

**Utah Water Quality Task Force Meeting  
Minutes**

January 19, 2017 9:30-11:30  
Utah Division of Water Quality  
195 N. 1950 W.  
Salt Lake City, Utah

Attendance

Name	Representing
Jim Bowcutt	DEQ/DWQ
Paul Dremann	Sport Fish
Carl Adams	DEQ/DWQ
Craig Miller	Division of Water Resources
Sonja Wallace	SITLA
Dan Smith	DOGM/AMRP
Ellen Bailey	USU
Steve Fluke	DOGM/AMRP
Chris Rhorer	DOGM/AMRP
Jay Olsen	UDAF
Jeremy Jarneke	BLM
Chris Kane	UACD
Greg Archuleta	SLCDDU
Bill Zanotti	UDFFSL
Rhonda Theile	DEQ/DWQ
Jeanne Riley	DEQ/DWQ
Mark Muir	U.S. Forest Service
Mike Allred	DEQ/DWQ

**Carl Adams (DEQ/DWQ)**- Welcome and Introductions

**Chris Rhorer (UDOGM)**- Utah's Abandoned Mine Strategy (see presentation)

- Management of abandoned mine reclamation has been delegated to the State with Federal oversight.
- Abandoned Mines are considered mines that were abandoned before 1977.
- Utah is one of the biggest mineral producing states in the country.
- Since 1983 lots of abandoned mine reclamation projects have taken place around the state. This includes over 5,500 mine closures.

- There are 5 standard procedures for closing mines. Backfilling dry mineshafts is the most common method that is used in the State of Utah.
- There are currently no large scale / statewide efforts to address mine drainage in the State of Utah.
- Landowners are liable for all mines on their property. This includes safety and the reclamation of those mines. They can get assistance from DOGM if they request it.
- Many mines of concern are on private land. This needs to be brought to the attention of the private landowner.
- Monitoring is ongoing to assess the environmental and ecological impacts of mine drainage in American Fork Canyon.
- DWQ cannot provide NPS grant funds for treatment of mine drainage, although loans might be an option. Grant funding can be used to assist with reclamation work (capping or moving tailings, re-routing drainage from surface waters, etc.) on abandoned mine sites.

**Jeanne Riley (UDWQ)**-changes to the MS4 permitting (See presentation)

- There have been some major changes to storm water permitting over the last several years. Mainly to the general permits.
- States were told to develop their own standards with guidance from EPA in 2012.
- Utah will use a retention standard, which requires a certain percentage of storm water will need to be retained. The standard will be a 90<sup>th</sup> percentile storm event, which is the equivalent of 0.6-0.7 inches of rain in most places.
- Low impact development is taking care of storm water at the point of generation, and is the direction that the State of Utah would like to see communities go.
- Currently there are not a lot of communities that are installing LID practices here in the state of Utah.
- Rain barrels are one storm water control measure that DWQ would like to see implemented more frequently. If these are installed there is a 2,500 gallon maximum storage limit on the rain storage devices provided a permit application is completed with the State Division of Water Rights.

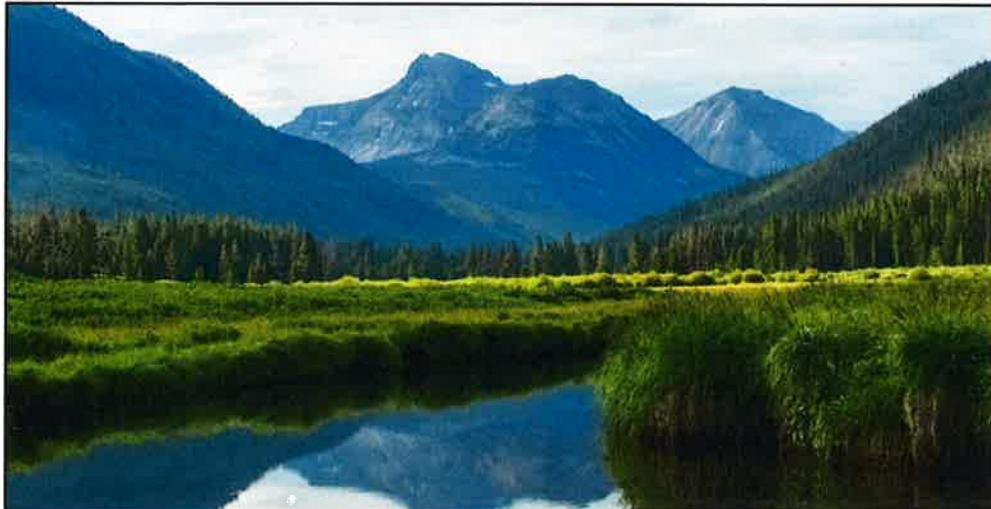
- There are many benefits to install LID vs. standard stormwater retention practices. For example LIDs can be much more aesthetically pleasing if installed correctly. It can also be more economical.
- In March of 2019 DEQ will begin requiring that MS4 entities include a process to evaluate a LID approach for projects that disturb an acre or more or less if part of a common plan of development and prevent the off-site discharge of the 90<sup>th</sup> percentile rainfall event.

**Jim Bowcutt (DEQ/DWQ)**- Update of Statewide NPS Management Plan (See presentation)

- The Statewide NPS Management Plan was last updated in 2013. It is required that each state update their plan every 5 years.
- The current management plan consists of five chapters:
  - Executive Summary
  - Introduction and Background
  - Watershed management approach
  - NPS Pollution Control and Management Strategies
  - Roles and Responsibilities of Stakeholders
- The appendix of the plan consists of 10 supporting documents that will all need to be reviewed and updated as necessary.
- EPA doesn't expect that we will need to make large scale changes to the document.
- Changes that will be made include:
  - Changes on how we will address abandoned mines
  - Plan will be updated with information from more recent reports such as the updated 303d/305b Integrated Report.
  - Partners should look at their section and see if there are any changes that need to be made.
  - The Updated NPS MOU will be included in the appendices.
- Any recommended changes from the task force will need to be submitted to Jim Bowcutt by June 30<sup>th</sup>, 2017.
- The plan should be submitted to EPA by the Governor's office by February 2018.

**Additional Items of Discussion (Jim Bowcutt- DEQ)**

- The Statewide NPS MOU is currently out for signatures from each of the partner agencies. The plan has been signed by the Division of Forestry Fire and State Lands and the DWR. It should be signed by all our partners by the end of the State Fiscal year.
- Thanks was given to the Task Force for their assistance with the State NPS Annual Report. This report will be submitted to EPA by the end of January.
- The Task Force would like to see a presentation on the current water year and what it means for planning and improvement efforts moving forward.
- The Agency Coordination Meeting will be held at the Division of Water Quality on March 7<sup>th</sup>.
- The next meeting will be held April 11<sup>th</sup> at the Division of Water Quality.



 UTAH DEPARTMENT of ENVIRONMENTAL QUALITY  
**WATER QUALITY**

**MS4 Permit Updates:  
Storm Water Retention and LID**  
January 19, 2017

## Presentation Overview

1. Development of Utah's Storm Water Retention Standard
2. Storm Water Hydrology & Management
3. Retention Standard: 90<sup>th</sup> percentile storm event
4. LID Techniques



# DEVELOPMENT OF UTAH'S STORM WATER RETENTION STANDARD



## History of Utah's Retention Standard

Utah Small MS4 General UPDES Permit (2010-2015) included a narrative standard:

- Mirror the predevelopment hydrology, or
- Improve the hydrology of a redeveloped site, and
- Reduce the discharge of storm water
- Evaluate and encourage a Low Impact Development (LID) approach



## National Storm Water Rulemaking

- EPA/States current approach determined to be unlikely to adequately control storm water's contribution to water body impairment
- EPA began developing new rules in 2009
- Retention based national performance standard for new development and redevelopment activities based on percentage storm water capture

- ➡ Apply to development disturbing 1 acre or more (or CPDs)
- ➡ Numeric performance standard.
- ➡ SW control measures that infiltrate, evapotranspirate, and/or harvest storm water.

Deferred



## State Stormwater Standards for Newly Developed and Redeveloped Sites

Performance standards that are specific and measurable are an important tool to set clear expectations for controlling stormwater impacts from newly developed and redeveloped sites.

