

NUTRIENT WORK GROUP TECHNICAL SUBCOMMITTEE

MEETING SUMMARY

JULY 6, 2021

1:00 p.m.
Zoom Meeting

ATTENDANCE: NUTRIENT WORK GROUP TECHNICAL SUBCOMMITTEE MEMBERS

Representative & Affiliation	Representing
Michael Suplee (co-chair)	DEQ, Water Quality Standards & Modeling
Dave Clark HDR	Point Source Discharger: Large Municipal Systems (>1 MGD)
Rika Lashley Morrison Maierle	Point Source Discharger: Small Municipal Systems with Lagoons
Alan Olson (sub. for Shane Lacasse) MT Petroleum Association	Point Source Discharger: Non-POTW
Amanda McInnis Consultant for MT League of Cities and Towns	Municipalities
Matt Wolf Sibanye Stillwater	Mining
Jay Bodner Montana Stockgrowers Association	Livestock-Oriented Agriculture
Kristin Gardner Gallatin River Task Force	Conservation Organization: Local
Sarah Zuzulock Consultant	Conservation Organization: Regional
	Conservation Organization: Statewide
Guy Alsentzer Upper Missouri Waterkeeper	Environmental Advocacy Organization
	Water or Fishing-Based Recreation
Andy Efta U.S. Forest Service	Federal Land Management Agencies
Erik Makus U.S. Environmental Protection Agency	Federal Regulatory Agencies
Jeff Schmalenberg MT Dept. of Natural Resources and Conservation	State land Management Agencies
Pete Schade Lewis and Clark Water Quality Protection District	Water Quality Districts / County Planning Departments
Scott Buecker (sub. For Coralynn Revis) AE2S	Wastewater Engineering firms
Julia Altemus MT Wood Products Association	Timber Industry

NOT IN ATTENDANCE: NUTRIENT WORK GROUP TECHNICAL SUBCOMMITTEE MEMBERS

Representative & Affiliation	Representing
Rainie DeVaney (co-chair)	DEQ, Surface Water Discharge Permitting Section Supervisor
Samantha Tappenbeck	Soil & Water Conservation Districts – West of the Continental Divide
Dan Rostad	Soil & Water Conservation Districts – East of the Continental Divide
John Youngberg	Farming-Oriented Agriculture
Vacant	Point Source Discharger: Middle-Sized Mechanical Systems (<1 MGD)

ATTENDANCE: OTHER PARTICIPANTS

Amelia Flanery, DEQ, Surface Water Discharge Permitting
 Amy Deitchler, Great West Engineering
 Amy Steinmetz, DEQ, Water Quality Division Administrator
 Christina Staten, DEQ, Watershed Protection Section
 Christy Meredith, DEQ, Watershed Protection Section
 Darrin Kron, DEQ, Monitoring and Assessment Section Supervisor
 Dave Galt, Montana Petroleum Association
 David Brooks, Montana Trout Unlimited
 Ed Coleman, City of Helena
 Eric Regensburger, DEQ, Water Quality Standards and Modeling Section
 Galen Steffens, DEQ, Water Quality Planning Bureau Chief
 George Mathieus, DEQ, Deputy Director
 Haley Sir, DEQ, Surface Water Discharge Permitting
 Hanna New, DEQ, Surface Water Discharge Permitting
 Heather Henry, DEQ, Surface Water Discharge Permitting
 Jeff May, DEQ, Surface Water Discharge Permitting
 Joanna McLaughlin, DEQ, Surface Water Discharge Permitting
 Joe Lierow, ExxonMobil Billings Refinery
 Jon Kenning, Water Protection Bureau Chief
 Josh Vial, DEQ, Compliance and Technical Assistance
 Kayla Glossner, DEQ, Surface Water Discharge Permitting
 Kristi Kline, Montana Rural Water Systems
 Kristy Fortman, DEQ, Watershed Protection Section Supervisor
 Lauren Sullivan, DEQ, Water Quality Standards and Modeling Section
 Loren Franklin, KC Harvey Environmental
 Logan McInnis, City of Missoula
 Louis Engels, City of Billings

Maya Rao, DEQ, Surface Water Discharge Permitting
Michelle Pond, WGM Group
Moirra Davin, DEQ, Public Information Officer
Paul Skubinna, City of Great Falls
Peggy Trenk, Treasure State Resources Association
Rickey Schultz, HDR
Ron Khuler, ExxonMobil Billings Refinery
Ryan Leland, City of Helena
Tammy Johnson, Montana Mining Association
Ted Barber, Meeting facilitator
Vicki Watson

MEETING OBJECTIVES

- Defining the extent of AMP watersheds
- Discussion and feedback pertaining to breaking out medium sized rivers
- Discussion and feedback on upstream/downstream extent for monitoring

MEETING HIGHLIGHTS

- Review USGS Hydrologic Unit Code system
- Discussion on upstream and downstream extent & defining watersheds
- Shared Teams page and channel for TSC collaboration on documents

A list of meeting action items and discussion topics flagged for future meetings can be found at the end of this summary

MEETING INITIATION

Galen Steffens (DEQ) welcomed everyone to the meeting, reviewed the agenda, introduced DEQ contacts involved, and took roll call of the technical subcommittee (TSC). Ted Barber (facilitator) described the format for participation during the meeting.

