MEETING MINUTES

Water Quality Task Force

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

PRESENT:

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

Utah Division of Water Quality - Meeting Minutes
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:
  o More Coordinator Presentations
  o Fuels Reduction Projects from Forest Service or FFSL.
  o Bull Creek Fire-Pre and Post Fire data- Ben Abbott
Utah Nonpoint Source Pollution Control Program Annual Report

Matt Warner
Reservoir Restoration
$59,213
6%

Pelican Lake Restoration Project
$426,000
44%

Local Watershed Coordinators
$400,000
42%

Volunteer Monitoring and I&E
$73,882
8%

FY-2019 Section 319 Projects Funded
$959,095
**State NPS Projects Funded for FY-2019**

$1,000,000

<table>
<thead>
<tr>
<th>Category</th>
<th>Funding</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grazing Management</td>
<td>$60,075</td>
<td>6%</td>
</tr>
<tr>
<td>Reservoir Shoreline</td>
<td>$71,104</td>
<td>7%</td>
</tr>
<tr>
<td>Stabilization</td>
<td>$7,100</td>
<td>1%</td>
</tr>
<tr>
<td>Road Improvements</td>
<td>$100,000</td>
<td>10%</td>
</tr>
<tr>
<td>Storm Water/UD</td>
<td>$38,950</td>
<td>4%</td>
</tr>
<tr>
<td>Septic/Ditchless</td>
<td>$75,000</td>
<td>7%</td>
</tr>
<tr>
<td>Information Education</td>
<td>$105,830</td>
<td>11%</td>
</tr>
<tr>
<td>Planning/Design</td>
<td>$36,000</td>
<td>4%</td>
</tr>
<tr>
<td>Riparian Improvements</td>
<td>$345,381</td>
<td>35%</td>
</tr>
<tr>
<td>AFO/CAFO</td>
<td>$105,000</td>
<td>10%</td>
</tr>
</tbody>
</table>

**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**

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>NRCS</td>
<td>$2,177,943</td>
</tr>
<tr>
<td>Landowner Match</td>
<td>$1,617,350</td>
</tr>
<tr>
<td>USAF</td>
<td>$30,000</td>
</tr>
<tr>
<td>Local government</td>
<td>$176,451</td>
</tr>
<tr>
<td>WR 1</td>
<td>$259,000</td>
</tr>
<tr>
<td>Forest Service</td>
<td>$430,000</td>
</tr>
<tr>
<td>Universitys</td>
<td>$96,481</td>
</tr>
<tr>
<td>Trout Unlimited</td>
<td>$65,000</td>
</tr>
<tr>
<td>IDWR</td>
<td>$799,000</td>
</tr>
<tr>
<td>In-Kind</td>
<td>$642,867</td>
</tr>
<tr>
<td>Other</td>
<td>$101,960</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$6,397,551</strong></td>
</tr>
</tbody>
</table>

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.
State NPS Projects Funded in FY-2020 ($1,000,000)

- Soil Health: $35,000 (4%)
- Easements: $15,000 (2%)
- Grazing: $35,000 (4%)
- Septic: $43,000 (4%)
- AFO/CAFO: $25,000 (2%)
- Stormwater: $345,000 (15%)
- Fire/Fuel Reduction: $103,000 (10%)
- I&E: $74,800 (7%)
- Project Planning: $30,000 (3%)
- Watershed Planning: $80,000 (8%)
- Monitoring: $10,000 (1%)
- Stream Bank: $404,200 (40%)

Section 319 Projects Funded in FY-2020 (Estimated $958,888)

- Lower Spanish Fork River Restoration: $60,000 (6%)
- San Pitch River Restoration: $87,400 (9%)
- West Jordan Big Bend: $331,540 (35%)
- Local Watershed Coordinators: $410,000 (43%)
- Volunteer Monitoring and I&E: $69,948 (7%)
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.
Stream Bank Cover

Before

After

Stream Bank Stability

Before

After
Increase in quantity and height of woody plans was very impressive.

