

Oklahoma Water Quality Standards Public Stakeholder Meeting

Oklahoma Water Resources Board
September 7, 2017

General WQS Update

- 2016-17 Rulemaking: Groundwater Quality Standards
 - Published in the OK Register on Sept. 1st
 - Effective on Sept. 11th
 - 2017 Unofficial WQS will be posted to the website in the next few months

Stakeholder Meetings

- Opportunity for public feedback & discussion
- Actions planned for the 2017-18 Rulemaking

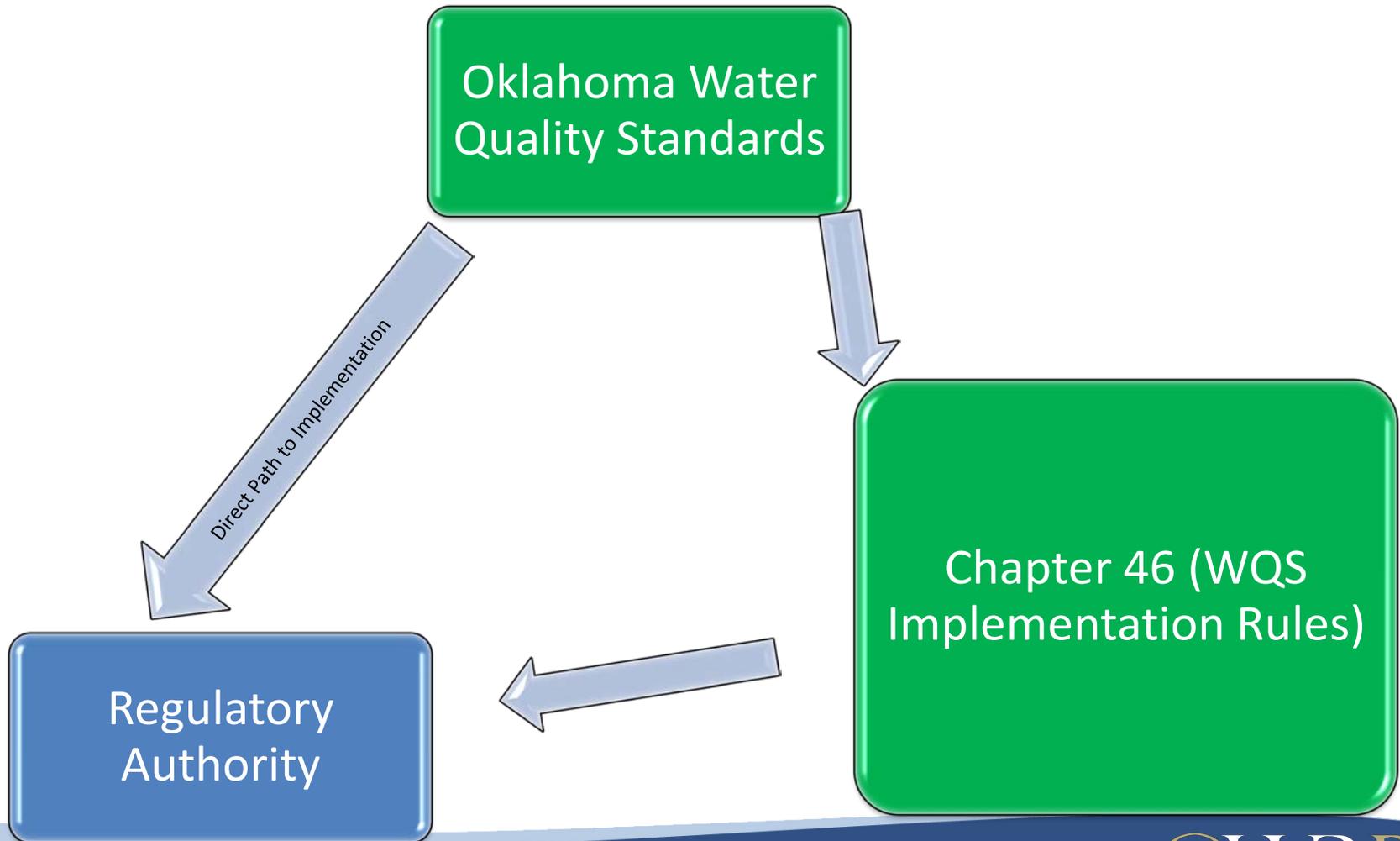
Today's Meeting

- SWS-R implementation rules
- Antidegradation review process for surface water

Future Meetings

- Copper site-specific criteria for discharge to Mud Creek
- Groundwater antidegradation review & attenuation rules
- Methylmercury HHC

Water Quality Standards and Implementation



SUBCHAPTER 13. IMPLEMENTATION OF ANTIDegradation POLICY

Section

785:46-13-1. Applicability and Scope

785:46-13-2. Definitions

785:46-13-3. Tier 1 Protection; Attainment or Maintenance of an Existing or Designated Beneficial Use

785:46-13-4. Tier 2 Protection; Maintenance and Protection of Sensitive Water Supplies-Reuse and other Tier 2 Waterbodies, as Defined~~High Quality Waters and Sensitive Water Supplies~~

785:46-13-5. Tier 2.5 Protection; Maintenance and Protection of High Quality Waters, Sensitive Water Supplies, and Other Tier 2.5 Waterbodies, as defined.~~Tier-3 Protection; Prohibition Against Degradation of Water Quality in Outstanding Resource Waters~~

785:46-13-6. Tier 3 Protection; Prohibition Against Degradation of Water Quality in Outstanding Resource Waters

785:46-13-67. Protection for Appendix B Areas

785:46-13-8. Assimilative Capacity in Surface Waters

785:45-5-25. Implementation Policies for the Antidegradation Policy Statement

- (c) The following limitations for additional protection apply to various waters of the state. As applicable, if assimilative capacity is available in waters, the consumption of assimilative capacity may be allowed in a manner consistent with the requirements in 40 CFR 131.12 and OAC 785:46-13-8. In all instances, water quality shall be maintained to fully protect designated and existing beneficial uses. Thus, assimilative capacity shall be determined and used with a margin of safety, which takes into account any uncertainty between existing or proposed discharges and impacts on receiving water quality.