USGS HYDROLOGIC UNIT CODE SYSTEM FOR DEFINING WATERSHEDS

Mike Suplee described the use of the watersheds to help meet the adaptive management plans (AMPs). The law is clear that the approach going forward must be watershed based. Mike reviewed the structure of watersheds walking through the presentation. See **Attachment A** for the presentation slides.

Mike reviewed the USGS Hydrologic Unit Code (HUC) System for defining watersheds. He first walked through large watersheds defined as 2-unit HUCs, and described as watersheds get smaller they moved to a larger unit code. For example, listed from largest watershed to smallest are 2-unit, 4-unit, 6-unit, 8-unit and eventually the 12-unit HUCs. In the state of Montana, generally 12-unit HUCs are the smallest that are used. Mike noted that, in his experience, the most commonly used HUC is the 8-unit.

Mike described different sized waterbodies: large rivers, medium rivers, and wadeable streams. He described work previously completed by DEQ to break out and define the large rivers in the state of Montana. These rivers were based on non-wadeability during base flow. The tools that will be used to

make assessments for nutrient impairments will vary depending on stream size (e.g. large river or wadeable stream). Mike referenced the materials previously distributed to the TSC on this topic.

Mike noted to the group that assessment methods have been developed for these different sized waterbodies. The assessment methods for the large rivers and wadeable streams have been developed to an advanced degree but for breaking out medium rivers, those are still under development and he prompted to the TSC to discuss whether breaking out medium sized rivers will be of value. He proposed it may be of value to do this.

DISCUSSION

Sarah Zuzulock asked Mike to explain how the HUCs and the definition of stream size relates to the ecoregions that have been established. Mike responded that ecoregions are primarily based on areas of common geology, soil, and climate. Hydrologic boundaries are not used to define where ecoregion boundaries begin. Mike noted that if you overlay an ecoregion map on a HUC map, there may be some approximations that match in some areas, but overall, they will not match up. He clarified that the reason ecoregions were used when originally developing nutrient standards was that at a statewide scale, ecoregions had the greatest explanatory power for nutrient concentrations at the state's reference sites. He noted that the next variable with the greatest explanatory power was the watershed, followed by stream order. Details on how ecoregions are utilized in the new watershed approach will need to be determined.

Mike prompted the group to discuss the value of breaking out medium sized rivers, noting there are assessment methodology tools already in development for this **(Action)**. There were several chat posts supporting the idea of breaking out medium rivers.

LIMITS OF AN AMP WATERSHED: UPSTREAM AND DOWNSTREAM EXTENT

Mike walked through slide 13 of the presentation (**See Attachment A**), which addresses one of the meeting goals: begin discussion about defining the upstream and downstream extent for monitoring. Presented on the slide was a generic watershed with a point source defined within the watershed (indicated by the black dot). That point source would theoretically have an AMP. The TSC was asked to help identify what is needed to be identified and define how far upstream and downstream of that point source **(Action)**. Key considerations when defining an AMP Watershed will need to include; 1) defining the upstream extent of the watershed or group of watersheds, 2) defining the downstream extent which would include identifying where the first location is that we begin to see effects of the point source manifested in the waterbody, 3) defining which tributaries to include, 4) identifying hydrologic characteristics, 5) quantifying nutrient sources, and 6) identifying how many monitoring sites and where. At a minimum it may be that the point sources would monitor upstream and downstream of their site. There may be other locations in the watershed that could/should be monitored, dependent on AMP goals.

DISCUSSION

Alan Olson asked, how far upstream and downstream of a point source discharge for monitoring sites? Mike responded that there should probably be at a minimum two locations, one should be upstream of the point source to do an upstream characterization of water quality as it arrives at the point source.

The other location, downstream, would be, at a very minimum, at the location where the effects would be manifesting. The location of this downstream point could be estimated using nutrient spiraling calculations in conjunction with field reconnaissance monitoring work to determine the location. Mike clarified this would be the minimum number of monitoring points but there could be other locations that would require monitoring. Discussion led by David Clark on exactly how far downstream would be required to monitored continued.

Amanda McInnis commented that sometimes their best trading partners are downstream of the outfalls and would like to see that continue to be considered. Mike responded that this is already built into DEQ's trading policy and can see it continuing as long as there are no hot spots downstream. Amanda commented that for the upstream consideration, this would likely need to be a case by case basis.

Guy Alsentzer commented that he hopes this can all be put into practical terms with meaningful data that will inform what permit rules require. He stated that one essentially needs to monitor as far downstream as needed to come up with a science-based analysis to determine if that point source will cause or contribute to a violation of water quality standards.

Sarah Zuzulock commented that groundwater needs to be considered in this work.

DRAFT APPROACH FOR DETERMINING WATERSHED

Mike walked through slide 14 which outlines a draft approach for determining the watershed. A few minutes were left for the TSC to read the three bullet points on the slide which then led into discussion. **See Attachment A** for the presentation materials.

DISCUSSION

Scott Buecker asked, would this be a discharger proposed upstream and downstream delineation that then the DEQ would approve? Mike responded that the goal with the draft approach presented on slide 14 is that some of this needs to be defined. Because of the regulatory setting, everything has a review and approve phase by DEQ. How far upstream and downstream will vary depending on the site. The boundaries need to be identified and perhaps allow flexibility to review and change over time. Scott asked if the discharger have to commit to monitoring the full watershed they ask for? There was no answer at this time but Mike referenced some monitoring and assessment processes.