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 Frequency
(pool/ per mile)

<table>
<thead>
<tr>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>92</td>
<td>112</td>
</tr>
</tbody>
</table>

Pool Depth

Average Pool Depth
(meters)

Before: 0.33
After: 0.28

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

<table>
<thead>
<tr>
<th>Impaired</th>
<th>IR Year</th>
<th>COUNT</th>
<th># EXCEED</th>
<th>% EXCEED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>2010</td>
<td>44</td>
<td>8</td>
<td>18%</td>
</tr>
<tr>
<td>Yes</td>
<td>2012</td>
<td>46</td>
<td>7</td>
<td>15%</td>
</tr>
<tr>
<td>No</td>
<td>2014</td>
<td>47</td>
<td>2</td>
<td>4%</td>
</tr>
<tr>
<td>No</td>
<td>2016</td>
<td>48</td>
<td>2</td>
<td>4%</td>
</tr>
<tr>
<td>No</td>
<td>2018</td>
<td>38</td>
<td>3</td>
<td>8%</td>
</tr>
</tbody>
</table>

### 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.
Macroinvertebrates

Taxa Richness

Observed/Expected Taxa

QUESTIONS
Jim Bowcutt
Utah NPS Program Coordinator
jdbowcutt@utah.gov
801-536-4336
## FY-2020 Grant Awards
### Projects Funded with State Nonpoint Source Grants

