

Small Farms Water Quality Improvement Grant

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EXTENSION 
UtahStateUniversity

Background – Livestock Waste

- In 2012, CAFO with livestock and poultry produced 13 times more waste than the entire U.S. population
- As population grows, the distance between livestock and humans decreases
- Utah Population Increases
 - 2018-2019 – Increased by 1.7%(2nd in nation)
 - 2010-2019 – Increased by 16% (2nd in nation) or 442,067 people



EPA & Animal Feeding Operations

- AFO's – Agriculture operation where animals are in confined settings
- CAFO – A large concentrated AFO
 - AFO with more than 100 animal units (1000 pounds live weight of animal)
 - Any size AFO that discharges manure or wastewater into a waterway



AFO requirements vs. 4-H projects

AFO

1. Animals in confined setting
2. Feed brought to animals
3. Animals kept in confined setting for 45 days

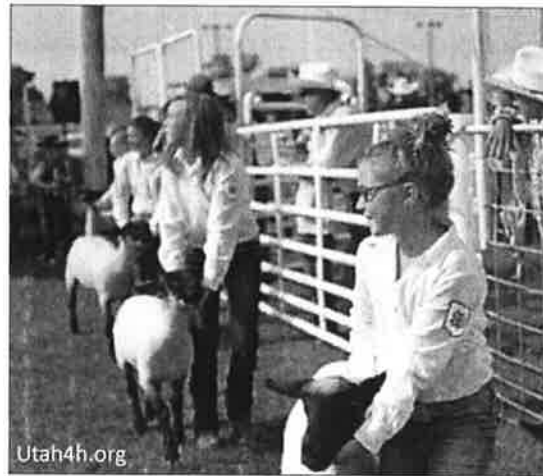
4-H

1. Animals kept in confined settings (Urban)
2. Feed brought to animals
 - (Grains, not usually on pasture)
3. Animals required to be owned for 60 days



4-H and Livestock Waste

- 4,604 Livestock Projects (2018)
 - 3,960 Youth Involved
- 1500+ Horse Projects
- Large numbers of youth participation has led to a need for waste management education
 - Especially in urban areas



Materials & Methods

- Goal: Create a program to educate youth about livestock waste management and water quality
- Materials
 - Waste Management PowerPoint
 - Waste Management Worksheet
 - Enviroscape Model
 - Post-Event Evaluations



Methods

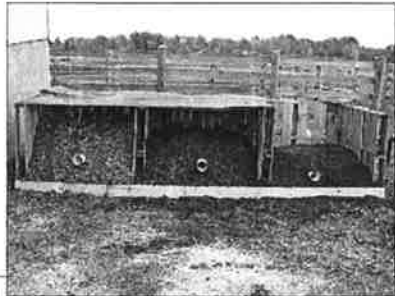
- Workshops incorporated into existing events
- Program lasted 1.5 hours
- Workshop Outline
 - PowerPoint Presentation
 - Waste Management Worksheet
 - Enviroscape Activity
 - Evaluation Post-Event

PowerPoint Presentation

- Topics included:
 - Amount of Waste Produced by Livestock
 - Average Housing Proximity to Humans
 - EPA Regulations
 - Relationship between Waste Management & Water Quality
 - The Most Common Methods of Waste Contamination
 - “Manure Management for Livestock 4-H Projects” (Davis et. al. 2008)



Waste Management Worksheet



Retrieved from njaes.Rutgers.edu

- Contained 2 fictitious scenarios
- Discussed possible solutions for individual properties
- Opened up workshop for discussion

Enviroscape Activity



Post-Event Evaluations

- Handed out Evaluation following workshop
- Questions Included:
 - Before today's workshop, my knowledge of livestock/horse waste management was
 - How effective has this workshop been to increase your knowledge about how to manage livestock waste for better water quality?
 - Would you agree that your views on water quality and waste management have changed because you attended this workshop?
 - How likely are you to use one of the techniques presented today to prevent water pollution with your livestock/horse projects?

Results

Livestock Waste Management and Water Quality Youth Education Evaluation Results			
Participants			
Youth (Age 8-18)	Adults (Age 19+)	Total Participants	
249	67	316	
Before today's workshop, my knowledge of livestock/horse waste management was.			
Very Poor	Poor	Fair	Good or Very Good
15%	25%	30%	29%
How effective has this workshop been to increase your knowledge about how to manage livestock waste for better water quality?			
Not Useful At All	Not Very Useful	Somewhat Useful	Very Useful
1%	6%	25%	68%
Would you agree that your views on water quality and waste management have changed because you attended this workshop?			
Strongly Disagree	Disagree	Agree	Strongly Agree
1%	3%	48%	48%
How likely are you to use one of the techniques presented today to prevent water pollution with your livestock/horse projects?			
Not Likely At All	Not Very Likely	Somewhat Likely	Very Likely
3%	2%	52%	43%

Small Farms Water Quality Improvement Grant



Grant Application


- **Project Description** (describe in detail your proposed project, how the current state of the area is contributing to poor waste management/water quality, how proposed improvements it will benefit the overall water quality, and how you plan to carry out the proposed improvements)
- **Project Location**
- **Project Timeline** (ALL projects must be completed by 4-1-2021)
- **Project Evaluation / Monitoring Plan** (describe how project effectiveness will be demonstrated for example: water quality tests, nutrient management plans, etc.)
- **Project Budget** (provide a detailed budget on the table below for the project showing all proposed expenditures (i.e., operating expenses, professional/consulting services, construction, equipment, supplies, travel etc.). Be sure to show which expenditures will be covered by the grant funding requested and what will be covered by matching funds, including the source of the match. A short budget narrative explaining costs and functions is also encouraged in the text box below)

To date....


- Multiple phone calls, emails, and texts inquiring about the grant
- One application submitted
- Lots of collaboration efforts to help spread the word
- Due Date is October 15, 2020

Questions?





