MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

Onsite Wastewater Systems – Issues and Management Options

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Overview

- **PART ONE:**
  - EGLE Onsite Wastewater Program
  - What is a Septic System?
- **PART TWO:**
  - Onsite Wastewater in Michigan
  - Current Environmental Health Regulations
- **PART THREE:**
  - Failed Onsite Wastewater Systems
- **PART FOUR:**
  - Management Options and Resources

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PART ONE

EGLE Onsite Wastewater Program Overview

WHAT IS THE EGLE ONSITE WASTEWATER PROGRAM?

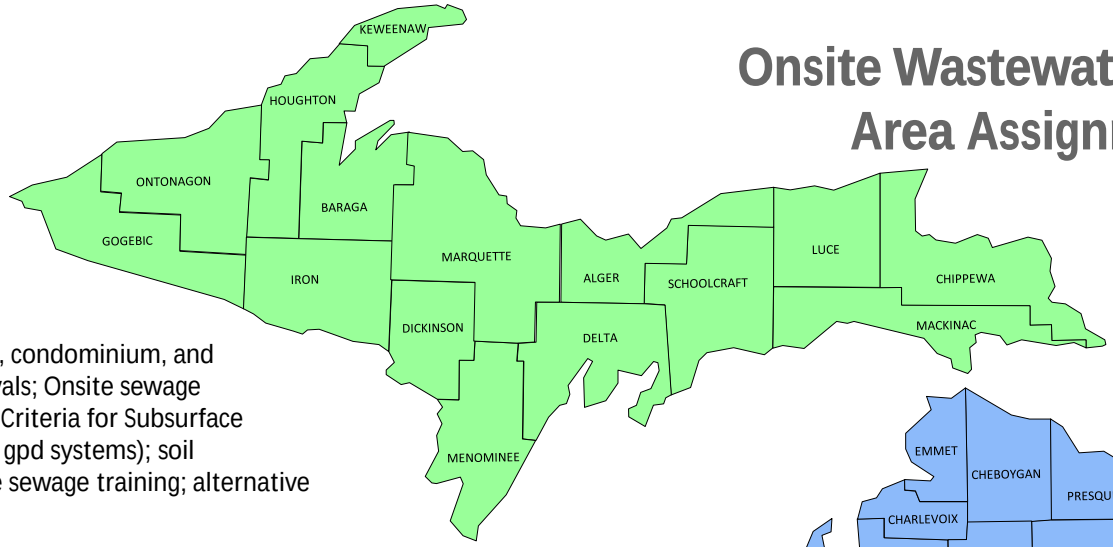
ONSITE WASTEWATER STAFF PROVIDE:

PROGRAM SPECIFIC TRAINING TO LOCAL HEALTH DEPARTMENTS AND THE PRIVATE SECTOR.

SOILS TRAINING TO LOCAL HEALTH DEPARTMENT STAFF.

TECHNICAL EXPERTISE ON CONVENTIONAL AND ALTERNATIVE ONSITE WASTEWATER TREATMENT.

Onsite Wastewater Program Area Assignments



Program Activities: Subdivision, condominium, and land division review and approvals; Onsite sewage program evaluations; Michigan Criteria for Subsurface Sewage Disposal (under 10,000 gpd systems); soil evaluations and training; Onsite sewage training; alternative Onsite system review.

