



UTAH DEPARTMENT of
ENVIRONMENTAL QUALITY
**WATER
QUALITY**

MEETING MINUTES

Water Quality Task Force

June 27, 2019
9:30-11:30
195 North 1950 West,
Red Rocks Conference Room

PRESENT:

Jim Bowcutt	DEQ/DWQ
Jodi Gardberg	DEQ/DWQ
Leila Ahmadi	Utah Division of Water Resources
Jim Harris	DEQ/DWQ
Meghan Tait	USU Extension
Jay Olsen	UDAF
Gabe Murray	UDAF
Josh Palmer	Gov Friend
Rhonda Miller	USU Extension
Nancy Mesner	USU Extension
Ryan Williams	WBWCD
Bill Zannotti	UDFFSL
Melissa Noble	UDDW
Jason Buchanan	Gov Friend
Tyler Thompson	UDNR
Ben Radcliff	USBR

I. DISCUSSION

Jim Bowcutt (Utah Division of Water Quality)- NPS Program Annual Report (see presentation)

- Major Projects for the FY-2019 Section 319 Grants were located in Pelican Lake and Matt Warner Reservoir. Uintah Basin was the Targeted Watershed.
- The Statewide NPS Management Plan was approved by EPA In April of 2019. It will need to be revised again in 5 years.
- Big Bend will be main area of focus with FY-2020 Section 319 funds, along with a project on the Spanish Fork River.
- The need for before and after data to demonstrate project effectiveness is very important.
- Jay Olsen attended a workshop where they discussed water quality trading. This may be effective in Utah. He will send the link to the presentations out to the Task Force.
- A summary of the ARDL Buy-Down Program was given.

Josh Palmer (Government Friends) I&E Campaign for Small Farms and Human Waste (See Presentation)

- The Human Waste campaign needs to have the support of the Travel Council.
- The Human Waste Campaign will not focus on National Park Service lands since they already have a campaign of their own going on right now.
- The results of the survey that were done to guide this campaign can be distributed to members of the Task Force upon request.
- Publications from USU Extension may be published as soon as next week.
- Make sure we partner with "We all live downstream" When possible.

Jodi Gardberg (Utah Division of Water Quality) Assessment and TMDL Development in the State of Utah (See presentation)

- Carl Adams has stepped down, and Jodi Gardberg is the new Section Manager for the Watershed Protection Section at DWQ.

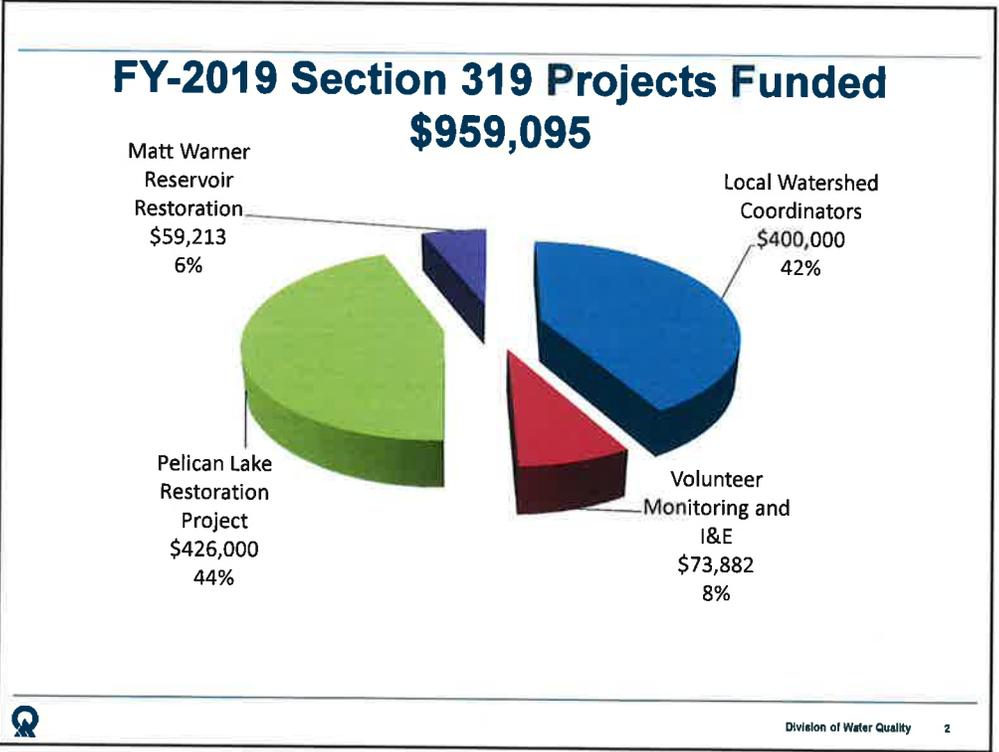
- Utah's 303(d) Vision conducted a survey to see what waterbodies should be high priority around the state. The highest ranking uses were Drinking Water, National/State Parks, high recreational areas, Blue Ribbon Fisheries, Important Bird Areas.
- There is a long list of high priority TMDLs (28) that need to be completed by 2022, many of them along the Wasatch Front.

Gabe Murray (Utah Department of Agriculture and Food) Implementation Work in the Bear River Watershed(See presentation)

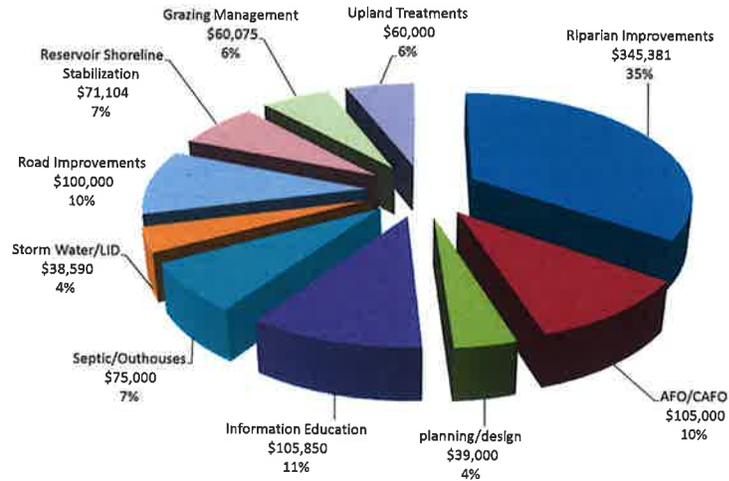
- Extensive work is being done all over the Bear River Watershed, including the Logan River, and the Lower Bear.
- Cover Crops are being pushed hard in the Bear River. Hopefully this work will help identify what will work in Utah and what the benefits are.
- Need to find actual producers that are benefiting from cover crops and no-till. Right now there are many landowners that are very skeptical of it.
- Landowners need to realize that the benefits of soil health can take years to manifest. They need to be patient.

II. ADDITIONAL ITEMS

- Next Meeting September 10th.
- Potential Topics:
 - More Coordinator Presentations
 - Fuels Reduction Projects from Forest Service or FFSL.
 - Bull Creek Fire-Pre and Post Fire data- Ben Abbott



State NPS Projects Funded for FY-2019 \$1,000,000



FY-19 Deliverables

- ARDL Buy Down for AFO/CAFOs
- State NPS Management Plan Approved by EPA
- 7 Local watershed coordinators funded throughout the state
- 3 Animal feeding operations fixed
- 6 Information and education projects funded
- 4.46 Miles of riparian fencing
- 2.7 Miles of stream bank restoration
- 1.4 miles of roads removed from riparian areas.
- Otter Creek Watershed Plan Completed



Project Match for FY-2019 NPS Grants

Source	Amount
NRCS	\$2,177,942
Landowner Match	\$1,617,350
LEAF	\$30,000
Local government	\$176,451
WRI	\$258,000
Forest Service	\$430,000
University of Utah	\$96,981
Trout Unlimited	\$65,000
DWR	\$799,000
In-Kind	\$642,867
Other	\$103,960
Total	\$6,397,551