Current OWRB Rulemaking



SWS-R
Classification

SWS-R
Implementation

Assimilative
Capacity

Current OWRB Rulemaking

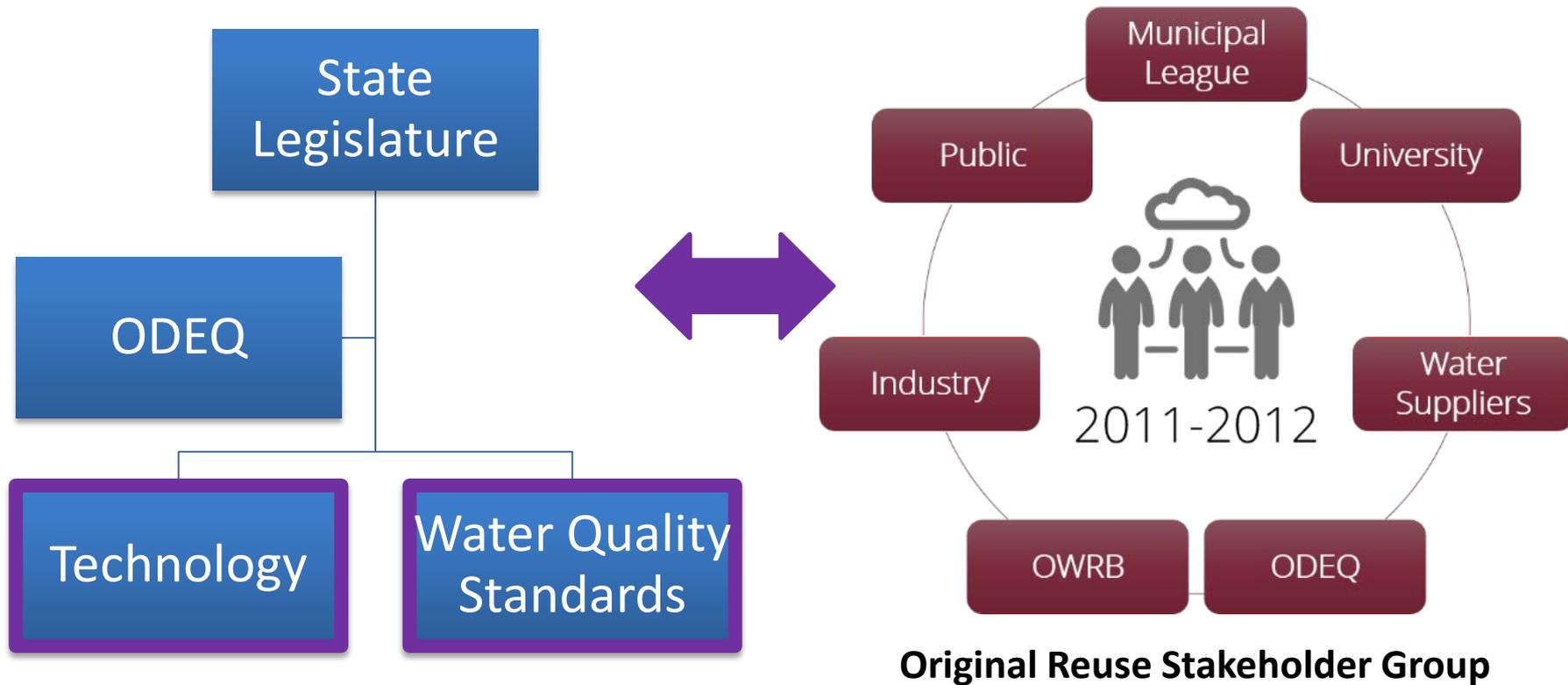


**SWS-R
Classification**

SWS-R
Implementation

Assimilative
Capacity

Potable Water Reuse Subcommittees Established in 2013



A Water Quality Standards Solution

Goal 1	Goal 2	Goal 3	Problem	Solution
<ul style="list-style-type: none">• Augment Water Supply Reservoirs with Highly Treated Water	<ul style="list-style-type: none">• Maintain Water Quality Standards to protect the biological, aquatic, and public health communities	<ul style="list-style-type: none">• Develop regulations for discharges to drinking water waterbodies	<ul style="list-style-type: none">• Restriction on new point source discharges into a Sensitive Water Supply (SWS)	<ul style="list-style-type: none">• Develop a new Oklahoma reservoir classification (SWS-R)• Develop IPR Regulations

Path Forward for SWS Reservoirs

Eight Strategy Sessions in 2014 - 2015

Developed SWS-R concept and rules

SWS-R rules approved by OWRB Board & Legislature in 2016

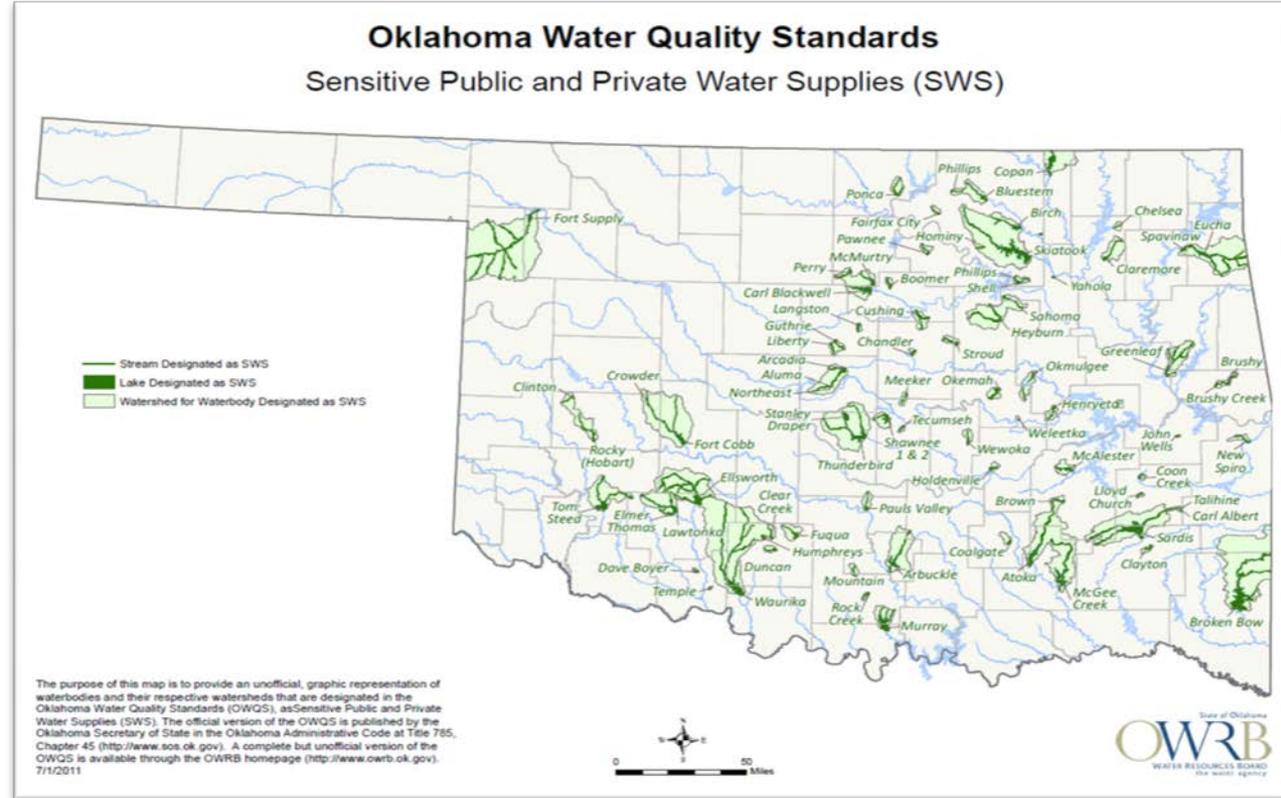
**SWS-R
Approval**

What are Sensitive Water Supplies?

- As defined in statute
 - Currently a public water supply reservoirs
 - Generally watershed < 100 square miles
 - “Or, as otherwise designated by the Board”
- Carry Tier 2 antidegradation protection
 - No new point sources or loading
 - Protection of existing water quality

What are Sensitive Water Supplies?

- Geographically diverse
- Waterbody capacity and size are variable
 - ~75% < 23,000 acre ft storage
 - Nearly half < 500 surface acres
- Variable watershed sizes



Goals of the SWS-Reuse (SWS-R) Classification

Protect Water Quality

- Protect Public Health
- Protect Aquatic Ecosystem

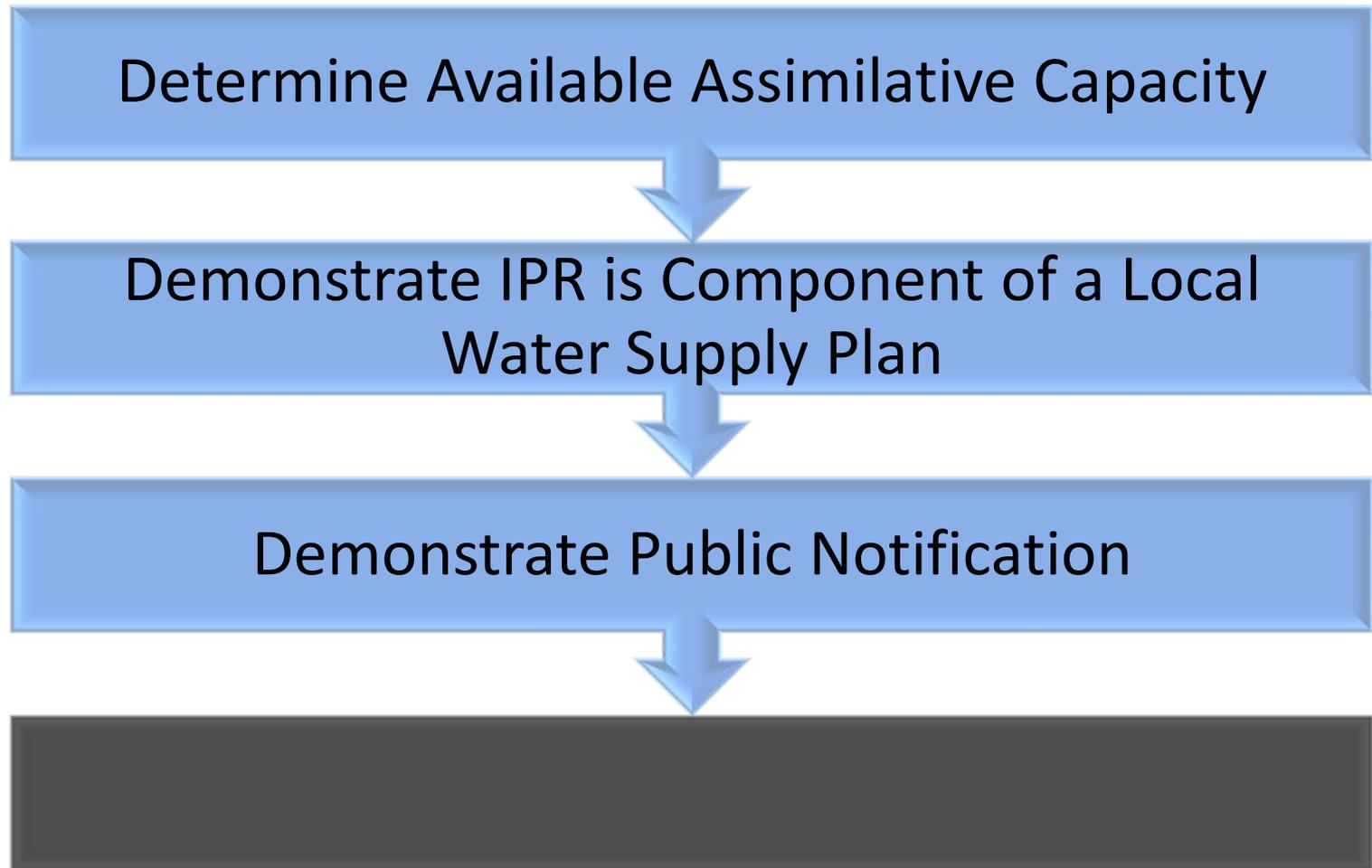
Create a Pathway for Augmentation of Municipal Reservoirs