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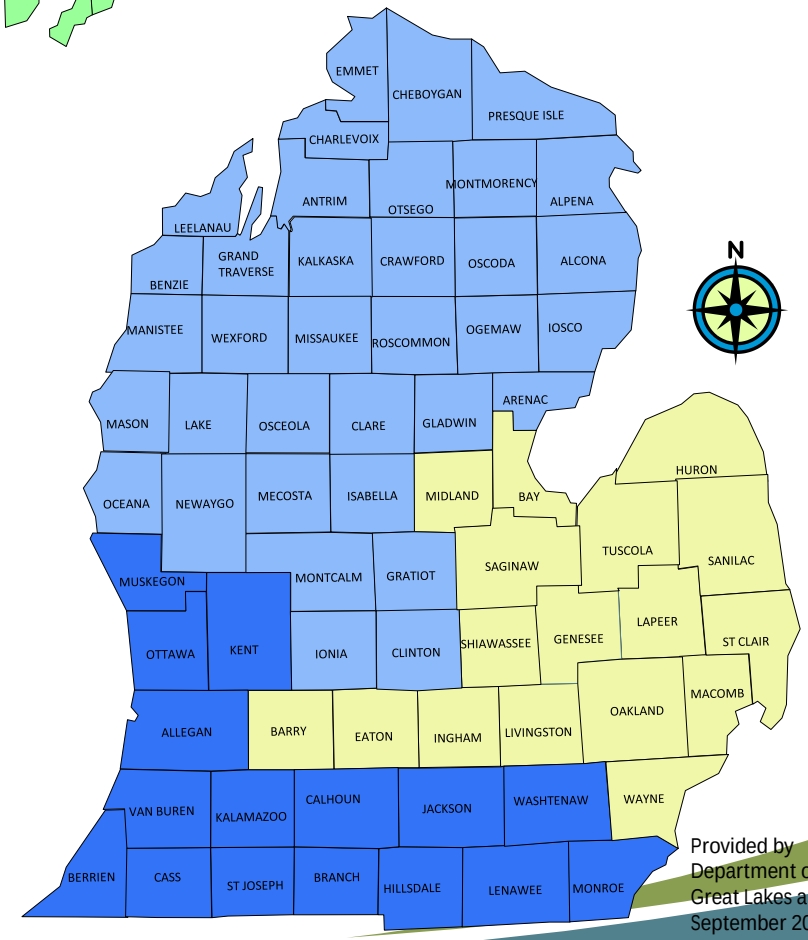


Michigan.gov/EGLE/Onsite Wastewater

Provided by
Department of Environment, Great Lakes and Energy
September 2019

Drinking Water and Environmental Health Division

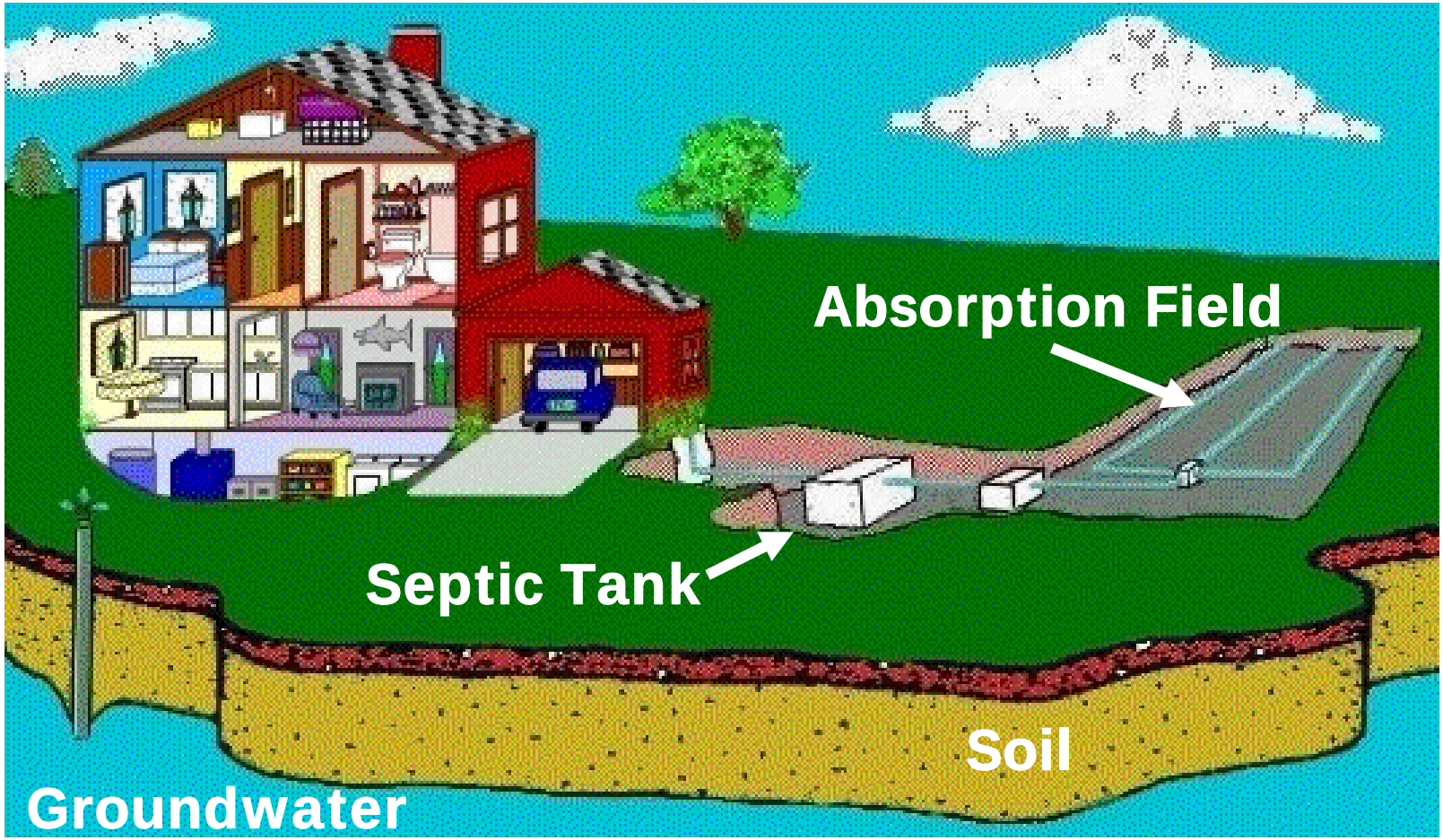
What is a Septic System?