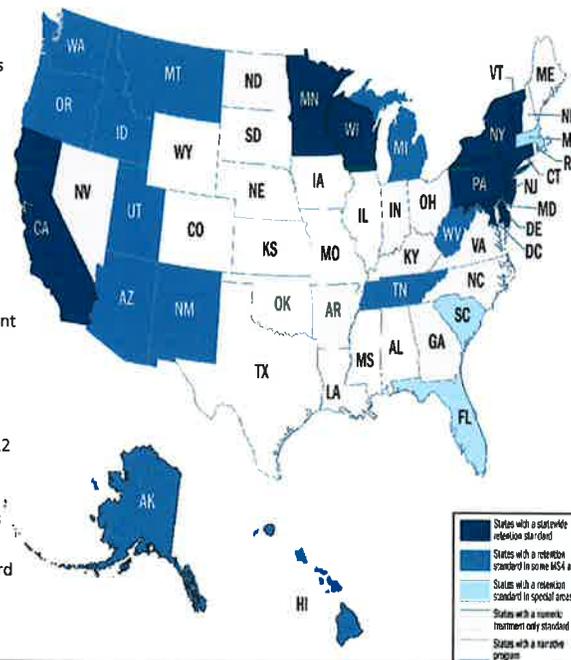
States use three types of approaches:

- Numeric retention standards (50% of states) (manage stormwater on-site)
- Numeric treatment standards (22% of states) (address pollutants only)
- Narrative program (28% of states)

States implement retention standards to different extents

- Statewide through the construction stormwater general permit or state regulation (10 states)
- Sites in Phase I and/or Phase II MS4s (12 states)
- Sites in special areas (wetland areas in MA; shellfish water in SC; closed basins in FL)

There are 9 states that apply a retention standard to sites less than one acre.



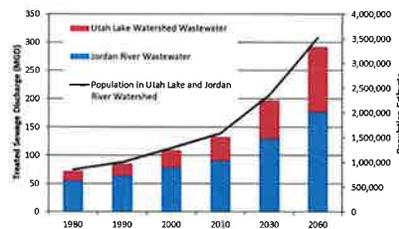
## EPA's Permit Quality Review (PQR) Audit

*Lone critical finding from the Storm Water Program Review:*

- The current narrative post-construction storm water management requirements are insufficient to meet MEP
- The permit should include a specific numeric design standard for all newly developed and redeveloped areas
- Especially in the densely populated/rapidly growing parts of Utah

### Projected Growth from 2010 to 2060

- State of Utah: 115%
- Jordan River Basin: 94%
- Utah Lake Basin: 176%



LID/Not LID



# NOT LID



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# LID



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## Not LID



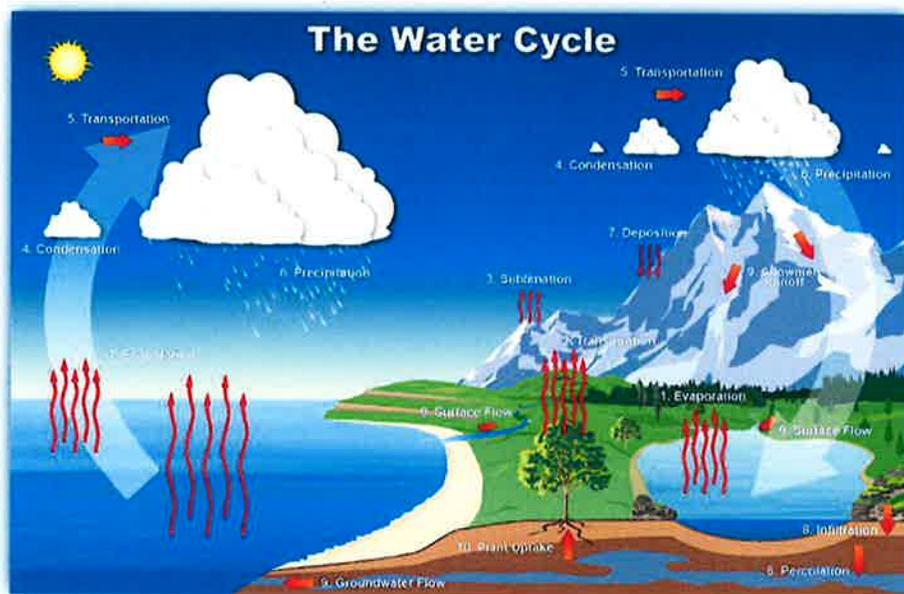
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## LID

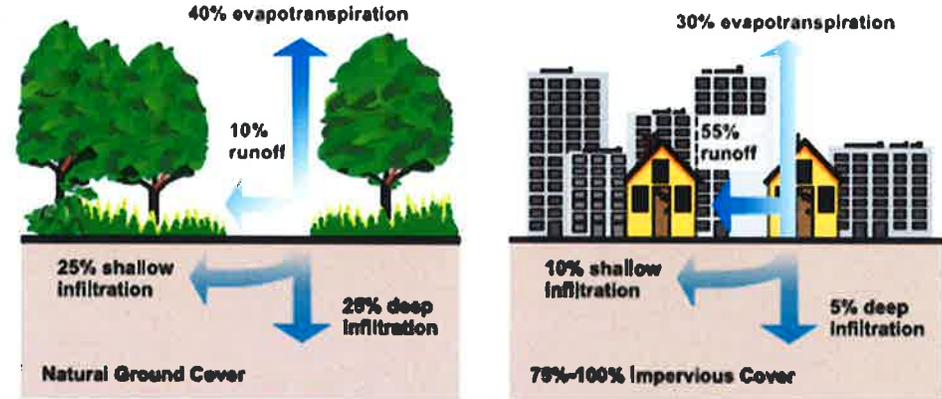


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# STORM WATER HYDROLOGY & MANAGEMENT



	Pre-Development	Post-Development
Surface Runoff	10%	55%
Infiltration	50%	15%
Evaporation	40%	30%



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The Problem: Conventional Stormwater Management



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**Conventional Storm  
Water Management:**  
What are the issues  
with Collect-Convey-  
Discharge?

## Impacts on Urban Stream Water Quality

- Nutrient loads promote stream and lake algal growth
- Bacterial contamination during dry and wet weather
- Higher loads of organic matter
- Higher concentrations of metals
- Increased sediment load
- Stream warming
- Trash and debris jams



## Philosophy Change

Current Strategy  
Previous Strategy

- Avoid and reduce impacts of development
- Manage storm water at its source through LID using engineered systems
- Emulate functions of natural systems to reintegrate rainfall into the water cycle rather than disposing of it as a waste product

**RETENTION STANDARD:  
90<sup>th</sup> PERCENTILE STORM EVENT**

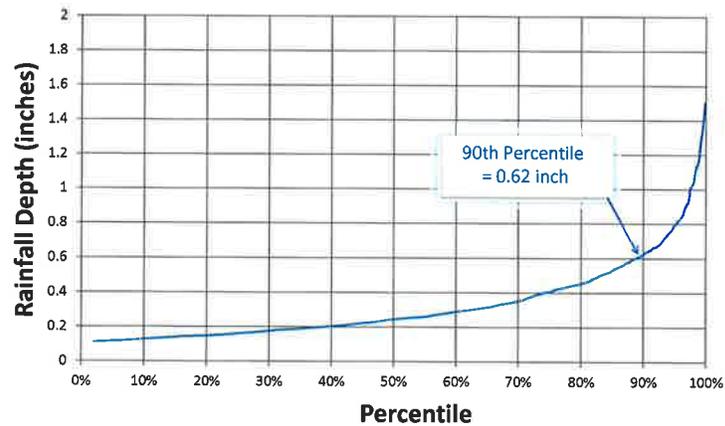


## What is the 90th Percentile Storm Event?

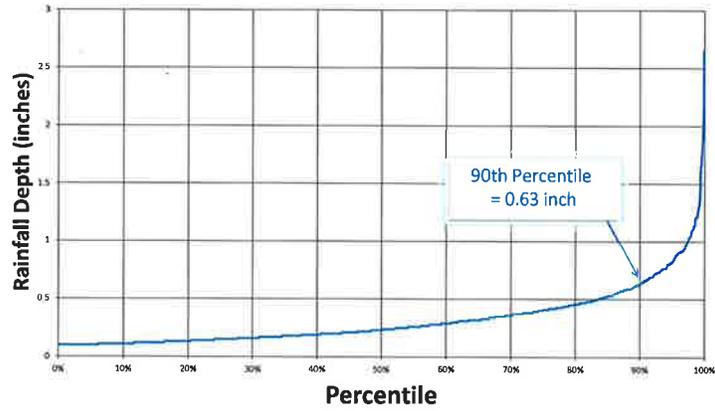
- 90<sup>th</sup> percentile rainfall depth is a numeric translator of the narrative standard
- The depth which is  $\geq 90\%$  of all storm events over a given precipitation record
- Represents the small, frequently occurring storms
- For Utah MS4s: 90<sup>th</sup> Percentile = 0.6 – 0.7 inches



