

A TALU implementation plan that provides an outline for adopting TALU into Minnesota's water quality standards was completed in 2012. The MPCA will use the plan to develop guidance material and internal processes that will be needed as the Agency moves towards a TALU based monitoring and assessment framework.

A cooperative effort between the MPCA and the MDNR is underway to develop a lake IBI and associated biological criteria using fish and plant indicators. A pilot effort to integrate biological monitoring into the intensive watershed monitoring approach for lake systems will begin in 2013 with assessments using the fish based IBI scheduled to take place in 2015.

**4. Continue to implement probabilistic monitoring:**

The MPCA actively participates in the National Aquatic Resources Surveys (National Lake Assessment Program (NLAP), National Rivers and Streams Assessment (NRSA), and also conducts its own probabilistic stream survey for the state. The stream sampling design has evolved from a rotating basin-scale approach (from 1995 to 2005) to an ecoregion-scale design coinciding with the NRSA in 2008-2009 and into the future. The MPCA is also leading a state-level wetland quantity and quality survey with support from an EPA grant. Continued technical and financial support is needed from EPA to design and implement probabilistic monitoring efforts. The MPCA will continue to participate in the national survey effort, completing the NLAP data analysis as data becomes available, assisting in the NRSA, and

participating in the National Coastal Condition Assessment and National Wetland Condition Assessment planning and monitoring efforts over the next four years.

**FFY 2009 Report:**

MPCA staff and leadership participated in planning efforts for the National Coastal Conditions Assessment. Site reconnaissance was also completed for the NRSA. Using 106 Monitoring Initiative funding the MPCA will be conducting its own probabilistic survey of streams at 150 sites in 2010. These sites were randomly picked by EPA statisticians. Fish and invertebrate community, mercury in water, and emerging pharmaceutical and personal care product chemicals will be sampled.

**FFY 2010 Report:**

Coastal monitoring was completed during the 2010 field season under the auspices of EPA. PCA completed its probabilistic stream monitoring during the 2010 field season. PCA is participating in the wetland and lake monitoring approaches to be implemented in the 2011 and 2012 field seasons, respectively.

**FFY 2011 Report:**

Continued involvement in EPA national surveys, including final site mop-up for flowing waters, FFY 11 wetlands sampling, and planning for the lakes survey to be performed in 2012. **The MPCA also assisted the EPA by participating in the National Lakes Steering Committee and by assisting in piloting electronic data forms to be used in the National Surveys.**

**EPA COMMENT:**

MPCA should include language such as, "MPCA also assisted EPA by participating in the National Lakes Steering Committee and by assisting in piloting electronic data forms to be used in the National Surveys." --- **MPCA agrees.**

**FFY 2012 Report:**

The MPCA participated in the National Lake Assessment in summer 2012, sampling lakes drawn for the survey and additional randomly-selected lakes (a total of 150) to generate national, statewide, and ecoregional estimates of lake condition. Other involvement in national surveys includes planning for the 2013 flowing waters survey.

MPCA completed a report to EPA summarizing the results of the 2010 probabilistic sampling that took place in 2010 at 150 sites throughout Minnesota.

**5. Support the development and implementation of the Minnesota Wetland Monitoring Strategy:**

Minnesota has drafted a strategy that includes 1) Random plot sampling (quality and quantity); 2) Update of the National Wetland Inventory, and 3) An electronic GIS tracking inventory. During the next four years, the MPCA will implement the water quality sampling strategy, look for collaborative funding for the NWI update and tracking system with MDNR and BWSR and seek permanent funding for the random monitoring. Continued technical assistance and competitive funding opportunities are needed from EPA to help support this ongoing effort.

**FFY 2009 Report:**

The probabilistic sampling for both the quantity of wetlands and the quality of wetlands has been completed for the first 3-year rotation with a report expected to be completed by spring 2010. Long term MDNR funding has been secured to continue the wetland quantity parts of the survey. EPA

Wetland Development Program grant partially funded the sampling to determine the quality of depressional wetlands by MPCA staff which is being discontinued. An additional source of funds is needed.

State funds were obtained for the 2009-2010 fiscal years to update the National Wetland Inventory in the 7 county metro areas. Additional funding has been sought to continue the update in more counties.

A contractor has completed a feasibility report for the GIS tracking inventory system. No funds are available to implement it at this time.

**FFY 2010 Report:**

PCA has participated in the planning for the 2011 field season National Wetlands Condition Assessment. MPCA is determining how to incorporate wetland monitoring addressing plants and invertebrates into the rotating intensive watershed monitoring approach to begin in the 2012 field season.

**FFY 2011 Report:**

The MPCA conducted monitoring for the 2011 field season National Wetlands Condition Assessment. The MPCA is determining how to incorporate wetland monitoring addressing plants and invertebrates into the rotating intensive watershed monitoring approach to begin in the 2012 field season if possible.

**FFY 2012 Report:**

National and state level random wetland monitoring was completed in the 2012 field season.

A report on the condition of depressional wetlands was completed in March 2012:

<http://www.pca.state.mn.us/index.php/view-document.html?gid=17741>

**6. Continue to enhance data management and access to water quality monitoring data, including spatial information:**

The MPCA is in the process of developing a replacement system to the EPA STORET water quality data management system. MPCA is participating in a multi-state consortium to develop a replacement (with EPA support), and is also identifying user requirements and opportunities for enhancing data access and retrieval while replacing the STORET system. Continued support from EPA is needed as this effort moves forward.

In addition to the STORET replacement effort, the MPCA is developing an information management system for elements of its watershed programs, including monitoring and assessment. This system will pull from existing databases such as STORET (or its replacement), the Environmental Data Access system and the Assessment Database (ADB), and may also involve the development new data systems to fill identified gaps.