Dave Clark commented that the HUCs may be a nice rough cut to understand the geographic extent of a watershed and proposed there may be additional steps to consider such as land uses that may be contributing suggesting there may be flexibility to refine a given watershed.

Rika commented on the first bullet and asked if it should also include non point sources? There was some follow up discussion that perhaps could include all sources. Alan Olson commented that the bill was drafted to apply to point sources.

Mike asked the TSC if there are any additional technical materials they would like to see? There were no immediate responses. Mike noted that he would put a text document of the draft approach for determining watersheds on the Sharepoint for the TSC members to edit and provide comment on **(Action)**.

Scott Buecker asked if there is any historical guidance on how to select stream segments for a TMDL analysis? Kristy Fortman responded that DEQ has guidance on both prioritization of streams and where to sample for source assessments/modeling analysis. Waterbodies with an existing TMDL may have a good amount of monitoring data and completed source assessments.

Tammy Johnson asked, “Are there any real world examples from other states, perhaps Wisconsin, that can enlighten us about upstream and downstream distances or markers?” The response was that perhaps they do, and it is something to look into. Kristy pointed out that we really need to be thinking about what the end goal is, if there will be trading or if it is just monitoring upstream and downstream of the point source.

Julia Altemus commented, Timber is non-point source and in Montana is regulated by the Streamside Management Zone law and the voluntary BMPS since 1987. The timber practices under the BMPs and SMZs are audited every even year and graded for application and effectiveness by 3 audit committees, which is comprised of agency, timber, conservation/environmentalists and the public. A report is posted to the DNRC website and provided to the legislature. We are always looking for volunteers if anyone is interest in participating.

Matt Wolfe asked how DEQ envisions the AMP process happening on a river where there are multiple point source permittees? Who is responsible for initiating the process? The permittee with the permit that expires first? How do you envision that coordination? Mike responded that from conversations with Rainie, they envision that all the permittees would be working under one AMP and coordination will have to occur. The details of who initiates this and why have yet to be determined.

Guy Alsentzer followed up to ask, how do you force accountability for each point source? Mike responded that as it has currently been discussed, each facility would be operating under their own permit but operating under the same common adaptive management plan framework. The facilities may be able to collectively pay for monitoring.

Rika Lashley asked, what exactly has to be done by October? Mike responded that we need to have a rule process that sets us up with a structure the department has determined appropriate. Additional details will have to be worked out in guidance documents, which will not need to be completed in the next 6 months.

Rika commented that she thinks we are confusing “watershed” and the extent of the watershed used in an AMP; there was no discussion on this subject.

Darrin Kron reminded folks to look for existing monitoring data, noting there is a lot out there. Kristy Fortman reminded folks to follow DEQ monitoring protocols.

PUBLIC COMMENT

Public comment was taken at the end of the meeting. There were no comments or questions.

CLOSING

Ted reminded the group the next meeting is July 16. He reviewed the decision to move some of the nutrient work group dates so that the TSC can meet two weeks in a row and allow time to compile the information for the Nutrient Working Group meeting. Ted reminded folks that they can send a substitute to meetings if they are not able to attend. Galen thanked the group for their participation. She encouraged people to follow up with her if anybody has any problems accessing the Teams page or the Sharepoint. Additionally, she said there would be a follow up email sent out to the TSC regarding some outstanding questions (**Action**). Ted thanked the group and closed the meeting.

SUMMARY OF MEETING ACTIONS

The table below includes actions from 6/10, 6/21, and 7/6 meetings.

	Action	Who	Status
1	Distribute the flowchart and supporting materials to the TSC in a format to provide comments/track changes	Rainie DeVaney & Mike Suplee	Complete
2	Provide feedback from the TSC about the time component in the flow chart	TSC	In progress
3	Consider other measures that may trigger action (Box 7 of flowchart)	TSC	Complete
4	Clarify in the supporting documents that the narrative standards are those referenced in the Administrative Rules of the Montana of the State of Montana.	Rainie Devaney & Mike Suplee	Complete
5	Update the flowchart and supporting materials based on TSC feedback	Rainie Devaney & Mike Suplee	In progress
6	Define the overall work for the AMP by the June 23 Nutrient Work Group meeting	TSC	Complete
7	Provide information to the TSC on how to get on the agenda for a future meeting	Rainie Devaney & Mike Suplee	Complete
8	Schedule two TSC meetings between each Nutrient Work Group	Rainie Devaney &	Complete

		Mike Suplee	
9	Set up Teams TSC collaboration site. Send invite email. Post comments received from TSC members and draft DEQ documents	Moir D, Christina S.	Complete
10	Update AMP definition based on TSC feedback. Share out to TSC.	Rainie D, Mike S	In progress
11	Receive feedback from TSC on time component of each flowchart step.	TSC	In progress
12	Receive written comments from League	Amanda McGinnis	?
13	Define what P prioritization means	DEQ and TSC	Pending
14	Define roles and responsibilities of DEQ and permittees for AMP process	DEQ	Pending
15	Decide whether medium sized rivers should be broken out	TSC	
16	Identify and define what is need to determine how far upstream and downstream of monitoring should occur for a point source	TSC	
17	Add the draft approach for determining watersheds to the Sharepoint for feedback from TSC	Mike S.	Complete
Questions/topics flagged for future discussion			
Tina asked when will the Monitoring Plan be submitted (is that part of the permitting application)? When will the public get to review what is being proposed for monitoring? Will DEQ have monitoring guidance?			6/10/21
How exactly the public process is incorporated into the different steps in the AMP need to be worked out and flagged that for future discussion.			6/10/21
Consider developing a case study to guide the MT process.			6/10/21
Tina noted, there is talk about doing some downstream analysis but it could also be that elevated concentrations of nutrients could contribute to an issue that just hasn't yet been manifested, so EPA will be curious how the state plans to address that piece.			6/10/21
Discussion on the nexus between TMDLs and AMPs.			6/10/21
Tina asked where does the NPDES permit application process fit in to this whole process?			6/10/21
Define roles and responsibilities of DEQ and permittees in AMP process			6/21/21

