

**Utah Water Quality Task Force Meeting  
Minutes**

June 17, 2015 9:00am-12:00am  
Utah Division of Water Quality  
195 N. 1950 W.  
Salt Lake City, Utah

Attendance

Name	Representing
Jim Bowcutt	DEQ/DWQ
Gertrudys Adkins	Utah Division of Water Rights
Walt Baker	DEQ/DWQ
Sonja Wallace	SITLA
Kate Johnson	DEQ/DDW
Carl Adams	DEQ/DWQ
Rhonda Miller	USU Extension
Marian Rice	Salt Lake County
LuAnn Adams	UDAF
Nancy Mesner	USU
Norm Evenstad	NRCS
Bronson Smart	NRCS
Jeff Ostermiller	DEQ/DWQ
Bill Zanotti	UDFFSL
Jay Olsen	UDAF
Jeremy Jarnecke	BLM
Mark Quilter	UDAF
Robert Hougaard	UDAF
Kristy Davis	UACD

**LuAnn Adams (UDAF)**- Welcome and Introductions

**LuAnn Adams (UDAF)**- Water Quality Task Force Charter (See attached Final Document)

- In the past UDAF and DWQ would co-chair the Water Quality Task Force, and the person taking charge of the meetings would change every other year. It is proposed UDAF now chair the AFO committee full time, and that DEQ chair the Water Quality Task Force full time.
- It was confirmed that an annual report be given to the Water Quality Board and the Utah Conservation Commission every year. The UPCD can be reported to if that organization requests it.

- The Nonpoint Source conference will be held “as needed”. The next one may be held as soon as next year, and will need to be put together by the I&E subcommittee of the Task Force.
- It was determined that in the section identifying the agency participants of the Task Force charter that only the departments will be listed. It will not be broken out into the various divisions.
- Need to invite the following agencies to participate: Army Corps. Of Engineers, Division of Oil Gas and Mining, USGS, Farmers Union, League of Cities and Towns, Association of Counties, Utah Geological Survey.
- Walt Baker made a motion to approve the Charter as written, Rhonda Miller seconded the motion, and all approved it.

**Bronson Smart (NRCS)**- Emergency Watershed Protection Program (See attached presentation)

- The EWP program focuses on disasters, and can be used to fund projects within 60 days after a disaster occurs. Once an application for assistance is submitted to the NRCS it is either funded or put on a waiting list.
- It has been several years since the NRCS has received funding for this program, but it has still been able to function with funding that had been awarded previously.
- The NRCS is the entity that designs the projects, and it usually takes around 220 days to complete a project. Once a project is complete it is up to the sponsor to maintain that project.
- Eligible applicants can include: local governments, state subdivisions, and tribes. Grant recipients need to provide 25% cost share for the project. Conservation Districts cannot sponsor a project since they are not technically a government entity.
- This funding can be used to do canal repairs if they are required to stabilize a canal and avoid canal failures.
- The Logan River was an EWP project that was a little rough at first, but a large amount of vegetation has been replanted now, and it looks much better.
- It would benefit everyone if more communication took place between the relevant agencies before, during, and after project implementation.
- Since 2006 over \$200 million has been spent on projects around the state.

**Carl Adams (DEQ)**- Water Quality Task Force Monitoring Subcommittee Meeting Update

- The Monitoring subcommittee met on April 22<sup>nd</sup>.
- It was determined that the responsibility of this subcommittee is to: evaluate the monitoring of BMPs, evaluate the development of watershed management plans, and evaluate the effectiveness of the volunteer monitoring program.
- Sampling Analysis Plans (SAPs) were discussed, and it was indicated that the guidance for SAPs is found in the strategic monitoring plan. However, the expectations of what a SAP should include needs to be better communicated, and a more user friendly guidance document needs to be developed. Right now there are 10 elements with 8 to 10 sub-elements that need to be addressed in each SAP.
- No point source discharges will be approved on category I waters.
- There needs to be biological confirmation of the nutrient standards.
- There will be an increased monitoring effort in the headwaters of the state to better understand the impacts that nutrients are having biologically in those waters. The Department of Agriculture and Food have agreed to work with DWQ to provide the technical assistance required for this monitoring, and staff has been hired to do the assessments.

**Robert Hougaard (UDAF)**- New UDAF Staff Changes

- About a year ago a legislative audit was conducted looking at the Local Conservation Districts, and their Employees, and if the delivery method for the funding being used by these entities were being effectively used. This Audit determined that it was best if funding was run through the Conservation Commission to the Districts, and that specific UACD and District staff became UDAF employees.
- UACD's main roll should be to lobby on behalf of the Conservation Districts.
- On the 29<sup>th</sup> of June all UACD and District employees will become UDAF employees. Even with these changes, their job descriptions will not be much different than they were before the transition. This will include 4 local watershed coordinator positions.
- The NRCS will be giving \$500,000 to help supplement the salaries of some of these employees.
- Overall the transition seems to be going smoothly, and good communications between partners will be key as this transition moves forward.

- RJ Spencer will be the individual that oversees this transition,

**Walt Baker (DEQ)**- Changes to the Waters of the State (See attached handout).

- How the waters of the State are identified has been a big issue and has potential impacts on Section 404 and 402 of the Clean Water Act. It will also impact how assessments, standards, and TMDL priorities will be established.
- Over 1 million comments were received on the new guidance.
- Not much will change in the Eastern States, but may have big impacts on the Western States where there is less water.
- According to the new regulations a waterbody will be considered Waters of the U.S. if it fits the following criterion:
  1. All waters that are used in used in interstate and foreign commerce
  2. Interstate waters, including wetlands
  3. Territorial Seas
  4. Impounded waters
  5. All tributaries to territorial seas
  6. All waters adjacent to the waters mentioned above
  7. Specific waterbodies identified in the document (none in Utah).
- Most Waterbodies in the state of Utah will be considered waters of the state. Rills and erosional features are not considered waters of the state.
- Everything below Yuba Reservoir on the Sevier River will not be considered waters of the U.S. This is due to the lack of recreational use, and commerce below Yuba Reservoir.
- The State may come up with a permit for non-jurisdictional waters. It is difficult to regulate anything if it is not a federal mandate.

