

Indiana Department of Environmental Management

Office of Water Quality

# Addressing Indiana's Water Quality Challenges

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Marylou Renshaw, Chief  
and  
Jody Arthur, Integrated Report Coordinator

Watershed Assessment & Planning Branch  
Office of Water Quality, IDEM

Indiana Department of Environmental Management

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## Indiana's Water Quality Standards

- Water Quality Standards (WQS) are required by the federal Clean Water Act to support its goal to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.”
- WQS have three main components:
  - Designated uses
  - Narrative and numeric water quality criteria to protect them
  - Antidegradation requirements

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**Water Quality Criteria**

- Water quality criteria provide the foundation (directly or indirectly) for many Office of Water Quality programs
  - Numeric criteria
  - Narrative criteria
- Both have equal weight, but narrative are harder to implement
- Neither Indiana nor any other state has criteria for all the substances known to be impacting our waters

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**IDEM Water Quality Monitoring**

- IDEM monitors at about 250-275 sites each year
  - Fixed Stations
  - Probabilistic
  - Watershed Characterization
  - Contaminants
  - Reference Sites
  - DNR Beaches
  - Performance Measures

**IDEM's surface water monitoring sites sampled 2011-2019**

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**Monitoring Approaches**

- Each of IDEM's water quality monitoring programs uses one of three general approaches based on what the agency needs to know:
  - **Probabilistic:** A stratified random approach to site selection
  - **Fixed:** Sites do not change from season to season
  - **Targeted:** Intentional selection of sampling sites based on specific monitoring objectives or decisions to be made

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**Probabilistic Monitoring**

- Field and laboratory water chemistry, bacteria, and biological communities
- 38-45 sites randomly selected in one of nine major basins each year
- Randomness built into this sampling allows IDEM to use the data at two geographic scales to determine designated use support



