UTAH
NONPOINT SOURCE
POLLUTION MANAGEMENT PROGRAM

FISCAL YEAR 2013
ANNUAL REPORT

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Prepared by:
The Utah Department of Environmental Quality
In cooperation with the Water Quality Task Force

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Cover Photo: River Restoration Project, Fremont River

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1. Introduction and Program Overview

This report fulfills the requirements of Section 319(m)(1) of the federal Clean Water Act of 1987. The Utah Department of Environmental Quality's Division of Water Quality annually prepares this report to inform the public, the U.S. Congress and the U.S. Environmental Protection Agency (EPA) on the state's progress in the area of nonpoint source water pollution abatement. Although this report should not be considered a complete account of all nonpoint source activities, it describes the most important features of Utah's program.

The mission of the Utah Nonpoint Source Pollution Management Program is to support the environmental protection goals of the state as described in Utah Administrative Code R317-2, in part to: 1) to conserve the waters of the state; 2) to protect, maintain, and improve the quality of the waters of the state for public water supplies, species protection and propagation and for other designated uses; and 3) to provide for the prevention, abatement and control of new or existing sources of polluted runoff. The Utah NPS Management Program works to achieve these goals by working in concert with numerous local, state and federal agencies and private parties pursuant to the Utah NPS Pollution Management Plan.

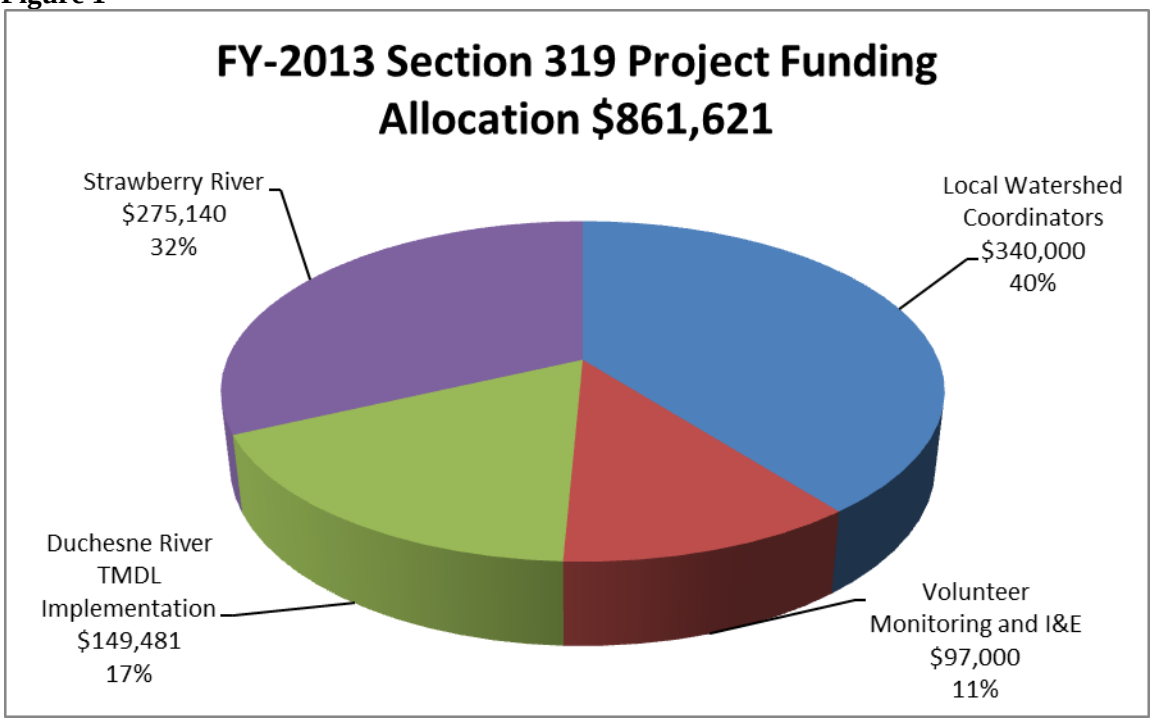
Nonpoint source pollution refers to diffuse pollutants that when added together from an entire watershed can significantly impact water quality in streams, lakes and reservoirs. Nonpoint source (NPS) pollution is diffuse, coming from land runoff, percolation, precipitation or atmospheric deposition. Precipitation washes pollutants from the air and land and into our streams, lakes, reservoirs and groundwater. Such pollutants can include sediment, nutrients, pathogens (bacteria and viruses), toxic chemicals, pesticides, oil, grease, salts and heavy metals. In Utah, our most common problems are sediment, nutrients, metals, salts and pathogens. These pollutants alter the chemical, physical and biological integrity of the water and can impair their designated uses. Most assessment units (waterbodies) are listed on the State's 2010 303(d) List of Impaired Waters because of nonpoint source pollution. Some of the common sources of NPS pollution include agricultural activities, runoff from parking lots, streets and residential areas, mining and timber operations, recreational activities, onsite septic systems, construction and development activities, stream/riparian habitat degradation and natural sources.

2. Grant Management and Program Administration

In Fiscal Year 2013 (FY-13) the Utah NPS program received $1,364,000 in Federal Section 319(h) funds. Of these funds, $502,379 was used for program related staffing and support, while the remaining $861,621 was dedicated to 4 project grants. This was a 5% cut overall from the year before. However by adjusting the budget the Division of Water Quality was able to increase the amount of funding used for project implementation by $30,821 in FY-13.

Section 319(h) funds are distributed at the local level to help address water quality issues contributing to nonpoint source pollution. Recipients of these funds can include local governments, watershed groups and individual cooperators. The projects selected for funding include the Volunteer Monitoring Program, support of local watershed coordinators, Best Management Practice (BMP) implementation, and watershed group support (Figure 1).

Figure 1



In addition to the FY-13 Section 319 funds, Utah continues to manage five other federal 319 grant awards which have been partially or completely expended. Table 1 summarizes grant awards by year and the approximate percentage that has been expended in each grant. The FY-08 contract expires September 30th, 2013 and is on schedule to be completely spent out by that date.

Table 1

Current Section 319(h) Nonpoint Source Funding Project Allocations Through June 30, 2013				
Federal Fiscal Year	**Grant Award**	**Expenditures in FY-13**	**Total Expenditures**	**Percent Expended**
FY-08	$1,161,585	$66,642	$1,071,180	92%
FY-09	$1,119,400	$38,479	$866,589	77%
FY-10	$1,065,000	$124,556	$876,521	82%
FY-11	$832,921	$270,320	$491,563	59%
FY-12	$830,800	$163,348	$163,348	20%
FY-13	$861,621	$0	$0	0%
Total	**$5,871,327**	**$663,345**	**$3,469,201**	**59%**

2.1. Staffing and Support

In FY-13 the Division of Water Quality devoted 6.2 FTEs to the NPS Pollution Management Program that are funded 60% with 319 funds and 40% state revenue. Table 2 shows the positions and FTEs funded by the Division of Water Quality using Section 319 funds.

Table 2

PERSONNEL (# FTE's)	SALARY	FRINGE (44%)	TOTAL EXPENSES	STATE (40%)	EPA 319 (60%)
Program Coordinator (1.0)	$64,064	$28,188	$92,252	$36,901	$55,351
Program Assistant (1.0)	$33,869	$26,611	$100,800	$40,320	$60,480
Environmental Scientist (0.50)	32,155	14,148	46,303	18,521	27,782
Environmental Scientist (1.0)	57,691	25,384	83,075	33,230	49,845
Environmental Scientist (0.50)	30,454	13,400	43,854	17,542	26,312
Environmental Scientist (0.30)	17,307	7,615	24,922	9,969	14,953
Environmental Scientist (0.50)	28,846	12,692	41,538	16,615	24,923
Monitoring Specialist (1.0)	50,383	22,169	72,552	29,021	43,531
Two Seasonal Temps (0.50)	42,333	18,627	60,960	24,384	36,576
Watershed Section Manager (0.60)	41,856	18,417	60,273	24,109	36,164
Asst. Div. Director (0.20)	16,420	7,225	23,645	9,458	14,187
Division Director (0.10)	10,768	4,738	15,506	6,202	9,304
TOTAL 6.2 FTEs	**$426,146**	**$199,213**	**$665,679**	**$266,272**	**$399,407**
SUPPORT					
Travel			$6,400	$2,560	$3,840
Direct and Indirect Staff Support			$141,656	$56,663	$84,994
Supplies			$2,063	$825	$1,238
Monitoring			$21,500	$8,600	$12,900
	Total Support		**$171,619**	**$68,648**	**$102,972**
Total Staffing and Support			**$837,298**	**$334,920**	**$502,379**

Section 319 funds allocated to staffing and support functions are also used to pay for laboratory support and report preparation. This includes laboratory analysis of water samples. Phytoplankton samples are collected annually from selected lakes and reservoirs by DWQ monitoring staff. Macroinvertebrates are also collected in various locations. The analysis of these samples and annual reports are paid for in part with 319 funds, and help determine if the BMPs that are being implemented are achieving the desired environmental results. The direct and indirect staff support includes expenses such as phones, rent, maintenance, security, printing, books, and data processing.

2.2. FY-13 Accomplishments and Milestones

FY-13 Accomplishments

- Utah closed out the FY-07 Section 319 Grant, and all information has been entered into the Grants Reporting and Tracking System (GRTS)
- Water Quality Task Force meetings were held on October 10th 2012, February 14th, 2013, and May 22nd 2013.
- The annual agency coordination meeting was held on February 26th. This meeting allowed partner agencies the opportunity to give a 15 minute presentation highlighting the NPS pollution issues their agencies are currently addressing .
- The Utah Watershed Coordinating Council (UWCC) met 3 times during the FY-13 including a monitoring training where representatives from the Division of Water Quality went over QA/QC and monitoring techniques that can be used for project effectiveness monitoring.
- Utah State University has submitted a draft report of the Utah NPS program review. This evaluation will help determine more effective ways to administer and implement the NPS program. It will also look at the effectiveness of the practices being installed to reduce nonpoint source pollution.
- A revised Statewide Management Plan for NPS pollution was completed and approved by EPA on November 25, 2013.
- The Statewide Stormwater Management Plan was completed and approved by EPA on November 25, 2013 as an appendix to the Statewide Management Plan for nonpoint source pollution.
- The Statewide Hydrologic Modification NPS Management Plan was updated and approved by EPA on November 25, 2013 as an appendix to the Statewide Management Plan for nonpoint source pollution.
- The Statewide NPS Information and Education Plan was updated and approved by EPA on November 25, 2013.as an appendix to the Statewide Management Plan for Nonpoint Source pollution.
- A success story highlighting the environmental benefits of the NPS project work that has recently taken place on the Cub River and East Canyon Creek Watershed have been submitted to EPA for approval.
- The Federal Consistency Review was conducted with the Division of Water Quality and the Forest Service in the Ashley National Forest on August 13th and 14th.
- The Utah Division of Water Quality and the Environmental Protection Agency participated in a project evaluation tour in the Jordan River and Colorado River Watersheds on August 19th and 21st.
- The Utah Division of Water Quality and the Natural Resource Conservation Service worked together to identify three 12 Digit HUCs in the Duchesne River and Wallsburg Watersheds in which the National Water Quality Initiative funding will be spent.
- The Utah Division of Water Quality and the NRCS completed an MOU that designates DWQ as a Section 1619 Conservation Cooperator, thus improving the effectiveness of both agencies' NPS efforts through better coordination and information sharing.
- Watershed Plans for the Duchesne River and Strawberry River Watersheds were submitted to EPA for Approval.
- Phase I of the Jordan River TMDL was approved by EPA.