Antidegradation Review for New Discharges

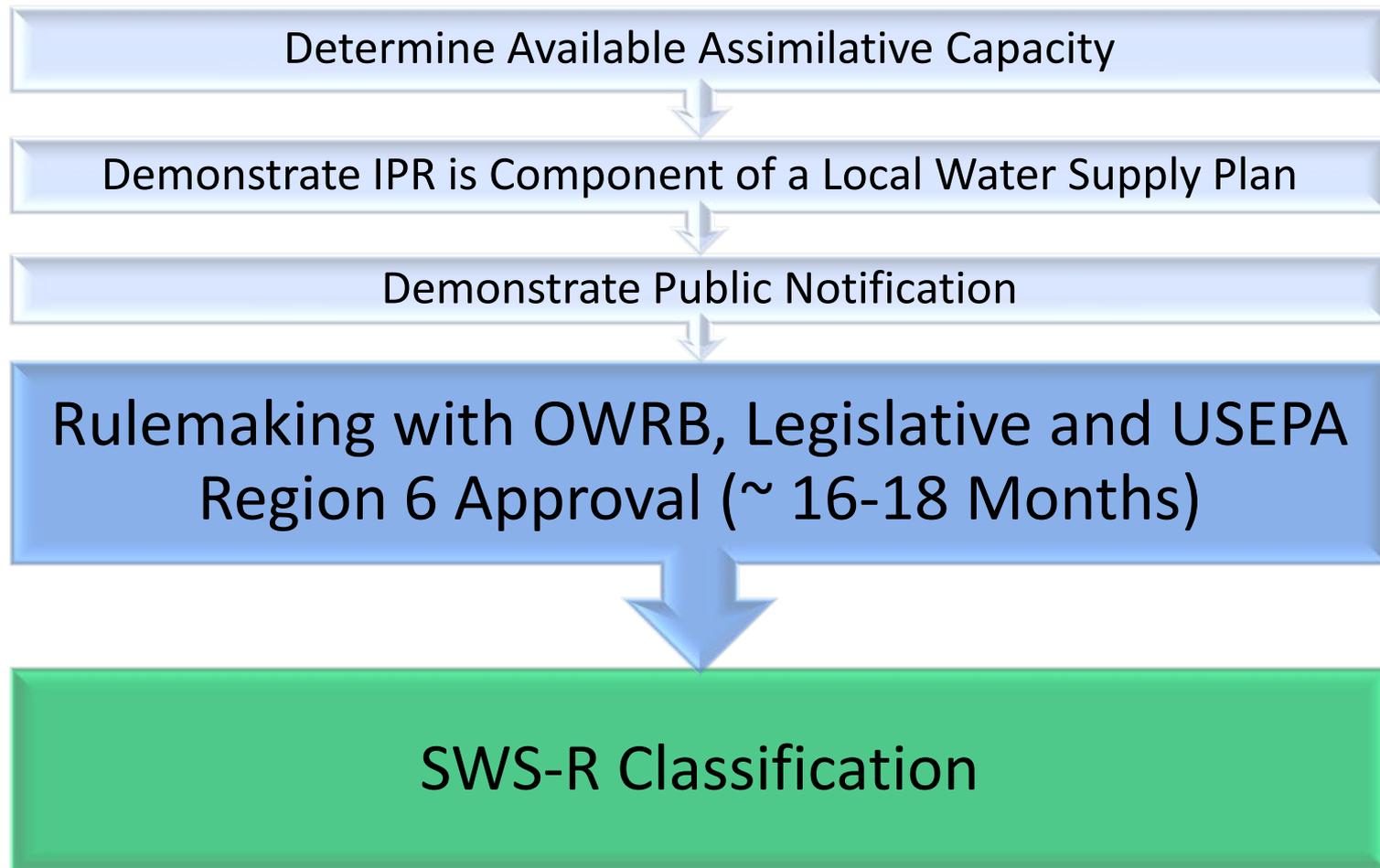
Ongoing Waterbody Evaluation



Current OWRB Rulemaking



Classification of SWS-R Waters



Current OWRB Rulemaking



SWS-R
Classification

**SWS-R
Implementation**

Assimilative
Capacity

Other SWS-R Implementation

Drought of Record

- Clarifying language
- Set boundaries around model

Receiving Water Monitoring

- Performed under a work plan approved by permitting authority
- What the work plan will address?
- Reporting Requirements
- Assess Use Support and Trends