## Targeted: Watershed Characterization

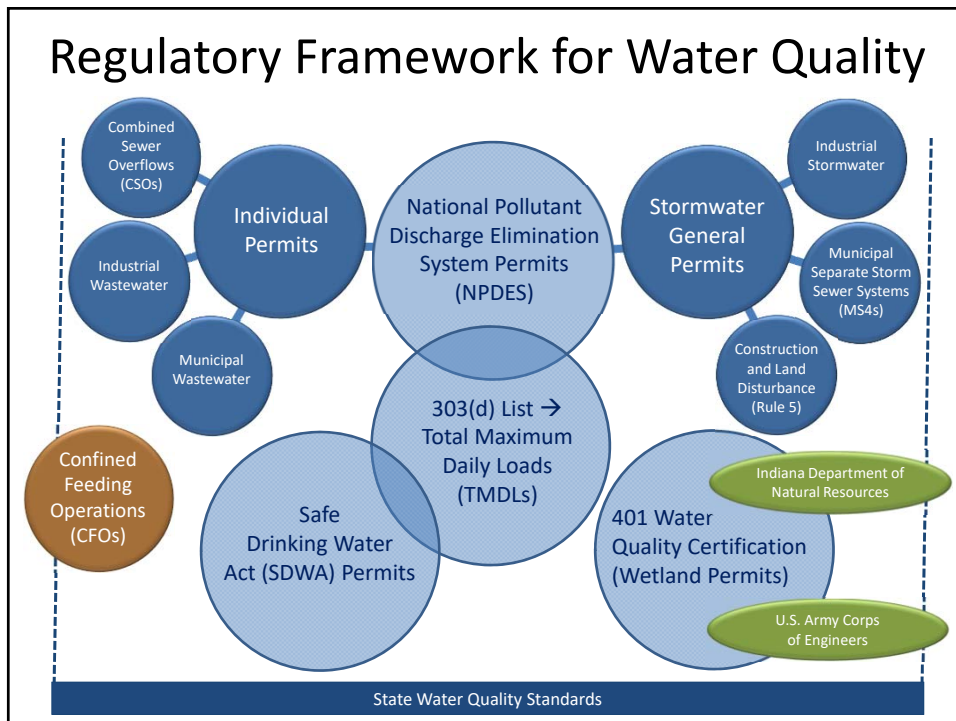
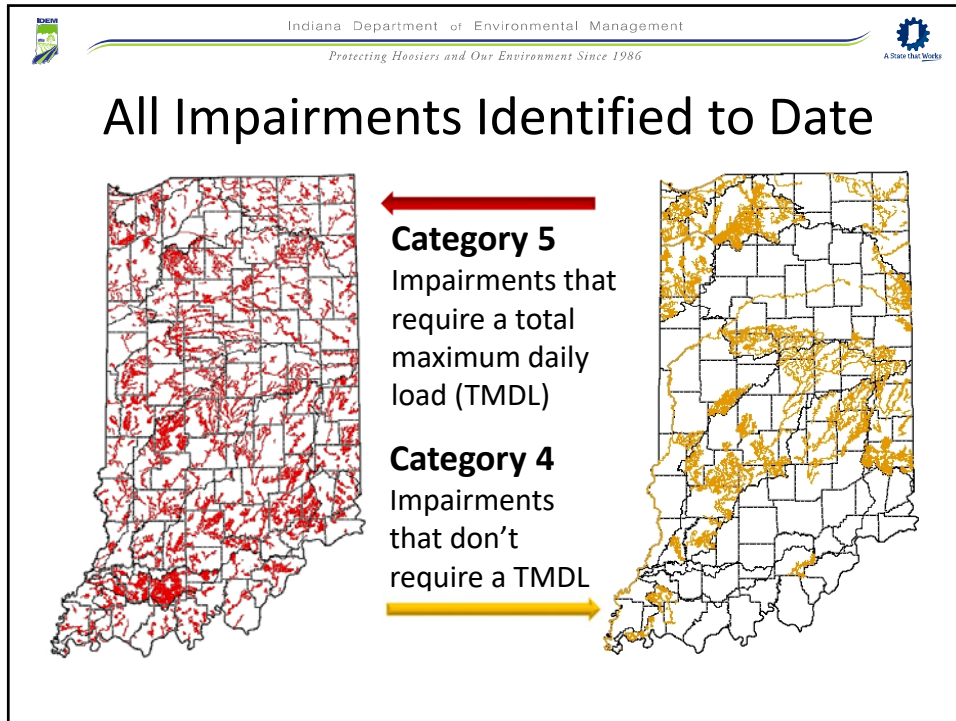
- Modified geometric design based on drainage areas (12-digit watersheds) with sites located on bridge
- Field and laboratory water chemistry and bacteria monitored monthly for one year; biological community monitored once in same year
- Goal is to identify sources and extent of impairments and critical areas for implementation of best management practices





## IDEM's Water Quality Assessments

- Answering the question, "How well do our waters support their designated uses?"





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## Regulations for CFOs



### IDEM Office of Land Quality CFO Permit Program

- Construction, operational, and maintenance requirements for CFO barns, manure storage, and other waste management
  - Record-keeping
  - Self-inspections
  - Spill response
  - Land application requirements
- Construction and operational requirements for off-site manure storage structures with a capacity of at least 1 million gallons or 5,000 cubic feet

### Office of the Indiana State Chemist (OISC)



- Certification
  - Anyone who land applies manure from an IDEM-permitted CFO or out-of-state farms that meet IDEM's animal thresholds
  - For-hire applicators of commercial fertilizer and manure
- Requirements for fertilizer use, distribution, and record-keeping
  - Routine soil sampling and nutrient application based on crop needs
  - Limits manure application from all farms based on volume of manure produced

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## Key Points About Indiana's CFO Rule

- Many of the requirements of Indiana's CFO rule have their basis in water quality protection
- Key differences between Indiana's CFO Rule and the federal regulations:
  - Federal rule allows direct discharges to surface waters. Indiana's rule does not.
  - Federal rule does not specify requirements for construction, operation, and maintenance. Indiana's rule does.

