

# ISPLS 61<sup>st</sup> Annual Convention

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## INTRODUCTION

The Status of Onsite Technology in Indiana

# WHAT IS SEWAGE?

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- ✘ "Sewage" means all water-carried waste derived from ordinary living processes.

410 IAC 6-8.3-41

- + Toilet water
- + Bathing and shower water
- + Laundry water
- + Kitchen food prep and dishwasher water
- + Water softener backwash water

# PUBLIC HEALTH ASPECTS

- ✘ Diseases from sewage are a public health hazard!



- ✘ IC 16-20-1-25 (a): A person shall not institute, permit, or maintain any conditions that may transmit, generate, or promote disease.

# PUBLIC HEALTH ASPECTS

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## Major Disease Causing Agents

### Bacteria

- |   |                   |
|---|-------------------|
| ✘ <i>Salmonella typhi</i>                     | Typhoid fever     |
| ✘ <i>Salmonella paratyphi</i>                 | Paratyphoid fever |
| ✘ Other <i>Salmonella</i> sp.                 | Gastroenteritis   |
| ✘ <i>Shigella sonnei</i> , et. al.            | Shigellosis       |
| ✘ Enteropathogenic<br><i>Escherichia coli</i> | Gastroenteritis   |
| ✘ <i>Campylobacter jejuni</i>                 | Gastroenteritis   |
| ✘ <i>Vibrio Cholerae</i>                      | Cholera           |

# PUBLIC HEALTH ASPECTS

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## Major Disease Causing Agents

### Viruses

- |                        |                 |
|------------------------|-----------------|
| ✘ Hepatitis A virus    | Hepatitis A     |
| ✘ Polioviruses         | Poliomyelitus   |
| ✘ Rotaviruses          | Gastroenteritis |
| ✘ Norwalk type viruses | Gastroenteritis |

# PUBLIC HEALTH ASPECTS

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## Major Disease Causing Agents

### Protozoa

- |                                 |                      |
|---------------------------------|----------------------|
| ✘ <i>Cryptosporidium Parvum</i> | Gastroenteritis      |
| ✘ <i>Giardia lamblia</i>        | Giardiasis           |
| ✘ <i>Entamoeba histolitica</i>  | Amoebic<br>Dysentery |
| ✘ <i>Balantidium coli</i>       | Dysentery            |

# PUBLIC HEALTH ASPECTS

## Disease Causing Vectors

### Mosquito Breeding



- ✘ St Louis Encephalitis
- ✘ West Nile Virus



# PUBLIC HEALTH ASPECTS

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- ✘ ISDH rules define an on-site sewage disposal failure:
  - + where sewage backs up into the plumbing due to system overload, or
  - + effluent seeps to, or ponds on, the surface of the ground, or
  - + effluent contaminates a water supply, ground water, or surface waters.

# PUBLIC HEALTH ASPECTS

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- ✘ IC 13-1-3-8: It is unlawful for any person to throw, run, drain, or otherwise dispose into any of the streams or waters of this state...any organic or inorganic matter that shall cause or contribute to a polluted condition of any waters, according to any rule of the board.  
[Water pollution control board]

# PUBLIC HEALTH ASPECTS

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- ✘ IC 16-20-1-25 (a): A person shall not institute, permit, or maintain any conditions that may transmit, generate, or promote disease.
- ✘ IC 16-20-1-25: A health officer, upon hearing of the existence of such unlawful conditions, shall order the abatement of those conditions.

