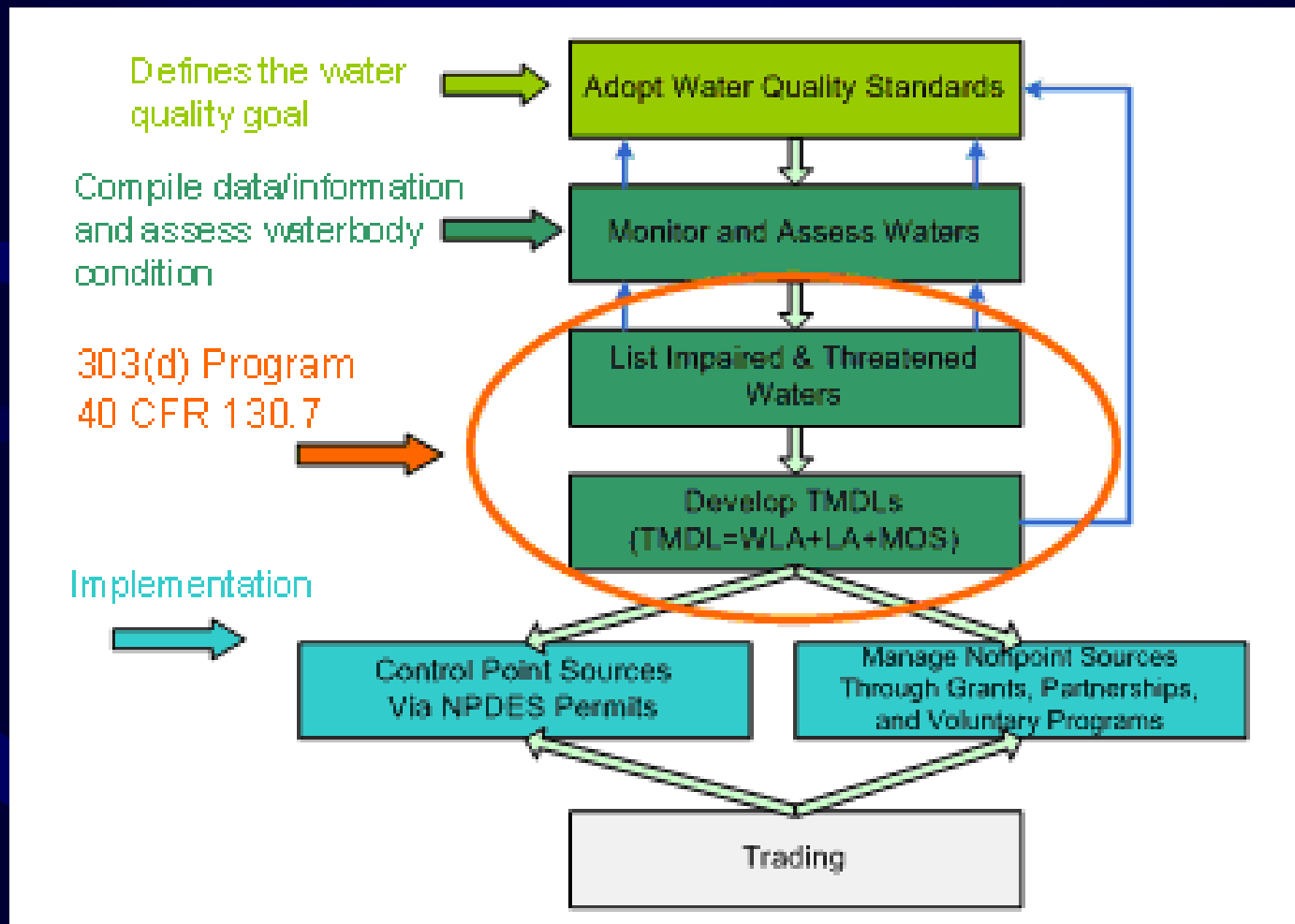


# Clean Water Act, Impaired Waters, Total Maximum Daily Loads (TMDLs), and CAFO permitting

Presented to Bayfield County  
Large-Scale Livestock Committee  
June 18, 2015



# Water Quality-Based Approach of the Clean Water Act



# Impaired Waters List

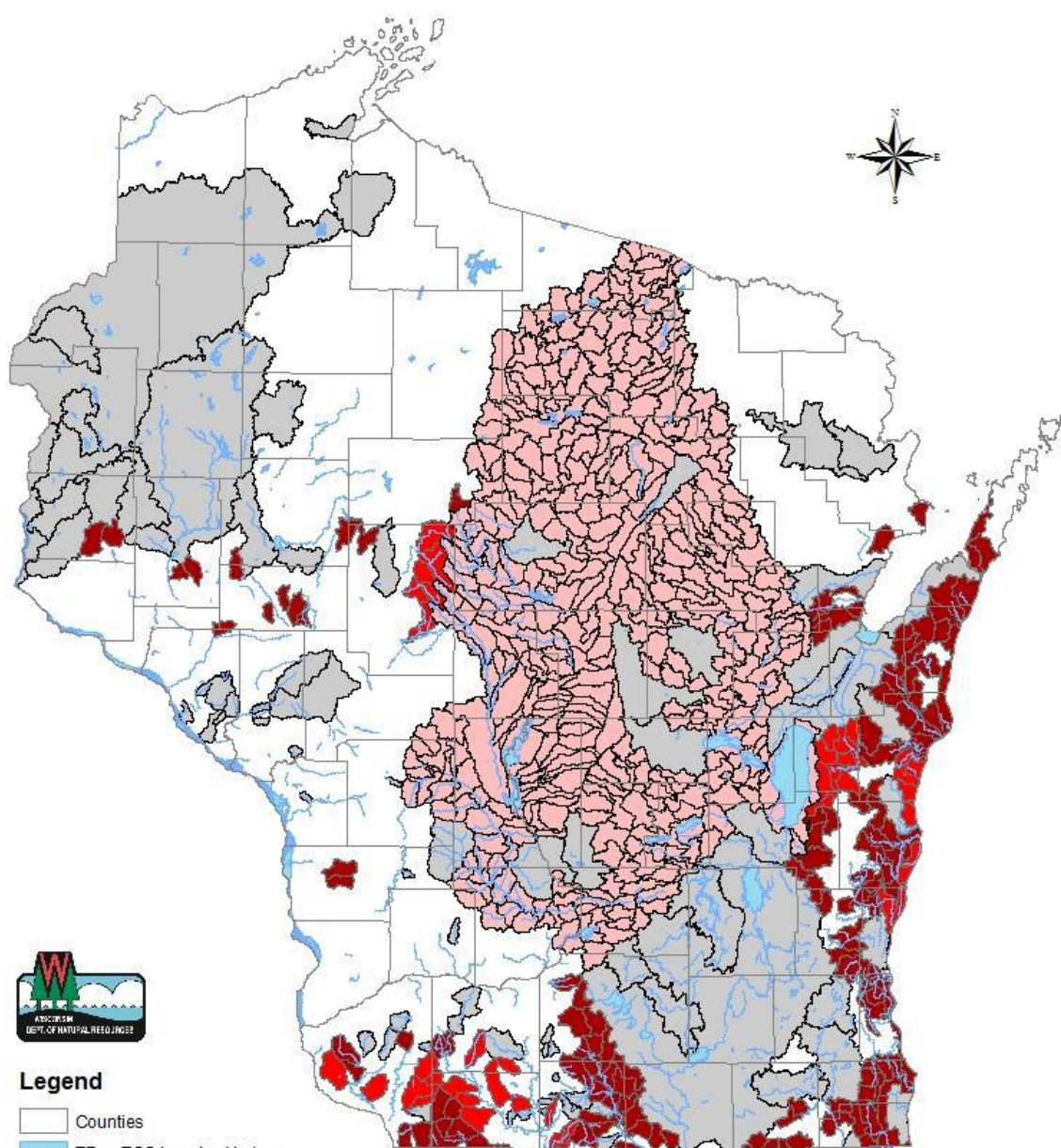
- First list was submitted in 1998
- Updated on even-numbered years
- 2014 impaired waters list approved by EPA on June 2, 2015
- The 2014 list available at:  
[http://dnr.wi.gov/topic/impairedwaters/2014IR\\_IWLIST.html](http://dnr.wi.gov/topic/impairedwaters/2014IR_IWLIST.html)
- Currently assembling the 2016 listing updates

# Impaired Waters Restoration Prioritization Scheme

- Results from objective modeling analyses
  - Healthy Watersheds Assessment
  - Nutrient Strategy
- Focus on two pollutants
  - TP and TSS
- Specifies areas for protection
  - Working on protection plans is not new, but prioritizing protection areas is new

# Approach for Changes to Priorities

- Impaired Waters List is updated biennially
  - New water quality information will inform assessments
- Review and update the prioritization scheme on even-numbered years
- Incorporate in the state's biennial Integrated Report of Water Quality
- Work with EPA and stakeholders to determine whether to add priority areas or reevaluate previous designations