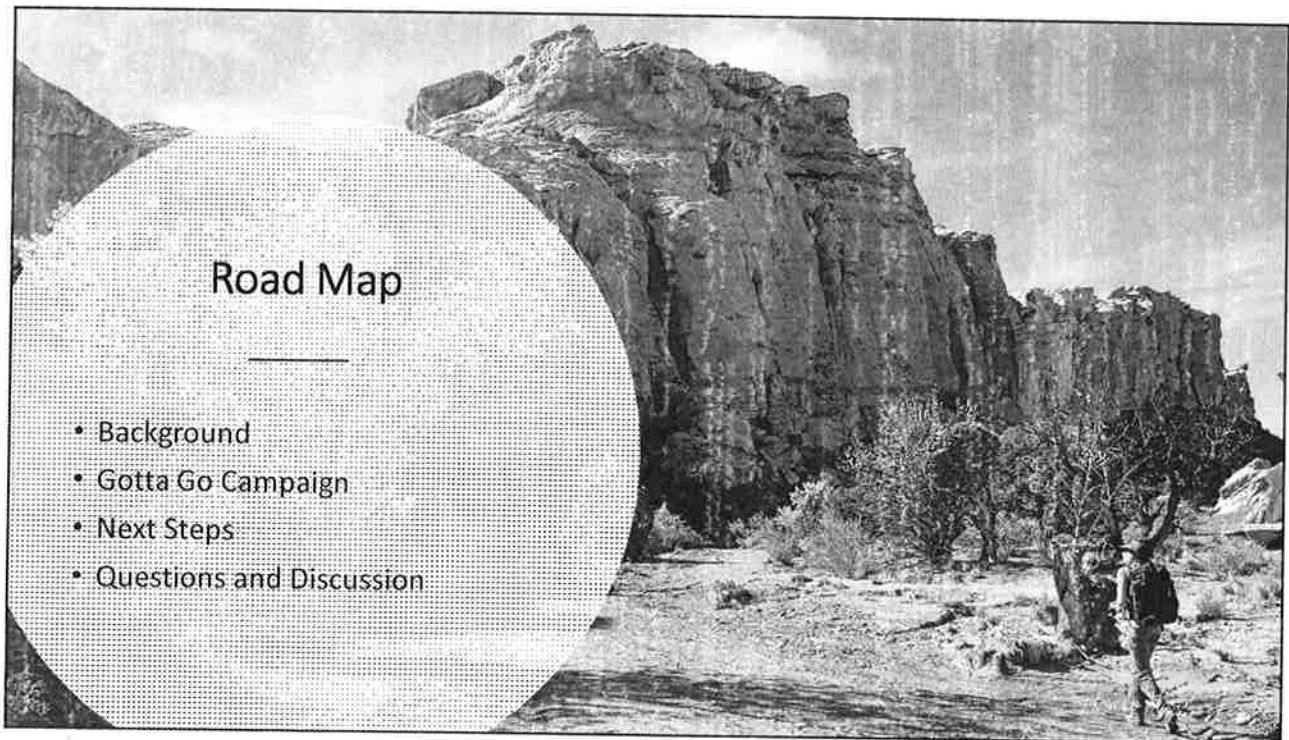
Utah State University
WATER QUALITY EXTENSION



GOTTA GO!

Helping improve water quality on Utah public lands

Hope Braithwaite
Assistant Professor for Watershed Quality



Road Map

- Background
- Gotta Go Campaign
- Next Steps
- Questions and Discussion

Growing Nonpoint Source Pollution Concerns

- **Pollution from improper treatment or removal of human waste left along trails and in recreational areas**
- Small acreages in unconsolidated areas and small towns with animals and/or gardens or other horticultural activities
- Pollution of shallow groundwater from improper management of septic systems
- Threats to small standing wetlands and riparian areas across the state



Statewide Land Manager Survey - Methods

Purpose

Determine land managers' level of concern about human waste disposal on public lands and to identify the types of recreation and locations that pose the highest level of concern.

Agency	Number of individuals contacted	Number of interview respondents
USDA Forest Service	28	20
USDI Bureau of Land Management (BLM)	12	6
Utah State Parks	3	3
Utah Division of Forestry, Fire, and State Lands	5	2
Health Department	2	1
County Recreation and Open Space District	1	1
Total	51	33

Table 1. Interview participants by agency in which they are employed.



Statewide Land Manager Survey - Results

- Concerns about management of human waste associated with recreation are widespread across public lands in Utah
 - 75% of respondents indicated that human waste practices do pose a problem within their jurisdiction
- Concerns and proper practices vary depending on the region and recreational activity



Road Map

- Background
- **Gotta Go Campaign**
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Our Approach

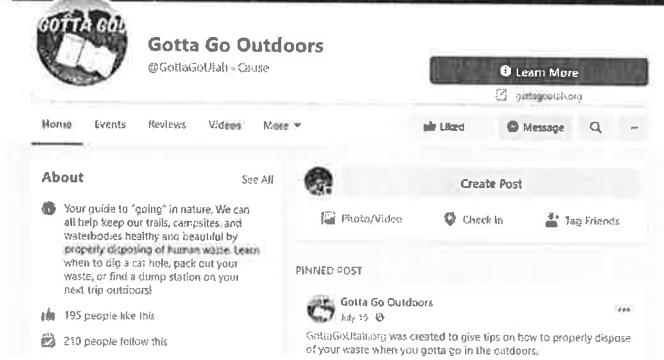
Goal: Educate citizens on proper management of human waste when visiting Utah's public lands.