Current OWRB Rulemaking



SWS-R
Classification

SWS-R
Implementation

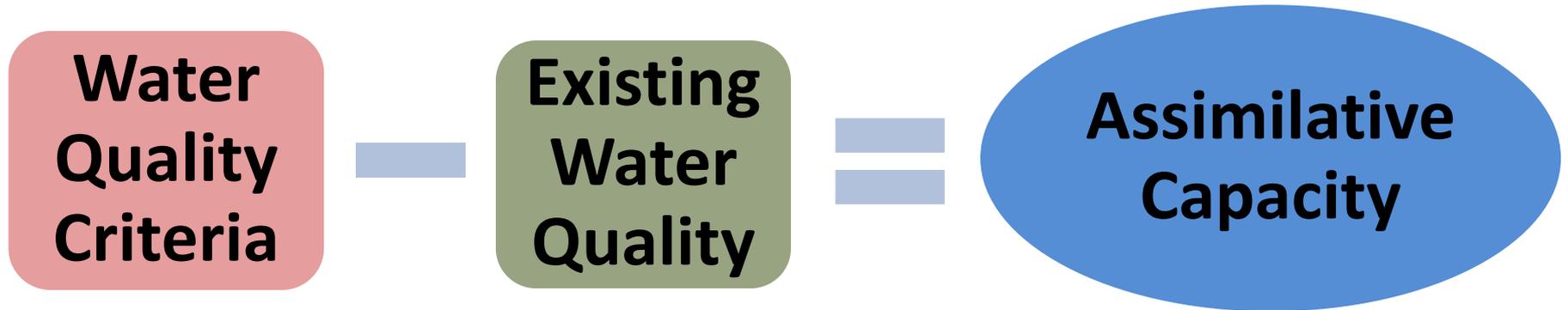
**Assimilative
Capacity**

Assimilative Capacity

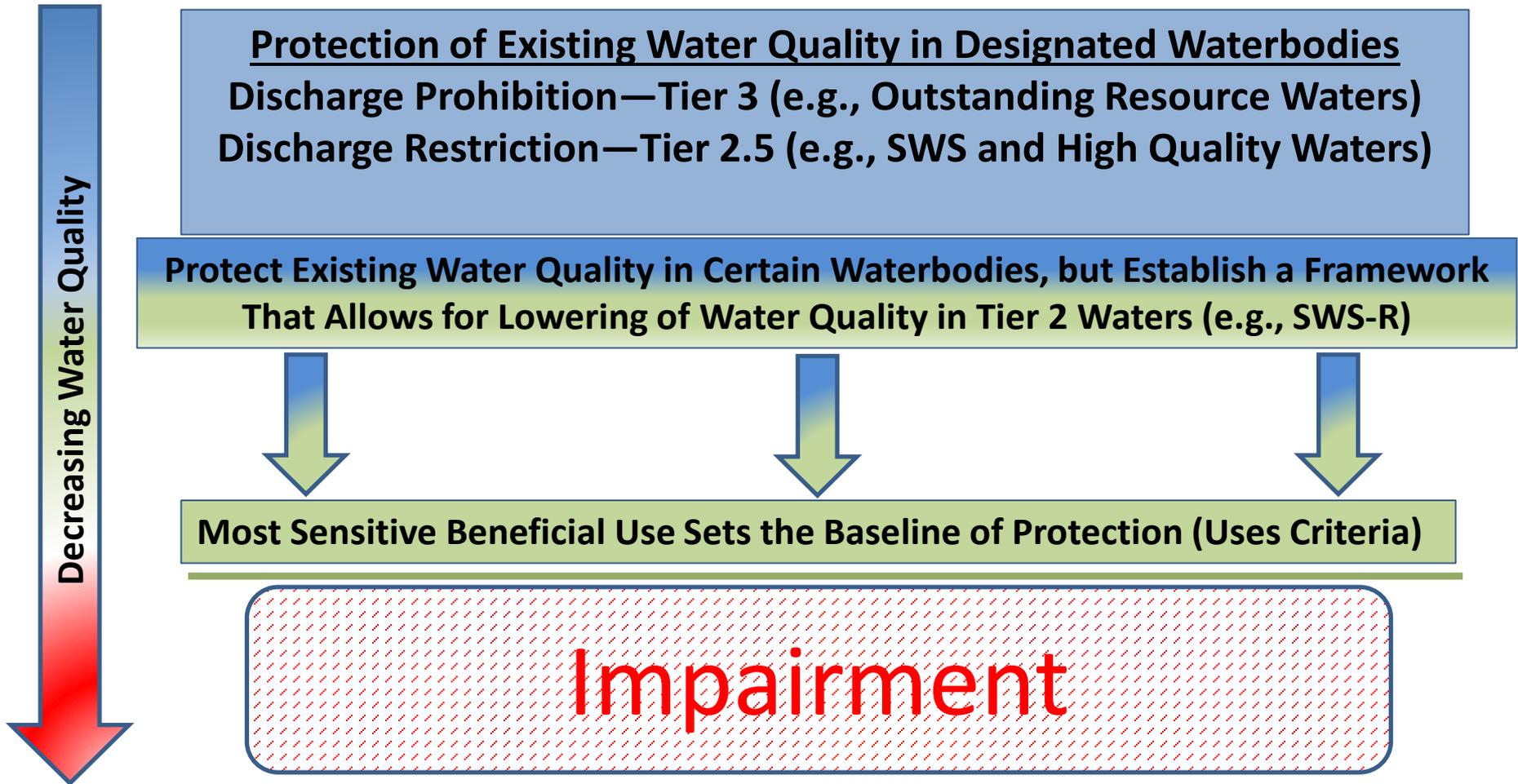
What is it?

Why is it important?