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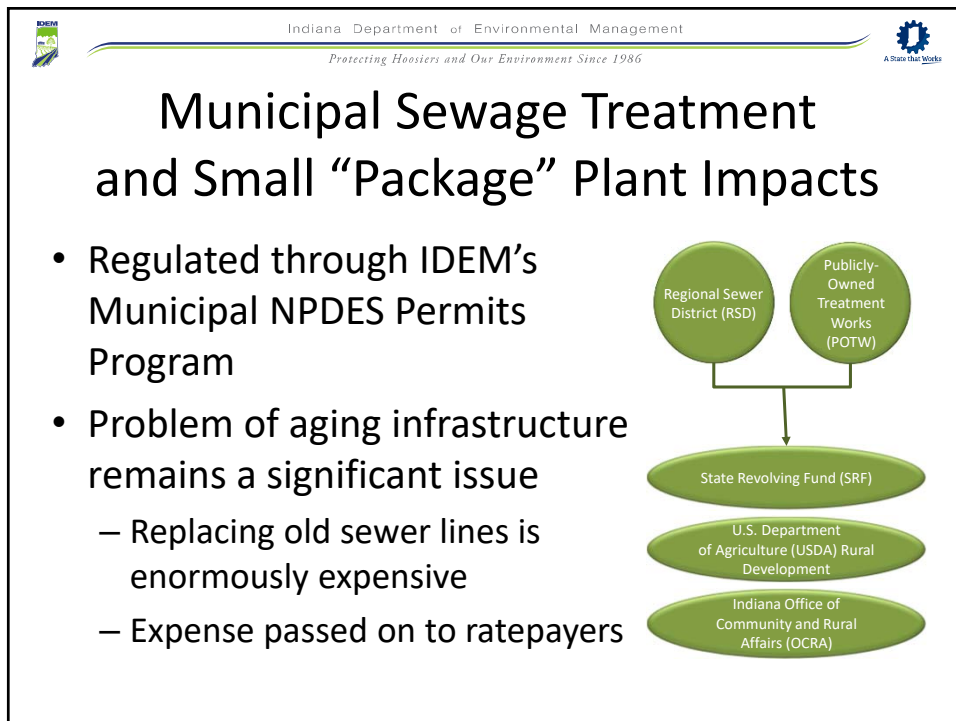
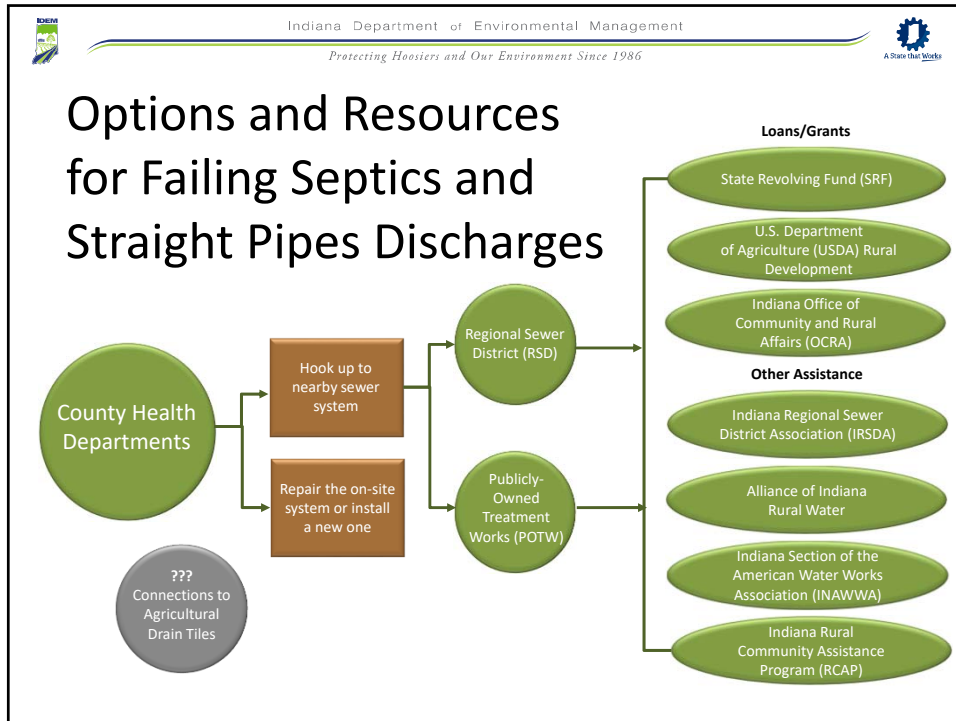
## Key Points About Indiana's CFO Rule