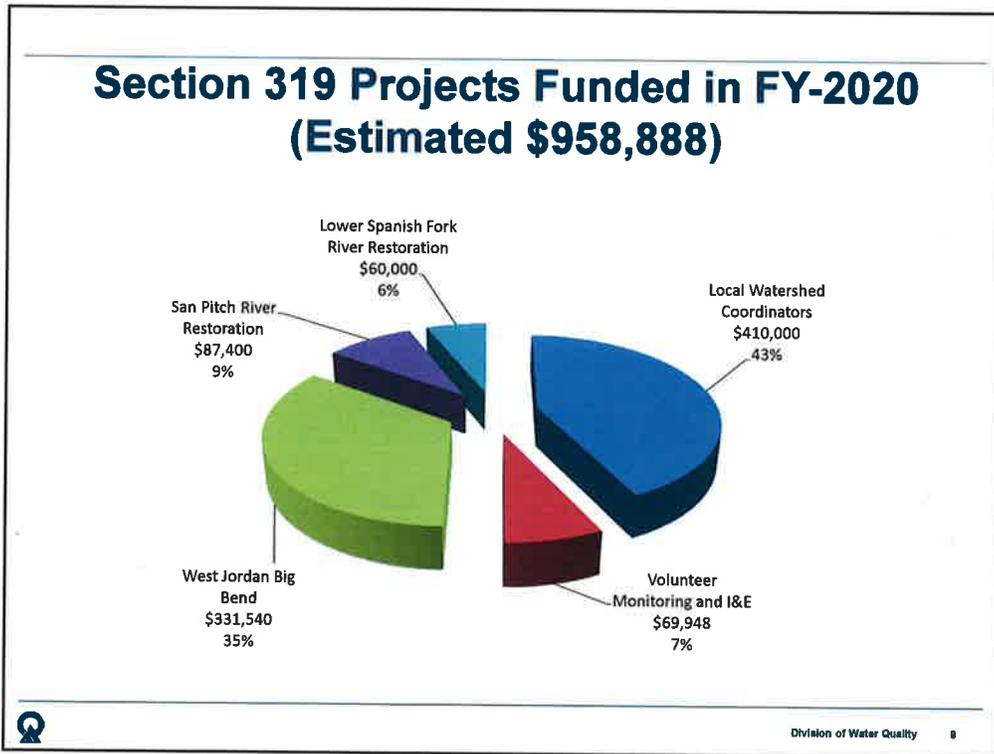
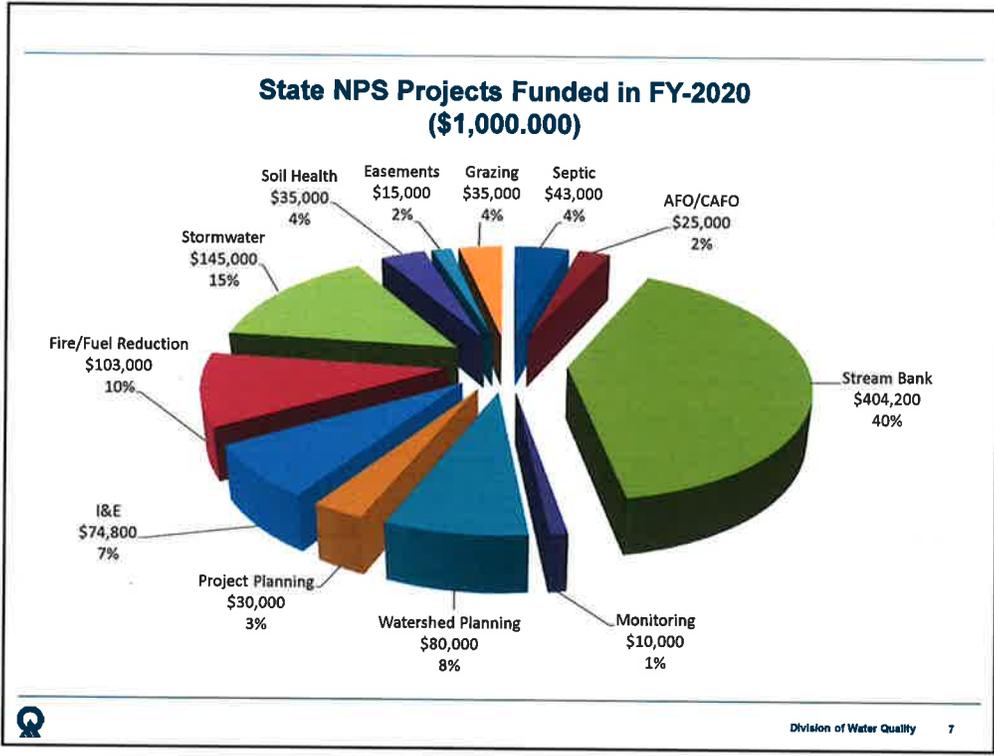
For every \$1 in NPS funding spent, \$3.27 in match was obtained



FY-2020 Projects Funded

- Applications were accepted from February 1st through April 12th.
- Projects were then ranked internally at DEQ.
- DWQ then met with a working group of the Water Quality Task Force to develop a final ranking of the projects.
- May 17th the final grant recipients were announced.
- Jordan River/Utah Lake was the targeted watershed
- 60 proposals were received, totaling \$3,246,677.
- 43 proposals were selected for full or partial funding.



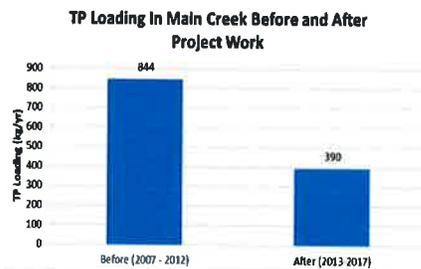
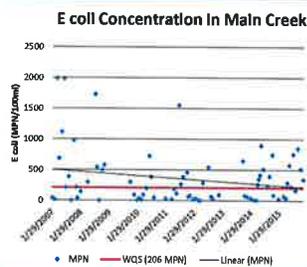
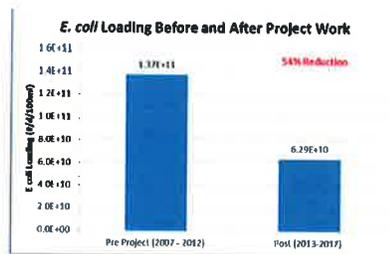


Wallsburg Watershed (Main Creek) Success Story

- Restoration Efforts began in 2012.
- To date over \$1.6 Million has been spent in the Wallsburg Watershed, with another \$728,865 scheduled for FY-2019.
- 7.5 Miles of stream treated.
- 49,802 linear feet of fencing installed.

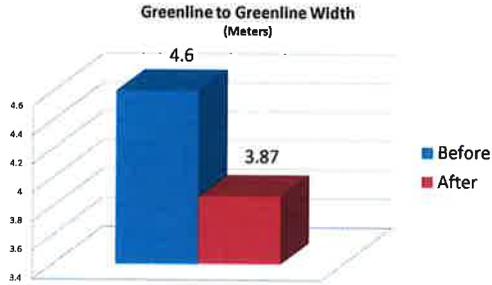


Improvements in Chemical data have been observed, but does not tell the entire story



MIM Results: Main Creek

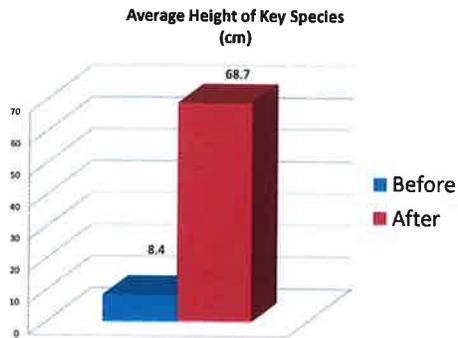
Greenline to Greenline



The creek has narrowed by 0.73 meters, nearly 16%.