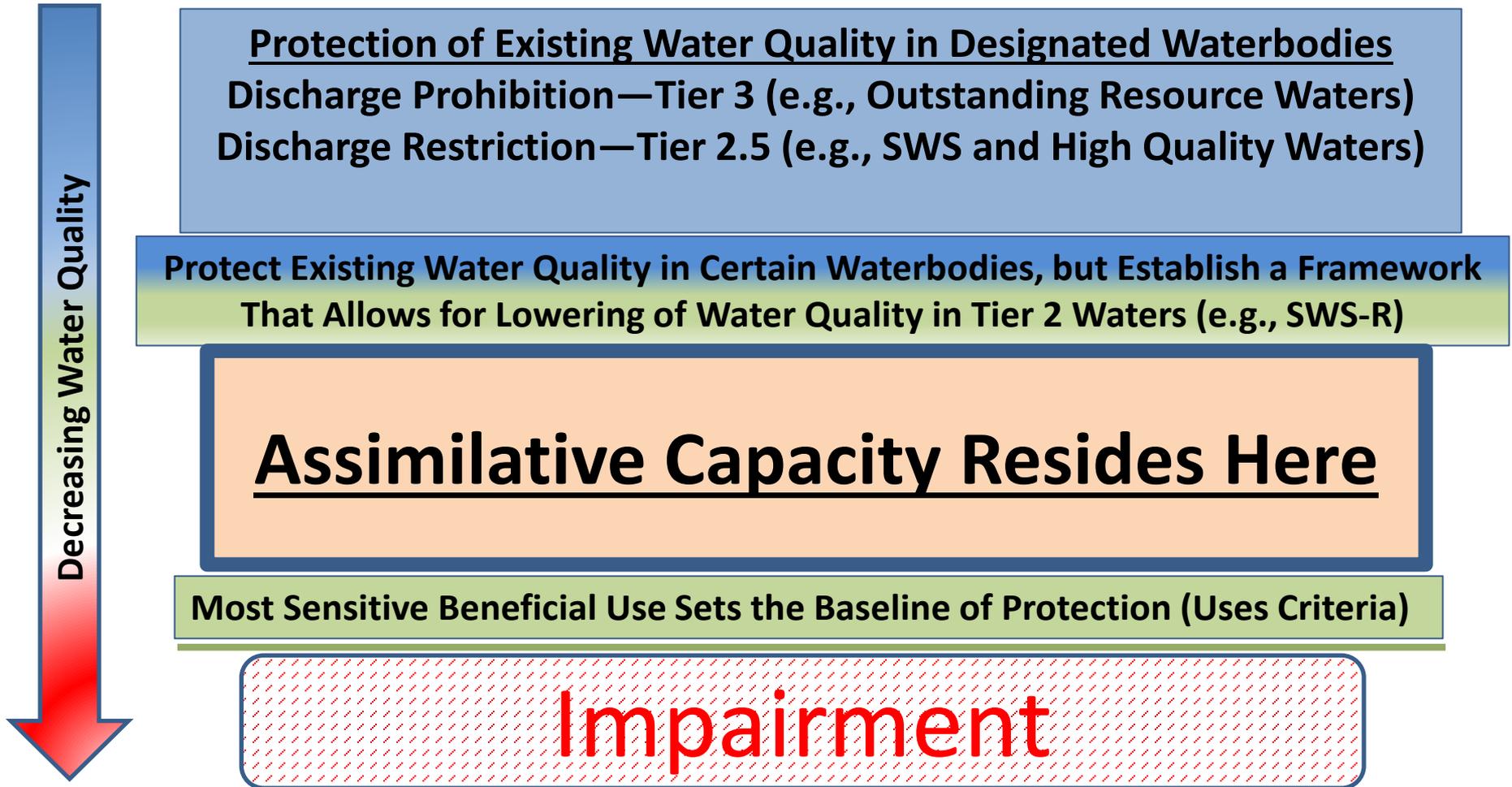
Assimilative Capacity



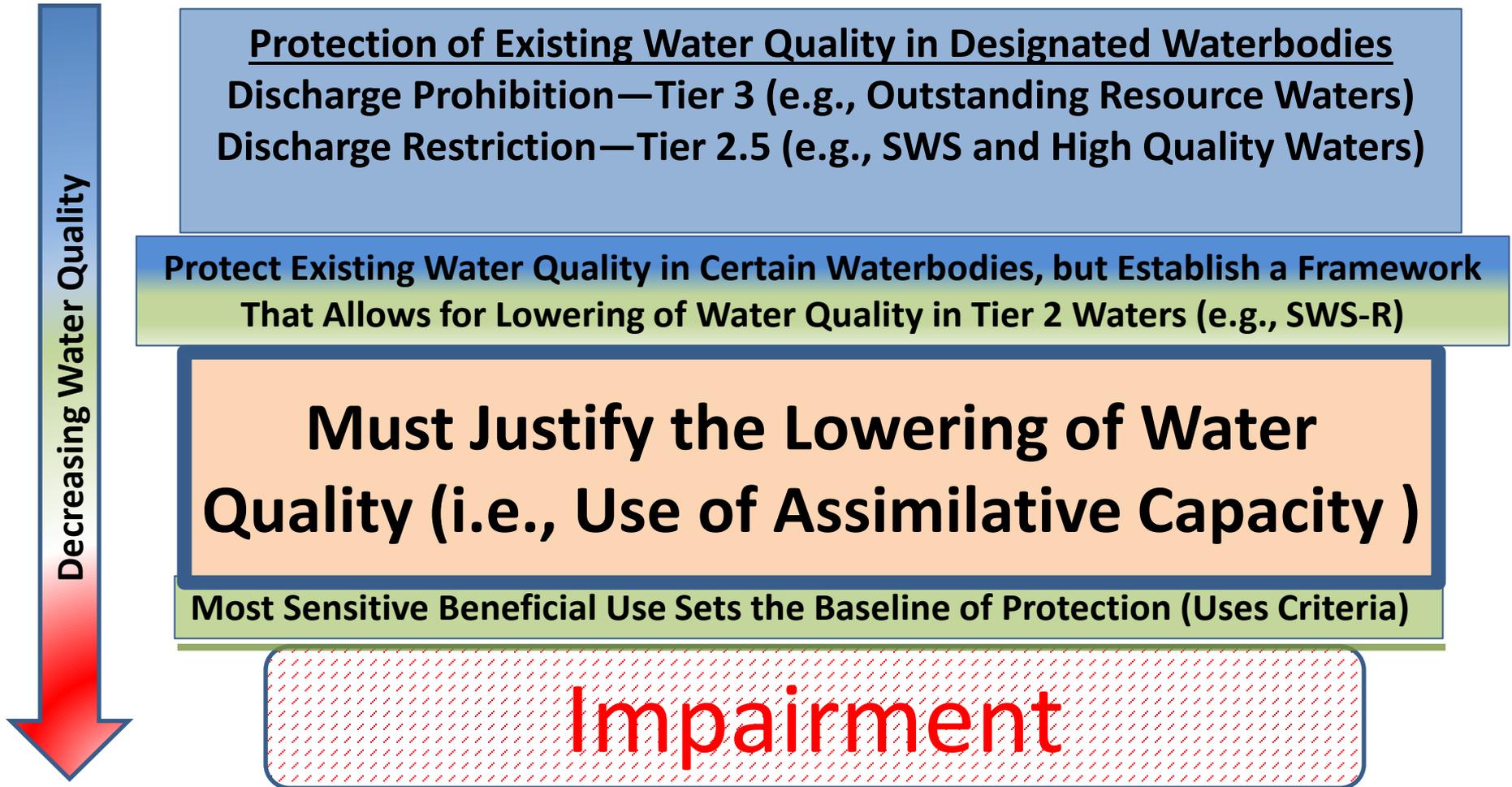
Standards Conceptual Approach



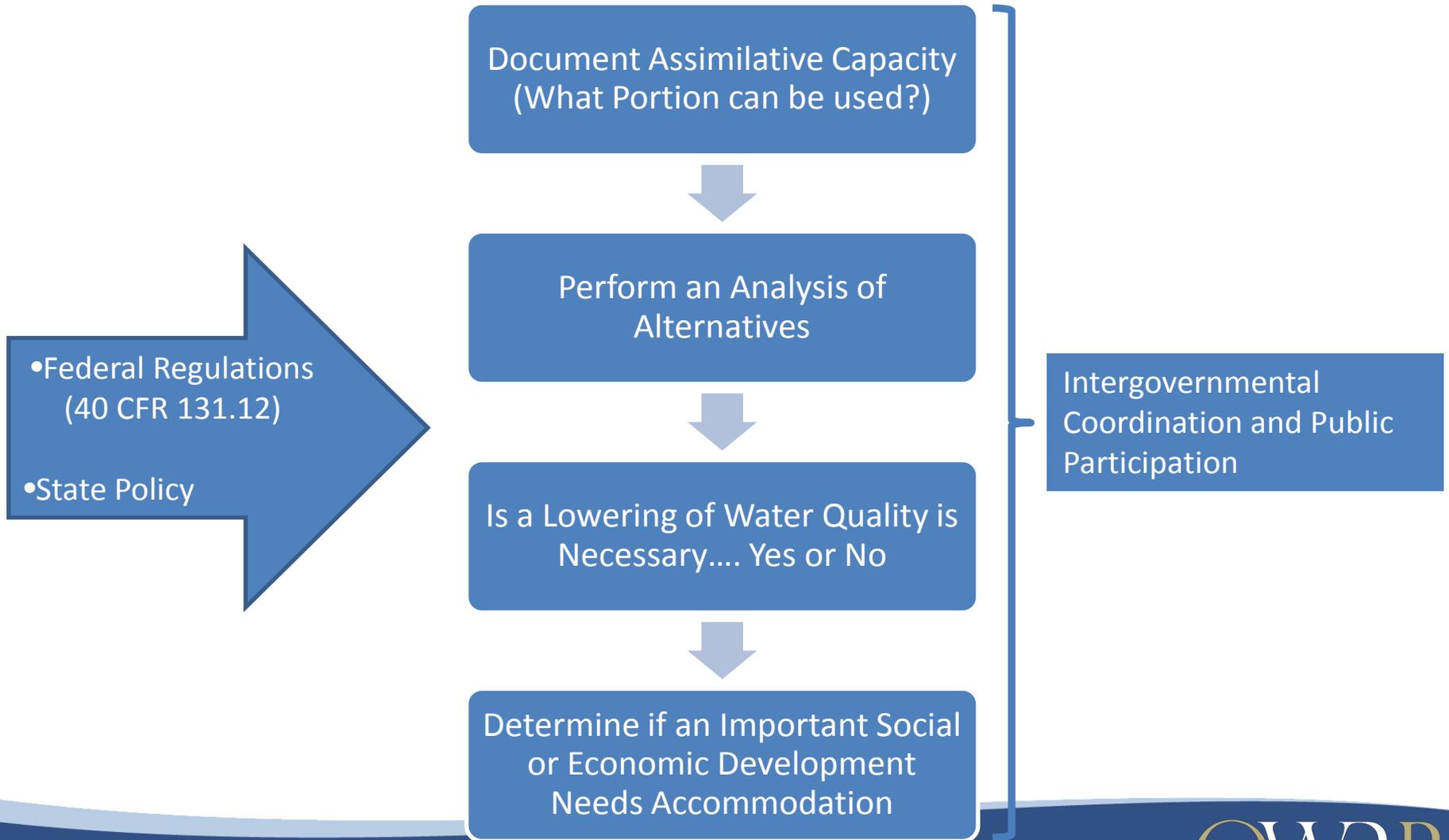
Standards Conceptual Approach



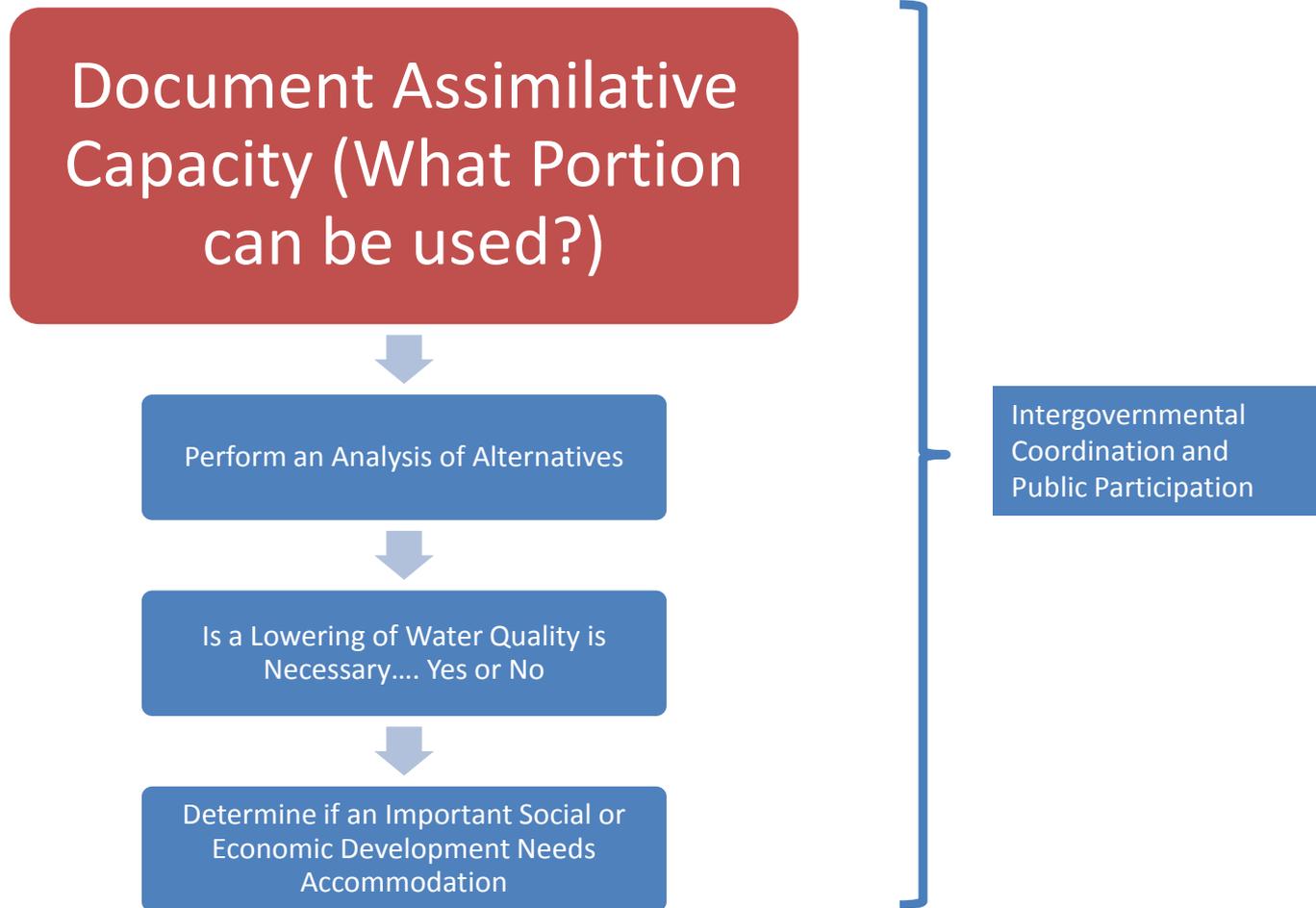
Standards Conceptual Approach



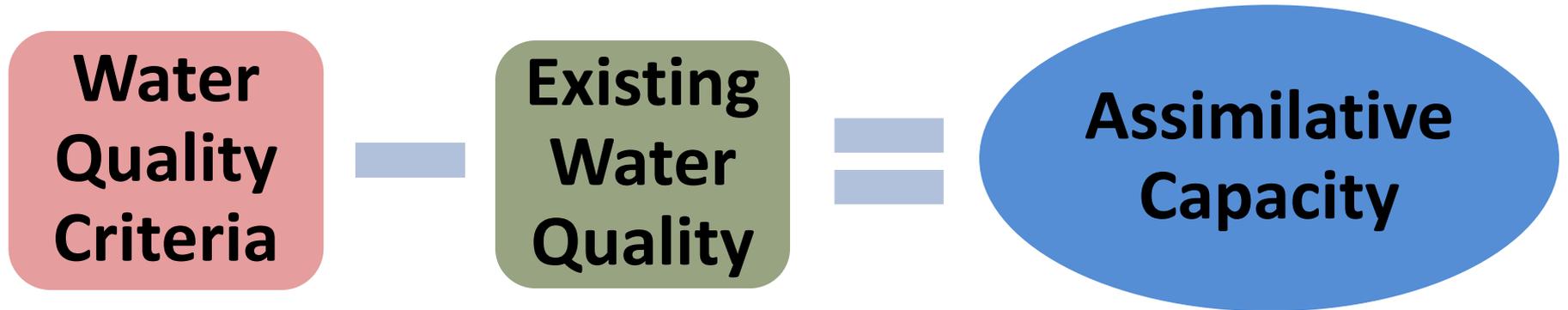
Deliberate Antidegradation Review for Tier 2 Waters (e.g., SWS-R)



Deliberate Antidegradation Review for Tier 2 Waters (e.g., SWS-R)



Assimilative Capacity



Determining Assimilative Capacity

Pre-Permit Monitoring and Characterization

All Criteria

- All Assigned Beneficial Uses
- Numeric
- Narrative

Approved Workplan

- Technical Guidance
- Collection Methods
- Analytical Methods
- Quality Assurance
- Reporting

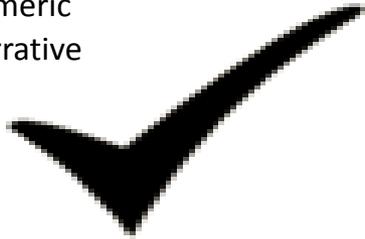
Characterize Existing Water Quality

- Account for Waterbody Variability
- Measure Load and/or Concentrations
- Measure External and Internal Nutrient Loads
- Account for Critical Lake Levels
- Volumetric DO
- Is the Waterbody Listed as Impaired?