A key element of the watershed information management system will be the use of geographic boundaries to organize and display information. To assist in this and help avoid confusion in the assessment and listing process as well, the MPCA is also interested in continued coordination and cooperation among MPCA, MDNR and EPA regarding the state's watershed boundary GIS data.

**FFY 2009 Report:**

Efforts continued to identify a preferred strategy for replacing the STORET data system. The MPCA completed its involvement in the multi-state consortium, and also wrapped up the development of user

requirements for the replacement system. The requirements were compared to available options, and the MPCA is currently exploring the potential for purchasing a commercial software package to meet the identified needs.

Regarding the watershed information system effort, business and system requirements were identified, and a report including the requirements and a plan for development of the full system was completed in FFY 09. A contracts database selection project is underway in early FFY 10 with the Minnesota Management and Budget Office. Two other components of the overall system will begin development in FFY 10 - the "GIS" component and the "managing waterbodies" component.

**FFY 2010 Report:**

MPCA purchased the EQuIS system to replace STORET. EQuIS will expand our data management capabilities, to also include data on groundwater from our remediation and ambient groundwater monitoring programs. Surface water data have been migrated from STORET into EQuIS.

MPCA and the MDNR will be replacing the Hydstra water quantity/flow database in FY 11, in cooperation with the Twin Cities Metropolitan Council Environmental Services.

The Watershed Data Integration Project underwent further analysis and developed the vision of the future system further. The beginnings of the system will be made operational in FY 11. A legislative report describing the progress made in FY 10-11 is found at:

<http://www.pca.state.mn.us/index.php/about-mpca/legislative-issues/legislative-reports/legislative-reports.html>.

**FFY 2011 Report:**

Migrated ambient groundwater data into EQuIS. Working on migrating remediation program groundwater data. Continuing to work on transition and start-up database issues with Earthsoft.

Purchased Aquarius system to replace Hydstra. Continuing to work on transition and start-up database issues with Aquatic Informatics.

The Watershed Data Integration Project launched new web-based tools for accessing data and information. Watershed webpages are found at: <http://www.pca.state.mn.us/index.php/water/water-types-and-programs/watersheds/watershed-overview-map.html>

Data retrieval tools are found at: <http://www.pca.state.mn.us/index.php/data/surface-water.html>.

Additional funding to further advance the Project was secured from the state legislature for the FY 12-13 biennium. The Clean Water Fund Interagency Coordination Team chartered a new subteam to begin planning an interagency version of this type of project.

**FFY 2012 Report:**

EQuIS implementation continues to progress, with key outstanding IT issues (e.g. cross-tab reports for large data sets) having been resolved. A lab EDD format has been created. Piloting of EDGE field software for data collection took place.

Aquarius system did not perform as planned, so the PCA has continued use of Hydstra.

The Watershed Data Integration Project (<http://www.pca.state.mn.us/index.php/water/water-types-and-programs/surface-water/watershed-approach/watershed-data-integration-project.html>): improved

web data access tools; created a GIS custom project boundaries tool; and made progress on moving TMDLs from a paper to an electronic data format, on consolidating assessment databases, and on initiating the creation of a multi-agency web data portal.

#### **7. Continue efforts to assess and list impaired waters:**

The MPCA continues to submit a list of impaired waters to EPA following the Consolidated Assessment and Listing Method categories, and using the EPA Assessment Database (ADB). The MPCA's move towards a watershed approach to monitoring and assessment, TMDL, and restoration and protection activities may necessitate adjustments to the impaired waters listing process to achieve the desired integration among those activities. Refinements to the MPCA's copy of the ADB may also be needed to meet identified information needs.

Over the next four years, the MPCA will work with EPA to identify and implement opportunities to refine the listing process to align with the watershed framework while continuing to meet state and federal goals and requirements. The MPCA will also continue to update its assessment approach and guidance based on new information and revisions to the state's water quality standards.

#### **FFY 2009 Report:**

The 2010 listing cycle proceeded on schedule. Data analysis was completed in winter 2009, and professional judgment meetings were held during spring 2009. A series of public meetings on the draft list were held in late September/early October, 2009. An effort to develop a watershed assessment approach was also initiated, and will be piloted in a few watersheds in winter 2010 to explore options for better aligning the assessment and listing process with the watershed framework in advance of the 2012 listing cycle.

#### **FFY 2010 Report:**

The 2010 Impaired Waters List was submitted on schedule in Spring of 2010. Approval of the list by EPA is expected by the end of calendar year 2010.

The MPCA continued its efforts to align its assessment process with the watershed approach. The MPCA developed and piloted an approach for conducting assessments on a watershed basis, whereby all the AUIDs with available data within a watershed are assessed at the same time following the intensive watershed monitoring effort. The MPCA is evaluating the results of the pilot assessments and further refining the process in anticipation of another round of data analysis and assessment, organized by watershed, in the second quarter of FFY 2011.

#### **FFY 2011 Report:**

The MPCA largely completed its re-design of the assessment process to align with the watershed approach. Watershed assessments were completed for 11 major watersheds that had undergone intensive watershed monitoring. Those assessment results were packaged with statewide assessments for toxics and fish consumption advice to create the initial draft 2012 Impaired Waters List. The state's assessment guidance manual is under revision to reflect the new approach; the MPCA managers also discussed the revised process with Region 5 staff and leadership on October 12, 2011. The MPCA currently anticipates putting the draft 2012 Impaired Waters list on notice in January 2012, holding public meetings in February 2012, and submitting the final draft List in April 2012.

