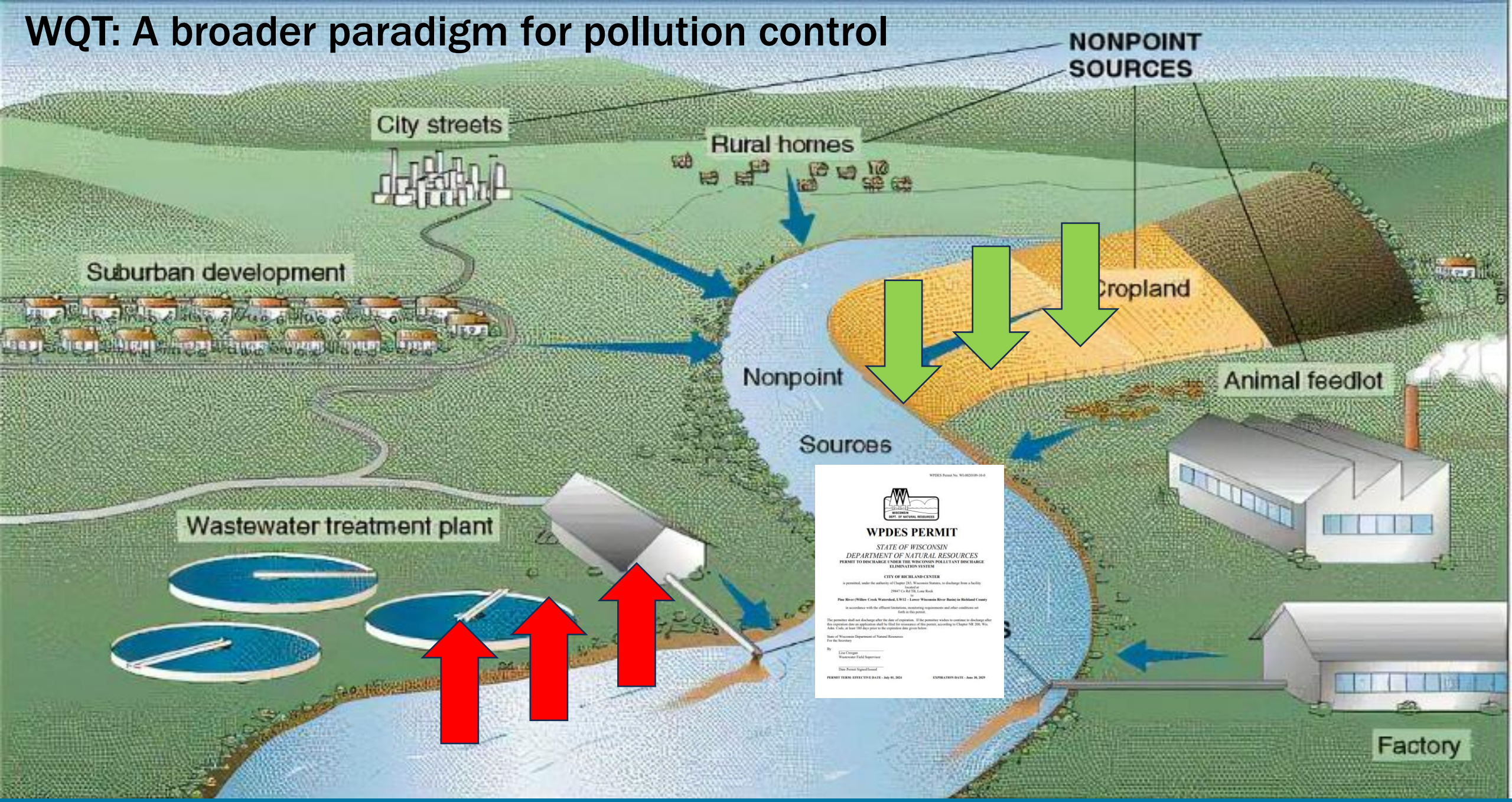
Session 6: Integrated Approaches to Managing Non-Point Source Nutrient Pollution Though CWA Programs