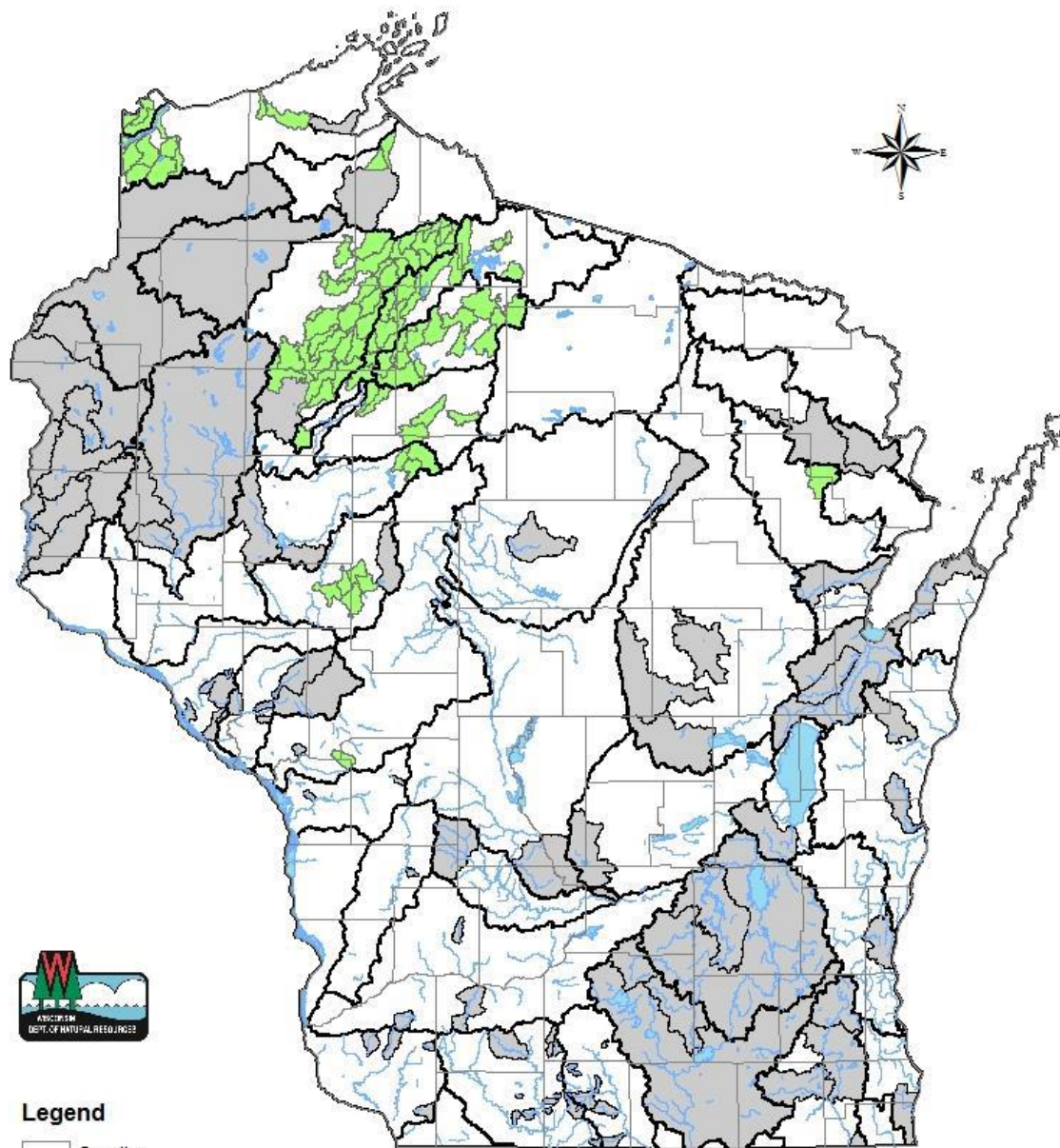


### Legend

- Counties
- TP or TSS Impaired Lakes
- TP or TSS Impaired Streams
- Level 1 Restoration Priority Areas
- Level 2 Restoration Priority Areas (based on Nutrient Strategy)
- Level 2 Restoration Priority Areas (based on Ecosystem Health Index)
- Approved Restoration Plan Areas

0 20 40 80 Miles

Date: 01/30/2015



### Legend

- Counties
- TP or TSS Impaired Lakes
- TP or TSS Impaired Streams
- HUC-8 Watershed Boundaries
- Protection Priority Areas
- Approved Restoration Plan Areas

0 20 40 80 Miles

Date: 01/30/2015

# Acceptable Alternative Restoration Approaches

- A restoration plan pursued in the near term that in its totality is designed to attain WQS
- May be more effective tool to achieve WQS **more rapidly** than TMDLs
- States and EPA to work together to determine which is the more effective tool to pursue in near-term to achieve WQS

# What Type of Restoration Plans Are Most Appropriate?

- Point source / nonpoint source (NPS) blend
  - TMDLs
  - Adaptive Management Plans
- NPS-dominated
  - 9-key Element Plans
- Environmental Accountability Projects
  - Localized impairments being addressed by existing controls
  - Sufficient demonstration that there are 'other pollution control requirements' to meet WQS

# TMDL Program

- TMDLs remain the primary restoration tool for restoring impaired waters.
- ***TMDL = Wasteload Allocation (WLA) + Load Allocation (LA) + Margin of Safety (MOS)***
- To ensure the reduction goals of a TMDL are attained, management measures must be implemented and maintained to control pollutant loadings from all sources of pollution.