**Jim Bowcutt (DEQ)**- FY-2016 Grant Awards (see presentation and handouts)

**Jeffery Ostermiller (DEQ)**- Update on the Development of Utah's Nutrient Criteria (See Presentation)

- Headwaters make up 50% of the perennial waters in the state.
- Just because high nutrients are observed in a headwater stream, it doesn't necessarily mean that it is impaired. That is why it is necessary to do site specific studies on some of these waterbodies.

- What is considered a headwater will be determined by following the criteria of a Class 1 water as identified in state code.

#### **Jim Bowcutt (DEQ) -Utah NPS MOU**

- All of the changes that have been recommended by all the agencies were reviewed.
- A bullet was added under UDAF's section which stated that they would consider the environmental impacts of each project funded by their various programs prior to implementing them.
- A few name changes need to be made to the contact section.
- A Final draft will be distributed to the participating agencies for approval of their legal advisors in the next couple months.
- Hopefully a final signed document will be completed by the end of the calendar year.

#### **Items of Interest**

- BLM and USGS are working on an assessment on intermittent and ephemeral streams and have found that not much data exists on these drainages, so they have begun collecting more data on this.
- Salt Lake County is currently updating their Environmental Stewardship Plan. They are also in the process of implementing various projects along the Jordan River. The Jordan River Symposium will be held on November 18-19 at the Utah Cultural Celebration Center.
- Both of the source analysis people in the Division of Drinking Water are retiring. The Bothwell ground water study has stalled out, mainly due to lack of interest from the local community.
- USU put on 8 AFO/CAFO workshops in January and February
- UDFFSL continues to work with private landowners to implement forest management plans. Timber harvest has actually increased recently.
- Next Meeting will be held October 7<sup>th</sup>.
- Topics for the next meeting include:
  - the Salt Lake County Survey

- The Division of Water Quality's public perception survey
- 2014 Integrated Report with changes
- Meeting adjourned

**CHARTER**  
**for the**  
**UTAH WATER QUALITY TASK FORCE**

**The Mission of the Utah Water Quality Task Force** is to facilitate coordinated and holistic management of Utah's watersheds for the protection and restoration of Utah's surface and ground waters.

The Utah Nonpoint Source (NPS) Program is administered by the Division of Water Quality (DWQ) of the Utah Department of Environmental Quality (DEQ) through the coordination and assistance of the Utah Water Quality Task Force, and its established ad hoc committees. The responsibility of the Utah Water Quality Task Force is to advise the DEQ and Utah Department of Agriculture and Food (UDAF) in the holistic management of Utah's watersheds, with a focus on reduction of nonpoint source pollution.

The Utah Department of Agriculture and Food has been delegated management and implementation responsibility for agriculture NPS pollution mitigation via a memorandum of understanding with DEQ. The chairmanship of the Water Quality Task Force is shared by the Executive Directors of the DEQ and UDAF or their designated representatives. DEQ is responsible for chairmanship.

**The functions of the Utah Water Quality Task Force arise from its core values:**

- water quality is best protected and maintained through locally led coordinated resource management planning and implementation;
- all citizens of Utah have responsibilities and some level of accountability as stewards of our land and water;
- the most effective and proven approach to protecting and improving our water is through voluntary actions; and
- incentives in the form of financial and technical support are a critical component of effective water quality protection and watershed management.

**Specific functions of the Utah Water Quality Task Force include:**

- Serve as a coordinating body for the review and direction of federal, state and local NPS management programs to assure that these programs are implemented consistent with the Utah Nonpoint Source Management Plan (approved by EPA in 2013 and as amended or revised);
- Promote and foster better alignment of relevant programs to assure efficient and effective watershed management efforts that improve water quality, in addition to other benefits;

- Provide a forum for the exchange of information on activities which reduce nonpoint source pollution;
- Provide a forum for discussing and implementing project monitoring (before and after)
- Provide a common storage area for all data collected
- Provide a forum for discussion and recommended resolutions to program conflicts;
- Work with partner agencies to coordinate the prioritization of watersheds for nonpoint source activities. Prioritization criteria should include local involvement (e.g. locally led watershed committees), effective use of partnerships, and evidence of leveraged sources of funding;
- Establish and implement a process for field inspections of nonpoint source mitigation activities on public and private lands to ensure that best management practices are installed and functioning as designed to protect water quality; and
- Serve as a coordinating body for outreach and education to increase public awareness regarding nonpoint source pollution management.

**Specific Products of the Utah Water Quality Task Force include:**

- The Annual Utah Nonpoint Source Program Report. This report is required by EPA, but is not restricted to 319 funded efforts. The report is prepared by DEQ in coordination with UDAF. The task force will assist in providing content, advice and review. The report will highlight the planning efforts, projects, and successes statewide that are possible with the broad coalition of partners encompassed in the Water Quality Task Force;
- Presentation of the Annual Utah Nonpoint Source Program Report each year to the Utah Water Quality Board and the Utah Conservation Commission.
- Organize a NPS Conference periodically to share information, highlight successes, and improve networking throughout the state and region.
- Provide annual water quality awards to individuals and organizations whose actions or products have protected water quality and exemplified good stewardship of our waters.
- An institutional repository (e.g. a web site) that includes originals or links to documents, reports, minutes, etc.

**Membership:**

The Task Force includes representation of those entities with programs that could potentially cause or mitigate nonpoint source water pollution. As new NPS program components are developed and implemented, additional entities will be invited to participate. Current membership includes representatives of:

- Local Governments
- U.S. Army Corps of Engineers, Planning Division
- U.S. Department of Interior Bureau of Land Management
- U.S. Department of Interior Bureau of Reclamation
- U.S. Department of Interior National Park Service
- U.S. Department of Agriculture Forest Service
- U.S. Department of Agriculture Natural Resources Conservation Service
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- U.S. Geological Survey
- Utah Association of Conservation Districts
- Utah Department of Agriculture and Food
- Utah Department of Environmental Quality
- Utah Department of Natural Resources
- Utah Department of Transportation
- Utah Farm Bureau,
- Utah State University Cooperative Extension
- School and Institutional Trust Lands Administration
- League of Cities and Towns
- Farmers Union
- Utah Association of Counties

The Task Force will meet quarterly, but may meet more frequently if deemed necessary. A call for agenda items will be circulated to the membership prior to each meeting. To the extent possible, meetings will focus on sharing successes, improving communication between partners so that coordinated management within Utah's watersheds can be accomplished and providing information of interest to the partner organizations represented at the Task Force meetings.