#### **FFY 2012 Report:**

EPA approved the 2010 Impaired Waters list.

PCA public noticed the 2012 Impaired Waters list, and submitted the list for EPA approval in September 2012.

**Additional information:**

For more information on the Monitoring and Assessment Joint Priority, contact:

At MPCA, Katrina Kessler (assessment) at 651-757-2490 or [katrina.kessler@state.mn.us](mailto:katrina.kessler@state.mn.us),

or Glenn Skuta (monitoring) at 651-757-2730 or [glenn.skuta@state.mn.us](mailto:glenn.skuta@state.mn.us)

At EPA Region 5, Linda Holst at 312-886-6758 or [holst.linda@epa.gov](mailto:holst.linda@epa.gov)

## ***Midwest Clean Diesel Initiative***

October 1, 2008 – September 30, 2012

### **Objective:**

Both agencies seek a well coordinated effort to reduce diesel emissions, with clear and measurable outcomes.

### **Statement of Environmental Problem/Issue:**

Diesel engines emit a disproportionately higher amount of pollution than gasoline engines – especially particulate matter. Diesels also have a much slower fleet turnover rate due to their extreme longevity. The challenge is to reduce diesel emissions through a reduction in idling and retrofitting legacy diesel equipment, even though our state is in compliance meeting all federal air quality standards -- making any diesel retrofit a voluntary action.

### **Actions to be accomplished or Progress Update:**

1. The MPCA will provide loans to qualified small businesses for idle reduction devices. (Note: MPCA has indicated that because of lowered application rates, they would like to repurpose the portion of the allocation devoted to loans to be spent instead on more competitive grants administered by the State. R5 is ok with this approach, and if MPCA wants to remove this action point, we are ok with that.)

MPCA will also take a portion of the original loan dollars and allocate to a DERA RFP for emission reduction projects more targeted to the Twin Cities Metro area.

2. Provide EPA with an updated state diesel emission reduction plan by December 1, 2012. The report will address a new mix of targeted fleets as the school bus retrofit project ramps down. Updating the report with partner Environmental Initiatives will help us focus our statewide efforts beyond school bus retrofits. The MPCA and Environmental Initiative are also collaborating on *Minnesota's Clean Air Dialogue*, which brings leaders from the business, government, and nonprofit sectors together to identify strategies to improve air quality, protect public health, prevent violation of federal air quality standards and prepare the region in the event more stringent standards are released. This effort will increase awareness of air quality and related health issues, encourage greater partnership to gain emission and exposure reductions, and seek to leverage resources for such efforts.  
~~that will result in retrofits and idle reduction education for Minnesota's "legacy fleet" of school buses (currently estimated at slightly over 4000 buses) and other diesel fleets, and will establish substantial reduction targets for port equipment, heavy construction equipment and specific sector based initiatives, such as solid waste collection vehicles. (Plan has not been updated in at least a year, would MPCA and Environmental Initiative like to update it to reflect new focus areas and to coordinate with MCDI/NCDC's developing 5-Year In-Use Diesel Strategy.)~~
3. Establish financial support for the state diesel emission reduction plan by applying for federal grant awards, or state legislative initiatives, as appropriate.



## FFY 2009 Report:

### 1. MPCA Clean Diesel Loan Program:

Originally, loans were offered for the items listed below through our Small Business Environmental Improvement Loan program. During the past three years MPCA issued 70 loans totaling over \$787,000 for idle reduction equipment. Because of available DERA funding the MPCA was able to create a dedicated loan program specific to idle reduction efforts. This has freed up funding from the Small Business Environmental Improvement Loan program to go toward dry cleaners and other small businesses for the purchase of equipment that meets or exceeds environmental regulations. Due to a grant program established through stimulus funding (ARRA), activity for the APU (idle reduction) loan program has been quiet. Recently however, one loan for idle reduction equipment has been awarded and two more are pending. Additional applications are expected in the near future.

(EPA: see above comment on the program, we are ok if they want to stop allocating funds to the loan program and direct them toward the competitive RFP or MPCA/CAM joint activities.)

MPCA comment: This allows us the flexibility needed to direct dollars to changing needs, so no changes here.

### 2. Minnesota Clean Diesel Reduction Plan:

MPCA, working with Clean Air Minnesota (CAM), the state's Clean Diesel Coalition, developed a Statewide Diesel Emission Reduction Plan in late 2008, which was then revised with EPA input in early 2009. **The overarching goals of this plan are to 1) maximize diesel emission reductions by utilizing the most feasible, economical and appropriate technologies or processes 2) obtain the greatest number of health, economic, and education co-benefits 3) leverage public, private, local, state and federal resources 4) identify opportunities for new partners and new emission-reduction work.** The plan also identified opportunities for work in various sectors, discussed what has occurred in some of these sectors, as well as objectives for 2009. Among these sectors:

(EPA: Does MPCA want to update these? Are these still joint priorities?)

MPCA comment: We are in a transition (explorative) time with CAM and the EI Clean Air Dialogue. Given the broad goals remain the same and the Clean Air Dialogue is just starting, we suggest keeping this intact until more is learned.

