Nutrient Work Group
Session Two

June 23, 2021
Introductions

DEQ Staff

- Christopher Dorrington, Director
- George Mathieus, Deputy Director
- Kurt Moser, Legal Counsel
- Moira Davin, Public Relations
- Amy Steinmetz, Water Quality Division Administrator
- Jon Kenning, Water Protection Bureau Chief
- Rainie DeVaney, Discharge Permitting Section Supervisor
- 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
- Michael Suplee, Water Quality Science Specialist
## Introductions

### Nutrient Work Group Members

<table>
<thead>
<tr>
<th>Interest Group</th>
<th>Representative</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Point Source Discharger: Large Municipal Systems (&gt;1 MGD)</td>
<td>Susie Turner</td>
<td>City of Kalispell</td>
</tr>
<tr>
<td>Point Source Discharger: Middle-Sized Mechanical Systems (&lt;1 MGD)</td>
<td>Shannon Holmes</td>
<td>City of Livingston</td>
</tr>
<tr>
<td>Point Source Discharger: Small Municipal Systems with Lagoons</td>
<td>Rika Lashley</td>
<td>Morrison-Maeirle</td>
</tr>
<tr>
<td>Point Source Discharger: Non-POTW</td>
<td>Alan Olson</td>
<td>Montana Petroleum Association</td>
</tr>
<tr>
<td>Municipalities</td>
<td>Kelly Lynch</td>
<td>Montana League of Cities and Towns</td>
</tr>
<tr>
<td>Mining</td>
<td>Tammy Johnson</td>
<td>Montana Mining Association</td>
</tr>
<tr>
<td>Farming-Oriented Agriculture</td>
<td>John Youngberg</td>
<td>Montana Farm Bureau</td>
</tr>
<tr>
<td>Livestock-Oriented Agriculture</td>
<td>Jay Bodner</td>
<td>Montana Stockgrowers Association</td>
</tr>
<tr>
<td>Conservation Organization - Local</td>
<td>Kristin Gardner</td>
<td>Gallatin River Task Force</td>
</tr>
<tr>
<td>Conservation Organization – Regional</td>
<td>Sarah Zuzulock</td>
<td>Zuzulock Environmental Services</td>
</tr>
<tr>
<td>Conservation Organization – Statewide</td>
<td>David Brooks</td>
<td>Montana Trout Unlimited</td>
</tr>
<tr>
<td>Environmental Advocacy Organization</td>
<td>Guy Alsentzer</td>
<td>Upper Missouri Waterkeeper</td>
</tr>
<tr>
<td>Water or Fishing-Based Recreation</td>
<td>Wade Fellin</td>
<td>Big Hole Lodge</td>
</tr>
<tr>
<td>Federal Land Management Agencies</td>
<td>Andy Efta</td>
<td>U.S. Forest Service</td>
</tr>
<tr>
<td>Federal Regulatory Agencies</td>
<td>Tina Laidlaw</td>
<td>U.S. Environmental Protection Agency</td>
</tr>
<tr>
<td>State Land Management Agencies</td>
<td>Jeff Schmalenberg</td>
<td>Dept. Natural Resources &amp; Conservation</td>
</tr>
<tr>
<td>Water Quality Districts / County Planning Departments</td>
<td>Pete Schade</td>
<td>Lewis &amp; Clark County Water Quality Protection District</td>
</tr>
<tr>
<td>Soil &amp; Water Conservation Districts – West of the Cont. Divide</td>
<td>Vacant</td>
<td></td>
</tr>
<tr>
<td>Soil &amp; Water Conservation Districts – East of the Cont. Divide</td>
<td>Dan Rostad</td>
<td>Yellowstone River Cons. District Council</td>
</tr>
<tr>
<td>Wastewater Engineering Firms</td>
<td>Scott Buecker</td>
<td>AE2S</td>
</tr>
<tr>
<td>Timber Industry</td>
<td>Julia Altemus</td>
<td>Montana Wood Products Association</td>
</tr>
</tbody>
</table>
Ground Rules

• Speak one at a time – refrain from interrupting others.

• Wait to be recognized by 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.
Roles and Responsibilities
The Nutrient Work Group is an advisory group to DEQ. Members agree to:

• Provide specific local expertise, including identifying emerging local issues;
• Review project reports and comment promptly;
• Attend as many meetings as possible and prepare appropriately;
• Complete all necessary assignments prior to each meeting;
• Relay information to and from their broader interest group counterparts after each meeting and gather information/feedback from their counterparts as practicable before each meeting;
• Articulate and reflect the interests that NWG members bring to the table;
• Maintain a focus on solutions that benefit the entire state;
• Present recommendations for the rulemaking throughout the planning process.
Agenda

Meeting Goal: Finalize AMP Definition, Review AMP Details and Watershed Scale Framework