### **Subcommittees of the Water Quality Task Force**

The Task Force shall have two standing subcommittees and assure that these will remain active and effective. Other ad hoc subcommittees shall be formed as needed.

The Monitoring Subcommittee will work closely with the Utah Water Quality Monitoring Council to address monitoring needs associated with nonpoint source water quality implementation projects. The subcommittee will evaluate monitoring practices and programs conducted by different partner agencies within priority watersheds, with the goal that monitoring programs are designed and implemented to effectively evaluate the environmental benefits of BMP implementation. The subcommittee shall also assess behavior change and adoption of management plans by cooperators. The subcommittee will assure

that each funding program monitors operation and maintenance of BMPs for the life of a project. This subcommittee will also foster and facilitate citizen monitoring efforts for the collection of credible data. The subcommittee shall report back to the Task Force annually and more frequently if necessary.

The Outreach Subcommittee will coordinate and assist in statewide water quality outreach efforts and will provide support for outreach efforts in priority watersheds. The subcommittee shall meet regularly to assure that outreach efforts are efficient, targeted and effective. This subcommittee will identify and highlight local efforts across the state and assure that these stories are told to the public and to agency and other partners. This subcommittee will also assist local watershed groups, by helping them define messages that are meaningful for their specific NPS issues and helping them develop and implement outreach plans.

#### **Adoption and Revision of the Charter**

The Charter was adopted by the NPS Task Force on April 2010. The Charter Will be reviewed every 5 years to assure that the Task Force's activities remain focused on current and emerging water quality needs in the state. Modification of the Charter may occur by majority consent of NPS Task Force Members. The Charter was last revised in June 2015 these revisions were approved on June 17, 2015.

# Avoiding the Disaster after a Disaster

## Emergency Watershed Protection Program

**Bronson Smart**

June 17, 2015

## EWP responds to Watershed Impairments from Natural Disasters

- Floods
- Fires
- Landslides
- Droughts
- Volcanic Activities



## Declaring a disaster

- Presidential Disaster declaration or by a disaster.
- NRCS works with FEMA, State DEM, State and Federal Resource Agencies, and local cities and counties to determine who will provide assistance.
- Declaration by the NRCS State Conservationist
- NRCS takes the lead and coordinates with agencies as needed.

9/8/2015

3

## How to get EWP assistance

1. Disaster occurs and sponsor sends NRCS a request letter within 60 days of the end of the disaster.
2. NRCS makes an initial damage assessment together with project sponsor, and requests funding.
3. If funds are available they are allocated to the project and NRCS develops a project agreement with the Sponsoring Organization.

4

## How to get EWP assistance cont'd

4. If funds are not available the project is put on a wait list for funding.
5. NRCS completes the damage survey report covering Environmental Analysis, Cultural Resources, preliminary engineering, etc.
6. Sponsor or NRCS designs the project depending on the agreement and they have 220 days to complete the project.

5

## How to get EWP assistance cont'd

7. Sponsor gets the land rights and any necessary permits to construct the project.
8. Sponsor contracts out the construction work or does in kind work with their own equipment or materials.
9. Sponsor and NRCS inspect the construction of the protection measures.

## How to get EWP assistance cont'd

10. Sponsor requests reimbursement from NRCS monthly.
11. If not done in 220 days the project timeline can be extended if progress is shown.
12. Sponsor or designee maintains the project for the life of the protection.

7

## EWP Eligible Sponsors

- Local Units of Government
- State or Subdivisions of State Government
- Other Government Entities
- Indian Tribes and Tribal Organizations
- Generally the smallest unit of Government with jurisdiction over the entire project area.



## Requirements of Sponsors

- Ability to provide up to 25% of the local share of construction costs
- Responsible for Operation and Maintenance of watershed improvements
- Ability to obtain land rights
- Ability to acquire necessary permits



## EWP Eligibility Criteria

- Reduce Threat to Life and Property
- Economically, Environmentally and Socially Defensible
- Technically Sound
- Alleviate a Sudden Watershed Impairment



## EWP Measures Include

- Debris Removal
- Sediment Removal
- Stream bank Stabilization and Protection
- Seeding
- Road Crossing Protection
- Revegetation or Bioengineering
- Floodplain Easements
- Replacement of Structural Conservation Practices

## EWP project progress & future

- 2009-Present \$100M in Financial Assistance and \$20M in Technical Assistance to Utah Cities and Counties.
- \$8M in active projects. Most projects in this category will wrap up this fall.
- \$53M in additional funding for new projects on a national funding waitlist.

### Active EWP Projects around the state:

- Weber County
- Green River

### Waitlist of Projects around the state:

- See handout

### Washington County EWP – Shem Dam site



## Washington County – Shem Dam site



9/8/2015

15

## Emery County – 2012 Seely Fire



9/8/2015

16

## Emery County EWP – Huntington Canyon Debris North Basin site



17

## Emery County EWP – Huntington Canyon Debris North Basin site



18

## Huntington Canyon Debris Basin Video



9/8/2015

19

## Emery County EWP summary:

- \$330K in Technical Assistance (100% NRCS)
- \$3.3M in Financial Assistance (75% NRCS)
- \$1.1M Emery County (25%)
  - Funding from State Legislature
  - Debris and Sediment Removal done by EWCD crews
  - Huntington City
  - Emery County
  - Rock Riprap material donated from Pacificcorp
- Emery County hired Johansen and Tuttle Engineering to help with contract administration and engineering.
- Emery County hired Nielson Construction as the contractor to build the debris basins.

9/8/2015

20

## Rockport Fire EWP



21

## Rockport Fire EWP



22



## Post Fire Flow Estimates



### Post Fire Fence Staking



## Rockport Fire EWP



27

## Rockport Fire EWP



28

## Weber County EWP – 2012 Flooding



9/8/2015

29

## Weber County EWP



30

## Weber County EWP



31

## Alpine City – Quail Fire Summer 2012



*Alpine Fire, Utah County  
Photo - 9  
NRCS - 7/7/12*



*Alpine Fire, Utah County  
Photo - 3  
NRCS - 7/7/12*

9/8/2015

32

## Alpine City EWP



33

## Alpine City EWP



34

### Alpine City EWP



35

### Alpine City EWP



36

## Alpine City EWP



37

## Alpine City – Project Summary

- \$105K in Technical Assistance (100% NRCS)
- \$1.3M in Financial Assistance (75% NRCS)
- \$450k Alpine City (25%)
  - City Crews doing work on some sites
  - Rock Riprap donated to project
  - Project reseeding
- NRCS performed environmental and cultural resource work as well as assisted with project coordination.
- Alpine City hired Bowen and Collins Engineering and used their City Engineering staff.
- Alpine City hired several contractors to build the debris basins and other projects.

