



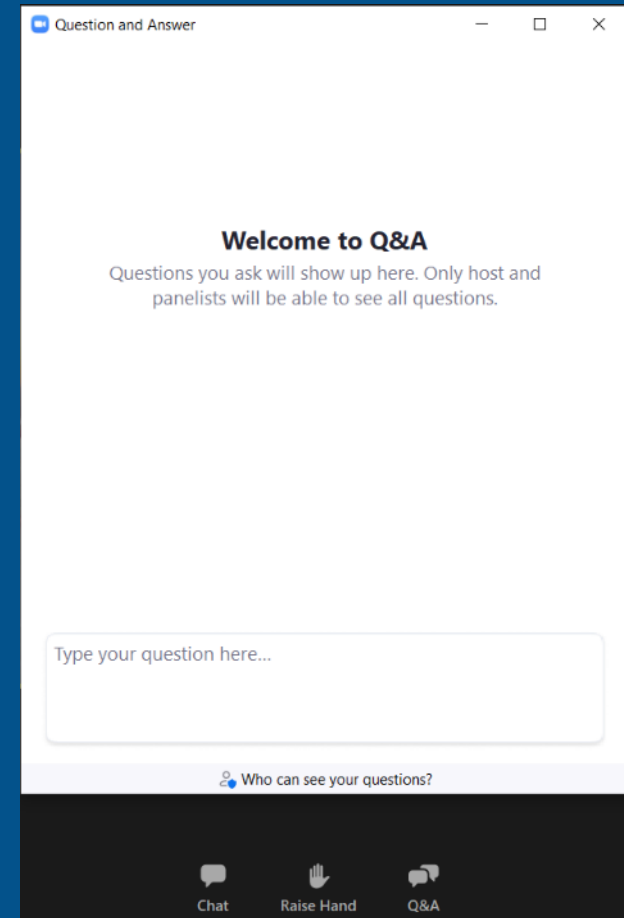
# Nutrient Work Group

---

October 12, 2022

# Welcome!

- This meeting has been converted to a webinar
- NWG members will be panelists
- Members of the public can raise their hand or use the Q&A feature to ask questions during the public comment portion of the meeting
- \*9 raises your hand if you're on the phone
- State your name and affiliation before providing your comment



Unmute

Chat

Raise Hand

Q&A

Leave

# Agenda

Meeting Goal: Discuss translation of the narrative and the AMP  
– TMDL interaction

## **Preliminaries**

- Nutrient Work Group Roll Call

## **DEQ Updates**

- Variance Rulemaking, BMPs, AMP Scientist
- Discussion Topics

## **AMP Process**

- Translation of the Narrative: Determine Value from Ecoregional Ranges
- AMP – TMDL Interaction and Revisions to Existing TMDLs
- Flow Chart: Implementing Narrative Nutrient Standards in MPDES Permits

## **Public Comment & Close of Meeting**

- Public Comment
- Next Meeting & Meeting Summary

# Roll Call

## Nutrient Work Group Members

Interest Group	Representative	Substitute
Point Source Discharger: Large Municipal Systems (>1 MGD)	Louis Engels	
Point Source Discharger: Middle-Sized Mechanical Systems (<1 MGD)	Shannon Holmes	
Point Source Discharger: Small Municipal Systems with Lagoons	Rika Lashley	
Point Source Discharger: Non-POTW	Alan Olson	
Municipalities	Kelly Lynch	
Mining	Tammy Johnson	
Farming-Oriented Agriculture	Rachel Cone	
Livestock-Oriented Agriculture	Raylee Honeycutt	
Conservation Organization - Local	Kristin Gardner	
Conservation Organization – Regional	Sarah Zuzulock	
Conservation Organization – Statewide	David Brooks	
Environmental Advocacy Organization	Guy Alsentzer	
Water or Fishing-Based Recreation	Wade Fellin	
Federal Land Management Agencies	Andy Efta	
Federal Regulatory Agencies	Tina Laidlaw	
State Land Management Agencies	Jeff Schmalenberg	
Water Quality Districts / County Planning Departments	Nick Banish	
Soil & Water Conservation Districts – West of the Continental Divide	Samantha Tappenbeck	
Soil & Water Conservation Districts – East of the Continental Divide	Dan Rostad	
Wastewater Engineering Firms	Scott Buecker	
Timber Industry	Julia Altemus	



# DEQ Updates

# DEQ Updates

- Variance Rule Update
- BMP Updates
- AMP Scientist Starts October 17

# Remaining Topics to Discuss

- AMP process
- TMDL – AMP interaction
- Addressing EPA's technical comments in August 2021 letter on response variables and thresholds
- Translation of the narrative for all CWA programs
- AMP – MPDES permit interaction
- Reasonable potential analysis
- Nutrient assessment method process
- Protection of downstream uses
- Revised guidance document
- Final rule language
- Case study



# Translation of the Narrative: Determine Value from Ecoregional Ranges



# Determine Nutrient Concentration from Range

## When Needed

- When a facility has reasonable potential, TMDL is required, etc.