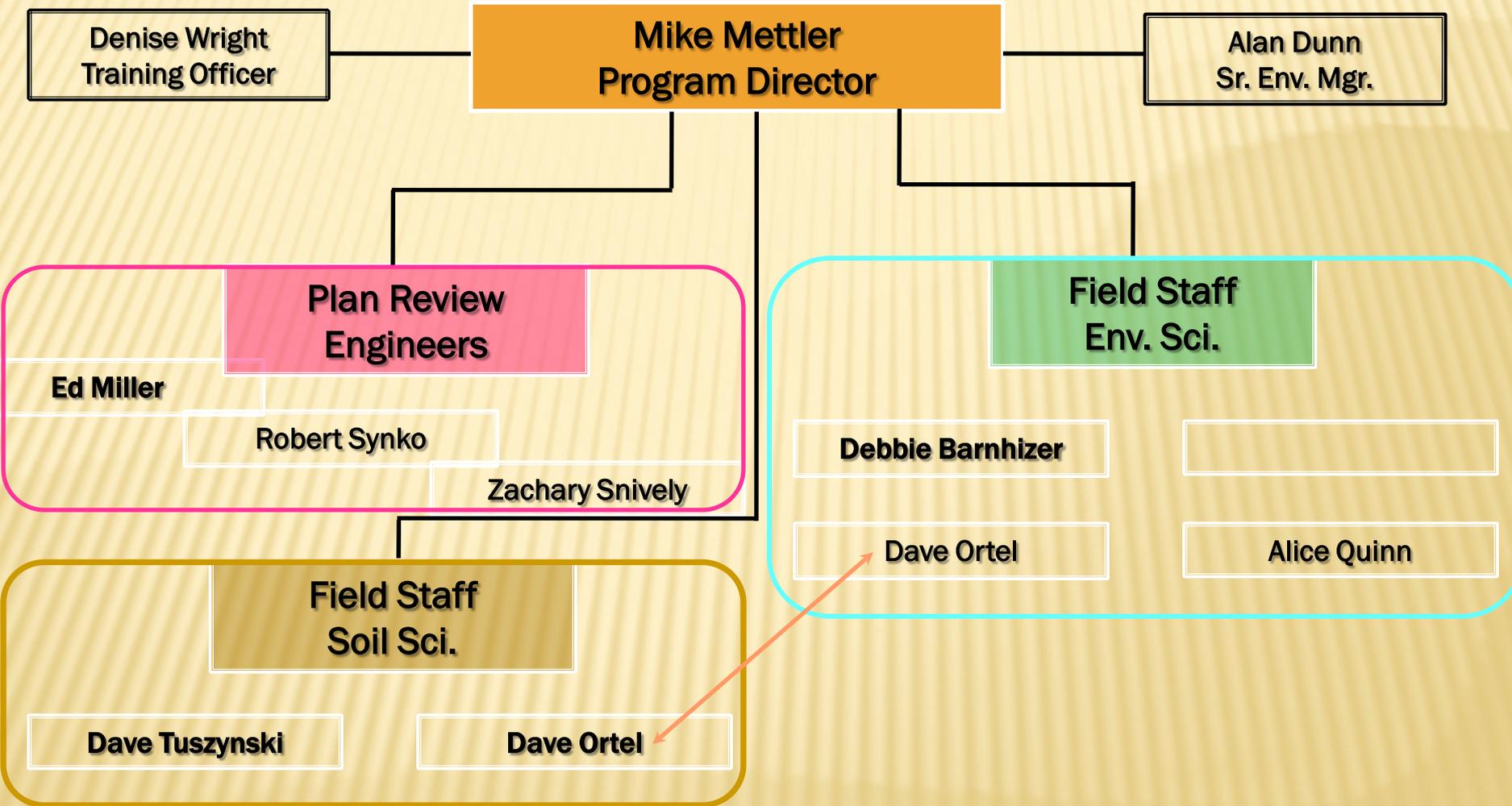
# PROGRAM RESPONSIBILITIES & PROGRAM STAFF

- × Set minimum standards
- × Education & Training for LHDs & installers
- × Respond to complaints about LHDs
- × Assistance & information to elected officials
- × Cooperate on soils & system research
- × Review & approve TNI
  - + Product evaluations
  - + System evaluations
  - + Plan review
  - + Monitoring
  - + Investigation & sampling

# PROGRAM RESPONSIBILITIES & PROGRAM STAFF

- ✘ Assistance to local health departments
  - + Program reviews
  - + Program support & development
  - + Technical support
  - + Difficult site/soil evaluations
  - + System troubleshooting
  - + Expert testimony
- ✘ Assistance to citizens

