

# Aquaculture WPDES Permitting

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2024 WI/MN Aquaculture Conference

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# Agenda

- Wisconsin/Federal Aquaculture Regulations
- Permitting Process
- Permit Requirements

# State and Federal Regulations



# Wisconsin Regulations

- In Wisconsin: Defer to Federal Regulations
  - [s. 283.31\(5m\), Wis. Stats.](#)
    - “The department shall include the requirements of 40 CFR 451.11 in permits issued under this section for concentrated aquatic animal production facilities described in 40 CFR 451.10. The department may not include additional conditions in a permit for a fish farm except as necessary for the farm to meet the applicable limitations, standards, and other provisions described in sub. (3) (a) to (f). Any conditions included in a permit issued under this section for a fish farm shall be limited to site-specific best management practices to the greatest extent allowed under federal law.”



# Federal Regulations

- [40 CFR 122.24, Appendix C](#):
  - CAAP: Contains, grows, or holds aquatic animals in either of the following categories:
    - Cold Water Fish (Trout/Salmon), discharge  $\geq 30$  days/year
      - Produce  $\geq 20,000$  lbs/year, or
      - Use  $\geq 5,000$  lbs food/maximum month of feeding
    - Warm Water Fish (and Cool Water Fish), discharge  $\geq 30$  days/year
      - Produce  $\geq 100,000$  lbs/year



# WPDES Permitting Process



# WPDES Program Overview

- Covers ‘Point Source’ discharges to ‘Waters of the State’
  - Point Source: Discrete conveyance of water (i.e., a pipe, ditch, channel, conduit)
  - Waters of the state: Surface waterbodies, wetlands, and (in Wisconsin) groundwater
- Two goals for all waters of the state:
  - Fishable
  - Swimmable
- Water quality standards protect a waterbody’s designated uses



## WPDES PERMIT

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

### WI DNR WILD ROSE FISH HATCHERY

is permitted, under the authority of Chapter 283, Wisconsin Statutes, to discharge from a facility  
located at  
N5871 STATE ROAD 22, WILD ROSE, WISCONSIN  
to  
The Pine River (Pine River Willow Creek Watershed, Wolf River Basin)

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.

# Permitting Process

- Step 1: Provide DNR with feeding and production numbers.
- Step 2: Submit Pre-Application Checklist (1.5 Years before discharging)
- Step 3: Receive Permit Application (1 Year before discharging)
- Step 4: Submit completed Permit Application (6 months before discharging)
- Step 5: Draft permit is public noticed for 30 days
- Step 6: Commence discharge (5 Year Terms)



