

# WATER QUALITY MANAGEMENT PRIMER: STANDARDS 101

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Oklahoma Clean Lakes and Watersheds Association  
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# Questions / Open Discussion

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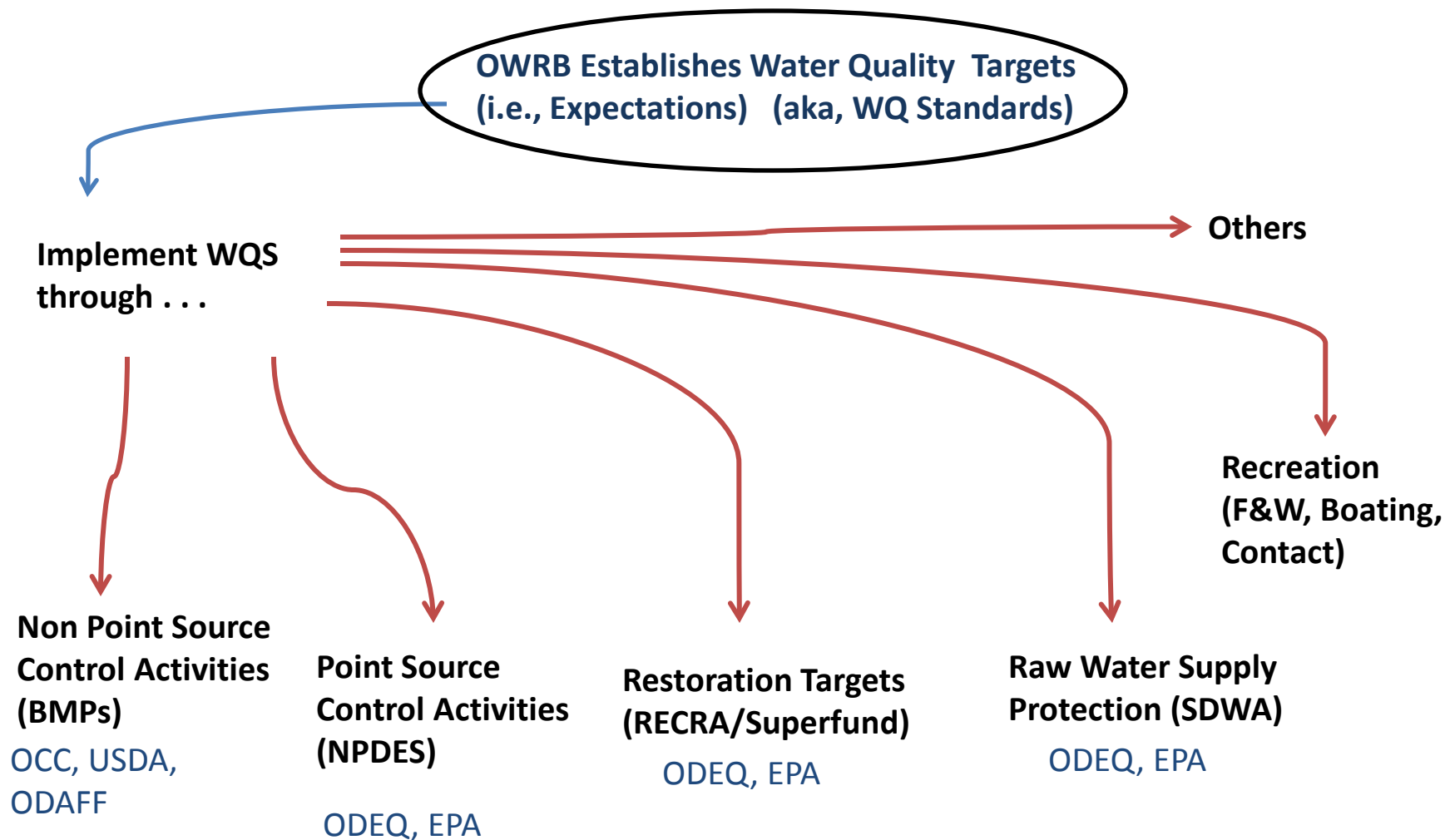
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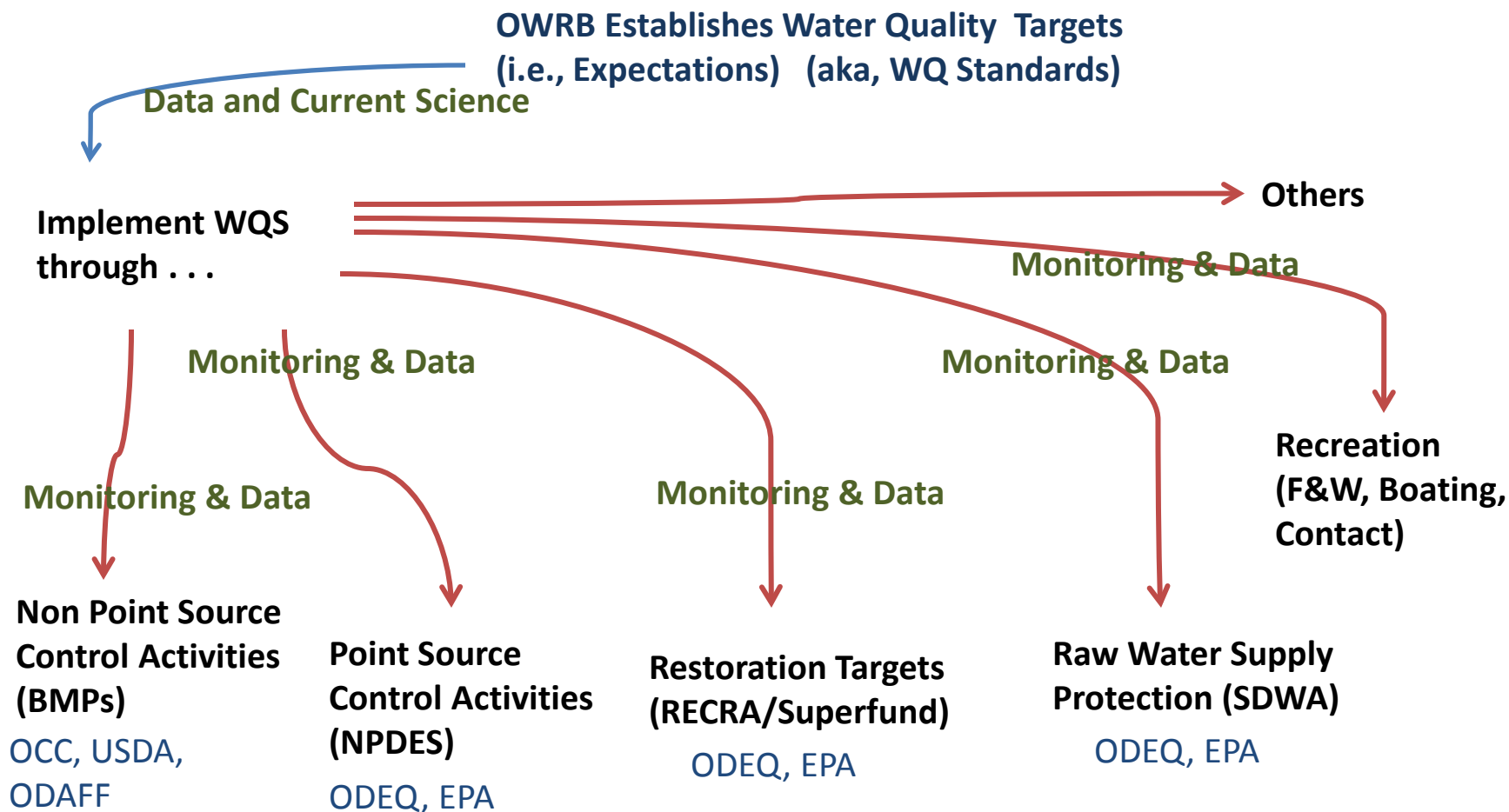
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# WQ Management Cycle