- The animal thresholds that trigger regulation in Indiana are lower than in the federal rule for some (but not all) types of animals
- Smaller, non-permitted animal feeding operations can be regulated if they are found by IDEM to be:
  - Causing a water quality violation
  - Violating other environmental rules

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## Failing Septics & Straight Pipes

- Straight pipe discharges of untreated sewage are illegal
- Authority to regulate septic systems lies with county health departments
  - Finding solutions can be difficult in rural counties with low per capita income
  - Not a lot of assistance for individual homeowners
  - A few more options with regard to small communities





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**Options and Resources for  
Pasture- and Grazing-Related Issues**




**Funding Sources**

- IDEM Nonpoint Source Program
- Natural Resources Conservation Service (NRCS) Programs
- Indiana State Department of Agriculture (ISDA) Clean Water Indiana
- Indiana Department of Natural Resources (DNR) Lake and River Enhancement (LARE)

## IDEM Program Contacts

- **Water Quality Assessment & Integrated Reporting**  
Jody Arthur, [jarthur@idem.IN.gov](mailto:jarthur@idem.IN.gov)
- **Office of Water Quality Monitoring Programs**  
Marylou Renshaw, [mrenshaw@idem.IN.gov](mailto:mrenshaw@idem.IN.gov)
- **Water Quality Standards**  
Eileen Hack, [ehack@idem.IN.gov](mailto:ehack@idem.IN.gov)
- **NPDES**  
Jerry Dittmer, [jdittmer@idem.IN.gov](mailto:jdittmer@idem.IN.gov)
- **Watershed Restoration and Planning (NPS and TMDL Programs)**  
Angie Brown, [abrown@idem.IN.gov](mailto:abrown@idem.IN.gov)
- **Drinking Water**  
Matt Prater, [mprater@idem.IN.gov](mailto:mprater@idem.IN.gov)
- **401 Water Quality Certification and Stormwater**  
Randy Braun, [rbraun@idem.IN.gov](mailto:rbraun@idem.IN.gov)
- **CFO Program**  
Charles Grady, [cgrady@idem.IN.gov](mailto:cgrady@idem.IN.gov)



Animal	Federal Small CAFO Thresholds	Indiana CFO Thresholds
Beef Cattle	≥ 300	≥ 300
Beef Cow/Calf Pairs	≥ 300	
Mature Dairy Cows	≥ 200	
Other than Mature Dairy Cows	≥ 300	
Pigs (≥ 55 pounds)	≥ 750	≥ 600
Nursery Pigs (< 55 pounds)	≥ 3,000	
Layer/Broiler Chickens in a liquid manure handling system	≥ 9,000	≥ 30,000
Chickens other than Layers not in a liquid manure handling system	≥ 37,500	
Layers not in a liquid manure handling system	≥ 25,000	
Ducks in a liquid manure handling system	≥ 1,500	
Ducks not in a liquid manure handling system	≥ 10,000	
Turkeys	≥ 16,500	
Horses	≥ 150	≥ 500
Sheep/Lambs	≥ 3,000	≥ 600