



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

Michigan Source Water Protection Program

Jason Berndt, Environmental Quality Specialist
Drinking Water and Environmental Health
Division

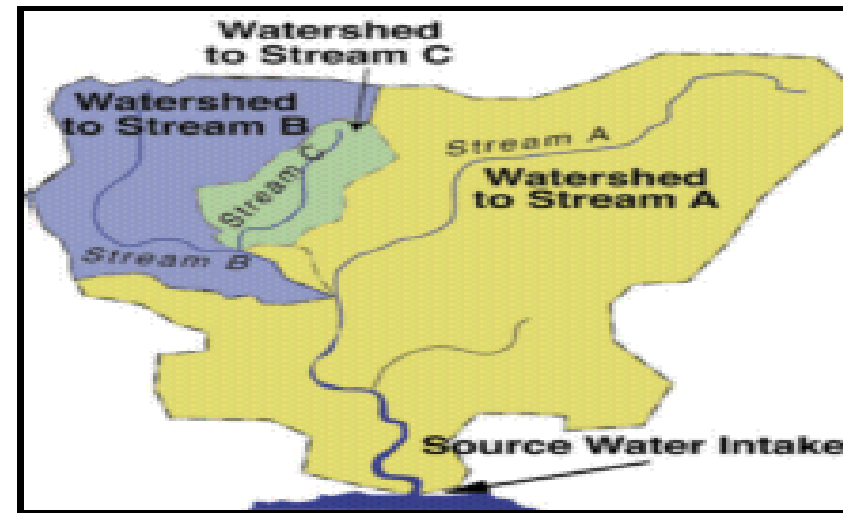
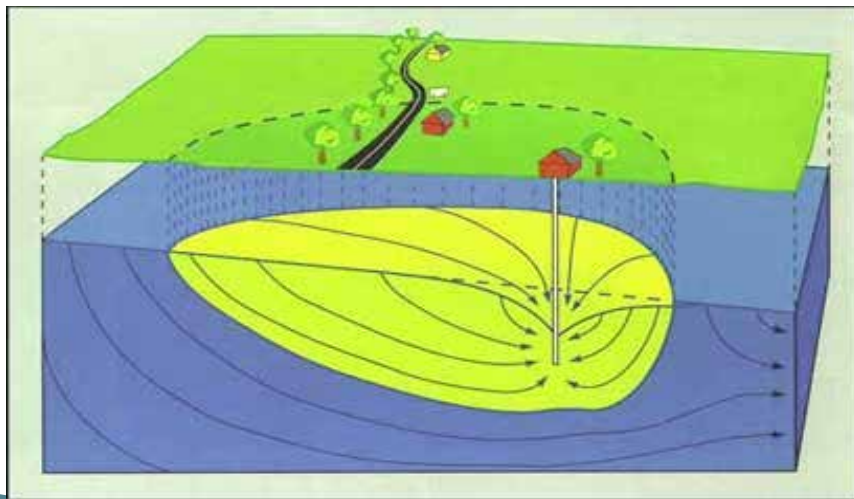
989-705-3420 | berndtj1@michigan.gov

Presentation Overview

- What is Source Water and Program History
- Source Water Program Plan Required Elements
- Grant Program
- SWP Integration with other state/federal programs
- Source Water Assessment Program
- Program Goals and Measurements

What is Source Water?

- Untreated water from streams, rivers, lakes, or underground aquifers
- Water used to provide public drinking water



Michigan Source Water Protection

Why are we here today?

Reality

Water utilities themselves play a critical role in protecting source water

Why

Because protective actions must be tailored to local situations

Program History

- 1986-Amendments to the Federal Safe Drinking Water Act (SDWA)- Source Water Protection
- 1994-Voluntary State program was developed by the Michigan Department of Natural Resources (MDNR) & Michigan Department of Public Health (MDPH)
- 1996 Amendments – Source Water Assessment Program
- Protect Public Drinking Water Sources through proactive land-use planning and management

Source Water Protection is Critical

- 75% of public water supplies utilize ground water
- In most areas, ground water may be the only economical water source available
- Surface water supplies served approximately 75% of our state's population
- Contamination adversely affects property values, image of a community, economic development, and overall quality of life
- Health effects from the consumption of contaminated water is a growing concern

SWP Program Plan Elements

- Roles and Duties
- Delineation of Source Water Protection Area
- Land Use or Contaminant Source Inventory
- Source Water Area Management
- Contingency Plan
- New Source Planning
- Public Education and Outreach

Local SWP Plan Development Incentives

- State support for remediation action in SWPA's
- State agency inspections and enforcement programs identify these SWPA's as priority areas for drinking water
- Source water protection grant funding to public water systems
- Communities determine how SWPA's are managed

Source Water Protection Grant Program

- Funds available to support development and implementation of a SWPP plan
- 50% grant assistance must be matched with 50% local funds
- Application period is May 1 - June 15
- Grant awards announced in early September for the October 1st through September 30th grant period

SWP Program Integration

- EGLE - Water Resources Division
 - Input on assessment methodology and monitoring requests
 - Review of aquatic nuisance permit applications to DW sources
 - Harmful algal bloom response monitoring and potential DW impacts

Cyanobacteria (also referred to as blue-green algae)



Microcystis bloom

Anabaena bloom

Planktothrix & *Anabaena* bloom

Ohio EPA



NOAA Great Lakes Environmental Laboratory

SW Program Integration

- US Fish & Wildlife Service
 - Coordination/communication during application of lampricide treatments throughout the year
- EGLE - Remediation and Redevelopment Division
 - Review of response activity or corrective action within a SWPA
 - Communication of potential land or resource use restrictions