# WQ Management Cycle



# Overview of Water Quality Standards

# Statutory & Administrative Rule Foundation

**“WQS are a set of rules, with the force and effect of law, adopted by states in accordance with the Federal Pollution Control Act of 1972 (aka, Clean Water Act)**

## ➤ Federal Law

- ✓ Federal Pollution Control Act  
(aka, Clean Water Act—  
CWA) §303(a)

## ➤ Federal Regulation

- ✓ CFR Title 40 Part 131

## ➤ State Law

- ✓ Title 82
- ✓ Title 27(A)

## ➤ State Regulation

- ✓ OAC 785:45 (WQS)
- ✓ OAC 785:46  
(WQS  
Implementation)

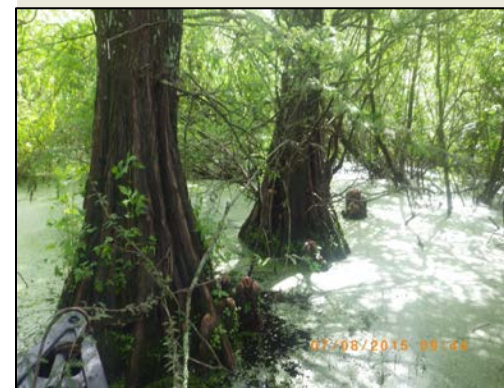
# WHAT ARE WATER QUALITY STANDARDS?