## Guidance on Determining a Value (*Proposed*)

- Consider ecoregional concentration ranges (Table 4-1 in DEQ-15 *Draft 2*)
- Review available ancillary data
  - Consider waterbody-specific information that might mitigate nutrient effects (e.g., naturally high turbidity, water depth >1 m)
  - Consider if any response variable data are available for the receiving waterbody
    - What does DO  $\Delta$ , benthic algae, macroinvertebrate data, etc. suggest?  
Healthy or unhealthy?
- Consider regulatory path permittee has selected (next slide...)

# Determine Nutrient Concentration from Range

## Guidance, Cont. (Proposed)

- For permittees following AMP route (P focus)
  - Unless ancillary data suggest otherwise, lean towards higher end of P range
    - Site-specific response variable data will be forthcoming in coming years, therefore better information on attainment of narrative nutrient standards will be coming
- For permittees following Variance route
  - Unless ancillary data suggest otherwise, lean towards values in middle of TP, TN ranges
    - No response-variable data collection will be required—so ability to assess effects is more limited
- Regardless of regulatory path selected, the identified TP, TN, concentrations will not automatically be revisited each permit cycle; need compelling information to adjust the value(s)
  - e.g., nutrient value identified was insufficiently protective—lower value needed

# Ecoregional Ranges\*

Ecoregional Zone	Ecoregion (Level III)	Ecoregion (Level IV)	Maximum Recommended Range	
			Total Phosphorus (µg/L)	Total Nitrogen (µg/L)
Western	Northern Rockies (15)	all	20 - 40	210 - 1,210
Western	Canadian Rockies (41)	all	23 - 62	325 - 821
Western	Idaho Batholith (16)	all	20 - 62	210 - 718
Western	Middle Rockies (17)	all except 17i	20 - 40	210 - 1,210
Western	Middle Rockies (17)	Absaroka-Gallatin Volcanic Mountains (17i)	61 - 105 <sup>b</sup>	Use values from the lower end of the range for the Middle Rockies (17)
Western (transitional)	Northwestern Glaciated Plains (42)	Sweetgrass Upland (42l), Milk River Pothole Upland (42n), Rocky Mountain Front Foothill Potholes (42q), and Foothill Grassland (42r)	23 - 80 <sup>c</sup>	445 - 775
Western (transitional)	Northwestern Great Plains (43)	Non-calcareous Foothill Grassland (43s), Shields-Smith Valleys (43t), Limy Foothill Grassland (43u), Pryor-Bighorn Foothills (43v), and Unglaciated Montana High Plains (43o) <sup>a</sup>	20 - 41 <sup>d</sup>	439 - 1,125
Eastern	Northwestern Glaciated Plains (42)	all except those listed above for 42	70 - 150	540 - 1,830
Eastern	Northwestern Great Plains (43) and Wyoming Basin (18)	all except for those listed above for 43, and 43c below	70 - 150	540 - 1,830
Eastern	Northwestern Great Plains (43)	River Breaks (43c)	None recommended	None recommended

<sup>a</sup>For the Unglaciated High Plains ecoregion (43o), the range applies only to the polygon located just south of Great Falls, MT.

<sup>b</sup>Based on the 25<sup>th</sup> and 75<sup>th</sup> percentiles of the natural background concentrations in this level IV ecoregion.

<sup>c</sup>Lower end based on streams' origins in the Canadian Rockies; upper end based on 75<sup>th</sup> percentile of natural background for these ecoregions.

<sup>d</sup>Lower end based on similarity to Middle Rockies, upper end based on Elk Creek reference site.