How will DEQ apply existing TMDLs- what is the interplay of AMPs and completed/approved AMPs	6/21/21
Define P prioritization and what is intended as site-specific factors.	6/21/21

**ATTACHMENT A: JULY 6, 2021 NUTRIENT WORK GROUP TECHNICAL
SUBCOMMITTEE MEETING PRESENTATION SLIDES**

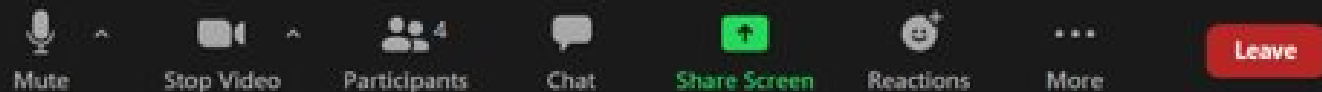
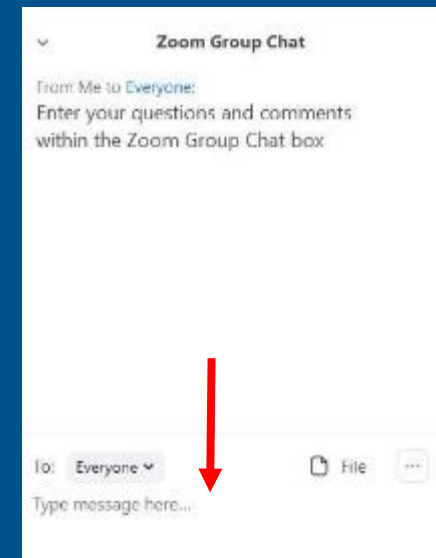
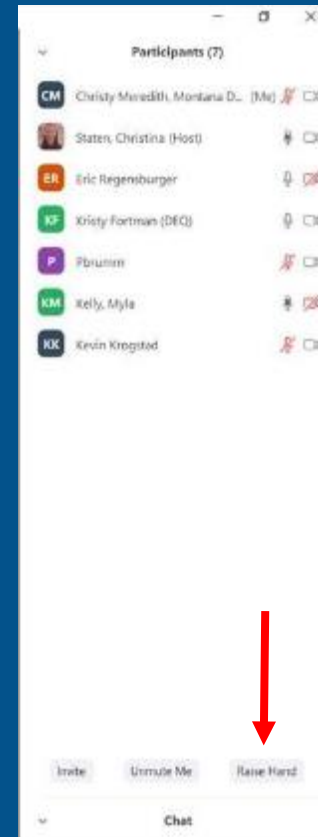
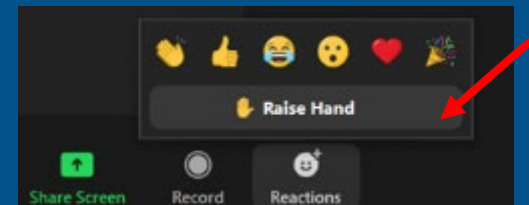


Nutrient Work Group Technical Subcommittee Session Three

July 6, 2021

Welcome!

- Please keep your microphone muted until called on
- TSC Members may participate during discussions
- Please reserve public comment until the end
- *6 unmutes your phone
- State your name and affiliation before providing your comment
- Enter questions in the chat box at any time
- Turning off your video feed provides better bandwidth
- Please sign-in to the chat box with name and affiliation



Agenda

Meeting Goal: Begin defining extent of AMP watersheds

- 1:05 p.m. Welcome
- 1:10 p.m. Introductions (Ted Barber, Facilitator)
- 1:15 p.m. USGS Hydrologic Unit Code system for defining watersheds. Major categories of waterbodies (wadable streams, medium rivers, large rivers)
 - Discussion on proposed system, pros/cons of breaking out medium rivers
- 2 p.m. Limits of an AMP watershed:
 - Discussion Points
 - How far Upstream: Important considerations particularly pertaining to large rivers
 - How far Downstream: Estimating the location(s) where sampling to assess point-source downstream effects occur
 - Considerations for how far downstream of a point source the AMP watershed should extend
- 2:45 p.m. Open Public Discussion & Close of Meeting
 - Discussion of next meeting topics and next subcommittee meeting
 - Meeting Close

Introductions

Facilitator

- Ted Barber

DEQ Staff

- Michael Suplee, Water Quality Science Specialist
- Rainie DeVaney, Discharge Permitting Section Supervisor
- Amy Steinmetz, Water Quality Division Administrator
- Jon Kenning, Water Protection Bureau Chief
- Galen Steffens, Water Quality Planning Bureau Chief
- Myla Kelly, WQ Standards & Modeling Section Supervisor
- Kristy Fortman, Watershed Protection Section Supervisor
- Darrin Kron, WQ Monitoring & Assessment Section Supervisor