- School buses: The MPCA continues to partner with Project Green Fleet (PGF), a program of the Minnesota Environmental Initiative (and a partner in CAM) through financial and technical support. This includes providing funds from the state Legislature, and the MPCA's standard Diesel Emission Reduction Act (DERA) state allocation. Progress continues and approximately 520 school bus retrofits will have been done in the 2009 calendar year instead of the original goal of 700. The goal had to be scaled back by MEI because both the state and DERA grant funding arrived later than anticipated. This will bring the cumulative project total of retrofit school buses to 1,800 by December 31, 2009. Additional federal funds have been secured by MEI to complete several hundred additional retrofits in 2010.
- Other on-road fleets: Both MPCA and PGF have expanded their work with other public and private on-road fleets through available DERA ARRA (American Recovery and Reinvestment Act), CMAQ (Congestion Mitigation and Air Quality), and other funding sources. MPCA has continued implementation of the CMAQ federal grants for the Twin Cities metropolitan area public heavy duty retrofits. MPCA has been working with MnDOT and several metropolitan county/municipal fleets. As of September 30, approximately 200 public heavy duty vehicles have been retrofitted

with many more slated for 2009/2010. The CMAQ project has expanded to include retrofits of Minneapolis and St. Paul City fire trucks – this bid award should be finalized through the MN Department of Administration in November.

- Off-road fleets: Through ARRA DERA funds, both MPCA and PGF will be able to expand retrofit efforts to off road equipment including construction, rail, and marine.
  - The MPCA added language to construction contracts (landfills, LUST projects) that requires winning construction bidders to reduce emissions through idle reduction practices and use of higher biodiesel blends.
  - Additionally, MPCA also continues to work with PGF to encourage emission reduction language and possibly offer emission reduction grants (through MEI) for the construction equipment of contract bid winners on the Central Corridor Light Rail. A recent meeting with Central Corridor staff indicates a willingness to include some type of emission reduction requirement, or strongly encouraged language in future bid specs for various construction projects. Examples include reduced idling policies, emission control devices and the use of cleaner fuels.
  - Idle Reduction: MPCA staff participated in ‘fleet management events’ throughout the state, called Clean Diesel Road Shows, which brought together public and private fleet owners interested in reducing diesel emissions through idle reduction practices. The Road Show events were coordinated by MEI and other CAM partners. MPCA staff also participated in the 2008 and 2009 Midwest Clean Diesel Initiative Conference held in Region 5’s Chicago office.
3. MPCA continued to support school bus retrofits in the state by awarding an additional \$1.2 million in state funding in 2009 to Project Green Fleet, allowing for at least 550 additional retrofits by 2011. This is in addition to the \$1.2 million awarded to PGF in 2008 for school bus retrofits.
  4. MPCA applied for and received \$1.73 million in ARRA-DEIRA funds awarded through the state clean diesel grant program in April 2009. These funds allow MPCA to further the goals of the state’s Diesel Emission Reduction Plan by offering financial resources to public and private fleets for diesel emission reduction work. MPCA released an RFP for \$1.56 million available public and large and small private diesel vehicles including long-haul trucks, marine and construction equipment. Categories included auxiliary power units (APUs), trailer refrigeration repowers, engine repowers and emission reduction retrofits. The grant was promoted through targeted associations and vendors along with mainstream news media. It was opened in June to public and private fleets of all sizes. 125 applications were received. Applications were screened and categorized, followed by a random selection process by category with witnesses. These identified 61 grantees that were notified in August. Due to administrative delays, grant agreements were still in the process of being sent out as of September 30, 2009, but the MPCA is actively working to get agreements sent out.

MEI, one of the MPCA’s main partners in clean diesel work, applied for and received approximately \$3 million in ARRA-DEIRA competitive funds. These funds will be used to continue the work of the state’s diesel emission reduction plan, including additional school bus retrofit work, as well as expanded retrofit efforts to other public and private on and off road fleets.

5. MPCA has taken steps last fall to look into new diesel areas, by adding a \$57,000 pilot project to its DEIRA plan - aimed at reducing diesel emissions by repowering aircraft tugs used at MSP Airport.

**FFY 2010 Report:**

- Originally, loans were offered for the items listed below through our Small Business Environmental Improvement Loan program. During the initial three years, MPCA issued 70 loans totaling over

\$889,000 for idle reduction equipment. Because of available DERA funding MPCA created a dedicated loan program specific to idle reduction efforts. Due to a grant program established through stimulus funding (ARRA), activity for the APU (idle reduction) loan program has been relatively quiet. During Federal Fiscal Year (FFY10), six loans totaling \$68,154 for idle reduction equipment were issued. --- *(No comment from R5, this was approved by R5 clean diesel grant project managers.)*