Matt Claucherty, Phosphorus Implementation Coordinator

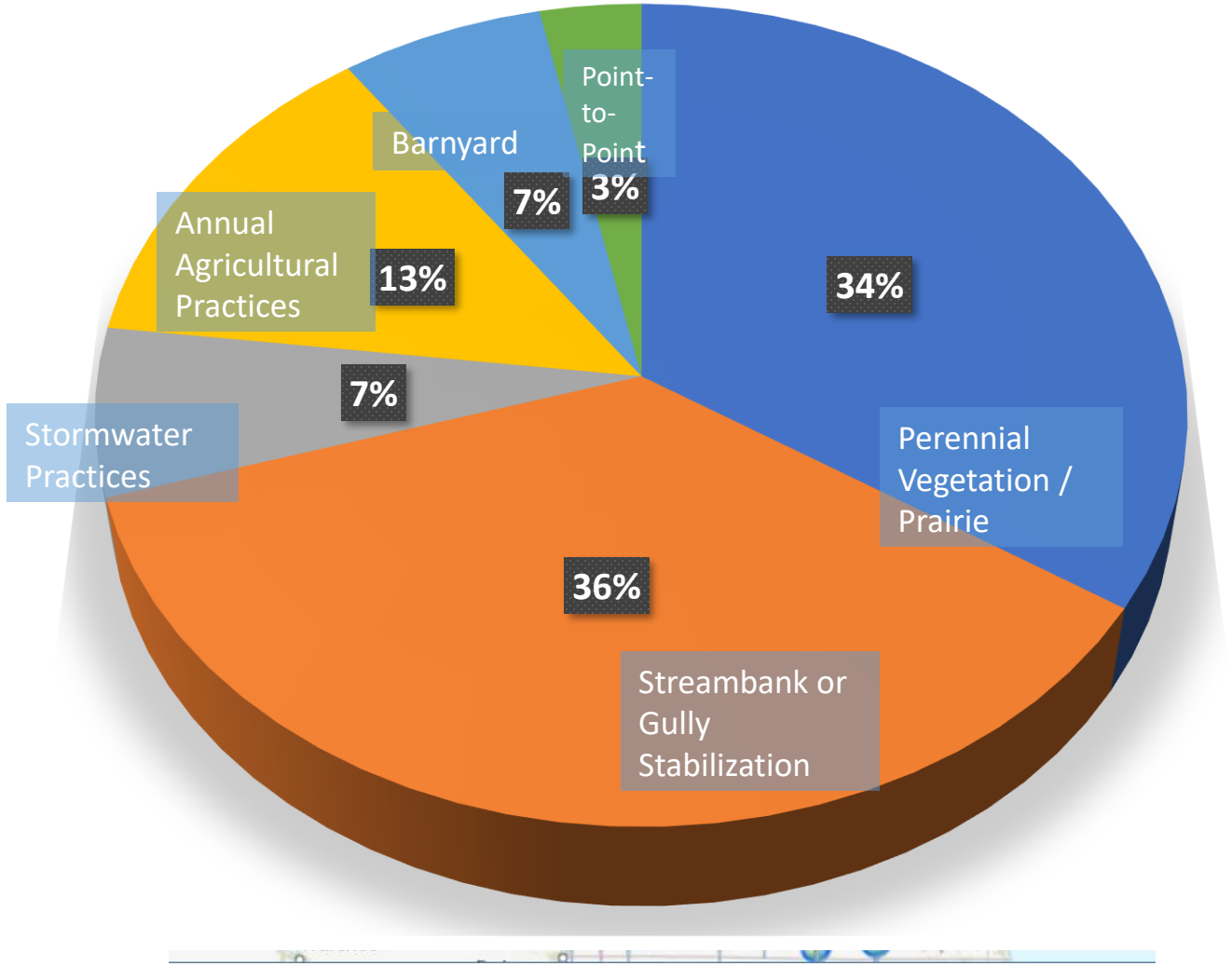
July 23, 2025

WQT: A broader paradigm for pollution control



Water Quality Trading Program Summary

- Number of WPDES permittees with approved trades: 75
- Total credits traded (phosphorus): 26,799.6 lbs./year
- Total modeled nonpoint pollution reduction (phosphorus): 46,535 lbs./year
- Acres of perennial vegetation established (native prairie or grass/hay): 2,046.8
- Acres of nonpoint control (mainly improved cropping practices, buffers): 2,329.5
- Length of eroding streambank stabilization: 130,542.0 feet or 24.7 miles



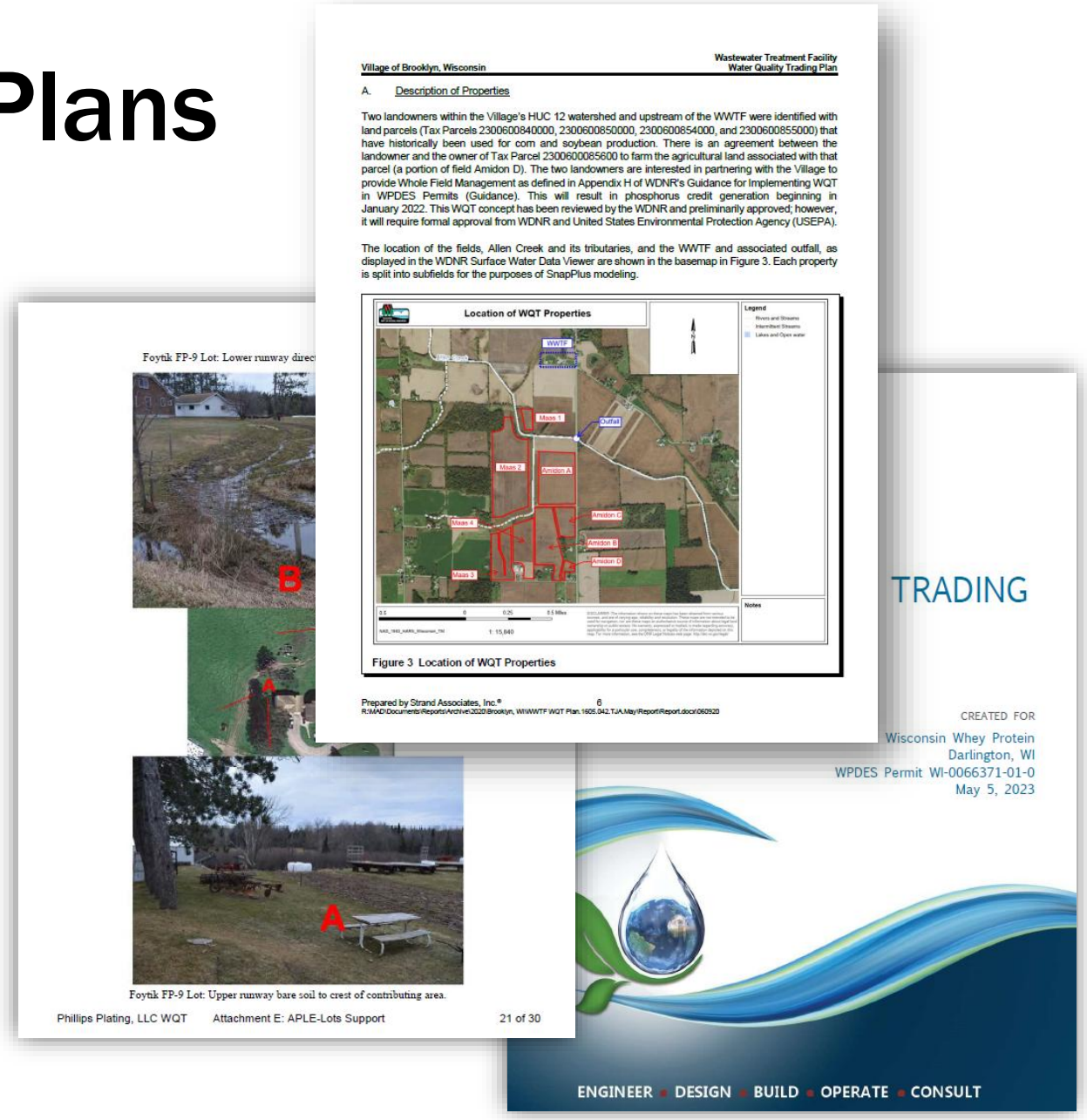
Water Quality Trading Plans

- Detailed documentation for each trade:
  - Baseline pollutant load
  - Modeling inputs/results
  - Location of practices
  - Timeline for project
  - Credit quantities
  - Operation / Maintenance Requirements
  - Inspection protocols

- DNR staff review plans and verify credits

- WQT plan is referenced in the WPDES permit – becomes a permit requirement

- WQT plan is public noticed with permit – assures transparency and process for public input



Statutes Supporting WQT: Section 283.84 Wis. Stats.

283.84 Trading of water pollution credits.

(1) The department shall administer a program for the trading of water pollution credits that is consistent with the federal Water Pollution Control Act, 33 USC 1251 to 1387. Subject to sub. (1m), under the program the department may authorize a person required to obtain a permit to increase the discharge of pollutants above levels that would otherwise be authorized in the permit if the person does one of the following:

(a) Reaches a binding, written agreement with another person who is required to obtain a permit under which the other person agrees to reduce the discharge of pollutants below the levels that would otherwise be authorized in the other person's permit.

(b) Reaches a binding, written agreement with another person who is not required to obtain a permit under which the other person agrees to reduce the amount of water pollutio that it causes below the levels of water pollution that it causes when the agreement is reached.

(c) Reaches a binding, written agreement with the department or a local governmental unit, as defined in s. 16.97 (7), under which the person pays money to the department or local governmental unit and the department or local governmental unit uses the money to reduce water pollution or to provide cost-sharing, for the purposes of s. 281.16 (3 (e) or (4), for projects to reduce water pollution.