### Rainfall Frequency for Orem Treatment Plant

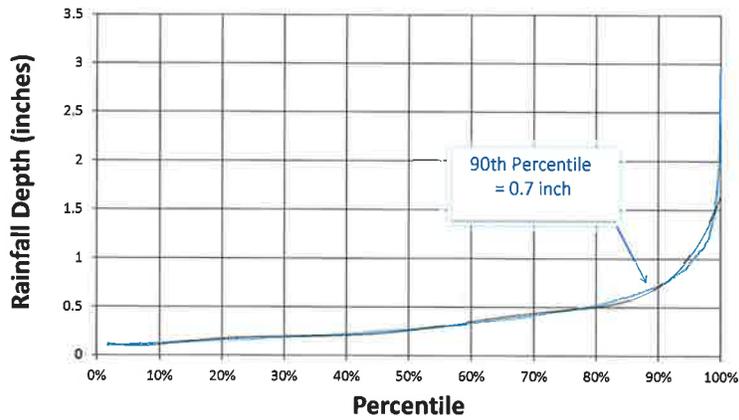


### Rainfall Frequency for Logan Experimental Farm



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### Rainfall Frequency for Brigham City



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# LID TECHNIQUES



## What is Low Impact Development?

- Approach which mimics a site's predevelopment conditions
- Techniques that:
  - Infiltrate
  - Filter
  - Store
  - Reuse
  - Evaporate
  - Transpire
  - Detain runoff close to its source



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## What is Low Impact Development?

- Preservation of natural systems
- Cluster Development
- Minimization of Impervious Areas
- Green Roofs
- Permeable Paving
- Rainwater harvesting
- Bioretention
- Storm Water BMPs



## Preservation of Open Space



## Cluster Development



## Limit Growth - Maintain Open Space



Traditional



Conservation

- House Lots (54 in each type)
- Dedicated Open Space

Adapted from Randall Arendt, Sept. 1994

## Reduction of Impervious Area



Pervious driveways



Shared driveways



## Grass Swale



# Vegetated Swale



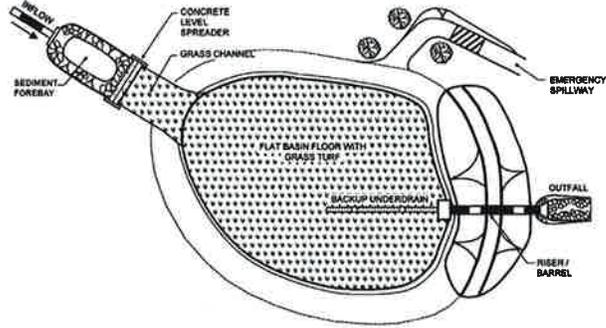
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# Vegetated Swale



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# Infiltration Basin



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# Constructed Wetland



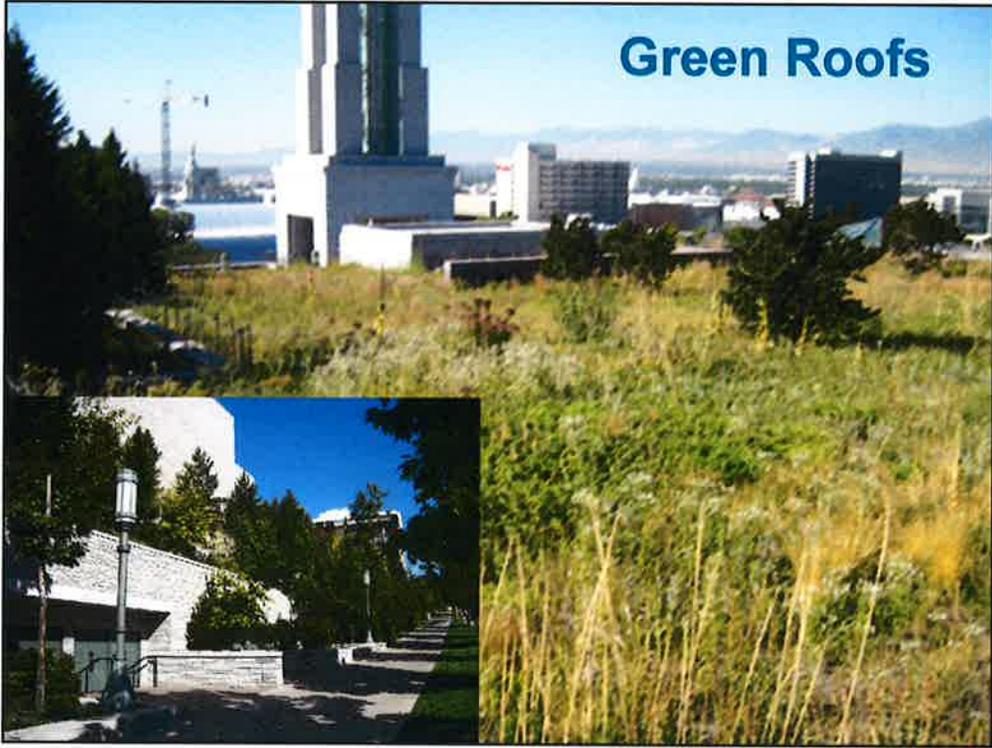
## Bioretention



## Rain Gardens



## Green Roofs



## Rainwater Harvesting



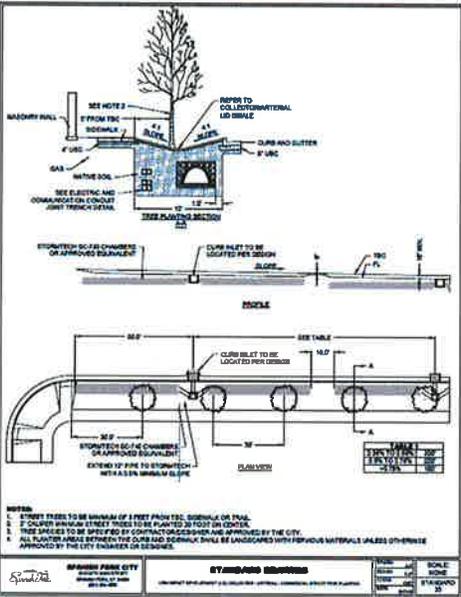
## Rainwater Reuse



## Pervious Concrete

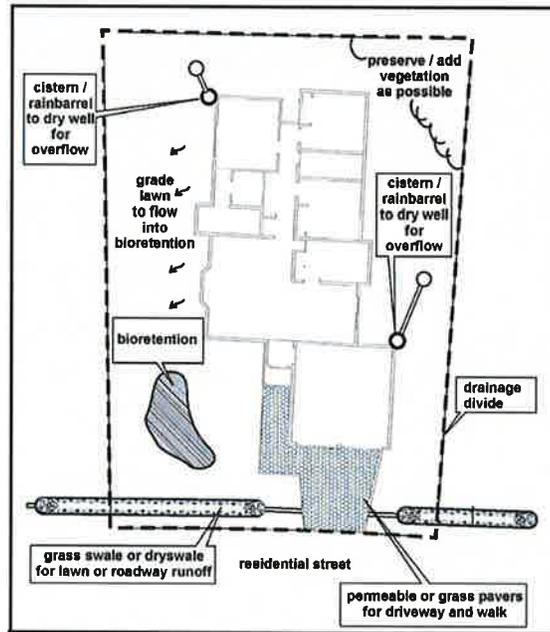


# Options for Parking Lots





## Options for Single Family Home



## Why LID?

### Environmental Benefits

- Water Quality
- Remove Pollutants
- Flood Control

### Livability/Quality of Life

- Shade
- Traffic Calming
- Increased Property Values
- Community Building

### Economic Benefits

- Reduce cost of new construction
- Reduced O&M costs
- Reduced water usage
- Increased market value