- The ARRA (stimulus) Grant award generated nearly 70 projects that began being implemented in January, 2010. Additional MPCA staff were directed to help support the grant. --- *(No comment from R5, grant is closed.)*
- Due to a parts shortage, but mostly due to the downturn in the economy and its effect on grantees – the MPCA (like most other states), requested and received an extension through the end of March, 2011 for completion of \$1.57 million in projects for the ARRA Grant. --- *(No comment from R5, extension was approved.)*
- In the past year, twelve MPCA quarterly reports sent to the EPA were completed for the ARRA Grant and another four were completed for the DERA Grant. --- *(EPA's comment: The MPCA continues to submit reports in a timely manner.)*
- The MPCA has cooperated with an EPA audit and site visit for the ARRA Grant. The first EPA review had no problems. The site visits included a large fleet with APU installs in progress and a tour boat with a 4-engine repower in progress. The site visits were successful in giving EPA and the MPCA staff a behind the scenes look at installation efforts and challenges. Both grant examples met expectations in fulfilling their grant work. --- *(No comment from R5.)*
- The MPCA has begun to quantify diesel emission reductions by various key pollutants. The MPCA staff will use the EPA Diesel Emissions Quantifier to estimate emission reductions for PM 2.5, NOx and CO2. A data background /assumptions document will be developed to explain averages used for input data; such as miles per gallon, miles traveled and idling time for certain equipment/vehicle groupings. --- *(EPA's comment: R5 continues to provide the MPCA with technical assistance if they request it to complete these DEQ runs.)*
- A more accurate estimate of completed school bus retrofits is 1,800 completed by the end of December 2010. We are forecasting that another 600 buses will be retrofit by the end of June in 2011. --- *(No comment from R5.)*
- Despite a severe nationwide shortage of diesel oxidation catalysts in the summer of 2010, the MPCA completed approximately 100 additional municipal heavy-duty truck retrofits in the Twin Cities metro area via the CMAQ Grant. This brings the total to about 340 vehicles through September 2010. Meetings held this past year with city fleet managers at Minneapolis and St. Paul have helped laid plans to retrofit 40 additional fire trucks. --- *(EPA: The MPCA has been diligent in notifying R5 about when DOC orders occur while noting the parts delays. R5 is ok with this.)*
- In the past year, three off-road repowers were completed with the ARRA Grant, along with four-engine tour boat repower already mentioned; a large crane and a grader have also been repowered. --- *(No comment from R5.)*
- By the end of September 2010, \$1,095,720 of the \$1.55 million (for projects) was disbursed by the MPCA for ARRA clean diesel work in Minnesota. Almost 70 grants were executed. These projects represent approximately 270 vehicle units that will benefit from reduced emissions. --- *(Projects complete, no comment from R5.)*
- The MPCA has begun to work on a comprehensive RFP for the DERA Grant that would include funding opportunities for airports, Twin Cities-area railroad yards and school bus retrofits. --- *(EPA comment: R5 will continue to offer technical support in the creation and administration of MPCA's clean diesel RFP's.)*

### **FFY 2011 Report:**

- Loan Program Update: During Federal Fiscal Year (FFY 11), six loans totaling \$59,575.15 for idle reduction equipment were issued.
- Fall 2010, the MPCA completed all quarterly EPA reports for both the \$1.73 million ARRA (Stimulus) and the \$600,000 DERA clean diesel grants.
- Fall 2010, MPCA began working on an RFP draft for the DERA grant.
- March 2011, MPCA completed the last of 69 ARRA grant projects, all grantee reimbursements for 287 vehicles/engines and all final reporting for the ARRA Clean Diesel grant.
- Spring 2011 – MPCA published an RFP for the DERA grant, targeting Twin Cities Metro area fleets.
- Only one complete eligible application was received. It was from the Metropolitan Airport Commission (MAC) for \$100,000 to retrofit 44 vehicles.
- In the fall of 2010, the MPCA had begun to run out of eligible dump trucks for city, county and state and had begun retrofitting fire trucks through the CMAQ grant – but there was still funding leftover.
- In January/February 2011, the MPCA's CMAQ grant project was so successful the grant had to be amended (with MnDOT) to include all municipalities in the Twin Cities Metro area – instead of just Minneapolis and St. Paul.
- In addition, eight new municipalities had to be contacted and brought on board.
- Despite parts delays of up to six-months on DOCs a challenging state vendor, a brutal winter and the logistics effort of retrofitting fire trucks and snow plows; the MPCA's CMAQ efforts managed to retrofit approximately 40 heavy duty public vehicles.
- In August 2011, the MPCA began working on possible inter-agency agreements for clean diesel off-road construction equipment. There are many challenges here, but at least favorable networking has occurred. In general, the state construction fleet is fairly new and re-powers are about the only emission reduction technology available to off-road equipment.
- MPCA staff also had made efforts to promote and explain the clean diesel work internally, to the public and also to the Minnesota Legislature. These efforts include PowerPoint slide shows, news releases, table and charts.
- For the above work and for federal reports, diesel emissions quantifying metrics were developed.
- The \$2.4 million state school bus grant, administered by the MPCA and implemented by Minnesota Environmental Initiative's *Project Green Fleet* – managed (despite the looming state shutdown and vendors worried about getting paid) to complete all school bus retrofits by June 30, 2011. All funding except for a few hundred dollars was expended and 522 buses were retrofit through this grant between October 2010 and October 2011.

### **EPA REGION 5 COMMENTS ON FFY 2011 REPORT:**

- Region 5 approved and closed MPCA's ARRA state allocation successfully. The MPCA did a good job of drawing down funds on quality clean diesel projects in a timely manner, as was the intent of the ARRA funding.
- EPA continues to provide the MPCA with technical support when MPCA opens RFP's for clean diesel projects in the State. EPA encourages the MPCA to continue competing clean diesel allocation funds to expeditiously draw down the FY 08-FY 11 "DERA I" funds by the end of FY 2012. Region 5 anticipates that the MPCA will satisfactorily draw these funds by the required date.
- EPA will continue to work closely with the MPCA to administer clean diesel funding in the future.

### **FFY 2012 Report:**

- October / November 2011 the MPCA finalized school bus retrofit sole source agreement with EI/Project Green Fleet.
- December 2011 the MPCA received two solid applicants to its clean diesel RFP: Lunda Construction for 5 crane repowers and Coca-Cola for 6 hybrid delivery truck replacements.
- Contract agreements for both were finalized in January/February.
- I met with Cummins local and regional staff to discuss concerns with the Lunda project and ensure/encourage good communication throughout.
- There were parts delays for the MAC project to retrofit 40 airport support vehicles and security clearance issues/delays for vendors to work at the airport.
- Still, all three major projects were finished by September 2012!
- Ditto for school bus retrofits through EI and a few APU loans.
- In June/July I worked on a new RFP and submitted the RFP request to our Contracts Unit.
- In August/September I worked on a news release for the RFP, Web page updates and a photo shoot of past projects.

