

**Utah Water Quality Task Force Meeting
Minutes**

May 22, 2013 9:30am-12:00am
Utah Division of Water Quality
195 N. 1950 W.
Salt Lake City, Utah

Attendance

Name	Representing
Jim Bowcutt	DEQ/DWQ
Boyd Clayton	Utah Division of Water Rights
John Whitehead	DEQ/DWQ
Gertrudys Adkins	Utah Division of Water Rights
Gordon Younker	UACD
Bill Zanotti	UFFSL
Kate Johnson	UDDW
Nancy Mesner	USU Extension
Carl Adams	DWQ
Rhonda Miller	USU Extension
Craig Walker	UDWR
Walt Baker	DWQ
Jay Olsen	UDAF
Greg Bevenger	USFS
Bob Thompson	SL County

Walt Baker- Welcome and Introductions

Walt Baker- Update on Development of Utah Nutrient Standards (see attached Power Point)

- Three working groups were formed to help develop Nutrient standards. These working groups represent: Point Source, Nonpoint Source, and Storm Water.
- The working groups will present their recommendations to the Legislators by the end of the year.
- Currently no point source discharges are permitted in Category I waters (generally headwaters within USFS boundaries).
- Currently 48 of 132 lakes in the State of Utah are impaired. All but five of these are impaired for Nutrients.
- Total Inorganic Nitrogen and total Phosphorus is what the standards will be based on.

- The Forest Service should be heavily involved in the development of standards on category I waters. Walt will meet with the Forest Service on June 9, 2013 to explain the State's effort and gain Forest Service feedback.
- Standards will have flexibility and will be site specific.
- Since everyone in the urban environment consume the products of agriculture they should bear responsibility for some of the cost associated with the environmental improvements required to meet the nutrient standards.
- The program will require upstream, downstream, and effluent monitoring of all point sources.

Craig Walker- Impacts of Forest Fires on Water Quality (see attached presentation)

- There were many fires in 2012. The majority of this presentation focuses on the Seeley Fire.
- After the Seeley Fire there were fish kills, but the native species of fish were able to survive.
- Forest Service Burned Area Emergency Response (BAER) teams identify imminent post-wildfire threats to human life and safety, property, and critical natural or cultural resources on National Forest System lands and take immediate actions, as appropriate, to manage unacceptable risks. The Manti-Lasal was given authority to spend up to \$2.1 million on emergency treatments on the Seeley Fire. Treatments include mulching and seeding hillsides, debris flow protection structures, road and trail stabilization and maintenance, and noxious weed treatment.
- Each National Forest has a land and resource management plan, and fire management plans, that include identification of resources and resource values, such as sensitive fish species, that could be affected by fire. Forests and suppression teams use this information when managing fires.
- When a fire starts on a Forest a team of local Forest employees and members of the suppression incident management team prepare a suppression strategy called a Wildland Fire Decision Support System (WFDSS) plan. These plans provide critical resource information useful for avoiding, reducing or minimizing fire effects. It is important that all pertinent information, such as location of isolated sensitive trout species and habitat, be provided in the development of this plan. Avoidance or minimization of potential fire effects is preferred over restoration after the fire.
- DWR has provided \$120,000 to assist the Manti-Lasal Forest with Seeley Fire recovery efforts.

- Extensive research by Universities and the Forest Service indicate seeding, as a stand-alone treatment, has been found to be a very ineffective method .
- In general, there are no known effective treatments for storm events that put down more than an inch or so of rain in an hour.
- We need to change the public perception of forest fires and the benefits of the fires versus suppression.
- The topic of what we should do moving forward should be addressed at the next meeting.
- Craig Walker distributed a proposal for a study to understand the effects of wildfire on fish populations and geomorphology in Twitchell Canyon. The Task Force should give Craig any comments they may have on this proposal.

Boyd Clayton- Water Rights and NPS Pollution Management (see the attached presentation)

- All water in a stream may be adjudicated. When water rights were developed it was not required to leave water in the stream. These rights were developed long ago.
- Many water bodies are over allocated. There are several people that never even receive the water to exercise their water right every year.
- 5 years ago the DNR began going on site to resolve water right issues instead of fighting those issues in court.
- River Commissioners are responsible for delivering water to water recipients.
- Forfeitures will occur if you don't use water during a 7 year period. Forfeitures must be a judicial action. To file a complaint you need to be a party with standing, or be able to benefit from the forfeiture.
- Municipalities are not very concerned about forfeitures since they can hold water for future use needs in the next 40 years.
- Water rights are required for storm water infrastructure only if the entity installing those structures plans on using the water retained or diverted for beneficial uses. This does not apply to rain barrels of a certain size.

- Only State parks and DWR can obtain water rights that can be left in stream to be used for fish habitat. Trout Unlimited can lease water for trout habitat.
- People can protest applications for additional water rights (usually wells). However, everyone will have to tolerate some change in water levels in groundwater.
- How water is currently allocated is not likely to change.
- When changing from agricultural land use to urban land use it is not likely that additional water will be diverted from local water bodies.
- With all the water right transfers taking place we need to make sure we keep some for agricultural production if we want to eat.