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# WPDES Permits for CAAPs



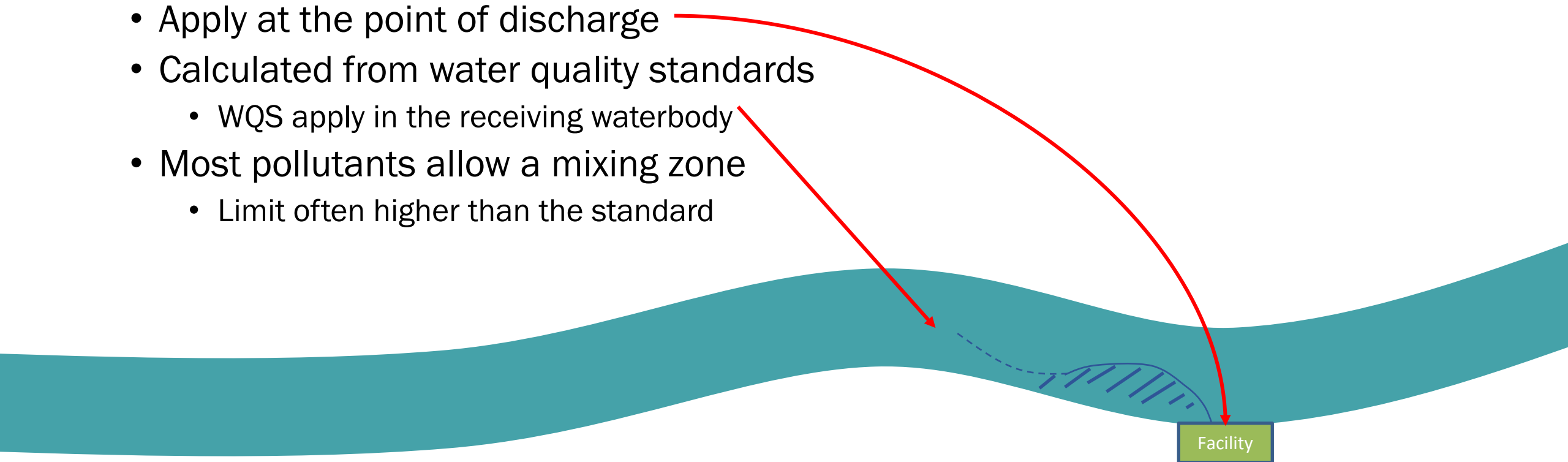
# WPDES Permit Requirements

- Effluent limitations and standards
  - Narrative or numeric requirements
    - Narrative: Federal CAAP ELGs
    - Numeric: A number calculated based on water quality standards for that particular waterbody
      - Example: WQBELs

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Monthly	Measure	
BOD <sub>5</sub> , Total	Weekly Avg	6.2 mg/L	Monthly	3-Hr Comp	May-Oct
BOD <sub>5</sub> , Total	Weekly Avg	10 mg/L	Monthly	3-Hr Comp	Nov-Apr
BOD <sub>5</sub> , Total	Weekly Avg	59 lbs/day	Monthly	Calculated	May-Oct
BOD <sub>5</sub> , Total	Weekly Avg	98 lbs/day	Monthly	Calculated	Nov-Apr
Suspended Solids, Total	Monthly Avg	10 mg/L	Monthly	3-Hr Comp	See 2.2.1.1 below re pond harvest extra sampling
Suspended Solids, Total	Daily Max	20 mg/L	Monthly	3-Hr Comp	
Nitrogen, Ammonia (NH <sub>3</sub> -N) Total	Daily Max	6.3 mg/L	Monthly	3-Hr Comp	
Nitrogen, Ammonia (NH <sub>3</sub> -N) Total	Monthly Avg	3.6 mg/L	Monthly	3-Hr Comp	May - Sep
Nitrogen, Ammonia (NH <sub>3</sub> -N) Total	Monthly Avg	3.7 mg/L	Monthly	3-Hr Comp	Oct - April
Temperature		deg F	Monthly	Measure	Temperature monitoring not required Dec, Jan, Feb
pH Field	Daily Max	9.0 su	Monthly	Grab	pH monitoring not required Dec, Jan, Feb
pH Field	Daily Min	6.0 su	Monthly	Grab	pH monitoring not required Dec, Jan, Feb
Chronic WET		rTU <sub>c</sub>	1/ 6 Months	3-Hr Comp	Once each in 2007, 2008 and 2009 during period of chemical addition. See 2.2.1.2 below

# A Note about WQBELs

- WQBELs = Water Quality-Based Effluent Limits
  - Apply at the point of discharge
  - Calculated from water quality standards
    - WQS apply in the receiving waterbody
  - Most pollutants allow a mixing zone
    - Limit often higher than the standard



# Best Management Practices (BMP) Plan

- A facility's "game plan"
- Living document, should change as facility learns what works
- In Wisconsin, required for all facilities with WPDES permit
- Should outline what actions are taken daily to comply with WPDES permit
- Should closely follow narrative requirements
- Facilities are the experts



# Best Management Practices (BMP) Plan

- Solids Control

- Feed Management

- Use high quality feeds
    - Efficient feeding practices
      - Fish size, dissolved oxygen levels, CO2 levels, temperature, health status, and number of feedings in a day should all be considered
      - Walk through how decisions are made
    - Feed conversion ratio (FCR)
      - Allows for tracking of feed use over time, useful for keeping feeding practices in check