# TMDL Implementation Planning

- Once a TMDL is developed and approved, federal and state regulations then require implementation of TMDLs to meet water quality standards ***where there are implementation mechanisms in place and supported by law.***
  - For point source discharges, wasteload allocations need to be expressed in Wisconsin Pollutant Discharge Elimination System (WPDES) permits.
  - Nonpoint source implementation is an adaptive process, requiring the collaboration of diverse stakeholders.

# TMDL Implementation for NPS Pollution

- WDNR is a leader in the development of regulatory authority to prevent and control nonpoint source (NPS) pollution.
  - Wisconsin Administrative Code NR 151
  - Wisconsin's Nonpoint Source Pollution Abatement Program (NPS Program)

# How May a TMDL Affect a Livestock Producer?

- Producers are currently required to be in compliance with statewide agricultural performance standards (Wisconsin Administrative Code NR 151.02).
- A TMDL may identify areas where pollutant reductions will be needed beyond those achieved through compliance with existing state performance standards.
- If additional reductions are identified through the TMDL implementation planning process, WDNR will need to create a ***targeted performance standard***.

# TMDL Implementation and Permit Limitations for CAFOs

- Further limitations on WPDES-permitted facilities, if needed, would be identified through the TMDL implementation planning process.
- The impact of further reductions, for example in PI requirements, would be dependent on current farming practices and may or may not require significant changes at an operation.

# TMDL Implementation and Nutrient Management Plans (NMP)

- Site-specific pollutant load reduction are addressed via the ***TMDL implementation planning process*** and will depend on the data that are available regarding individual sites or fields.
- While the amount of acreage covered under a NMP increases every year, a significant portion of the cropped acreage in the state is not covered under a NMP.
- Over time, the number of farms and amount of cropped acreage falling under an NMP will increase and become more readily available.
- Funding for county and WDNR staff to help assist with collecting data and modeling at this scale of TMDL implementation is currently needed.