## Cost Benefits of LID

Reduced Street Width = less costly pavement, curb and gutter

Reduce lot sizes = reduced grading and site prep  
= more lots for sale

Preserving Natural Features = reduced landscaping costs  
= increased property values

LID/Bioretenion = fewer costly detention basins  
= less piped conveyance  
= reduced O & M costs



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## LID Resources

DWQ LID Website

<http://www.deq.utah.gov/Permits/water/updes/low-impact-development.htm>

Low Impact Development Center

<http://www.lowimpactdevelopment.org/>

LID Urban Design Tools Website

<http://www.lid-stormwater.net/>

US EPA LID "Barrier Busters" Fact Sheet Series

<http://water.epa.gov/polwaste/green/bbfs.cfm>

US EPA LID Design Manual

[http://water.epa.gov/polwaste/green/upload/lid\\_hydr.pdf](http://water.epa.gov/polwaste/green/upload/lid_hydr.pdf)



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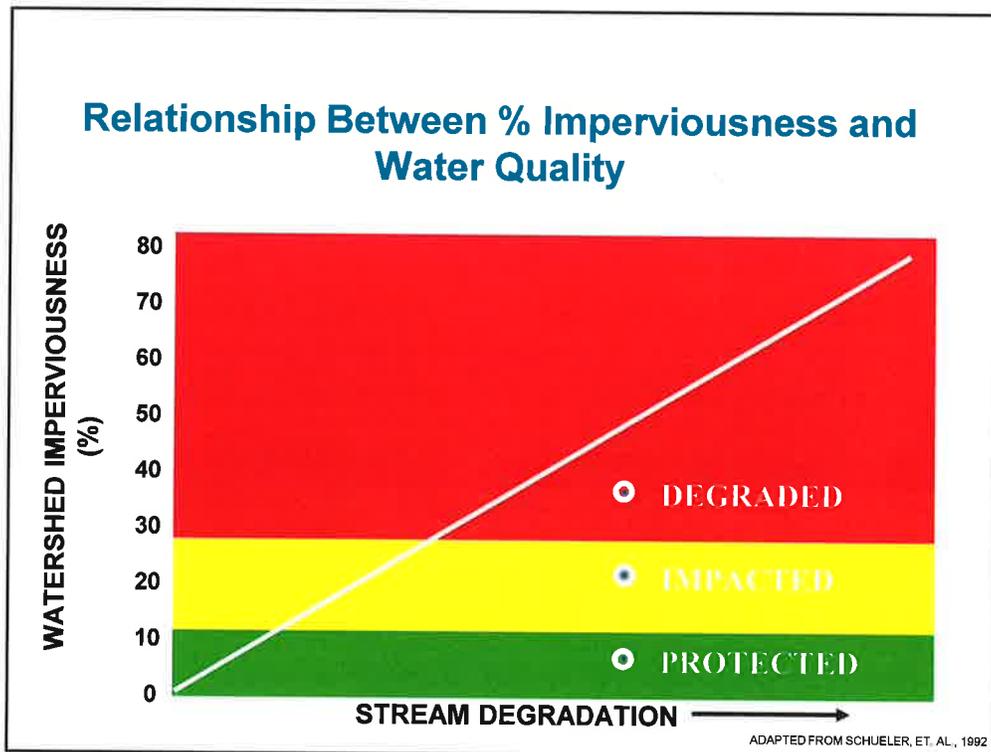
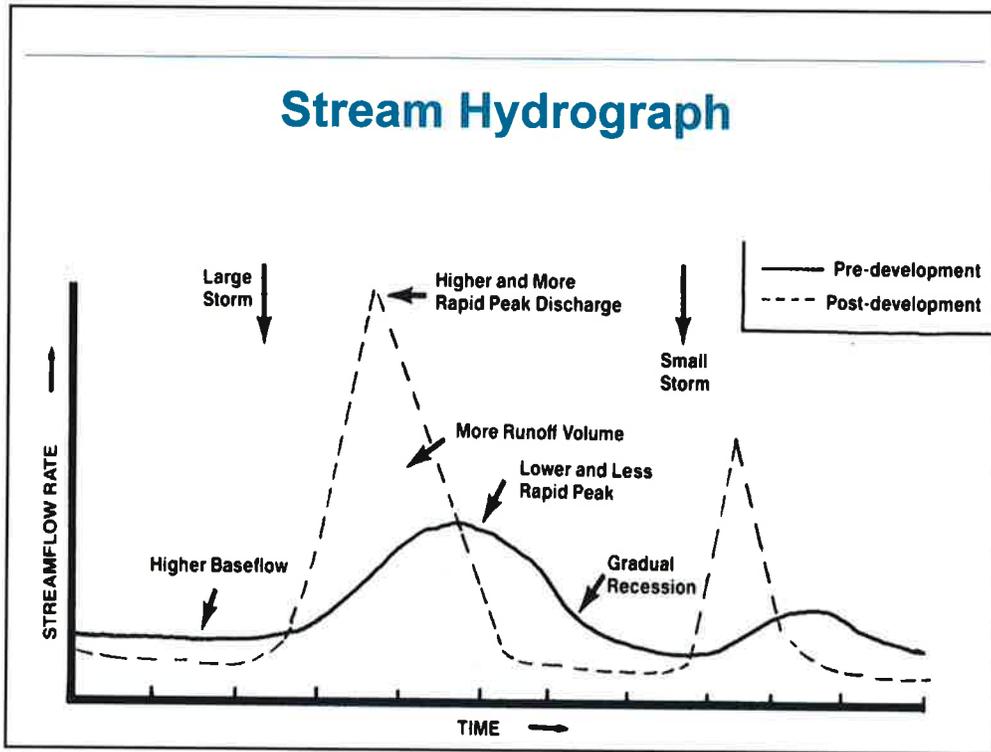
## DWQ Storm Water Section

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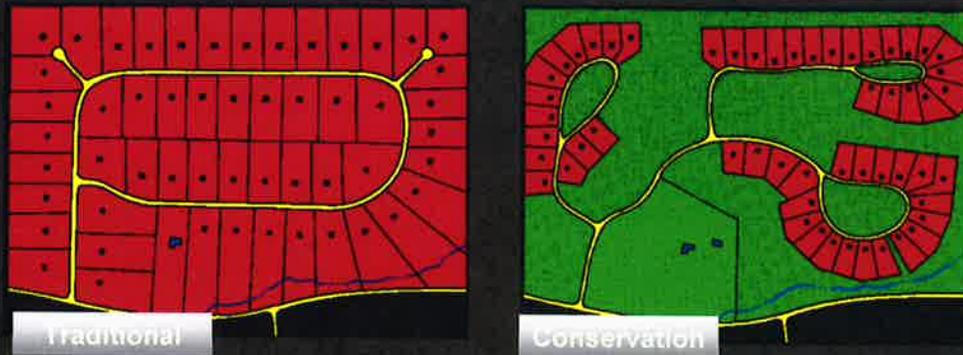


## Calculation of the 90th Percentile Storm Event

- Obtain long-term rainfall data  
NOAA  
<http://www.ncdc.noaa.gov/cdo-web/search?datasetid=GHCND>
- Utah Climate Center  
<https://climate.usurf.usu.edu/mapGUI/mapGUI.php>
- Remove small precipitation events < 0.1 inch
- Sort and rank data
- Use data to graph/calculate 90<sup>th</sup> percentile rainfall depth