Introductions

Nutrient Work Group Technical Subcommittee Members

Interest Group	Representative	Substitute
Point Source Discharger: Large Municipal Systems (>1 MGD)	Dave Clark	
Point Source Discharger: Middle-Sized Mechanical Systems (<1 MGD)	Vacant	
Point Source Discharger: Small Municipal Systems with Lagoons	Rika Lashley	
Point Source Discharger: Non-POTW	Shane Lacasse	
Municipalities	Amanda McInnis	
Mining	Matt Wolfe	
Farming-Oriented Agriculture	John Youngberg	
Livestock-Oriented Agriculture	Vacant	
Conservation Organization - Local	Vacant	
Conservation Organization – Regional	Guy Alsentzer or Sarah Zuzulock	
Conservation Organization – Statewide	Guy Alsentzer or Sarah Zuzulock	
Environmental Advocacy Organization	Guy Alsentzer or Sarah Zuzulock	
Water or Fishing-Based Recreation	Guy Alsentzer or Sarah Zuzulock	
Federal Land Management Agencies	Andy Efta	
Federal Regulatory Agencies	Tina Laidlaw or Erik Makus	
State Land Management Agencies	Jeff Schmalenberg	
Water Quality Districts / County Planning Departments	Pete Schade	
Soil & Water Conservation Districts – West of the CD	Samantha Tappenbeck	
Soil & Water Conservation Districts – East of the CD	Dan Rostad	
Wastewater Engineering Firms	Coralynn Revis	
Timber Industry	Julia Altemus	

Ground Rules

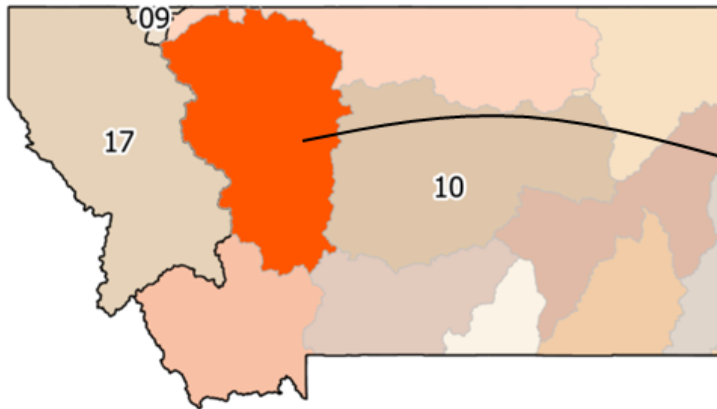
- Speak one at a time—refrain from interrupting others.
- Wait to be recognized by the facilitator before speaking.
- Facilitator will call on people who have not yet spoken before calling on someone a second time for a given subject.
- Share the oxygen—ensure that all members who wish to have an opportunity to speak are afforded a chance to do so.
- Be respectful towards all participants.
- Listen to other points of view and try to understand other interests.
- Share information openly, promptly and respectfully.
- If requested to do so, hold questions to the end of each presentation.
- Remain flexible and open-minded, and actively participate in meetings.



Water Resource Regions



HUCs (Hydrologic Unit Codes)

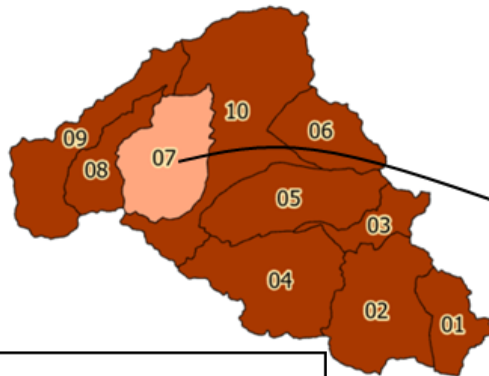
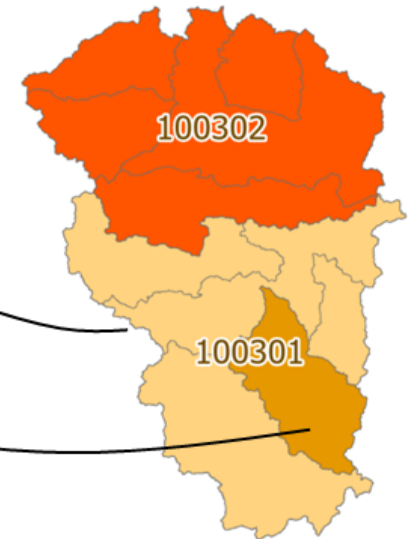


