

**Division of Drinking and Ground Waters**

**Drinking Water State Revolving Fund  
Wellhead Protection Set-aside  
Annual Report, Program Year 2008**

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**August 2008**

Ted Strickland, Governor  
Chris Korleski, Director

Ohio EPA utilized the Wellhead Protection Set-aside to fund activities specified in the Drinking Water State Revolving Funds Intended Use Plan for Program Year 2008 (DW SRF IUP). These funds were used to complete source water assessment and wellhead protection activities for public water systems; assist communities developing wellhead protection/source water protection plans; conduct source water protection education and outreach; provide technical assistance; and general administrative and information management support. This report summarizes the annual expenditures, goals and objectives of the Wellhead Protection Set-aside, and program accomplishments by Activity as listed in the DW SRF IUP for Program Year (PY) 2008.

### **A. Expenditures and Full Time Equivalent (FTEs)**

Ohio EPA obligated approximately \$960,000 to fund 9.6 full time equivalent staff to support implementation of the wellhead protection and source water assessment activities specified in Ohio's DW SRF Intended Use Plan for PY 2008.

### **B. Goals and Objectives**

The goals and objectives for the Wellhead Protection Program for PY2008 were as follows:

1. Complete source water assessments for new public water systems;

2. Refine delineations in potential karst bedrock hydrogeologic settings;
3. Assess and conduct ground water quality investigations to evaluate potential contaminant sources impacting source water quality for water systems with contaminant concentrations near or exceeding a MCL;
4. Encourage and provide direct technical assistance to public water systems in development and implementation of source water protection plans;
5. Conduct general public outreach and education and disseminate source water assessments to public water systems and the public via a secure web site;
6. Document local source water protection implementation strategies through development of a tracking survey;
7. Collaborate with State environmental programs to develop and implement source water protection strategies; and
8. Provide general program support activities for staff.

### **C. Overview of Program Accomplishments**

During PY 2008, the program has focused on promoting protective strategies, conducting training workshops, providing direct technical assistance to public water system officials, developing education and outreach activities, completing source

water assessment reports for new public water systems, re-delineating some of the wellfields in karst geologic settings and QA/QC of the source water assessment information geographic information system databases.

Seventy-five source water assessment reports were completed during PY 2008. Some of the previously completed source water area delineations in karst geologic settings were re-evaluated and updated for public water systems located in Central and Southwestern Ohio.

Staff conducted multi-session source water protection planning workshops in Jefferson County, Trumbull County, and Logan County. New workshops within the Chippewa Buried Valley, the Maumee River watershed, the Lower Muskingum watershed, the Sandusky River watershed, and Holmes/Wayne Counties were initiated.

In addition to the workshops, staff conducted over 80 meetings with 45 public water system operators or local source water protection teams, where they provided information and technical guidance on developing or implementing a local source water protection plan.

Thirty-eight source water protection plans developed by public water systems were received by the Agency as a result of these outreach efforts. Thirty-two of the plans were endorsed by the agency.

As of June 30, 2008, 46 percent of all community water systems covering 53 percent of the population served are substantially implementing source water protection measures under the criteria described in Ohio EPA's program.

Finally, staff responded to 455 technical assistance requests for site-specific maps showing locations of source water protection areas near existing or proposed waste or product management and storage facilities.

#### ***D. Program Accomplishment by Activity***

Accomplishments for each of the program activities identified in the PY 2008 DW SRF IUP are summarized below:

##### **Activity 1 - Complete source water assessments for new public water systems.**

#### **Proposed Outcome/Product**

1. Complete source water assessment reports for new public water systems.
2. Review for endorsement assessment reports completed by public water systems.
3. Re-delineate and re-inventory source water areas, as needed.

### Actual Work Completed

- Completed WHP/SWAP reports for public water systems using ground water.
  - 68 Delineations
  - 69 Potential Contaminant Source Inventories
  - 75 Final Source Water Assessment Reports

### Supplemental Environmental Benefits

Mapped source water assessment and protection areas are incorporated into a statewide geographic information management system, which facilitates identification and association with other environmentally regulated activities.

**Activity 2 - Refine delineations in potential karst bedrock hydrogeologic settings.**

### Proposed Outcome/Product

1. Re-delineate source water assessment areas and re-issue reports based on criteria in guidance

### Actual Work Completed

- Drafted summary report for the Clark County dye trace investigations.
- Gave six presentations on the results and implications of the Clark County dye trace investigations.
- Trained CDO and SWDO staff on the new karst delineation methodology.

