WPCAC - Narrative Nutrient Standards Transition

May 13, 2022

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Briefing Topics

Update on department's work with the Nutrient Work and progress on a comprehensive rule package implementing the narrative nutrient standards. This includes an Updated Regulatory Framework proposal.

Request a special Water Pollution Control Advisory Council meeting.

- Up to three rule makings
  - Adaptive Management Program
  - Repeal of Circular DEQ-12A
  - Variance Procedural Rules under 75-5-320, MCA

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SB-358 now 75-5-321, MCA

Section 1. Transition for nutrient standards. (1) By March 1, 2022, the department of environmental quality shall adopt rules related to narrative nutrient standards in consultation with the nutrient work group.

(2) The rules shall provide for the development of an adaptive management program which provides for an incremental watershed approach for protecting and maintaining water quality, and that:

(a) reasonably balances all factors impacting a water body;

(b) prioritizes the minimization of phosphorus, taking into account site-specific conditions; and

(c) identifies the appropriate response variables affected by nutrients and associated impact thresholds in accordance with the beneficial uses of the waterbody.

(3) In developing the rules in subsection (2), the department shall consider options pertaining to whether the point source is new or existing and whether the receiving water body is considered impaired or unimpaired.

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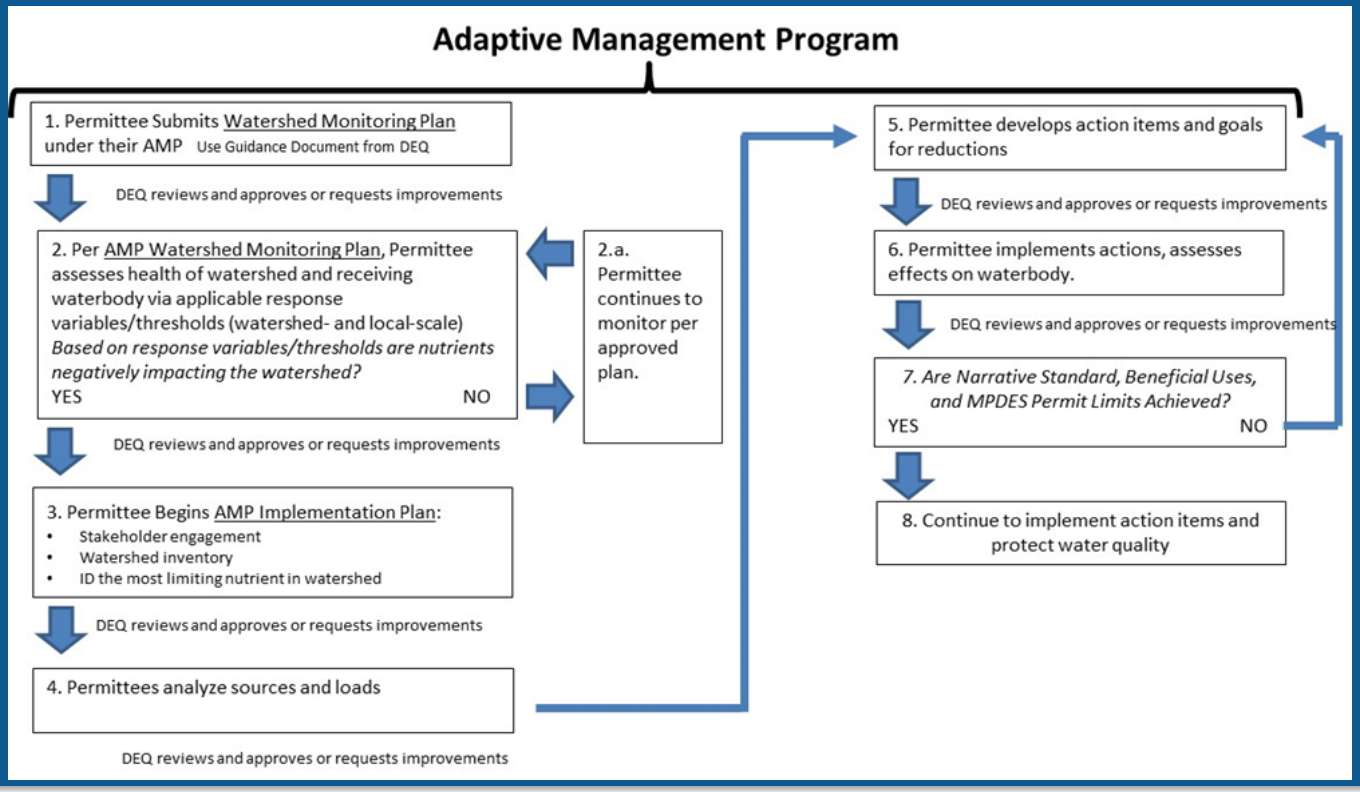
DEQ's Proposal for an Updated Regulatory Framework