Source Water Assessment Program

- Federal SDWA (1996 amendments), Section 1453, required states to:
 - Identify areas that supply public drinking water
 - Inventory contaminants and assess water susceptibility to contamination
 - Inform public of the results

Source Water Assessment Program (SWAP)

- SWAP Advisory Committee formed in 1998
- Multiple agencies involved to conduct nearly 12,000 assessments
 - MSU Institute of Water Research, USGS, GEM centers
 - Local Health Departments
- SWAP program was submitted to EPA February 1999 and approved in October 1999
- Final SWAP Report December 2004

Source Water Assessment Scores (SWAS)

- Evaluation process critiques:
 - **Geology** - SWAS_g
 - **Well Construction** - SWAS_w
 - **Chemical Monitoring** - SWAS_c
 - **Sources of Contamination** - SWAS_s
- $SWAS = SWAS_g + SWAS_w + SWAS_c + SWAS_s$
- Generally, the lower the SWAS, the less susceptible the source is to contamination

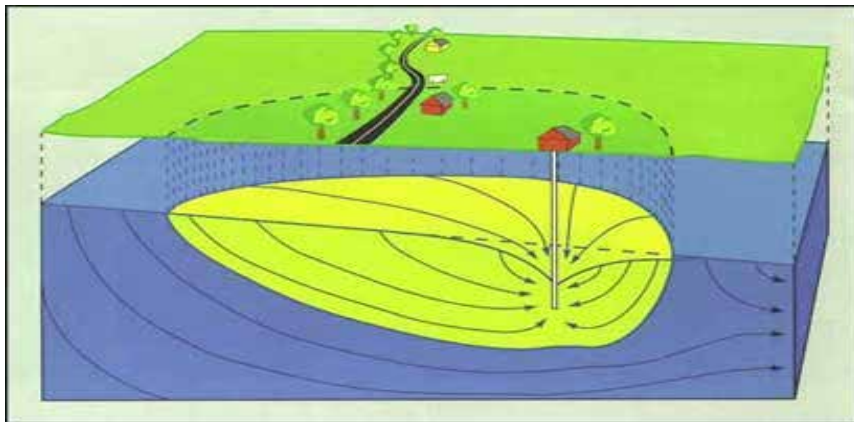
Assessments 2000-2004

- Nearly 11,900 systems assessed
- Community Groundwater Systems (1,123)
- Surface Water Intakes (52 G.L., 8 inland river)
- Non-Community Groundwater Systems
 - Transient (8,930)
 - Non-transient (1,720)
- Assessments are currently being updated

Michigan “Delineation” Approach

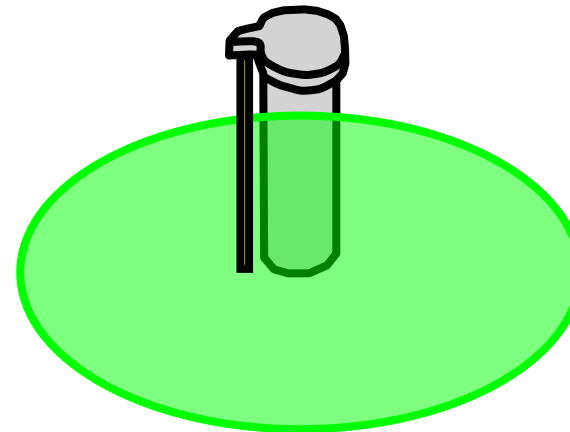
- Situation unique to Michigan
 - 1,123 CWS
 - 10,650 NCWS

SWPA Approach



vs

Assessment Approach



State SWP Goals

- Encourage all public water supplies involvement in SWP
- Continue to integrate SWP into other state agency regulations, inspections, and education efforts
- Target highly susceptible systems in our outreach efforts

DWEHD Annual Resource Deployment Plan

- Report number of CWS implementing SWP measures
 - % of CWS substantially implementing (35%)
 - % of population served by CWS substantially implementing (80.7%)
- Develop and coordinate approaches with regulatory/voluntary programs to protect source water
- Assist with local plans in cooperation with Source Water Collaborative members
- Update source water assessments

Primacy Agency Code	Total # of CWSs	FY18 TARGETS: % of CWSs protected per "SDW-SP4a"	FY18 RESULTS: % of CWSs protected per "SDW-SP4a"	CWS Population Protected	Total Population Served by CWSs	FY18 TARGETS: % of population protected per "SDW-SP4b"	FY18 RESULTS: % of Population Protected per "SDW-SP4b"	Reported to SDWIS/FED?
05	74	--	0%	--	110,693	--	--	No
IL	1,757	50%	50%	8,728,139	12,021,454	64%	72.6%	Yes
IN	786	79%	79%	4,298,514	4,883,983	78%	88.0%	Yes
MI	1,392	36%	29% ¹	5,239,513	7,317,404	70%	71.6%	Yes
MN ²	962	50%	58.7%	3,907,559	4,417,866	78%	88.4%	No
OH	1,208	59%	60%	8,600,000	10,305,555	49%	83.5%	Yes
WI ³	1,057	17%	18.5%	1,116,898	4,106,244	28%	27.2% ⁴	No

Sources: (1) 121 Andrea with October 2018 SDWIS/Fed Freeze (R51) IL IN and MI; (2) state correspondence (MN OH and WI); and (3) denominators obtained from the "Total Population Served by CWSs" column.

Any Questions?

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