

NUTRIENT CORE TEAM MEETING

WEDNESDAY, JANUARY 25, 2012, 2:30 PM – 5:00 PM

ATTENDANCE: NEED TO VERIFY ATTENDEES WITH THE SIGN IN SHEET.

Moderator: Steve Avery

<u>Representative</u>	<u>Stakeholder Group</u>	<u>Affiliation</u>
Walt Baker	Chairman	DEQ/Division of Water Quality
Florence Reynolds	Drinking Water Utilities	Salt Lake City
Tina Laidlaw	EPA	USEPA Montana Office
Cameron Diehl	Municipalities	Utah League of Cities and Towns
Ron Davidson	Agriculture	UDAF, Assistant Director
Don Leonard	GSL Artemia	Great Salt Lake Brine Shrimp Cooperative, Inc
Erica Gaddis	Science Expert	SWCA Environmental Consultants
Leland Myers	POTW's	Central Davis
Jim Webb	Agriculture	Circle 4 Farms
Niels Hansen	Agriculture	NRCS, State Conservation Agronomist
Darwin Sorensen	Surface/Groundwater Interface	Utah State University
Craig Walker	Wildlife	Division of Wildlife Resources
Tina Laidlaw	EPA	USEPA Montana Office
Donna Spangler	Public Information Officer	DEQ
Ray Loveless	Agriculture	Technical Expert, Utah Department of Agriculture
<u>Support Staff</u>		
John Whitehead	DWQ	Assistant Director, Permits/Compliance/TMDL
Jeff Ostermiller	DWQ	Water Quality Management Section, program manager
Nick von Stackelberg	DWQ	Water Quality Management Section
Mike Shupryt	DWQ	Water Quality Management Section
John Mackey	DWQ	Engineering Section
Leah Ann Lamb	DWQ	Assistant Director, Standards/Assessments/Engineering/GW
Scott Daly	DWQ	Watershed Management Section
<u>Excused</u>		
Tim Smith	Division of State Parks	Acting Deputy Director
Merit Frye	Environmental Interests	National Rivers Council
Lincoln Shurtz	Municipalities	Utah League of Cities and Towns
Christine Pomeroy	Stormwater	University of Utah
Alan Clark	Wildlife	Division of Wildlife Resources, Deputy
Elise Boeke	Agriculture	NRCS, State Resource Conservationist

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.

2:30 PM - WELCOME, INTRODUCTIONS, AND PURPOSE OF MEETING:

-STEVE AVERY - TIME 0:00

- Steve welcomed stakeholders and turned time to Walt for introductions and a review of the November 30th, 2011 meeting Summary.

2:40 PM -REVIEW OF NOVEMBER 30TH MEETING SUMMARY, ANSWERS TO QUESTIONS ASKED AT THE LAST MEETING, AND LATEST DEVELOPMENTS IN NUTRIENT CRITERIA DEVELOPMENT

-WALT BAKER -TIME 0:15

- Roll Call.
- Ray Loveless requested a change in the Meeting Summary. His comment should be corrected to read manure is an "important resource" not an "important source."
- Otherwise, Members agreed that the November 30th meeting notes are a fair representation of the discussions that occurred during the previous Core Team meeting; DWQ will post these notes online.

2:50 PM - STAKEHOLDER PERSPECTIVES:

Members representing the interests of Drinking Water, Wildlife, and the Environmental Protection Agency presented the perspective of these stakeholder groups on the following:

- How does nutrient pollution affect your stakeholder group?
- What steps are your stakeholders taking to address nutrient pollution?
- What is the approach your group would suggest to address nutrient pollution?

SALT LAKE CITY PUBLIC UTILITIES PERSPECTIVE -TIME 6:00

FLORENCE REYNOLDS-WATER QUALITY AND TREATMENT ADMINISTRATOR WITH SALT LAKE CITY PUBLIC UTILITIES.