• Technical Subcommittee Report
  • AMP definition
  • AMP flowchart-DEQ
  • AMP flowchart-feedback from TSC
• Discussion of AMP Step #2 – Watershed Scale approach
• Opportunities for public input – future listening sessions, comment feature on NWG webpage
Nutrient Work Group

Technical Subcommittee Report
**Draft Definition:** Adaptive Management Program means a watershed-scale system that protects water quality from point and nonpoint sources of nutrients by: (a) prioritizing phosphorus reduction while accounting for site specific conditions, (b) allowing for nutrient sources to be addressed incrementally over time by incorporating flexible decision-making which can be adjusted as management actions and other factors become better understood, (c) reasonably evaluating all factors impacting a waterbody while considering the relative cost of treatment options, their feasibility, and their expected water quality improvement, (d) documenting specific nutrient reduction requirements, and (e) setting as its goal the protection and achievement of beneficial uses of the waterbody.
Adaptive Management Program

1. Permittee submits Monitoring Plan under their AMP Use Guidance Doc from DEQ

DEQ reviews and approves or requests improvements

2. Per Monitoring Plan, Permittee assesses health of watershed and receiving waterbody via applicable response variables/thresholds (watershed- and local-scale)

Based on response variables/thresholds are nutrients negatively impacting the watershed?

YES NO

DEQ reviews and approves or requests improvements

3. Permittee begins:
   - Stakeholder engagement
   - Watershed inventory
   - Identify the most limiting nutrient in watershed

DEQ reviews and approves or requests improvements

4. Permittees analyze sources and loads

DEQ reviews and approves or requests improvements

5. Permittee develops action items and goals for reductions

DEQ reviews and approves or requests improvements

2.a. Permittee continues to monitor per approved plan.

6. Permittee implements actions, assesses effects on waterbody.

DEQ reviews and approves or requests improvements

7. Are Narrative Standard, Beneficial Uses, and MPDES Permit Limits Achieved?

YES NO

DEQ reviews and approves or requests improvements

8. Continue to implement action items and protect water quality
TSC Member Input on AMP Flowchart

- **Key Differences:** DEQ proposal puts all nutrient-discharging permittees in program who carry out assessment upfront; TSC proposal uses 303(d) list and existing watershed knowledge to target those likely to enter AM program.

- **Overall:** More upfront work by DEQ (watershed inventory). Assumes DEQ will identify a nutrient MPDES permit limit prior to permittee assessing instream impacts. TSC proposal could reduce potentially unneeded instream monitoring by permittees.

- TSC members recognize their recommendations are preliminary and additional work to identify a final flow chart is needed.

Simplified version of TSC recommendation
Today’s Discussion

Watershed Scale Framework
Why Adaptive Management Plans should Consider Watershed Scale

Wadeable streams/rivers vs. large rivers

- Wadeable Streams/rivers:
  - Influenced by local climate, geology, soils, plant life
  - Shorter runoff period
  - Process added nutrients over shorter distances due to shallower depth, lower velocities

- Large Rivers:
  - Drain multiple large watersheds, water quality often different from local streams
  - Longer runoff period
  - Process nutrients over much longer distances due to deeper depths, higher velocities
Nutrient Spiraling in Flowing Waters

1) Cycling in closed systems
   - Inorganic forms
   - Organic forms

2) Cycling in open ecosystems [creates spirals]
   - Adveotive flow
   - Longitudinal Distance

Lake          River or stream

Yellowstone River

Wadeable Stream (E. MT)
Why Adaptive Management Plans should Consider Watershed Scale

**Wadeable streams/rivers vs. large rivers**

- **Wadeable Streams/rivers:**
  - Often have a single point source (in MT)
  - Easier to sample & monitor for direct assessment of nutrient response variables (bottom-attached algae, daily DO changes, etc.)

- **Large Rivers:**
  - Often have multiple dischargers
  - Difficult to sample, require deployed instruments and often boats to emplace equipment
  - Response variables better addressed through modeling (DO, pH, shore-area algae, etc.)

Wadeable Stream (E. MT)

Yellowstone River
Next Steps & Technical Subcommittee
Public Input

• Listening Session Summary Themes:
  • Federal approval
  • Assessment Method/Impairment Listings
  • Sources
  • Nutrient Limits & Specifics
  • TMDLs
  • Existing Science
  • AMPs
  • Treatment Ramifications & Economics

• Future listening sessions

• NWG Website question submittal button

• General Questions
Next Meeting

- Wednesday, July 28th from 9:00 – 11:00 am

- Next meeting topics:
  - Any wrap-up from today's meeting?
  - Outstanding questions
  - Implementation of Watershed Scale Framework

- Technical Subcommittee meeting
  - Tuesday, July 6th from 1:00 – 3:00 pm
  - Topic forthcoming
Thanks for Joining Us

Contact:
Galen Steffens
Galen.Steffens2@mt.gov

To submit comments or questions

http://deq.mt.gov/water/resources