## Limit Growth - Maintain Open Space



- House Lots (54 in each type)
- Dedicated Open Space

Adapted from Randall Arendt, Sept. 1994

## Cluster Development



## Tributary and Groundwater Contributions to the GSL

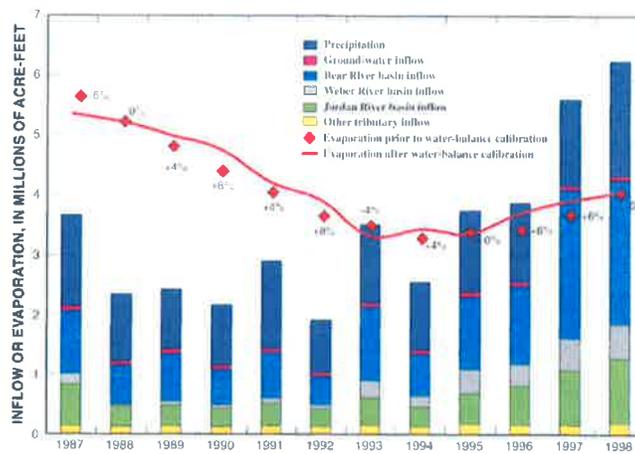


Figure A2. Inflow and evaporation for Great Salt Lake, Utah, 1987-98



## Bioretention



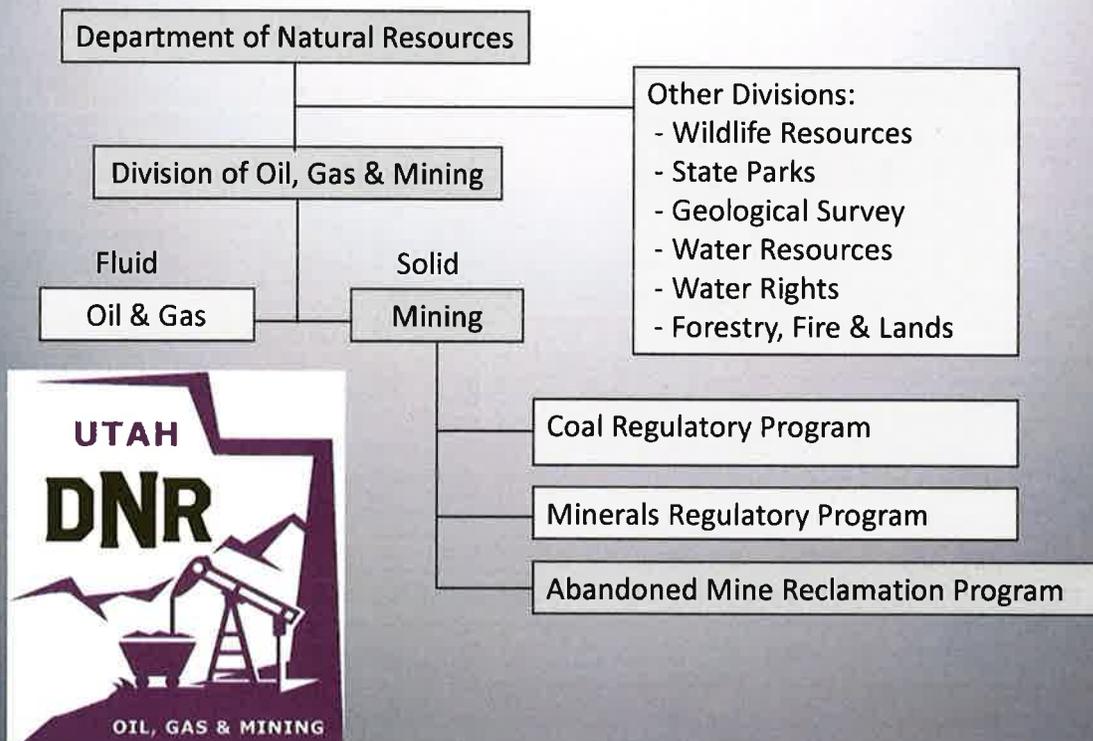
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# Utah's Strategy for Dealing with Abandoned Mines

Steve Fluke & Chris Rohrer  
Utah Abandoned Mine Reclamation Program

Utah Department of Environmental Quality  
Division of Water Quality  
Water Quality Task Force Meeting  
January 19, 2017

## Who we are



# Why the AMRP?

Surface Mining Control and Reclamation Act of 1977 (SMCRA) - P.L. 95-87

## Mining Town 'Wiped Out'

MAN, W. Va., (UPI) — Between 80 and 90 persons died Saturday when a rain-swollen coal slag cofferdam burst, sending a three-foot wall of water crashing through a valley crowded with more than a dozen small mining towns. It was initially estimated that nine persons had died at-



## SMCRA

- Regulate Active Coal Mines
  - Reclamation Plan/Permit
  - Reclamation Bond
  - Inspection/Enforcement
- Reclaim Abandoned Mines
  - Funded by tax on coal production
  - Coal priority, but noncoal safety
- Created the Office of Surface Mining (OSM)



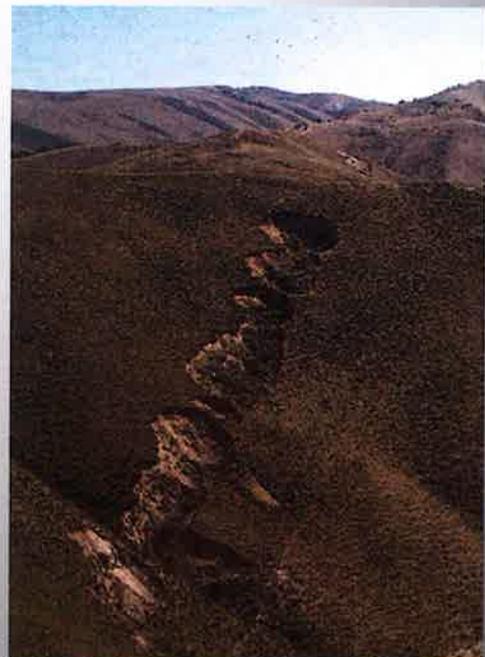
# Primacy

- Delegation of Federal Authority to States
- State = Federal
  - Regulation
  - Enforcement
  - Reclamation
- Federal Oversight
- Utah: 1983

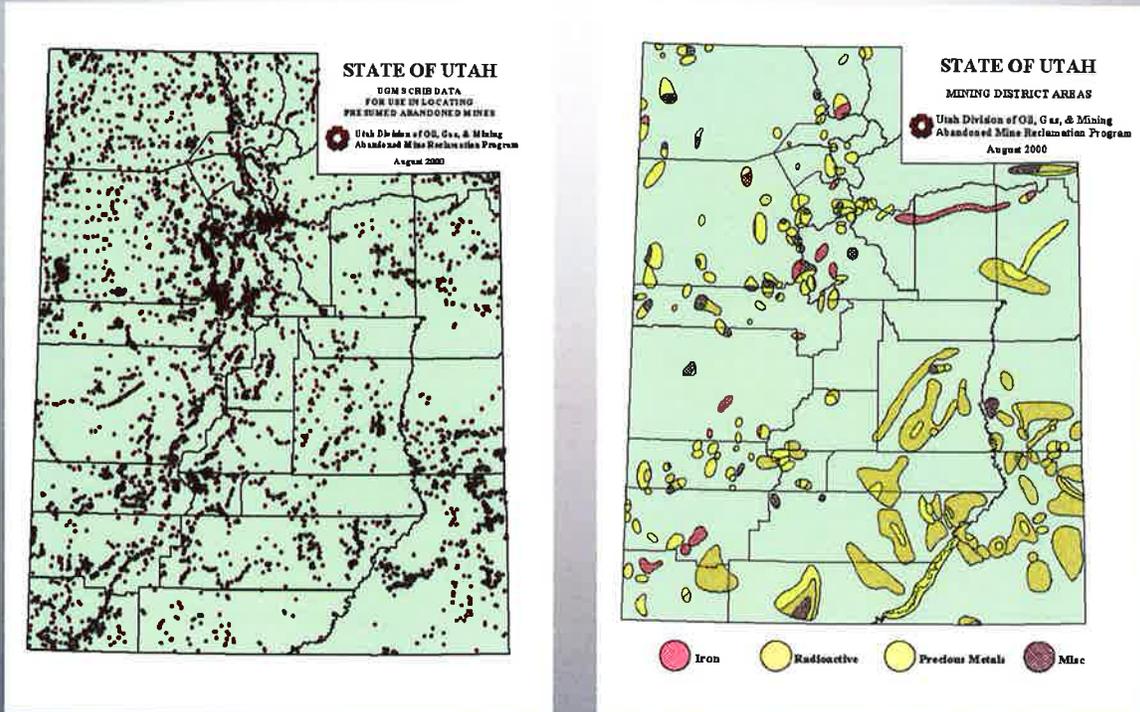


## What Are Abandoned Mines?

- Abandoned before 1977
- Left in an unsafe condition
- No party responsible for reclamation