2-Digit Hydrologic Unit
10 – Montana Region

4-Digit Hydrologic Unit
1003 – Missouri-Marias

6-Digit Hydrologic Unit
100301 – Upper Missouri

8-Digit Hydrologic Unit
10030103 – Smith

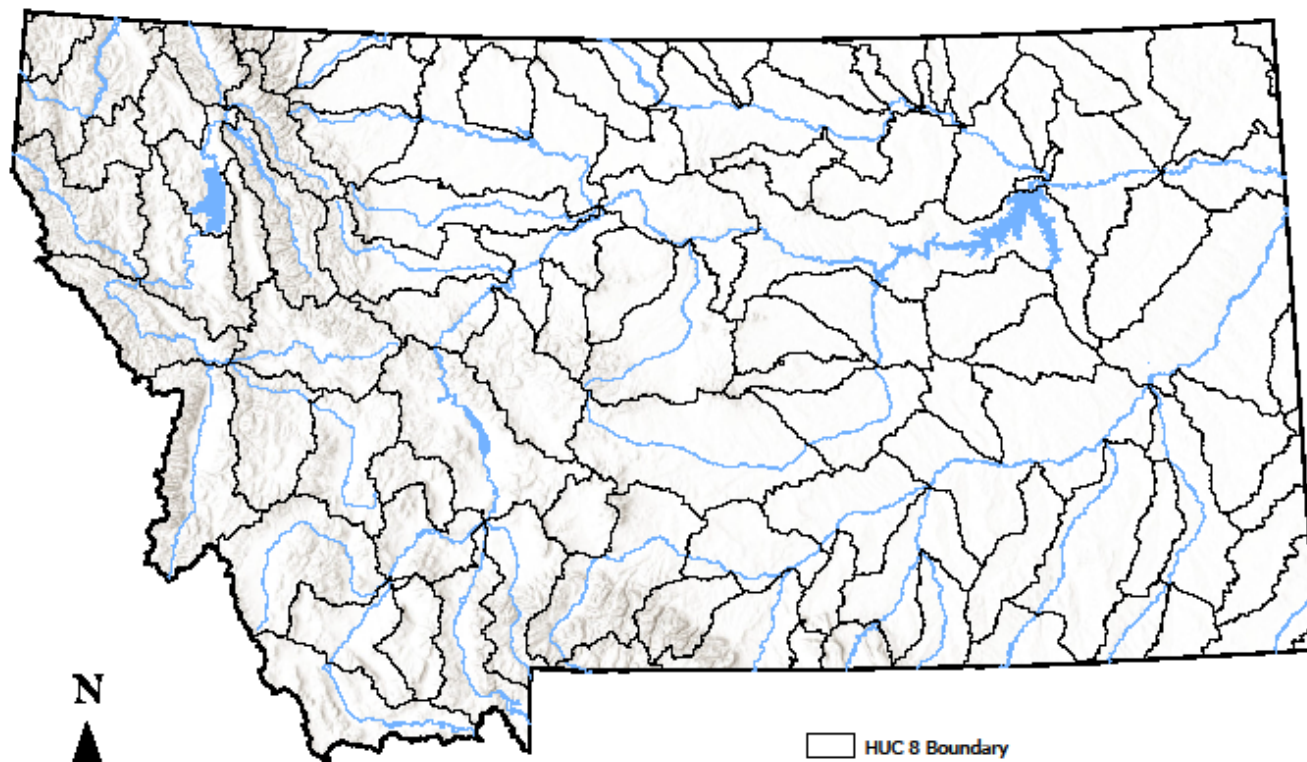


10-Digit Hydrologic Unit
1003010302 – South Fork
Smith River

12-Digit Hydrologic Unit
100301030207 – Woods
Gulch Creek



HUC 8 Boundaries in Montana



- HUC 8 Boundary
- Major Rivers
- Major Lakes
- MT State Boundary

0 25 50 100 Miles

Esri, USGS

Montana's Large Rivers

Large river segments within the state of Montana.

River Name	Segment Description
Big Horn River	Yellowtail Dam to mouth
Clark Fork River	Bitterroot River to state-line
Flathead River	Origin to mouth
Kootenai River	Libby Dam to state-line
Madison River	Ennis Lake to mouth
Missouri River	Origin to state-line
South Fork Flathead River	Hungry Horse Dam to mouth
Yellowstone River	State-line to state-line

Yellowstone River



Medium Rivers

- *Examples:*
 - Marias River
 - Blackfoot River
 - Smith River
 - Clarks Fork Yellowstone River
 - Bitterroot River
 - Jefferson River
 - Big Hole River
 - And many others...
- Not as clearly defined as large rivers
- Department sampling methods for these waterbodies developing