DEQ's Previously-proposed Regulatory Framework (10/2021)

- All permittees under the adaptive management program
- Permit limits based on response variables (at least initially)
- No water quality standards variance



What DEQ Heard and How we Addressed it

Topic/Issue	Proposed Action
Concerns that effluent limits were based on response variables and thresholds	Response variable and thresholds used as confirmational data
Phosphorus is first, per SB 358, where appropriate	Via the AMP, allows permittees to demonstrate P control approach can work
Technical expertise/cost for small towns	Recognizes—upfront—that small town lagoons can't afford additional nutrient removal
Point source concerns over controlling nutrient sources at the watershed scale	Initial work under AMP is focused on individual facility
Incremental approach	P reductions first, and then phased AMP requirements
Concern that DEQ needs to use familiar CWA regulatory tools	In addition to AMP approach, variances and compliance schedules would also be available

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Updated Regulatory Framework, 4/2022

Includes options for regulated community:

Adaptive Management Program (AMP): Process for permittees to analyze response variables and nutrients and seek optimal nutrient-reduction solutions over time

Compliance Schedule (CS): Defined timeframe for a permittee to achieve new/more stringent water quality-based effluent limit

Variance: Discharger-specific, defined timeframe when a water-quality standard is not readily achievable (per Ninth Circuit Court of Appeals, variances may be based upon economic factors and need not set a date certain for dischargers to comply with underlying water quality criteria). EPA tool, MT Water Quality Act tool (75-5-320, MCA)

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Updated Regulatory Framework, 4/2022

Discharger categories or waterbodies are addressed differently:

Mechanical POTWs: For most cases P control first, see results

Lagoons: DEQ develops multi-discharger variance for TP, TN

- Based on economic impacts of nutrient control
- Option to opt out, go AMP pathway if desired

Industry: P prioritization under AMP if appropriate, monitor response variables. If controls ineffective, move to additional nutrient controls under AMP or CS (or variance)

Large Rivers (Yellowstone): DEQ develops mechanistic model for river, allocates P limits to dischargers to meet modeled DO, pH, etc.