AKA: Onsite Wastewater System

- Small-Scale Wastewater Treatment Plant
- The Largest Utility Investment For Your Home
- Designed Based On Specific Site Characteristics

Recycling of Water for Re-Use as
Drinking Water or for our Surface Waters

Conventional Septic System



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Recycling

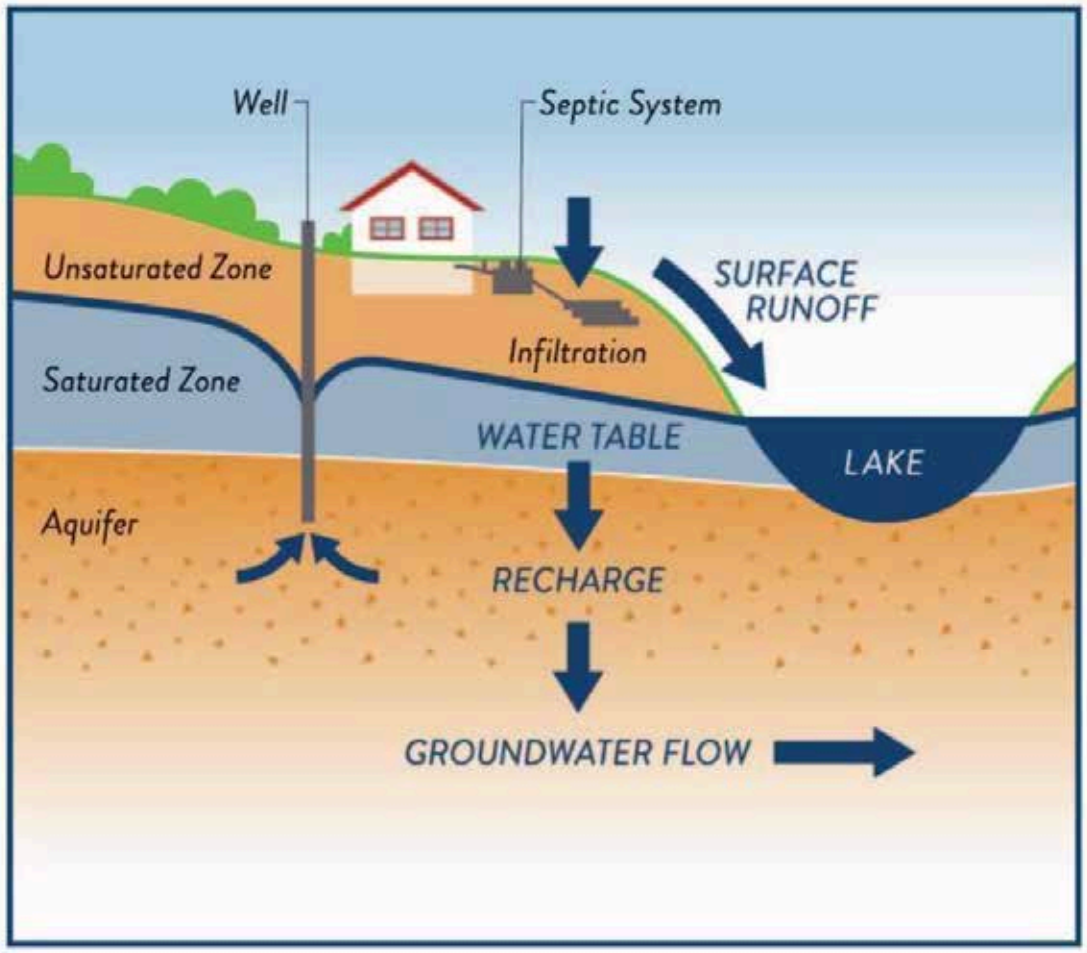

Image from Onsite Installer

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PART TWO