- The majority of the State uses well water sources for drinking water supply. About 75% of the State's population is along the Wasatch Front and contains numerous surface water treatment facilities. A few other areas in the State also have surface water supply, but the majority of the systems rely on well water sources. Most of the water resources on the Wasatch Front are high watershed reservoirs within protected source area with long standing source water protection programs in effect. Utah has a long history of protecting Class A waters by not allowing new discharges and requiring that they are maintained as drinking water sources.
- **Future of Water.** The population of the Wasatch front is growing and may demand development of new drinking water sources to meet demand. Regulations to protecting drinking water are also increasing which place more demand on treatment needs with increased cost and improved technology. Water availability will also tighten as a result of the climate in which we live. Reuse will likely become more of a reality to account for decreasing water supply beyond 2040. Drinking water will cost more in the future.

- **Nutrients impacts on Drinking Water Sources.** We do not see a lot of impacts to drinking water sources in UT from nutrients mainly because the State has proactively protected these sources and does not allow discharges to any source.
- **Nutrient Impacts.** There are a number of issues with treating drinking water with excessive nutrient loads. Nutrient loading is not consistent and related blooms are not the same from time to time. Since nutrients are not regulated, they are not proactively monitored. Nutrient impacts include clogging intakes, filter clogging, taste and odor problems, oxygen depletion, and pH fluctuations. Clogging requires manual removal and can cause mechanical failure of the intake system and can also result in less effective filtration. Algae can harbor bacteria and make disinfection less effective. Treatment with copper sulfate can cause the algae to die off but then requires treatment of taste and odor problems. Oxygen depletion in reservoirs can also affect taste and odor without the presence of excessive algal growth during reservoir turnover.
- **Regulatory impacts.** Disinfection byproduct production, which is regulated by the EPA, increases with the addition of disinfectants like chlorine. Increase algae potentially increase the need for disinfection along with the impacts. Cyanotoxins are proposed for future regulation and will likely result in increased treatment costs. EPA is unsure how to regulate these and there is uncertainty w/ the laboratory methods used to monitor
- **WTP Impacts.** Additional new equipment, change in processes, and treatment of reservoirs all result in increased treatment costs.
- **So let's not go there.** Maintain and support the current regulations that protect our drinking water supplies and limit algal blooms. We need to monitor and regulate nutrient loadings in future source areas and apply different regulations to recreational waters than to protected raw water sources.

COMMENTS/DISCUSSION:

- Will surface water sources be further developed or a shift from ground water to surface water sources as supply decreases beyond 2040?
 - It might be a reality if more surface water sources were available. Have looked at additional ground water sources which are not available on the Front. There is the potential to redistribute high quality sources for drinking water and low quality for other uses. We will likely find ways to segregate our water systems to provide high quality drinking water and lower quality water for other uses like irrigation.
- Do you remove organics to help control disinfection byproducts?
 - Yes, we try to remove organics through settling basins or chemical additions, use different disinfection methods like UV, or use of different treatment chemicals that result in less byproducts.
- What is the measure of protection that is currently in place?
 - Most current sources are high mountain sources and classified as Class A waters and are managed in a way that protects them from nutrient impacts.
- Are the future source areas mapped and potential impacts of these locations considered?
 - Yes, for example Mill Creek is a potential source and its use for dog walking can impact quality of the source water.
- Do recreational impacts relate to the act of recreation itself?
 - Yes. These can be mitigated by developing recreational facilities and educating public.
- Do some areas have to use alternative sources of water when algal blooms and taste and odor issues arise? **Time 31:10**
 - Occasionally, but not that often. A number of systems have already upgraded their treatment to treat for taste and odor problems.
- The focus here is on source protection. What is your sense of Salt Lake City's position w/ waters downstream of the treatment facility?