Annual Milestones

To help the State of Utah gauge the success of the Statewide Nonpoint Source Management Program the State has developed annual milestones. These milestones are based on the five

objectives of the Statewide NPS Management Program identified in the Management Plan. These objectives and milestones are as follows:

Objective 1: Environmental Protection

Annual Milestones

- Number of TMDLs completed.
- Number of TMDLs initiated during the state fiscal year.
- Number of nine element watershed based plans developed.
- Number of nine element watershed based plans initiated during the state fiscal year.
- Number of projects dedicated to the protection of threatened waterbodies identified in Utah's 303(d) list.
- Number of projects focused on groundwater protection throughout the state.

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

Annual Milestones

- Total number of stream miles restored (beginning 2013)
- Total estimated load reductions (P,N,TSS) reduced in project areas (beginning 2013)
- Number of final project reports submitted (beginning 2013)
- Number of 319 grants currently open during the fiscal year
- Amount of unexpended funds in each open 319 grant
- Number of success stories showing the environmental benefits of completed NPS project submitted to EPA for approval

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

Annual Milestones

- Number of participants involved in the Statewide Volunteer Monitoring Program
- Number of I&E projects implemented with Section 319 and State NPS Funding
- Updates made to the State NPS Program Website

Objective 4: Improve Data Collection and Management

Annual Milestones

- Track updates made to enhance NPS monitoring in the Division of Water Quality's annual monitoring strategy.
- Number of SAPs developed.
- Track status and updates of AWQMS database.
- Report on water quality data uploaded to the EPA WQX database

Objective 5: Improve Coordination of Governmental and Private Sectors

Annual Milestones

- Hold annual NPS Management Program coordination meetings
- Conduct annual consistency reviews with state and federal agencies
- Number of Water Quality Task Force meetings held during the fiscal year
- Amount of funding used to leverage 319 funding throughout the state. This funding can include program funding from UDAF, UDEQ, UDWR, USDA, and other state, federal, and local agencies

For a complete report of how these annual milestones were met in FY-13, refer to Table I in the appendices.

2.3. Summary of Active Utah 319(h) Grants During FY-13

For an entire summary of active Utah 319(h) projects see Tables A, B, & C in the appendices.

2.4. Watershed Based Plans/ TMDLs

Section 303(d) of the federal Clean Water Act (CWA) requires states to develop and submit for approval a list of impaired waters every two years. This is referred to as the 303(d) list. The most recent version of the 303(d) list published for the State of Utah was issued in 2010. Waterbodies listed as impaired require additional study to determine the sources of impairment, and if appropriate, have a Total Maximum Daily Load (TMDL) determination made for the pollutant of concern. Currently the State of Utah is implementing 60 TMDLs, with the Ashley Creek TMDL awaiting approval. (See Table D and E in the appendices). Additionally, a comprehensive tracking tool for TMDLs and waterbody assessments has been provided by EPA that will assist in accurately reporting the status of completed TMDLs.

2.5. Project Proposals Approved for Funding During FY- 13 Solicitation Process

Due to the high demand for 319(h) funds the State of Utah has required that entities applying for funding submit pre-proposals to the State for review. Thirty-one NPS pre-proposals totaling more than $2.6 million were accepted from the middle of April to the first of June for the 2013 fiscal year. These pre-proposals were reviewed by the Utah Division of Water Quality using a project selection ranking criterion developed by the Water Quality Task Force. Of the proposals received, four projects were selected for funding with Section 319 funds. The Duchesne and Strawberry River Watersheds received the majority of Project funds available, since they were the targeted basin in FY-13. The local watershed coordinators and an information and education grant to USU, including the volunteer monitoring program, were also funded (Table 3). The Projects that were not selected for funding with Section 319 funds were then considered for funding with State NPS funding.

Table 3

2013 Project Implementation Plans (PIPs) for CWA Section 319 Funding
(Prepared June 30th, 2013)

	Proposal Title	Base Fund Allocation
1.	USU Volunteer Monitoring and I&E	$97,000
	Sub Total	**$97,000**

	Proposal Title	Incremental Fund Allocation
2.	Local Watershed Coordinators	$340,000
3.	Duchesne River TMDL Implementation	$149,481
4.	Strawberry River Restoration	$ 275,140
	Sub Total	**$764,621**
	Grand Total	**$861,621**

3. NPS Program Strategic Approach

To be eligible for funding, NPS projects must be located on a waterbody, or a tributary to a waterbody, identified on the 303(d) list of impaired waterbodies. A current watershed plan should also be in place which covers all nine elements required in an EPA approved watershed based plan. Using a targeted basin approach will allow watershed planners time to develop watershed plans between funding cycles. To help facilitate the development of watershed plans and identify sources of pollutant loading, the Utah Division of Water Quality will conduct annual intensive monitoring runs two years before funding is scheduled to be received by the targeted basin.

3.1. Targeted Basin Approach

The State of Utah uses a targeted basin approach to reduce nonpoint source pollution. FY-13 represents the fourth year of implementing the targeted basin approach (see Table 4). This approach allows the state to focus implementation efforts on a specific watershed and will promote effective implementation of TMDLs and watershed plans.

The Uinta Basin Watershed obtained 100% of the 319 funds allocated for BMP implementation, and will also receive an additional $150,000 in State Nonpoint Source funds in FY-14. The majority of these funds will be used to implement projects on the Strawberry and the Duchesne Rivers, as identified in the established watershed plans. Projects have already been identified in the Jordan River/Utah Lake watersheds, since it will be the targeted basin in 2014.

Table 4

Basin Priority Funding Schedule											
Watershed	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2021
(1) Jordan/ Utah lake											
(2) Colorado River											
(3) Sevier, Cedar-Beaver											
(4) Bear River											
(5) Weber River											
(6) Uinta Basin											

3.2. Utah State NPS Funding

The Utah Division of Water Quality uses hardship grant funds to address NPS issues generated from interest on SRF loans awarded by the Utah Water Quality Board to private and municipal water treatment facilities. Individuals, businesses, private entities, associations, and government agencies are eligible to receive these grants. Much like Section 319(h) funds, all project proposals received are ranked and prioritized. The highest priority projects are those that address a critical water quality need, human health concerns, and would not be economically feasible without the grant. In FY-13, 22 projects were funded, totaling $975,000. In addition to these projects an additional $25,000 was reserved for possible on-site septic projects that may arise during the year. For a complete summary of FY-13 funded projects see Table F in the appendices.

3.3. Program Match Status

The 319(h) federal money received by the State requires a 40% non-federal match for both the staffing and support funds used by DEQ and the dollars allocated for projects. Most of the match for projects is provided at the local level by individual producers and landowners. The DWQ provides State NPS funds as match to selected 319 projects to provide an additional incentive to implement BMPs.

There are several State and local programs which have been very helpful in generating match for the 319 projects. The Division of Wildlife Resources manages several state grant programs, which include Habitat Council funds, Blue Ribbon Fishery program, and Watershed Restoration Initiative funding. These funds are dedicated to the improvement of wildlife habitat on public and private lands, while improving water quality. Table G in the appendices gives a summary of these funds used in conjunction with Section 319 funding.

The Utah Conservation Commission manages an Agriculture Resource Development Loan Program (ARDL), which in recent years has been expanded to include water quality improvement projects on farms and ranches. These state programs are tremendous assets to the improvement of water quality in this state. The Grazing Improvement Program (GIP) at the Utah Department of Agriculture and Food also provides state revenue to improve management of upland and riparian areas throughout the state. All of the programs mentioned above have provided match for 319 revenues in jointly funded projects.

The Department of Environmental Quality provides state revenue to match the staffing and support 319(h) funds that are part of the Performance Partnership Grant (PPG). The Utah Association of Conservation Districts also tracks all match accruals through projects managed by the Local Conservation Districts via an annual contract. Table 5 shows the amount of match accrued for all open Section 319 grants.

Table 5

Grant Year	319 Funds Spent in FY-13	Match Accrued in FY-13	Total 319 Funds Spent	Total Match Accrued
FY-08	$66,642	$44,428	$1,071,180	$714,120
FY-09	$38,479	$25,652	$866,589	$577,726
FY-10	$124,556	$83,037	$876,521	$584,347
FY-11	$270,320	$180,213	$491,563	$327,709
FY-12	$163,348	$108,898	$163,348	$108,899
FY-13	$0	$0.0	$0	$0
Total	**$663,345**	**$442,230**	**$3,469,201**	**$2,312,801**

3.4. Integrating Watersheds and NPS Funding (Basin wide summary)

Watershed coordinators have proven to be very effective at helping implement water quality projects on the ground. Local watershed coordinators develop relationships with landowners and educate the public on the benefits of installing Best Management Practices (BMPs). They also oversee all project planning, design, project implementation, and reporting. They help organize and facilitate meetings for local watershed groups involved in watershed planning and the project solicitation and selection process.

Middle and Lower Sevier River Watershed- Lynn Koyle

In 2013 the Middle Sevier Watershed Coordinator was reduced to a part time position. Since the majority of the Section 319 funding for the Middle Sevier Watershed has been spent out over the past couple of years, and the Middle Sevier Watershed will not be the targeted basin until 2016, the local watershed coordinator has focused mainly on developing a watershed plan for the Upper Otter Creek / Koosharem Reservoir Watershed.

The local watershed coordinator has also assisted with monitoring in the watershed, specifically on Yuba Reservoir. He has also been involved in project monitoring, and will continue monitoring the projects that were recently completed to determine project effectiveness and environmental results. These results will be included in final reports and success stories that will ultimately be submitted to EPA, and be made available to the general public.

Southeastern Colorado River Watershed- Arne Hultquist

The Southeastern Colorado local watershed position is a part time position. The main responsibility of this coordinator is to support the Moab Area Watershed Partnership (MAWP). The MAWP is a diverse watershed group that has been fully active for two and a half years.

The largest goal for this group is to develop a holistic watershed management plan for the Mill Creek and Castle Creek watersheds, both of which have had completed TMDLs. The coordinator continues to work closely with partners to gather data and draft a watershed inventory to be used in the development of this plan. It is anticipated that this watershed plan will be completed by January 1, 2014. The local watershed coordinator has already begun looking at possible projects that can be implemented in 2015, when the Colorado Basin is the Targeted basin.

Scofield and West Colorado Watershed- Amy Dickey

In FY-13 the local watershed coordinator position was discontinued to transfer the funding associated with this position to the Cedar City area (Cedar Beaver/Virgin River watershed). While watershed planning and restoration activities are ongoing in this area it was determined that there is sufficient local capacity to sustain these efforts through the involvement and assistance of partner agencies.

Phase one of the Price River Planting project, which used Watershed Restoration Initiative and Montezuma Creek Mitigation monies is now complete.

The Buckhorn Stock Water Project was also completed. This included installing 12 miles of ditch through Mancos shale and 2 ponds were replaced with pipelines and troughs. Return flows from the ditches were eliminated, reducing TDS inputs drastically

The NRCS' Plant Materials Center donated seed for Price River planting projects. CEU (College of Eastern Utah) provided greenhouse space and the associated care for the growing plants. Containers were purchased with Utah DNR Watershed Restoration Initiative funding, while the potting material was donated by the local Wal-Mart. A wide variety of native plants were grown and planted as an Eagle Scout project in the fall of 2012. Plant education signs were also developed, and were placed with the plants when planted. 40 plug trays were planted along with 250 potted plants. All of the plants were planted along the newly established Price River Trail.

Jordan River Watershed- Marian Hubbard

Over the past twelve months, the Salt Lake County Watershed Planning and Restoration Program of Salt Lake County has engaged in several restoration and planning efforts, aimed towards achieving TMDL and Salt Lake County's Water Quality Stewardship Plan's goals.

In 2008, Salt Lake County received $1.5 million in grant funds from the EPA for a large-scale ecosystem restoration project along the Jordan River between 6400 South and 7800 South (east bank) totaling approximately 7,000 linear feet. In early 2013 Salt Lake County repaired approximately 900 linear feet in the west bank. In spring 2013 Salt Lake County performed additional weed mitigation. During June 2013 the County sponsored the Utah Conservation Corps to manually remove weeds from the entire east bank of the restoration project; approximately 2 acres.