### **Joint Priority Responsibilities:**

1. Advocate participation and actively solicit membership in EPA's SmartWay Transport program by Minnesota trucking companies.

### **FFY 2009 Report:**

During the FFY 2009, the MPCA promoted the SmartWay Transportation program through the MPCA Small Business Auxiliary Power Unit (APU) Loan Program. The SmartWay program was referenced in materials provided to small trucking companies interested in purchasing an APU to reduce their diesel emissions through this idling alternative. (See above comments.)

2. Partnership and participation in EPA's Midwest Clean Diesel Initiative. The MPCA will provide staff and leadership support for this effort and participate in and/or coordinate with Midwest Clean Diesel activities. EPA Region 5 will coordinate the Midwest Clean Diesel Initiative and offer technical and financial resources, where available, in support of Minnesota's diesel emission reduction plan.

### **FFY 2010 Report:**

MPCA's ARRA grants specialist presented and participated in two Midwest Clean Diesel Initiative conferences in the past year.

3. Participation and financial support for Project Green Fleet continues. PGF is an innovative voluntary approach to accomplishing retrofits and commitment to diesel idling reduction through a private-public partnership. The MPCA is currently committed to develop in partnership with Clean Air Minnesota, a statewide diesel emission reduction plan based on this model. Project Green Fleet is a significant component of that plan.
4. Offer opportunity for Supplemental Environmental Projects. MPCA will offer diesel retrofits, installation of Auxiliary Power Units and other diesel reduction activities as a SEP, at every applicable enforcement opportunity.

5. Participation in CenSARA's Blue Skyways Collaborative. MPCA will seek other federal funding for reduction in idling and retrofits. EPA Region 5 will support MPCA's efforts with EPA Region 6 and 7.
6. Offer financial support. EPA Region 5 will seek to allow attainment states to participate in funding opportunities for diesel reduction projects.

**Additional information:**

For more information on the Midwest Clean Diesel Initiative Joint Priority contact:

At MPCA: Rick Patraw, 651-215-0193, [rick.patraw@state.mn.us](mailto:rick.patraw@state.mn.us)

At EPA Region 5: Pamela Blakley, [Blakely.Pamela@epa.gov](mailto:Blakely.Pamela@epa.gov)

and Anthony Maietta, [Maietta.Anthony@epa.gov](mailto:Maietta.Anthony@epa.gov)

# ***Home Land Security***

October 1, 2008 – September 30, 2012

## ***Part 1: Preparedness for managing and decontaminating debris, structures, and places contaminated by biological, chemical, or radiological materials.***

### **Objective:**

To be prepared for management and decontamination of contaminated debris. The U.S. EPA and the MPCA will cooperate in preparedness training and exercising for management of debris and decontamination of structures and places contaminated by biological, chemical, or radiological materials or agents.

### **Statement of Environmental Problem/Issue:**

Debris and contaminated debris remains after the rescue and public safety phase of a terror event or a nuclear power plant off-site release.

### **Actions to be accomplished or Progress Update:**

1. During the period of this PPA the MPCA and the U.S. EPA agree to attempt to present at least two major decontamination training and exercise events in Minnesota. The suggested scenarios for the training and exercise events are: 1) decontamination of a public building by a biological agent for one event; and 2) management of off-site materials and properties (such as fields and milk and hay and houses) contaminated by a nuclear power plant release suggested for the second event.
2. For each of the training and exercise events the U.S. EPA Regional and National Decontamination Team experts as available will present a day-long workshop on the selected decontamination and debris management topic. The MPCA will invite appropriate staff from MPCA, other state agencies, city and county agencies, facilities, and contractors to the training. The MPCA will handle the logistics of the training session.
3. Approximately 3 months after the training session U.S. EPA and MPCA will co-lead a tabletop exercise. The exercise will be designed to practice or test the roles, capabilities, command, and technical aspects of scenarios for the selected bio/chem/rad agents. The MPCA will handle the logistics of the training session. The U.S. EPA will bring appropriate EPA experts as available, and will request participation by appropriate experts of other national response organizations that would play important roles in an incident (e.g. NRC, ATSDR, military). The MPCA will bring appropriate state experts, and will request appropriate local, facility, and contractor experts.
4. Following the training and tabletop the U.S. EPA and the MPCA will endeavor to improve identified gaps or capability weaknesses

### **FFY 2009 Report:**

1. On April 30, 2009, EPA regional and headquarters staff, NRC staff, American Nuclear Insurers, FEMA, HSEM staff presented training on the assessment and recovery phase of an off-site release from a nuclear power plant to audience of state, local, and federal responders and planners. On May 1, 2009, presenters and audience participated in a facilitated discussion/exercise of the issues related to assessment, cleanup, and re-entry into evacuated areas on the management of contaminated lands and materials.

The EPA committed to arranging further training and exercising on this topic.

**FFY 2010 Report:**

The MPCA, Minnesota Department of Health (MDH), and Minnesota Department of Public Safety Homeland Security and Emergency Management (HSEM) met with EPA Region V and the other regional states twice in FFY 2010 and once so far in FFY 2011 in "Readiness to Respond" assessments. The purposes of the Readiness to Respond assessments and projects align perfectly with the purposes of this Home Land Security project under the EnPPA. So the MPCA has consolidated the two projects.

In the first three meetings of Readiness to Respond each state assessed state and local capabilities and likely needs in chemical, biological, and radiological scenarios. EPA presented federal capabilities. States and EPA discussed likely command and support roles.