9/8/2015

38



## Saratoga Springs City EWP



41

## Saratoga Springs City EWP



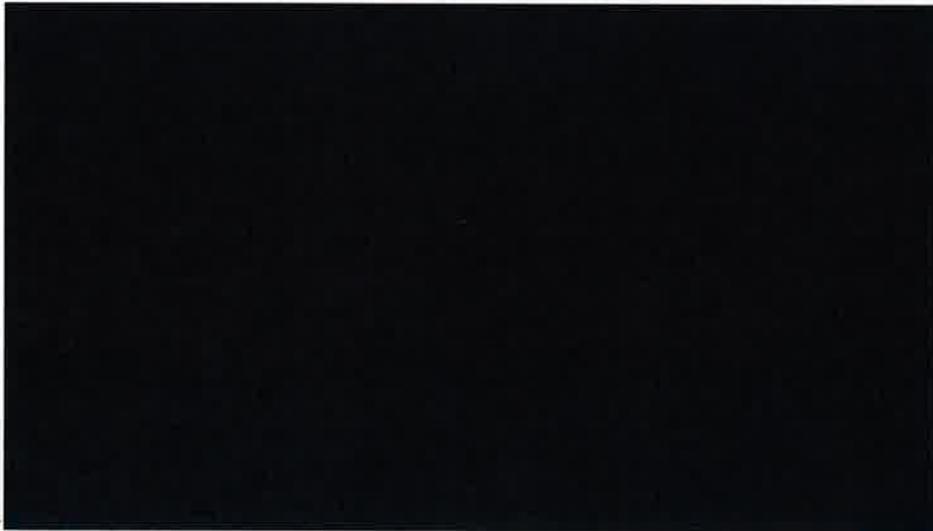
42

## Saratoga Springs City EWP



43

## Saratoga Springs City EWP

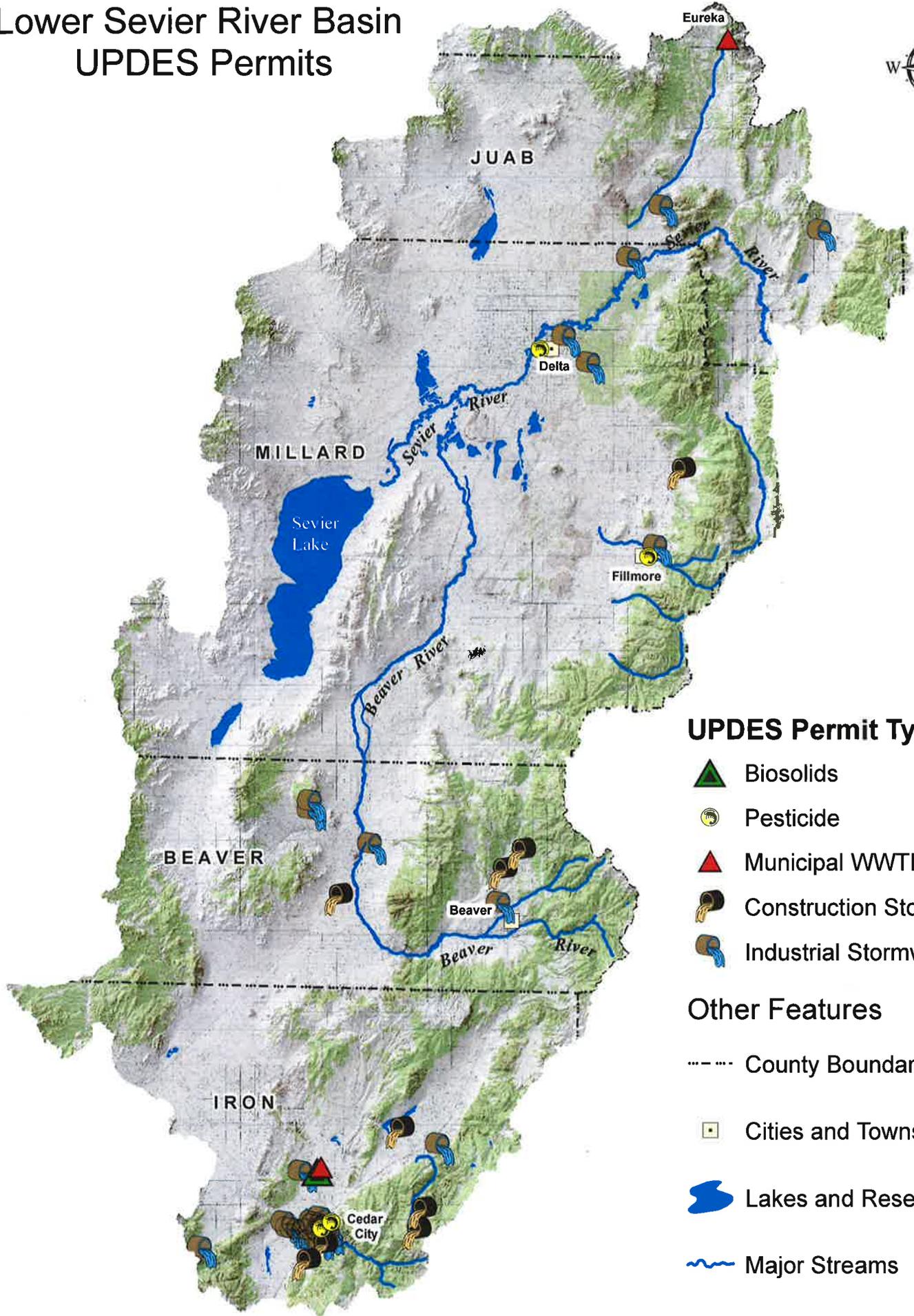


44

## Questions

**Bronson Smart**  
**State Conservation Engineer**  
*Bronson.Smart@ut.usda.gov*

# Lower Sevier River Basin UPDES Permits

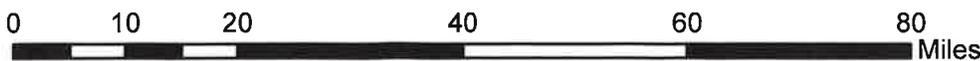


## UPDES Permit Type

-  Biosolids
-  Pesticide
-  Municipal WWTP
-  Construction Stormwater
-  Industrial Stormwater