Onsite Wastewater in Michigan

Current Environmental Health Regulations

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Michigan Onsite Facts

Estimated over 1.3 million onsite systems and growing.

As new homes are built, approximately 50% of them utilize individual or small community onsite systems.

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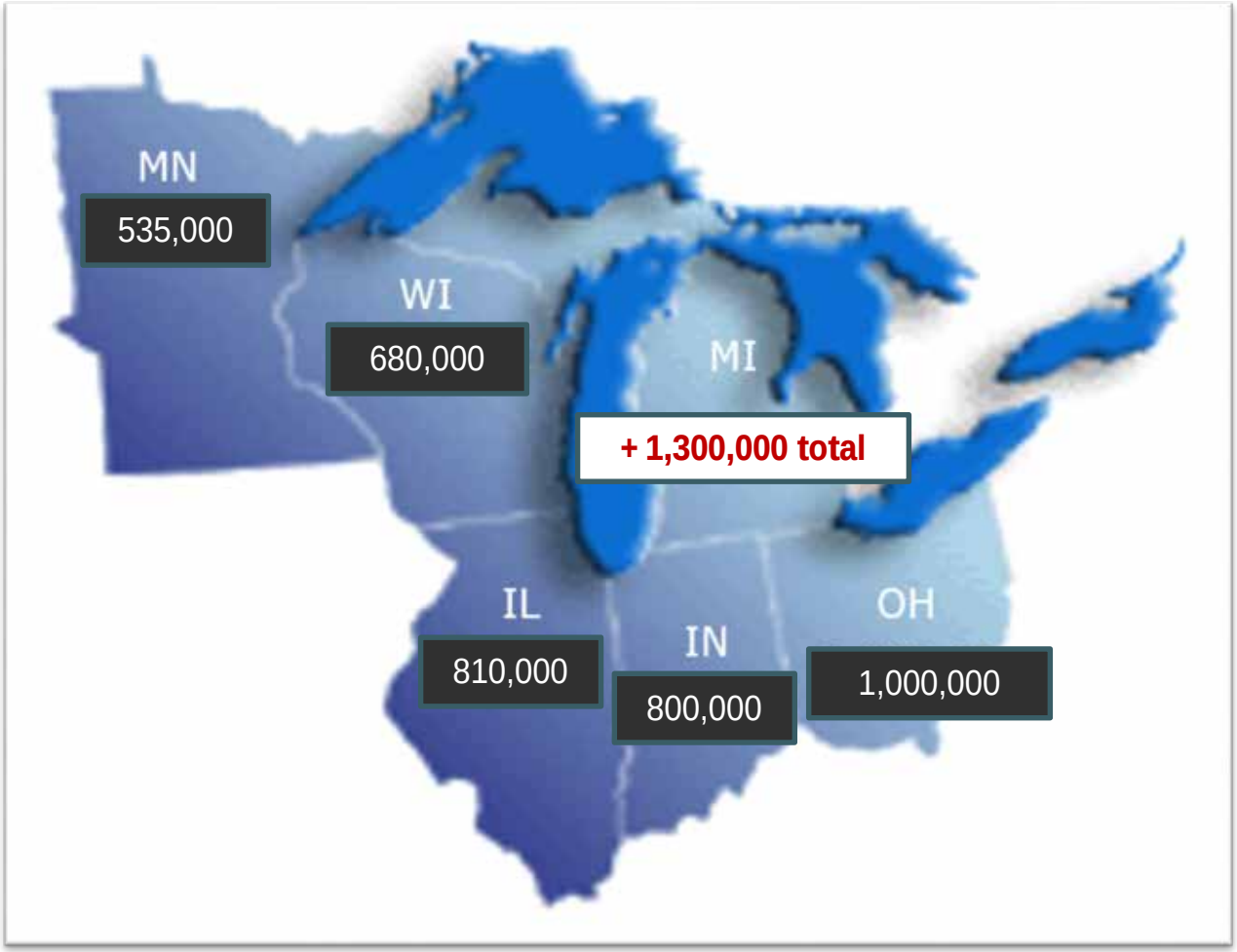
Total Number of Systems Regionally