Jim Bowcutt- NPS Program Update

- The FY-2013 Section 319 grant budget was recently released. The State of Utah will be receiving \$1,364,000. \$861,621 of which will be going toward project implementation.
- The FY-2014 grant application period has recently closed. The state has received 49 proposals for \$4.3 million dollars. The Jordan River/ Utah Lake is the targeted basin for FY-2014.
- The NPS management plan has been approved by the Attorney General's office, and has been sent out for public comment. No comments were received. DWQ has now begun the process of approval from the Governor.

Nancy Mesner- NPS Information and Education

- A Statewide NPS I&E subcommittee will be formed. Nancy will be sending out an e-mail asking for volunteers to serve on this committee.
- Nancy gave a short summary of the findings of the NPS Program Evaluation. Due to lack of time she was unable to share the entire report. She will present a more detailed report at the next meeting.
- We need to better sell ourselves and show the general public what we have accomplished through outreach efforts.

General Business-

- The Next meeting will be held on August 7th at the Division of Water Quality Office again.

- Agenda should consist of a summary of the NPS Program Report, additional discussion on forest fires, and what we can do to bring more attention to the efforts being made to improve water quality.

Utah Division of Water Quality



UTAH'S APPROACH FOR DEVELOPING NUTRIENT STANDARDS

Mission Statement

Protect, maintain and enhance the quality of Utah's waters... while giving reasonable consideration to the economic impact.



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Protect, maintain and enhance the quality of Utah's waters... while giving reasonable consideration to the economic impact.



Ogden River Restoration
2010

Why Do We Need Standards?

- To protect the water's beneficial uses
 - Drinking
 - Recreation
 - Fisheries
 - Agriculture



Excess Nutrient Problem

- Too much nitrogen and phosphorus in water results in too much algae growth
- Too much algae in streams and lakes result in:
 - Bad taste and odors in drinking water
 - Offensive algae blooms and swimmer's rash
 - Dead fish
 - Sick livestock



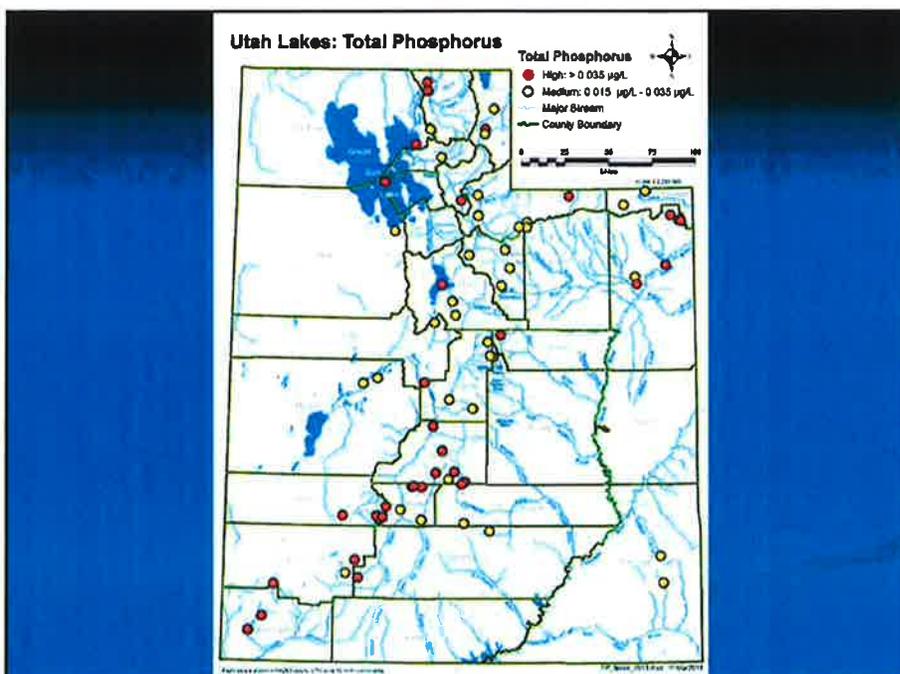
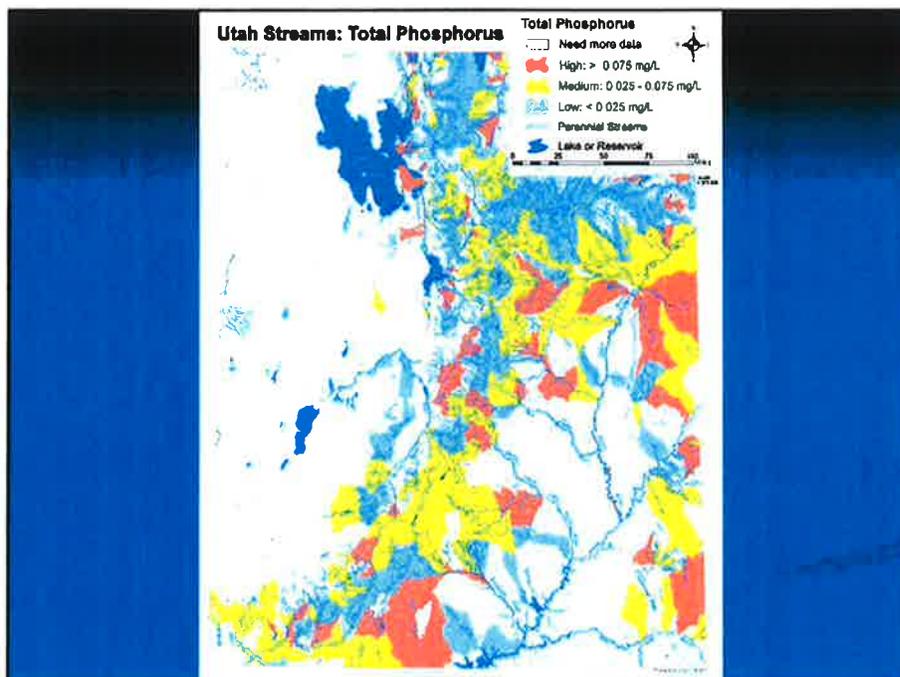
Utah Lake