# PROGRAM RESPONSIBILITIES & PROGRAM STAFF



# CURRENT STATUS

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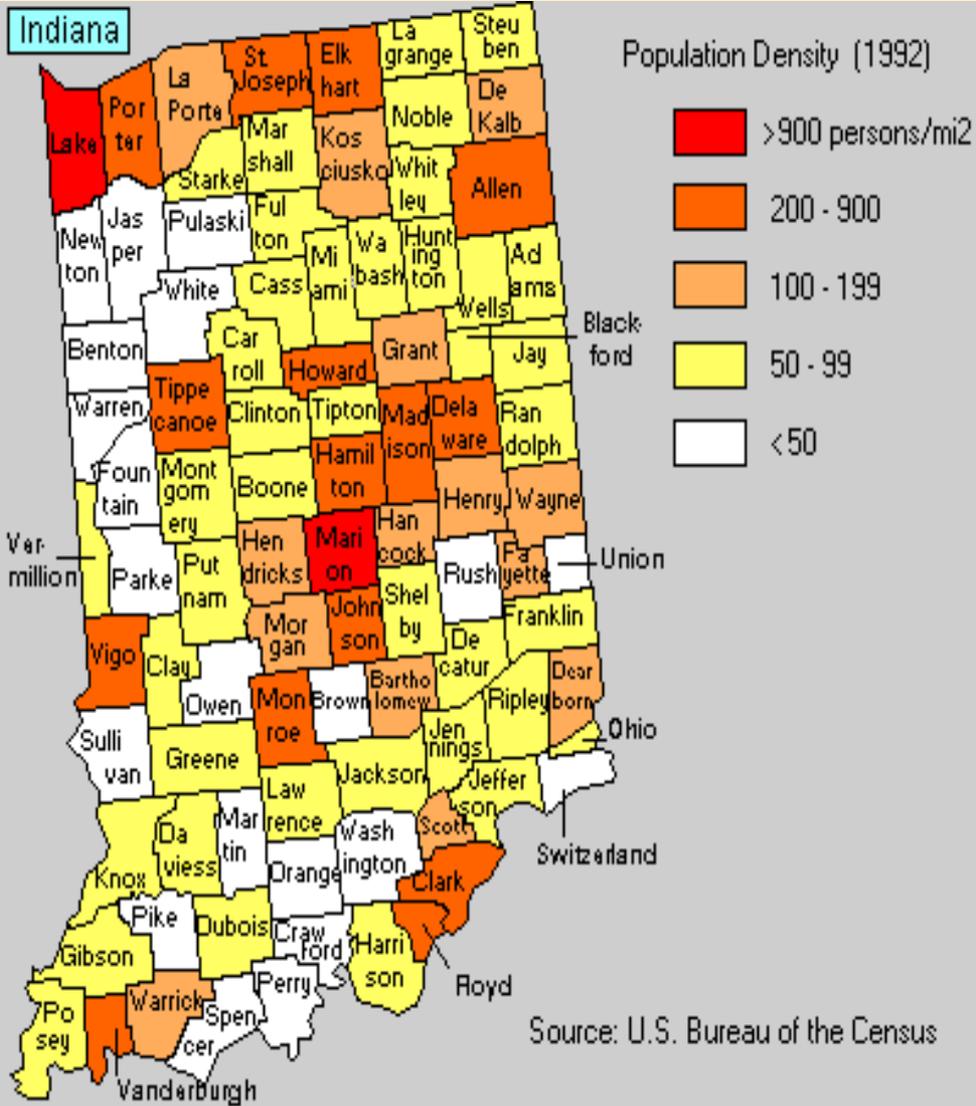