Riparian Restoration and New Stream Gage on Red Butte Creek (a Chevron Mitigation Fund Project): This project aims to restore riparian vegetation in the University of Utah stretch of Red Butte Creek (below Red Butte Garden to Foothill Drive) to repair damage caused by the 2010 Chevron oil spills and subsequent cleanup activities. Restoration goals include: stabilize streambanks, protect against erosion, protect water quality, improve riparian habitat, and slow high flows. A variety of streambank bioengineering techniques, specifically the installation of dormant woody plant cuttings (aka live stakes), were installed in March 2013. Photo monitoring points and cross sections were established in May 2013. Ongoing data collection and monitoring will occur throughout the grant period, which ends September 2014.

Salt Lake County will also install one new automated stream gage to continuously monitor stream flow and water quality in Red Butte Creek. The gage will be installed in the Miller Park section of the creek, with placement determined in collaboration with Salt Lake City's Miller Park restoration project (another Chevron Mitigation Fund project). This gage will use new RADAR water leveling technology so no gage house, stilling well or other equipment will be visible on the bank. The gage will consist of a two foot V-Notch weir wall and a radar unit with telemetry mounted under a bridge.

Murray/Taylorsville Jordan River Restoration, 5200 S through 4800 S on the Jordan River. Working with partners Murray City, Taylorsville City, Utah Division of Forestry Fire and State Lands and Salt Lake County Parks, Salt Lake County Watershed Planning and Restoration will restore 3,100 feet of Jordan River bank. Using soil bioengineering and newly available Flex-A-Mat armoring product, watershed personnel will seek to restore over 30 acres of degraded riparian habitat and reduce sediment loads to the Jordan River by 33.55 tons annually.

Emigration Implementation (2013)-Salt Lake County applied for a 319 NPS grant for additional implementation. This includes an Optical Brightener Study, Caffeine Study and coordination and re-vegetation.

Work continues on the Bangerter Restoration and the 126th South Project. On the Bangerter project, 675 live willow cuttings were installed along with 12 vertical willow bundles. While all disturbed areas on the 126th Street project have been reseeded and mowed twice annually to control weed infestations

"Stream Care Guide: A Handbook for Streamside Residents in Salt Lake County" (2013) This booklet is intended to inform streamside residents and property owners of how they can help protect the health of our streams and creeks. Topics include general information about watersheds and stream ecosystems, as well as stewardship tips and practices that residents can utilize in their

own backyards. The project includes distribution (via mail in early Fall 2013) to all single family residences along creeks in Salt Lake County.

Other relevant activities being conducted in the Jordan River watershed include monitoring, and additional I&E activities. The Jordan River Symposium was successfully held again and was attended by State and Local Agencies, as well as private entities, and residents of the Salt Lake Valley.

Weber River Watershed- Jake Powell

The Echo and Rockport Reservoir TMDL remains in the development stages with the public comment phase planned to be completed by the fall of 2013. The watershed coordinator has been involved throughout the TMDL development process, providing technical expertise, assisting the consultant with monitoring, as well as engaging and encouraging local stakeholder's participation in the process. The watershed coordinator has attended all the TMDL development meetings and continues to act as a liaison between stakeholders, state and federal agencies, and consultants on the project. The completion of the TMDL promises to add another level of focus of the efforts within the watershed.

Several projects have been implemented in the Chalk Creek drainage. The upper Chalk Creek floodplain bench restoration project consisted of re-grading approximately 470 linear feet of 5' tall actively eroding stream bank. Stream bank re-grading created a series of floodplain benches with tree revetments to catch sediment and re-build critical floodplain areas in an effort to avoid future erosion during seasonal high flow events. The project was fenced from livestock grazing to allow for establishment of the planted willow and native grasses. The revetments, willows, and grasses were installed as part of a Boy Scout Eagle project for a local scout.

The lower Chalk Creek stream bank erosion control project was a project that worked to mitigate active erosion on stream banks adjacent to a hay field. High flows in 2011 deposited a large gravel bar and diverted the flow of Chalk Creek into the exposed banks of the field. Large areas of the field had been washed away during the subsequent seasons. The project consisted of removing the gravel bar and creating a floodplain bench in the areas that had been eroded. These areas were then planted with willow plantings to create long term stabilization and an area for deposition during future flows.

The Chalk Creek pasture ditch piping project consisted of replacing 640' of dirt ditch running through an active livestock pasture that returned irrigation flows to Chalk Creek. Piping this ditch protected this water from contamination from agro-chemicals applied to the pasture, sediment from bank trampling as well as nutrients from the livestock manure.

The Rockport Reservoir sediment trapping and riparian restoration project was completed in partnership with an NRCS contract. NRCS contracted with the producer to put a riparian fence along a creek that runs into nearby Rockport Reservoir. This provided an opportunity to further cost share on the fencing and help the producer complete the project. Additional conservation was accomplished outside the NRCS contract that focused solely on water quality. Since the producer's field is at the bottom of the irrigation ditch excess water from the ditch runs down a sloping grazed pasture and down to Rockport Reservoir. Due to the high quantity and velocity of water, the slope and grazing management of the field, this represented a source of rill and gully erosion as well as a direct vector for sediment and nutrients to wash off the field and enter the nearby reservoir. The project assisted the producer in creating two grassed strips protected from grazing with fencing that are intended to slow flows and trap sediment and nutrients entrained in the flow.

The Huff Creek riparian corridor establishment project was implemented to begin to restore the historic riparian corridor on the creek. Historic broadleaf herbicide spraying in conjunction with

intense grazing pressure has eliminated all riparian vegetation along the bulk of Huff Creek. The producer installed over 3,100' of fencing to separate approximately 7 acres from an agricultural field and eliminate grazing to allow for future plantings and natural riparian vegetation to establish. This new riparian corridor also allows for dispersion of concentrated irrigation flows that are currently causing head cutting into the field. This new riparian area will begin the process of healing and riparian corridor establishment on over 1,000' of stream. With this corridor established there will be opportunities for future volunteer and landowner initiated projects to install riparian plantings.

Projects implemented in previous years also required monitoring and maintenance to ensure the long term viability of the projects and that previously funded projects continue to function and accomplish project goals. Funding from both 2010 and 2011 319 grants was used to fund monitoring and management of invasive weeds, replace vegetation, maintain soil lifts, revetments, and stabilization structures, as well as monitor the projects so that lessons learned on prior projects can be effectively transferred into future projects. The monitoring conducted by the watershed coordinator include: E.coli monitoring, photo monitoring, as well as the installation of a monitoring station near the Swaner Eco Center.

The Watershed coordinator also conducted several information and education type activities throughout the watershed. These activities include assistance in research studies with Utah State University, managing booths at the county fair, conducting watershed tours, and presenting at conferences and meetings throughout the watershed

Middle and Lower Bear River Watershed- Justin Elsner

During FY-12 the local watershed coordinator completed 2 projects to help improve water quality throughout the watershed. These projects included: 2 stream bank stabilization projects that took place near Cutler Reservoir and the Blacksmith Fork Rivers. In addition to completing these projects the local watershed coordinator continues to work on seven projects that are scheduled to be completed in the next couple of years.

In addition to project implementation the local watershed coordinator has been actively involved in educating the public in his watershed. His efforts have focused on proper pharmaceutical disposal, storm water awareness, and informing landowners of practices that can be implemented on their property to improve water quality. He also works with many school groups during natural resource field days and a local storm water fair to show them the consequences their actions can have on water quality.

The local watershed coordinator continues to facilitate two different watershed groups in the Middle and Lower Bear River Watersheds. The Cutler Reservoir Advisory Committee is active in the Middle Bear River Watershed, and is currently developing the implementation plan for the Cutler Reservoir TMDL. The watershed group in the Lower Bear River has recently begun the process of revising the TMDL on the Lower Bear River.

San Pitch Watershed- Alan Saltzman

During FY-13 a total of $450,884 was spent on water quality improvements within the San Pitch River Watershed. The projects completed during the reporting period included three stream bank stabilization projects and 2 irrigation improvement projects. The Mike Larson pasture improvement project was initiated. The Three Bar J started and completed an irrigation improvement project, and the 3 Bar J installed a pivot. The Gunnison and Mayfield Irrigation projects are nearing completion on the irrigation side of the projects.

The forest portion of the project is still being held up by permitting problems because of its location in a roadless area

I&E Expenditures: During the reporting period the Watershed Stewardship group sponsored a watershed education day in the spring for 4th grade students. The Watershed Stewardship group also held a fall project tour and dinner where local riparian projects were showcased. Promotional items such as hats and signs to advertise the program and get more interest were purchased. Most of the hats have been distributed and people can be seen wearing them all around the watershed.
In addition to the many projects that were implemented in 2013 by the San Pitch watershed coordinator, he also submitted annual reports for the grants that were expended during this period. To generate these reports the coordinator gathered additional data which included photo points, and grab samples from project areas. Much of this information is currently being used to generate a success story showing the environmental benefits that have been observed due to project implementation.

Upper Sevier Watershed- Wally Dodds

Since the Upper Sevier Watershed has not been the targeted basin for some time, funding for project implementation has been sparse. The Watershed coordinator has focused on updating the watershed plan, and conducting additional monitoring of projects, and collecting data that can be used in the updating of the watershed plan.

Even with the lack of funding the Upper Sevier Watershed Coordinator has continued to implement projects in his watershed using State NPS funding. The most recent project that was completed was a stream bank restoration project on the main stem of the Sevier River. He has also begun working with an adjacent landowner to continue the implementation work downstream.

In addition to project implementation the local watershed coordinator has been able to work with several local entities, and serve on many of their boards, including: the local sage grouse work group, the county weed board, and the local irrigation company. He also facilitates meetings for the local watershed groups, and attends all meetings held by the local Conservation District.

Several Information and Education projects have taken place in the Upper Sevier Watershed including: field days for the local fourth graders; two workshops for producers where recently gathered water quality data and studies were presented; and a watershed tour for all parties interested in seeing what has been accomplished in the watershed.

The Uintah Basin- Evan Guymon

During FY-13 the Uintah Basin was the targeted basin. As a result two watershed plans were developed. One plan was developed for the Duchesne River and another was developed for the Strawberry River. Project implementation on the Strawberry River has begun, and should be completed by November 2013. Project work on the Duchesne River has been delayed due to the discovery on an endangered plant, the Utes Ladies Tress. Funding has been obtained to do further surveys in an attempt to identify where project work can be done, and not disturb the species.

The Matt Warner - Pot Creek project was completed. This project reduces shoreline erosion on Matt Warner Reservoir , and stabilized the outflow to Pot Creek, that was being heavily eroded during spring runoff events.

Since the previous watershed coordinator retired during the middle of the fiscal year the position was vacant for some time. A new watershed coordinator was hired in June. Therefore, the annual outputs of this position have been drastically reduced from years' past.

Project Summary

In 2013 local watershed coordinators were involved with the completion of 16 projects throughout the State of Utah. These projects used $247,628 in Section 319 funds and generated over $987,796 of funding from other sources. These projects are estimated to result in a reduction of 361 pounds of phosphorous per year and 1,243 tons of sediment per year. In addition to the projects that have been completed, additional funding is also being spent on other projects that are scheduled to be completed in the next fiscal year. Table 6 shows a summary of accomplishments by watershed.

Table 6

Watershed	Number of Projects Completed	319 Funding	Funding from Other Agencies	Estimated Total P Load Reductions (lbs/year)	Estimated Sediment Load Reductions (tons/year)
Middle Sevier	0	$0	$0	0	0
West Colorado	3	$25,988	$730,452	3	839
Jordan River	0	$0	$0	0	0
Weber River	5	$15,810	$9,480	74	87
Bear River	2	$38,808	$0	35	41
San Pitch	4	$90,260	$89,109	189	166
Upper Sevier	1	$0	$75,000	55	110
Uintah Basin	1	$76,762	$83,755	5.1	N/A
Total	**16**	**$247,628**	**$987,796**	**361**	**1,243**

3.5. NPS Water Quality Task Force/ Monitoring Council

The mission of the Utah Water Quality Task Force is to facilitate coordinated and holistic management of Utah's watersheds for the protection and restoration of Utah's surface and ground waters.