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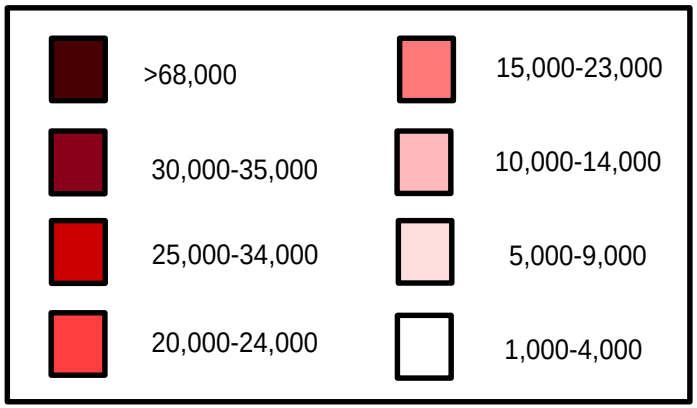
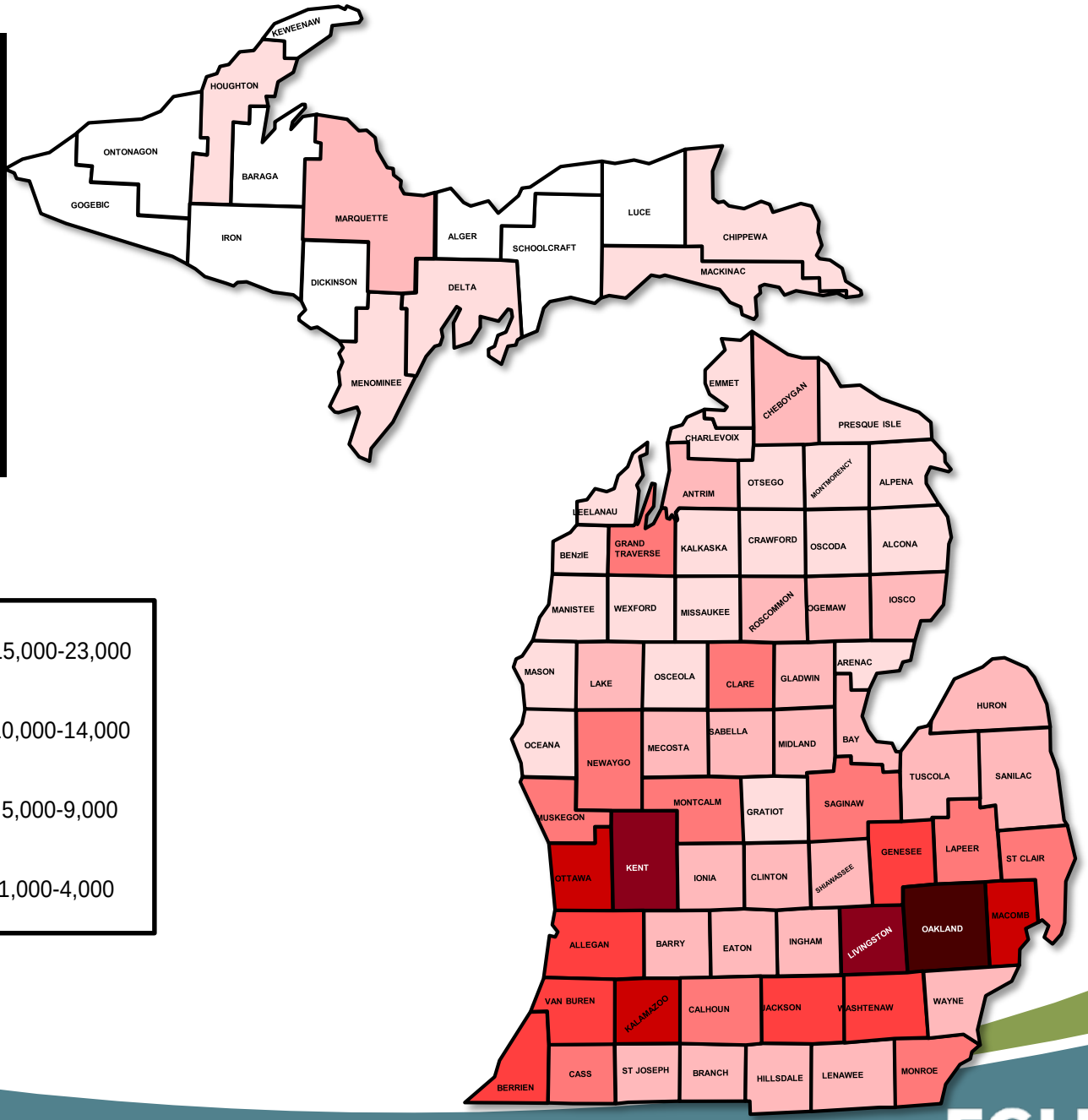
Relative Number of Onsite Systems by County