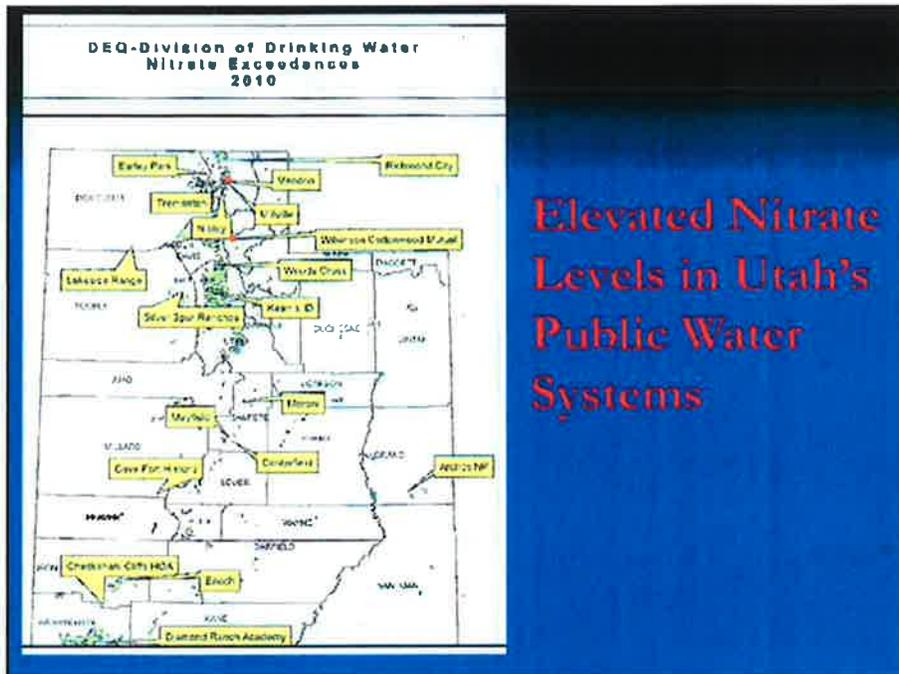


Matt Warner Reservoir



Didymo a.k.a., "Rock Snot"





Nitrate Concerns

Nitrate contamination lasts for decades and can't be filtered out

Toxic to infants (>10 mg/L)



Drinking water wells are susceptible to contamination, protection is key

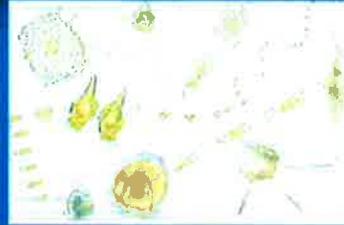
Goals for Setting Nutrient Standards

- Science-based
- Reasonable
- Effective
- Share Responsibility
- Consistent and Fair