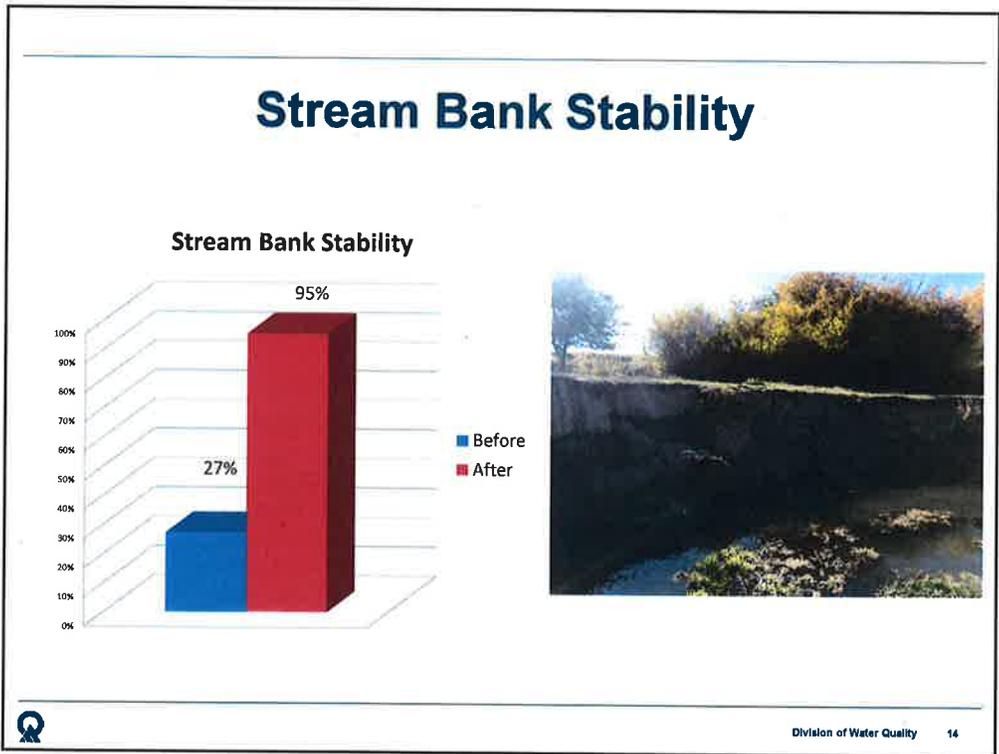
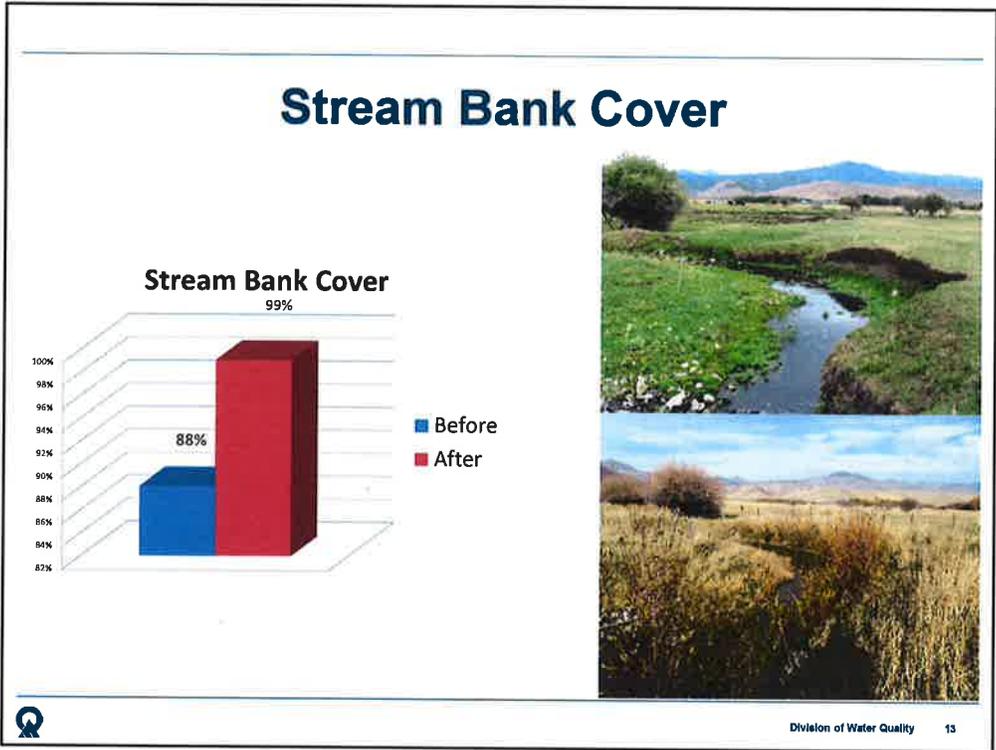


Average Height of Key Species

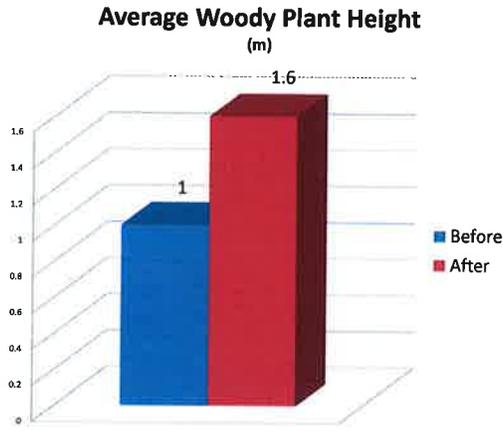


Marked improvement in height of key species even after grazing the riparian area after a 4 year rest period.





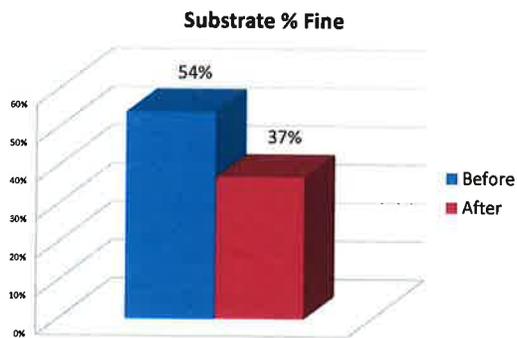
Average Woody Plant Height



Increase in quantity and height of woody plants was very impressive.



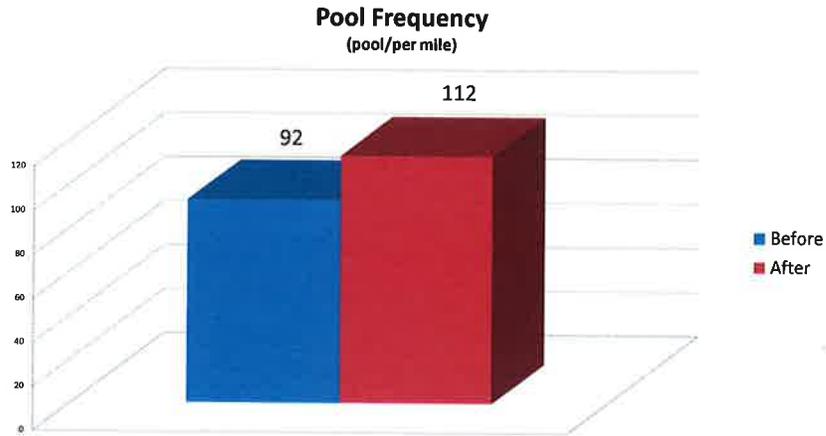
Substrates % fines



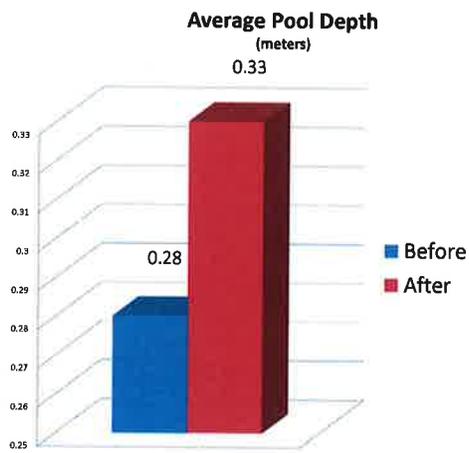
The decrease in fine sediment in the reach was one of the most exciting things to see for both Improving the fishery, and water quality.



Pool/Riffle Sequence



Pool Depth



Increasing pool quantity and depth will help lower water temperature and help cold water fish species to survive through the hot summer days.