## Other Features

-  County Boundary
-  Cities and Towns
-  Lakes and Reservoirs
-  Major Streams



## FY-2016 NONPOINT SOURCE POLLUTION GRANTS FUNDED



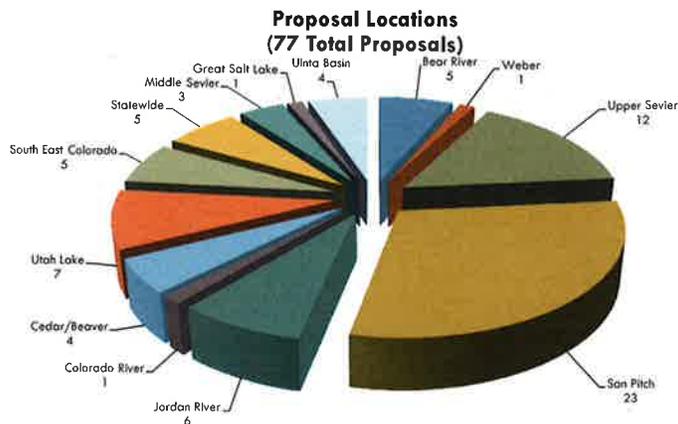
Jim Bowcutt  
Utah Division of Water Quality  
Utah Water Quality Task Force Meeting  
June 17<sup>th</sup> 2015

### FY-2016 Nonpoint Source Pollution Grant Schedule

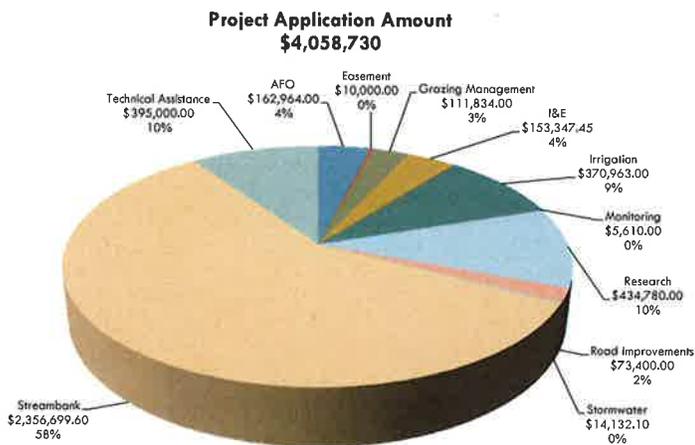
- Application Period: April 1<sup>st</sup> through May 15<sup>th</sup>
- Projects ranked internally: May 18<sup>th</sup> through June 3<sup>rd</sup>
- Meeting with partner agencies: June 4<sup>th</sup>
- Final Grant approval: June 9<sup>th</sup>
- Official announcement of grant recipients: June 11<sup>th</sup>

## FY-2016 Nonpoint Source Applications Received

- 77 Grant Applications were received totaling \$4,058,730.
- 51% of these proposals came from the targeted basin



## Project Application Amounts



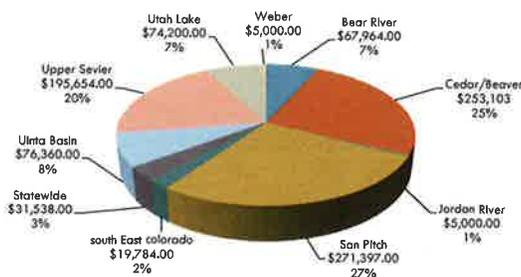
## Projects Funded

- 45 Projects were selected for funding
- \$1,000,000 in State NPS funding
- \$888,621 in Section 319 funding

## Projects Selected for NPS funding State NPS Funding

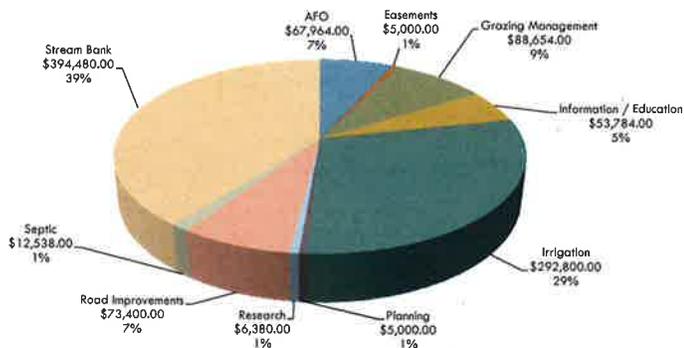
- 72% of the funding was awarded to the targeted basin
- 33 Projects were funded with State NPS Grants
- Projects that we have given partial funding in the past also had priority in the selection process

**FY-2016 NPS Grants Awarded  
(\$1,000,000)**



## BMP Types Funded with State NPS Funds

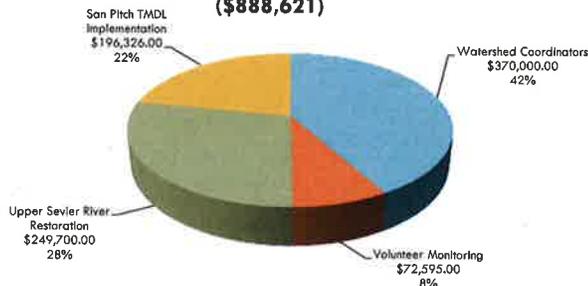
**BMPs Funded with State NPS funds  
(\$1,000,000)**



## Projects Funded with Section 319 Grants

- The San Pitch TMDL Implementation grant actually consists of 6 different projects which were combined due to proximity.
- The Upper Sevier Restoration grant consists of 4 projects that were combined into one grant award to the DWR.

