



**MISSOURI**  
DEPARTMENT OF  
NATURAL RESOURCES

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# Numeric Nutrient Criteria for Lakes

Operating Permit Section

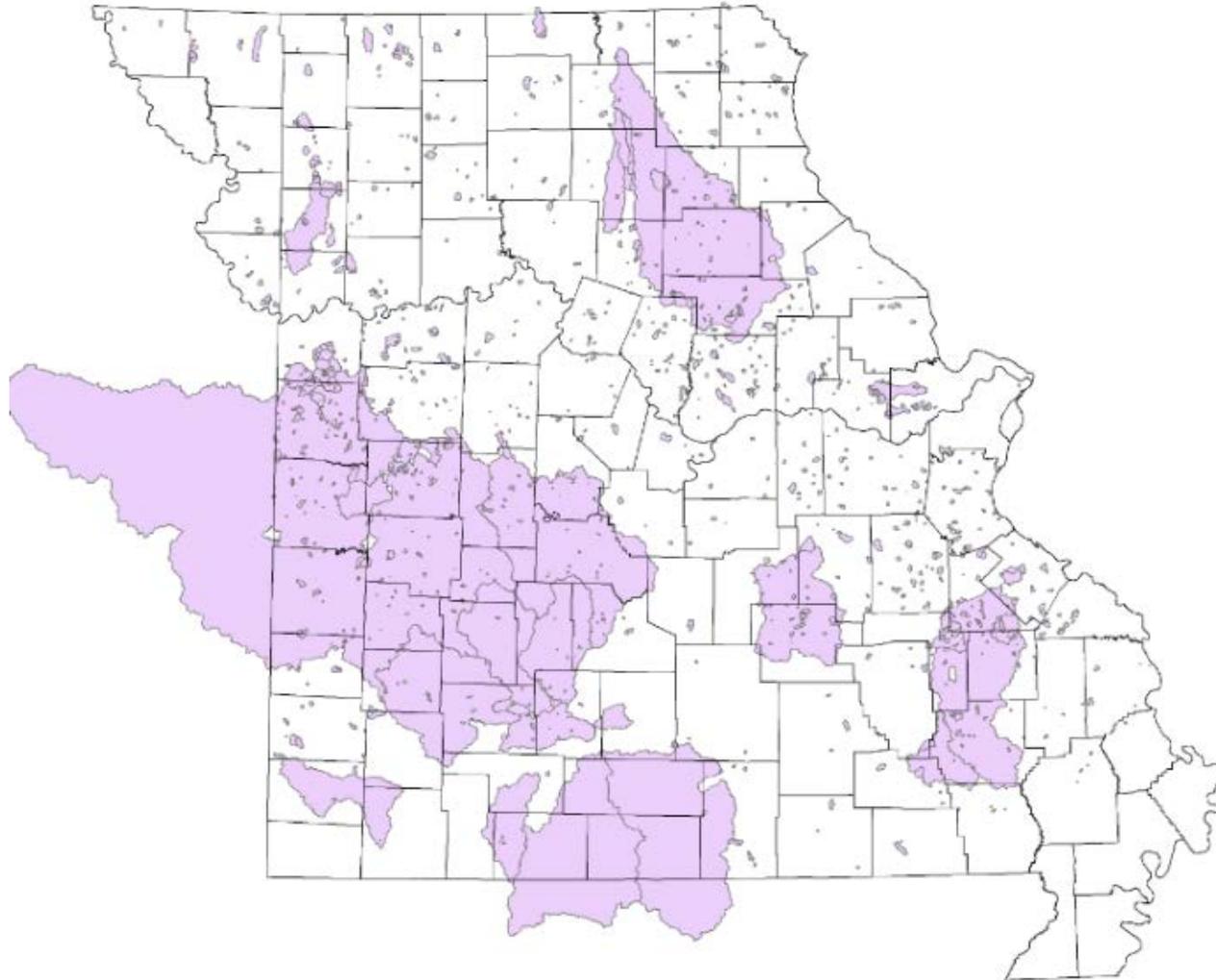
# Topics

- Does Nutrient Criteria apply?
- What are Operating Permits Terms and Conditions?
- Status



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# Lake Watersheds Affected



# Does Nutrient Criteria apply?

- ✓ Discharge Characteristics
- ✓ Location
  - Table Rock Lake watershed
  - Lake Taneycomo watershed
- ✓ Size – Design Flow
  - 100,000 gpd
  - 1.0 MGD
  - What about less than 100,000 gpd

# Does Nutrient Criteria apply?

- ✓ Modelling – reasonable potential
- ✓ Impaired lakes
  - Causing or contributing

# Terms and Conditions

- Nutrient Criteria Implementation Plan
  - Phase 1 – Monitoring
  - Phase 2 – Optimization
  - Phase 3 – Final Effluent Limitations
  - 15 year Schedule of Compliance

# Terms and Conditions

- Monitoring Effluent
  - Total Phosphorous
  - Total Kjeldahl Nitrogen
  - Nitrate + Nitrite
  - Ammonia as N
- Monitoring Influent (same as above)

# Terms and Conditions

- Impaired Lakes
  - Limitations based on treatment technology
  - Limitations based on wasteload allocations (relative contribution)
  - Limitations based on wasteload allocation (Total Maximum Daily Load)
  - Other



# Terms and Conditions

INFLUENT MONITORING TABLE:

| PARAMETER               | Unit | Basis for Limits | Daily Maximum | Weekly Average | Monthly Average | Previous Permit Limit | Sampling Frequency | Reporting Frequency | Sample Type*** |
|-------------------------|------|------------------|---------------|----------------|-----------------|-----------------------|--------------------|---------------------|----------------|
| Ammonia as N            | mg/L | 11               | *             |                | *               | **                    | 1/quarter          | quarterly           | C              |
| Total Phosphorus        | mg/L | 11               | *             |                | *               | **                    | 1/quarter          | quarterly           | C              |
| Total Kjeldahl Nitrogen | mg/L | 11               | *             |                | *               | **                    | 1/quarter          | quarterly           | C              |
| Nitrite + Nitrates      | mg/L | 11               | *             |                | *               | **                    | 1/quarter          | quarterly           | C              |

\* - Monitoring requirement only.

\*\*\* - C= Composite

\*\* - Parameter not previously established in previous state operating permit.

**Basis for Limitations Codes:**

- |  |                                   |   |
|--|-----------------------------------|---|
| 1. State or Federal Regulation/Law       | 5. Antidegradation Policy         | 9. WET Test Policy                        |
| 2. Water Quality Standard (includes RPA) | 6. Water Quality Model            | 10. Multiple Discharger Variance          |
| 3. Water Quality Based Effluent Limits   | 7. Best Professional Judgment     | 11. Nutrient Criteria Implementation Plan |
| 4. Antidegradation Review                | 8. TMDL or Permit in lieu of TMDL |   |

# Status - Permitting

- Phase 1
- 1 – 2 facilities
- No effective

# Questions