- Catch people's attention
 - Social Media (Facebook and Instagram)
- Improve information resources
 - Website
 - Friendly
 - Readily accessible
 - Accurate info
 - Easy to understand and do



Facebook

Gotta Go Outdoors Facebook Page



Facebook

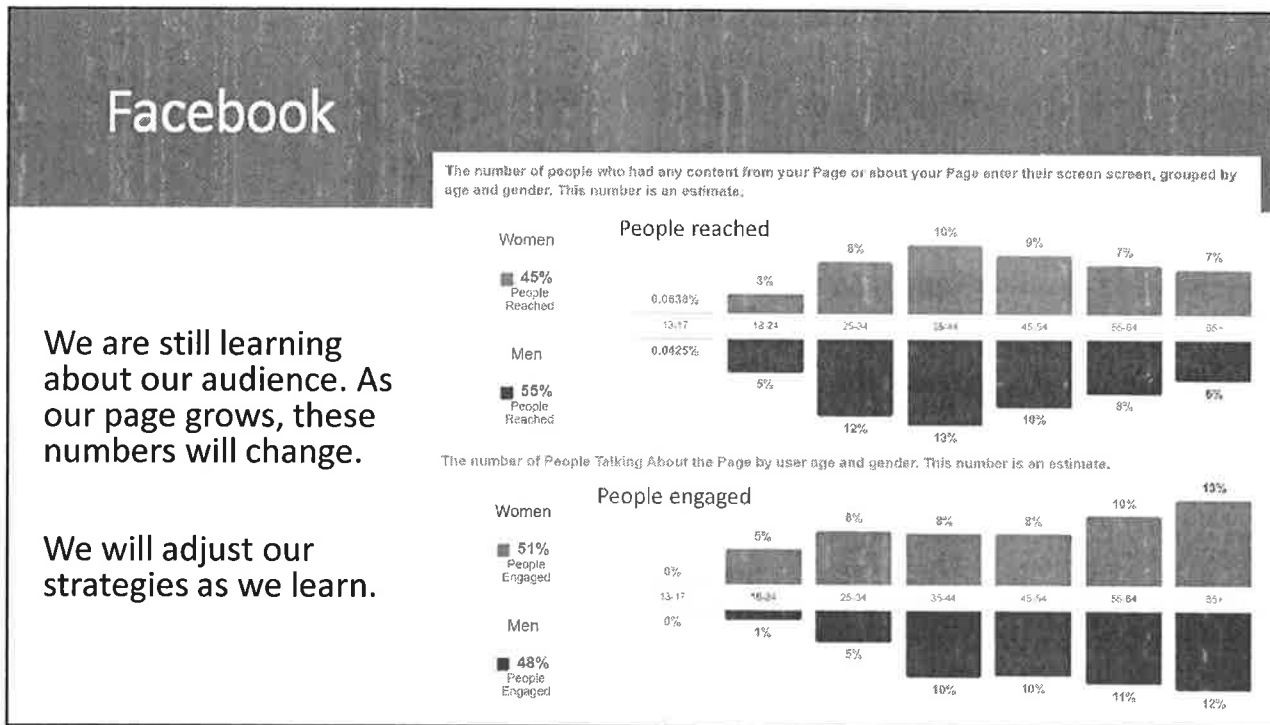
July 15 – September 1, 2020

Facebook:

- **195** Page likes
- **22** Posts
- **41,902** People reached across all posts*
- **965** Reactions, comments, and shares on posts**
- **2,168** Post clicks***
- **36.25%** of website traffic referred from social media – Facebook & Instagram (source: Google Analytics)

The collage features several social media posts and website snippets:

- Bureau of Land Management - Idaho:** "When nature calls, be sure you're prepared! Follow Gotta Go Outdoors for tips and resources on how to 'go' in every landscape and every situation."
- Gotta Go Outdoors:** "GottaGoUtah.org was created to give tips on how to properly dispose of your waste when you gotta go in the outdoors. Visit our page to learn when you... See More"
- Utah Division of Wildlife Resources:** "Hunters, anglers, wildlife watchers and general outdoor enthusiasts: everyone poops and when nature calls in the outdoors, you must properly dispose of it. Follow Gotta Go Outdoors and learn everything you never thought you'd need to know about 'going' in Utah's outdoors. #LeaveNoTrace #ResponsibleRecreation https://www.gottagoutah.org/"
- Utah Extension Sustainability:** "Tip Tuesday! Know How to 'Go' in Utah. Do you know proper camping/outdoor etiquette? Here are some quick tips, thanks to Gotta Go Outdoors. - Go before you go-use an outhouse or bathroom before you head out. - In many places, it is best to dig a cat hole 6-8 inches deep, and far away from water, trails and campsites. - In some delicate environments, such as deserts and alpine forests, it's best to pack it out. For more tips, visit https://www.gottagoutah.org/?fbclid=IwAR2F8r1R5GpMPLAG6wmeZD3k-wGtA3F250RikJkHSHI6ce4etbND0vE"
- Utah Division of Wildlife Resources:** "Quick guide to 'going' in nature. FORESTS = DIG CAT HOLE. DESERT = PACK IT OUT."
- Utah Division of Wildlife Resources:** "Properly disposing of human waste is critical for keeping our public lands beautiful and healthy. Check out Gotta Go Outdoors to learn more about proper waste disposal."
- Gotta Go Outdoors:** "Summer is the perfect time to head outdoors, but more people recreating on public lands means more people who have to 'go' in places without bathrooms. See More"
- Bureau of Land Management - Utah:** "When you're out in nature, and nature calls, just how do you go about...doing it? Did you know there are actual rules and regulations for managing your waste in the outdoors? Learn more >>> https://www.gottagoutah.org/?fbclid=IwAR2F8r1R5GpMPLAG6wmeZD3k-wGtA3F250RikJkHSHI6ce4etbND0vE"
- Gotta Go!** "Gotta Go! Rules & Regulations. Mess left behind from human and animal waste is considered 'nonpoint pollution' therefore it is not actually regulated. This just means that the government trusts each individual to clean up after themselves. On the other..."



Instagram

Gotta Go Outdoors! Instagram
@gottagoutah

- We generally post the same content on both Instagram and Facebook with minor changes to make it suitable depending on the platform.