(d) Reaches a binding, written agreement with the department under which the person reduces the discharge of pollutants under another permit that the person holds below the levels that would otherwise be authorized in the other permit.

(e) Reaches a binding, written agreement with the department under which the person constructs a project or implements a plan that results in reducing the amount of water pollution from sources other than the source covered by the permit.

Agreement Structure

(1m) Under the program, the department may authorize a person to increase a discharge of pollutants above levels that would otherwise be authorized in the permit only if all of the following apply:

(a) The agreement under sub. (1) results in an improvement in water quality.

Trade results in a water quality improvement

(b) The increase in pollutants and the reduction in pollutants provided for in the agreement under sub. (1) involve the same pollutant or the same water quality standard

Pollutant

(d) The increase in pollutants and the reduction in pollutants occur within the same basin or portion of a basin, as determined by the department.

Same Basin

(3m) A person engaged in mining, as defined in s. 293.01 (9) or 295.41 (26), prospecting, as defined in s. 293.01 (18), bulk sampling, as defined in s. 293.01 (2m) or 295.41 (7), or nonmetallic mining, as defined in s. 295.11 (3), may not enter into an agreement under sub. (1).

No mining, prospecting, bulk sampling

(3r) The department shall include terms and conditions related to agreements under sub. (1) in new and reissued permits.

(4) The department shall modify the permits of persons entering into agreements under sub. (1) to enable the agreements to be implemented and to include terms and conditions related to the agreements.

Permits must reflect trades

(6) The department may promulgate rules for the administration of this section.

History: 1997 a. 27; 2001 a. 16; 2003 a. 33; 2011 a. 151; 2013 a. 1; 2017 a. 134.

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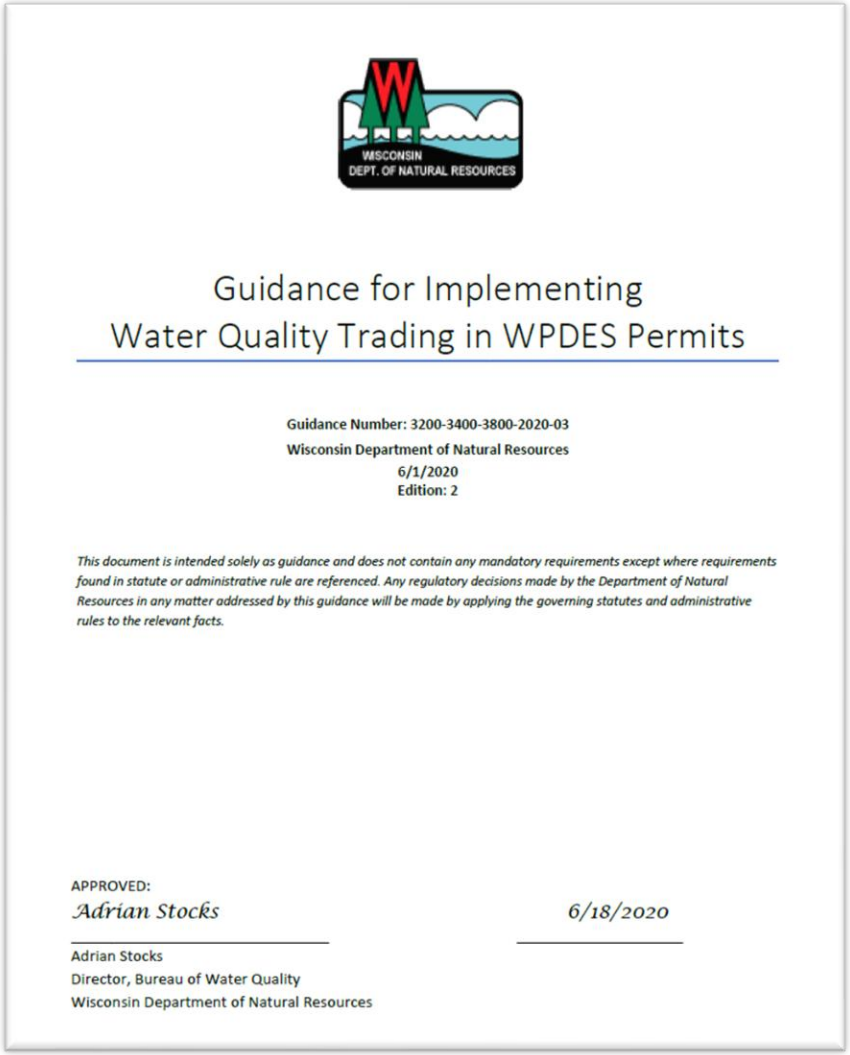
Water Quality Trading Guidance

- DNR has published extensive guidance for WQT
- We are urged to undertake rulemaking for WQT
- Water quality stakeholders place a lot of importance on WQT
  - WWTFs see significant cost savings (6.4% vs. 14.6% rate increase)
  - For some WWTFs, WQT is the only hope
  - Agriculture sees the money ($7 B?!)
  - Water quality stakeholders see a nonpoint panacea



WISCONSIN DEPT. OF NATURAL RESOURCES

Guidance for Implementing
Water Quality Trading in WPDES Permits

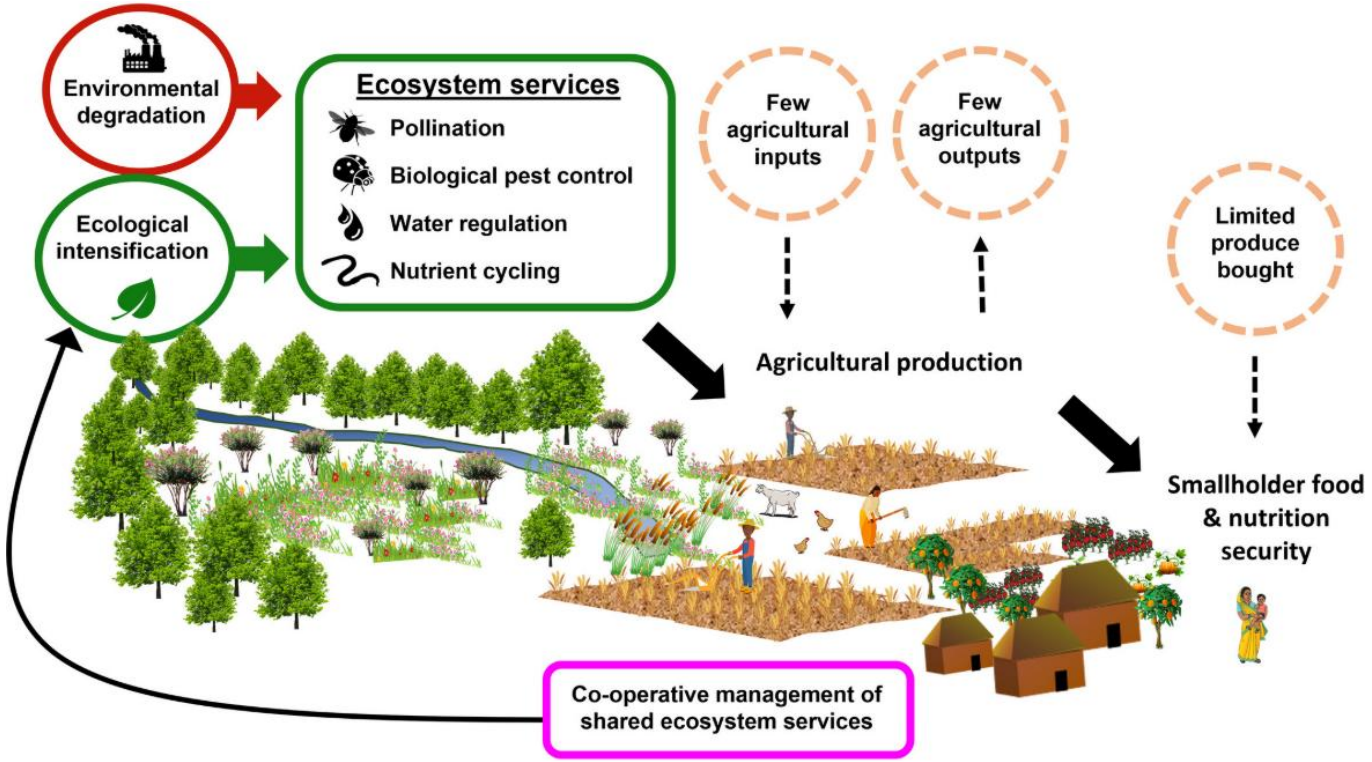
Guidance Number: 3200-3400-3800-2020-03
Wisconsin Department of Natural Resources
6/1/2020
Edition: 2