- Stormwater is a concern for the potential of nutrient pollution, but this would be addressed at the watershed level. We need to address residential uses and behavior through education because it is very difficult to set up a treatment facility to deal with stormwater sources.
- Is SLC vested in the downstream water quality? What efforts are being made to educate and minimize these impacts?
 - SLC Has a stormwater program to address impacts of stormwater from industrial and residential sources, monitor illicit discharges, illegal dumping, inappropriate practices, etc.
 - NRCS Conservation Innovative Grants through the Environmental Quality Incentive Program (EQIP) are emphasizing water quality particularly relating to water quality trading. Deadline for applications is March 31st. There could be some opportunity for a demonstration project in SLC.

ACTION ITEMS:

- Ron Davidson, Jeff Ostermiller, and Florence Reynolds will discuss the opportunity for NRCS Conservation Innovative Grant to study the potential for water quality trading.

WILDLIFE AGENCY PERSPECTIVE- TIME 41:30

CRAIG WALKER – AQUATIC HABITAT COORDINATOR – UTAH DIVISION OF WILDLIFE

- Utah Division of Wildlife Resources (UDWR) has two categories of users: Consumptive and non-consumptive users (wildlife watchers). The third group is conservation partners that participate in recovery efforts. The anglers and harvester and conservation partners are most impacted by water quality impacts. DWR's mandate is to maintain the health of fisheries in the state of UT, not including brine shrimp. We are interested because we are the stewards of wildlife in water in Utah. Fisheries need to be maintained in high quality in order to generate revenue to fund management activities. If water quality degrades from a sport fisheries perspective, sport fishers will reduce their participation, which results in decreased revenues.
- **How does nutrient pollution affect our stakeholders?** Nutrient pollutions concern DWR because it impacts the water important for fish. These include increased BOD and decreases in DO, increasing total phosphorus, and changes in algal communities, all of which can degrade fish communities. Often time these result from degraded riparian corridors. How we address riparian corridor health relates to the health of fish populations in streams and downstream reservoirs. These conditions negatively impact sport and commercial fishing experiences as well as non-sport species in downstream segments. Most current problems are at the juvenile stage and can cascade through all life stages of the fishery.
- **Steps DWR is taking to address nutrient pollution.** DWR has partnered with a number of agencies to restore and maintain UT fisheries. These including private land owners, BLM, USFS, and others to make use of other funding sources including 319 and stimulus funds for riparian corridor improvement. DWR has also used Blue Ribbon Fisheries Advisory Council funds, Habitat Council Funds, and Watershed Restoration Initiative funds.
- **Hatcheries are a very important part of maintaining fisheries.** Hatcheries have effluent and need to be managed to minimize the effects on downstream waters. DWR has begun to modernize hatcheries and use more efficient feeding methods to minimize effluent impacts.
- **Recreational opportunities on flat waters.** Boater access funding through federal aid represents 50% of funding, which is used to increase access points on flat waters and minimize impacts from fisherman.
- **Continue watershed protection activities.** Suggest a continue effort to partner with private and federal landowners to reduce riparian degradation, decrease nonpoint source runoff, and protect riparian corridors. Encourage the enhancement of flood plain connectivity and riparian health to improve water quality. This would lead to improved fisheries and improve fisherman access.

Comments/Discussion: Time 55:00

- One issue farmers in Utah have is that some they think effluent is enhancing the vegetation and do not understand why there is a problem.

- Any way to partner with local land owners and provide cost incentives is beneficial to both the land owner and fisheries. It would help to have a designation of where the problems are occurring to more clearly communicate the problem with local land owners and educated them on the impacts.
- Managing fish requires a range of nutrients and too little and too much are both a problem.
 - Cold water species have a narrower window of success whereas warm water fish can tolerate a wider range of conditions.
- Do we need to think about the window or can we just reduce nutrients and not worry about having too little?
 - DWR's goal is to improve watershed health and therefore manage the fishery based on how productive the system is. If cleaning up the watershed results in slightly less productive fishery we will deal with it. We manage the fishery based on how productive the fishery is.
- Pineview Reservoir is designated as a cold water fishery but is managed as a warm water fishery
 - These classifications need to be re-examined in UT. Some cold water fisheries don't support cold water species so we manage them to support species that do well in a particular water body. Also, customer demand requires warm and cold water fish.