\*Subject to final review and refinement prior to rulemaking



# AMP – TMDL Interaction

# Wasteload Allocations (WLAs)

- Nutrient WLAs are calculated based on the water quality standard or target value

$$\text{facility flow} * \text{nutrient standard} = \text{WLA}$$

- If the standard or TMDL target changes, then the WLA may be modified
- If the standard becomes more stringent, then so will the WLA
- WLAs are not influenced by treatment plant upgrades, \$ spent, or other outside factors

# Existing Nutrient TMDLs

# Approved Nutrient TMDL Docs	# Nutrient TMDL Docs with WLAs	# Permitted dischargers with WLAs	# WLAs not incorporated into MPDES
30	9*	28	10

\*Three of these have WLAs calculated using 12A numbers

# Revising Existing TMDLs

- 27/30 approved TMDL documents have WLAs calculated by translating the narrative nutrient standards prior to implementation of Circular DEQ 12-A in 2014
- Where the AMP is activated in a watershed with a TMDL, any TMDL revision would be based on the data collected under the AMP Monitoring Plan (3-5 years of data) and translation of the ecoregional ranges for TN and TP for the watershed, which would set a new target for WLA calculation
- WLAs in previously approved TMDLs would be recalculated using the appropriately determined target value from the ecoregional range

# Revising Existing TMDLs

- Previously approved TMDLs with WLAs (9/30 docs) would stand until data from the AMP compel DEQ to prioritize the document for revision.
- Previously approved TMDLs without WLAs (21/30 docs) would not be prioritized for revision at this time.
- Other considerations:
  - The pace of TMDL revisions would be dependent upon AMP data, TMDL Section priorities and project commitments, and staffing resources.



# Revising Existing TMDLs

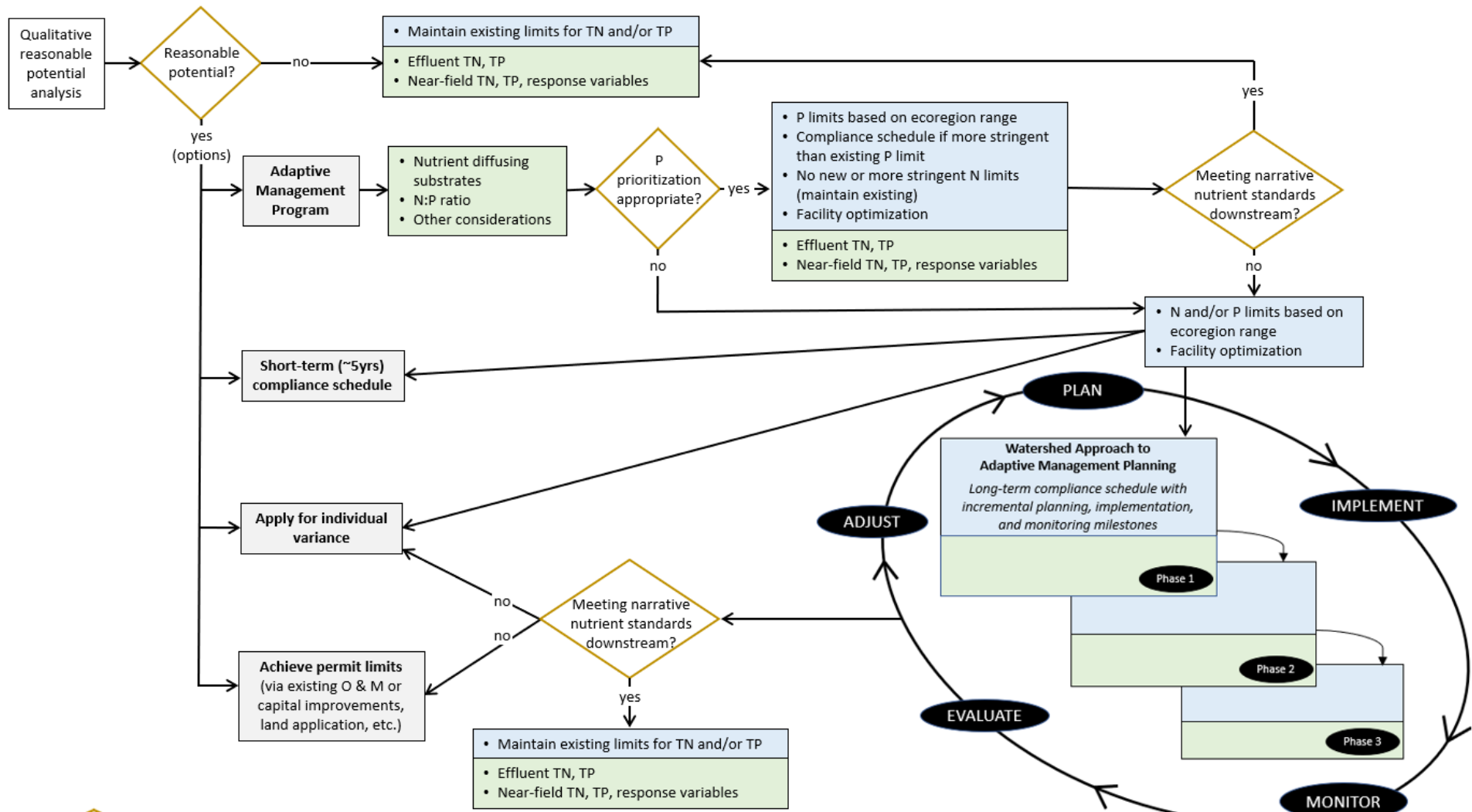
- EPA drafted considerations for revising and withdrawing TMDLs (accessible online)