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Watershed</th>
<th>Sponsor</th>
<th>Contact</th>
<th>Project Type</th>
<th>Amount Requested</th>
<th>Amount Awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-Station Water Hardship Grant Assistance Program</td>
<td>Statewide</td>
<td>UDWCQ</td>
<td>Robert Beers</td>
<td>On-Station Water</td>
<td>$35,000.00</td>
<td>$35,000.00</td>
</tr>
<tr>
<td>Lower Jordan River Watershed Coordination</td>
<td>Jordan River/Utah Lake</td>
<td>Salt Lake County</td>
<td>Jim Werni</td>
<td>Technical Assistance</td>
<td>$30,000.00</td>
<td>$30,000.00</td>
</tr>
<tr>
<td>Wallburg RCPP Phase 2</td>
<td>Jordan River/Utah Lake</td>
<td>Wasatch Conservation District</td>
<td>Daniel Gunnell</td>
<td>Stream Bank</td>
<td>$130,000.00</td>
<td>$100,000.00</td>
</tr>
<tr>
<td>PWQ Maintenance Yard Improvements</td>
<td>Jordan River/Utah Lake</td>
<td>Salt Lake County</td>
<td>Bob Thompson</td>
<td>Storm Water</td>
<td>$25,000.00</td>
<td>$25,000.00</td>
</tr>
<tr>
<td>Wasatch Front Urban Ranger Program</td>
<td>Jordan River/Utah Lake</td>
<td>University of Utah</td>
<td>Nate Francis</td>
<td>I&amp;E</td>
<td>$108,000.00</td>
<td>$108,000.00</td>
</tr>
<tr>
<td>Irrigation System</td>
<td>Statewide</td>
<td>Utah State University</td>
<td>Rhonda Miller</td>
<td>I&amp;E</td>
<td>$5,000.00</td>
<td>$5,000.00</td>
</tr>
<tr>
<td>Write Conservation Easement</td>
<td>Weber River</td>
<td>Summit Land Conservancy</td>
<td>Stephanie Rosenfeld</td>
<td>Easement</td>
<td>$15,000.00</td>
<td>$15,000.00</td>
</tr>
<tr>
<td>Otter Creek Restoration</td>
<td>Upper Sevier</td>
<td>BLM</td>
<td>James Bradow</td>
<td>Riparian Improvement</td>
<td>$65,000.00</td>
<td>$65,000.00</td>
</tr>
<tr>
<td>Provo River Watershed Council Watershed Education</td>
<td>Jordan River/Utah Lake</td>
<td>Wasatch County Planning Department</td>
<td>Dax Reid</td>
<td>I&amp;E</td>
<td>$10,000.00</td>
<td>$10,000.00</td>
</tr>
<tr>
<td>Helper City Stream Restoration</td>
<td>Colorado</td>
<td>Helper City</td>
<td>Lenise Peterman</td>
<td>Stream Bank</td>
<td>$19,500.00</td>
<td>$19,500.00</td>
</tr>
<tr>
<td>Olsen Riparian Project 2</td>
<td>San Pitch</td>
<td>Sanpete Conservation District</td>
<td>John Saunders</td>
<td>Stream Bank</td>
<td>$13,500.00</td>
<td>$13,500.00</td>
</tr>
<tr>
<td>University of Utah Storm Water Demonstration Project</td>
<td>Jordan River/Utah Lake</td>
<td>University of Utah</td>
<td>Sarah Harnish</td>
<td>Storm Water</td>
<td>$107,800.00</td>
<td>$55,000.00</td>
</tr>
<tr>
<td>700 North Storm Water Improvement and Demonstration</td>
<td>Bear River</td>
<td>Utah State University</td>
<td>Jake Powell</td>
<td>Storm Water</td>
<td>$82,500.00</td>
<td>$65,000.00</td>
</tr>
<tr>
<td>East Canyon Creek Restoration</td>
<td>Weber River</td>
<td>Kamloops Valley Conservation District</td>
<td>Andy Pappas</td>
<td>Stream Bank</td>
<td>$45,450.00</td>
<td>$45,450.00</td>
</tr>
<tr>
<td>BLM Mill Creek Restoration</td>
<td>South East Colorado</td>
<td>Bureau of Land Management</td>
<td>Arne Hultquist</td>
<td>Riparian Improvement</td>
<td>$40,000.00</td>
<td>$20,000.00</td>
</tr>
<tr>
<td>Catalyst for Change</td>
<td>Jordan River/Utah Lake</td>
<td>Thanksgiving Point</td>
<td>Cathy Holt</td>
<td>I&amp;E</td>
<td>$6,000.00</td>
<td>$3,000.00</td>
</tr>
<tr>
<td>Upper Sevier Watershed I&amp;E</td>
<td>Upper Sevier</td>
<td>Upper Sevier Conservation District</td>