Available Assimilative Capacity

All Criteria

- All Assigned Beneficial Uses
- Numeric
- Narrative



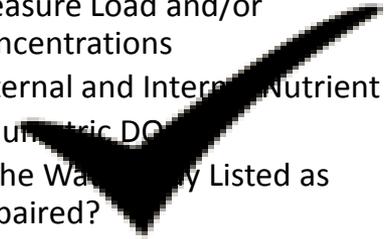
Approved Workplan

- Technical Guidance
- Collection Methods
- Analytical Methods
- Quality Assurance
- Reporting



Characterize Existing Water Quality

- Account for Waterbody Variability
- Measure Load and/or Concentrations
- External and Internal Nutrient Loads
- Volumetric DO
- Is the Waterbody Listed as Impaired?



Available Assimilative Capacity

Copper
Criteria =
3ug/L



Copper
in Lake =
1ug/L



Assimilative
Capacity =
2 ug/L (with
MOS)

Copper
Criteria =
3ug/L



Copper
in Lake
> or =
3ug/L



~~Assimilative
Capacity = 0
ug/L~~

Deliberate Antidegradation Review



Document Assimilative Capacity is Available for All Parameters



Perform an Analysis of Alternatives



Is a Lowering of Water Quality is Necessary.... Yes or No



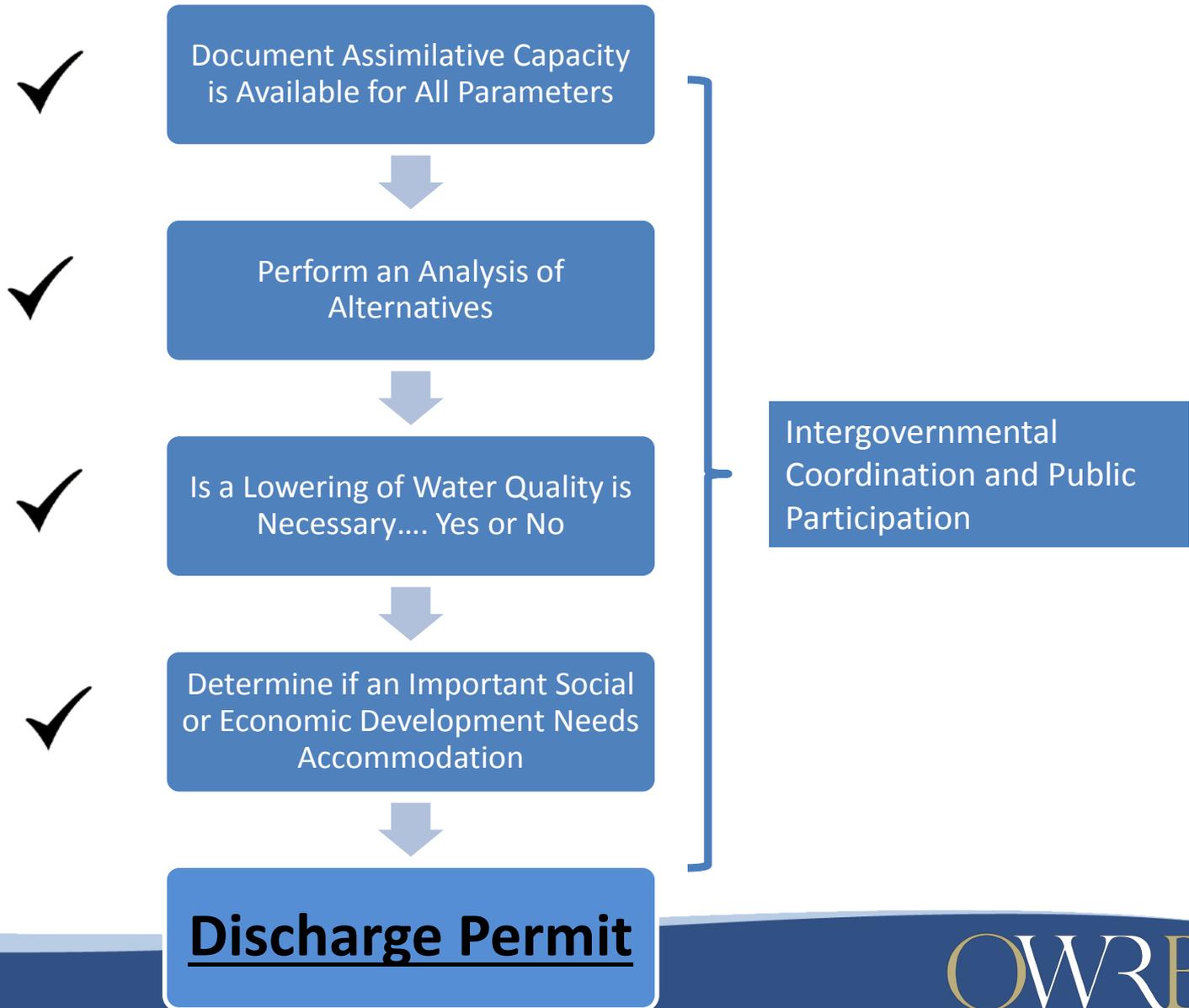
Determine if an Important Social or Economic Development Needs Accommodation