*"Any changes or re-allocation between the WLA and LA or changes in the TMDL's loading capacity will be submitted to EPA for review and approval as a revised TMDL according to the same procedures as for a new TMDL"*

- Guidance was never formally adopted, but EPA recently confirmed this is the understood process
- Public notice, public comment, and stakeholder engagement required as per usual MT process



# Implementing Narrative Nutrient Standards in MPDES Permits



- Decision
- Permit limits and conditions
- Monitoring requirements

TN = Total Nitrogen  
TP = Total Phosphorus

*Note: Timelines and milestones associated with each step will be specified in permits and Adaptive Management Plans, as approved by the Department.*

**PLAN**

**ADAPTIVE MANAGEMENT PLANNING**

**IMPLEMENTATION**

- Inventory watershed nutrient sources →
- Engage partners committed to nutrient reductions →
- Identify nutrient reduction actions and estimate benefit →
- Enter contracts/agreements to fund →
- Identify timeline and implement nutrient reductions →
- Evaluate effectiveness

**MONITORING**

- Effluent TN, TP
- Near-field TN, TP, response variables
- Watershed TN, TP, loads (flow)

**Phase 1**

Ongoing planning and implementation

Ongoing monitoring

**Phase 2**

Ongoing planning and implementation

Ongoing monitoring

