

NUTRIENT CORE ADVISORY TEAM MEETING

MONDAY, SEPTEMBER 8, 2014, 1:00 PM – 4:00 PM

NUTRIENT CORE ADVISORY TEAM:

<u>Representative</u>	<u>Stakeholder Group</u>	<u>Affiliation</u>
Walt Baker	Chairman	DEQ/Division of Water Quality
Jay Olsen	Agriculture	UDAF, Advisor
Don Leonard	GSL Artemia	Great Salt Lake Brine Shrimp Cooperative, Inc
Theron Miller	POTWs	Jordan River Farmington Bay Water Quality Council
Darwin Sorensen	Surface/Groundwater	Utah State University
Tom Ward	Public Utilities	Salt Lake City
Tina Liadlaw	EPA	
Cameron Diehl	Municipalities	Utah League of Cities and Towns
Jesse Stewart	Public Utilities	Salt Lake Public Utilities
Jill Houston	POTWs	Central Davis
Ty Hunter	DNR	State Parks
Leland Myers	POTWs	Central Davis
Neils Hanson	Agriculture	NRCS
DWQ Support Staff		
Leah Ann Lamb	DWQ	Assistant Director; Monitoring/ WQ Management/ GW/Eng.
John Mackey	DWQ	
Paul Krauth	DWQ	
Carl Adams	DWQ	Watershed Protection Section
John Kennington	DWQ	
Eric Gaddis	DWQ	Water Quality Management Section
Scott Daly	DWQ	Watershed Protection Section
Jeff Ostermiller	DWQ	Water Quality Management Section
Absent		
Jeff DenBleyker	Science Expert	CH2MHill
Christine Pomeroy	Stormwater	University of Utah
Melissa Ure	Agriculture	Utah Department of Agriculture and Food
Thayne Mickelson	Agriculture	Utah Department of Agriculture and Food
Nick VonStackelberg	DWQ	Water Quality Management Section
Jim Web	Agriculture	Circle 4 Farms

PURPOSE

Seek early engagement from high-level representatives of stakeholder groups as the Division of Water Quality (DWQ) develops a plan for establishing water quality standards and associated nutrient reduction programs and policies for nutrients.



MEETING GOALS

Get feedback from each member on how their stakeholders view nutrient criteria and actions they have undertaken and develop a path forward.

AUDIO RECORDING:

1:00 PM – WELCOME AND INTRODUCTION

WALT BAKER

1:10 PM REVIEW-UTAH’S OVERALL NUTRIENT STRATEGY

REVIEW OF ACCOMPLISHMENTS AND NEXT STEPS (ERICA GADDIS)

- Review of handout demonstrating the accomplishments of DWQ, the Nutrient Core Team, and related subcommittees
 - Tools and studies include the POTW Cost Study, Economics Benefits Study, and Recovery Potential tool. Upcoming work includes the GSL nutrient synthesis study, implementation of TBPEL, POTW optimization strategies, TBNL.
 - The Utah Department of Agriculture and Food is developing the Agricultural Certification for Environmental Stewardship (ACES) to address agricultural NPS pollution.
 - Developing headwater numeric nutrient criteria with a draft anticipated early 2015.

COMMENTS/DISCUSSION:

- None.

ACTION ITEMS:

- None.

NATIONAL UPDATES (WALT BAKER)

- Toledo Ohio recently experienced contamination of drinking water supply due to a blue green algae bloom in Lake Erie, the drinking water supply for the city. The algae bloom is caused by excess nutrient pollution and releases toxins into the water that are harmful to human health and wildlife.
- A Wisconsin legislative initiative recently implemented stringent statewide NNC. As a result of public response to the rule, Wisconsin determined that treatment works will have the option to pay for nutrient loading facility discharge permit limits.
- Montana submitted nutrient criteria package to EPA for review including NNC for nitrogen, phosphorus, and rules for variances.
- Minnesota recently proposed NNC. (Tina). Discussion.

COMMENTS/DISCUSSION:

- None.

ACTION ITEMS:

- None.