# **Concentrated Animal Feeding Operations (CAFO) WPDES Permit Program**

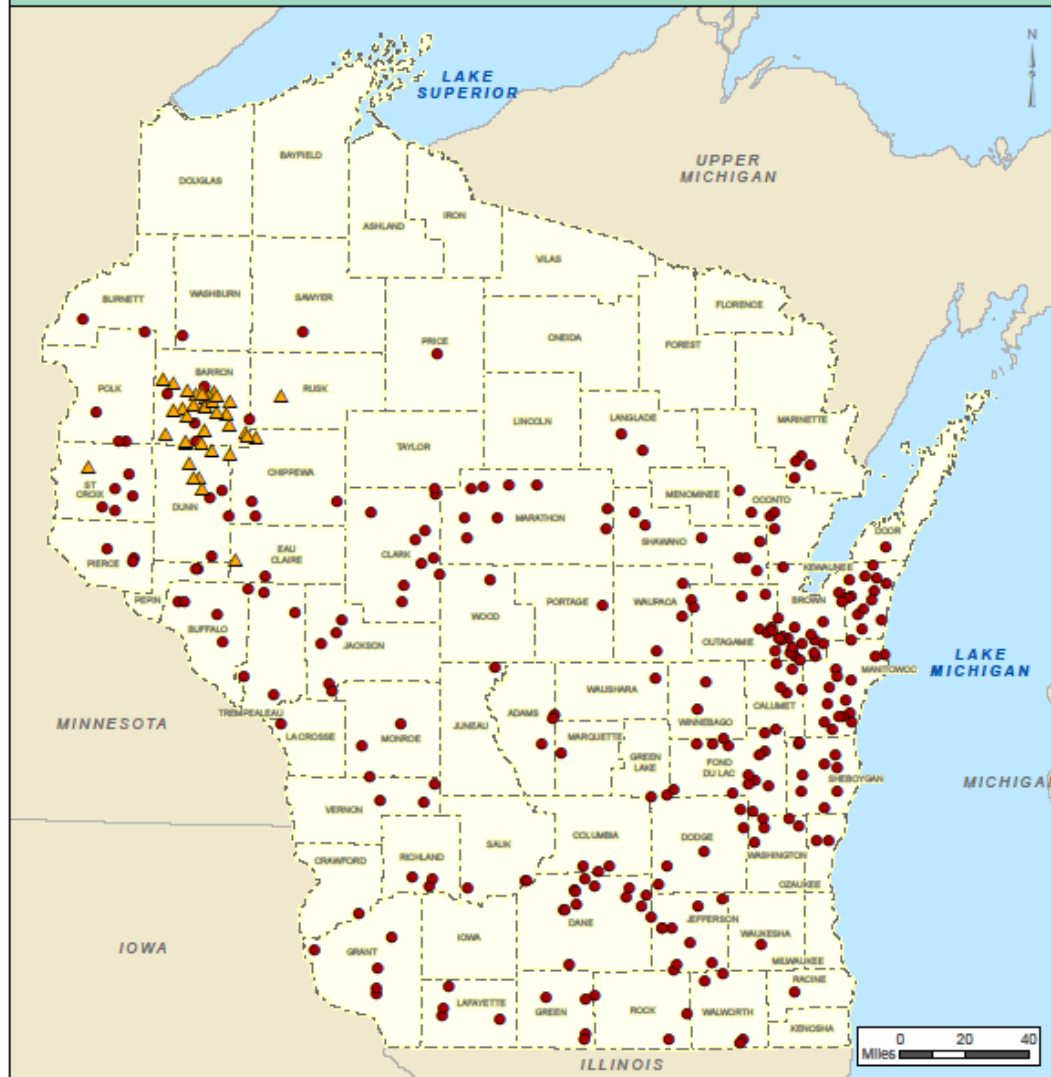
---



Ch. NR 243 Wis. Admin. Code  
Animal Feeding Operation  
Wisconsin Pollutant Discharge  
Elimination System  
(WPDES)  
Permit Program

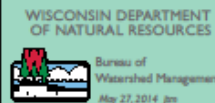
ANIMAL TYPE		A. NUMBER OF MIXED ANIMAL UNITS (CURRENT NR 243 EQUIVALENCIES)			B. NUMBER OF NON-MIXED ANIMAL UNITS (FEDERAL EQUIVALENCIES)		
		Equ. Fac.	Number of animals	Equivalent Animal Units	Equ. Fac.	Number of animals	Equivalent Animal Units
<i>Example- Broilers (non-liquid manure):</i>		.005 x	<b>150,000</b>	= <b>750 AU</b>	.008 x	<b>150,000</b>	= <b>1200 AU</b>
DAIRY/BEEF CALVES (under 400 lbs.)		0.2 x		=	<i>(Note: Federal numbers in this column comply with 40 CFR s. 122.23.)</i>		
DAIRY CATTLE	Milking and Dry Cows	1.4 x		=	1.43 x		=
	Heifers (800 lbs. to 1200 lbs.)	1.1 x		=	1.0 x		=
	Heifers (400 lbs. to 800 lbs.)	0.6 x		=	(categories combined: Heifers (400-1200 lbs))		
BEEF	Steers or Cows (400 lbs. to market)	1.0 x		=	1.0 x		=
	Bulls (each)	1.4 x		=	(categories combined)		
VEAL CALVES		0.5 x		=	1.0 x		=
SWINE	Pigs (55 lbs. to market)	0.4 x		=	0.4 x = (categories combined: swine (55 lbs. to market))		
	Sows (each)	0.4 x		=			
	Boars (each)	0.5 x		=			
	Pigs (up to 55 lbs.)	0.1 x		=	0.1 x		=
CHICKENS	Layers (each)-non-liquid system	0.01 x		=	0.0123 x		=
	Broilers/Pullets (each)-non-liquid system	0.005 x		=	0.008 x		=
	Layers or Broilers-liquid system	0.033 x		=	0.0333 x		=
DUCKS	Ducks (each)-liquid system	0.2 x		=	0.2 x		=
	Ducks (each)-non-liquid system	0.01 x		=	0.0333 x		=
TURKEYS (each)		0.018 x		=	0.018 x		=
SHEEP (each)		0.1 x		=	0.1 x		=
HORSES (each)		2.0 x		=	2.0 x		=
TOTAL ANIMAL UNITS:		TOTAL MIXED AU = (add all rows above)			TOTAL <u>NON-MIXED</u> AU =  (enter the single highest number from any row above; do NOT add the totals)		

# WISCONSIN WPDES PERMITTED CONCENTRATED ANIMAL FEEDING OPERATIONS



- CAFO
- ▲ Jennie-O Turkey Store Facilities (37 sites covered under one individual permit)

A total of 260 WPDES permits for Concentrated Animal Feeding Operations (CAFOs) are in effect in Wisconsin as of May 2014. Jennie-O Turkey Stores are permitted jointly under a single WPDES permit. All other CAFOs are permitted individually.