The Utah Nonpoint Source (NPS) Program is administered by the Division of Water Quality (DWQ) of the Utah Department of Environmental Quality (DEQ) through the coordination and assistance of the Utah Water Quality Task Force, and its established ad hoc committees. The responsibility of the Utah Water Quality Task Force is to advise the DEQ in the holistic management of Utah's watersheds, with a focus on reduction of nonpoint source pollution.

The chairmanship of the Water Quality Task Force is shared by the Executive Directors of the DEQ and UDAF or their designated representatives. The UDAF is responsible for chairmanship on even numbered years and the DEQ is responsible on odd numbered years. The Task Force meets quarterly, but may meet more frequently if deemed necessary.

Specific functions of the Utah Water Quality Task Force include:

- Serve as a coordinating body for the review and direction of federal, state and local NPS management programs to assure that these programs are implemented consistently with the Utah Nonpoint Source Management Plan (approved by EPA in 2000 and as amended or revised);
- Promote and foster better alignment of relevant programs to assure efficient and effective watershed management efforts that improve water quality, in addition to other benefits;
- Provide a forum for the exchange of information on activities which reduce nonpoint source pollution;
- Provide a forum for discussion and recommended resolutions to program conflicts;
- Work with partner agencies to coordinate the prioritization of watersheds for nonpoint source activities. Prioritization criteria should include local involvement (e.g. locally led watershed committees), effective use of partnerships, and evidence of leveraged sources of funding;
- Establish and implement a process for field inspections of nonpoint source reduction activities on public and private lands to ensure that best management practices are installed and functioning as designed to protect water quality; and
- Serve as a coordinating body for outreach and education to increase public awareness regarding nonpoint source pollution abatement.

Specific Products of the Utah Water Quality Task Force include:

- The Annual Utah Nonpoint Source Program Report. This report is required by EPA, but is not restricted to 319 funded efforts. The report is prepared by DEQ. The task force will assist in providing content, advice and review. The report will highlight the planning efforts, projects, and successes statewide that are possible with the broad coalition of partners encompassed in the Water Quality Task Force;
- Presentation of the Annual Utah Nonpoint Source Program Report each year to the Utah Water Quality Board and the Utah Conservation Commission.
- An institutional repository (e.g. a web site) that includes originals or links to documents, reports, minutes, etc.

Membership:

The Task Force includes representation of those entities with programs that could potentially cause or prevent nonpoint source water pollution. As new NPS program components are developed and implemented additional entities will be invited to participate. Current membership includes representatives of:

Local Governments
U.S. Army Corps of Engineers, Intermountain Civil Works Office
U.S. Department of Interior Bureau of Land Management
U.S. Department of Interior Bureau of Reclamation
U.S. Department of Interior National Park Service
U.S. Department of Agriculture Forest Service
U.S. Department of Agriculture Natural Resources Conservation Service
U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service
U.S. Geological Survey
Utah Association of Conservation Districts
Utah Department of Agriculture and Food
Utah Department of Environmental Quality

Utah Department of Natural Resources
Utah Department of Transportation
Utah Farm Bureau, Trout Unlimited, the Nature Conservancy, and other NGOs
Utah State University Cooperative Extension

3.6. Grants Reporting and Tracking System

The Section 319(h) Grant Reporting and Tracking System is a national database developed by EPA to track projects and activities funded with CWA Section 319(h) funds. The primary purpose of the database is to track project progress, accomplishments, funding information and environmental results using several nationally mandated information items that are reported to Congress annually by EPA. Information extracted from this system forms part of the justification to Congress for funding the Section 319 Program. EPA Region VIII uses GRTS to enable the States to electronically fulfill reporting requirements using the Project Evaluation Form and other attachment features in GRTS such as final reports, GIS maps or other project publications.

4. Water Quality Information

4.1. Sampling and Assessment Activities- Jim Harris

As more restoration projects are being implemented around the state, monitoring of individual projects is becoming more difficult to perform. The majority of 319 projects in Utah address impacts to stream and riparian habitats in order to restore aquatic life beneficial uses. Often, these projects substantially reduce erosion and inputs of nutrients to streams and rivers, in addition to improving the localized conditions of aquatic habitats. Unless restoration is widespread and inclusive of a large portion of a watershed, it is often difficult to document improvements in ambient water quality trends given the resources available. The DWQ's monitoring strategy identifies a couple of key changes in the approach to assessing the effectiveness of nonpoint source projects.

The first of these monitoring approaches involves the direct measure of the aquatic communities affected by restoration utilizing UCASE protocols in a BACI (Before-After-Control-Impact) approach. DWQ staff have already performed UCASE monitoring at sites where restoration projects are planned and linking them to sites of similar condition not anticipating management or restoration changes (Before-Control). In coming years, those same sites will be visited again to assess the changes from restoration activities (After-Impact). The BACI design provides statistically rigorous comparisons between the control site(s) with the restored site (impact) to quantify changes in biological and physical parameters that have occurred since the restoration was conducted. In reality, grab samples of chemistry are sufficiently variable that even statistically rigorous approaches like BACI may not demonstrate discrete changes in the chemical composition of surface waters following restoration activities. However, similar analyses will be conducted for measures of biological composition, which may help demonstrate relatively rapid improvements that result from remediation activities. Measures of biological composition are also useful because they directly measure improvements of the biological designated uses the numeric criteria are intended to protect. Of course, measures of both biological and chemical improvements will be dependent on the relative size of the watershed and restoration activity.

In FY-13, the majority of the biological monitoring occurred as part of the Probabilistic Surveys performed in the Weber River Basin and as a result there were few sites targeted specifically for the evaluation of nonpoint source projects utilizing UCASE protocols. However, the focus of the

Targeted Monitoring Program which collects primarily water chemistry data was centered on the Colorado watershed as well as the Sevier/Cedar/Beaver/ West Desert Watersheds beginning in October 2013. These sites were targeted with several objectives in mind: supplying data for assessment and listing, Total Maximum Daily Load analysis, permitting and compliance and nonpoint source assessment. As such many of these sites may fulfill more than one of these objectives and to create an efficient annual monitoring plan the monitoring section consults with Water Quality Management and Watershed Protection staff to identify particular assessment and evaluation needs to meet their program objectives.

Another proposed improvement to monitoring nonpoint source projects on a watershed or sub-watershed scale is the installation of long-term continuous monitoring stations. Depending on the parameters of concern and the nature of restoration activities, these automated stations could measure a variety of constituents, including dissolved oxygen, specific conductivity, pH, turbidity and discharge. Since these probes collect a limited set of water quality parameters, surrogate measures may be used and additional water chemistry monitoring implemented to develop relationships between parameters of concern and the surrogate measures. For instance, positive relationships may be developed between continuous turbidity data and chemistry data such as nutrients to provide the necessary linkage between changes at long-term stations and project effectiveness. While the installation of long-term stations isn't feasible for the assessment of individual projects on a small scale, they could be used to document the effects of a number of projects implemented as part of a watershed-scale implementation strategy as in the case of irrigation efficiency projects to reduce TDS or range improvements to reduce TSS (turbidity).

Currently, Sandy Wingert is implementing a long-term monitoring project in the Strawberry River Basin in conjunction with Division of Wildlife Resources and the Forest Service. This project seeks to evaluate the relationship between phosphorus and other measures such as turbidity to generate data sets sufficient in size to perform trend analysis. In this way, watershed improvements due to restoration activities may be discernable over time. In 2012, DWQ negotiated a Monitoring Initiative Grant to benchmark similar long term station projects which will lead up to a small scale pilot project in a NPS restoration targeted basin (TBD) . This work is planned to begin in the summer of 2014.

4.2 Data Analysis and Assessment

Data analysis for evaluating the effectiveness of nonpoint source projects will vary depending on the type of project and the available data sources. Biological monitoring will provide background condition of the biotic community for both the "Before" and "Control" collection events. Once implemented, projects will be assessed by revisiting the "Control" and "Impact" site. Data will be compared using similar tools described in the biological monitoring component of the probabilistic and targeted assessments. Scores of biological condition can be evaluated for the "Impact" or restoration site (Before vs. After) in conjunction with the "Control" site not receiving treatment (Before vs. After). In this way, changes in the biological condition can be evaluated against year-to-year variability.

Methods for long-term trend analysis have yet to be developed. However, these sites will likely utilize a combination of continuous monitoring data coupled with water chemistry to establish a relationship between the surrogate measures and chemical parameters of concerns linked to PIPs and TMDLs. For example, correlations can be readily established between total dissolved solids collected by grab samples and specific conductance as measured by probe sensors. Continuous monitoring datasets are sufficiently large enough to perform trend analysis with a level of confidence not possible through periodic grab sampling. Developing correlations between probe

data and other parameters such as nutrients and sediment prove more difficult than the above described scenario. In these cases, measures for dissolved oxygen, turbidity or other surrogates may need to be evaluated. As mentioned above, specific monitoring plans will be developed individually for implementation strategies and QAPPs and subsequent reporting documentation will detail specific data analysis for each project.

Since much of the work performed during FY10 was part of the new Strategic Monitoring Plan, TMDL and NPS staff have not had the opportunity to evaluate or analyze these initial datasets. Results of these analyses will likely be published on a watershed basis as these analyses become available.

4.3 Volunteer Monitoring

Brian Greene (USU Water Quality Extension Educator)

In 2012, Utah Water Watch (UWW), the Volunteer monitoring program for the State, was initiated. The program is managed by Utah State University, and has created a network of engaged citizens partnering with the UDWQ to monitor lakes and streams. The goals of the program are to:

1) Improve citizen understanding of NPS and watershed concepts.
2) Collect credible data for the UDWQ.

Fiscal year 2013 (July 1, 2012 – June 30, 2013) represents the first full fiscal year of the program and all following events happened with this time frame.

During 2013 Utah Water Watch held 21 trainings in 9 different counties across the state. 74 adults and 122 students participated in the trainings as volunteers. These volunteers learned about watersheds, water management, and the programs and agencies responsible for protecting Utah's aquatic resources. Particular attention is paid to non-point sources of pollution and beneficial uses of water. All volunteers receive hands on experience using the equipment to collect water quality data and instructions on how to report data online. In 2012 the program started the Tier I program which collected data for baseline, educational and scanning purposes. Volunteers monitor habitats qualitatively, take monitoring photos, and record quantitative data on key water quality parameters including temperature, pH, dissolved oxygen, turbidity, and E. coli.

In 2013 volunteers started a more advanced Tier II program which collected data for assessment, BMP monitoring, and project specific goals. Tier II requires more training and sophisticated equipment which provided a higher level of data quality. In 2013 Tier II volunteers tested out the new equipment, monitored specific locations, and helped calibrate a permanent monitoring station. With these skills our volunteers were able to monitor 71 locations across the entire state. Table 7 shows the number of monitoring events reported by UWW:

Table 7

Tier	Monitoring	Events	Sites
Lake	Secchi	24	3
Tier 1	Lakes	25	7
Tier 1	Streams	267	53
Tier 2	Lakes	1	1
Tier 2	Streams	7	6
Sonde	Calibration	2	1
Total		**326**	**71**

Utah Water Watch volunteers serve as dedicated partners that assist the UDWQ with monitoring across the state. The data they collect are shared with the UDWQ and local watershed coordinators to inform watershed management. Volunteers also serve as an early warning system for water quality standard violations or severe environmental problems that need immediate attention. By creating a network of trained volunteers UWW is effectively engaging the community to be active participants in their local watersheds. This provides benefits for both the volunteers and UDWQ.