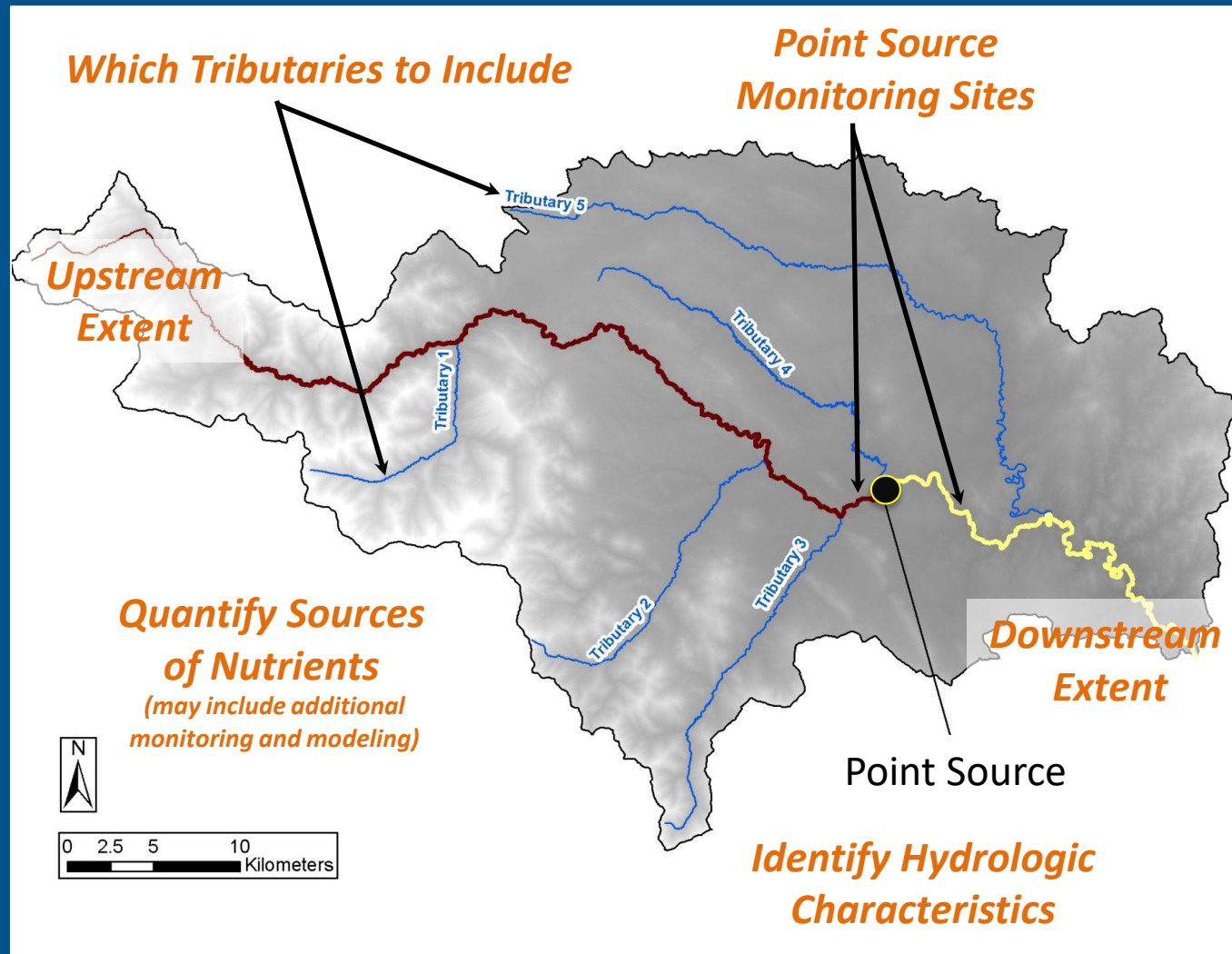


Wadable Streams

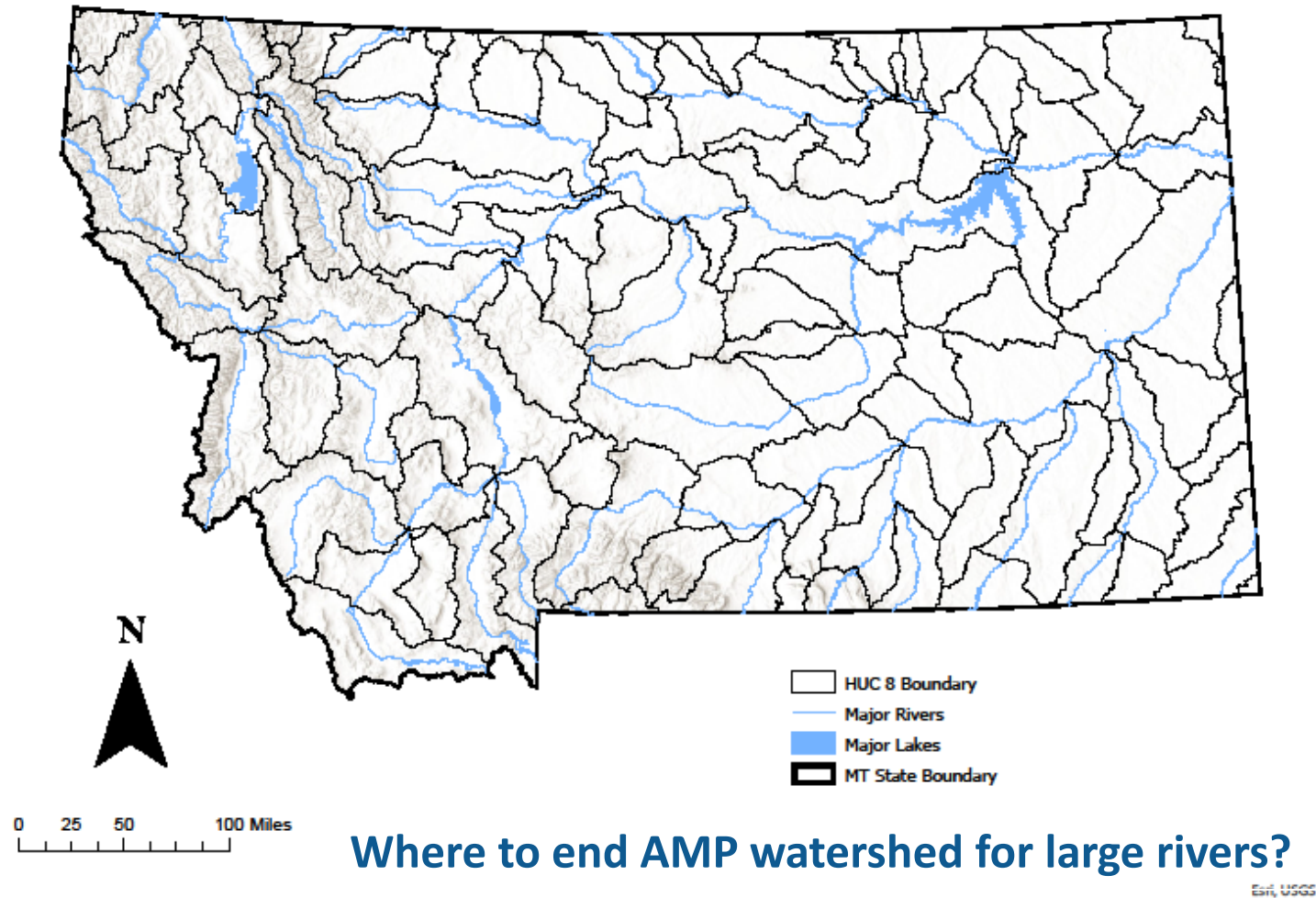
- Common throughout western and eastern Montana
- Department sampling and assessment protocols developed to an advanced degree



