Rulemaking Framework Summary: Key Ideas, Rule Activity Responsibilities, Proposed Timetable

- Rulemaking will focus on development of an **Adaptive Management Program** for watersheds where there are point sources. Adaptive Management Plans (AMPs) under the program will be developed at different scales according to waterbody size (as a waterbody gets bigger – impacts to water quality are more complex to measure and quantify). Essential components of the program and plans are:
    - Identify watersheds needing AMPs and prioritize
    - Identify partners in the watershed
    - Identify and quantify sources (watershed inventory)
    - Identify where reductions will occur, describe management actions
    - Document implementation schedule and milestones
    - Measure progress and success
- AMPs will consider all sources impacting a waterbody, and prioritize phosphorus minimization unless unfitting for the situation.
- Rules will identify water quality indicators related to nutrient pollution and how they impact beneficial uses.
- AMPs should use information developed in existing water quality studies and plans (TMDLs) when available, and inform future studies and plans (TMDLs) when starting from scratch.
- AMPs will be implemented within permitting on an incremental schedule, considering operational costs, requiring continued monitoring to track progress, and may result in future pollutant reductions if limits are not succeeding.

Table 1. Summary of principal activities needing completion prior to rulemaking. The decision-making body in which each activity will probably be addressed is shown. Subcommittees meet between Nutrient Work Group meetings and will provide context for decisions at subsequent NWG meetings.

Activity	Main Nutrient Work Group	Sub-committee	Complete By (6 NWG meetings planned)	Date (2021)
Discuss Key Components of Adaptive Management Program	X		Meeting 1	5/27
Work on details of Adaptive Management Program and Plans, including procedural aspects, rolling review, adaptation		X	Prior to Meeting 2	6/10
Define overall Adaptive Management Program. **Initial discussion** of watershed-scale framework	X		Meeting 2	6/23
Work on details of watershed-scale framework; address approach for complex watersheds containing multiple point sources or which drain to lakes		X	Prior to Meeting 3	TBD
Adaptive Management Program scale framed. **Initial discussion** of response variables and harm-to-use thresholds.	X		Meeting 3	7/28
Work of details of response variables, harm-to-beneficial use thresholds, where measured, how often, etc.		X	Prior to Meeting 4	TBD
Complete response variable discussion. **Initial discussion** of process for identifying point source long-term nutrient targets, accounting for all factors impacting waterbody.	X		Meeting 4	8/25
Work on details for identifying point source long-term nutrient targets		X	Prior to Meeting 5	TBD
Complete discussion of point source long-term nutrient targets. **Initial discussion** of AMP-TMDL relationship.	X		Meeting 5	9/22
Work on details of AMP-TMDL integration		X	Prior to Meeting 6	TBD
Complete discussion of AMP-TMDL relationship. Complete discussion of outstanding issues prior to rulemaking.	X		Meeting 6	10/27

1.0 SB358 Rulemaking Framework: The New Law

Below is the text from the part of the statute that directs the department's rulemaking:

> (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 WATERBODY;
> (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.

2.0 Outline of Principal Rulemaking Components

Department Interpretation of New Statute: First and foremost, the rulemaking must focus on developing an **Adaptive Management Program** applicable to point sources and watersheds containing point sources. This rulemaking appears to have two broadly applicable components: structural and procedural. Each is outlined below. Topics which link directly to statute are shown in ***bold italics***. Also, aspects of each component will probably have to be addressed in guidance documents or Standard Operating Procedures rather than rule, but that will become clearer as we proceed.

A. Structural Components of the Rulemaking

1. Rules should define the ***Adaptive Management Program***
    a. What it is, what it does and does not do. The definition should capture the principal aspects of the program. Adaptive Management Plans (AMPs) are individual plans under the larger Adaptive Management Program.
        i. Adaptive Management Program and AMP Development
            1. Identify watersheds needing AMPs and prioritize*
            2. Identify partners*
            3. Identify and quantify sources and impacts
                a. Monitoring and analysis of response variables (more details in 2 below)
                b. Identify if watershed is mainly N or P limited
                c. Source identification and quantification (watershed inventory)
            4. Identify where reductions will occur, describe management actions (for example, CAFOs vs. municipal vs. NPS agriculture)
                a. Reduce 'driving' pollutant or identify engineering alternatives for the point source
            5. Loading budget must balance to meet identified nutrient thresholds. Implementation schedule and milestones in permit (incremental approach)
            6. Rules will require Implementation of operational adjustments and monitoring based on AMP recommendations
            7. Measure progress and success
                a. Evaluation of operational adjustments and quantification of reductions and instream effects achieved