Utah Water Watch also maintained an active website with monitoring instructions, datasheets, interactive maps, and an online database https://extension.usu.edu/utahwaterwatch. The website along with our social media sites (Facebook and Twitter) were a successful way to engage in promoting water quality issues and news to a broader audience. In 2013 we started a newsletter which had over 150 subscribers. UWW was also featured in both a television and radio piece along with several newspaper articles. UWW volunteers are stewards of their water bodies and represent a positive example of the public working with the UDWQ.

UWW Coordinator Brian Greene trains volunteers on macroinvertebrate monitoring techniques.

4.4 The Ambient Water Quality Monitoring System (AWQMS) Database

The AWQMS database version 2.5 was available online in February of 2013 which provided access to Utah's historical water quality data through 2009. In August of 2013, data was imported for rivers and streams through December 2012. The Division of Water Quality is currently preparing data associated with lakes sampling for data import. A data overlap exists between the historically migrated data and data imports for 2009. This issue will need to be resolved before data can be submitted through WQX to the EPA STORET Database

4.5 Ground Water Protection

Ground water protection remains a priority in the State of Utah. In the past, various projects were funded using 319(h) funds to help analyze ground water around the state. Recently the State has noticed an increase in nutrients in various ground water sources. This monitoring will help assess the problem, and identify the sources of the contaminants. The Utah Division of Water Quality and the Division of Drinking Water will continue to fund monitoring and information and education programs around the state to identify groundwater issues, and educate the public on

what they can do to protect groundwater in the State. Recently the Utah Division of Drinking Water (UDDW) generated a groundwater model that used water quality data that has been gathered from wells in Northern Utah and compared it to the land used in those areas. The model has been able to generate maps showing where the areas of concern are for ground water contamination, specifically nutrients. UDDW has contracted with Utah State University to do an informational campaign educating landowners on what they can do to help protect groundwater in their area.

5 Outreach Activities

Utah State University Extension- Nancy Mesner (USU Water Quality Extension Specialist)

In 2013, USU Water Quality Extension continued to actively partner with UDWQ in outreach programming. They helped rewrite the NPS I&E Strategy, which is included as an appendix to the updated Utah NPS Management Plan. Following the guidelines in that strategy, we re-established a statewide I&E committee, which met to discuss a general approach to NPS outreach in Utah. The plan includes establishing clear and consistent goals and to develop materials and programs that function at different levels (statewide to local) and for different audiences. They will utilize new approaches to outreach, improve their web presence, and also maintain those approaches which were most effective in the past.

Below are described several of USU Water Quality Extension's major program areas. Note that they leverage 319 funding with grants from NSF, USDA and USU to greatly expand their capacity.

Youth outreach and teacher training:

The water education program continues to reach youth across the state. In 2013, they worked directly with over 5,000 youth at water fairs, camps and competitions. They trained 177 educators on hands-on lesson plans based on stream exploration and discovery. They have just begun developing a far more interactive web-version of their Stream Side Science curriculum, which will provide watershed specific information and data to be used in each lesson plan, and will link to watershed sites and contacts to provide better coordination between educators and local watershed activities.

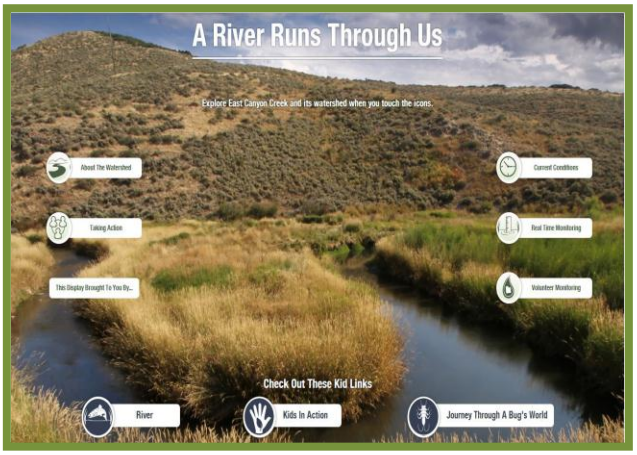
Hope Braithwaite of USU WQ Extension introduces water quality concepts to youth before they begin their own stream exploration.

Surveys indicate that at least 40% of the teachers trained use these materials in their classrooms and informal education activities. This results in thousands of additional youth being reached each year. Because USU has formally assessed the value of their long term and short term outreach programs and curricula, they know that these activities result in increased knowledge and awareness about water science and pollution prevention.

Watershed Coordinator Support:

USU water quality extension continues to support local watershed coordinators in many ways. In 2013, they finalized a touchscreen display for the East Canyon Creek watershed. The display has over 180 separate screens, 20 videos and hundreds of photos. The display has a "dash board" showing current water quality data collected at a high frequency monitoring station nearby. Visitors can learn about daily and long term water quality patterns at this site, and about issues throughout the watershed.

The display is installed at a Park City eco-center, who report that it is extremely popular and widely used. This display can be modified at a very modest cost and USU have offered to use this as a prototype for similar watershed displays or websites across the state. They are currently developing displays for the Jordan, Bear and Provo rivers, which will be displayed at a science museum, library and botanical center.



The main screen of A River Runs Through Us: a new interactive display about the East Canyon Watershed.

Young visitors to the eco-center use the display to learn how thy they can prevent pollution in their communities

They also continue to maintain several websites with valuable information for the public. USU Water Quality's main extension site provides current and useful information for many different audiences (see www.extension.usu.edu/waterquality).

Finally, they continue to pursue approaches to better understand NPS pollutant dynamics in the intermountain west. They are working with the Utah Division of Drinking Water on an outreach project to reduce surface nitrate contamination to protect drinking water wells. A new graduate student is comparing surface and subsurface nutrient movement across riparian areas with and without BMPs (using another funding source). She is working with several watershed coordinators. These data will be used to develop regionally relevant export coefficients for improved understanding and modeling of BMP effectiveness.

Nutrient Management Education- Rhonda Miller

Utah State University has developed a smart phone manure management application to assist producers in maintaining manure application records. These records are essential for producers with a nutrient management plan (NMP), or that want to ensure nutrients in manure are used in a beneficial and environmentally-safe manner. The information recorded on the app can be downloaded into a spreadsheet that helps producers with their overall nutrient management. The Critical Records of Animal Production (C.R.A.P.) app is available in the iTunes store. An Android version is in development. A producer's website, which provides "one-stop" shopping for the producers, is being maintained and expanded. This website provides information, in

laymen's terms, on the regulations producers are likely to encounter. Information on best management practices (BMPs) and manure management is also available.

6 State/Local Agency Contributions

1) Utah Conservation Districts/Utah Association of Conservation Districts- Gordon Younker

Utah Conservation Districts have statutory authority for the prevention of nonpoint source pollution (Utah Code 17D-3). They provide local leadership to identify resource needs and assist private property owners and managers obtain the resources to addresses those needs. The Districts and UACD partner with the Utah Division of Water Quality to implement the Clean Water Act, Section 319 projects throughout Utah.

Assistance available through Utah Conservation Districts includes conservation planning, engineering, and GIS/GPS services. Further, Districts promote and fund educational activities for children including fairs, field days, and in-classroom presentations.

UACD has contracted with the Utah Division of Water Quality for 319 Agricultural NPS Management Contract Tracking and Administration. The state-level administration is accomplished through member conservation districts that contract NPS program funding for best management practices with district cooperators. UACD administers the cost-sharing grants making payments to landowners implementing projects. Further, UACD provides payroll, accounting, and personnel management for conservation districts employing staff, including local watershed coordinators.

2) Utah Division of Natural Resources- Alan Clark

The Watershed Restoration Initiative focuses on protecting and managing core values that are important for our present and future quality of life: water quality and yield, wildlife, and agriculture.

This is accomplished through the Utah Watershed Restoration Initiative a diverse group of state and federal agencies working together with non-governmental organizations, industry, local elected officials and stakeholders. Locally led teams identify conservation issues and develop plans to address local needs.

In fiscal year 2013 with support of $1.95 million from the Utah Legislature, the Watershed Restoration Initiative completed over 169 rangeland and river restoration projects involving over 193,745 acres of rangeland and 99 miles of stream restoration. For a full list of WRI projects implemented go to: http://wri.utah.gov/WRI/Projects.aspx?display=Complete. Through the partnership effort funding to the Watershed Program from the Legislature has been successfully leveraged at over 13 to 1 in on-the-ground projects.

The long-term results from this effort will be measured in the reduced cost of fighting wildfires, reduced soil loss from erosion, reduced sedimentation and storage loss in reservoirs, improved water quality and yield, improved wildlife populations, reduced risk of additional federal listing of species under the Endangered Species Act, improved agricultural production, and resistance to invasive exotic plant species.

3) Utah Department of Agriculture and Food

The Utah Department of Agriculture and Food regularly collaborates with state and federal partners to assist agricultural producers to maintain viable and productive agricultural lands and to protect Utah's natural resources. A strong partnership provides technical and financial resource options to Utah's agriculture producer while promoting agricultural sustainability. A watershed approach is used to work cooperatively with private land owners to prepare conservation plans that will solve resource problems. Funding options are available from multiple state and federal programs.

Utah Conservation Commission (UCC)

The UCC is authorized under Title 4, Chapter 18 of the Utah Code. The act's Purpose Declaration states that "The Legislature finds and declares that the soil and water resources of this state constitute one of its basic assets and that the preservation of these resources requires planning and programs to ensure the development and utilization of these resources and to protect them from the adverse effects of wind and water erosion, sediment, and sediment related pollutants." With this in mind, the Legislature created in 1937 this unique state government entity and it has been active continually since, evolving to meet new environmental and social conditions. Today this 16 person board strives to protect the natural resources within the state.

Utah Agriculture Certificate of Environmental Stewardship (ACES)

The ACES assesses storage, handling and application of fertilizer, pesticides, fuels, and hazardous wastes. It also assesses grazing management, soil erosion, cropping and irrigation systems, storage and application of manure, and other agricultural practices that may cause an impact on natural resources.

A draft copy of the ACES workbook has been written and reviewed by agriculture producer groups, environmental groups, and some State and Federal agencies. Comments have been favorable while the workbook is still under review.

Utah Grazing Improvement Program

The Utah Grazing Improvement Program (UGIP) is a broad-based program focused on rangeland resource health. Its mission is to "improve the productivity, health and sustainability of our rangelands and watersheds." A keystone benefit is the reduction of NPS water pollution and the protection and improvement of water quality and habitat components.

A staff of Grazing Coordinators, located in six regions throughout the state, offers the livestock industry sound information and assistance regarding grazing issues. A main focus of the program is to invest in and help facilitate improved resource management. Grants are provided for projects that will enhance grazing management and rangeland resource health.

Agriculture Resource Development Loan Program (ARDL)

Projects eligible for ARDL loans include animal waste management, water usage management (irrigation systems), rangeland improvement, on farm energy projects, wind erosion control and disaster mitigation and cleanup. Most of these projects have direct water quality protection or water pollution reduction benefits.

The ARDL section is also working with the State Revolving Fund (SRF) under the Division of Water Quality to underwrite and book loans to finance projects for eliminating or reducing nonpoint source water pollution on privately owned lands. That program was recently expanded to include grants as well as loans. The loans are now included in the ARDL program with some modifications.

Colorado River Basin Salinity Control Program

The State of Utah currently receives approximately $2 million from the Colorado River Basin States Salinity Control Forum to reduce salt that enters the Colorado River, which has increased significantly from the initial $350,000 received in 1997.

Historically, these funds have been allocated solely to improve irrigation practices. However, in 2009 the Forum allowed UDAF to test salt control measures on rangelands. UDAF has acquired $500,000 for the purpose of testing the feasibility of using rangeland management methods for salinity control. This project has the potential to provide ranchers with another funding source for increasing production and protecting natural resources.

The irrigation projects installed through the salinity program are an economic benefit to agriculture in eastern Utah. The new irrigation systems increase watering efficiency, decrease water use, and improve crop production and uniformity.