(1990 Census Data)





STATEWIDE SANITARY CODE?

Michigan is currently the last state in the nation to implement a statewide sanitary code for single family residences.

13 Bills drafted over 16 years, none of which have passed.

Difficult to find agreement in the Stakeholder Process

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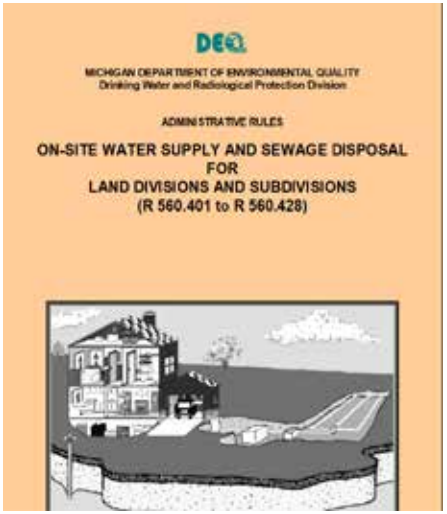
Statewide Regulations for Onsite Systems

Administrative Rules for land developments utilizing onsite systems including:

- Subdivisions
- Condominiums
- Land division less than 1 acre

Michigan criteria for onsite systems discharging between 1,000 and 10,000 gallons per day.



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Local Regulations for Onsite Systems

44 LHD Regulations for:

- The single and two-family residential onsite systems
- Commercial systems with flows less than 1,000 gallons per day

PART THREE

Failed Onsite Wastewater Systems

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Photo Courtesy of Midland County Health Department