Temperature

Impaired	IR Year	COUNT	# EXCEED	% EXCEED
Yes	2010	44	8	18%
Yes	2012	46	7	15%
No	2014	47	2	4%
No	2016	48	2	4%
No	2018	38	3	8%



Improvements in Fisheries

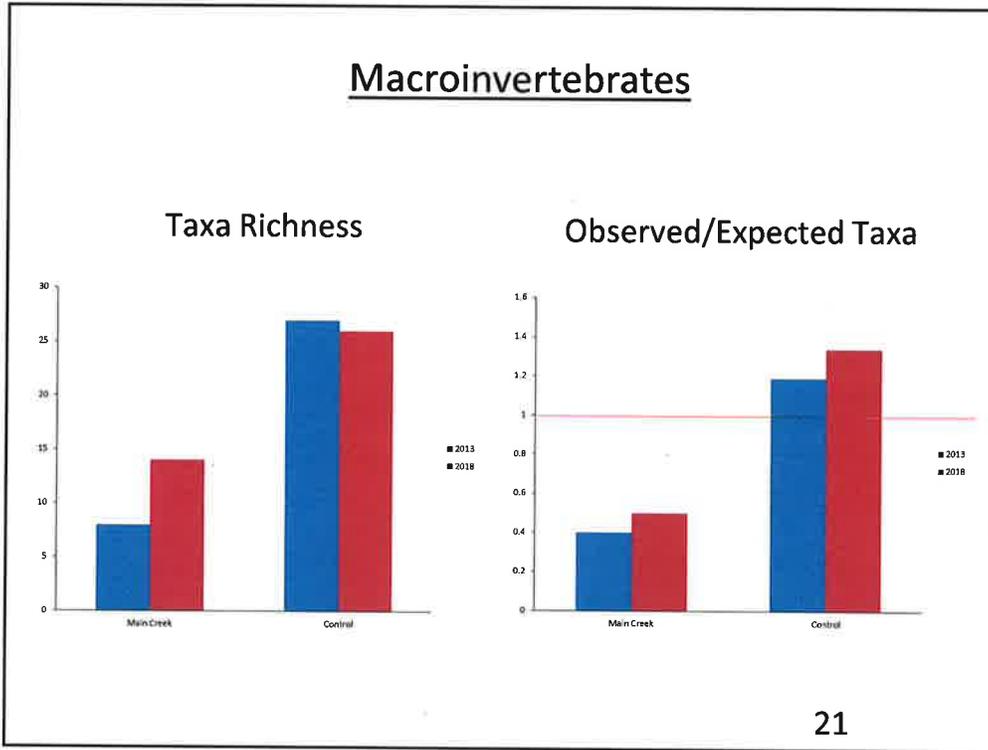
Fish surveys completed post-implementation have shown that Southern Leatherside Chub densities increased nearly eight times higher than fish surveys that were conducted before project implementation.

The DWR is very optimistic with the increase in smaller native fish in the river, increased temperatures, and deeper pools, and increased D50, that the restoration work will eventually allow cutthroat trout to move back into Main Creek in the near future.



	Reach Length (m)	SLSC/m ²	SLSC Captured
Before Implementation	100	4.5	18
After Implementation	100	35.6	89





QUESTIONS

Jim Bowcutt
Utah NPS Program
Coordinator
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FY-2020 Grant Awards
 Projects Funded with State Nonpoint Source Grants

Project Title	Watershed	Sponsor	Contact	Project Type	Amount Requested	Amount Awarded
Onsite Waste water Hardship Grant Assistance Program	Statewide	UDWQ	Robert Beers	Onsite Waste Water	\$35,000.00	\$35,000.00
Lower Jordan River Watershed Coordination	Jordan River/Utah Lake	Salt Lake County	Lynn Berni	Technical Assistance	\$30,000.00	\$30,000.00
Wallsburg RCPP Phase 2	Jordan River/Utah Lake	Wasatch Conservation District	Daniel Gunnell	Stream Bank	\$130,000.00	\$100,000.00
Nebo Creek Restoration	Jordan River/Utah Lake	Timp-Nebo Conservation District	Daniel Gunnell	Fire Rehab	\$53,000.00	\$53,000.00
PWO Maintenance Yard Improvements	Jordan River/Utah Lake	Salt Lake County	Bob Thompson	Storm Water	\$25,000.00	\$25,000.00
Wasatch Front Urban Ranger Program	Jordan River/Utah Lake	University of Utah	Nate Furman	I&E	\$108,000.00	\$25,000.00
Envirothon	Statewide	Utah State University	Dave Francis	I&E	\$5,000.00	\$5,000.00
Producer Website and Small Farm Education	Statewide	Utah State University	Rhonda Miller	I&E	\$18,750.00	\$10,000.00
Write Conservation Easement	Weber River	Summit Land Conservancy	Stephanie Rosenfeld	Easement	\$15,000.00	\$15,000.00
Otter Creek Restoration	Upper Sevier	BLM	James Bradshaw	Riparian Improvement	\$65,000.00	\$65,000.00
Provo River Watershed Council Watershed Education	Jordan River/Utah Lake	Wasatch County Planning Department	Dax Reid	I&E	\$10,000.00	\$10,000.00
Helper City Stream Restoration	Colorado	Helper City	Lenise Peterman	Stream Bank	\$19,500.00	\$19,500.00
Olsen riparian Project Phase 2	San Pitch	Sanpete Conservation District	John Saunders	Stream Bank	\$13,500.00	\$13,500.00
University of Utah Storm Water Demonstration Project	Jordan River/Utah Lake	University of Utah	Sarah Hanners	Storm Water	\$107,800.00	\$55,000.00
700 North Storm Water Improvement and Demonstration	Bear River	Utah State University	Jake Powell	Storm Water	\$82,500.00	\$65,000.00
East Canyon Creek Restoration	Weber River	Kamas Valley Conservation District	Andy Pappas	Stream Bank	\$45,450.00	\$45,450.00
BLM Mill Creek Restoration	South East Colorado	Bureau of Land Management	Arne Hultquist	Riparian Improvement	\$40,000.00	\$30,000.00
Catalyst for Change	Jordan River/Utah Lake	Thanksgiving Point	Cathy Holt	I&E	\$6,000.00	\$3,000.00
Upper Sevier Watershed I&E	Upper Sevier	Upper Sevier Conservation District	Wally Dodds	I&E	\$9,700.00	\$9,700.00
Bingham Creek Watershed Management Plan Development	Jordan River/Utah Lake	City of West Jordan	Jen Wilson	Planning	\$90,100.00	\$40,000.00
Storm Water Prevention BMP Workshop	Weber River	Utah State University	Jake Powell	I&E	\$11,100.00	\$11,100.00
Montezuma Creek Effectiveness Monitoring	South East Colorado	UGS	Hugh Hurlow	Monitoring	\$19,935.00	\$10,000.00
Heber Valley Watershed Plan	Jordan River/Utah Lake	Wasatch Conservation District	Dax Reid	Planning	\$50,000.00	\$40,000.00
American Fisheries Society Support	Statewide	American Fisheries Society	Ben Brown	Group Support	\$1,000.00	\$1,000.00
Spring Creek Manure Management	Jordan River/Utah Lake	Wasatch Conservation District	Dax Reid	Nutrient Management	\$5,000.00	\$5,000.00
Snake Creek Stream Bank Restoration	Jordan River/Utah Lake	Wasatch Conservation District	Dax Reid	Stream Bank	\$20,000.00	\$20,000.00
Lower Weber River Restoration	Weber River	Ogden City	Justin Andersen	Stream Bank	\$47,632.00	\$47,632.00
Summit Park Fuels Reduction	Weber River	Kamas Valley Conservation District	Andy Pappas	Fire fuels/restoration	\$75,000.00	\$50,000.00
Stephens Farm Riparian Enhancement	Weber River	Kenneth and Isabel Stephens	Andy Pappas	Stream Bank	\$27,400.00	\$27,400.00
Grass Creek Stock Water System	Weber River	Summit Soil Conservation District	Andy Pappas	Grazing	\$48,000.00	\$35,000.00
SEUHD Onsite Waste Water Digital Database	South East Colorado	South East Utah Health Department	Arne Hultquist	Onsite Waste Water	\$8,000.00	\$8,000.00
4000 West Field Drain Restoration	Jordan River/Utah Lake	Timp-Nebo Conservation District	Dax Reid	Field Drain	\$60,000.00	\$35,000.00
East Fork Hilliard Canal Diversion	Upper Bear River	Trout Unlimited	Jim Derito	Diversion Rebuild	\$15,000.00	\$15,000.00
North Cache Soil Health Implementation and Monitoring	Bear River	North Cache Conservation District	Gabe Murray	Soil Health	\$57,126.50	\$35,000.00
Henefer City Source Water Protection	Weber River	Terry Diston - Private Landowner	Andy Pappas	Stream Bank	\$25,000.00	\$5,718.00
Total					\$1,379,493.50	\$1,000,000.00