Agriculture Sustainability Task Force

To better understand and address the role that agriculture plays in promoting Utah's security, economy, society, culture, and well-being, a Utah Agriculture Sustainability Task Force gathered and analyzed data and information to make recommendations to promote the sustainability of all types of agriculture. Eight major issues emerged:

1. Food Security
2. Invasive Species
3. Grazing Management
4. Immigration
5. Urban Agriculture
6. Agriculture Promotion and Profitability
7. Next Generation Farms
8. Irrigation Infrastructure

In order to address these issues, the Task Force developed a list of proposed actions that state, local and federal governments and the private sector can implement. Ag sustainability and protection of natural resources go hand-in-hand.

Resource Assessments

Utah's local Conservation Districts are working in each County to prepare a county wide Resource Assessment to identify local resource concerns. In preparation for that effort, each county has prepared a list of priority resource concerns identified by the local work group, and has submitted those to UDAF. Subsequently, UDAF has prepared a Statewide Resource Assessment which identifies all County priorities. The Resource Assessments will be one tool used to fund priority projects.

Information and Education

UDAF is willing to provide assistance to Utah agricultural groups, and fairly represent agricultural interests at the many committee meetings staff are involved with. Some of those committees include:

Utah Conservation Commission
Utah Association of Conservation Districts
Local Conservation Districts
Utah Water Quality Task Force
Utah Nutrient Core Team
Utah Animal Feed Operation Committee
Local Watershed Committees

UDAF works closely with Utah Legislators to make sure that agriculture is fairly considered in any legislation that is considered. We also maintain an up-to-date website (www.ag.utah.gov) that provides information to agriculture producers and the public.

4) Forestry, Fire and State Lands- Bill Zanotti

Forestry, Fire and State Lands received a grant from Department of Environmental Quality to monitor timber harvesting on private and state lands within the State of Utah. This grant is called Forest Water Quality Guideline (FWQG) Monitoring. The overall goal of this grant is to implement a forest water quality monitoring and evaluation program in conjunction with demonstrated application of Utah's Forest Water Quality Guidelines (FWQG) identified in Utah's State Non-Point Pollution Prevention Plan. Protocols for conducting FWQG's monitoring have been developed for use by FFSL's service foresters.

During FY-13, the following has been accomplished:

- Processed 4 notifications to conduct timber harvesting activities
- Conducted 4 post-harvest inspections
- Conducted 6 pre/in progress inspections of timber harvesting activities
- Analysis findings in preparation for writing a report on the effectives of the FWQG's

7 Federal Agency Contributions

The original MOUs between the Department of Environmental Quality and the Forest Service and the Bureau of Land Management were executed in 1992. These MOUs have been reviewed and were revised in 2009. The following entities are now part of the MOU: Forest Service, Bureau of Land Management, National Park Service, Utah Department of Agriculture and Food, Division of Forestry, Fire and State Lands, and DEQ – Division of Water Quality.

1) Natural Resource Conservation Service- Norm Evenstad

NRCS employees work in partnership with land users to conserve natural resource on private lands. These employees are distributed among 26 field offices and 2 area offices that cover the State of Utah. The individual field offices are managed by District Conservationists who may cover multiple offices. NRCS employees along with Utah Association of Conservation District

(UACD) employees report progress on activities in the USDA-NRCS performance results system, which is the basis for the following information.

Financial and technical assistance was provided to land owners, sponsors & managers in Utah during FY-13 through the various USDA-NRCS programs. Work that directly benefited Non-Point Source AFO/CAFO concerns in Utah included 1 CNMP plan.

Non-Point Source/Water Quality related practices: Table H in the Appendices shows all conservation practices planned and applied during fiscal year 2013. A number of the practices listed have direct & indirect water quality benefits, that as a whole, can show overall positive benefits for surface and ground water quality.

NRCS Water Quality Initiative (WQI) 2013:
The NRCS National Water Quality Initiative (WQI) established priority watersheds nationwide to help farmers, ranchers and forest landowners improve water quality and aquatic habitats in impaired streams. NRCS offered producers an opportunity to implement conservation and management practices through a systems approach to control and trap nutrient and manure runoff. Qualified producers received assistance for installing conservation practices such as cover crops and filter strips.

Three qualified areas (HUC-12 Watersheds) were selected in Utah located in Wasatch and Duchesne Counties. However, due to issues with Utes Ladies Tress, an endangered plant found on the Duchesne River project location sites, funding was only used in Lower Main Creek:

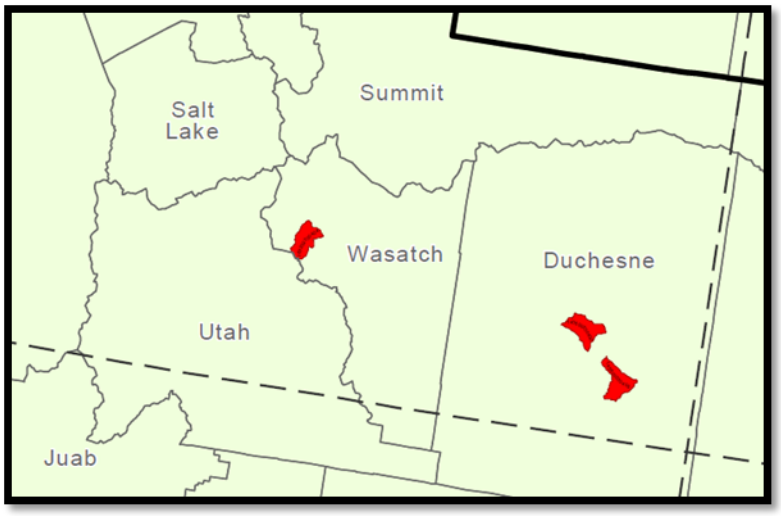


Figure 1. General locations - watershed areas selected for the Utah NRCS Water Quality Initiative Funding – FY2013.

- **Benson Draw-Duchesne River**
  HUC # 140600030402
- **Rocky Point-Duchesne River**
  HUC # 140600030406
- **Lower Main Creek**
  HUC # 160202030404

A total of $139,077 was made available through an application process conducted under authority of the Environmental Quality Incentives Program.

The priority areas were selected through the help of local partnerships and state water quality agencies. Partners sometimes offer financial assistance in addition to NRCS programs. Practices planned with WQI 2013 assistance include: Waste Storage Facility, Pond Sealing/Lining, Solid/Liquid Waste Separation Facility, Waste Transfer, Pumping Plant, Fence, Irrigation System, Sprinkler, Pumping Plant, Structure for Water Control, Irrigation Pipeline, Forage and Biomass Planting, Obstruction Removal, Nutrient Management, Irrigation Water Management, Integrated Pest Management.

NRCS will continue to coordinate with local and state agencies, conservation districts, non-governmental organizations and others to implement this initiative. This strategic approach will leverage funds and provide streamlined assistance to help individual agricultural producers take needed actions to reduce the flow of sediment, nutrients and other runoff into impaired waterways. Plans are underway using the Division of Water Quality's strategy of rotating planning/funding efforts by river basin.

2) Forest Service- Greg Bevenger

The Forest Service, an agency of the U.S. Department of Agriculture, manages National Forestlands (NFS) across the country. All or a portion of six National Forests are in Utah. These public lands are managed by staff at Forest Headquarters and Ranger District offices throughout the State, with support from the Intermountain Regional Forester's office in Ogden.

High-quality water is one of the most important natural resources coming from these NFS lands. In addition to providing drinking water and other municipal needs, this water sustains populations of fish and wildlife, affords recreation opportunities, and provides supplies to meet agricultural and industrial needs throughout the State.
Non-point source pollution control is a key component of managing NFS lands for high-quality water. Direct control is accomplished through two primary mechanisms:

- prescription, implementation, and monitoring of best management practices (BMPs) for a myriad of land use and management activities[1], and
- implementation of watershed improvement projects.

Additionally, direct non-point source pollution control may occur after wildfire if burned area emergency response (BAER) assessments prescribe the implementation of treatments designed to mitigate fire effects.

Indirectly, the Forest Service provides for non-point source pollution control through sustaining or restoring watershed function and resilience so that NFS lands are resistant to catastrophic events such as fire, insects and disease, and a changing climate.

[1] For example, motorized and non-motorized recreation, leasable and locatable minerals, range management, timber management, special uses permitting, wildlife and fisheries habitat management

In 2013 the Forest Service continued implementation of a national best management practices program that provides a standard set of core BMPs[2] and a consistent means to track and document the use and effectiveness of BMPS on NFS lands across the country. These core BMPs integrate individual State and NFS regional BMPs under one umbrella. They are general and non-prescriptive and will not change the substance of site-specific BMP prescriptions. Site-specific prescriptions will continue to be based on State of Utah BMPs, the Intermountain Region Soil and Water Conservation Practices (SWCP) handbook, land and resource (LRMP) management plan standard and guidelines specific to each of the six Forests, annual BMP monitoring information, and professional judgment. The national forests in Utah, in addition to their long-standing use of State BMPS, the SWCP handbook, Forest Plan guidance, annual BMP monitoring, and professional judgment, are using these national core BMPs in project planning, design, and implementation.

Implementation and effectiveness monitoring by individual personnel and interdisciplinary teams is a core part of Forest Service best management practices. In 2013, twelve of the national core BMPs were formally monitored by interdisciplinary teams. Personnel from UDEQ participated in two of these reviews. Results of the reviews will be input to a national database in December 2013.

In 2013 the Forest Service continued implementation of the Watershed Condition Framework (WCF)[3]. Forests within Utah continued implementation of integrated (essential) projects identified in priority watershed restoration action plans written in 2011. These projects are specifically designed to improve or maintain watershed health, including the reduction or elimination of non-point source pollution. In addition to work in these priority watersheds, Forests completed watershed improvement projects in non-priority watersheds. In total, 13,830 acres of NFS lands in Utah were directly improved. Project types varied but included, among other things, road and trail decommissioning and re-routing, gully control, spring and riparian area fencing, and stream restoration. An additional 115,224 acres were treated to sustain or restore watershed function and resilience. Again, project types varied, but included fuel reduction, aquatic habitat improvement, invasive plant treatment, and forest and rangeland vegetation improvement. One watershed, Birch Creek, located on the Dixie National Forest, was moved to an improved condition class per WCF protocols.

The summer of 2013 was a relatively inactive wildfire season on NFS lands in Utah. Forest Service BAER teams assessed four fires that burned a total of 22,879 acres for potential effects on life and property, long-term soil productivity, and water quality. The team's recommended Early Detection, Rapid Response (EDRR) treatment of noxious and invasive plants, and minor amounts of road drainage improvement.

3) Bureau of Land Management (BLM)- Jeremy Jarnecke

The BLM manages of approximately 23 million acres of Utah's public lands with the mission to: *'sustain the health, diversity, and productivity of public lands for the use and enjoyment of present and future generations.*' The BLM manages lands and resources through a multiple-use

[2] http://www.fs.fed.us/biology/resources/pubs/watershed/FS_National_Core_BMPs_April2012.pdf
[3] http://www.fs.fed.us/publications/watershed/

framework that provides for a variety of uses including; energy & mineral development, livestock grazing, recreation, and timber harvest, while protecting cultural/ historical properties, water resources, wildlife, and other natural resources.

The Utah BLM continues to implement land and watershed improvement projects to benefit water quality through a variety of programs and partnerships including BLM's Clean Water and Watershed Restoration (CWWR) Program, the BLM Healthy Lands Initiative, the State of Utah Watershed Restoration Initiative, the Bureau of Reclamation Salinity Control Forum, and many local watershed groups. These efforts include implementation of watershed improvement projects designed to improve land health and reduce long-term erosion and sedimentation rates. Watershed improvement based activities are discussed below by Field Office or Management Unit.