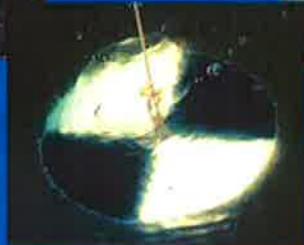
Science-Based



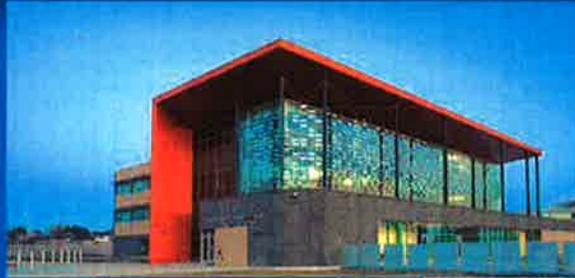
Biological Studies



Physical Analysis



Chemical Testing



Reasonable

Will Account for the
Diversity of Utah's Waters

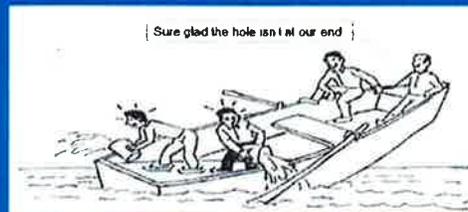


Effective

- Strategically targets limited resources
- Immediately protects high quality headwaters
- Focuses on nutrient related problems
- Reduces nutrient discharges from POTW's
- Provides increased funding for NPS projects
- Engages stakeholders to implement solutions

Shared Responsibility

- Early Stakeholder Involvement
- Use Best Management Practices and Technology to achieve goals
- Provide Financial and Technical Assistance



Financial Assistance

1. Mostly Voluntary Prior to TMDL
2. Required Changes After TMDL Load Allocation Determined
3. Environmental Stewardship Certification Program (SB-57)
4. Funding Source Would be a Sewer Surcharge of \$1/month

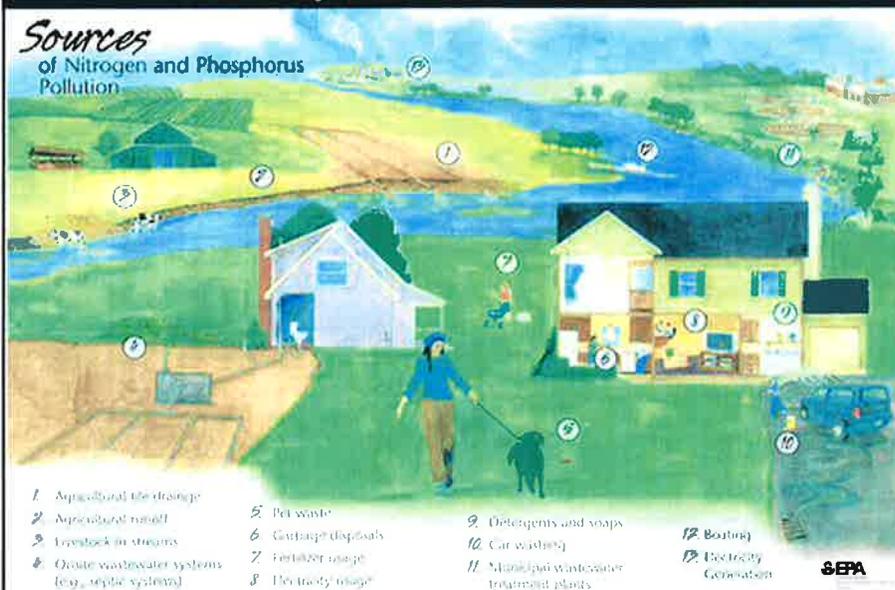
Cost Share Funding Range (Proposed)

70% to 90%



Everyone Has a Role

Sources of Nitrogen and Phosphorus Pollution



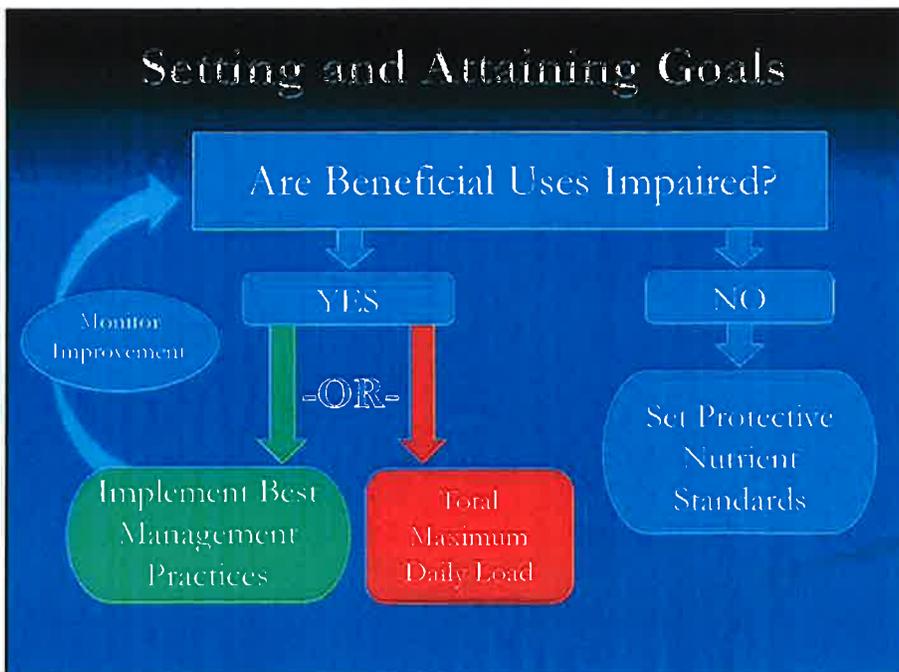
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|--|----------------------|---|----------------------------|
| 1. Agricultural tile drainage | 5. Pet waste | 9. Detergents and soaps | 12. Boating |
| 2. Agricultural runoff | 6. Garbage disposals | 10. Car washing | 13. Electricity Generation |
| 3. Livestock in streams | 7. Fertilizer usage | 11. Municipal wastewater treatment plants | |
| 4. On-site wastewater systems (e.g., septic systems) | 8. Electricity usage | | |