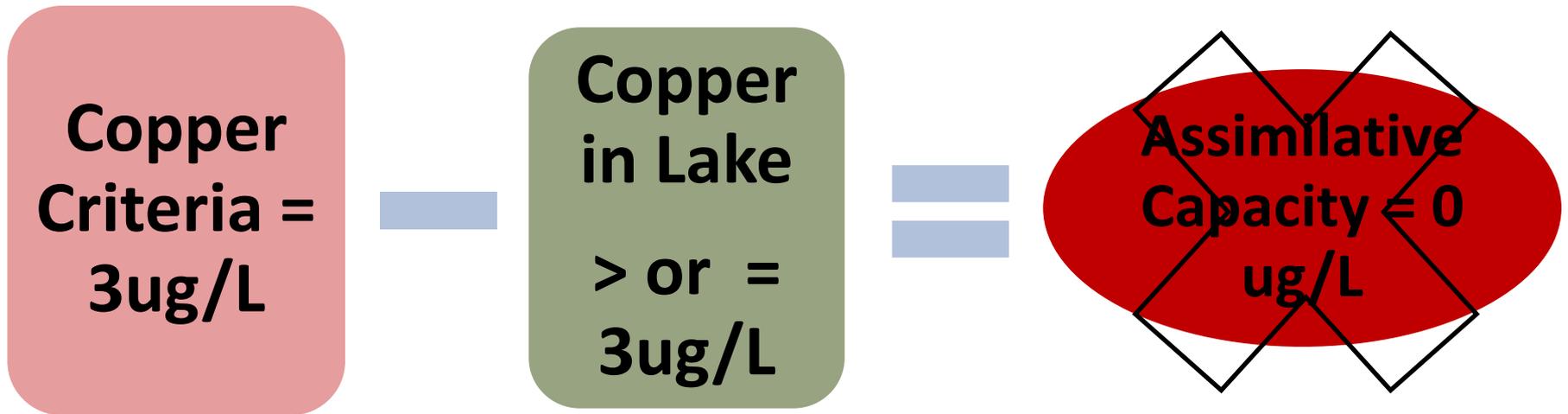
Discharge Permit

Intergovernmental Coordination and Public Participation

Deliberate Antidegradation Review

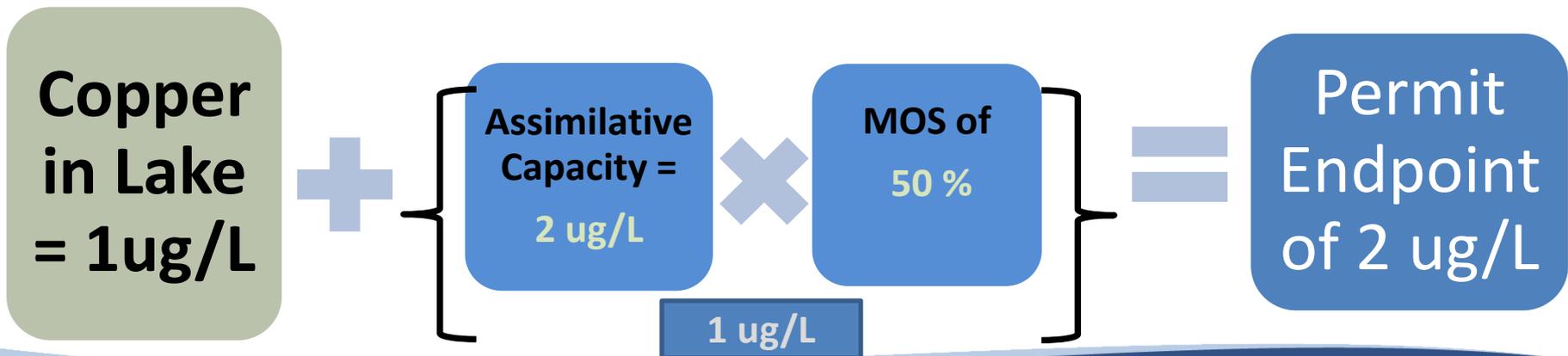
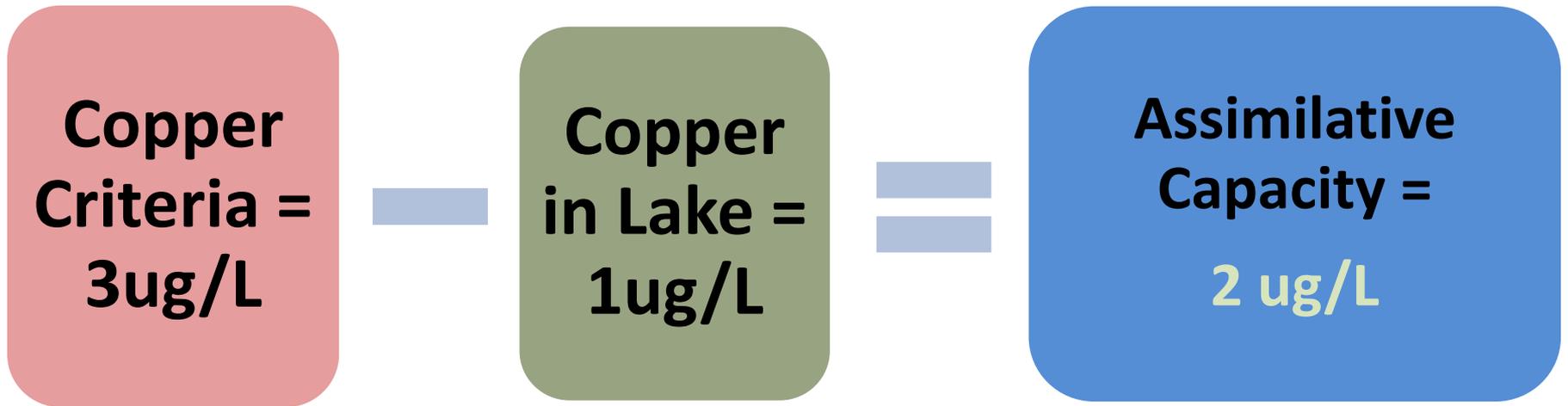


When No Assimilative Capacity Exists



- Meet applicable criterion at the point of discharge
- Include proposed load in TMDL load allocations

Margin of Safety (Toxics)



Margin of Safety (Nutrients)

Chlorophyll-a
Criteria =
10 ug/L



MOS of
20%

- 2 ug/L



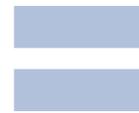
Permitting
Endpoint of
8 ug/L

Total
Phosphorus
Criteria =
20 ug/L



MOS of
20%

- 4 ug/L



Permitting
Endpoint of
16 ug/L

Margin of Safety (DO)