Grand Staircase Escalante National Monument (GSENM)
In 2012, BLM staff reviewed 1950's era watershed improvement projects and discovered that an 18 acre eight mile sediment retention structure was nearly full and a head-cut was migrating up to the spillway. The site is located ~ 25 miles east of Kanab, UT. The earthen dam was constructed to retain salt/selenium laden sediments from the eroding geology at the base of the Vermillion Cliffs. In 2013, the GSENM received $85,000 of BLM/BOR funding to stabilize and increase flood & sediment storage capacity of the failing structure.

The restoration plan included excavation & storage of salt-laden deposited sediments, extension of the dam, invasive non-native tamarisk removal, and stabilization of the spillway and outflow channel. All components of this plan were completed during 2013, except for the removal of target sediment volume and head-cut stabilization. Heavy monsoon rains slowed progress for the first Phase, but preparations for Phase II in 2014 have been completed.

	
Re-construction of spillway on face of dam.	*Installing Rip-Rap & Geofabric on spillway.*

Equipment moving sediments from behind dam (off left of photo) to construct a "spreader dam" to keep work area dry during runoff/winter.

View of spreader dam & impounded runoff after monsoon rains.

BLM Healthy Landscape Initiative (HLI) and Utah Watershed Restoration Initiative (WRI)
The Utah BLM is in its eleventh year of cooperative implementation of the statewide Utah Watershed Restoration Initiative through its participation in the Utah Partners for Conservation and Development. This is a multi-agency Federal, State, and private partnership that treats lands for watershed improvement and long-term habitat restoration. Funds are contributed by partners, including non-governmental organizations and wildlife groups. Projects are submitted and prioritized by regional teams prior to submittal for final approval and funding by the statewide oversight team. BLM funds primarily come through the Wildlife, Fuels, and Healthy Lands Initiative programs. Moab BLM continues to participate in the agreement with the Delores River Restoration Partnership, which has multiple NGOs, private, BLM, and other federal partners focusing efforts on the Delores River.

Under this program, over 52,172 acres of BLM lands in Utah were treated in 2013, although total treatment area including other Federal, State and private lands as part of the cooperative effort is well more than 2 to 3 times that number. Treatments include riparian restoration, tamarisk and Russian olive removal, sagebrush restoration (Dixie-harrow and seeding), removal of juniper through bullhog and hand thinning methods, wildlife and rangeland seeding, cheatgrass treatment and reseeding degraded rangelands, and other similar projects. The Utah Division of Wildlife Resources website has interactive maps and project descriptions highlighting this project work: http://wildlife.utah.gov/WRI/

Table J in the appendices is a tally of the projects completed during FY-13. These are interagency funded projects and funding for most projects is based on the state fiscal year so some of these were actually started in the fall of 2013. More information can be found searching the database utilizing the project number and various report features.

BLM Moab Field Office

The BLM Moab Field Office was granted $30,000 in FY13 to construct 6 grazing exclosures in moderately saline soils (8-16 mmhos/cm). This project has been ongoing since FY-10, with a total of 16 exclosures constructed to date by a local youth corps. In FY-13, the Canyon Country Youth Corps returned to construct 6 new grazing exclosures. Several more exclosures are planned for FY-14 to complete this project if funding is available. With these new and existing exclosures, most grazing allotments in the Moab Field Office with more than 10% saline soils have long term reference sites.

These exclosures are good reference sites to better understand impacts to moderately saline soils from grazing activity. Most sites are located adjacent to long term range trend study sites. Data from these long term study sites can help direct grazing management actions to ensure good soil conditions. With stable soil conditions, soil erosion and associated salinity loading to the Colorado River Basin is minimized.


Pack Creek

Canyon Country Youth

The Moab FO completed 11 river miles of invasive woody species treatment and native vegetation planting on Kane Creek, Colorado River and Delores River. Other work includes monitoring of past riparian corridor treatments, riparian inventory & assessment, and closure of unauthorized OHV use areas adjacent to streams.

In FY-13 the Moab Field Office entered into an agreement with the USGS Southwest Biological Science Center to determine effectiveness of the exclosures in terms of sediment/salinity reduction. This monitoring effort includes both vegetation and soil data collection and analysis. This year, the USGS visited 9 exclosures and set up permanent study plots both inside and outside the exclosures. A detailed report will be

completed by Dec. 31, 2013. They hope to continue funding this monitoring effort in FY-14 if funding is available.

BLM Vernal Field Office

Pariette Wetlands

Pariette Wetlands is an oasis in the Uinta Basin and was developed in 1972 to improve waterfowl production and provide seasonal habitat for other wildlife species. It encompasses 9,033 acres, 2,529 of which are classified wetlands or riparian and is the largest BLM wetland development in Utah. The wetland contains diverse vegetation and wildlife in an arid climate. Ongoing studies are listed in the following sections:

<u>Pariette Wetlands Salinity/Selenium</u>

The purpose of this project is to replicate a study conducted in the 80's and 90's in the Big Wash, Castle Peak, and Pariette drainages and more specifically the Pariette Wetlands to evaluate whether water quality contaminate levels have increased, decreased or remain the same. Furthermore the study should help provide a baseline to help determine how certain elements such as Selenium are partitioned between plants, water, sediments, and representative aquatic animal or waterfowl tissues.

This study also provides a unique opportunity for educational institutions to develop a regionally important study program benefitting federal, state, and private entities as well as provide hands-on learning, training, and educational development opportunities for students in physical sciences and water resources in the Uintah Basin.

In previous years, research activities consisted of sample collection and monitoring. This includes measurement of total Selenium, as well as Selenium species in wetland soils, sediments, pore waters, and the water column. Researchers are also investigating the role that salinity and organic matter play in Selenium biogeochemistry.

Work performed in 2013 includes the collection of water, soil, and vegetative samples as before, but now has also included vertebrate and invertebrate tissue samples within the Pariette Draw drainage. The primary objectives of this study will be satisfied by monitoring water quality as it enters the wetland pond complex, collecting water samples from at least three wetland ponds on a monthly basis to determine the range and concentrations of constituents present, and collecting a minimum of three surface sediment samples from one lateral transect in the same ponds. Vegetation and animal sample data will be collected from the same ponds as identified above.

Mineralogical Controls on Salinity and Related Elements Impacting the Pariette Draw and Wetland

Land managers must decide whether or not the salt, Selenium, and Boron contaminants in the watershed can be managed, and what sustainable mitigation strategies are possible. To accomplish this, knowledge about the source, cycling, and transport of contaminants throughout the watershed and the effect of land-use practices is critical. The focus of this project is to provide the geological, mineralogical, and geochemical data needed to model these processes in the watershed.

In previous years, soil/geologic samples were collected at sites that weather under natural and irrigated conditions. Samples include soil profiles from cultivated and the natural landscape, rock from the formations that crop out in the watershed, and surface- and groundwater from streams, ponds, springs, and auger holes.

In March, 2013, a field trip was performed to resample agricultural fields sampled in October, 2012 and fill in additional data gaps. Analyses of these samples were completed by June, 2013. Researchers are currently waiting for analyses of 2012 soil extracts and water samples. Once received, they will assemble a compilation of all the data from this study to be published as an addendum to their final report. The compilation will provide the foundation for their spatial analyses of contaminants in the Pariette Draw watershed and provide input for decision-making by land managers in the future. Their final report on mineralogical controls on salinity and other contaminants in the Pariette Draw watershed is scheduled for completion by December 2013. An oral presentation to Colorado River Salinity Control Forum and BLM will be scheduled at the end of 2013.

Arid Land Study

This project involves reclamation techniques on disturbed arid land field trials. The disturbance is located on arid lands with harsh soils that contain high amounts of salts and sodium. Reclamation success following disturbance on these harsh soils has been quite poor.

The project area is located within the Pariette Watershed which drains into the Pariette Wetlands. Over the last five years energy related development has resulted in the disturbance of several thousand acres of salt and sodium affected soils that have not been successfully reclaimed. This has resulted in a large increase in erosion and sediment rates which have been transported to the wetlands resulting in declines in water quality.

This project is entering its fourth phase of an ongoing assistance agreement that has been in place to study reclamation of disturbed arid lands. This phase will involve field trials of different reclamation techniques to determine the efficacy of treatments such as seeding mixtures, mulching rates, soil amendments, fertilizer, etc., in efforts to reach successful reclamation. By

learning what is required to reclaim disturbed arid lands with high sodium and salt contents, the energy industry along with other involved parties will be able to apply these techniques to disturbed areas thereby reducing the amount of produced sediment and salts presently being introduced into Pariette Wetlands and ultimately the Green River.

BLM Kanab Field Office
The Kanab Field Office completed 2 river miles of tamarisk/ Russian Olive removal on the East Fork of the Virgin River. The Field Office also worked with the local FFA class in Panguitch to cut and plant willows along the Sevier River. Other watershed related activities included inventory/assessment of riparian resources, E.Coli monitoring of the North Fork Virgin River to further understand/monitor impairment, and installation of 4 riparian protection fences.

BLM St George Field Office
The Quail Springs riparian area is a short (approximately ¼ mile long) isolated source of water located in the higher elevation of the Bull Valley Mountains in southwestern Utah. The Quail Spring riparian area was identified as functioning-at-risk due to excessive livestock and wildlife use. The spring was initially developed sometime in the early 1950's and has been redeveloped several times since. However, it has only been within the past 10 years that the pipeline from the spring source has been non-functioning.

The BLM's objective was to enhance the riparian area and provide a reliable water source for both livestock and wildlife. CWWR provide funding to removal all of the old pipeline that was scattered throughout the riparian area, remove the old trough that was located in the riparian drainage and relocate it to an adjacent upland site, repair the old pipeline and fence the riparian area to protect it from livestock use.

Salt Lake Field Office
Greasewood Springs Riparian Exclosure was partially burned in 2012 in the Ibapah fire. The exclosure was maintained as well as expanded this summer to include approximately 7 acres of riparian habitat. A new livestock and wildlife watering trough was also installed. Water is diverted from the spring to fill the trough, and excess flow was diverted back into the wetland area. The exclosure will create potential sage-grouse and pygmy rabbit habitat. The new pipeline and trough installation was completed using 1040 CWWR funding and the fencing of the project was completed using support from Utah Watershed Restoration initiative with coordination from the Division of Wildlife Resources Central Region.

8 Federal Consistency Review and NPS Project Tours for FY-13

During FY-13, DEQ continued to use a combination of approaches to work collaboratively with federal land management agencies and others to promote federal consistency with the State NPS Pollution Management Program. As part of this program tours of projects implemented by federal agencies are organized every year. The following is a summary of a tour that took place in the Strawberry Valley and surrounding areas.

Utah Federal Consistency Review

Ashley National Forest

August 13th and 14th, 2013

Jim Bowcutt (UDEQ), Carl Adams (UDEQ), Melissa Hendrickson (USFS), Chris Plunkett (USFS), Greg Bevenger (USFS), Helen Kempenich (USFS), Dustin Bambrough (USFS), Molly Ryan (USFS)

August 13th (Day 1)

Highway 191/ Cart Creek Watershed

Like many of the forests in the State of Utah the Ashley National Forest has struggled with issues such as Bark beetles, illegal ATV trails, and fire hazards due to many years of fire suppression. The Cart Creek watershed in the northeastern corner of the state is no exception.

The first stop in the Cart Creek watershed was along Highway 191. In this area the Forest Service had hired a private contractor to thin young lodgepole trees along the sides of the highway. The purpose of the cutting was to reduce fire danger, and increase visibility, thus allowing drivers to be able to better spot wildlife and reduce the number of auto/wildlife accidents. The contractors used a lop and scatter technique, but the Forest Service said that they may have to create piles and burn them due to the large amount of debris that resulted from the thinning.

Thinning project along Highway 191 to increase visibility and reduce fire danger

The second stop in the Cart Creek watershed was the Deer Lodge/Grizzly Ski Tow area, where several BMPs had been implemented to reduce erosion from roads located in the watershed. Rock was placed in locations that were highly susceptible to erosion. Fences were also built to keep campers in designated areas. The Forest Service used a large group of AmeriCorps youth volunteers to construct much of the improvements in the watershed. Illegal trails had also been decommissioned in this part of the watershed, and water bars had been installed to reduce the erosion from these areas.