SEPA

Key Players

Subcommittees

- POTWs (Sewage Treatment Plants)
- Stormwater – Urban Areas / Construction
- Nonpoint Sources



BMPs for Controlling Nutrients



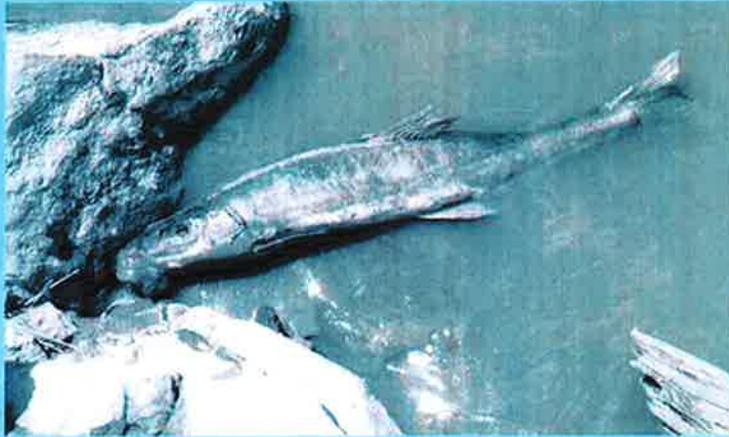
Consistent and Fair

- Establish a Level Playing Field
- Provide Financial and Technical Assistance
- Maintain Open Communication
- Encourage Voluntary Action





**Where Do We Go from Here?
A Fisheries Perspective of the Seeley Fire**



Craig Walker
Utah Division of Wildlife Resources

Photos courtesy of Cody Allred (PacifiCorp Energy), Calvin Black (UDWR) and USFS

Topics

- 1) Fire timeline**
- 2) Burn Area Emergency Response (BAER) assessment of severity**
- 3) Post-fire runoff impacts**
- 4) USFS effort to protect critical areas/uses**
- 5) Prescribed protection methods**
- 6) Additional actions**

Fire timeline



***Fire started on June 26 near Seeley Mountain**

***Reported around 5:30 a.m. and attacked by smokejumpers and 2 helicopters**

***Within 3 days the fire was 15,790 acres**

***The fire was 100% contained on July 18, with 47,587 acres burned**



BAER assessment (severity)



***Burn Severity - degree of change to soil conditions and hydrologic function**

***At and below-ground total heat and residence time.**

***23% of Forest lands high burn severity**

***46% of Forest lands moderate burn severity**



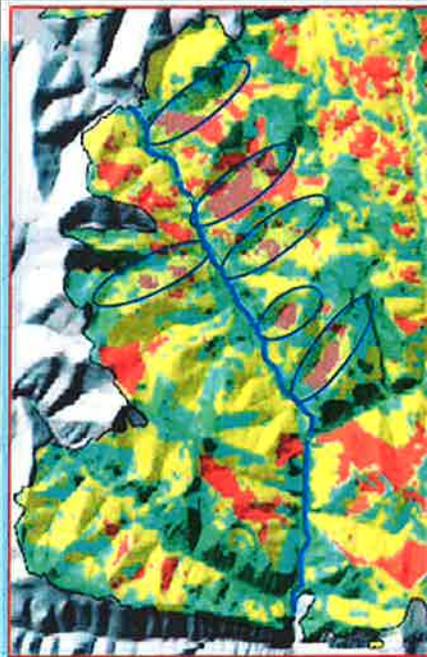


BAER assessment (riparian)

*Little to no direct effect on fish populations or water quality because nearly all high intensity/severity areas occurred on the mid-upper slopes

*Fire effects to riparian areas bordering fish-bearing streams were limited to a few high intensity locations

*Mainly in small perennial and ephemeral tributaries throughout the fire perimeter



Location of severely burned areas

- 1) Price River and San Rafael River drainages
- 2) Mainstem riparian protected
- 3) Side canyon tributaries directly impacted

6th-level HUC impact

6th level HUC	6th level HUC Acres	% of 6th level HUC burned
Clawson Spring-Miller Creek	14,886	29.71%
Left Fork of Huntington Creek	30,562	11.28%
Miller Fork Canyon-Huntington Creek	36,814	10.05%
Mud Creek	36,626	3.09%
Mud Water Canyon	18,083	58.14%
Pinnacle Wash	11,602	3.34%
Right Fork of Huntington Creek	40,132	46.32%
Serviceberry Creek	14,849	5.32%
South Fork of Gordon Creek	15,598	30.88%