#GottaGo #recreateresponsibly #naturecalls #everyonepoops #thegreatoutdoors #naturelovers #optoutside #outdoorrecreation #leavenotrace #LNT #leaveitbetterthanyoufoundit #packitinpackitout #dontbetrashy #packitout #naturefirst #publiclands

Utah specific hashtags:
#utahisrad #utahlife #beutahful #werutah

Social Media Findings

Key Findings:

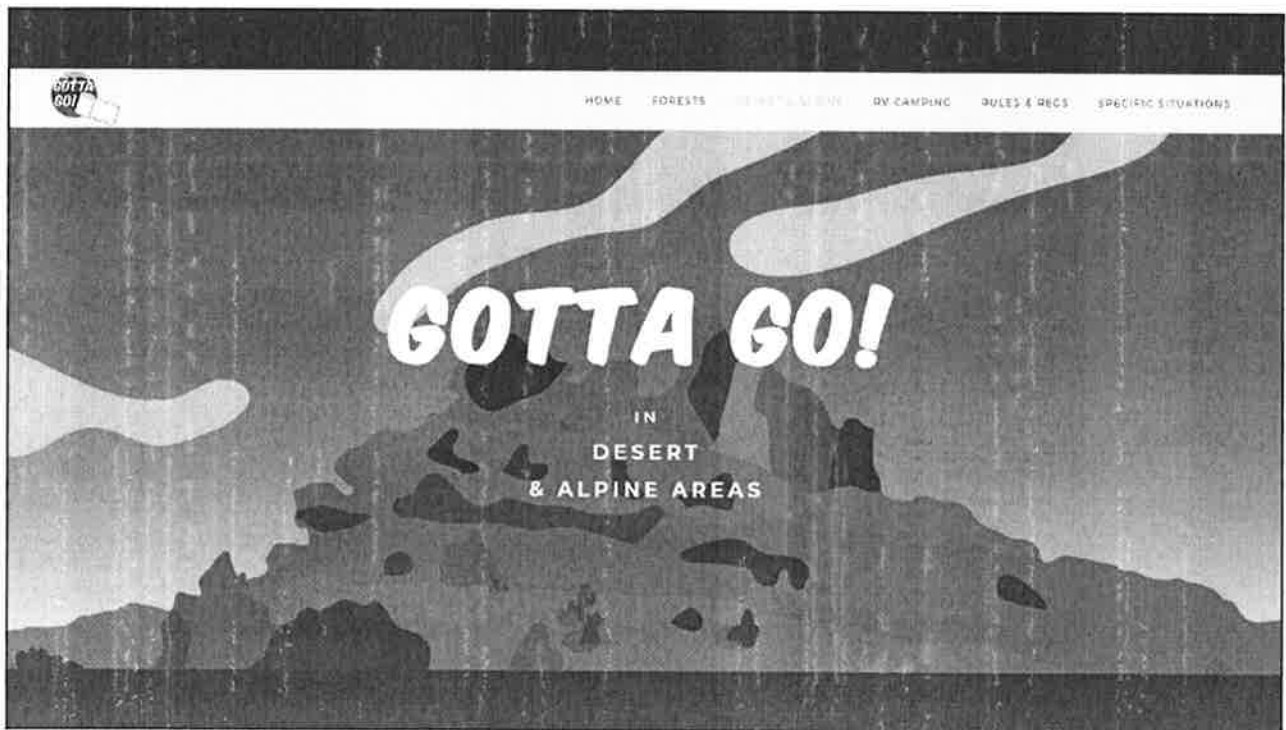
- Fantastic page growth in 1.5 months! People find the information useful and important (based on comments).
- Shares of our content help to increase our reach and growth, and shares from nature-related agencies helps increase awareness and website visits.
- Sending requests to like our page to people who engage with our content has been a successful means of gaining page likes.
- Content and ads receive positive engagement – majority of people like/love our content and appreciate the resources and efforts to raise awareness of this issue.
- Boosted posts help increase awareness of campaign and amount of engagement and follows from audience.
- Several followers have helped share our Facebook page by posting our content into high-use outdoor recreation groups.
- People easily make the connection between the Gotta Go campaign messages and Leave No Trace Principles.