<td>Wally Dodds</td>
<td>I&amp;E</td>
<td>$9,700.00</td>
<td>$9,700.00</td>
</tr>
<tr>
<td>Bingham Creek Watershed Management Plan Development</td>
<td>Jordan River/Utah Lake</td>
<td>City of West Jordan</td>
<td>Jen Wilson</td>
<td>Planning</td>
<td>$90,100.00</td>
<td>$40,000.00</td>
</tr>
<tr>
<td>Storm Water Prevention BMP Workshop</td>
<td>Weber River</td>
<td>Utah State University</td>
<td>Jake Powell</td>
<td>I&amp;E</td>
<td>$11,100.00</td>
<td>$11,100.00</td>
</tr>
<tr>
<td>Montezuma Creek Effectiveness Monitoring</td>
<td>South East Colorado</td>
<td>UGS</td>
<td>Hugh Hurlow</td>
<td>Monitoring</td>
<td>$19,935.00</td>
<td>$10,000.00</td>
</tr>
<tr>
<td>Heber Valley Watershed Plan</td>
<td>Jordan River/Utah Lake</td>
<td>Wasatch Conservation District</td>
<td>Dax Reid</td>
<td>Planning</td>
<td>$50,000.00</td>
<td>$40,000.00</td>
</tr>
<tr>
<td>American Fisheries Society Support</td>
<td>Statewide</td>
<td>American Fisheries Society</td>
<td>Ben Brown</td>
<td>Group Support</td>
<td>$1,000.00</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>Spring Creek Manure Management</td>
<td>Jordan River/Utah Lake</td>
<td>Wasatch Conservation District</td>
<td>Dax Reid</td>
<td>Nutrient Management</td>
<td>$5,000.00</td>
<td>$5,000.00</td>
</tr>
<tr>
<td>Snake Creek Stream Bank Restoration</td>
<td>Jordan River/Utah Lake</td>
<td>Wasatch Conservation District</td>
<td>Dax Reid</td>
<td>Stream Bank</td>
<td>$20,000.00</td>
<td>$20,000.00</td>
</tr>
<tr>
<td>Lower Weber River Restoration</td>
<td>Weber River</td>
<td>Ogden City</td>
<td>Justin Andersen</td>
<td>Stream Bank</td>
<td>$47,632.00</td>
<td>$47,632.00</td>
</tr>
<tr>
<td>Summit Park Fuels Reduction</td>
<td>Weber River</td>
<td>Kamloops Valley Conservation District</td>
<td>Andy Pappas</td>
<td>Fire Fuels/restoration</td>
<td>$75,000.00</td>
<td>$50,000.00</td>
</tr>
<tr>
<td>Stephens Farm Riparian Enhancement</td>
<td>Weber River</td>
<td>Kenneth and Isabel Stephens</td>
<td>Andy Pappas</td>
<td>Stream Bank</td>
<td>$27,400.00</td>
<td>$27,400.00</td>
</tr>
<tr>
<td>Grass Creek Stock Water System</td>
<td>Weber River</td>
<td>Summit Soil Conservation District</td>
<td>Andy Pappas</td>
<td>Grazing</td>
<td>$48,000.00</td>
<td>$35,000.00</td>
</tr>
<tr>
<td>SEUHD On-Station Water Digital Database</td>
<td>South East Colorado</td>
<td>South East Utah Health Department</td>
<td>Arne Hultquist</td>
<td>On-Station Water</td>
<td>$8,000.00</td>
<td>$8,000.00</td>
</tr>
<tr>
<td>4000 West Field Drain Restoration</td>
<td>Jordan River/Utah Lake</td>
<td>Timp-Nebo Conservation District</td>
<td>Dax Reid</td>
<td>Field Drain</td>
<td>$60,000.00</td>
<td>$35,000.00</td>
</tr>
<tr>
<td>East Fork Hilliard Canal Diversion</td>
<td>Upper Bear River</td>
<td>Trout Unlimited</td>
<td>Jim Deno</td>
<td>Diversion Rebuild</td>
<td>$15,000.00</td>
<td>$15,000.00</td>
</tr>
<tr>
<td>North Cache Soil Health Implementation and Monitoring</td>
<td>Bear River</td>
<td>North Cache Conservation District</td>
<td>Gabe Murray</td>
<td>Soil Health</td>
<td>$57,627.00</td>
<td>$35,000.00</td>
</tr>
<tr>
<td>Henefer City Source Water Protection</td>
<td>Weber River</td>
<td>Terry Daston - Private Landowner</td>
<td>Andy Pappas</td>
<td>Stream Bank</td>
<td>$25,000.00</td>
<td>$5,718.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>$1,379,493.50</strong></td>
<td><strong>$1,000,000.00</strong></td>
</tr>
</tbody>
</table>