OTHER UPDATES (ALL)

- Agricultural Certification for Environmental Stewardship (ACES). Jay Olsen. UDAF is reviewing the ACES workbook to include recommendations from Region 8 EPA. The Petroleum storage requirement for Spill Prevention, Control, and Countermeasure (PSCC) will be withdrawn due to concerns from EPA and changes in the new proposed EPA rule.

COMMENTS/DISCUSSION:

- None.

ACTION ITEMS:

- None.

DISCUSSION OF ROLE OF NUTRIENT CORE TEAM MOVING FORWARD (WALT BAKER)

- DWQ proposed involving the Nutrient Core in future NNC developments including TBNEL, headwaters NNC, and site specific criteria development but is proposing that the CORE meeting frequency be reduced to twice per year.

COMMENTS/DISCUSSION:

- None.

ACTION ITEMS:

- None.

**1:35 PM TECHNOLOGY BASED PHOSPHORUS EFFLUENT LIMITS FOR PHOSPHORUS (R317 -1-3.3)
(RECORDING TIME :::)**

REVIEW OF RULE AND CHANGES IN RESPONSE TO PUBLIC COMMENTS (JOHN MACKEY)

- Presentation by John Mackey summarizing the Technology Based Phosphorus Effluent Limits rule.
- The Technology Based Phosphorus Effluent Limits (TBPEL) rule was reviewed in public comment for mechanical POTWs and discharging lagoon treatment systems. Mechanical plants will have 5 years to implement 1 mg/L TP and lagoons will establish a maximum ceiling of 125% of current phosphorus load.
- Variances included waters with TMDL limits, demonstration of economic hardship, demonstration of protected water quality, innovative alternatives with commensurate phosphorus reduction.
- Monthly influent and effluent monitoring for nitrogen and phosphorus is required for all facilities. All facilities currently monitor on a monthly basis or when discharging, however, nitrogen and phosphorus are not included in current monitoring efforts.
- Timeline: Public comment for change in proposed rule closes October 15, 2014, proposed effective date is January 1, 2015, determination of variance deadline is January 1, 2018, and full implementation by January 1, 2020.
- Benefits include removing 1.9 tons per day TP from Utah surface waters, reduced phosphorus accumulations/cycling, and it is achievable, economic, and consistent.

COMMENTS/DISCUSSION:

- Is the Water Quality Board considering adjusting the 1.4% Median Adjusting Gross Household Income? Not currently, but the criteria have been amended to allow for other forms of economic hardship.
- Comment suggested that any facility receiving a variance also be required to monitor to demonstrate qualifications.
- The original rule proposed the term exception in place of variance. Based on public comment the term variance was preferred because of how it is defined in State rules and that it is a widely excepted legal term with a specific definition.

ACTION ITEMS:

- None.

PROCESS FOR EVALUATING VARIANCE REQUESTS (JEFF OSTERMILLER)

- A variance may be considered when current conditions are not affected by nutrients and can assimilate nutrient discharges.
- DWQ is working on an approach and guidance for variance requests to show what is expected. The approach will need to be scientifically defensible as a water quality based effluent limit

COMMENTS/DISCUSSION:

- Variances will be reevaluated periodically to account for waterbodies with multiple stressor relationships. For example, if organic matter relationships in the Jordan River change, nutrients may play a greater role in impairment of dissolved oxygen.

ACTION ITEMS:

- None.

DISCUSSION: IMPLEMENTATION (JOHN MACKEY)

- None.

COMMENTS/DISCUSSION:

- None.

ACTION ITEMS:

- None.

2:10 PM OPTIMIZATION (RECORDING TIME :::)

REDUCING NITROGEN FROM POINT SOURCES THROUGH OPTIMIZATION (LELAND MYERS/PAUL KRAUTH)

- Paul Krauth presentation on optimization.
- Optimization is specific to nitrogen and is not relevant to achieving TBPEL. Can we take an existing facility and increase its functionality.
- Process optimization focuses on adjusting how the treatment process is operated and would not involve increased costs and infrastructure
- Facility optimization focuses on how infrastructure at the facility can be changed to improve nutrient removal.
- Optimization focuses on re-engineering and re-educating treatment plants and plant operators. The education component first allows for the plant operators to take ownership in the process and fully understand how the process works.
- Optimization may also reduce treatment costs.
- DWQ is proposing optimization to be included in rule and require all treatment plants to participate.