The data shown on this map have been obtained from various sources, and are of varying age, reliability and resolution. This map is not intended to be used for navigation, nor is this map an authoritative source of information about legal land ownership or public access. Users of this map should confirm the ownership of land through other means in order to avoid trespassing. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map.

# NR 243

## CAFO WPDES Permit Program

- Water quality protection permits (surface/ground water, wetlands)
- Regulates CAFO manure and process wastewater handling/land application
- **NOT** a siting program
- Does not address air, odor, noise or traffic issues



# CAFO WPDES Permit Requirements

---

- Nutrient Management
  - How, when, where, amounts manure is land applied
  - N & P based plans
  - Restrictions when spreading near navigable waters and their conduits
  - Winter spreading restrictions
  - Discharges of agricultural storm water allowed

# CAFO WPDES Permit Requirements Agricultural Stormwater

- A precipitation-related discharge of manure or process wastewater pollutants to surface waters from land application areas that occur after a CAFO has followed its NMP
  - A nonpoint source discharge of pollutants, not regulated by the WPDES permit
- Land application requirements in a TMDL that go beyond ch. NR 243 are not implemented via the CAFO WPDES permit

# CAFO WPDES Permit Requirements

---

- Production Area Discharge Requirements
  - EPA technology-based “no discharge” to navigable waters effluent limitation
  - Groundwater discharges allowed but cannot cause exceedances of groundwater quality standards

# Production Area Discharge Requirements

---

## Most CAFOs

- Discharges of production area pollutants to navigable waters are only allowed associated with a 25-year, 24-hour storm event, provided certain design, construction, maintenance, inspection and record keeping requirements are met
  - All allowed discharges to navigable waters must comply with surface water quality standards
  - Discharges to groundwater may not exceed groundwater standards

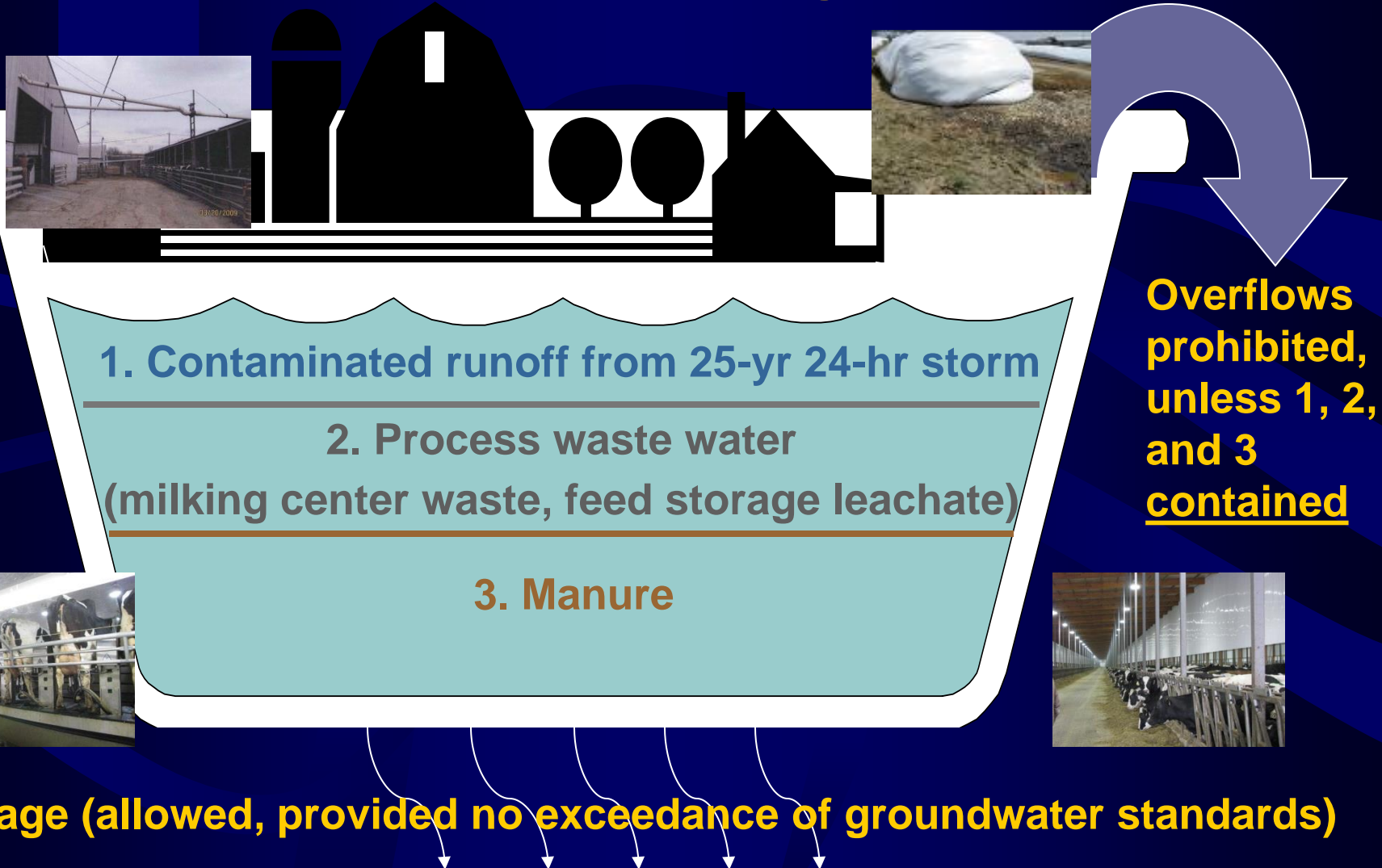
# Production Area Discharge Requirements