# Where are they?



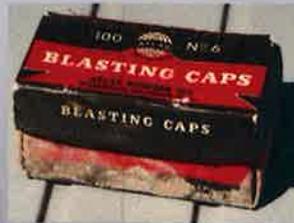
## Environmental Problems

- Disturbed land
  - Lack of vegetation
  - Diminished forage/range quality
- Water quality
  - Erosion
  - Acid Mine Drainage
- Air quality
  - Coal, gilsonite fires
  - Fugitive dust
- Heavy metals (Pb, As)



# Public Safety Hazards

- Fall/Entrapment
  - Fall into shafts
  - Winzes
- Rockfalls/Cave-in
- Black damp
- Radon
- Explosives
- Unstable structures



# Hazardous Mine Openings



Estimate: 17-20,000 mine openings in Utah

# Mine Incidents

## Canine rescue successful



Parowan resident Bob Giles got his dog, Buster, back safe and sound with the help of two C... Rescue after the animal fell approximately 10 feet down a mine shaft Wednesday in the Red... Parowan. (KSL-TV/STANLEY)

By Dan Kessner  
KSL-TV/STANLEY

### FOR THE RECORD

**DEATH IN MINE SHAFT**  
A 26-year-old American Fork man died at 10:15 Saturday morning after he drove an ATV into a mine shaft in west Cedar Valley, west of Utah Lake. Robert Bartholomew was riding with his father and brother-in-law when the accident occurred. "They came in up the top of what they thought was a deep area, but was really a 50-foot-deep mine shaft," Sheriff Frank Schermann said. The man was riding with his father and brother-in-law. Police immediately brought in Utah County Sheriff's Search and... but the man...

### Girl, 14, Suffers Fractures In 40-Foot Mine Tumble

**COTTONWOOD HEIGHTS**—A 14-year-old Salt Lake City girl was seriously injured Sunday about 2 p.m. when she fell about 40 feet while climbing in an abandoned mine near the mouth of Big Cottonwood Canyon. She was treated at Salt Lake General Hospital and then transferred to Letter-day Saints Hospital. LT. C. J. GUNN and Deputy Nicholas G. Morgan III, Salt Lake County Sheriff's office, said the girl was climbing in the abandoned mine near the Holiday Gun Club on the north side at the mouth of the canyon. Her companions were William C. Gilmour, 16, son of Mr. and Mrs. C. M. Gilmour, 2650 E. 5300 South; Janice Olsen, 14, 2300 S. Twentieth St. and Lee Sr. and 236-1600.



### Student Rock Collector Killed in Mine Cave-In

**WENDOVER, Utah (AP)** — four times the walls caved in while they were digging—before they recovered the body. Deputy Marion Carter said the student had "picked rock..."

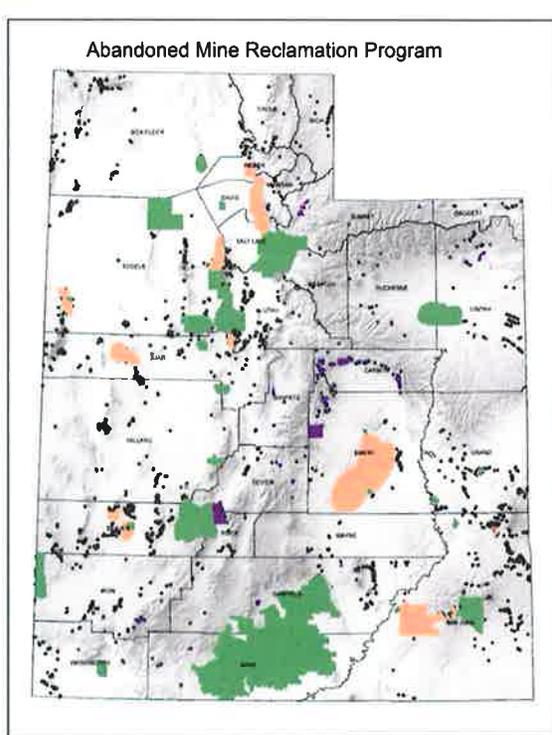
### NEWSLINE: the West

**Fall into mine shaft kills Ogden boy, 11**  
**BRIGHAM CITY** — An 11-year-old boy died Sunday when he fell 500 feet southwest of Brigham City. Kris Marchant, son of Lynn and... motorcycling with his father and brother... the south end of the Promontory Mount... said Box Elder County Sheriff Sgt. Cur...

### Mine shaft collapses at American Flag

**Public Safety Alert from United Park City Mines Company**  
Public Safety Alert: Tuesday, May 24th, a mine shaft collapse was discovered at the American Flag mine during an inspection of the area by United Park City Mines Company personnel as a result of the tremendous amount of snow and rainfall in Park City this past winter and spring season. The area has been cordoned off with danger signs warning hikers, bikers and sightseers to steer clear of the area and that all animals should be contained by their owners. The shaft is located near the road above the water tank in Empire Canyon adjacent to the roadway between Ontario mine and Empire Canyon. The mine shaft is 1100 feet deep and was constructed in keeping with established, proactive safety procedures. United Park City Mines Company is releasing the following public service alert: Tuesday, May 24th, a mine shaft collapse was discovered at the American Flag mine during an inspection of the area by United Park City Mines Company personnel as a result of the tremendous amount of snow and rainfall in Park City this past winter and spring season. The area has been cordoned off with danger signs warning hikers, bikers and sightseers to steer clear of the area and that all animals should be contained by their owners. The shaft is located near the road above the water tank in Empire Canyon adjacent to the roadway between Ontario mine and Empire Canyon. The mine shaft is 1100 feet deep and was constructed...

# Reclamation



## Construction Projects Since 1983

- Coal - \$18M
- Non-Coal - \$12M
- Planned through 2018 - \$6M (Estimated)
- Unaddressed Mining Features (From USGS Topo Symbols)

~5,500 Mine Closures

# Coal Reclamation

- SMCRA allows total reclamation
- Frequent streambank coal removal and bank stabilization projects



## Price River Success Story (Coal)



# Noncoal Reclamation

- SMCRA Section 409
  - Allows use of funds for noncoal reclamation
  - Limits noncoal reclamation to health & safety
  - AMRP *cannot* use SMCRA funds for water/environmental
  - AMRP can use other funding sources for environmental work (e.g. Cottonwood Wash)
- Minimal water inventory/reclamation to date



## Noncoal Watershed Enhancements

- Cottonwood Wash Project (San Juan County)
  - Uranium mine wastes removed from streambanks
  - CWA Sec 319 funds



# Noncoal Watershed Enhancements

- La Sal Project (San Juan County)
  - Uranium mine discharge treated with bioreactor
  - Mine dumps stabilized to reduce erosion
  - BLM funds

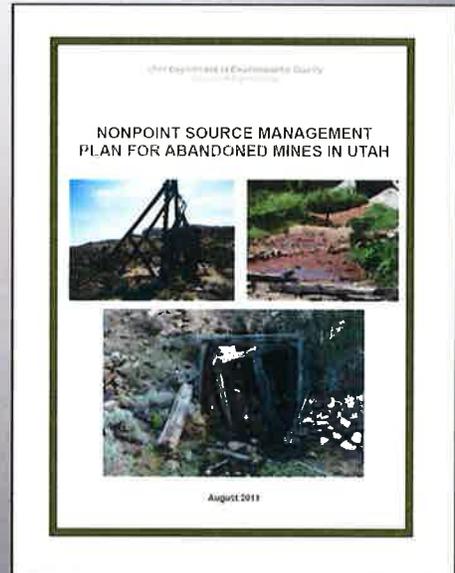


## BLM Partnership

- BLM funds not restricted to safety
- Dutch Mountain pilot project
  - Conceptual Site Model (Risk Assessment)
  - Template for future projects

# Other AMRP Water Efforts

- 1980s: Cottonwood Cyns Water Sampling (Salt Lake County)
  - With SL County Public Works
- 2011: NPS AML Mgmt Plan