Projects Funded with Section 319 Funding

Project Title	Watershed	Sponsor	Contact	Project Type	Amount Requested	Amount Awarded
Local Watershed Coordinators	Statewide	Utah Division of Water Quality	Jim Bowcutt	Technical Assistance	\$500,000.00	\$410,000.00
West Jordan Big Bend Project	Jordan River/Utah Lake	West Jordan City	Eric McCulley	Stream Bank	\$331,540.61	\$331,540.00
USU NPS Education Program	Statewide	USU Water Quality Extension	Nancy Mesner	I&E	\$69,948.00	\$69,948.00
Nuttall Riparian Stabilization Project	San Pitch	Sanpete Conservation District	John Saunders	Stream Bank	\$10,200.00	\$10,200.00
Sidwell Riparian Improvement Project	San Pitch	Sanpete Conservation District	John Saunders	Stream Bank	\$4,200.00	\$4,200.00
Madsen Riparian Stabilization Project	San Pitch	Sanpete Conservation District	John Saunders	Stream Bank	\$27,000.00	\$27,000.00
Stewart Riparian Stabilization Project	San Pitch	Sanpete Conservation District	John Saunders	Stream Bank	\$46,000.00	\$46,000.00
Lower Spanish Fork River Restoration	Jordan River/Utah Lake	Timp-Nebo Conservation District	Dax Reid	Stream Bank	\$100,000.00	\$60,000.00
Total					\$1,088,888.61	\$958,888.00

Water Quality

Strategic Communication Plan



Utah Water Quality Task Force

Campaign Background

- Small Acreage Water Quality survey
- Creation of a Strategic Communication Plan for Water Quality as it relates to small acreage property owners

Strategic Communication Plan Five Objectives

- **Best Practice Awareness:** Improve state and local water quality best practice awareness from an estimated 25% to 50% by January 2020
- **Water flow awareness:** Decrease the number of small acreage owners who believe that irrigation and stormwater stay on their property to 30 percent by January 2020.
- **Property Management Decisions based on Informed Sources:** Improve the percentage of small acreage owners who use responsible information sources, such as USU Extension, to inform their property management decisions by 25 percent by January 2020.
- **Fertilizer Application Decisions based on Informed Sources:** Improve the number of small acreage owners who use responsible information sources, such as USU Extension, to inform their fertilizer application decisions by 25 percent by January 2020.
- **USU Extension cited as a Key Resource:** 80 percent of the target demographic will list USU Extension office/website resources as their number one source of information for property management decisions by 2025.

Strategic Communication Plan Strategies

- **Strategy 1: Don't Share Campaign:** Create and publicize “Don't Share” campaign that educates about where water goes, and how best/worst practices impact neighbors. Include spreading weeds messaging.
- **Strategy 2: Streamline and enhance soil testing program.** Double the number of soil tests received by the lab.
- **Strategy 3: Enhance website using metadata and Google advertising** to increase the number of people going to responsible websites for best practice information.
- **Strategy 4: Human Waste Prevention Campaign:** Improving the education around human waste in the water supply produced by out enthusiasts.

Strategic Communication Plan

Strategy 1: Don't Share Campaign

- Social media assets
 - Social posts including Emoji formula, targeting manure-in-stream, over-fertilization, “where does your water go?” and weed control
- “Don't Share” entertaining video for social media
- Creation of memes for social media outreach
- DontShare.Utah.Gov webpage/website
 - DEQ Loan Program - Offer resources potentially from DEQ funds if they take steps to keep animals away from water sources.
 - Social media messages
 - Soil Test
- Messaging that ties weed control to best practices
- Publicize “Don't Share” campaign and responsible web resources in feed and gardening supply stores
 - “Don't Share” posters with website advertised
 - Kiosk at specific locations that have a high number of small farms where people can order a soil test (see strategy 2)
 - Soil tests in-store?

Strategic Communication Plan

Strategy 2: Optimized Soil Testing Program

- Fully online order and feedback
- Video tutorial
- At-home delivery, including return packaging
- Simplified results and best practice education upon receipt of test
- Kiosk at specific feed store locations that have a high number of small farms where people can order a soil test

Strategic Communication Plan

Strategy 3: Increase Web Traffic To USU Extension Site

Enhance website and use metadata and Google advertising to increase the number of people going to responsible websites for best practice information. (prioritize)

- Conversion of stagnant files to interactive forms with automatic feedback over time
- Boosted social media posts to draw more people to Extension and DEQ resources

Strategic Communication Plan

Strategy 4: Human Waste Prevention Campaign

- Educational signage at trailheads
 - Do you poop infographic
- Providing vault toilets

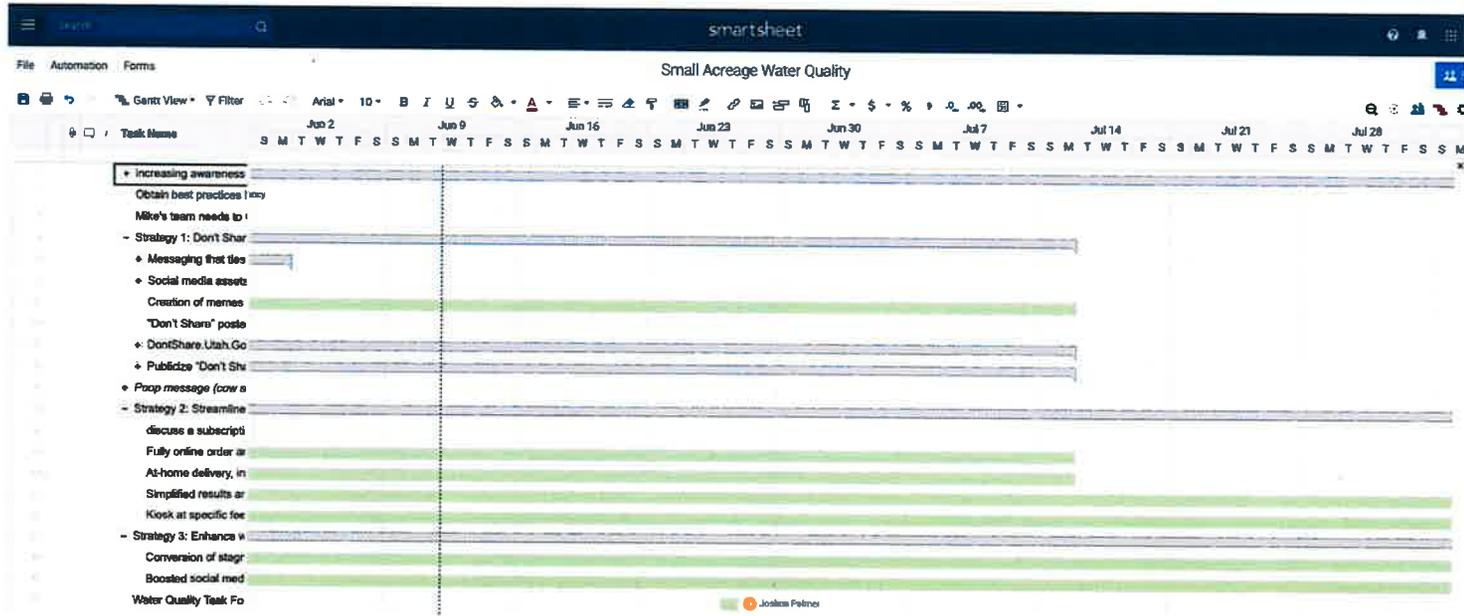
Color of sign icon (refers to recreation activity most common in that location):

- Dispersed camping
- Backpacking (Overnight backcountry use)
- Day Hiking
- Climbing
- River Trips
- Backcountry Skiing (winter only)



Delivery Timeline

Review Small Acreage Water Quality SmartSheet



Progress Update

Where we are today

- Potential property upgrade program partnership with UDAF
- Kick off meeting with soil lab to improve process and customer feedback
- Working with extension and graphic designer on social media and poster images.
- Developing script for educational video
- Content development for web page
- Poster/Social Concept Progress
- Human waste research completed

Draft Campaign Concepts



Draft Campaign Concepts continued...

**Not the type of muffin you want to
share with your neighbor**



**Keep horse bums away from
waterways**

Draft Campaign Concepts continued...



Gross said the little stream.
Gross, OH GROSS! GROSS, OH GROSS!