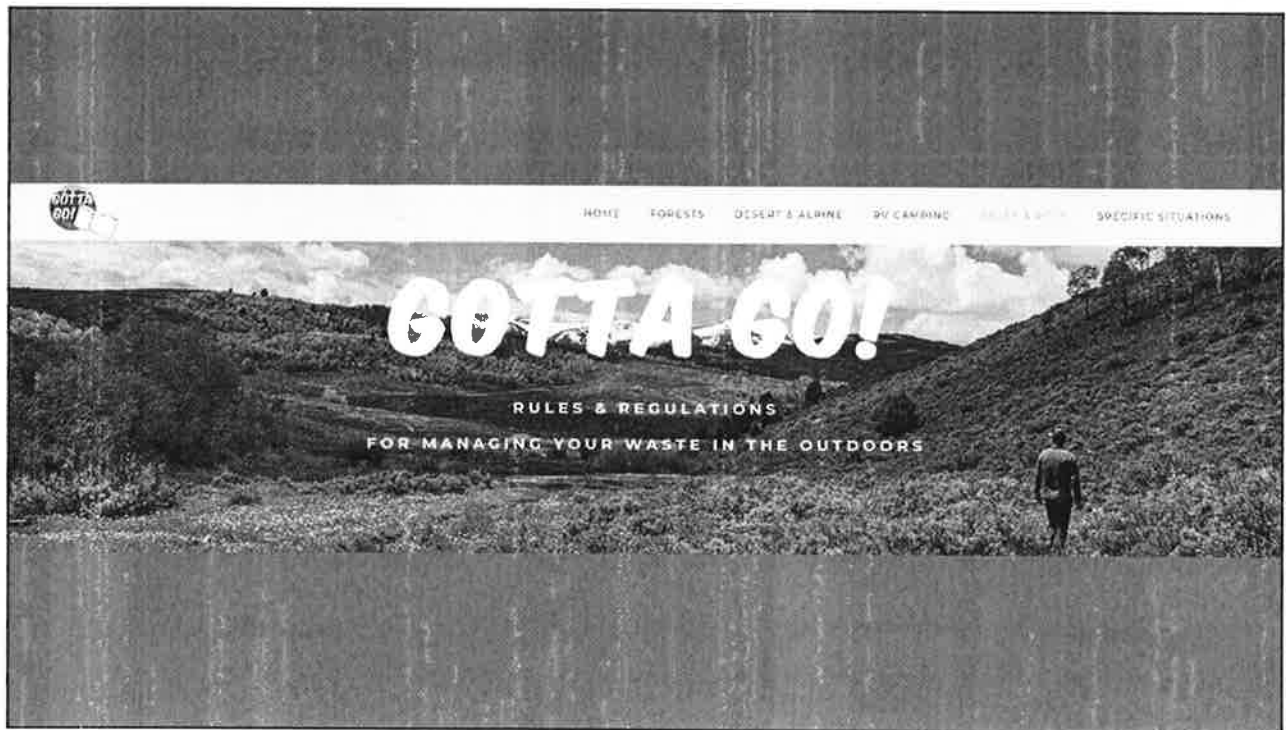


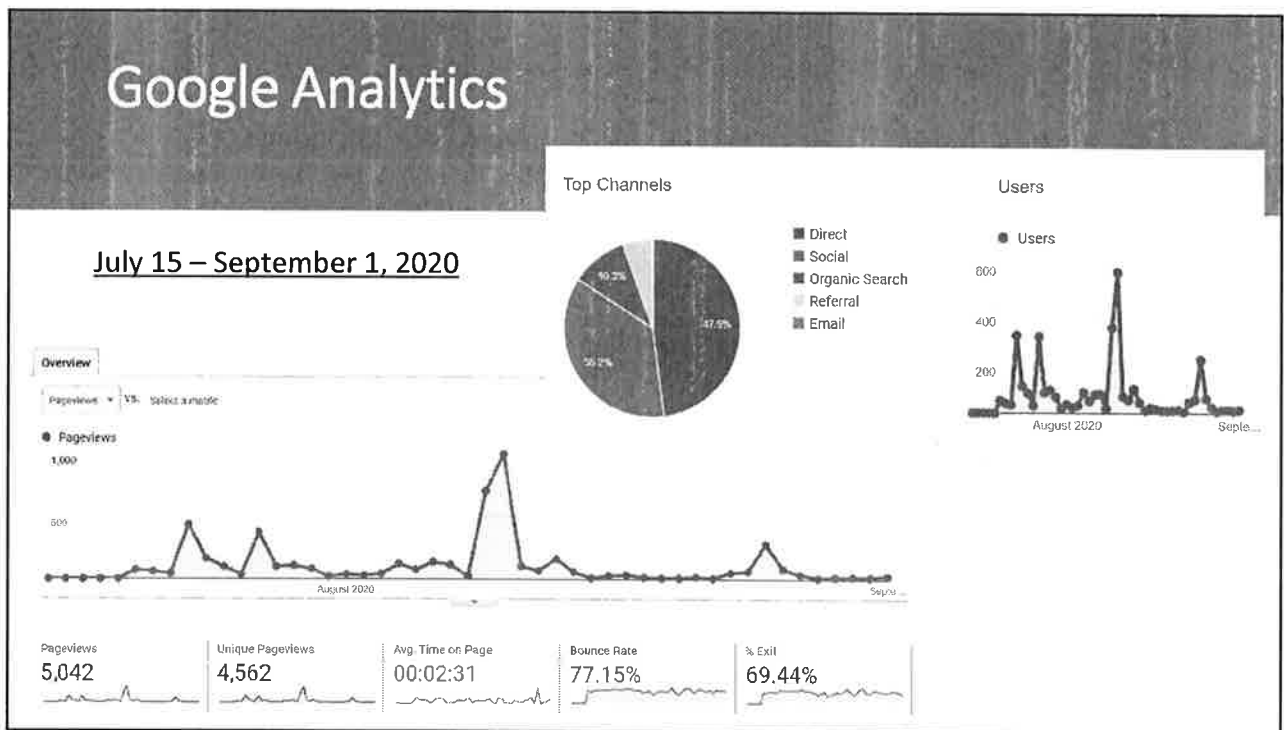
Website

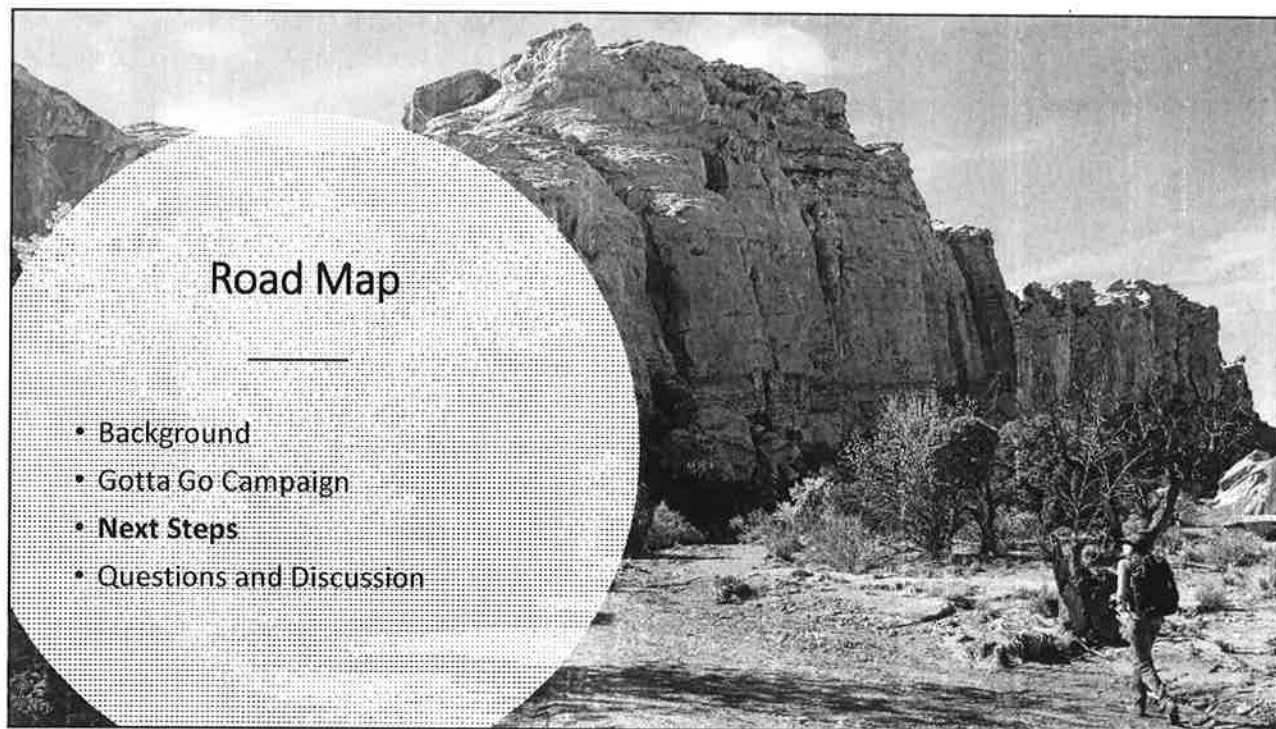


GottaGoUtah.org






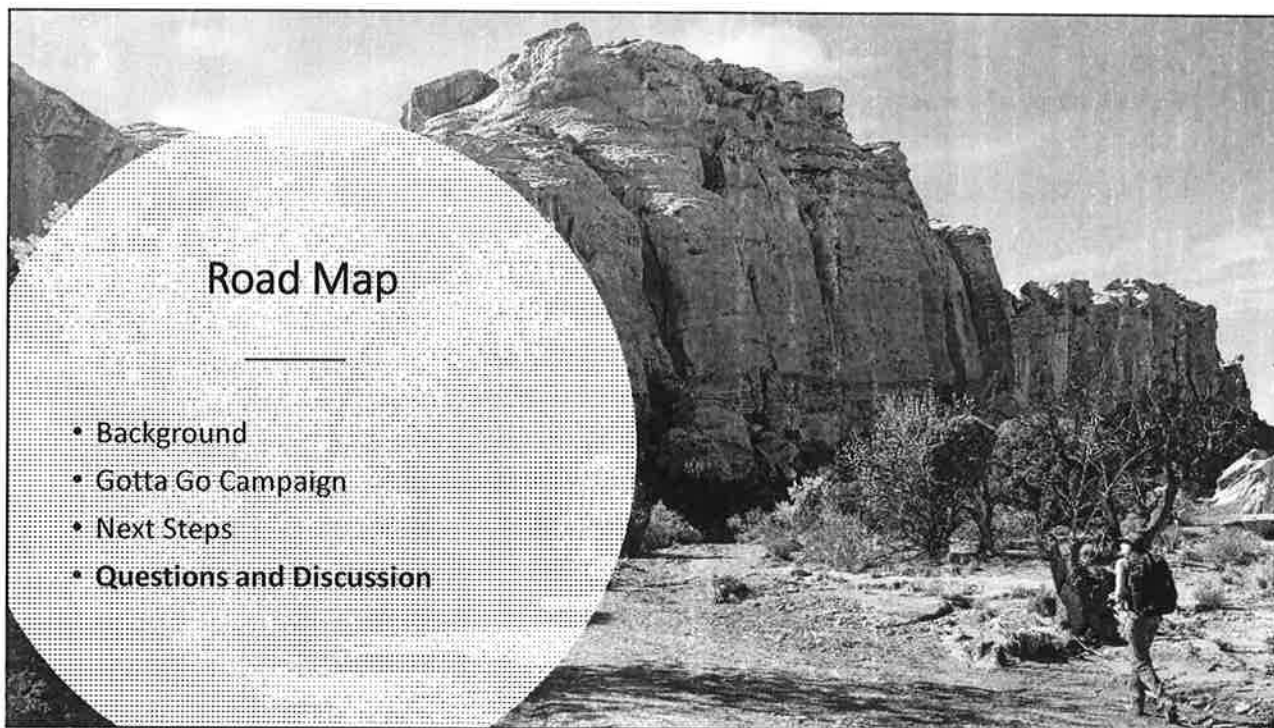




Next Steps

- Keep resources current and relevant
- Collaboration and Assistance
 - Work with Southeastern Utah Health Department and their "Southeast Utah Human Waste Initiative"
 - Help us spread the word
- Revisit survey in 1-2 years





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Thank you!