**“Restore and maintain the chemical, physical and biological integrity of the Nation’s waters” (section 101(a) of CWA declaration of Goals and Policy)**

- ✓ Protect existing water quality
- ✓ Can not “cause or contribute to” an impairment (40 CFR § 122.44(d))

## Oklahoma Water Quality Standards:

*“...it is hereby declared to be the public policy of this state to conserve and utilize the waters of the state and to protect, maintain and improve the quality thereof ...” (OAC 785:45-5-1(a))*



# How Do WQS Work?

## Three Basic Components





# How Do WQS Work?

## Beneficial Uses



# Beneficial Uses

- Beneficial Uses establish the baseline to measure progress toward the CWA goal to “restore and maintain” the Nation’s waters
- Beneficial Use characterize the resource, services, and qualities of a waterbody and express the **ultimate goals for protecting and maintaining water quality.**
- Removing or upgrading beneficial uses requires a deliberative, science/policy driven process

# Beneficial Uses

- Waterbodies can have many assigned beneficial uses
- Waterbodies may also have existing beneficial uses (or water quality) that differ from assigned uses
- Uses include fish and wildlife propagation, contact recreation, public water supply, agriculture, aesthetics, etc.





# How Do WQS Work?



Numeric and Narrative Criteria Protect the Beneficial Uses



# Criteria

- Provide the target to protect the beneficial use
- Limit on a particular pollutant or on the condition of a waterbody
- May be narrative or numeric

# Narrative Criteria

- Provide a qualitative benchmark to assess water quality
- Often contain very strong, protective language

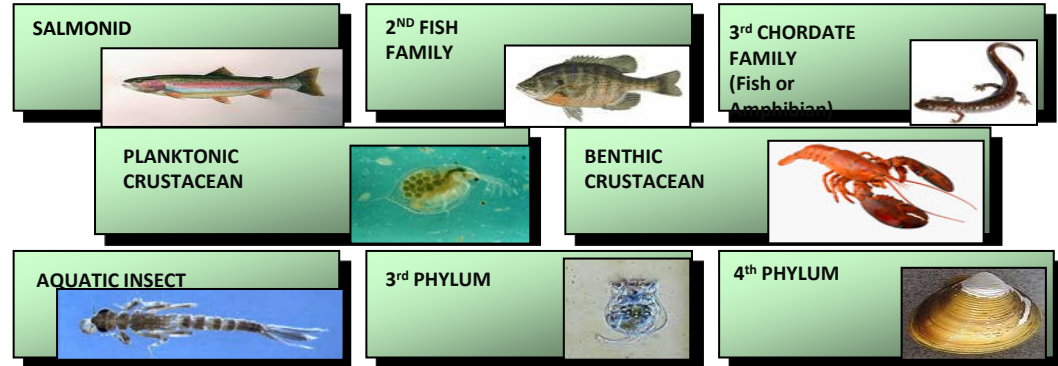
“Surface waters of the state shall not exhibit acute toxicity and shall not exhibit chronic toxicity outside the chronic regulatory mixing zone”

# Numeric Criteria

- Specify a precise measurable level of some parameter or pollutant
- Numeric Criteria are expressed with 3 components (Magnitude, Duration and Frequency)

# Criteria Derivations are Diverse

SUBCATEGORY OF FISH AND WILDLIFE PROPAGATION	DATES APPLICABLE	D.O. CRITERIA <sup>4</sup> (MINIMUM) (mg/L)	SEASONAL TEMPERATURE (°C)
<u>Habitat Limited Aquatic Community</u>			
Early Life Stages	4/1 - 6/15	4.0	25 <sup>3</sup>
Other Life Stages			
Summer Conditions	6/16 - 10/15	3.0	32
Winter Conditions	10/16 - 3/31	3.0	18
<u>Warm Water Aquatic Community<sup>5</sup></u>			
Early Life Stages	4/1 - 6/15	6.0 <sup>2</sup>	25 <sup>3</sup>
Other Life Stages			
Summer Conditions	6/16 - 10/15	5.0 <sup>2</sup>	32
Winter Conditions	10/16 - 3/31	5.0	18
<u>Cool Water Aquatic Community &amp; Trout</u>			
Early Life Stages	3/1 - 5/31	7.0 <sup>2</sup>	22
Other Life Stages			
Summer Conditions	6/1 - 10/15	6.0 <sup>2</sup>	29
Winter Conditions	10/16 - 2/28	6.0	18