Post-fire runoff



*Two-year rain events on July 7 and July 16

*10-minute duration

*Side canyons conveyed debris and ash into the mainstem of Huntington Creek

Post-fire sediment and debris flows



***Impacted water quality throughout downstream areas of the Price and San Rafael River drainages**

***Resulted in documented fish kills up to 50 miles downstream in both the Price and San Rafael rivers**

***Diversion of water for irrigation and power production downstream impeded**

Post-fire sediment and debris flows



*** Steepness and narrowness of canyons make it likely that impacts will continue during future runoff events**

***Estimated erosion potential is 6.4 ton/acre (237,805 tons)¹**

***Estimated sediment potential is 3,548 cy/mi² (208,079 cubic yards)¹**

***Estimated recovery period is 2 to 5 years¹**

***Loading for Lower Huntington Creek is normally 3,218 tons per year²**

¹ USDA Forest Service Burned-area Report

² 2004 MFG TDS TMDL Report to UDWQ

Post-fire sediment and debris flows



* In areas where similar burn severity has been seen 10-year precipitation event can have the impact of a 200-year event²

*Similar burn severity can result in erosion potential orders of greater than normally seen

*Spring (lower base flow and acre feet – earlier than usual) vs. fall precipitation (greater likelihood of high peaks)

² NRCS

³USDA Forest Service

USFS BAER post fire priorities

*Life and safety



*Cultural resources



*Riparian and aquatic resources



Recommended BAER actions/prescriptions



***Natural log debris racks in side canyons**

***66 installed to date**

***Expand installation and monitor existing installs in 2013**

Recommended BAER actions/prescriptions



*** Overflow basins**

***2 - 3 basins constructed in three side canyons**

***Very successful after September 2012 rain events**

Recommended BAER actions/prescriptions

* Grade control structures

*Two installed to date

*Large rip-rap or grouted material

*Additional installs planned



Recommended BAER actions/prescriptions

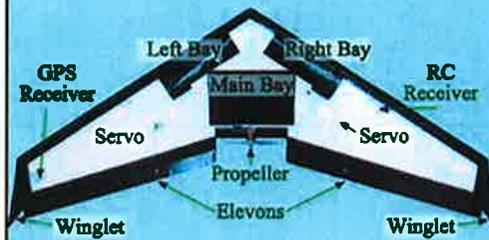
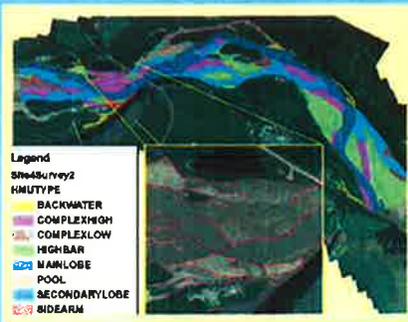


* Forest has spent **\$162,684** to date on sediment control structures

*Forest anticipates an additional \$120,000 will be invested in 2013 for more sediment control structures

* UDWR has been given an additional \$120,000 for the same type of work in the Huntington Creek drainage

Additional actions/prescriptions



* Assessment and monitoring of recovery is desired to assess success of actions

*UDWR will begin funding a three-year PhD-level study of Twitchell Fire (Clear Creek) to assess the impacts of fire to riparian areas

* Anticipated outcomes of this study are pre, during, and post fire management prescriptions to minimize impacts of fire to streams

* Study will be proposed for SRLCC funding in 2014

Benefits, really?

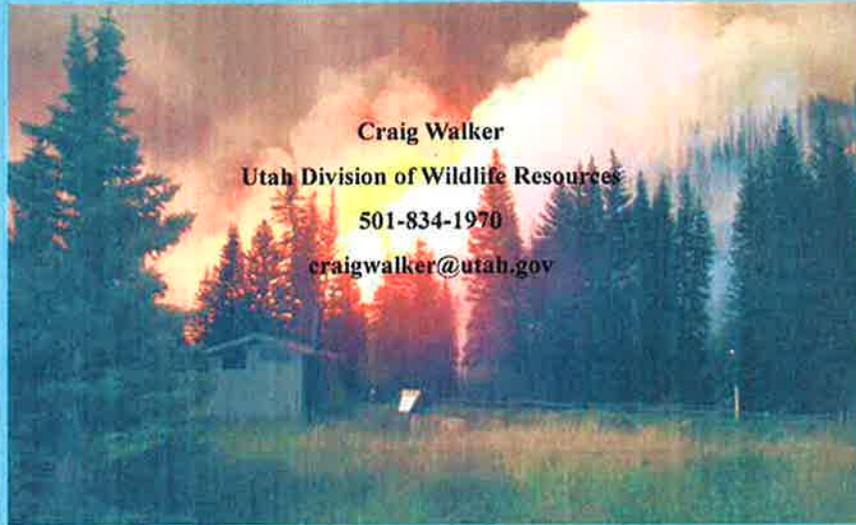


* Strengthening of partnership between UDWR and Pacificorp for management of Huntington Creek drainage

*Recognition of commonalities among water users with differing primary beneficial use interests

* Learning better ways to manage fire on the landscape in the future

Questions??