**Will require a department coordinator (DEQ staff)*

2. Rules define different operating scales, by waterbody size. The scales will lay the framework for response variable expectations and methods, point and nonpoint source analysis, and other components within the Adaptive Management Program. Rules should perhaps also allow for complex watersheds containing multiple point sources or which drain to lakes.
    a. Large Rivers
    b. Small Rivers and Wadeable Streams
3. Rules define response variables and thresholds, the best tools to assess the response variables
    a. Large Rivers
        i. Variables: pH, nuisance algal growth, dissolved oxygen, total dissolved gas, maybe also total organic C
        ii. Tool: water quality modeling (e.g., QUAL2K, AQUATOX)
        iii. Seasonality
    b. Small Rivers and Wadeable Streams
        i. Variables: Nuisance algae growth (W. MT), DO delta (E MT), possibly DO and pH (using continuous datasets), select biometrics (W and E MT)
        ii. Tool: upstream/downstream monitoring around POTW; water quality modeling for small rivers/streams where larger POTWs choose to pursue that work
        iii. Seasonality
    c. Decision rules regarding findings about the response variables
        i. Rules will define how to determine if instream beneficial uses are harmed and would therefore require nutrient permit limits based on the data collected in 3 (a) and (b)
            1. Case-by-case determination will be in the AMPs; emphasis presumably will be on the response variable findings and less on the concentration of nutrients
            2. If no near-field effects, rules should provide for some caution to protect against potential far-field effects from the non-target nutrient
    d. Rules must lay out how long-term target nutrient concentrations are identified for point sources shown to be harming instream beneficial uses, while ***reasonably balancing all factors impacting the waterbody*** and ***prioritizes minimization of phosphorus, taking into account site-specific conditions***
            1. Use existing scientific data for region, reach-specific modeled criteria, and locally collected data from the waterbody
                a. Department studies and reports, other scientific literature
                b. Bioavailability of P in POTW effluent may be considered
            2. Consideration to be given to the magnitude and extent of nonpoint source nutrient pollution already in waterbody, and degree to which the point source(s) alone can reduce concentrations below algae growth saturation points

3. Rules need to provide for identifying a N limit for the normal cases where P is prioritized
4. Rules must also define situation(s) where P-control prioritization does not apply and N will be the target nutrient
5. Rules should define acceptable nutrient thresholds where other human caused pollutants interfere with biological response variables (toxics or turbidity).
6. Rules should describe options ***pertaining to whether the point source is new or existing and whether the receiving waterbody is impaired or unimpaired***
    a. More stringent limits for new/increased discharges
    b. More stringent limits for impaired waterbodies

4. Integration of the Adaptive Management Program and Plans with TMDLs
    a. A TMDL is the mechanism by which to evaluate point and nonpoint sources, their pollutant contributions to the larger watershed, and the reductions necessary to meet water quality standards; rules must define how TMDL findings integrate with a specific point source Adaptive Management Plan. Watershed-wide coordination is necessary.
        i. If TMDL exists for AMP watershed, leverage existing study to develop AMP, so that AMP aligns with document
        ii. If no TMDL exists - response variables, loading, and necessary reductions will need to be reviewed by department before incorporation in TMDL (DEQ staff)
    b. Rules should be clear the TMDL requires the final (or currently-identifiable) nutrient endpoints to be incorporated into the TMDL and be met at the end of a "term"
        i. TMDL waste load allocations and implementation term will align with permitting's approach and schedule (phased approach)
        ii. TMDLs require reasonable assurance regarding pollutant reductions and point and NPS reductions will need to be accounted for in order to achieve water quality standards, therefore NPS reduction achievement should be addressed in rules
        iii. Rules should clarify the TMDL will allow ***incremental*** progress by POTW to meet final nutrient end-point values in the TMDL

B. Procedural Components of the Rulemaking

1. With each AMP, rules must define process to identify and implement nutrient permit limits throughout <u>all</u> phases under the Adaptive Management Program
    a. Before *in situ* studies of effect variables in receiving waterbody are complete
    b. After findings and conclusions about effect variables are complete
    c. When the nutrient limits are identified via 3(d) in Section A above
    d. After any updates are instituted due to integration with TMDL
2. Rules must define long-term rolling procedure for "adaptation" under the Adaptive Management Program

a. Should rules allow POTWs to “experiment” with treatment processes and then observe effects in river/stream? What timescale is this to occur over?

3.0 Proposed Meeting Milestones

To meet the statutorily required rulemaking deadline of March 1, 2022, draft rules need to be completed by early November 2021. Six Nutrient Work Group meetings are planned; below are proposed milestones by which principal rulemaking components should be completed. (Note: subcommittee meetings between Nutrient Work Group meetings will likely carry out additional work.)

Meeting 1: Begin discussion of what the Adaptive Management Program is and does.

Meeting 2: Complete discussion on the Adaptive management Program. Begin identification of response variables, where they apply, how they will be measured, and the harm-to-beneficial use thresholds that will be used.

Meeting 3: Complete discussion on response variables. Begin discussion of how long-term target nutrient concentrations are identified for point sources shown to be harming instream beneficial uses.

Meeting 4: Complete discussion on process for identification of target nutrient concentrations.

Meeting 5: Begin discussion of AMP-TMDL integration, and the rules that will guide permit coverage under all phases of an AMP.

Meeting 6: Complete discussion of AMP-TMDL integration and permit coverage rules and any other topics necessary to complete rulemaking package.