EXPLORE LIKE A CAT

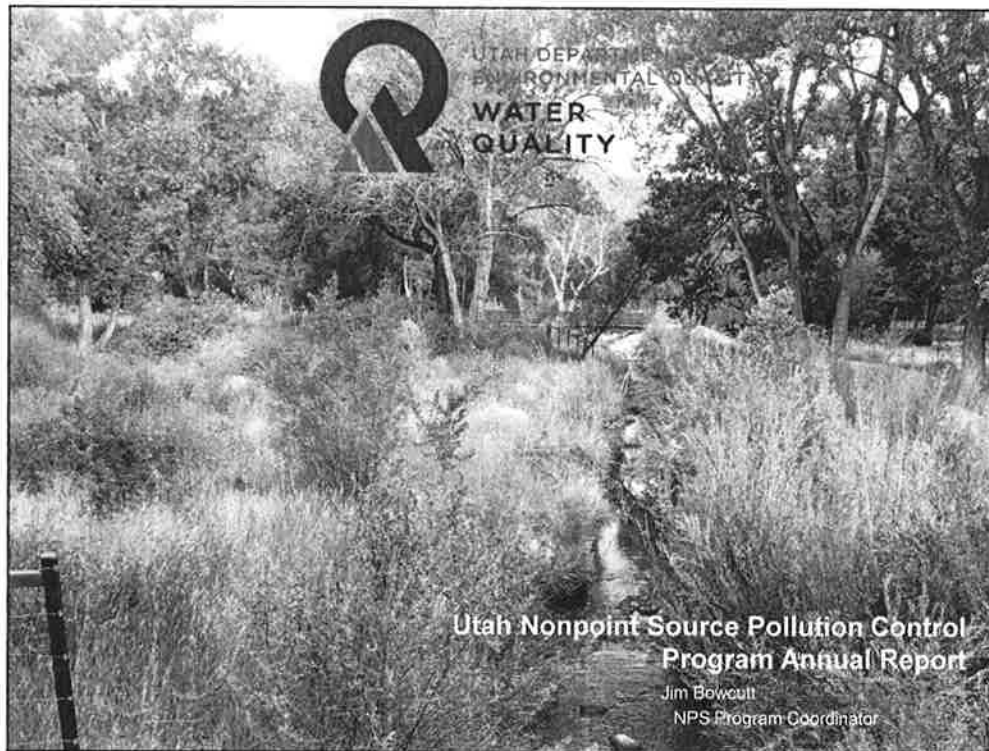


POOP LIKE A CAT



When in a forest, walk 70 steps from water, dig a kitty hole and **#PoopLikeACat**. Cover and camouflage the hole when finished.

GottaGoUtah.org
Click to learn more



FY-20 Deliverables

- Pilot Agricultural Voluntary Incentive Program (VIP)
- 7 Local watershed coordinators funded throughout the state
- 2 Animal feeding operations addressed
- 8 Information and education projects funded
- 9.07 Miles of stream bank restored
- 105.5 acres of Riparian improvement
- 1.4 miles of roads removed from riparian areas.
- Initiated the Heber Valley,
- 4 storm water projects



Project Match for FY-2020 NPS Grants

Source	Amount
NRCS	\$1,916,690
UDAF	\$181,392
Local Government	\$879,653
WRI	\$1,904,270
BLM	\$81,000
Universities	\$236,632
Local Conservation Districts	\$20,879
Watershed Groups	\$19,150
In-Kind	\$642,867
Other	\$543,317
Total	\$6,184,892

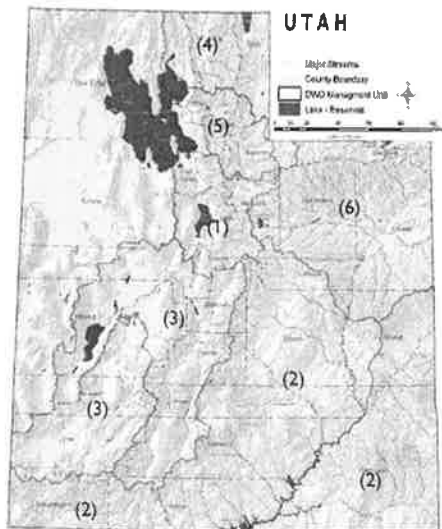


Balance of Current Section 319 Grants

Federal Fiscal Year	Grant Award	Total Expenditures	Percent Expended
FY-15	\$879,703	\$879,703	100%
FY-16	\$987,458	\$987,458	100%
FY-17	\$1,004,260	\$896,319	89%
FY-18	\$970,494	\$552,487	57%
FY-19	\$959,059	\$446,488	47%
FY-20	\$1,035,799	\$0	0%
Total	\$5,836,773	\$3,762,455	65%



Watershed Management Unit Funding Cycle



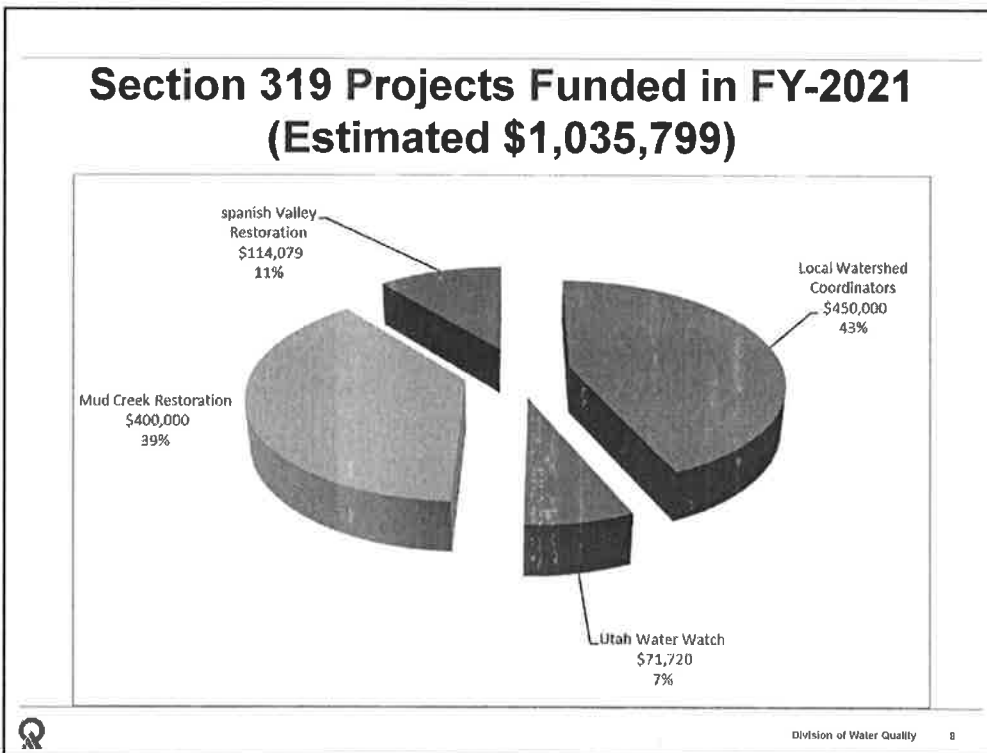
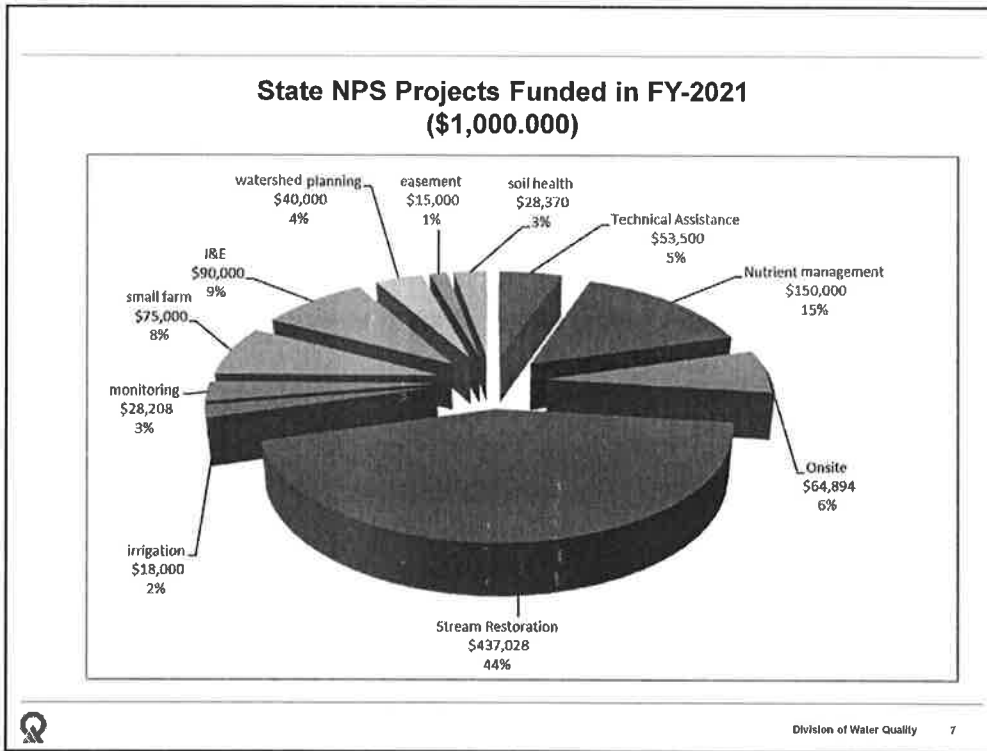
Watershed	2019	2020	2021	2022	2023	2024	2025
(1) Jordan/Utah Lake							
(2) Colorado River							
(3) Sevier, Cedar-Beaver							
(4) Bear River							
(5) Weber River							
(6) Uinta Basin							