Volumetric
Dissolved
Oxygen
Criteria =
50% of Lake
Volume



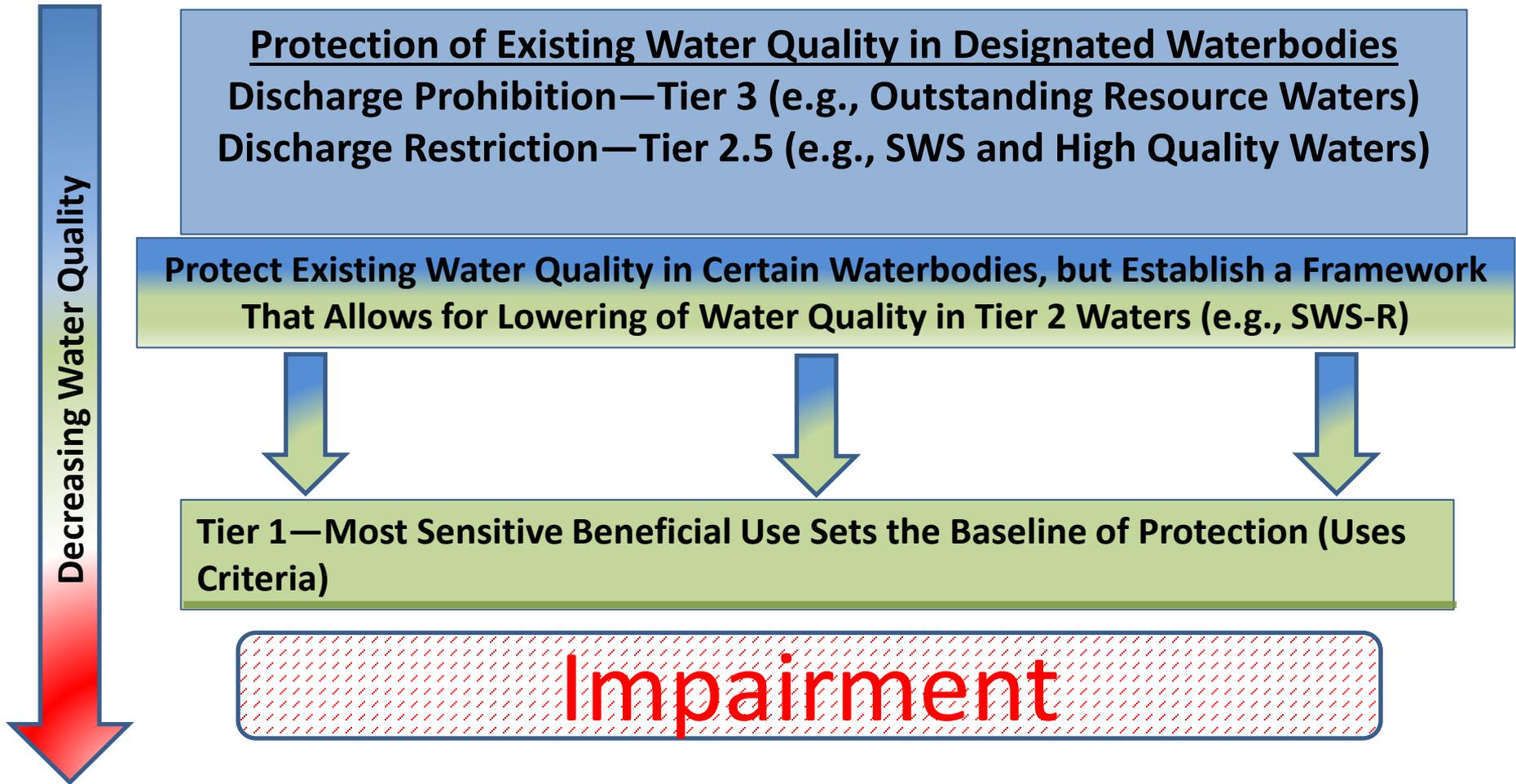
**MOS of
5%**

- 5 %

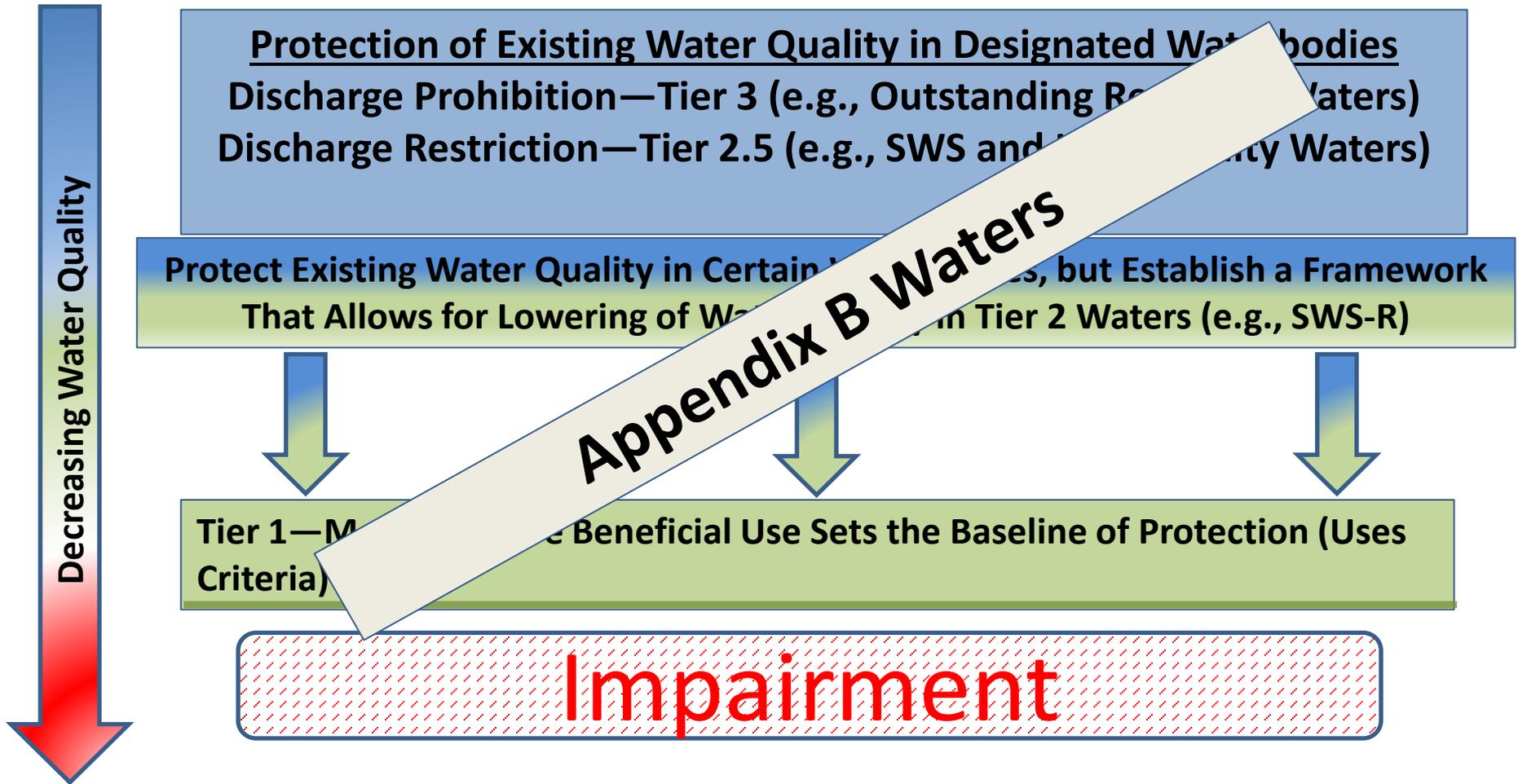


Permitting
Endpoint of
45 % of Lake
Volume

Standards Conceptual Approach



Standards Conceptual Approach



Rulemaking Schedule 2017-2018

Task	Date
Public stakeholder meetings	Sept. 7 th , Sept 26 th , Oct. 10 th , & Oct 25 th
Governor & Secretary of Energy & Environment Review	November 8, 2017
Draft proposed rules available for public comment	December 1, 2017
OWRB Public Hearing & comment period closes	January 16, 2018
OWRB meeting & rule consideration	February 20, 2018
Legislative & Gubernatorial review	Spring 2018
Rules become state law	September 2018
EPA review & approval	February – March 2019

More Stakeholder Meetings

Meeting Date	Topics
September 26 th at 10:00 a.m.	<ol style="list-style-type: none">1. Share feedback/revisions from previous meeting2. Copper site-specific criteria3. Groundwater Antidegradation implementation4. Groundwater attenuation implementation
October 10 th at 1:00 p.m.	<ol style="list-style-type: none">1. Share feedback/revisions from previous meetings2. Methlymercury Human Health Criteria
October 25 th at 1:00 p.m.	<ol style="list-style-type: none">1. Share feedback/revisions from previous meetings2. Final Draft proposed WQS & implementation rules

- Wrap-up, anything else ???

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