Craig Walker

Utah Division of Wildlife Resources

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Water Rights and Water Quality

<http://waterrights.utah.gov>

May 22, 2013
Boyd Clayton

Utah Division of Water Rights Mission

- Promote order and certainty in the beneficial use of Utah's water.



State Water Agencies

- Divert and use waters of public
 - State Engineer (DNR)
- Control of pollutants in public waters
 - Water Quality Board (Dep. of Environmental Quality)
- Water Planning and Project Development
 - Water Resources Board (DNR)



Water Rights (Regulatory Agency)

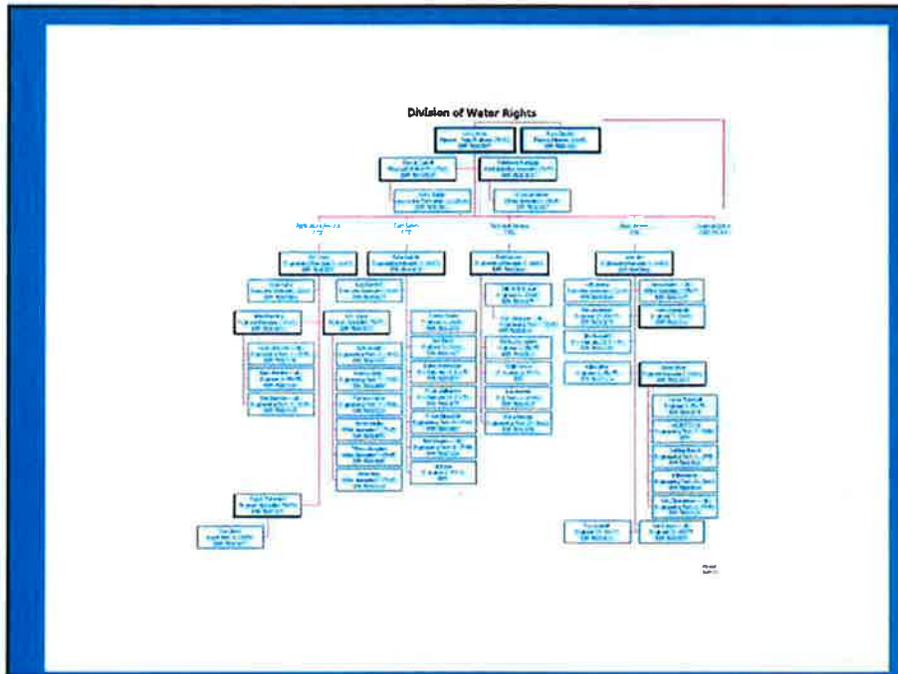
- State Engineer – Decision Maker / Agency Director
 - Licensed Professional Engineer, Knowledge of Water Right Issues
 - Appointed by Governor for 4 Year Term
 - No advisory Board
 - Significant Office History, First Appointment 1897
 - 6000+ Decisions Issued Annually
 - ~10 District Court Reviews (appeal)
- Division of Water Rights - Support Staff
 - 79 FTEs, 6 Offices statewide
 - 44 River Commissioners
- Responsible for Water Right Administration
 - Policy set by Legislature Through Statute
 - Agency Implements Law

Agency Services

- Public Records / Assistance
- Water Right Permitting
- Geothermal Use Permitting
- Priority Distribution
- Proposed Determinations (General Adjudication)
- Water Right Enforcement
- Well Driller Licensing
- Dam Inspection / Construction Regulation
- Stream Alteration Permitting
- Data Collection / Studies
- Emergency Response (Flooding)

State Engineer Does Not

- Adjudicate water right ownership
- Award or adjudicate water rights
- Forfeit water rights
- Sell or trade water or water rights



Budget and Expenditure (%)

- \$6.7M General Fund
 - \$1.5M User Assessments
 - \$800K Application Fees*
 - \$625K Sales Tax*
 - \$53K FEMA
- 26 Water Right Applications
 - 22 Priority Distribution
 - 17 Public Assistance
 - 06 Studies
 - 06 Dam Safety
 - 06 Proposed Determinations
 - 04 Stream Alteration Permits
 - 04 Administration
 - 03 Training
 - 03 Well Driller Licensing
 - 03 Enforcement

Water Right Definition

- Right to divert and use waters of the public for some beneficial purpose.
- Statutory scheme focuses on developing vested property type rights to use with two conditions:
 - continuing beneficial use
 - transparency in how water is diverted and used
- The use of water for beneficial purposes is declared to be a public use (UC 73-1-5) and water rights are confirmed in the Utah Constitution