**Projects Funded With Section 319 Grants  
(\$888,621)**

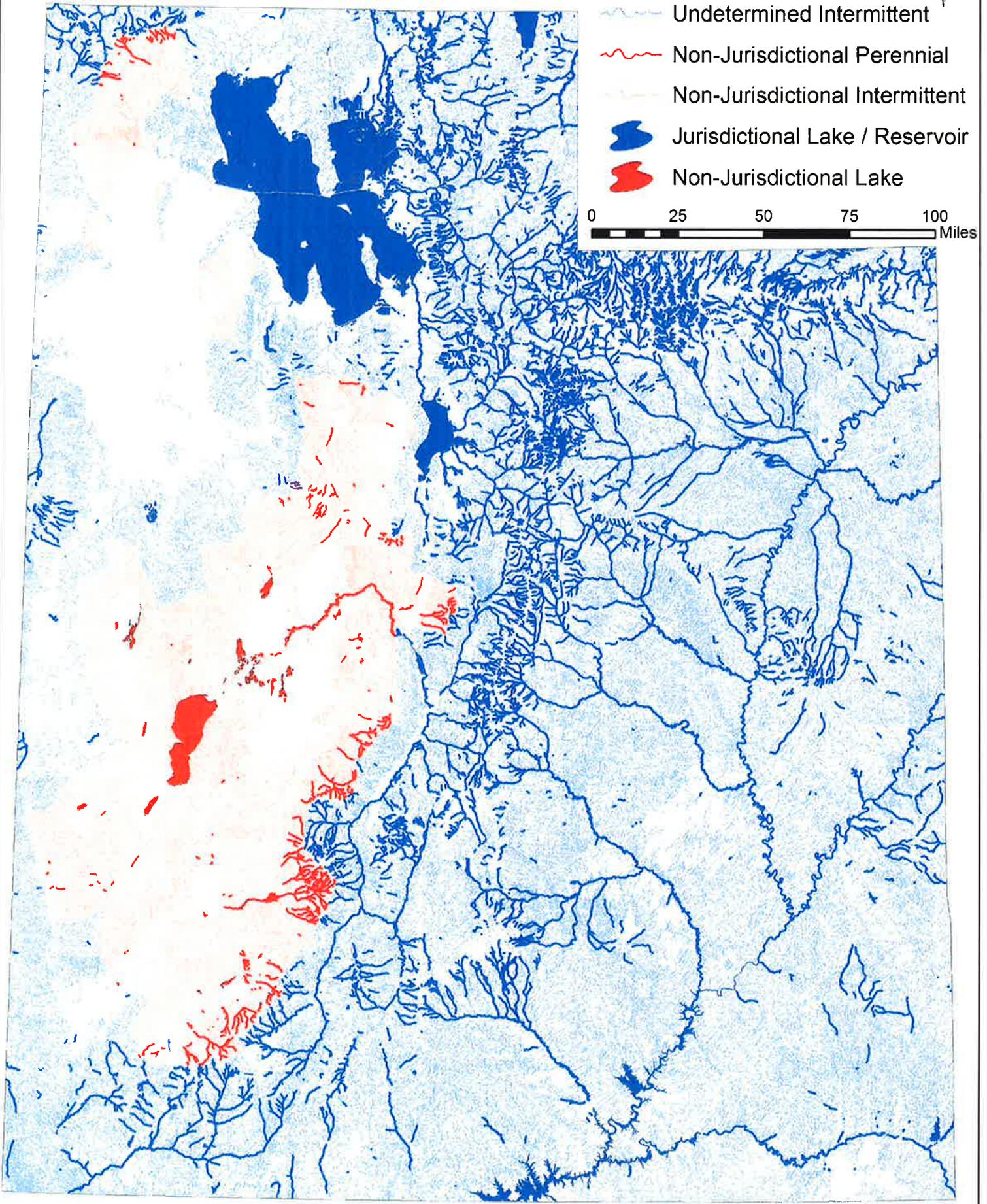


## Discussion



Mud Creek  
Restoration Project,  
Carbon County

# Waters of the State



# Utah's Nutrient Strategy: Update and Path Forward



## Water Quality Task Force

June 9, 2015

Jeff Ostermiller  
 Division of Water Quality  
 Utah Department of Environmental Quality



**Review of Utah's Nutrient Program**

	<--2010	2011	2012	2013	2014	2015-->
<b>Technical Tools and Related Studies</b>						
POTW Cost Study						
Economic Benefits Study						
Stressor-Response Study						
Recovery Potential Study						
Technical Basis for Utah's Nutrient Strategy						
Great Salt Lake Nutrient Synthesis						
<b>Point Sources</b>						
QUAL2Kw modeling for POTW permits						
Technology Based Phosphorus Effluent Limits						
Optimization						
Technology Based Nitrogen Effluent Limits						
<b>Nonpoint Sources</b>						
ACES						
Community outreach regarding Utah's Nutrient Strategy						
319 Implementation						
<b>Water Quality Standards and Assessment</b>						
Headwater Numeric Nutrient Criteria						
Site-specific Nutrient Criteria Development						
Monitoring and Assessment Approach						
<b>Nutrient Core Team</b>						
Meetings		X X	X X X X X X	X X X X X X X X	X	X X
Workgroups (point source, nonpoint source, technical)						