Fertilizer Use in Utah



Draft Poster Infographic for small acreage owners

Infographic showing

- crop/lawn next to stream
- a fence between neighbors yards
- cow instream pooping
- bagged fertilizer pouring onto grass/crops and into stream
- Two thirds of the way down the image showing below ground and water table
- arrows demonstrating water runoff and infiltration to water table
- well in neighbor's yard taking up taking up "shared" fertilizer/manure

Example:

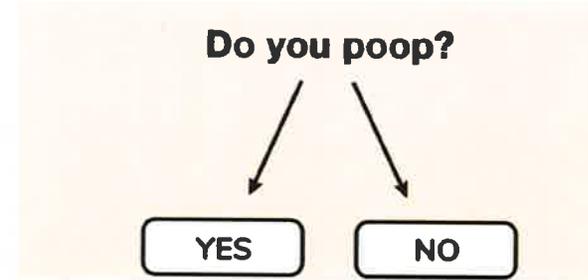


Draft Poster Infographic for recreational human waste

“Do you Poop?” Infographic

- A comical flowchart that grabs your attention
- But also educates
- Starting question, “Do you poop?”
- “No” answer paths lead to a negative comical outcome
- Each additional question educates
 - “Do you need to poop now?”
 - “Are you 200 feet (70 steps) away from water sources?”
 - “Did you dig a cat hole 6 to 8 inches deep?”
 - “Did you pack out your toilet paper?”
 - DontShare.utah.gov

Example:



Draft Concept for Don't Share Video

“Hey there, it’s me, your downstream neighbor”

- Video starts with farmer neighbor saying hello in profile (side view)
- He/she talks about sharing and property boundaries
- “Manure...”
- “Fertilizer...”
- farmer turns to face camera and there’s an arm growing out of his neck
- Explains, “where water goes...” runoff, infiltration
- Starts explaining strange result from his well
- All the while the third hand is gesticulating



Don't Share Messages

- What happens on your Small Farm ~~Stays on your Small Farm~~ reaches your neighbor.
- Not the type of pie you should send to your neighbor.
- Gross!...said the little stream, gross oh gross, gross oh GROSS!
- Utahns use 25 to 35 percent more fertilizer than needed.
 - Over fertilizing can lead to more weeds on your and your neighbor's property
 - The misuse of fertilizer often has negative effects on fish and other aquatic animals and can introduce issues like Algae blooms which causes odor problems and depletes the oxygen for fish
- Water doesn't recognize fences
 - What runs off of your property can hurt your neighbor

Question and Answer

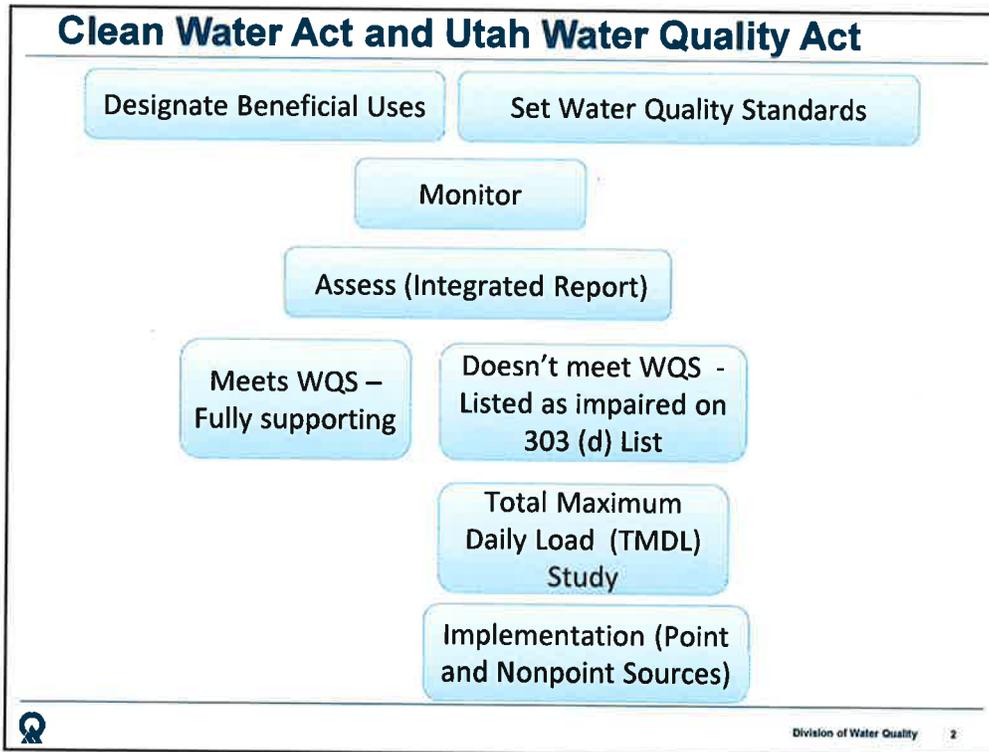


Watershed Protection Program Assessment, TMDL and Nonpoint Source: "Impairment to Implementation"



UTAH DEPARTMENT of ENVIRONMENTAL QUALITY
WATER QUALITY

Jodi Gardberg, Watershed Protection Section Manager
Utah Division of Water Quality



DWQ Basin and Local Watershed Coordinators

Basin	DWQ Basin Coordinator	UDAF Local Watershed Coordinator
Bear	Mike Allred	Gabe Murray
West Desert	Mike Allred	
Lower Sevier (San Pitch)	Mike Allred	John Saunders
Upper Sevier	Mike Allred	Wally Dodds
Southeast Colorado	Lucy Parham	Arne Hultquist
Lower Colorado	Amy Dickey	
Western Colorado	Amy Dickey	
Cedar/Beaver	Amy Dickey	
Uinta	Elise Hinman	
Weber	Elise Hinman	Andy Pappas
Jordan/Upper Provo	Sandy Wingert	Dax Reid
Utah Lake/Lower Provo	Scott Daly	Dax Reid



Total Maximum Daily Load (TMDL)

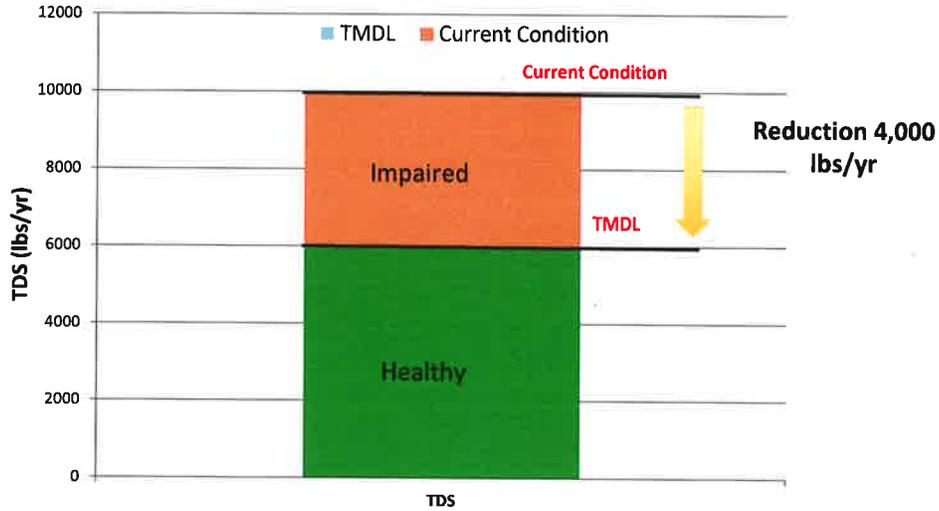
A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still maintain beneficial uses.