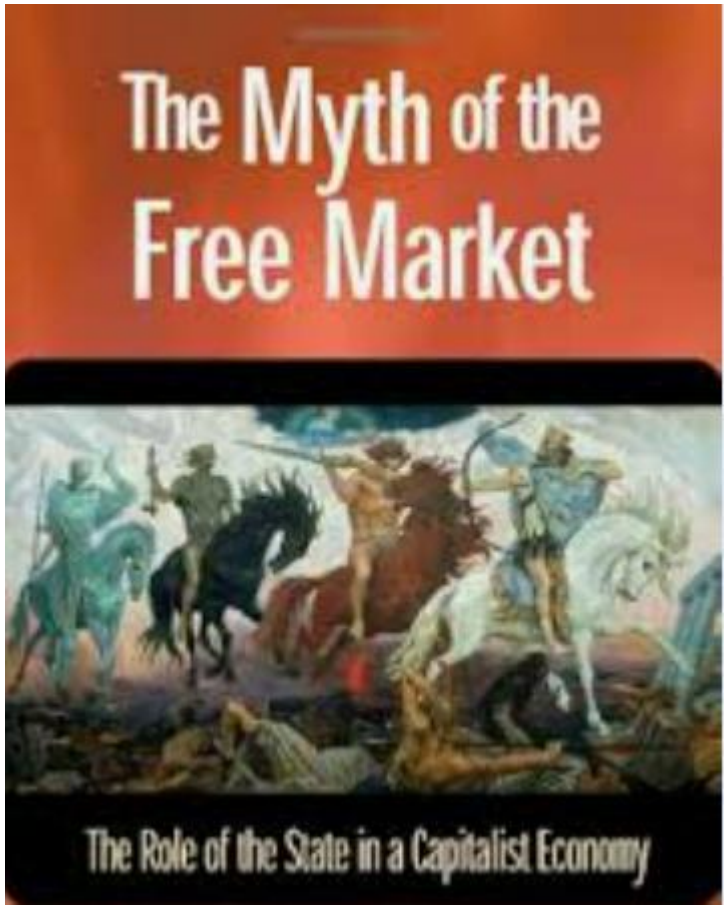
This document is intended solely as guidance and does not contain any mandatory requirements except where requirements found in statute or administrative rule are referenced. Any regulatory decisions made by the Department of Natural Resources in any matter addressed by this guidance will be made by applying the governing statutes and administrative rules to the relevant facts.

APPROVED:
Adrian Stocks 6/18/2020

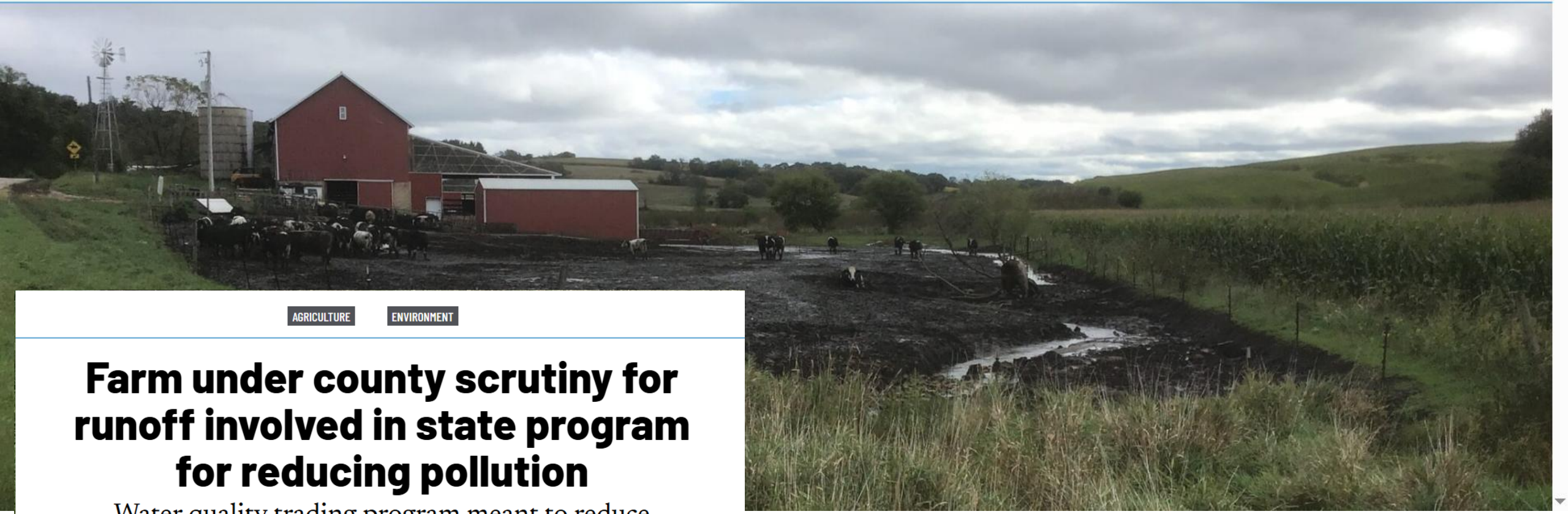
Adrian Stocks
Director, Bureau of Water Quality
Wisconsin Department of Natural Resources

Ecosystem Services Marketplace





- How much is a pound of phosphorus [kept out of surface water] worth?