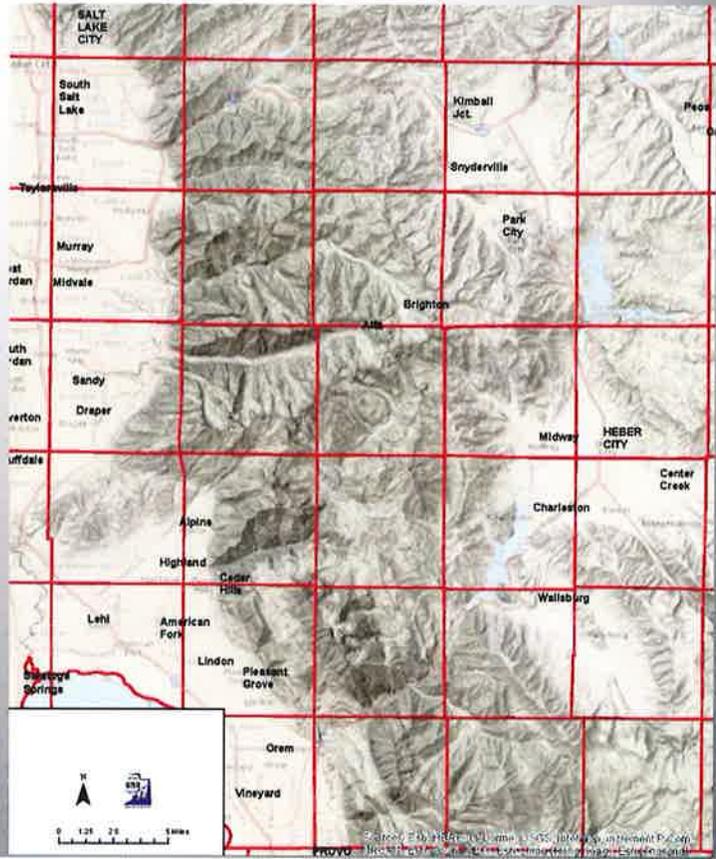


Can it happen in Utah?



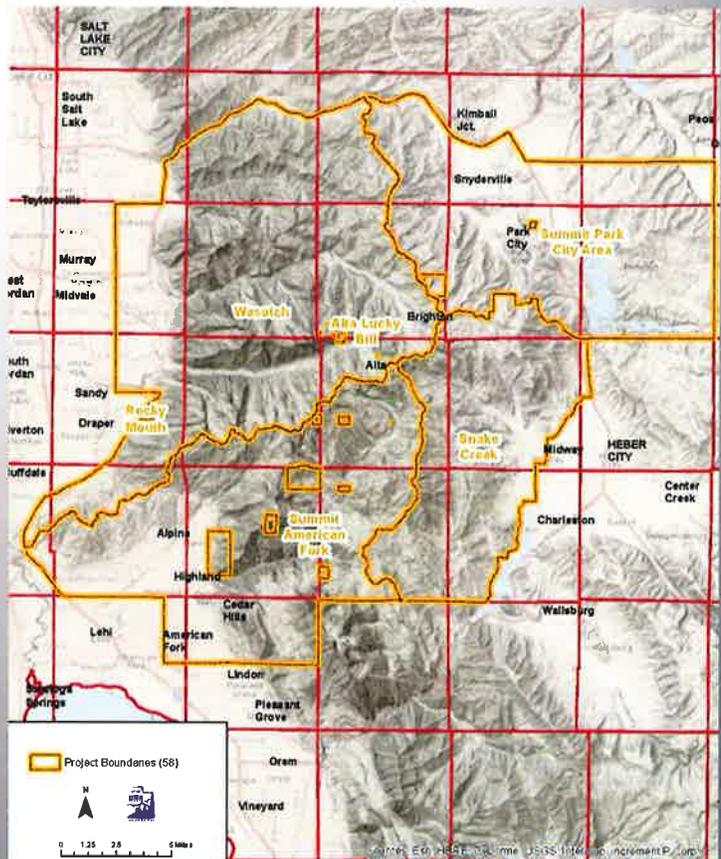
# AMRP Projects in the Wasatch

- Mines
- Population
- Water!



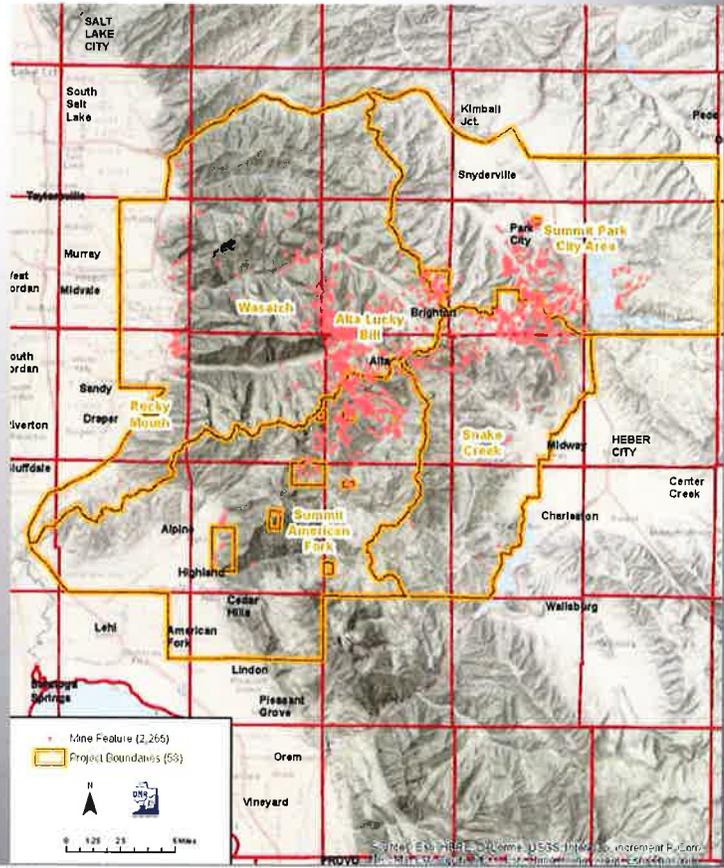
# AMRP Projects in the Wasatch

- Seven Project Areas
- 1983 – 1993



# AMRP Projects in the Wasatch

- Seven Project Areas
- 1983 – 1993
- 2,267 Mine Features Inventoried
  - 817 Open (Hazardous)
  - 1,450 Closed/Prospects
- Mine Closure Construction
  - 655 Closed
  - 162 No Action (25%)
- Closure Types
  - 540 Backfills
  - 50 Walls
  - 20 Grates
  - 45 Others



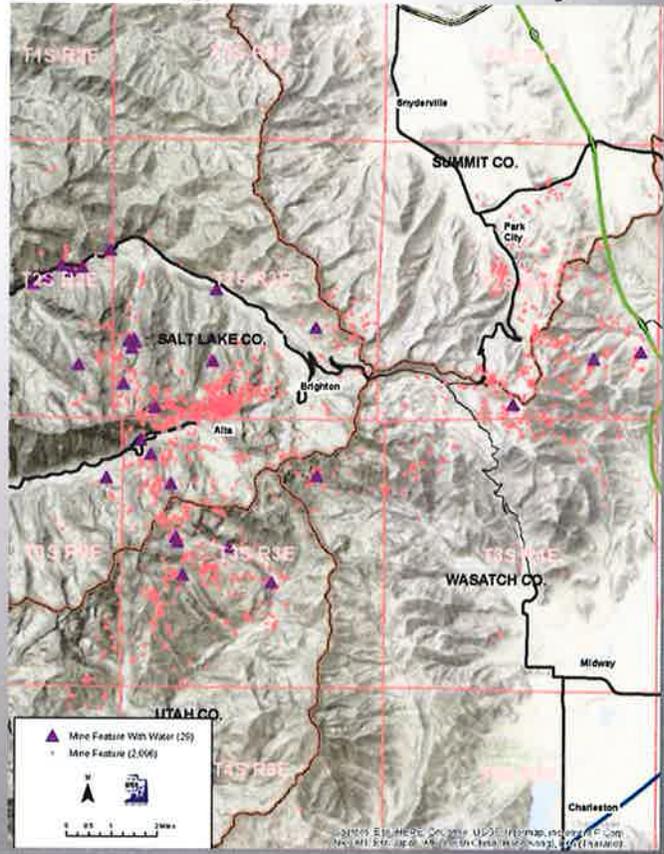
## Wasatch Maintenance Project

- Goals
  - Identify maintenance needs
  - GPS mine features
  - **Did not** visit all mines
  - **Did not** inventory for mine discharge
- Summers of 2013, 2014, & 2015
- Approximately 21 closures identified for maintenance