Program/Guidance Development  
Implementation

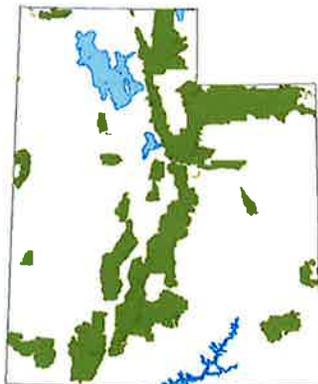
## Headwater Numeric Nutrient Criteria

Summer, 2014



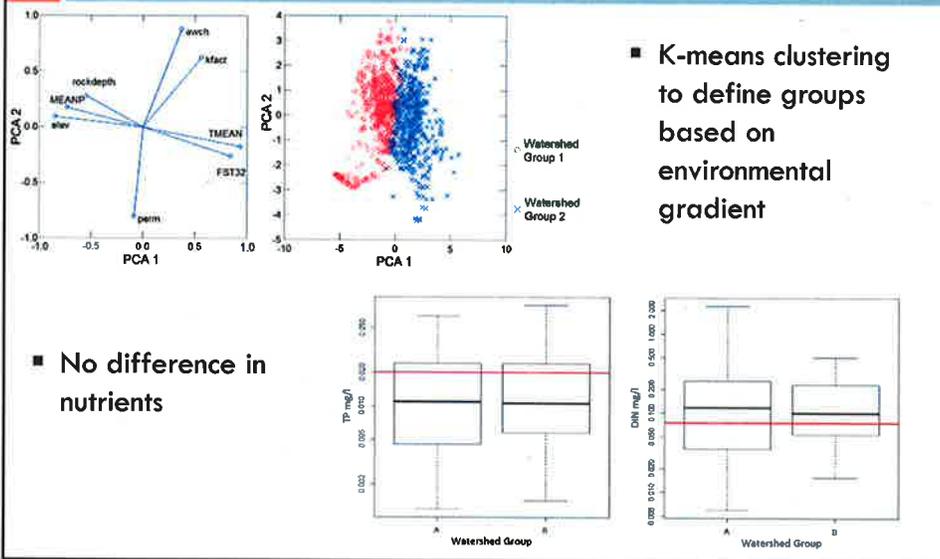
For details see, *Numeric Nitrogen and Phosphorus Criteria: Utah Headwater Streams*.

## Headwater Criteria

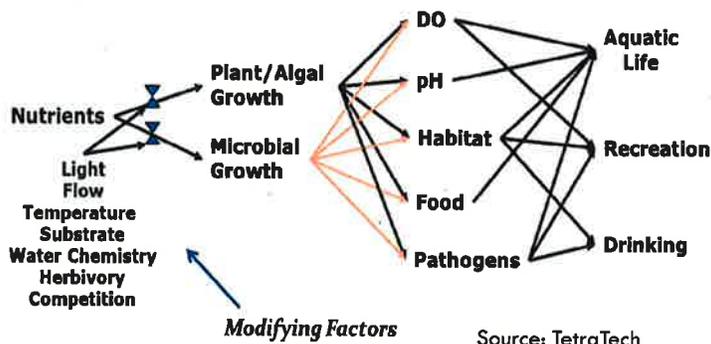


- Watersheds are defined by Utah's Antidegradation Classes
  - **Category 1:** No new discharge of treated wastewater
  - **Category 2:** New discharge permitted at background concentration
- Primarily within USDAFS boundaries
  - ~50% of Perennial Waters

## Headwater Criteria: Classification

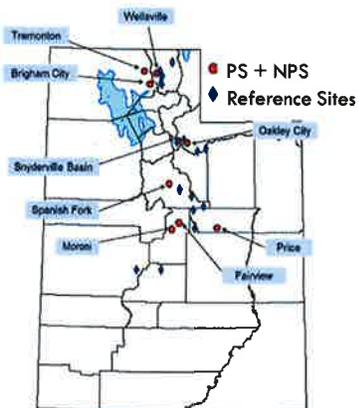


## Multiple Lines of Evidence



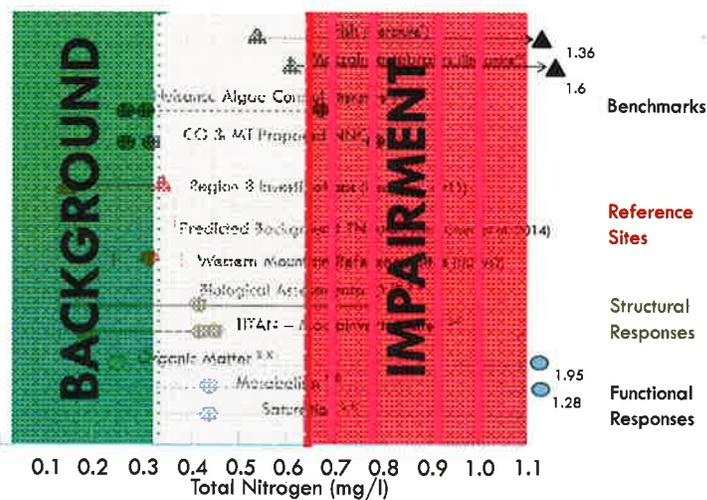
- Identify key pathways
- Find indicator that allows it to be blocked (USEPA 2000)

## Pilot Study



- 31 Streams
- 15 Reference sites
- Sites represent state-wide gradients
- Response variables
  - Nutrient saturation
  - Organic matter standing stocks
  - Whole stream metabolism
  - Macroinvertebrates

## What is protective?



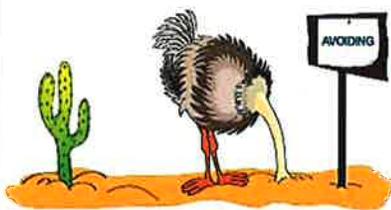
## The Gray Area: What is an Acceptable Risk?



Risk = Probability\* Outcome

### Outcome

- What conditions are we trying to avoid?
- Use Impairment
  - Science meets values



### Probability

- How likely is the outcome?

## Combined Criteria

Reduce both false positive and negative assessments

- Focus limited resources

Directly account for intrinsically confounded responses

- Avoid the fallacy of isolation
- Assessments could potentially provide more information on remediation strategies

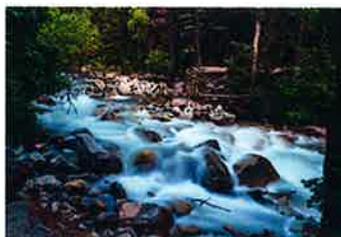
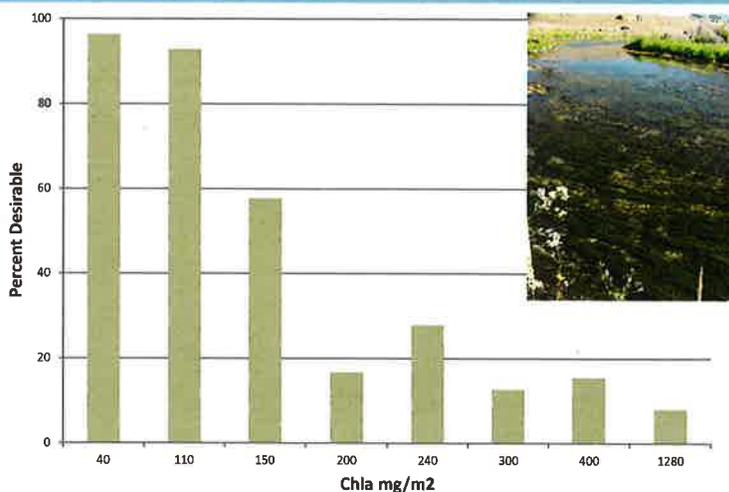


Table 1. Numeric nutrient criteria and associated ecological responses (bioconfirmation criteria) proposed to protect aquatic life uses in Antidegradation Category 1 and 2 (UAC R317-2-12) headwater perennial streams<sup>1</sup>.