AGRICULTURE ENVIRONMENT

Farm under county scrutiny for runoff involved in state program for reducing pollution

Water quality trading program meant to reduce phosphorus but trades can go wrong

BY: **HENRY REDMAN** - TUESDAY NOVEMBER 22, 2022 7:00 AM

Water Quality Trading and "Additionality"

- As an offset, do credit-generating projects need to be caused by dischargers?
  - How do we document that?
- Do pre-existing requirements for nonpoint sources set the baseline?
- Farmland preservation example
- Managing and allowing for partnerships
  - NRCS and Trout Unlimited example
- Cross-program coordination is essential when trying to avoid "double-dipping"

Its all about the people

- Who is doing the on-the-ground implementation?

- Who is compiling the WQT documentation?

- Wastewater Engineering Firms
- County Conservation Departments/Districts
- Clearinghouse

Utility Scale Solar Installations

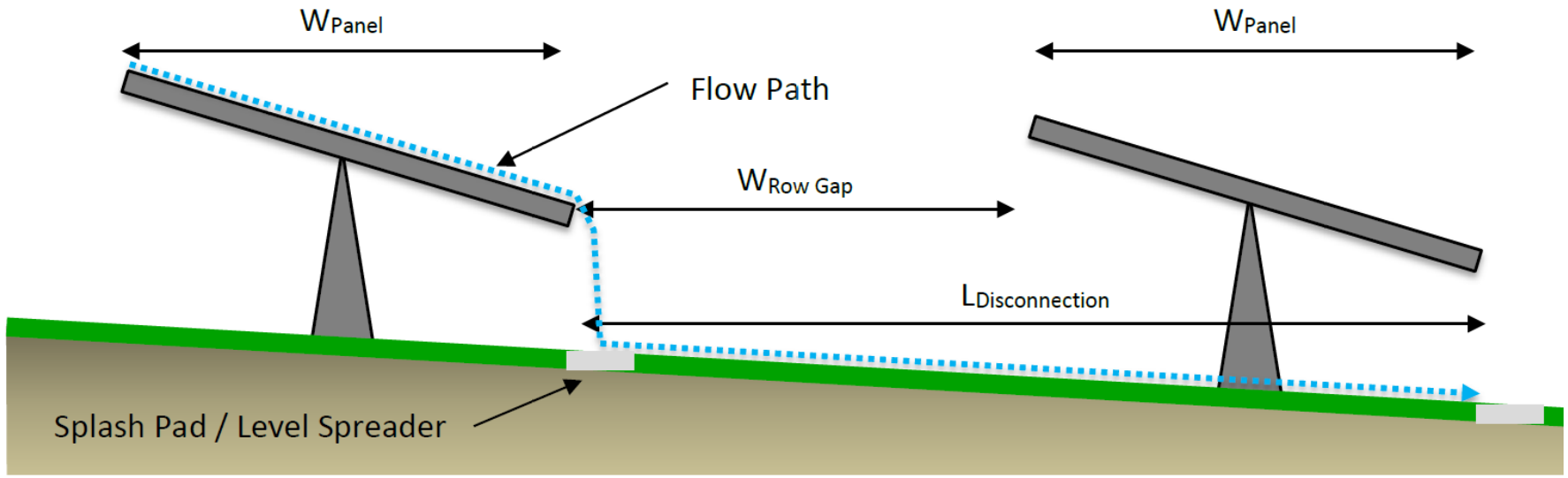


Image Credit: Minnesota

Are a combination of disconnected impervious (solar panels), pervious areas, and impervious areas associated with supporting infrastructure such as access roads and buildings.

This creates challenges to quantify potential pollutants loads and reductions through models such as the agricultural model SnapPlus or the urban model WinSLAMM.

Industry Alert – Proposed Wisconsin DNR Program would limit Solar Farm's Ability to Participate in Wisconsin's Water Quality Trading Program

Last week, the Wisconsin Department of Natural Resources (WDNR) released draft guidance on implementation of its Water Quality Trading Program for utility-scale solar farms. The trading program, authorized under Wis. Stat. § 283.84, allows owners of utility-scale solar installations to sell credits for the pollutants (such as phosphorus) they prevent from entering Wisconsin's waterways to municipalities and industry with discharge limits under Wisconsin Pollutant Discharge Elimination System (WPDES) permits. Trading may be used by municipal and industrial WPDES permit holders to demonstrate compliance with water quality-based effluent limitation (WQBELs) or waste load allocations required under total maximum daily loads (TMDLs).

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CO-AUTHORS

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Associate Attorney

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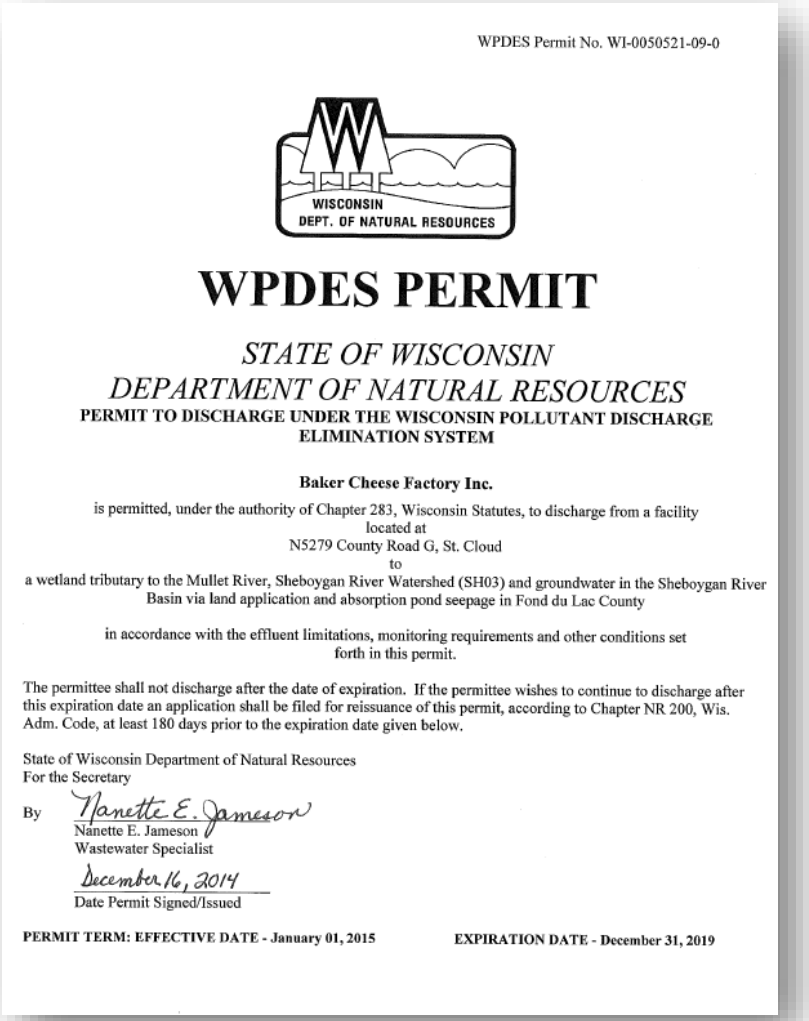
Renewing Water Quality Trades