### Projects Funded with Section 319 Funding

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

Any Questions?

DontShare.Utah.Gov
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!
Utahns use between 25 and 35 percent more fertilizer than needed.
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
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:

```
Do you poop?

  YES  NO
```

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"

Clean Water Act and Utah Water Quality Act

- Designate Beneficial Uses
- Set Water Quality Standards
- Monitor
- Assess (Integrated Report)
  - Meets WQS - Fully supporting
  - Doesn’t meet WQS - Listed as impaired on 303 (d) List
  - Total Maximum Daily Load (TMDL) Study
  - Implementation (Point and Nonpoint Sources)
**DWQ Basin and Local Watershed Coordinators**

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

**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.

**Background Load**
- Naturally occurring from wetlands, forests

**Load Allocation**
- Runoff from the landscape

**Waste Load Allocation**
- Municipal Wastewater
- Industrial Wastewater
- Stormwater (NPS)

**TMDL**

https://www.lakopplainsprovenance.org/tmdl
**TMDL Example**

![TMDL Graph](image)

- **Current Condition**
  - TMDL
  - Reduction: 4,000 lbs/yr
- **Healthy**
- **Impaired**

**Typical TMDL Process**

1. **Characterization, Pollutant, WQS**
2. **Loading Capacity** (link WQ & sources)
3. **Load Allocations (NPS)** + Wasteloads (PS) + MOS
4. **Permitting, Reasonable Assurance, Monitoring Plan, Implementation Plan**
5. **Stakeholder, Water Quality Board, EPA**

- **Stakeholder Involvement & Public Participation**
  - Water Quality Problem
  - TMDL Target ID
  - Linkage between loading & waterbody
  - Allocation Analysis
  - Implementation & Monitoring
  - TMDL Report & Submittal
Utah’s 303(d) Vision

High Priority Factors

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

2022 Priority TMDLs

<table>
<thead>
<tr>
<th>Region State</th>
<th>Assessment Unit</th>
<th>Assessment Unit Name Cause/Name</th>
<th>EPA Action Date</th>
<th>Relevant Relevant</th>
<th>Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>UT</td>
<td>UT100202006-019</td>
<td>Big Cottonwood Creek - ECHERICHIA COLI</td>
<td>Urban</td>
<td>Part of JR Watershed Ecol TMDL</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-020</td>
<td>Bear Creek - ECHERICHIA COLI</td>
<td>Urban</td>
<td>Part of JR Watershed Ecol TMDL</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-021</td>
<td>Bear Creek - CADMIUM</td>
<td>Mixed</td>
<td>Part of JR Watershed Ecol TMDL</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-022</td>
<td>City Creek -2</td>
<td>Urban</td>
<td>Part of JR Watershed Ecol TMDL</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-023</td>
<td>Emigration Creek - ECHERICHIA COLI</td>
<td>Urban</td>
<td>Part of JR Watershed Ecol TMDL</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-024</td>
<td>Fremont River - ECHERICHIA COLI</td>
<td>Rural</td>
<td>TMDL in progress</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-025</td>
<td>Jordan River - DOXOGEN OXYGEN</td>
<td>5-Jun-13</td>
<td>Waiting on completion of U of U model per EPA STAR Grant, looking into HSPF</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-026</td>
<td>Jordan River - ECHERICHIA COLI</td>
<td>Urban</td>
<td>Part of JR Watershed Ecol TMDL</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-027</td>
<td>Jordan River - DOXOGEN OXYGEN</td>
<td>5-Jun-13</td>
<td>Waiting on completion of U of U model per EPA STAR Grant, looking into HSPF</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-028</td>
<td>Jordan River - ECHERICHIA COLI</td>
<td>Urban</td>
<td>Part of JR Watershed Ecol TMDL</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-029</td>
<td>Jordan River - DOXOGEN OXYGEN</td>
<td>5-Jun-13</td>
<td>Waiting on completion of U of U model per EPA STAR Grant, looking into HSPF</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-030</td>
<td>Jordan River - ECHERICHIA COLI</td>
<td>Urban</td>
<td>Part of JR Watershed Ecol TMDL</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-031</td>
<td>Jordan River - DOXOGEN OXYGEN</td>
<td>5-Jun-13</td>
<td>Waiting on completion of U of U model per EPA STAR Grant, looking into HSPF</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-032</td>
<td>Jordan River - ECHERICHIA COLI</td>
<td>Urban</td>
<td>Part of JR Watershed Ecol TMDL</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-033</td>
<td>Jordan River - DOXOGEN OXYGEN</td>