# How Do WQS Work?

## Antidegradation Policies to Protect Uses and Maintain Water Quality





# ANTIDEGRADATION POLICIES

**“Waters of the state are a valuable resources and therefore shall be protected, maintained, and improved for the benefit of all citizens.”**

- Antidegradation policies provide certain waterbodies additional protection
- Are designed to maintain and improve water quality

## Classifications

- Outstanding Resource Waters
- Scenic Rivers
- Appendix B Waters
- High Quality Waters
- Sensitive Public and Private Water Supplies
- Sensitive Public and Private Water Supplies – Reuse
- Culturally Significant Waters

# Antidegradation Overview

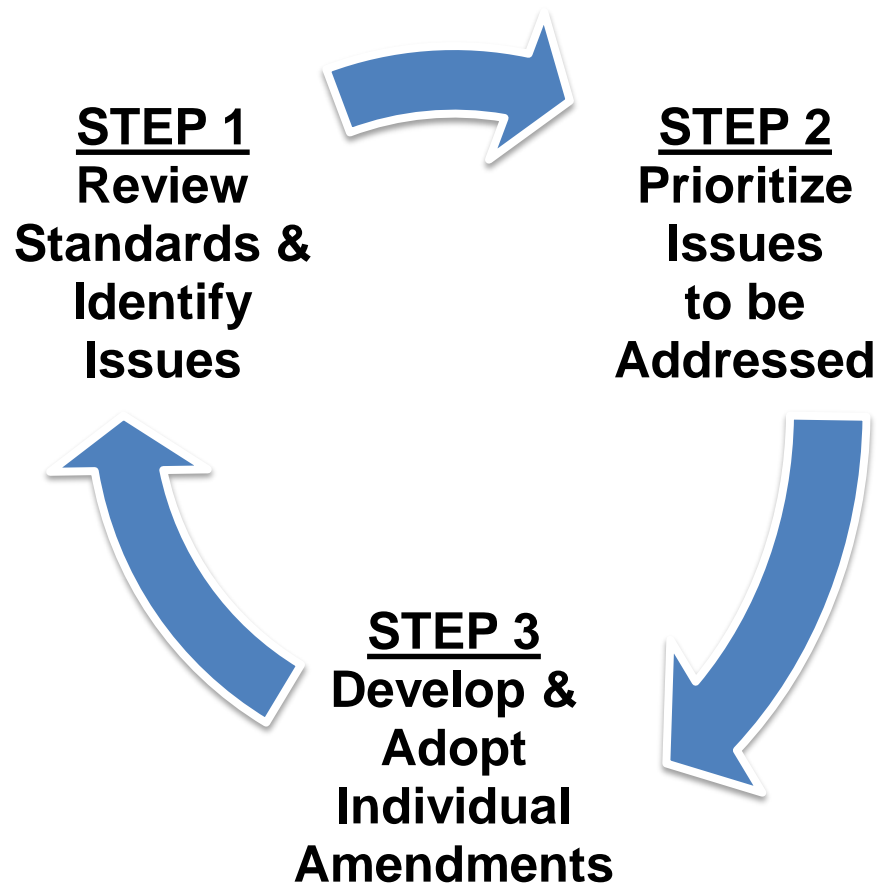


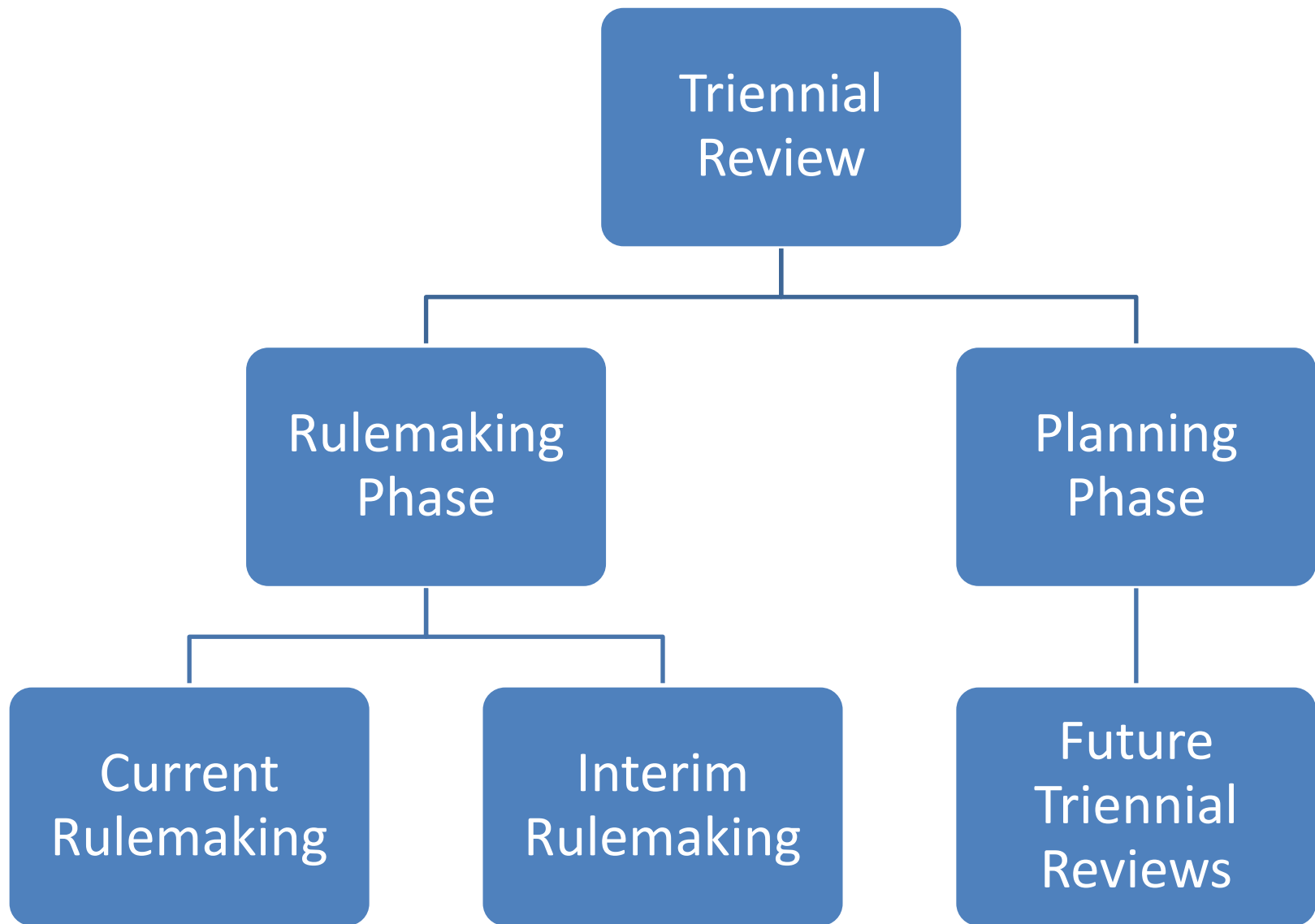
Tier	Classification	Level of Protection
3	Outstanding Resource Waters & Scenic Rivers	No degradation of water quality allowed
2.5	High Quality Waters & Sensitive Water Supplies	Maintain or improve water quality
2	Sensitive Water Supply-Reuse	Maintain water quality, protect beneficial uses
1	All remaining waters	Protect beneficial uses