(Second and Third Permit Terms)

- WPDES permits are reissued every 5 years
  - WQT plans that support WPDES compliance will need to be updated at each permit reissuance
- DNR does not intend to:
  - Renegotiate trades every permit term
  - Cause WQT plans to be completely rewritten each permit term
- DNR does need to ensure:
  - Compliance options remain current with regulations, policies, and best science
  - Nonpoint practices continue to offset sufficient pollutant loads for compliance

Bottom Line: Permittees' WQT agreements do not change Clean Water Act requirements



WPDES Permit No. WI-0050521-09-0

WISCONSIN DEPT. OF NATURAL RESOURCES

WPDES PERMIT

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
PERMIT TO DISCHARGE UNDER THE WISCONSIN POLLUTANT DISCHARGE ELIMINATION SYSTEM

Baker Cheese Factory Inc.

is permitted, under the authority of Chapter 283, Wisconsin Statutes, to discharge from a facility located at
N5279 County Road G, St. Cloud
to
a wetland tributary to the Mullet River, Sheboygan River Watershed (SH03) and groundwater in the Sheboygan River Basin via land application and absorption pond seepage in Fond du Lac County

in accordance with the effluent limitations, monitoring requirements and other conditions set forth in this permit.

The permittee shall not discharge after the date of expiration. If the permittee wishes to continue to discharge after this expiration date an application shall be filed for reissuance of this permit, according to Chapter NR 200, Wis. Adm. Code, at least 180 days prior to the expiration date given below.

State of Wisconsin Department of Natural Resources
For the Secretary

By Nanette E. Jameson
Nanette E. Jameson
Wastewater Specialist

December 16, 2014
Date Permit Signed/Issued

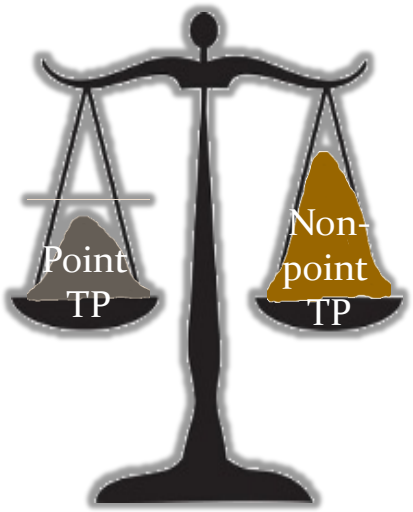
PERMIT TERM: EFFECTIVE DATE - January 01, 2015 **EXPIRATION DATE - December 31, 2019**

Water Quality Trading Geographic Extent

- The geographic area from which credits can be obtained often dictates the number of options available (to a point)
- "applicable hydrologic area" means the largest area possible within this state to facilitate implementation of this section while achieving water quality standards and any applicable federally approved total maximum daily load allocations.
- Effluent limits are calculated based on a receiving water
  - Far-field impacts often result in larger trading areas
  - Local WQBELs dictate a local trading area
  - No smaller than the HUC 12 watershed

Nonpoint Modeling Uncertainty

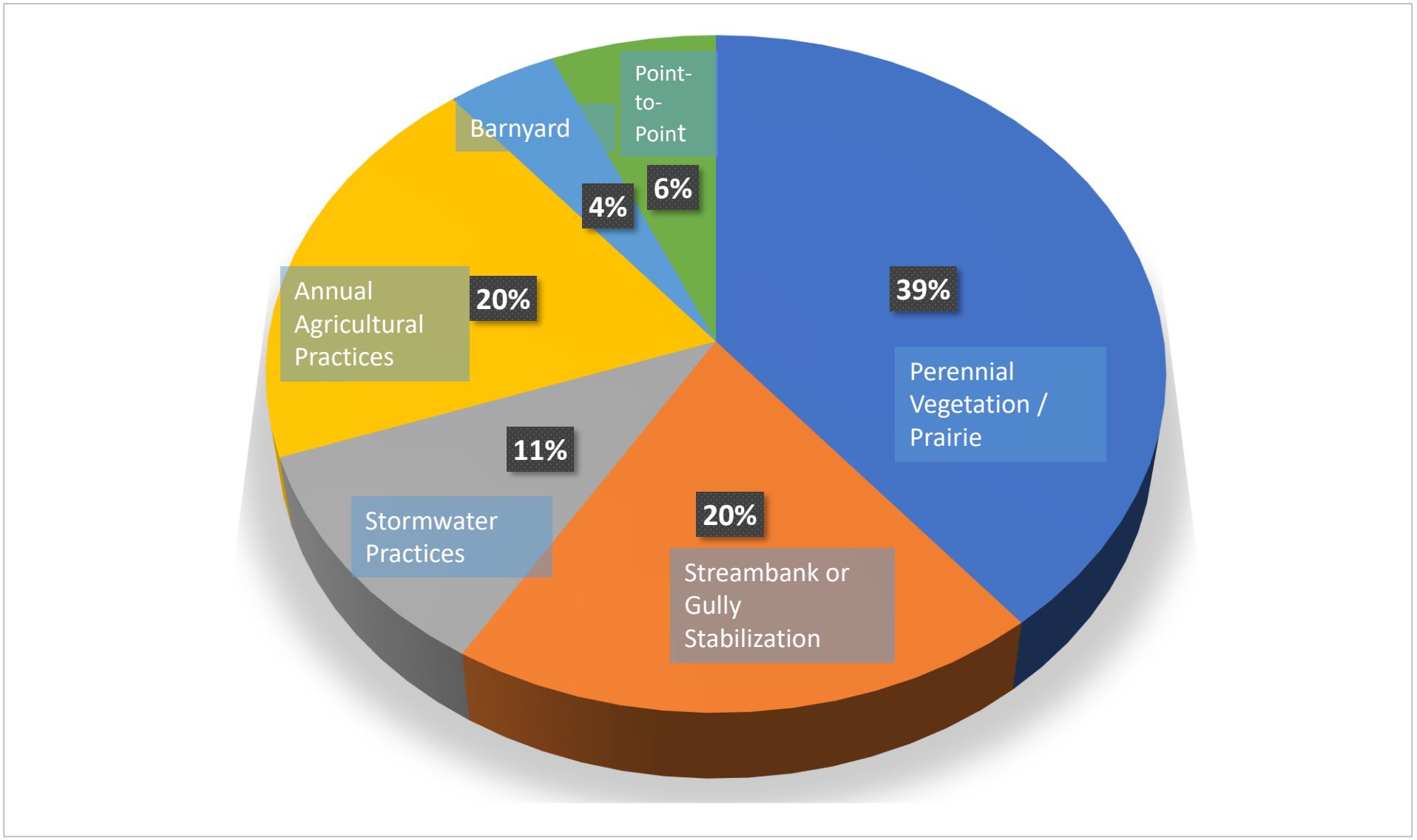
- Using model results to show compliance with WQBELs end-of-pipe
  - Large concession of flexibility to regulated entities (presenter's opinion)
- Model results have significant error bars around them
  - Typically we account for this via a trade ratio
- Field-scale modeling is essential (unless you're very conservative)
  - Review the inputs. Over 50% of trades initially over-calculate credits.
  - Documentation of baseline conditions can be problematic
- Shifting of pollutant loads can diminish actual WQ improvements