**Phase 3**

**IMPLEMENT**

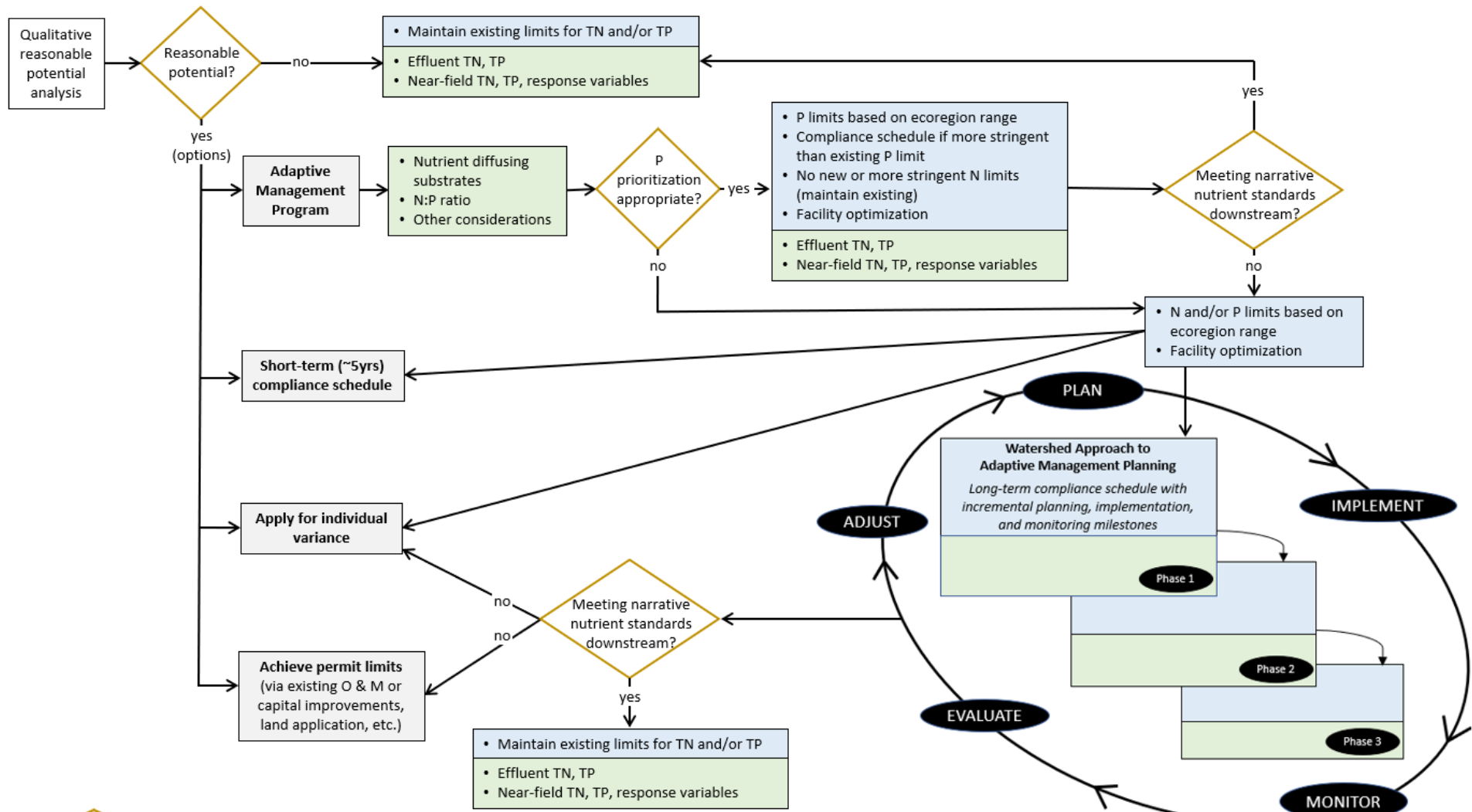
**ADJUST**

**EVALUATE**

**MONITOR**

- Permit limits and conditions
- Monitoring requirements

TN = Total Nitrogen  
 TP = Total Phosphorus



- Decision
- Permit limits and conditions
- Monitoring requirements

TN = Total Nitrogen  
TP = Total Phosphorus

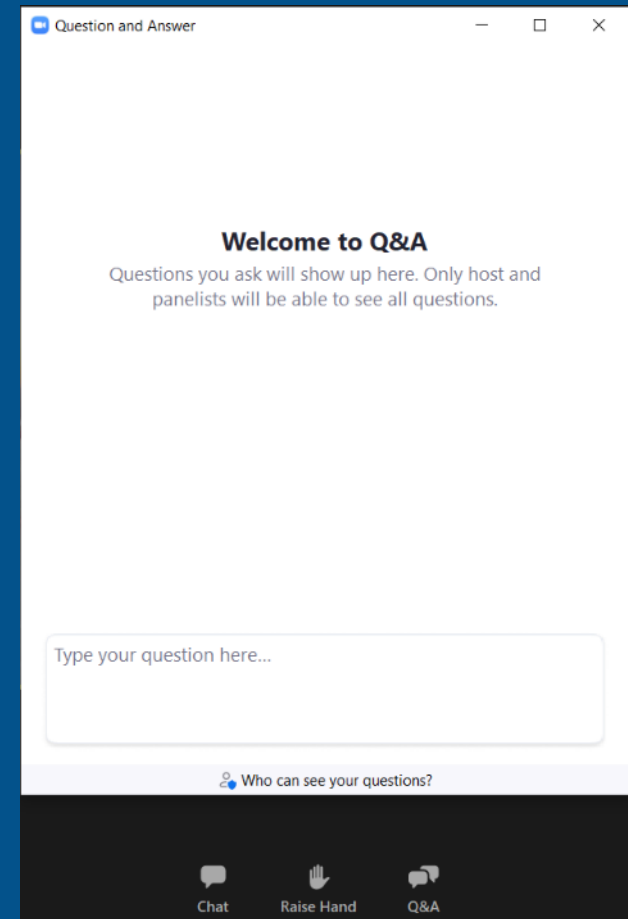
*Note: Timelines and milestones associated with each step will be specified in permits and Adaptive Management Plans, as approved by the Department.*



# PUBLIC COMMENT

# Questions/ Comments

- Raise hand (\*9 if on the phone) or type questions into the Q&A
- DEQ will unmute you if you wish to provide your comment orally
- If calling by phone, press\*6 to unmute
- State your name and affiliation before providing your comment



Unmute

Chat

Raise Hand

Q&A

Leave



# Next Meeting



# Next Meeting

- Wednesday, October 26, 2022, 9 – 11 a.m.

# Meeting Summary

- Nutrient target values will be chosen from the ecoregional ranges for use in all CWA programs
- Existing TMDLs with nutrient wasteload allocations (WLAs) will be revised if the AMP process provides compelling data to change the target values used in calculating the WLAs

# Thanks for Joining Us

Contact:  
Christina Staten  
[CStaten@mt.gov](mailto:CStaten@mt.gov)

To submit comments or questions



<https://deq.mt.gov/water/Councils>