ACTION ITEMS: NONE

EPA PERSPECTIVE - TIME 1:08:55

TINA LAIDLAW - EPA

- **History of Nutrient Criteria.** EPA began working on nutrient criteria in the early 1990's based on information that nitrogen and phosphorus were consistently the top pollutants on the 303(d) list's nationally. EPA set goal in the mid 1990's to implement criteria across the nation in 3 years and developed guidance documents to help States make progress toward implementing criteria. EPA also developed starting point recommendations based on Eco region reference distribution of nutrient concentrations. This approach was problematic because about 75% of sites will be impaired. Based on criticism to the reference approach, EPA shifted its policy to a stressor response approach.
- **National Scope of Nutrient Problem.** There is a wealth of additional documentation of the extent of nutrient pollution nationally from the EPA, National Research Council, USGS, and others. The EPA convened a Nutrient Innovation Task Group to help address nutrient problems. The EPA Wadeable Stream Assessment helped map the national extent of nutrient pollution and there are currently more than 14,000 nutrient listings nationally, but is most likely an underestimate because many states do not have a process for assessing nutrients. There are also a number of hypoxic zones, public health risks, and coastal areas showing signs of excessive eutrophication. Approximately 50% of US streams have medium to high levels of nutrients and one third of US Estuaries are eutrophic. Nitrate violations are also increasing in frequency at public water supplies nationally.
- **Nutrient Criteria Nationally.** Some states have adopted statewide or site specific criteria. In Florida, EPA promulgated nutrient criteria because Florida's narrative criteria was not sufficient to comply with the Clean Water Act. Criteria is being implemented in two phases: Phase 1 for lakes and flowing waters and Phase 2 for estuaries and coastal waters. Phase 1 was finalized in 2009 and will go into effect in March of 2012. Florida is planning to implement its own numeric criteria before March 2012. A science advisory board completed review of methods and rules for Phase 2 and is anticipated for implementation in 2012.
- **EPA's Frame Work.** In March of 2011 EPA released a Nutrient Framework Memo (Stoner Memo) to help guide States in the development of criteria. Components of the framework includes the prioritization of watersheds statewide, set watershed load reductions, ensure effectiveness of point source permits, develop targeted Ag BMP's, verify load reductions are in place, annual reporting, and development of a workplan with a schedule for adopting criteria. EPA is also fostering a State-EPA Numeric Nutrient Criteria Implementation Workgroup to identify viable approaches and barriers. EPA developed N and P Pollution Data Access Tool to provide resources for criteria development and is developing Nutrient Permitting Guidance for states.

- **Colorado Nutrient Criteria.** CO is using a phased implementation strategy for developing criteria including two regulations; Regulation 85 and Regulation 31. Regulation 85 proposes technology based effluent limits for a subset of dischargers with exemptions for lagoons and a number of smaller facilities. Regulation 31 proposes numeric criteria for streams/river and lakes/reservoirs to address aquatic life support, recreational support, and protection of direct use water supplies. CO will phase implementation to first include segments upstream of dischargers and Direct Use Water Supplies in 2012. Numeric criteria will be implemented for nitrogen in 2017 and in 2022 for segments downstream of point source dischargers. CO is developing a methodology assessing water quality impairments based on their narrative standard.
- **Montana.** MDEQ proposed to initiate rulemaking in July 2012. Montana is focusing on the science behind their criteria for wadeable streams and uses WQS variances as a key component of point source compliance. MDEQ plans to adopt a trading policy to begin to effectively address NPS.MT Draft Criteria isEco-regionally base.
- **Variance Statute.** MT SB 367 statute requires that MDEQ grant general variances for 3 categories of dischargers. These include values for facilities greater than 1 MGD, less than 1 MGD, and Lagoons which are capped at their current load. Values will be revisited in 2016 and lowered and will ultimately discharge at the highest attainable condition.
- **Areas of flexibility.** MT's flexibility includes a phased adoption of WQS, Implementation efforts to achieve incremental progress in reducing nutrient loads, use of variance to address stringent criteria, use of trading, use of compliance schedules to meet nutrient WQBELS.
- **CWQ context.** Impaired water listing – MT is addressing a process for listing based on a narrative standard. Will a PS have potential to cause or contribute to a violation downstream?
- **CWA Compliance Issues.** The criteria must protect the most sensitive use, be based on scientific rational, and has to look at sufficient parameters.
- **WQS Considerations.** Adoption of numeric criteria helps to restore impaired waters, streamlines the development of TMDLs and helps protect high quality waters.