Low Nutrient Headwater Streams: Ecological Responses not Proposed		
Summertime Average Nutrients	Assessment Notes	
TN <0.40 <sup>2,3</sup> TP <0.035 <sup>2,4</sup>	Fully supporting biological uses if ≥4 summertime samples fall within the range; sites with fewer samples will not be assessed for nutrients. If available response data suggest that more protective criteria are needed, site-specific standards will be developed.	
Intermediate Nutrient Concentrations with Proposed Ecological Responses		
Summertime Average Nutrients	Ecological Response	Assessment Notes
TN 0.41-0.80 <sup>2</sup> TP 0.036-0.079 <sup>2</sup>	Plant/Algal Growth <sup>5</sup> 1/3 or more filamentous algae cover <sup>6a</sup> OR GPP <sup>3</sup> of >10 g O <sub>2</sub> /m <sup>2</sup> /day OR Plant and Microbial Growth ER <sup>3</sup> >9 g O <sub>2</sub> /m <sup>2</sup> /day	Headwater streams within this range of nutrient concentrations will be considered impaired if <u>any</u> response exceeds defined thresholds.  Streams <u>without response data</u> will be listed as having <u>insufficient data</u> and prioritized for additional monitoring if either TN or TP falls within the specified range.
Upper Threshold Nutrient Concentration: No Proposed Ecological Responses <sup>6</sup>		
Summertime Average Nutrients	Assessment Notes	
TN > 0.81 <sup>2,4</sup> TP > 0.080 <sup>2,5</sup>	Streams over these thresholds will initially be placed on Utah's 303(d) list as threatened.  Threatened streams will be reclassified as impaired the following assessment cycle unless additional data such as nutrient responses, biological assessments and nutrient-related water quality criteria (e.g., pH and DO) demonstrate that aquatic life uses are fully supporting; in which case, site-specific standards will be developed unless downstream resources are threatened.	
FOOTNOTES:		
1. Applicable unless more restrictive Total Maximum Daily Load (TMDL) endpoints have been established to protect downstream waters.		
2. Seasonal average of ≥4 samples collected during the summertime growing season (June 1 – September 30). Not to be exceeded. TP means Total Phosphorus and TN means Total Nitrogen in mg/L.		
3. Daily whole stream metabolism obtained using open channel methods. GPP means Gross Primary Production. ER means Ecosystem Respiration. Daily values are not to be exceeded on any collection event.		
4. Filamentous algae cover means patches of filamentous algae >1 cm in length or mats >1 mm thick. Daily values are not to be exceeded at any time during the growing season (June-September).		
5. Response data, when available, will be used to confirm impairments or support the need for site-specific criteria.		
6. Quantitative estimates based on reach-scale coverages with at least 3 measures from different habitat units (i.e., riffle, run) made with quantitative visual estimation methods.		

# Aesthetics and Recreation

## Recreation Survey



Benthic Chl a Response  
Indicator ~150 mg/m<sup>2</sup>

## Combined Criteria: WQ Assessments

- **Elevated N or P, but responses are supporting = Not impaired**
  - The major advantage of the approach
  - Particularly important for high gradient and shaded streams
- **High N or P and no response data are available = Insufficient data (3A)?**
  - Develop a delisting policy to avoid unnecessary TMDLs
- **High N or P and any response indicates problems = Impaired**
  - Argues for parsimony
  - Mirrors more traditional criteria

## Collaborative Monitoring

- Major data collection effort currently underway
  - ~50-60 sites
- Collaborative partners: UDWQ, UDAF, USDAFS
- Study Objectives:
  - Further empirical evaluation of proposed thresholds & responses
  - Refine response collection procedures
  - Fill data gaps: responses generally are lacking at historic sample locations

## Collaborative Monitoring

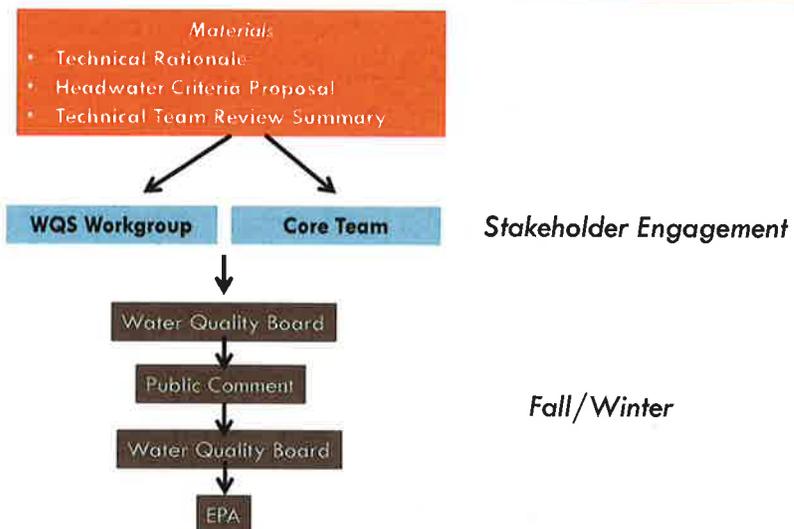


- **Monthly (June-August):**
  - **Water Chemistry**
  - **Discharge**
  - **Filamentous Algae Cover:** Visual and Photographic Quantification
- **One Event per Summer:**
  - **Whole Stream Metabolism (GPP, ER)** for ~ 7 days; repeat at start and end for ~20 sites.
  - **Benthic Biomass:** chl-*a* and AFDM
  - **Important Covariates:** slope, channel shading, & substrate size.

## Other Ongoing Efforts

- EPA Peer Review (this summer)
- Draft of formal rule language
- Expand on DWQ implementation strategy
  - Some information already exists in the proposal, but
  - Expanded policy could:
    - Directly address stakeholder concerns
    - Identify areas for collaboration
    - More clearly define the rule's intent

## WQS Rulemaking



# Questions?

Contact: Jeff Ostermiller  
[jostermiller@utah.gov](mailto:jostermiller@utah.gov)  
801-536-4370