FY-2021 Projects Funded

- Applications were accepted from February 1st through April 24th (Was extended two weeks to accommodate for COVID-19)
- June 4th the final grant recipients were announced.
- Colorado River was the targeted watershed
- 57 proposals were received, totaling \$4,520,111.
- 33 proposals were selected for full or partial funding.



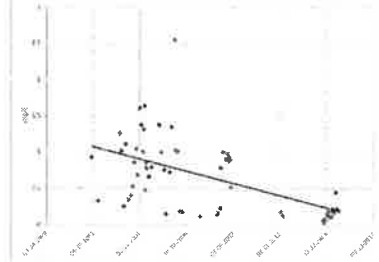


Other Items of Interest Spring Creek Success Story

- Over 21 Nutrient Management Plans developed in the watershed.
- 21 waste storage facilities constructed.
- 7,124 feet of berms installed.
- 6,248 feet of riparian fencing installed.
- 1,200 feet of streambank protection.



Spring Creek Total Phosphorus Concentrations at Watershed Outlet



Other Items of Interest Project Information on Website

<https://utahdeq.maps.arcgis.com/apps/Shortlist/index.html?appid=18d7df7b79a44299b40f13bd62d7d62b>



Other Items of Interest Information/Education Campaigns



<https://www.gottagoutah.org/>



<https://www.dontshareutah.org/>

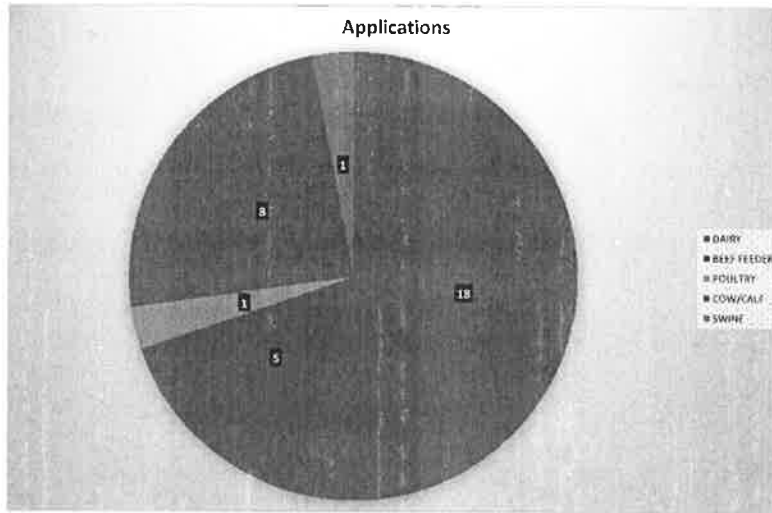
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Other Items of Interest Agricultural VIP Program

- Incentive payment for Agricultural Producers to implement nutrient Management Plan on their operations.
 - \$1,000 one time payment to develop plan
 - \$12/acre for land enrolled in the program for three years.
- Received 33 applications, \$660,480 in requests, covering 17,430 acres



APPLICATION BREAK-DOWN



APPLICATIONS PER COUNTY

Box Elder - 6
Cache - 5
Garfield - 2
Millard - 3
Morgan - 3
Piute - 5
Sanpete - 1
Tooele - 1
Weber - 7



Showing the Need:



Of the 33 Applications

- 14 have never had a CNMP written
- 8 have CNMPs older than 5 years
- 15 expressed the need for more storage capacity and/or improved manure handling options.

Proximity to water:

- 17 have fields that boarder surface water.
- 13 have fields that border irrigation water conveyance structures
- 3 don't have fields that boarder any kind of surface water.

Source Water Protection:

- 6 of the applicants are located in source water protection areas.

Proximity to impaired water bodies:

- 27 of the applicants are located in a watershed that is either listed on the 303(d) list of impaired water bodies, or is implementing a TMDL.

15

QUESTIONS

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