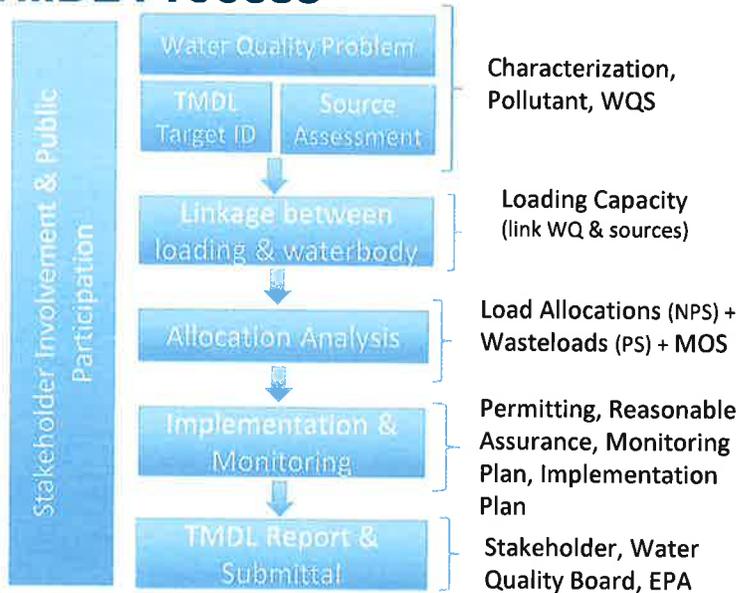
<https://www.lakepepinlegacyalliance.org/faq>



TMDL Example



Typical TMDL Process



Utah's 303(d) Vision

High Priority Factors			
Waterbody Characteristics	Pollutants	Impaired Uses	Pollutant Sources
Drinking Water Source	Toxics	Drinking Water	Combination of Point and Nonpoint sources
National Park or State Park	Metals	Recreation	
High Recreational Use	Bacteria	Aquatic Life	
Blue Ribbon Fishery	DO		
Important Bird Areas	Nutrients linked to harmful algal blooms		
Permit Administration			
Ongoing study			

achieving high quality waters. The process for selecting water types and how to use them to define the 303(d) priorities is provided below.

<https://denr.utah.gov/legacy/programs/water-quality/watersheds/docs/2016/303d-list-for-2016tmdl-development.pdf>



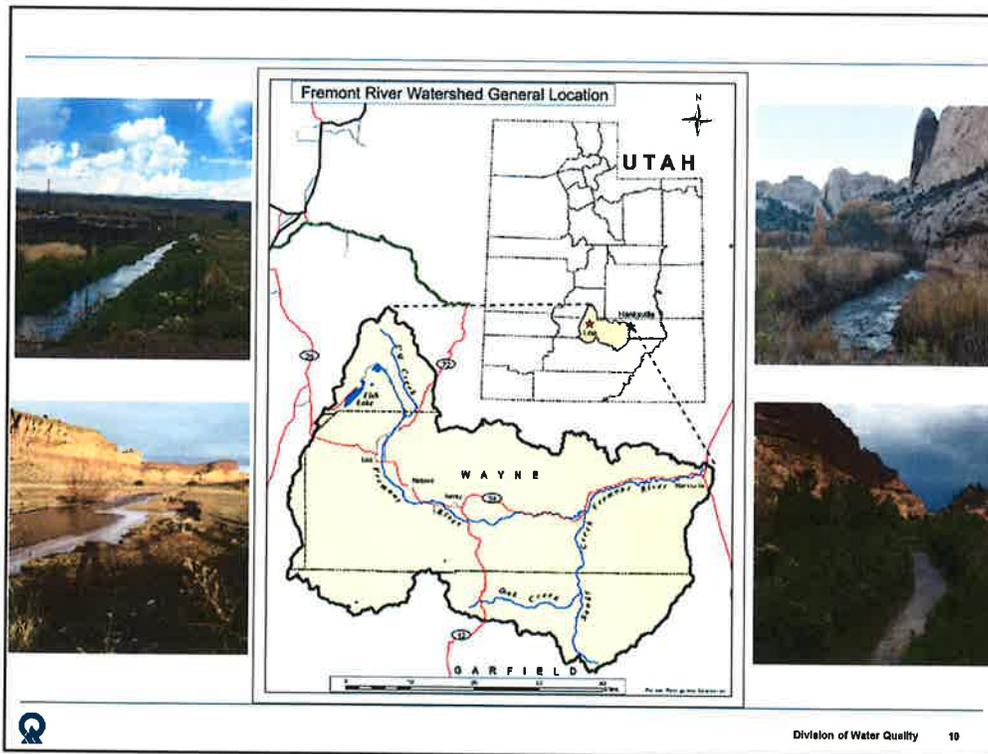
2022 Priority TMDLs

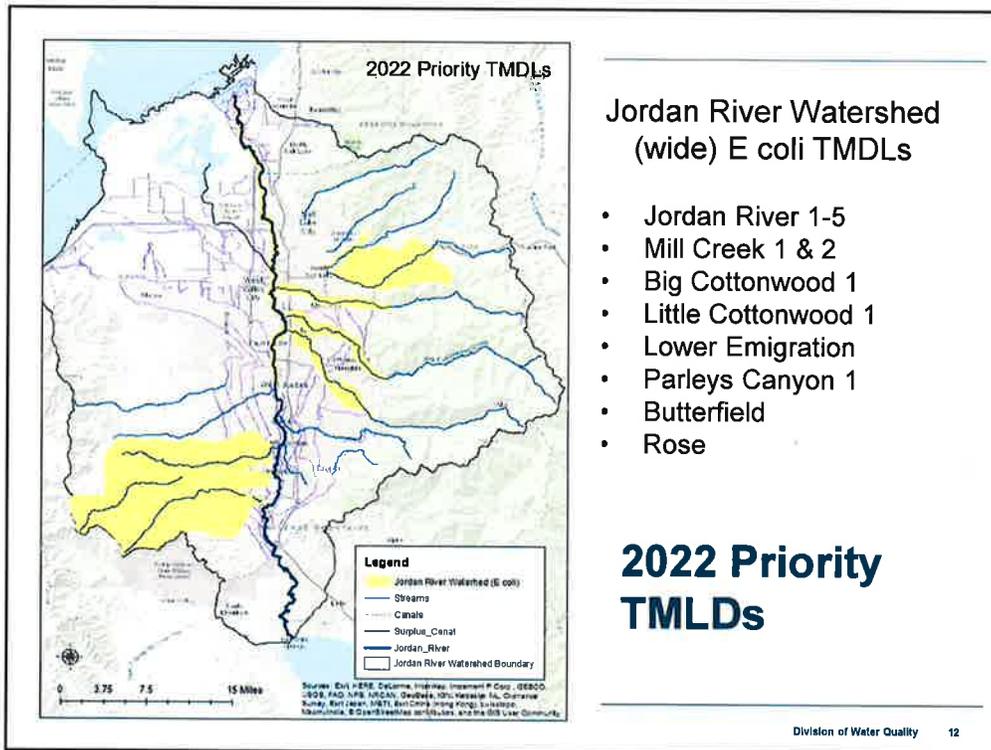
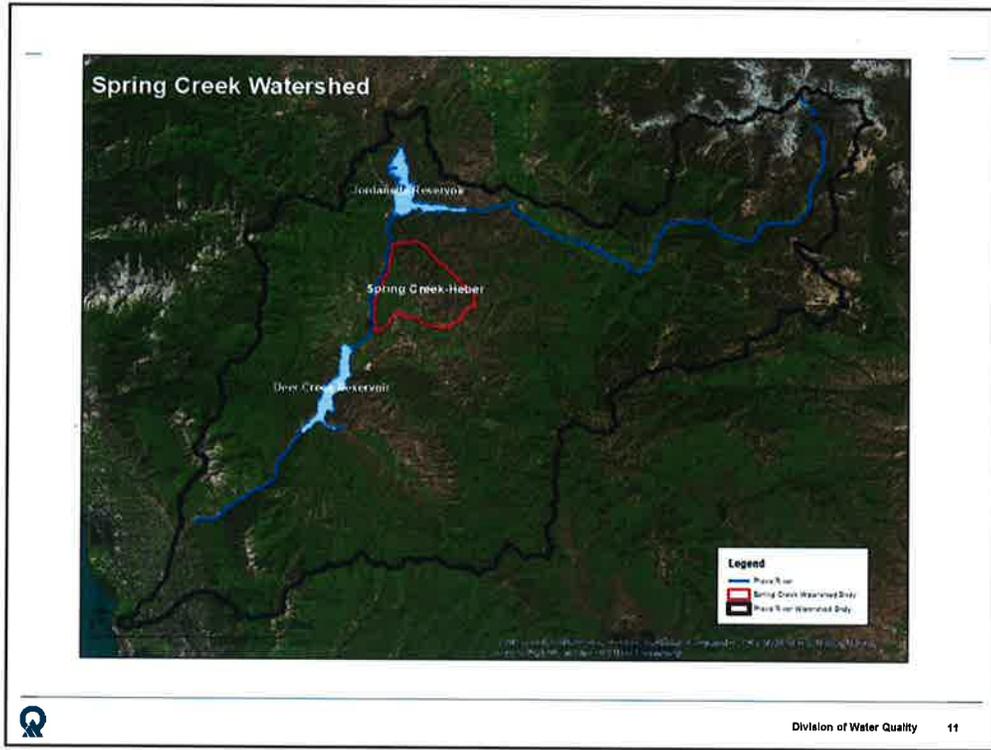
Region	State	Assessment Unit ID	Assessment Unit Name	Cause Name	EPA Action Date	Relevant Notes	Plan
8	UT	UT16020204-019_00	Big Cottonwood Creek-1	ESCHERICHIA COLI (E. COLI)		Urban	Part of JR Watershed EcolI TMDL
8	UT	UT16020204-024_00	Butterfield Creek	ESCHERICHIA COLI (E. COLI)		Mixed	Part of JR Watershed EcolI TMDL
8	UT	UT16020204-010_00	City Creek-2	CADMIUM			Possible delisting - need 1 sample to delist
8	UT	UT16020204-033_00	Emigration Creek Lower	ESCHERICHIA COLI (E. COLI)		Urban	Part of JR Watershed EcolI TMDL
8	UT	UT140670003-008_00	Fremont River-3	ESCHERICHIA COLI (E. COLI)		Rural	TMDL in progress
8	UT	UT16020204-001_00	Jordan River-1	DISSOLVED OXYGEN	5-Jun-13		Waiting on completion of U of U model per EPA STAR Grant, looking into HSPF
8	UT	UT16020204-001_00	Jordan River-1	ESCHERICHIA COLI (E. COLI)		Urban	Part of JR Watershed EcolI TMDL
8	UT	UT16020204-002_00	Jordan River-2	DISSOLVED OXYGEN	5-Jun-13		Waiting on completion of U of U model per EPA STAR Grant, looking into HSPF
8	UT	UT16020204-002_00	Jordan River-2	ESCHERICHIA COLI (E. COLI)		Urban	Part of JR Watershed EcolI TMDL
8	UT	UT16020204-003_00	Jordan River-3	DISSOLVED OXYGEN	5-Jun-13		Waiting on completion of U of U model per EPA STAR Grant, looking into HSPF
8	UT	UT16020204-003_00	Jordan River-3	ESCHERICHIA COLI (E. COLI)		Urban	Part of JR Watershed EcolI TMDL
8	UT	UT16020204-004_00	Jordan River-4	ESCHERICHIA COLI (E. COLI)		Urban	Part of JR Watershed EcolI TMDL
8	UT	UT16020204-005_00	Jordan River-5	ESCHERICHIA COLI (E. COLI)		Urban	Part of JR Watershed EcolI TMDL
8	UT	UT16020201-008_00	Jordan River-8	ARSENIC			evaluating 1C use - possible SSS; Source could be from geothermic activity - outlet of UL to the JR narrows, will need DWQ monitoring
8	UT	UT16020204-021_00	Little Cottonwood Creek-1	ESCHERICHIA COLI (E. COLI), TDS		Urban	Part of JR Watershed EcolI TMDL
8	UT	UT-L-14070003-044_00	Lower Bowns Reservoir	DISSOLVED OXYGEN		Need 5 alt-plan	off site reservoir from Pleasant Creek, drawn down sometimes to conservation pool, decent trout fishery but no spawning; BATHTUB: 5-
8	UT	UT-L-14070003-044_00	Lower Bowns Reservoir	TP		Need 5 alt-plan	all/straight to implementation is this for pH or TP as listed in vision? 5-
8	UT	UT16020204-026_00	Mill Creek-1	ESCHERICHIA COLI (E. COLI)		Urban	Part of JR Watershed EcolI TMDL
8	UT	UT16020204-017_00	Mill Creek-2	ESCHERICHIA COLI (E. COLI)		Urban	Part of JR Watershed EcolI TMDL
8	UT	UT14060005-003_00	Ninemile	TEMPERATURE, WATER	22-Mar-17		
8	UT	UT15010008-	North Fork Virgin River-	ESCHERICHIA COLI (E. COLI)	26-Jun-18	Rural	