---

## Most CAFOs (cont)

- Compliance with “no discharge” requirement
  - Based on design/maintenance requirements, not effluent monitoring
  - Issues with monitoring non-discrete, infrequent discharges
- Additional discharge restrictions
  - CAFOs may not discharge any production area pollutants to 303(d) listed surface waters (where pollutants are related to impairment), unless allowed under a TMDL
  - TMDLs currently assign CAFOs a production area WLA of “0” for surface water discharges

# "No Discharge" from Animal Production Area to Navigable Waters



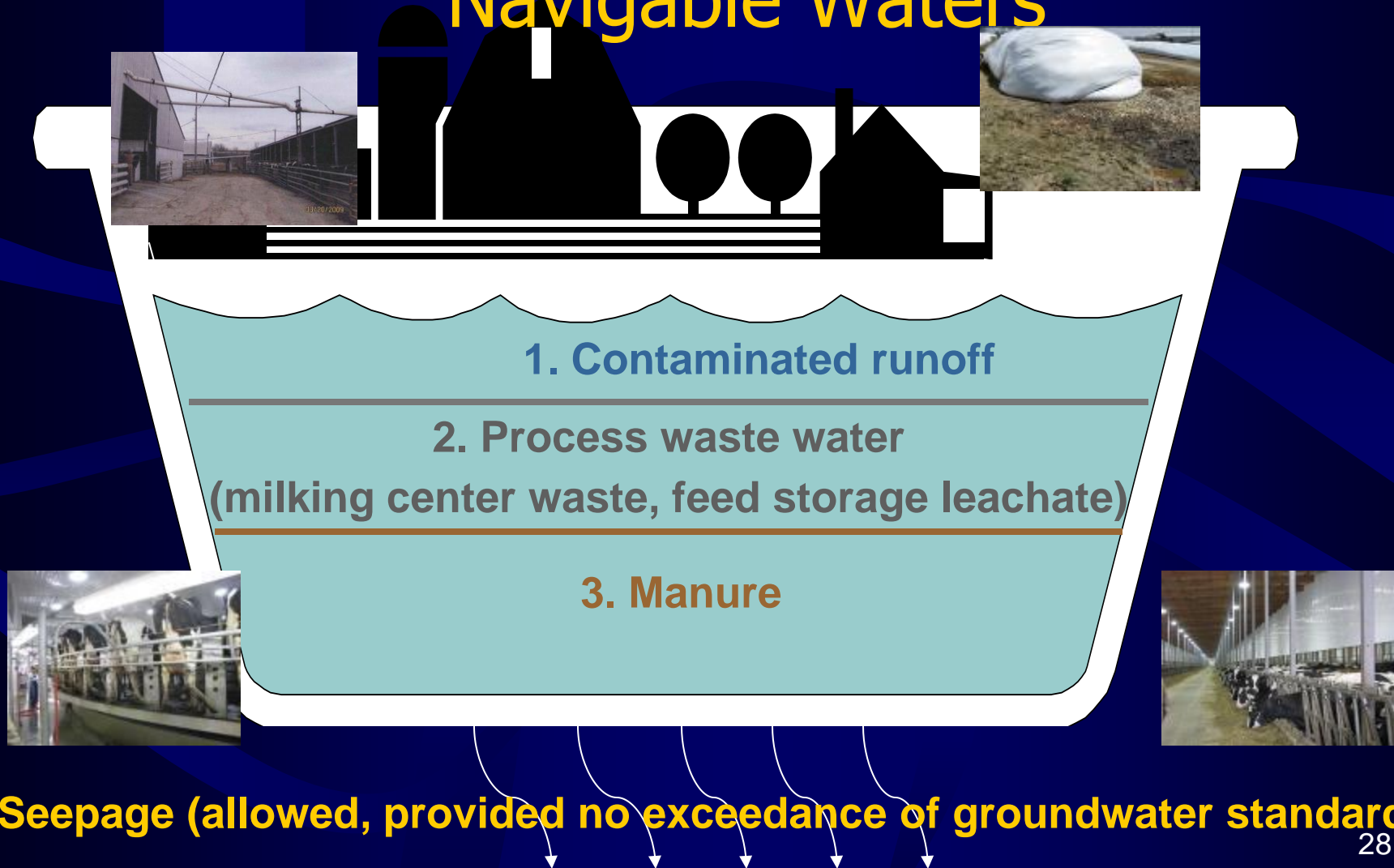
# Production Area Discharge Requirements