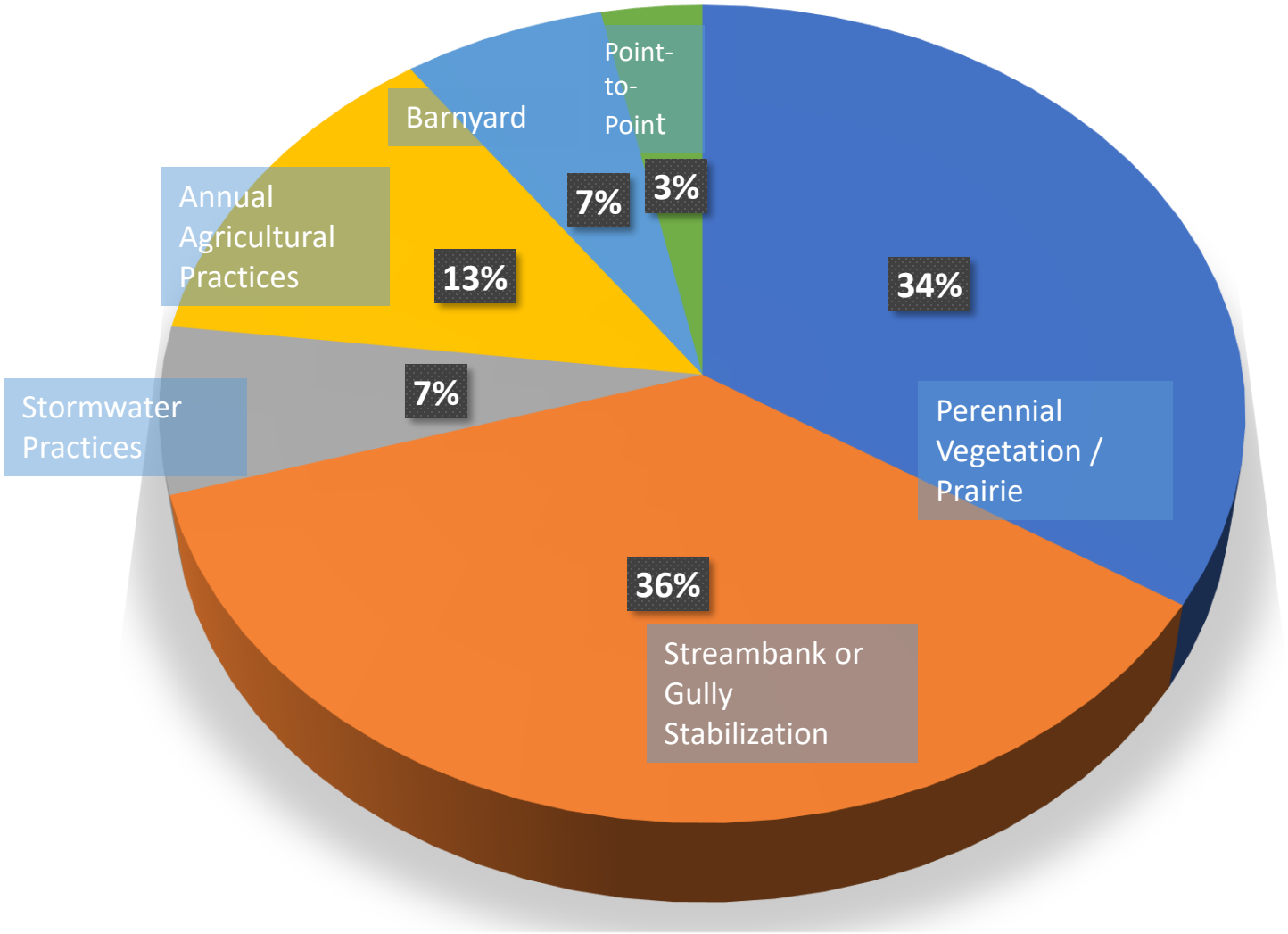
Interplay Between Variances and WQT

- Some dischargers feel that they have an inalienable right to a variance when a low WQBEL is assigned.
- Are they required to evaluate WQT?
- Are they required to participate in a trade if one is available / affordable?
- The existence of a clearinghouse has amplified this issue.
- What if the trade then fails and enforcement is required?

WQT Practices Statewide: 2018



WQT Practices Statewide: 2025



Not all Streambank Stabilization is Restoration

- Stream meander migration is a natural process for most Wisconsin streams
- Some stabilization techniques may “lock-in” channel dimensions not compatible with stream hydrology/geomorphology
- Prone to concentrating erosive energy downstream and causing/worsening erosion at other locations
- Riparian and in-stream habitat degradation