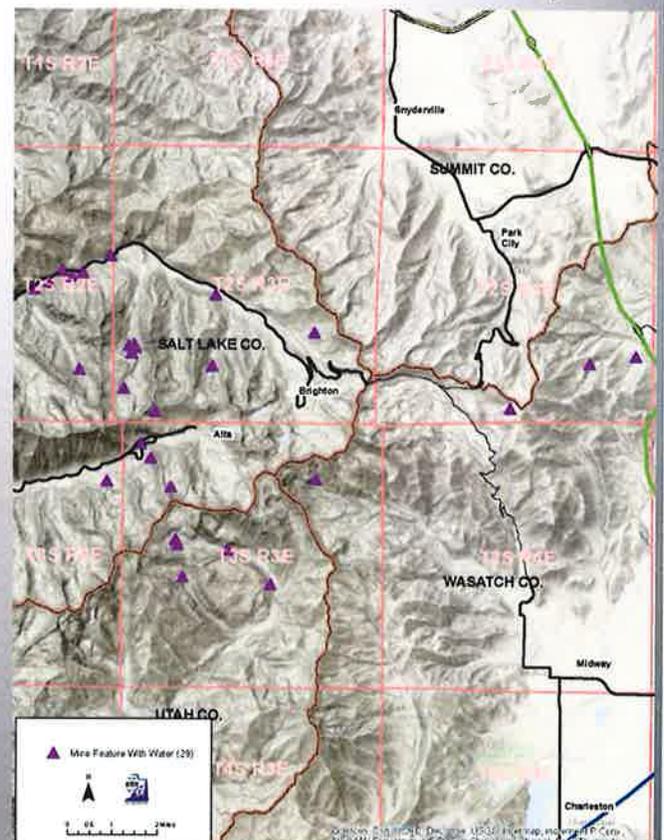
# Wasatch Mine Discharge Inventory

- In response to inquiries following the Gold King release
  - Reviewed inventory photos
  - Some inventory forms



# Wasatch Mine Discharge Inventory

- In response to inquiries following the Gold King release
  - Reviewed inventory photos
  - Some inventory forms
- Identified 29 mines with significant discharge
- Site Visits
  - Measure or estimate flow
  - Measure field parameters  
pH, temp, conductivity
  - Identify hazardous conditions
  - Identify flow contribution to drainages



# Wasatch Mine Discharge Inventory

- Site visits to 19 of 29 discharging mines in 2016
- Preliminary results
  - Most appear to be of minor concern  
*low flow, infiltrates into ground*
  - Five have significant flow into perennial streams
  - Three are concerning  
*flooded backfilled mines w/ no oversight*
- Continue inventory
- Follow up
  - Land ownership
  - Share findings
  - More research



?





UTAH DEPARTMENT of ENVIRONMENTAL QUALITY  
**WATER QUALITY**

## Utah Nonpoint Source Pollution Management Plan Update

### What is a Statewide NPS Management Plan?

According to EPA:

It is a plan "Submitted by the Governor of each State...for controlling pollution added from nonpoint sources to the navigable waters within the State and improving the quality of such waters."

*Clean Water Act Section 319 (b)(1)*



# Utah's Current NPS Management Plan



## Current NPS Management Plan

- The Current Statewide NPS Management Plan was approved by EPA in May of 2013.
- As requested by EPA, the Management Plan should be updated every 5 years.
- In order to have the plan updated and through the approval process by May of 2018 we need to start the process of updating the plan this year.



## Current NPS Management Plan

The current plan consists of five chapters

1. The Executive Summary
2. Introduction and Background
3. The Watershed Management Approach
4. NPS Pollution Control and Management Strategies
5. Roles and Responsibilities of Stakeholders



## Current NPS Management Plan

### Chapter 2

#### Introduction and Background

Gives a short history of the Utah NPS Program.

**Contains program Objectives, Tasks, and Milestones.**

Objective 1: Environmental Protection:

Objective 2: Improve Program Efficiency and Effectiveness through Reporting and Evaluation.

Objective 3: Improve Public Participation and Understanding of NPS Issues.

Objective 4: Improve Data Collection and Management

Objective 5: Improve Coordination of Governmental and Private Sectors

Identifies how the plan will meet all 9 elements required by EPA.



# Current NPS Management Plan

## Chapter 3

### The Watershed Management Approach



# Current NPS Management Plan

## Chapter 4

### NPS Pollution Control and Management Strategies

Funding Sources, and NPS Programs that exist in the state

What Management Strategies will be used to reduce NPS pollution

- |                          |                      |                                    |
|--------------------------|----------------------|------------------------------------|
| -Information & Education | -Agriculture         | -Urban Runoff                      |
| -Hydrologic Modification | -Mining              | -Road Construction and Maintenance |
| -Silviculture            | -Septic              | -Atmospheric Deposition            |
| -Federal Consistency     | -High Quality Waters | -Ground Water                      |
| -USDA Programs           | -Energy Development  |                                    |



## Current NPS Management Plan

### Chapter 5

#### **Roles and Responsibilities of DWQ Programs, Utah State Divisions, and Other Stakeholders**

This chapter highlights the roles and responsibilities each agency has in reducing NPS pollution in the State of Utah.



## Current NPS Management Plan

### Appendices

- Appendix A- List of Best Management Practices
- Appendix B- Utah Water Quality Task Force Charter
- Appendix C- Utah Statewide NPS I&E Plan
- Appendix D- Utah Anti-degradation Policy
- Appendix E- Utah Storm Water Management Plan
- Appendix F- Utah Abandoned Mine Plan
- Appendix G- Utah Hydromodification Plan
- Appendix H- Utah Forest Water Quality Guidelines
- Appendix I- Analysis of EPA's Eight <sup>CAI</sup> Key Elements
- Appendix J- Letters of Approval



**Slide 10**

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**CA1** Eight or Nine?  
Carl Adams, 1/17/2017

## Updating the Plan



### What Changes Need to Be Made?

- In discussions with EPA at the recent National NPS Managers Meeting in Boston one of our regional EPA contacts told me that they don't expect us to make any ground breaking changes to our plan.
- With that being said, I am willing to make any changes to the Management Plan that the Task Force deems necessary.

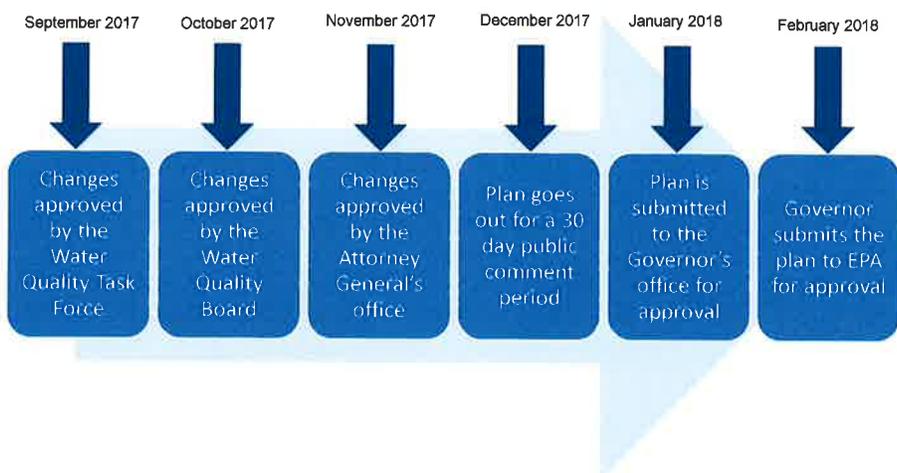


## Changes that are planned right now?

- How we will deal with abandoned mines will need to be modified due to changes to the 319 program sent to us from EPA.
- The management plan will be updated with information from more recent reports and documents (i.e. 303(d) reports, TMDLs that have been written)
- The Updated NPS MOU will be included in the appendices.
- The DEQ Partners that have a section in the Management Plan will have a chance to review their sections and make any changes they would like.
- We would like to invite all members of the Water Quality Task force to review the State NPS Management Plan, and send any comments, or recommended updates that should be made to the plan. Recommendations, and comments from the Task Force will need to be submitted to Jim Bowcutt by June 30<sup>th</sup>, 2017.



## Rough Timeline



# Questions???

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