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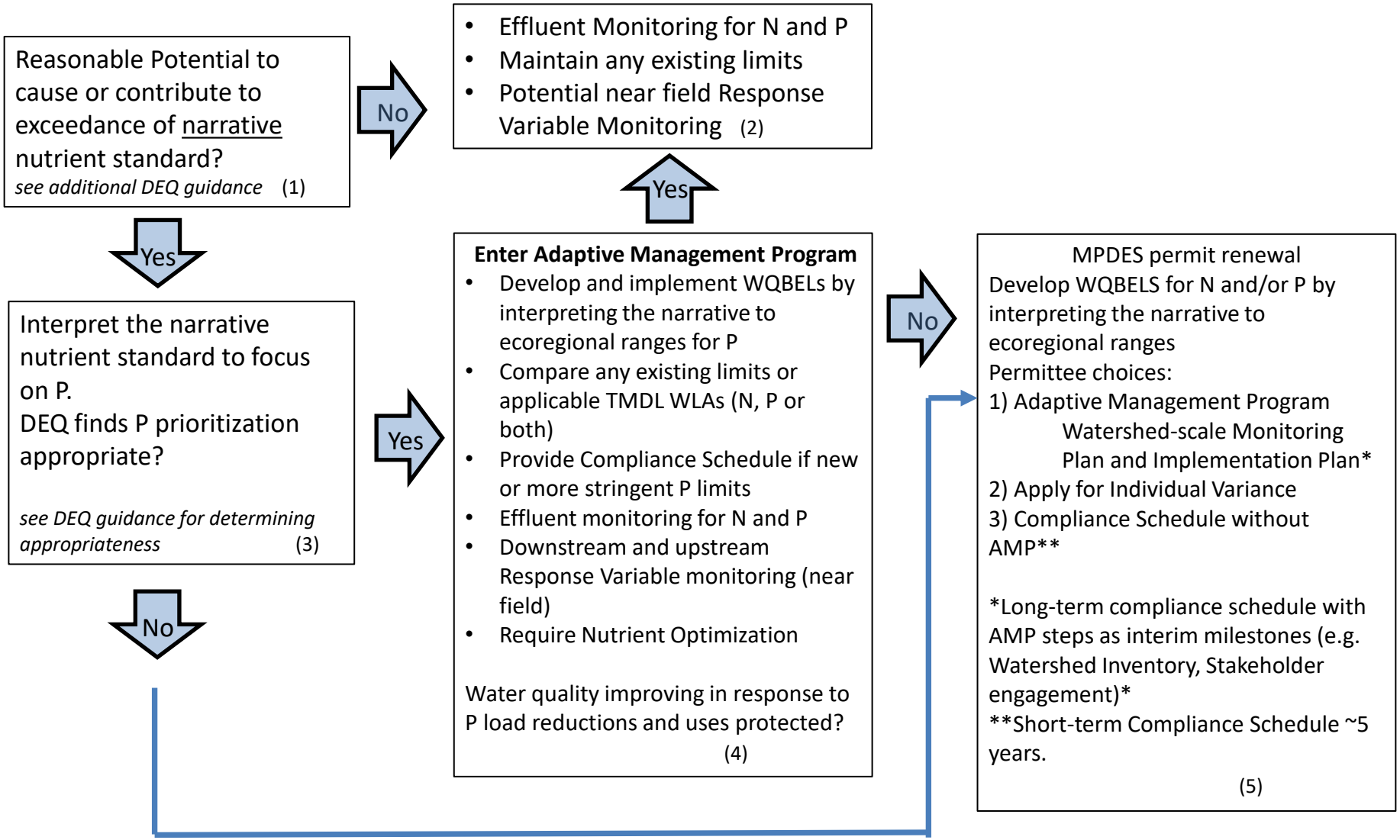
Permitting Process for Publicly-owned Mechanical Facilities



Qualitative Reasonable Potential for Narrative Water Quality Standards

Condition of the Receiving Waterbody

- Impairment status (303d list)
- Downstream segment: distance to, impairment status, lake or reservoir present
- Low flow condition (7Q10, 14Q5)
- Proximity of other dischargers that might cause cumulative effects

Condition of the Facility

- Type of facility and treatment
- Upgrades and age of treatment
- Effluent concentrations
- Optimization work undertaken
- Compliance history
- Compliance inspections—notes, O&M deficiencies, neglected infrastructure

Pollutant Characteristics

- Environmental fate/persistence

ARM 17.30.1344 and 40 CFR 122.44

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Permitting Process for Publicly-owned Lagoons

Reasonable Potential to cause or contribute to an exceedance narrative nutrient standard?
see additional DEQ guidance (1)

No →
- Effluent Monitoring for N and P
- Maintain any existing limits (2)

Yes ↓

Develop Water-quality based effluent limits by interpreting the narrative to ecoregional ranges for both N and P.