Key Considerations When Defining an AMP Watershed



HUC 8 Boundaries in Montana



Where to end AMP watershed for large rivers?

Draft Approach for Determining Watershed

- Under an adaptive management plan the watershed must be defined, at a minimum, by its upstream extent, its downstream extent, the principal tributaries included, and the main sampling locations to be monitored for purposes of assessing sources and the direct effects of the point source.
- Proposed watersheds will be reviewed by the department. The department will (a) approve the watershed as described, or (b) make recommendations for an alternative layout. The department will have final review and approval on all AMP watersheds.
- For purposes of monitoring and assessment, the point source receiving waterbody will be identified as a wadable stream, *medium river?* or large river.





Public Comment & Close of Meeting

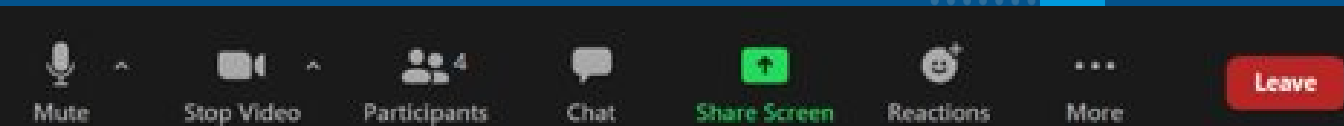
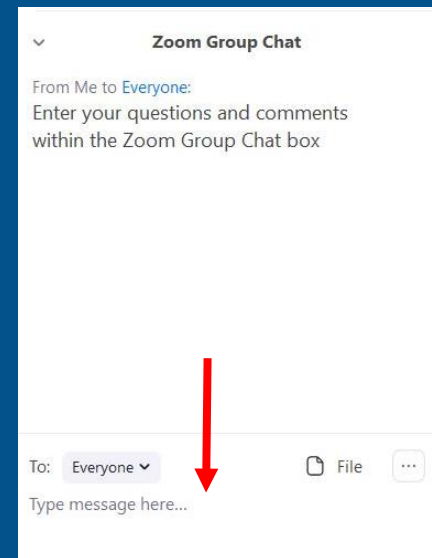
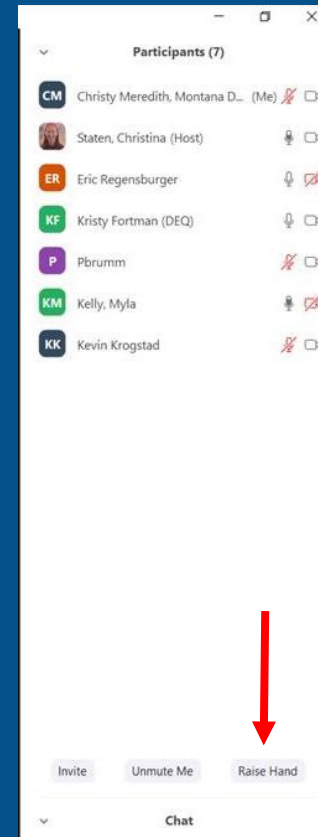
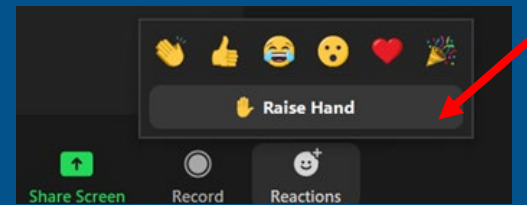
Next Meetings

- Technical Subcommittee Meeting:
 - Wednesday, July 16 from 9-11 a.m.
 - Ongoing discussion of watershed scale under the adaptive management program
- Nutrient Work Group Session 3
 - July 28, 2021, 9-11 AM



Questions/ Comments

- Raise hand or type questions into the chat
- Please keep your microphone muted until called on
- If calling by phone, press*6 to unmute
- State your name and affiliation before providing your comment



Thanks for Joining Us

Contact:

Mike Suplee, MSuplee@mt.gov

Rainie Devaney, RDevaney@mt.gov

To submit comments or questions



» Submit Comments or Questions

<http://deq.mt.gov/water/resources/nutrientworkgroup>