- Solids Management

- How solids are removed/How often

- Solids Disposal

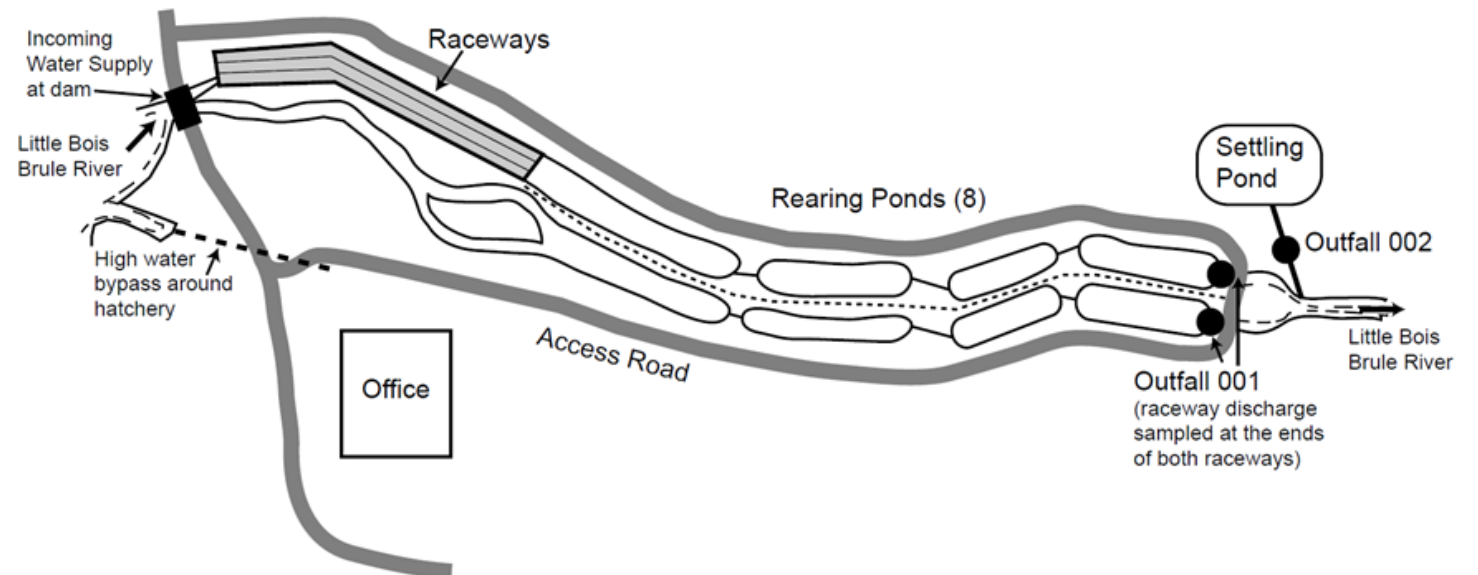
- Solids Storage

- Mortalities disposal



# Best Management Practices (BMP) Plan

- Other aspects:
  - Facility Overview
  - Materials storage
  - Additive Usage
  - Maintenance
  - Record-keeping
  - Training



# Additional Resources

- WI DNR Aquaculture Page:  
<https://dnr.wisconsin.gov/topic/Fishing/aquaculture>
- EPA Compliance Guide for the Concentrated Aquatic Animal Production Point Source Category:  
[https://www.epa.gov/sites/production/files/2015-11/documents/caap-aquaculture\\_compliance-guide\\_2006.pdf](https://www.epa.gov/sites/production/files/2015-11/documents/caap-aquaculture_compliance-guide_2006.pdf)
- EPA Compliance Guide + Reporting forms:  
<https://www.epa.gov/eg/concentrated-aquatic-animal-production-compliance-guide-and-reporting-forms>

# CONNECT WITH US

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"WILD WISCONSIN:  
OFF THE RECORD"