At the third Readiness to Respond meeting the MPCA and the EPA agreed to proceed with two training and exercise cycles. One will be related to a bio scenario and a second related to a rad dispersion device scenario. The training and exercises will be done in calendar 2011 and calendar 2012; the MPCA and the EPA OSC Vega are currently drafting the first ideas for the training/exercise, with participation of HSEM and MDH. Tentative training and exercise date is October 2011 with a rad dispersion scenario.

The rad scenario initially proposed in this Home Land Security project was recovery and debris issues following the ingestion phase of a nuclear power plant incident. The roles of power plant operator, their insurer, federal and state responders; and the jurisdiction of various federal acts; and the fundamental responsibility for recovery phase cleanup remains unclear. So training and exercising the power plant recovery phase will not yet be useful pending a clear understanding of roles and responsibilities.

The rad scenario of a rad dispersion device in a public place replaces the power plant scenario in the EnPPA Home Land Security commitment. This scenario is under active planning and exercise by Minnesota local and state responders for the discovery, evacuation, medical, and isolation phases. So a fall 2011 training and exercise project may be perfectly timed for Minnesota's purposes.

**FFY 2011 Report:**

The Radiation Dispersion Device (RDD) Cleanup Training and Exercise was held in St. Paul on October 26 and 27, 2011. About 100 staff of the MPCA, MDH, HSEM, state Chemical Assessment Teams, the 55<sup>th</sup> Civil Support Team, FEMA, MCES, WLSSD, Minneapolis, St. Paul, Duluth, Bloomington, Radiological Emergency Preparedness program cities and counties, and Guard CBRN Team attended.

The EPA presented training on day 1 related to radiation basics, RDD design and performance, decontamination and waste management, federal response assets available, lessons of Chernobyl and Fukushima and exercises. Day 2 was exercise/discussion facilitated by the MPCA focusing on objective-setting, unified command, monitoring and lab confirmation, action levels, cleanup operation oversight, and waste management.

Decision was not reached on a state level as to whether additional RDD response planning is needed or will be done. MPCA will follow up with MDH and HSEM. The MPCA will memorialize within the Emergency Operations Plan the major learning of the discussion related to RDD response organization.

The MPCA's draft Standard Operating Guidance for nuclear power plant off-site release response has reportedly provoked needed headquarters level discussion between EPA, FEMA, Department of Energy,



NRC, and other groups involved with power plant emergency preparedness. The discussion includes role of government vs. power plant operator, and available authorities for the MPCA will stand by for the results of that discussion before proceeding with nuclear power plant incident preparedness.

**FFY 2012 Report:**

The MDH will be the lead State agency for a second training and tabletop exercise session, focusing on decontaminating places and structures from a biological agent. The MPCA and EPA's Ms. Sonia Vega attended an October 31, 2012 initial planning meeting. Ms. Vega has been in some communication with MDH on further planning for the session.

**Joint Priority Responsibilities:**

1. Stephen Lee, MPCA
2. Len Zintak, EPA
3. Jason El-Zien, EPA

**Additional information:**

At the MPCA, Stephen Lee, Manager, Emergency Response and Preparedness 651-757-2160 or [stephen.lee@state.mn.us](mailto:stephen.lee@state.mn.us)

At EPA, Len Zintak, 312-886-4246 or [zintak.leonard@epa.gov](mailto:zintak.leonard@epa.gov); or  
EPA, Jason El-Zien, 312-886-6039 or [el-zein.jason@epa.gov](mailto:el-zein.jason@epa.gov)

***Part 2: Natural Disaster Debris***

**Objective:**

To prepare for debris from natural disasters, including supporting local government's management of debris; managing orphan oil and chemicals; and overseeing responsible party cleanups of oil and chemicals spilled in a natural disaster.

**Statement of Environmental Problem/Issue:**

Natural disasters such as floods and tornadoes can spill and spread oil, chemicals, and demolition debris.

**Actions to be accomplished or Progress Update:**

1. The MPCA will maintain existing MPCA's Emergency Operating Plan and its guidance for natural disaster related debris, including management of oil and chemical debris, household hazardous wastes, etc. U.S. EPA concurs.
2. The U.S. EPA will review and comment on MPCA's natural disaster related debris guidance, and will provide advice and examples of other states' and federal debris guidance. U.S. EPA concurs.
3. The U.S. EPA is developing a website which will provide advice and examples of debris guidance. The U.S. EPA will provide comments on the MPCA's developed guidance.

**FFY 2009 Report:**

The MPCA significantly updated debris management guidance materials following the threatened flooding of the Red River of the North. Updated guidance is being compiled into a Standard Operating Guidance (SOG) which will be forwarded to the EPA on completion, anticipated winter 2009. U.S. EPA concurs.

**FFY 2010 Report:**

The MPCA SOG for natural disaster debris remains in preparation. Flooding in fall 2010 and anticipated spring flooding in 2010 puts emphasis on this SOG.

**FFY 2011 Report:**

The MPCA has provided two sets of material for EPA review.

First is a link to the "Toolbox for Local Officials Facing Natural Disaster" section of MPCA webpage. This is a set of guidance and fact sheets that help local officials plan for and respond to disaster. The most common are flooding and tornado. This toolbox is refreshed before each year's flooding and tornado season. We have had good feedback from local officials. We'll be interested in the EPA's thoughts.

Second is the MPCA Emergency Operations Plan Standard Operating Guidance for natural disaster response. This is meant to assist the MPCA emergency response and waste program staff prepare for and respond to disaster. It is an internal document. We'll be interested in the EPA's review.

**FFY 2012 Report:**

**MPCA received comments from U.S. EPA on the SOG and the toolbox.**

The MPCA SOG for natural disaster debris management got another workout in the June 2012 flash flooding in Northeastern Minnesota. Several debris management details were discussed in the MPCA after action review and the SOG will be amended.