Limits achievable based on current effluent concentrations? (3)

No →

Provide and implement variance (Highest Attainable Condition)

- Cap at current N and P loads
- Develop, Implement and Maintain a Pollutant Minimization Program

DEQ driven process for development of multi-discharger variance under 75-5-320, MCA (4)

Or (option)

Enter Adaptive Management Program
- Long-term compliance schedule with AMP steps as interim milestones, P prioritization (6)

Yes ↓

Implement effluent limits in MPDES Permit (5)

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Permitting Process for Industrial Facilities

Reasonable Potential to cause or contribute to an exceedance of narrative nutrient standard?
see additional DEQ guidance (1)

No →

- Effluent Monitoring for N and P
- Maintain any existing limits
- Potential near field Response Variable monitoring (2)

Yes ↓

Develop Water quality-based effluent limits by interpreting the narrative to ecoregional ranges for pollutants of concern (N, P or both)

Limits achievable based on current effluent concentrations? (3)

Yes ↓

Implement effluent limits in MPDES Permit (3a)

No →

Prioritizing P appropriate? (3b)

Yes ↓

Enter Adaptive Management Program

- Develop and implement WQBELs for P by interpreting the narrative to ecoregional ranges
- Effluent monitoring for N and P
- Compare any existing limits or applicable TMDL WLAs (N, P or both)
- Provide Compliance Schedule if new or more stringent P limits
- Downstream and upstream Response Variable monitoring (near field)

Water quality improving in response to P load reductions and uses protected? (4)

Yes ↑ (to (2))

No →

Permittee chooses for each pollutant WQBEL:
1) Adaptive Management Program
   Watershed scale Monitoring
   Implementation Plan*
2) Individual Variance
3) Compliance Schedule without AMP**

Long-term compliance schedule with AMP steps as interim milestones (e.g. Watershed Inventory, Stakeholder engagement)
**Short-term Compliance Schedule ~5 years.
(5)

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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[b]	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[c]	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)[a]	20 - 41[d]	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

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

[b] Based on the 25th and 75th percentiles of the natural background concentrations in this level IV ecoregion.

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

[d] 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

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Repeal of Circular DEQ-12A per SB358

The department of environmental quality shall amend ARM 17.30.602 to **delete all references to department circular DEQ-12A, department circular DEQ-12B, base numeric nutrient standards, and nutrient standards variances.**

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Variance Procedural Rules

75-5-320. Temporary water quality standards variances. (1) Except as provided in **75-5-222**(2), the department may adopt rules providing criteria and procedures for the department to issue a temporary variance to water quality standards.

Rulemaking Timeline

- Initiate rulemaking at WPCAC by first week of June 2022
- 45-day public comment period starts July 8, 2022
- Hearing: around August 22, 2022
- Response to comments
- Department Head signs rule no later than September 27, 2022, rule filed no later than September 27, 2022
- Publishes by October 7, 2022
  - Meets requirement to complete rulemaking: “An agency may not adopt, amend, or repeal rules from October 1 to December 31 in the year that precedes the year in which the legislature meets in regular session” ARM 1.3.312(6)

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June Meeting: tentative topics

- Comprehensive Adaptive Management Rule package
- Repeal of Montana Circular DEQ-12A
- Water quality standards variance procedural rules

*The department may bring all or a portion of these rules to WPCAC for initiation in June.

Note: EPA Action Letter dated 5/10/2022 disapproved portions of SB358.

*The department may not initiate rule making on any of these topics; WPCAC will be notified as soon as possible.

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June Meeting Date Options

- June 3rd
- June 6th or
- June 8th (last possible date this calendar year)

Questions?

Contact:
Rainie DeVaney
rdevaney@mt.gov
Or Michael Suplee, PhD
msuplee@mt.gov

To submit comments or questions

Submit Comments or Questions

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

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