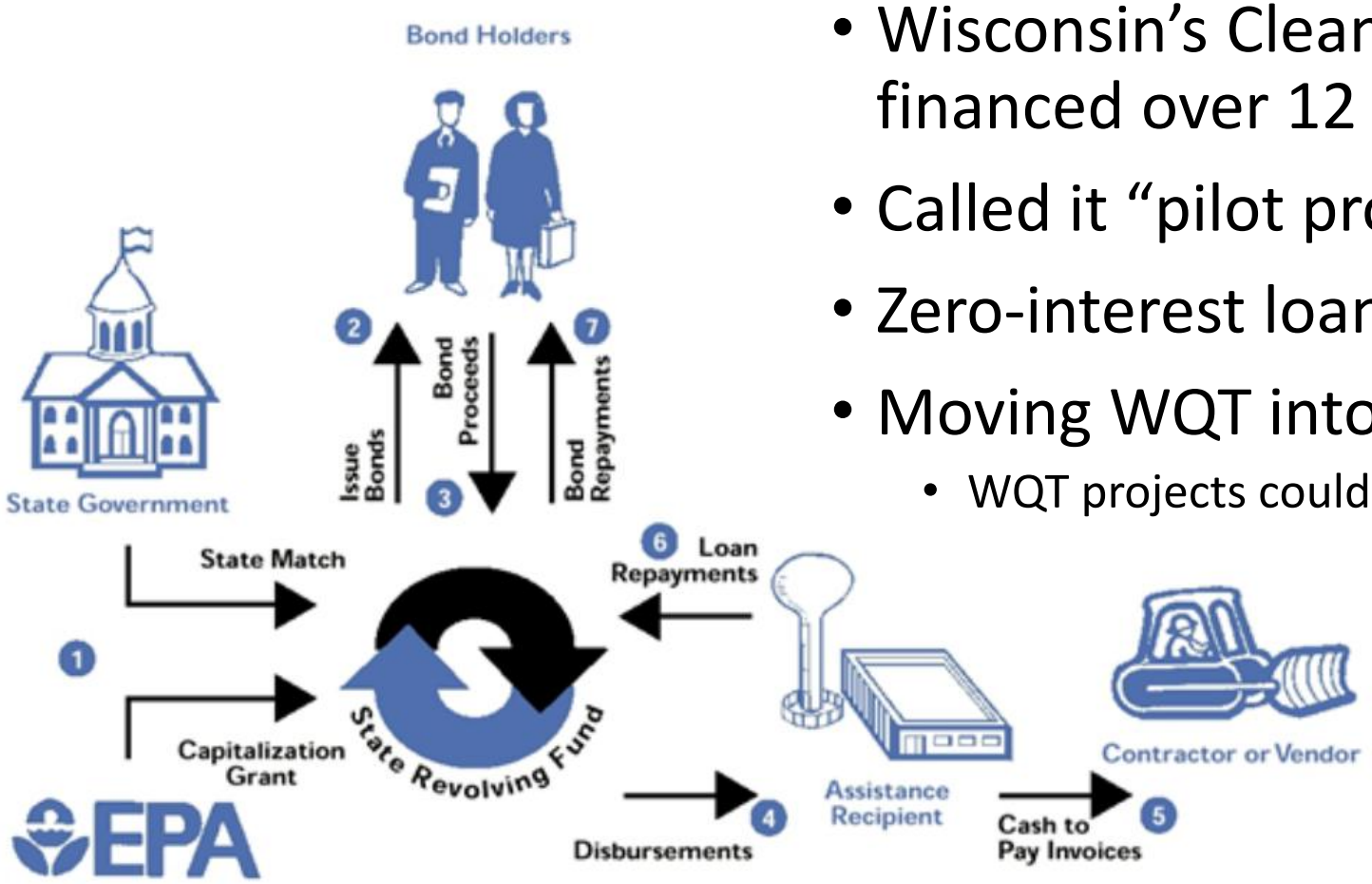
Project Example:

- In pursuit of an engineered “trapezoidal channel”

Project Example:

- Large-scale grading
- Removed most trees
- Removed woody structure from waterway
- Deposited grading spoils in adjacent wetland

SRF Funds for Water Quality Trading



- Wisconsin's Clean Water Fund Program has financed over 12 water quality trades
- Called it "pilot project program" initially
- Zero-interest loans for all
- Moving WQT into main program for 2025
  - WQT projects could be eligible for principal forgiveness

- Hesitation amongst program staff to displace infrastructure projects to fund WQT

WQT Statewide Coordinators

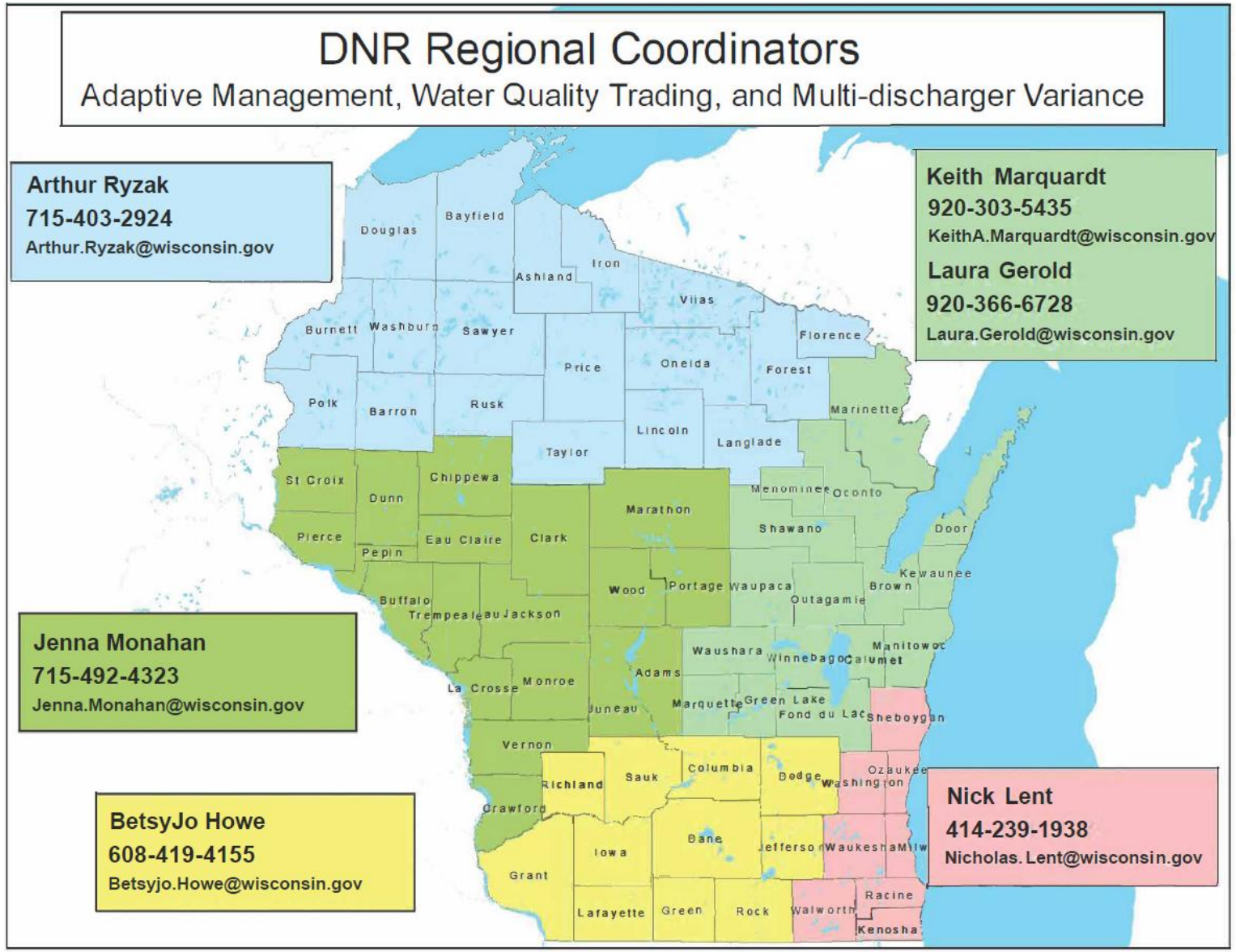
Runoff Management: Andrew.Craig@wisconsin.gov

Wastewater: Matthew.Claucherty@wisconsin.gov

Standards/TMDLs/Modeling: Kevin.Kirsch@wisconsin.gov

Affectionately referred to as the "Three Amigos"

WQT Regional Coordinators



CONNECT WITH US

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"WILD WISCONSIN:
OFF THE RECORD"