“The state regulates the use of water as trustee for the **benefit of the people. Public ownership is founded on the principle that water, a scarce and essential resource in this area of the country, is indispensable to the welfare of all the people; and the state must therefore assume the responsibility of allocating the use of water **for the benefit and welfare of all the people of the state as a whole.**”**

J. J. P. N. Co. v. State 655 P.2d 1133 (Utah 1982)

Water Right Flavors

- Unrecorded and Recorded Prestatutory Claims
- Decreed water rights
- Reserved Rights (Federal)
- Water Right Applications
 - Unapproved
 - Approved
 - Certificated
 - Terminated

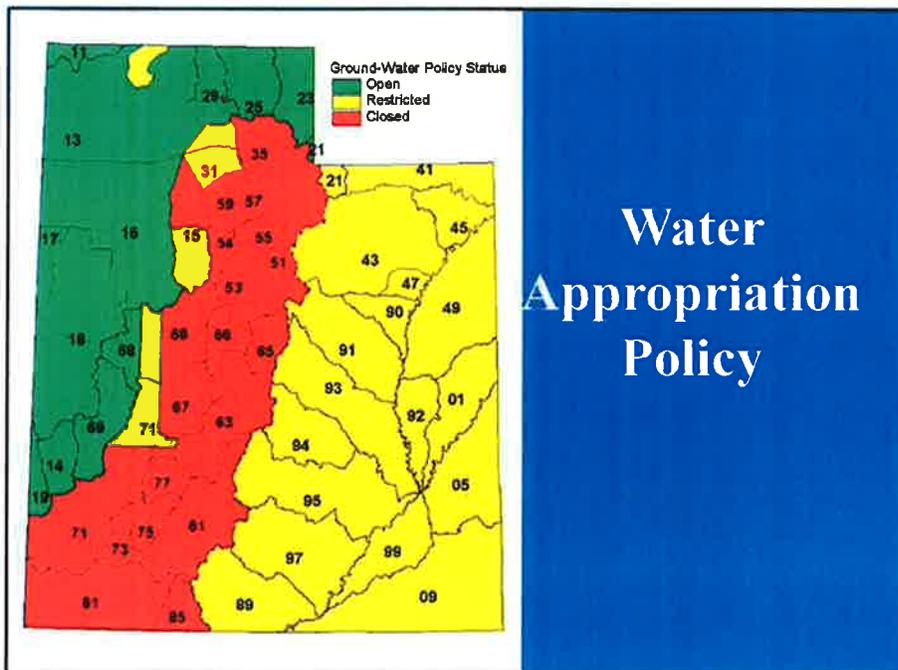


State Engineer Decision Making (Application Processing)

- Responds to proposals (applications)
 - Provides notice
 - Hears concerns against granting
 - Studies issues
 - Renders decision from the record
 - reconsideration possible
 - ~~No superior agency appeal~~
 - Judicial Appeal (De Novo Review)

SE Approval Criteria

- Unappropriated water in source.
- Will not impair existing rights/more benefit.
- Feasible/Public Welfare
- Financial Ability
- Good faith, not monopoly or speculative
- **Entitled to Use/Priority Impairment**
 - Ownership
 - Relinquish historic use
 - Equivalent diversion and depletion



Water Appropriation Policy

Utah Water Right Fundamentals

- All waters property of public (73-1-1)
- Specific process to obtain rights (73-3-1)
- Beneficial use is water right limit (73-1-3)
- Beneficial use is a public use (73-1-5)
- Priority is given to first in time (73-3-1)
- Failure to use subjects to forfeiture (73-1-4)
- Water rights transfer by deed (73-1-10)

73-5-9. Powers of state engineer as to waste, pollution, or contamination of waters.

- (1) To prevent waste, loss, pollution, or contamination of any waters whether above or below the ground, the state engineer may require the repair or construction of head gates or other devices on ditches or canals, and the repair or installation of caps, valves, or casings on any well or tunnel or the plugging or filling thereof to accomplish the purposes of this section.
- (2) Any requirement made by the state engineer in accordance with this section shall be executed by and at the cost and expense of the owner, lessee or person having control of such diverting works affected.

Case Law on Pollution

- Under the doctrine of prior appropriation, an appropriator may not pollute the stream to cause an unreasonable injury to lawful appropriators below. (State v Cal. Packing 1943)

Case Law

- Water in Utah is scarce and must be conserved. All unappropriated water in Utah is owned by the state for the use and benefit of its citizens, and the state has an interest in seeing that the water is not wasted in quantity or deteriorated in quality. (Mosley v Johnson 1969)

Case Law

- A city may protect its water source from pollution as freely against people with superior rights on the stream as against those who have no rights. (Adams v Portage Irr 1937)

Agency Services

- Public Records /Assistance
- Water Right Permitting
- Geothermal Use Permitting
- Priority Distribution
- Proposed Determinations (General Adjudication)
- Water Right Enforcement
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Questions?