**Joint Priority Responsibilities:**

1. Stephen Lee, MPCA
2. Jerri Garl, EPA Land and Chemicals Division

**Additional information:**

At MPCA, Stephen Lee, Manager, Emergency Response and Preparedness 651-757-2160 or [stephen.lee@state.mn.us](mailto:stephen.lee@state.mn.us)

At EPA, Jerri Garl, Land and Chemicals Division 312-353-1441 or [garl.jerri-anne@epa.gov](mailto:garl.jerri-anne@epa.gov)

***Part 3: Water/Wastewater Agency Response Network (Warn)***

**Objective:**

Support local water and wastewater utility mutual aid and other emergency preparedness.

**Statement of Environmental Problem/Issue:**

The Water/Wastewater Agency Response Network (WARN) is a developing partnership between many of the State's water and wastewater utility officials. The WARN system seeks to provide for mutual aid between the utilities when one has suffered man-made or natural disaster WARN will also facilitate mutual training for the utilities.

**Actions to be accomplished or Progress Update:**

The Minnesota Water/Wastewater Agency Response Network (MnWARN) is a system of members of the water/wastewater regulated community that have come together to address, mutual aid during man-made and natural disasters. MPCA and EPA agree to

- a) As requested support and assist the Minnesota drinking water and wastewater utilities WARN program in order for them to prepare for mutual assistance during natural and man-made disasters.

**FFY 2009 Report:**

No specific requests for support from MnWARN.

**FFY 2010 Report:**

Flooding in September 2010 put the MnWARN system to a test. The MPCA closely coordinated with the MnWARN operator mutual aid system for procuring pumps, expertise, and operational assistance for operators. The MPCA wastewater staff were in contact with wastewater operators and have done field visits to inspect and advise operators on bypass procedures and on returning their wastewater plants to normal operation. All parties had very positive experience with the mutual aid and assistance provided under the MnWARN system.

**FFY 2011 Report:**

The MPCA was an active participant in MnWARN activations. One was requests for pumps for the City of Brownton, and the other was pump request to City of Fridley during very high rainfall event in July. The MPCA has a seat on the state MnWARN Steering Committee and actively participate in the MnWARN training events. Craig Schafer and Ryan Anderson are the MPCA participants.

**EPA COMMENTS:**

Recommend adding the number of active WARN members for each FFY. Recommend adding FFY 2012 WARN activities completed to date and projected WARN activities to take place prior to September 30, 2012, such as WARN outreach/advertising activities and hosting a statewide WARN TTX in conjunction with US EPA HQ. Please note that U.S. EPA Nick Damato is replaced by Charlene Denys.

**MPCA RESPONSE:**

The MPCA continues to be an active participant in MnWARN. Craig Schafer is the MPCA participant in all of the activations with assistance from other MPCA's wastewater compliance staff. This past year we received a pump request from the cities of Brownton and Fridley. As of last week, there are currently 239 MnWARN members.

Additionally, the MPCA has a seat on the state MnWARN Steering Committee and actively participates in the training events. MnWARN will conducts a one day annual membership meeting and training in July or August, along with each of the 6 Regional Representatives hosting meetings at least once a year in their regions. MPCA will attend most of these meetings.

The MPCA, MDH, and Mn Rural Water all include MnWARN awareness and activation training in their regular operator outreach and training as a structured section of the curriculum. MnWARN was also a partner with the MPCA Emergency Response Team at the MPCA January Wastewater Collection Conference Vendor's show and the MPCA March Annual Wastewater Operator's Conference vendor's show to discuss and promote MnWARN Membership and the benefits.

Lastly, the MPCA will be conducting a tabletop activation exercise with the EPA this summer (prior to Sept. 30). The scenario will likely be focused on drinking water supply as we have already had a number of waste water activations in the state.

**FFY 2012 Report:**

The current membership in MnWARN is 290 + members, which is up over 50 from last year.

MnWARN also conducts a one day annual membership meeting and training in July or August each year,

along with each of the 6 Regional Representatives hosting meetings at least once a year in their regions (MnWARN did conduct this training in the summer of 2012)

The MPCA, MDH, and MN Rural Water all include MnWARN awareness and activation training in regular operator outreach and training as a structured section of the curriculum. MnWARN is also a partner with the MPCA Emergency Response Team at the MPCA January Wastewater Collection Conference Vendor's show and the MPCA March Annual Wastewater Operator's Conference vendor's show to discuss and promote MnWARN Membership and the benefits.

MPCA (emergency response and wastewater staff) and MnWARN were very active in the 2012 NW Minnesota Flooding event and the straight line wind event in South Central Minnesota.

MnWARN, MPCA, Rural water, and MDH are training communities during State Health department water training for emergency planning for drinking water intrusions. MPCA did complete a tabletop activation exercise with EPA the summer of 2012.

**Joint Priority Responsibilities:**

1. Steve Lee and Wendy Turri of MPCA
2. Charlene Denys of EPA

**Additional information:**

At MPCA, Stephen Lee, Manager, Emergency Response and Preparedness at 651-757-2160 or [stephen.lee@state.mn.us](mailto:stephen.lee@state.mn.us)

At EPA, Charlene Denys at 312-886-6206 or [denys.charlene@epa.gov](mailto:denys.charlene@epa.gov)

At MDH, Jon Groethe 330-223-7339; or

MDH, Bob Smude 651-201-4677; or

MDH, Mark Sloan 651-201-4652; or

MPCA, Wendy Turri 507-206-2651