COMMENTS/DISCUSSION:

- Operator training also allows the operator to manage the plant in a way that allows them to increase nitrogen removal beyond original plant design capacity.
- Is there a risk of putting the plant in a constrained operational situation where it would be difficult to deal with changes in treatment conditions like flow? Conditions like these would be evaluated during the plant by plant evaluation process.
- This is a proactive approach and is desired over the alternative of forced regulation.

ACTION ITEMS:

- None.

2:45 PM TECHNICAL BASIS FOR UTAH NUTRIENT STRATEGY (RECORDING TIME :::)

NUTRIENT THRESHOLDS (JEFF OSTERMILLER)

- Ecological Responses to Nutrients presentation
- Technical documents on ecological indicators and rationale for headwater NNC.
- Regional NNC approaches include reference site distributions and stressor response models.
- DWQ is using multiple lines of evidence approach by looking at ecosystem function and ecosystem structural measures.



- Functional groups include:
 - Nutrient diffusion substrate examines nutrient limitation and predicts how productivity responds to increasing nutrient concentrations.
 - Whole stream metabolism examines the amount of respiration and consumption in aquatic community to estimate how dissolved oxygen responds to varying nutrient concentrations.
 - Organic matter standing stock measures how much organic matter is being stored in a reach and the related stream response
- Structural groups include:
 - TITAN evaluate the how macroinvertebrates respond to increasing or decreasing nutrient concentrations.
 - Biologic assessments that look at the organisms observed at a site compared to the organisms expected at that site.
 - Benthic algae assessed to determine the amount of algae at which recreationists no longer choose to recreate in a particular water body.
- Results from structural and functional analyses will be used to establish NNC for headwaters, used in site-specific standard development, modify indicator values, and aid in evaluating water quality improvement projects.

COMMENTS/DISCUSSION:

- The amount of benthic algae acceptable is a cultural issue and varies place to place.
- Since many of the responses based on respiration and decomposition, can the indicators be reduced to two or three groups are that fundamentally different from one another?

ACTION ITEMS:

- Core Team review of Technical Rational summary document.

COMMENTS/DISCUSSION:

- None.

ACTION ITEMS:

- None.

3:15 PM DERIVING HEADWATER CRITERIA (RECORDING TIME :::)

ELEMENTS OF NNC (JEFF OSTERMILLER)

- Presentation by Jeff Ostermiller.

COMMENTS/DISCUSSION:

- None.

ACTION ITEMS

- None.

DISCUSSION: USING THRESHOLDS AND RANGES TO SELECT NNC FOR HEADWATERS)

- Favorable headwaters stream characteristics include: 1) reference based goals are generally attainable 2) fewer stressors compared to higher order streams 3) good recovery potential.
- DWQ monitoring proposal is to collect six or more samples within the water year.
- Numeric criteria will be based on a not to exceed annual average.
- The approach will include a biologic confirmation to verify impairment of NNC. Do respiration, production, and other functional and structural indicators actually impact the organisms at a given site.

COMMENTS/DISCUSSION:



- How do we account for high nutrient concentrations associated with runoff events?

ACTION ITEMS

- Next 6 weeks
 - Complete technical reviews
 - Meet with forest service
 - Formal proposal to Core Team for review
- Present rule to Water Quality Board in December 2014/January 2015.

3:25 PM MEETING SUMMARY AND ACTION ITEMS

- Comments on change in rule due mid-October
- Tech team can expect documents for review in mid-September in preparation for an October Meeting

NEXT MEETING: NOVEMBER 17TH, 2014 AT 1:00PM IN DWQ RED ROCKS CONFERENCE ROOM