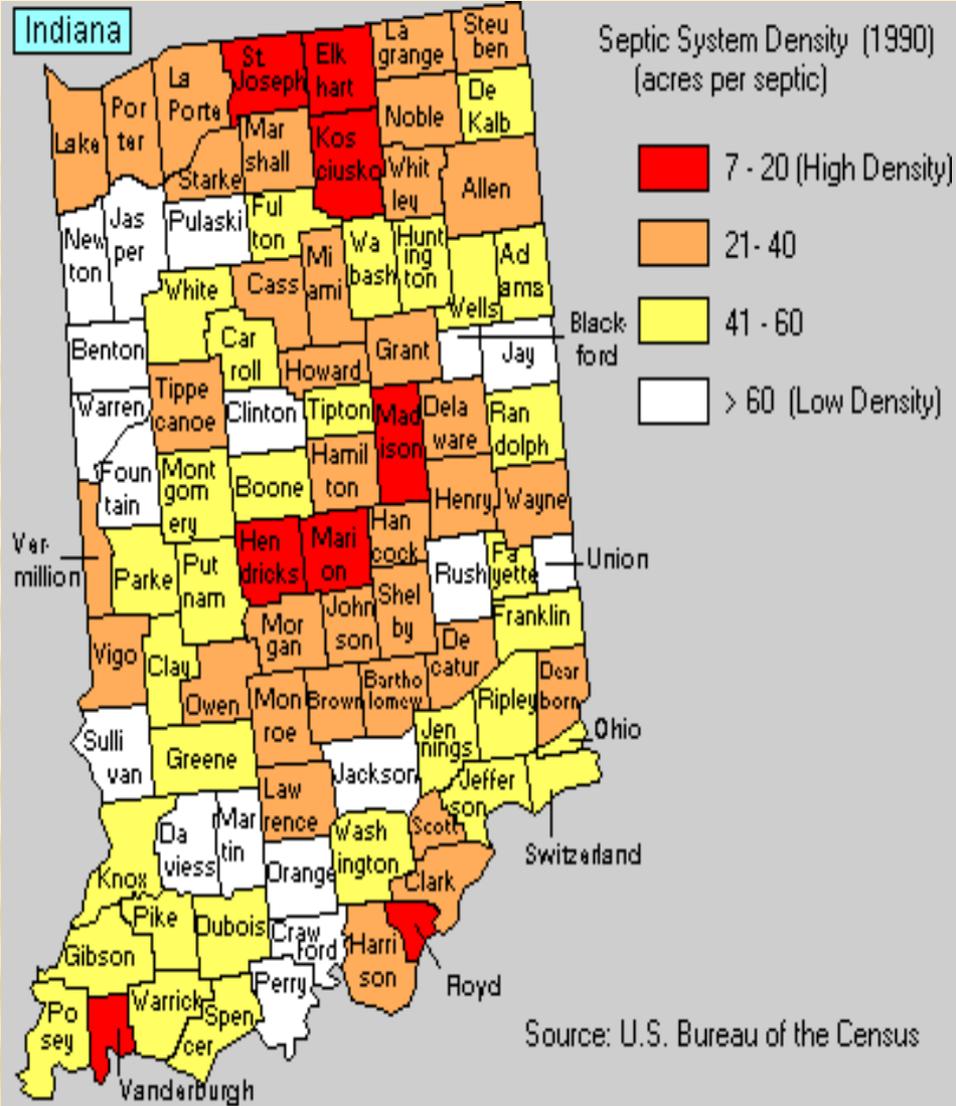
- + 25% of the U.S. population depends on on-site sewage disposal.
- + 34% of Hoosiers depend on on-site sewage disposal.