2022 Priority TMDLs Summary

No. of line items	Status	Notes
3	Completed	NFVR1 and 2 ecoli, Ninemile temp
2	Possible delisting in 2020	PR 6 Al, City Ck Cd
2	Site Specific Standard	PR 6 Zn and JR8 As (to be developed)
4	In progress	JR 1, 2, 3 for DO, Snake Ck As
15	E-coli TMDLS	11 urban, 3 mixed, 1 rural
2	5-alt or straight to implementation	Lower Bowns (DO and TP)
28	Total	





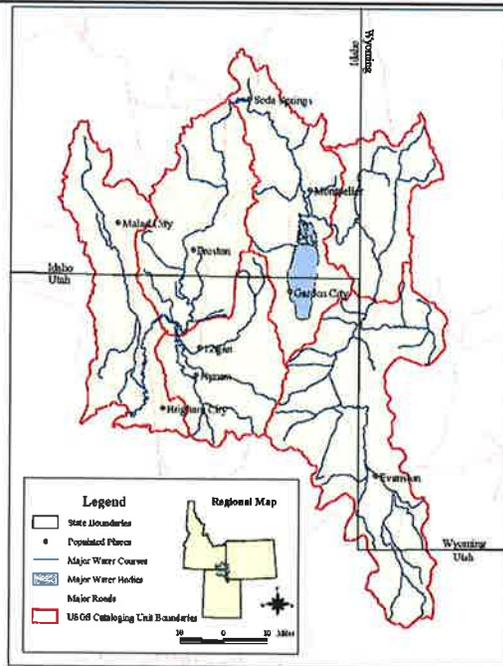


Bear River Watershed Project Updates

By Gabriel Murray-Bear River Watershed Coordinator

Watershed Projects

- Logan River
- Lower Bear River
- Soil Health



Logan River

- Designated Target Basin in 2017 for 319 Funding
- Restoration Projects
 - Rendezvous Park
 - Residential Properties
 - Agricultural Properties
 - Commercial Properties
 - Public Park
- Monitoring



Rendezvous Park

- Bank Restoration
 - 1,300 FT of New Channel
- Floodplain/Riparian Habitat Improvement
 - Over 1000 Trees/Shrubs Planted
 - Several Acres of Restored Floodplain
 - Several Hundred Invasive Trees Removed
- Significant Public Benefits
 - Over a 1/4 Mile of Additional Trails
 - Better Fishing Access
- Sediment Transport Reduction



Residential Property

- Riparian Improvements
 - Crack Willow Removal
 - 12 Unstable Trees Removed
 - Tree and Shrub Planting
 - Over One Hundred Trees/Shrubs Planted
 - Vegetative Bank Stabilization
 - 30 ft
 - Debris Removal
 - 2 Loads of Concrete
 - Weed Control
 - .5 Acres



Agricultural Properties

- Bank Restoration
 - 300 ft
- Crack Willow Removal
 - Several Hundred Trees
- Revegetation
 - Over One 100 Trees/Shrubs



Commercial Properties

- Floodplain Expansion
 - Over an Acre
- Public Trails
 - ¼ Mile
- Bank Restoration
 - 700 ft
- Crack Willow Removal
 - Over 20 Trees
- Revegetation



Denzil-Stewart Nature Park

- Floodplain Expansion
 - Several Hundred FT
- Public Trails
 - 120 ft
- Bank Restoration
 - Several Trees
- Revegetation
 - Over 100 Trees/Shrubs



Monitoring

- Logan River SAP
 - 9 Project Monitoring Sites
 - Bimonthly Water Quality Monitoring
 - Biyearly Macroinvertebrate Sampling
 - Yearly Fish Sampling
 - Photo Point Monitoring
 - 3 Sites



Lower Bear River

- Updated TMDL In 2019
 - Stakeholder Meetings
 - Conservation District Meetings
 - Presentations
 - Project Development
 - Watershed Implementation Plan



Northern Utah Soil Health

- Soil Health Water Quality Benefits
 - Reduced Agricultural Runoff
 - Increased Infiltration
 - Reduced Inputs (Phosphorus, Nitrogen)
 - Reduced Water Consumption
- Project Activities
 - Soil Health Workshop
 - Soil Health Video
 - Soil Health Website
<https://www.utahsoilhealth.org/>
 - Soil Health Implementation and Monitoring Projects