<td>5-Jun-13</td>
<td>Waiting on completion of U of U model per EPA STAR Grant, looking into HSPF</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-034</td>
<td>Jordan River - ECHERICHIA COLI</td>
<td>Urban</td>
<td>Part of JR Watershed Ecol TMDL</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-035</td>
<td>Jordan River - DOXOGEN OXYGEN</td>
<td>5-Jun-13</td>
<td>Waiting on completion of U of U model per EPA STAR Grant, looking into HSPF</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-036</td>
<td>Jordan River - ECHERICHIA COLI</td>
<td>Urban</td>
<td>Part of JR Watershed Ecol TMDL</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-037</td>
<td>Jordan River - DOXOGEN OXYGEN</td>
<td>5-Jun-13</td>
<td>Waiting on completion of U of U model per EPA STAR Grant, looking into HSPF</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-038</td>
<td>Jordan River - ARSENC</td>
<td>Urban</td>
<td>Part of JR Watershed Ecol TMDL</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-039</td>
<td>Little Cottonwood Creek - ECHERICHIA COLI</td>
<td>Urban</td>
<td>Part of JR Watershed Ecol TMDL</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-040</td>
<td>Little Cottonwood  Creek - DOXOGEN OXYGEN</td>
<td>Urban</td>
<td>Part of JR Watershed Ecol TMDL</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-041</td>
<td>Little Cottonwood Creek - ECHERICHIA COLI</td>
<td>Urban</td>
<td>Part of JR Watershed Ecol TMDL</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-042</td>
<td>Little Cottonwood Creek - DOXOGEN OXYGEN</td>
<td>Urban</td>
<td>Part of JR Watershed Ecol TMDL</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-043</td>
<td>Little Cottonwood Creek - ECHERICHIA COLI</td>
<td>Urban</td>
<td>Part of JR Watershed Ecol TMDL</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-044</td>
<td>Little Cottonwood Creek - DOXOGEN OXYGEN</td>
<td>Urban</td>
<td>Part of JR Watershed Ecol TMDL</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-045</td>
<td>Little Cottonwood Creek - ECHERICHIA COLI</td>
<td>Urban</td>
<td>Part of JR Watershed Ecol TMDL</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-046</td>
<td>Little Cottonwood Creek - DOXOGEN OXYGEN</td>
<td>Urban</td>
<td>Part of JR Watershed Ecol TMDL</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-047</td>
<td>Little Cottonwood Creek - ECHERICHIA COLI</td>
<td>Urban</td>
<td>Part of JR Watershed Ecol TMDL</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-048</td>
<td>Little Cottonwood Creek - DOXOGEN OXYGEN</td>
<td>Urban</td>
<td>Part of JR Watershed Ecol TMDL</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-049</td>
<td>Little Cottonwood Creek - ECHERICHIA COLI</td>
<td>Urban</td>
<td>Part of JR Watershed Ecol TMDL</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-050</td>
<td>Little Cottonwood Creek - DOXOGEN OXYGEN</td>
<td>Urban</td>
<td>Part of JR Watershed Ecol TMDL</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-051</td>
<td>Little Cottonwood Creek - ECHERICHIA COLI</td>
<td>Urban</td>
<td>Part of JR Watershed Ecol TMDL</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-052</td>
<td>Little Cottonwood Creek - DOXOGEN OXYGEN</td>
<td>Urban</td>
<td>Part of JR Watershed Ecol TMDL</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-053</td>
<td>Little Cottonwood Creek - ECHERICHIA COLI</td>
<td>Urban</td>
<td>Part of JR Watershed Ecol TMDL</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-054</td>
<td>Little Cottonwood Creek - DOXOGEN OXYGEN</td>
<td>Urban</td>
<td>Part of JR Watershed Ecol TMDL</td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>UT100202006-055</td>
<td>Little Cottonwood Creek - ECHERICHIA COLI</td>
<td>Urban</td>
<td>Part of JR Watershed Ecol TMDL</td>
<td></td>
</tr>
</tbody>
</table>
# 2022 Priority TMDLs Summary

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

---

![Map of Fremont River Watershed General Location](image_url)
Jordan River Watershed (wide) E coli TMDLs

- Jordan River 1-5
- Mill Creek 1 & 2
- Big Cottonwood 1
- Little Cottonwood 1
- Lower Emigration
- Parleys Canyon 1
- Butterfield
- Rose

2022 Priority TMLDs
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 ¼ 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
  - ¾ Mile
- Bank Restoration
  - 700 ft
- Crack Willow Removal
  - Over 20 Trees
- Revegetation

Denzil-Stewart Nature Park

- Floodplain Expansion
- Public Trails
  - Several Hundred FT
- Bank Restoration
  - 120 ft
- Crack Willow Removal
  - 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

Questions?