Water Quality Impairment

# Triennial Review and WQS Interim Rulemaking

# Triennial Review Planning Process



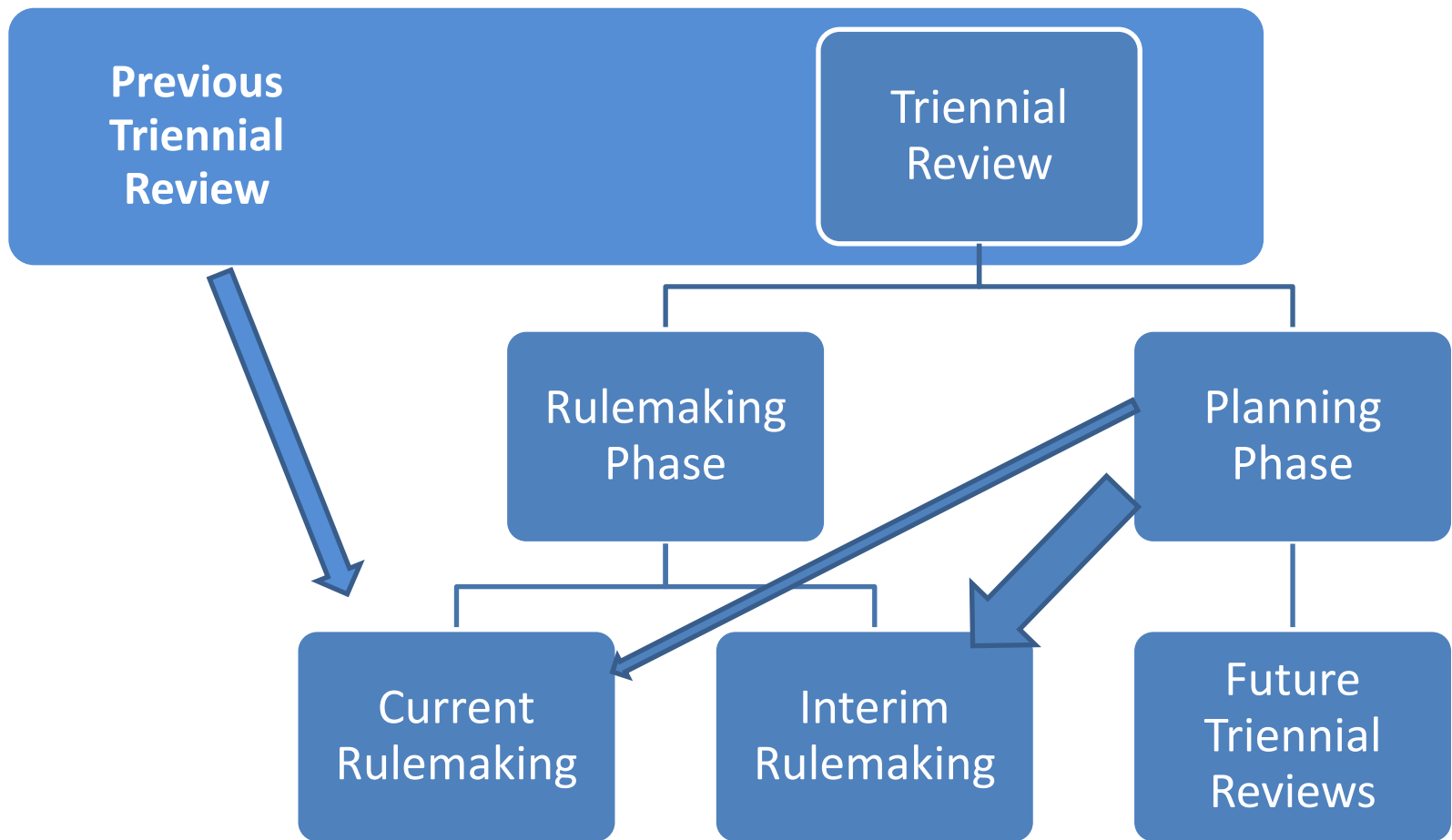


# Review of Standards – Federal Requirement

- Federal Clean Water Act Section 303(c)(1)
- Review water quality standards every three years (40 CFR 131.20)
- Modify or adopt standards, where appropriate
  - New scientific information
  - EPA recommendations or guidelines
  - Consideration of public concerns
- Provide explanation for non-adoption

# Review of Standards – State Process

- Authority under Title 82 (1085.2) of the Oklahoma Statutes
- Consider New and Updated Recommended 304(a) Criteria
- Consider Site-Specific Criteria Recommendations
- Review Appendix A to determine if waterbody classes or designations need revised or new waterbodies need listed
- Review Appendix B to add or delete Public Areas requiring protection (e.g., new WMA's or state parks)
- Review and update implementation requirements
- Identify and correct scrivener errors





# 2018-2021 TRIENNIAL REVIEW PLANNING

- Step 1 - Identify standards related issues  
(Throughout 2018)
  - Internal review & stakeholder solicitation
- Step 2 - Prioritization/selection of projects  
(Early 2019)
- Step 3 - Develop individual Amendments  
over ~ 3 year period



# Future Potential Projects

- Recreational Criteria for Bacteria and Algal Toxins
- Ammonia Aquatic Life Criteria
- Minerals Criteria Revision
- Reformat Appendix A (greater functionality)
- Lake Chlorophyll and Nutrients
- Review and Update Appendix E Process
- Update Variance Process
- Lake Mixing Zone Policy

All projects expected to have technical workgroup  
& stakeholder participation

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