- Assisted district staff in revising delineations for public water systems located in karst areas.
- Completed preliminary karst field investigations, in coordination with the Ohio Department of Agriculture and the Ohio Department of Natural Resources, to locate karst features in Seneca, Sandusky and Wyandot Counties.
- Met with the Seneca and Sandusky County Environmental Health Directors to discuss water quality issues in the counties and the possibility of conducting a dye trace in those counties.
- Met with the Wyandot County Environmental Health Director to discuss water quality issues in the county and the possibility of conducting a dye trace in Wyandot County.
- Completed detailed maps depicting karst features located in the Bellevue area.

### Supplemental Environmental Benefits

Information from the dye-trace studies will be used to provide a more scientifically defensible time-of-travel area for systems drawing ground water from karst aquifers. This information also can be used by other Ohio EPA programs and other agencies, such as the Ohio Department of Natural Resources and the U.S. Geological Survey.

**Activity 3 - Assess and conduct ground water quality investigations to evaluate potential contaminant sources impacting source water quality for water systems with contaminant concentrations near or exceeding a MCL.**

**Proposed Outcome/Product(s)**

1. Statewide evaluation of water quality compliance data to establish priority public water systems
2. Study Plans
3. Sample Collection and Analysis
4. Summary Reports
5. Identify probable cause of contamination.

**Actual Work Completed**

- *Number of Projects Completed* - No new water quality investigations were initiated during PY 2008. Staff continued work on one project, the source of nitrate in the Village of Shadyside wellfield.
- *Village of Shadyside* - Source Water Protection staff continued collaboration with staff geologists in assessing and investigating the potential source(s) of increasing nitrate levels in the Village of Shadyside wellfield. Phase 3 work was designed and implemented. Lab results for isotope samples were received and interpreted for inclusion in a final summary report.

**Activity 4 - Encourage and provide direct technical assistance to public water systems in development and implementation of source water protection plans.**

**Proposed Outcome/Product(s)**

1. Local development of source water protection plans and local implementation of protective strategies.
2. Up to ten local/regional source water protection workshops, led by Ohio EPA.
3. Direct technical assistance to public water systems developing local source water protection plans.

**Actual Work Completed**

- Reviewed 38 municipal Source Water Protection Plans; 32 were endorsed by the Agency. See list in Appendix 1.
- Assisted in the development of source water protection planning. Not including their participation in workshops (see below), District staff documented over 80 meetings with 45 public water system operators or local source water protection teams, where they provided information and guidance on developing or implementing a local source water protection plan. See list of public water systems in Appendix 2.

- Completed multi-session source water protection planning workshops in Jefferson County, Trumbull County, and Logan County. New workshops within the Chippewa Buried Valley, the Maumee River watershed, the Lower Muskingum watershed, the Sandusky River watershed, and Holmes/Wayne Counties were initiated. Altogether 41 public water systems have participated in these workshops. They are targeted to local organizations, community officials and public water system operators. Eligible participants receive one contact hour per session (with 5 sessions planned), which are awarded upon submission of an endorsable protection plan.
- Received 55 Source Water Protection Plan checklists from non-municipal systems.
- Returned certificates of recognition to 87 public water systems that had sent in a source water protection plan or an implementation strategy.
- Supported and collaborated with the Ohio Rural Water Association (OWRA) and Source Water Protection Technician in his efforts to assist public water systems developing protection plans. Attended ORWA Annual SWAP workplan meeting in March 2008 with staff from the USDA Farm Service Agency.

**Activity 5 - Conduct general public outreach and education and disseminate source water assessments to public water systems and the public via a secure web site.**

#### **Proposed Outcome/Product(s)**

1. Continue development and maintenance of secure web page to access reports.
2. Document management.
3. Respond to technical assistance requests.
4. Update source water assessment and protection web pages.

#### **Actual Work Completed**

- During SFY08, 117 new users registered for the Source Water Protection secure Web page, bringing the total number to 323. The registered users are primarily environmental consultants, but also include state, local, and federal agencies, regulated communities, schools, and non-profit organizations representing 13 states and the District of Columbia.
- Continued to add new SWAP reports to the DDAGW intranet, where they are available to all Ohio EPA staff.
- Continued to QA/QC the statewide geographic information system data layer of Source Water Protection areas and well locations.
- Scanned about 95% of the assessment reports done by consultants under Wellhead

Protection, and made them available on the secure Web page.

- Prepared and conducted ground water training in October 2007 at five regional workshops in support of the "Project SWEET" partnership with the Ohio Department of Natural Resources - Division of Soil and Water Conservation. Initiated in January 2005, Project SWEET created over 40 county/regional Source Water Environmental Education Teams (SWEETs) that provide education in ground water concepts and Source Water Protection. During PY 2008, the teams reported 96 outreach events reaching over 9,853 Ohioans through a variety of venues.
- Completed the 2007 SWAP newsletter, summarizing Source Water Protection accomplishments in Ohio during PY 2007, and posted it on the SWAP Web site.
- Continued to update the SWEET Web page, fact sheet, and listserv to provide continued support and education to SWEETs, encourage statewide communication among the teams, and advertise the availability of teams to the general public. The web page can be accessed at the following address:  
<http://www.epa.state.oh.us/ddagw/SWEET/index.html>
- Conducted a Source Water Protection exhibit at the annual 3-day Farm Science Review in London, Ohio, which is targeted to the agricultural community.