# CURRENT STATUS

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In Indiana, housing units on:

	<u>1990 Census</u>	<u>2000 Estimate</u>
Public sewers:	1,525,810	2,171,300
Septic systems:	<u>703,033</u>	<u>800,000</u>
Total:	2,228,843	2,971,300
(% OSS):	(31.5%)	(27.5%)



Prepared by: Indiana Land Use Planning Resource Center  
<http://www.agry.purdue.edu/agronomy/landuse/planning.html>

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**Onsite Sewage System Density vs. Population Density**

# DATA

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## 2011 Permit Survey

- ✘ 63 counties participated
  - + 2123 permits for new construction
    - ✘ Average 34/county
    - ✘ Estimated 3100 statewide
  - + 2053 permits for repair/replacement
    - ✘ Average 33/county
    - ✘ Estimated 2998 statewide

# DATA

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## 2011 Permit Survey

### ✘ System Types\*:

- + Subsurface Trench Systems  $\approx 83\%$
- + Elevated Sand Mounds & At-Grades  $\approx 8\%$
- + Presby Enviro-septic  $\approx 9\%$

\*Note: It must be understood that these are estimates made with incomplete data.

# REGULATORY ASPECTS

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- ✘ 1943 - Stream Pollution Control Board - only authority to permit discharge.
- ✘ IC 13-1-3-8: Prohibits the disposal of sewage into waters of the state
- ✘ 327 IAC 5-1-1.5: The point source discharge of sewage treated or untreated, from a dwelling or its associated residential sewage disposal system is prohibited.

# REGULATORY ASPECTS



# REGULATORY ASPECTS

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- ✘ IC 13-18-12-9: The surface discharge from a residential sewage system is permitted in only Allen County if:
  - ✘ Failing system
  - ✘ No sewer available
  - ✘ No onsite solution
  - ✘ Mgmt district
  - ✘ General NPDES permit

# REGULATORY ASPECTS

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- ✘ 410 IAC 6-8.3-52(d): Any dwelling not connected to a sanitary sewer shall be provided with a residential sewage disposal system which includes a septic tank and a soil absorption system that has not failed.
- ✘ 410 IAC 6-10.1-49(d): Same as res. rule except for commercial facilities

# REGULATORY ASPECTS

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- ✘ ISDH promulgates rules (IC 16 -19 -3 - 4) for:
  - + Onsite systems
  - + Residential
  - + Commercial
  - + Cluster (private)
  
- ✘ IDEM promulgates rules (IC 13-1) for:
  - + Systems with discharges to the waters of the state (NPDES)
  - + Publicly owned onsite systems
  - + Municipalities
  - + Sewer/conservancy districts

# REGULATORY ASPECTS

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- ✘ For residential onsite sewage systems, the County Board of Health is the administrative board.
- ✘ The local board of health must enforce the rules of the state department of health
- ✘ County commissioners may adopt county ordinances regulating onsite sewage systems – more, but not less restrictive, than the state rule

# REGULATORY ASPECTS

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## ✘ Definitions:

- + Residential OSS
- + Commercial OSS
- + Cluster OSS
- + Experimental OSS

# REGULATORY ASPECTS

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- ✘ LHDs have authority for
  - + Residential OSS (except TNI and holding tanks)
- ✘ ISDH has authority for
  - + Commercial OSS (unless delegated)
  - + All technology new to Indiana and experimental (unless delegated)
  - + All holding tanks

# REGULATORY ASPECTS

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- ✘ ISDH may delegate plan review and permit issuance to LHDs for:
  - + Commercial OSS with design daily flows  $\leq 750$  gpd
  - + Technology New to Indiana OSS (residential) when local staff has been trained

# REGULATORY ASPECTS

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## × Commercial onsite:

- + Delegated to LHD if:
- + Not a regulated facility
- + < 750 gpd design flow
- + Conventional, Flood Dose, Elevated sand mound
- + County is on list for commercial delegation

# REGULATORY ASPECTS

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- ✘ Permit from H.O. required for:
  - + New construction of:
    - ✘ Single family dwelling
    - ✘ Repair, replacement, or expansion of OSS
    - ✘ Increased flows
- ✘ Approval from ISDH required for:
  - + Commercial
  - + Technology New to Indiana (unless delegated)
  - + Holding tanks

# REGULATORY ASPECTS

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- ✘ Residential Onsite Permit from H.O. required for:
  - + Onsite system for a new one or two family dwelling if it is not connected to sanitary sewer
  - + Repair, replacement, or expansion of a residential onsite system
  - + Expansion of a residence which may increase wastewater flows

# CONTACT INFORMATION

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