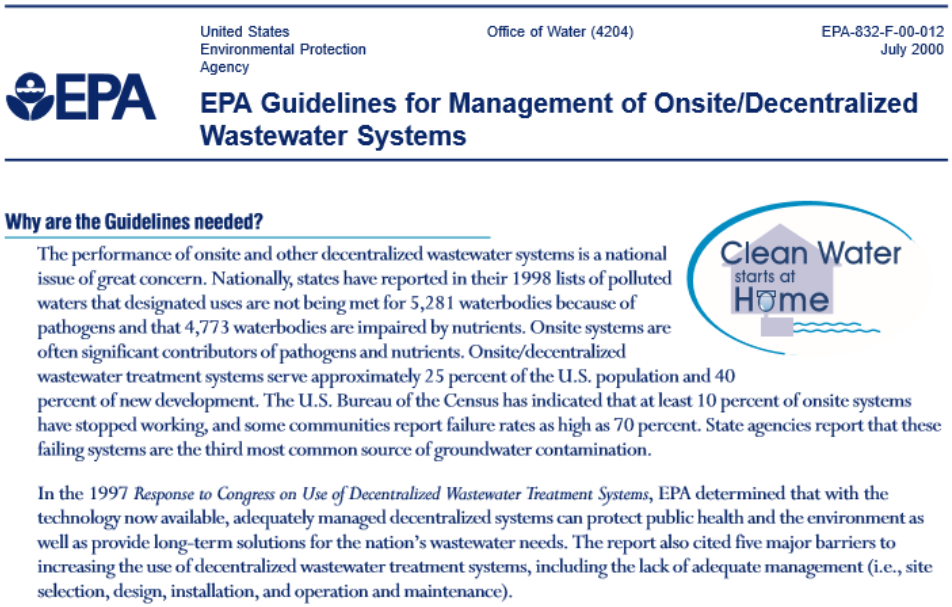
Photo courtesy of Old Dominion Onsite, Inc., Ashland, VA


Lush Grass Growth and Catch Basin at Surface


Lush Grass Growth
Leading to
Roadside Ditch


Water Valve Head

PART FOUR



United States Environmental Protection Agency | Office of Water (4204) | EPA-832-F-00-012 July 2000

EPA

EPA Guidelines for Management of Onsite/Decentralized Wastewater Systems

Why are the Guidelines needed?

Clean Water starts at Home

The performance of onsite and other decentralized wastewater systems is a national issue of great concern. Nationally, states have reported in their 1998 lists of polluted waters that designated uses are not being met for 5,281 waterbodies because of pathogens and that 4,773 waterbodies are impaired by nutrients. Onsite systems are often significant contributors of pathogens and nutrients. Onsite/decentralized wastewater treatment systems serve approximately 25 percent of the U.S. population and 40 percent of new development. The U.S. Bureau of the Census has indicated that at least 10 percent of onsite systems have stopped working, and some communities report failure rates as high as 70 percent. State agencies report that these failing systems are the third most common source of groundwater contamination.

In the 1997 *Response to Congress on Use of Decentralized Wastewater Treatment Systems*, EPA determined that with the technology now available, adequately managed decentralized systems can protect public health and the environment as well as provide long-term solutions for the nation's wastewater needs. The report also cited five major barriers to increasing the use of decentralized wastewater treatment systems, including the lack of adequate management (i.e., site selection, design, installation, and operation and maintenance).

Management Options and Resources

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What are onsite/decentralized systems?

Onsite/decentralized wastewater treatment systems, commonly called "septic systems," treat sewage from homes and businesses that are not connected to a centralized wastewater treatment plant. Decentralized treatment systems include individual onsite septic systems, cluster systems, and alternative wastewater treatment technologies like constructed wetlands, recirculating sand filters, mound systems, and ozone disinfection systems.

What are the Guidelines?

The *Guidelines for Management of Onsite/Decentralized Wastewater Systems* (Guidelines) are a set of recommended practices needed to raise the level of performance of onsite/decentralized wastewater systems through improved management programs. Five separate model programs are presented as a progressive series. Management requirements of wastewater systems become more rigorous as the system technologies become more complex or as the sensitivity of the environment increases. Each of the model programs share the common goal of protecting human health and the environment. Each model approach includes program elements and program activities needed to achieve the management objectives. The Guidelines address the sensitivity of the environment in the community and the complexity of the system used. The five model management programs are

1. System inventory and awareness of maintenance needs
2. Management through maintenance contracts
3. Management through operating permits
4. Utility operation and maintenance
5. Utility ownership and management

System Inventory and Awareness of Maintenance Needs...

...becoming SepticSmart

What is SepticSmart?

septicsmart™
A U.S. Environmental Protection Agency Program

SepticSmart is a nationwide public education effort by the Environmental Protection Agency with outreach activities and resources for homeowners, local organizations, and government leaders to encourage homeowners and communities to care for and maintain their septic systems.

For more information visit; EPA.gov/Septic

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Core Messages from Septic Sam

If you moved from the city wouldn't you like to know?

Any Questions?

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Michigan Department of
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Thank you from the
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