Demonstrating a sand-tank ground water simulator at this venue has proven effective in impressing upon growers the potential for agricultural chemicals to contaminate drinking water sources.

- The source water assessment and protection web site was accessed 6,246 times during the reporting period (2.5 times more than last year).
- Responded to 455 technical assistance requests for site-specific maps showing locations of source water protection areas near regulated facilities. Average response time was less than two days and 45% of the responses were sent out the same day the request was received.
- In addition to the above, responded to 103 technical assistance requests for site-specific maps showing locations of source water protection areas near coal or industrial mining sites.

**Activity 6 – Document local source water protection implementation strategies.**

**Proposed Outcome/Product(s)**

1. Develop and conduct survey.
2. Track and manage information

**Actual Work Completed**

- Finished entering information from the returned surveys into a survey

tracking module that was added to the existing tracking program.

- Completed preliminary reports on the survey data and summarized it in the 2007 SWAP newsletter (noted above in Activity 5, bullet 6).
- Evaluated substantial implementation of local protective strategies based, in part, on information provided in the surveys.

**Activity 7 – Collaborate with State environmental programs to develop and implement source water protection strategies.**

#### **Proposed Outcome/Product(s)**

1. Development of regulations or guidance
2. Implementation of best management practices

#### **Actual Work Completed**

- At the request of the Ohio Water Resources Council, coordinated the update of "Recommended Setbacks for Human and Animal Waste Management Near Drinking Water Supply Wells and Intakes" based on their recommendations.
- Initiated collaboration with Ohio Farm Service Agency to share cropland and source water protection area geographic information system data with the intent of promoting the Conservation Reserve Program available to cropland owners within state endorsed protection areas.

**Activity 8 – Provide general administrative program support for staff.**

#### **Proposed Outcome/Product**

1. Federal reporting

#### **Actual Work Completed**

- Completed Program Year 2007 DW SRF Wellhead Protection Set-aside Annual Report, September 2007
- Provided general management and supervision to staff, completed annual report and director's quarterly reports; all staff performed time accounting procedures and provided support for accounting, budgeting and purchasing.
- Administrative staff provided general office support to program staff.
- Information management staff provided technical support for staff.

**Appendix 1 – List of Public Water Systems that received Endorsement of a Source Water Protection Plan during PY 2008 (\*Submitted in PY 2007)**

- Village of Amanda\*
- City of Ashland
- Village of Baltimore\*
- Village of Bremen\*
- Brilliant Water and Sewer District
- Village of DeGraff
- Village of Dillonvale
- Village of Dunkirk
- Fairfield County Utilities\*
- Geauga City Services Center
- Greenfield Township Water District\*
- Village of Holloway
- Village of Kalida
- City of Kent
- Village of Lithopolis\*
- City of Marietta
- Village of Martins Ferry
- Village of Millersport\*
- Village of Mingo Junction
- Village of Mount Pleasant
- Village of New Miami
- Village of New Richmond
- Village of North Lewisburg
- City of Orville
- City of Oxford
- City of Pickerington\*
- Village of Pleasantville\*
- Village of Pomeroy
- Spencerville Water Treatment Plant
- City of Springboro\*
- Village of Sugargrove\*
- Village of Syracuse
- Village of Tiltonsville
- Warren Community Sewer and Water Association
- Village of West Mansfield
- Western Water Company
- Wright-Patterson Air Force Base
- Village of Yorkville

**Appendix 2 – List of Public Water Systems that Ohio EPA Provided Direct Technical Assistance to during PY 2008**

- Alger
- Andover
- Bellbrook
- Bellefontaine
- Bloomfield
- Brown County
- Carrollton
- Clermont County
- Columbiana
- Cortland
- Cuyahoga Falls
- Dayton
- Fairfield County
- Forest
- Gratis
- Greenfield
- Hicksville
- Huber Heights
- Jackson Center
- Kalida
- Kent
- Loveland
- Martins Ferry
- Meigs County
- Milford
- Mingo Junction
- New Knoxville
- New Miami
- New Paris
- New Richmond
- Newton Falls
- North Canton
- Ohio City
- Ottoville
- Rockford Village
- Roseville
- Spencerville
- South Zanesville
- Trenton
- Versailles
- Warren Water
- West Lafayette
- Wooster
- Wright State University
- Zanesville