---

- New Source\* Swine, Veal and non-Duck Poultry
  - Discharges of production area pollutants to navigable waters prohibited regardless of storm event
  - Discharges to groundwater may not exceed groundwater standards
- Compliance with “no discharge” requirement
  - Based on design/maintenance requirements, not effluent monitoring
  - Issues with monitoring non-discrete, infrequent discharges
- TMDLs assign CAFOs a production area WLA of “0” for surface water discharges

\* Constructed on or after April 14, 2003

# New Source Swine/Veal/Poultry: "No Discharge" from Production Area to Navigable Waters



Seepage (allowed, provided no exceedance of groundwater standards)

# CAFO WPDES Permit Requirements

---

- Review of designed structures (e.g., manure storage)
  - 90-day review period
- Proper storage of materials
  - 180-day liquid manure storage
  - Stack or store solid manure during February & March

# CAFO WPDES Permit Requirements

---

- Monitoring and Reporting
  - Sampling of manure and soil
  - Self-inspections to determine permit compliance
  - Submittal of annual reports for land application activities/self-inspections

<b>Rule→ ↓Topic</b>	<b>Ag Performance Standards (NR 151/ATCP 50)</b>	<b>Livestock Siting (ATCP 51)</b>	<b>CAFO WPDES (NR 243)</b>
<b>Applicability</b>	Crop Producers & Livestock Producers regardless of size	Primarily 500 AU operations and above (mixed AUs only)	Primarily 1,000 AU operations and above (mixed and individual AUs)
<b>Cost-sharing Required?</b>	For requiring “existing” operations to comply	No	No
<b>Nutrient Management</b>	NRCS 590 P-Index ≤6 Tillage Setback	NRCS 590	NRCS 590 + additional <ul style="list-style-type: none"> <li>• Winter spreading restrictions</li> <li>• P restrictions</li> <li>• Setbacks from wells/groundwater/bedrock</li> </ul>
<b>Storage Design</b>	NRCS 313	NRCS 313	NRCS 313 + additional <ul style="list-style-type: none"> <li>• Potential for greater design requirements</li> <li>• Potential for groundwater monitoring</li> <li>• 180-day liquid manure storage</li> <li>• NR 213 for process wastewater</li> </ul>
<b>Implementation Mechanism</b>	NOD Program, LWRM plans, local ordinances, Farmland Preservation	Local (County/Town) ordinances	WPDES permit
<b>Manure Irrigation</b>	NRCS 590	NRCS 590	NRCS 590 + NR 213
<b>Runoff Control</b>	<ul style="list-style-type: none"> <li>• Manure Management Prohibitions</li> <li>• No significant discharge of process wastewater to waters of the state</li> </ul>	<ul style="list-style-type: none"> <li>• Manure Management Prohibitions (except no overgrazing) for Surface Water only</li> <li>• No significant discharge from feed storage</li> </ul>	<ul style="list-style-type: none"> <li>• Manure Management Prohibitions</li> <li>• “No Discharge” to navigable waters</li> <li>• Discharges may not exceed groundwater/surface water quality standards</li> <li>• Design review</li> </ul>
<b>Air/Odor</b>	N/A	Odor Worksheet	<ul style="list-style-type: none"> <li>• Limited odor authority related to irrigation</li> <li>• Impacts disclosed if EA/EIS required (does not create authority under WPDES permit program or other DNR programs)</li> </ul>
<b>Sampling</b>	Soil sampling under NRCS 590	Soil sampling under NRCS 590	<ul style="list-style-type: none"> <li>• Soil sampling under NRCS 590</li> <li>• Manure/Process Wastewater under WPDES permit</li> </ul>
<b>Reporting</b>	NMP updates may be required based on: <ul style="list-style-type: none"> <li>• Cost-sharing program</li> <li>• Manure storage ordinance</li> </ul>	Annual NMP updates to County/Town	<ul style="list-style-type: none"> <li>• Annual NMP updates to DNR</li> <li>• Annual NMP reports/Production area self-inspections results</li> <li>• Planned changes</li> <li>• Spills</li> </ul>



# Questions?