COMMENTS/DISCUSSION:

- Will Florida's proposed rule remove the need for EPA's promulgated rules?
 - The focus of the State rule is on Phase 1 waters and EPA would rescind their promulgation if Florida's proposed criteria is approved by EPA.
- Would publicly owned treatment works be placed on some kind of compliance schedule.
 - Yes, appliance schedules would be used to meet the criteria and would be evaluated as permits come up for renewal.
- MT's criteria is more stringent than CO.
 - EPA provided comment to CO and emphasized that the criteria in CO needs to be protective of the use.
- MT's lake and reservoir criteria are seasonal.
- Is the variance a technology based standard for MDEQ?
 - Yes, it is but will be ratcheted down over time to the highest attainable use. Over time the facility will be able to afford more and make additional load reductions.
- What is economic hardship?
 - The EPA 131.10.g factors, the regulation that allows for variance, determines that the facility must go through a procedure to determine if hardship exists. Factors considered include median house hold income and the cost of treatment upgrade.
- If they are applying variances to discharge facilities, will you anticipate seeing reductions even though they all have variances?
 - There are a number of communities that will be required upgrade to achieve the limits set by the variance that is valid until 2016. Beyond 2016, there is potential for additional upgrades, increased costs, and improved nutrient reductions.

- To meet the most stringent criteria would require RO.
- Has there been any consideration of the energy needed to go to RO
 - These issues have been discussed but are not a part of MT's proposed criteria.

ACTION ITEMS:

- None.

4:20 PM DISCUSSION ON WHAT WE HEARD TODAY AND ISSUES AND RECOMMENDATIONS COMPILED FROM PHONE INTERVIEWS

-STEVE AVERY -TIME 2:02:40

- Walt Baker – What is the reaction of the EPA's prospective presentation?
 - Some folks did not realize it would take RO to achieve new nutrient criteria. 70% of UT stream miles are above 0.3 TN. Any stream above 0.3 would require end of pipe limits of 0.3 TN.
- Steve gave a summary of his phone interviews.
 - There were more areas of agreement than disagreement among stakeholder members. Noone said to we don't need to do anything. Cost, common sense, attainable use, social impacts were common concerns among members.
- Who else should be at the table?
 - BLM, FS, Governor's Office, Legislators. When it gets to the right time we will include them.
- Areas of disagreement
 - one person said that the narrative is fine, others said we have to develop numeric standards

Comments/Discussion:

- Can we assign subgroups to address categorization, benchmarks, and draft standards?

Action Items:

- Assign a subgroup to address a categorization system – volunteers (Darwin, Craig, Leland, Merritt, Erica). Assign a second subgroup to review benchmarks for each category and prepare draft standards for each category.
- A subgroup to discuss implementation will be organized at a later date.

4:00 PM WRAP-UP AND NEXT STEPS

-STEVE AVERY

Action Items:

- Schedule Don Leonard and Merritt Frye to present at the next meeting.
- Next meeting: March 21st 2PM-5PM.