Road Repairs and fences used to control camping impacts and illegal ATV Use in the watershed

Road decommissioning and water-bars

A culvert crossing on Highway 191 was the third stop in the Cart Creek Watershed. This culvert was re-engineered to improve fish passage. However, some follow-up work is required to improve the function of the fish passage due to excess amounts of rock for erosion control placed below the culvert. As a result much of the water now subs through the rock thereby hindering fish passage through the culvert. The Forest Service plans to re-configure the rock until the culvert is passable once more.

Rock below fish passage culvert along Highway 191

The final location that was visited in the Cart Creek watershed was in Green's Draw. There had been large amounts of off-road/illegal ATV usage in this part of the watershed. Much of the de-commissioning and erosion control work is scheduled to take place in the fall or spring of the coming year. Besides decommissioning many of the illegal ATV routes, the Forest Service plans to construct a new road higher in the pines and away from the open meadows to reduce the amount of motorized vehicle traffic in the grass meadows and riparian areas. The Forest Service will be using State Nonpoint Source funding in conjunction with other funding sources to implement the project.

Illegal ATV Routes that will be decommissioned in Green's Draw

Ponderosa Pine Fuels Project (Day2)

The Ponderosa Pine Project is located on the north slope of the Uinta Mountains. The purpose of this project was to reduce the amount of fuel that would be available if a forest fire were to start in this area. To reduce the risk of catastrophic fire, the Forest Service treated 800 acres mechanically to remove the ladder fuels and prescribed fire to treat an additional 3,700 acres.

Area treated in the Ponderosa Fuels Reduction Project

Beaver Creek

In an attempt to better manage grazing, and protect the riparian corridor on Beaver Creek, the Forest Service installed a worm fence on the north side of the river. The purpose of the tour was to decide if the location of the fence needed to be moved. Upon inspection it was determined that the fence needs to extend further up the creek and further to the north to protect small springs and seeps that are present in the North Pasture. It was also discovered that cattle had been allowed to stay too long on the south side of the creek. This was evident by the number of cow pies, compaction, and lack of standing forage that remained on the South side of the Creek.

Beaver Creek Grazing Exclosure

Grazed Pasture at Beaver Creek

Mann Creek

A small grazing exclosure created specifically to improve riparian habitat for native cutthroat trout was visited on Mann Creek. The area shows signs of improvement, and much of the riparian vegetation has returned. The Utah Division of Wildlife Resources has been removing non-native fish in the creek such as brook trout and German browns by using Rotenone. This has been an area of debate between the different agencies and special interest groups. The Forest Service has been conducting a study to be completed in the next couple of years, to determine the impacts Rotenone has on the environment, and how long the Rotenone stays in the system after it has been applied.

Mann Creek Exclosure for Cutthroat Trout

Antelope Flats

The Forest Service has developed a Best Management Practices Evaluation form. To become more familiar with the form, participants on the tour visited the Antelope Flats boat ramp to assess its condition and potential as a non-point source of pollution into Flaming Gorge Reservoir. The ramp was constructed in the mid 1960's, and the evaluation was to verify that the structure was still being maintained and meeting all the requirements set in place by the Forest Service. The form looked at erosion, presence of trash, impacts of humans and animals at the site, and the overall condition of the structure. Upon inspection the ramp was still in good shape with no impacts to the environment. It was determined that the Forest Service and the Division of Water Quality should work together to verify that their assessment methods are complementary to reduce any repetition that may occur during project evaluations.

Boat Ramp Inspection at Antelope Flat, Flaming Gorge Reservoir

2013 EPA Project Tour

August 19th-21st

Location:
Jordan River Watershed, Price River Watershed, Fremont River, North Fork of the Virgin River

Participants:
Gary Kleeman (Environmental Protection Agency), Jim Bowcutt, Carl Adams, Scott Daly, Amy Dickey (Utah Division of Water Quality), David Dodds, Wally Dodds (Local Conservation District), Monte Turner, David Pace, Tyce Palmer (UACD), Crystal Young (River Restoration)

Day 1 August 19th

Jordan River Watershed

The Jordan River/ Utah Lake Watershed Basin will be the targeted basin for State and Federal NPS funding in 2014. In 2014 two projects in the basin will be funded using Section 319 funding. The Wallsburg watershed, which was one of the tour locations during the 2012 EPA tour, will receive $150,000 in Section 319 funds, and Salt Lake County will receive $287,096 in EPA Section 319 funds for project work on the main stem of the Jordan River.

In addition to the 319 funds that will be spent in the targeted basin in 2014, the State has also awarded several State Nonpoint Source grants to different entities in the Jordan River. While the main purpose of this tour was to see the projects that were funded using EPA Section 319 funding, several projects that were funded using State NPS funds were also visited.

Main Stem of the Jordan River (Salt Lake County)

In 2014 Salt Lake County will begin construction on a stream bank restoration project on the main stem of the Jordan River in the Murray/ Taylorsville area. The Jordan River is currently listed on the 303(d) list of impaired waterbodies for low oxygen levels and has had a phased TMDL completed for organic matter. This project will address stream banks that are currently eroding at a high rate, contributing organic matter, sediment and nutrient loading into the main stem of the Jordan River. This project will stabilize approximately 3,100 feet of eroding stream banks, and will prevent 33.55 tons of sediment from entering the Jordan River annually. Since this project is located in an area that is utilized for many different recreational activities, it presents a good opportunity to make the general public aware of the efforts that are currently taking place on the Jordan River to improve watershed health, and water quality.

Proposed Stream Restoration Site on the Jordan River

Bingham Creek Project

Bingham Creek is a tributary to the Jordan River, and was recently listed on the 2010 303(d) list for high E. coli concentrations. This project will fence the cattle off a portion of Bingham Creek, and install hardened crossings that will allow the cattle to cross the creek and drink the water in restricted access areas. Originally the project called for large amounts of rock to be installed to stabilize the stream bank, however, after some discussion with the project partners it was decided that fencing the cattle off the river and planting vegetation may be a more economical and effective method of treatment.

Another problem that has been identified on the project site was massive erosion that was taking place below a culvert that the water passed through directly above the project location. The Salt Lake County Engineers have been working with the City to make sure that proper measures are taken so that the problem is not made worse when the culvert is replaced in the coming years.

Another issue that was noticed during the tour was that the pastures were being flood irrigated. This could cause manure and other pollutants to be washed into the river thus contributing to the high pollutant loadings that are currently observed in the Creek. The Salt Lake County Representative agreed to talk to the landowner about possibly converting to a sprinkler system to reduce the irrigation return flows reaching the Creek.

This project will be funded using 2014 State NPS funding, and implementation is scheduled to take place over the next year.

Grazed Pasture on Bingham Creek

Erosion from Culvert on Bingham Creek

Big Bend Restoration Site (Jordan River)

The Big Bend restoration site is a large plot of land adjacent to the Jordan River that is currently owned by the City of West Jordan. The overall goal of this project is to restore 70 acres along the Jordan River for the use of wildlife by constructing a new meandering channel and wetlands that will reconnect the flood plain with the river. The project is currently in the planning phase and is using State NPS funding, as well as other funding sources to complete the engineering and design. When completed, the project will provide one mile of restored river channel, thus significantly reducing sediment and organic matter inputs to the Jordan River. The City also plans to include a walking trail and possibly a pond that will serve as a community fishery within the project location. The Project has already gained a large amount of support from various partners, and within the City.

Eroding Stream Banks on the Big Bend Project

Day 2 August 20th

Price River Restoration

Helper City, in cooperation with River Restoration, the Utah Division of Water Quality, and the Utah Division of Wildlife Resources has begun planning a large scale restoration project on the main stem of the Price River within Helper City. While this project is still in the developmental phase, the Division of Water Quality has awarded funding to implement a demonstration project in the next year. Restoration projects that take place in urban areas often tend to be much more expensive than traditional stream bank projects that take place in rural agricultural settings. Since the cost of the entire project is quite high the City is hoping that this demonstration project will help bring other partners on board that can bring additional funding to the table. Helper City also invited the City Council and potential partners to participate in the tour of the project site in hopes to gain support. Overall, the group seemed optimistic about the project and supportive of the overall objective. The Price River Watershed Group is currently updating the Watershed Plan for the Price River Watershed.

Meeting with the Helper City City Council

Price River in Helper Utah

Fremont River

There has been extensive streambank stabilization work done on the Fremont River between Torrey and Bicknell. In total, over 13,000 linear feet streambank has been restored. In addition to the stream bank work several animal feeding operations have also been improved from the headwaters to Torrey over the years. On the tour Monte Turner and David Pace from UACD pointed out several animal feedlots that had been improved. The tour also visited the Red River Ranch where well over a mile of restoration work took place in 2011. Overall, the landowners have been very happy with the way that the projects have turned out, and the Red River Ranch, which is famous for its fly-fishing has claimed that the project work has made a noticeable difference in the number of fish using that stretch of the river. In addition to the increased use as a cold water fishery, the water quality also shows noticeable improvements, and Amy Dickey from the Division of Water Quality thinks this section of river should be evaluated for delisting in the future. The UACD employees said that there are other landowners in the watershed that are waiting to do projects in the future as well, thus further improving water quality in the watershed.


Restoration Work on the Fremont Restoration work on the Fremont completed in 2011

Day 3, August 21-

Upper Sevier Watershed

Over the years there has been several projects completed along the Upper Sevier Watershed. During the tour the local watershed coordinator showcased some of the project work that was implemented south of Panguitch in 2012 using 319 funds. The project consisted of fencing the cattle off of the river and installing rock structures and willow plantings in the stream bank itself. Many of the willows that had been planted were already growing, and fencing the cattle off the river had allowed for other riparian vegetation to recover and begin growing again as well. The watershed coordinator pointed out that well over 10 continuous miles have been completed near the Panguitch area.

A second site was visited on the Sevier River near Hatch, Utah. This project site consisted of two miles of stream bank restoration that had been completed using 319 funding in conjunction with funding from the Division of Wildlife Resources. One of the landowners that had helped fund the project was on site, and expressed his satisfaction and gratitude for the work that had been completed. Through this reach the river was fenced, and several in-stream structures were installed to help reduce erosion and improve fish habitat.


Sevier River Restoration work near Panguitch

Sevier River Restoration work near Hatch

North Fork of the Virgin River

The North Fork of the Virgin River is located northeast of Zion National Park. The North Fork of the Virgin River flows through the Narrows, a very popular hike that thousands of tourists come to do annually. Currently the North Fork of the Virgin River is listed on the 303(d) list of impaired waters for excessive E.coli concentrations. Due to these elevated concentrations the National Park Service has had to post signage along the trail stating that the water is unsafe to drink.

Thanks to monitoring that has been conducted by the National Park Service, the BLM and the Utah Division of Water Quality, the source of the impairment has been identified as pastures that are currently being flood irrigated during the summer months. On a normal day anywhere from 50-100 cattle can be present in the pastures at one time. The cattle graze the pastures and when the pastures are flood irrigated some of the manure is washed into the river. During initial discussions alternative irrigation methods seemed to be impractical due to the steep slopes of the pastures, and the remote location. However, the Division of Water Quality has used State Nonpoint Source funding to develop a design and implement a K-line styled irrigation system that will be installed in the next year.

In addition to the irrigation return flows it was discovered that an outhouse was located on the irrigation ditch that was watering the pastures. The outhouses will be decommissioned, or moved to a more appropriate location.

An vault outhouse was also constructed at the trail head of the Narrows Canyon hike. Before this was constructed people would go to the bathroom behind trees and bushes, and created a big mess. Since the installation of the outhouse, conditions have greatly improved both aesthetically and sanitarily.

Outhouse constructed over irrigation ditch

Outhouse constructed at trail head

Flood Irrigated Pasture on the North Fork of the Virgin River

9 APPENDICIES

Figure 1 Project Location Map

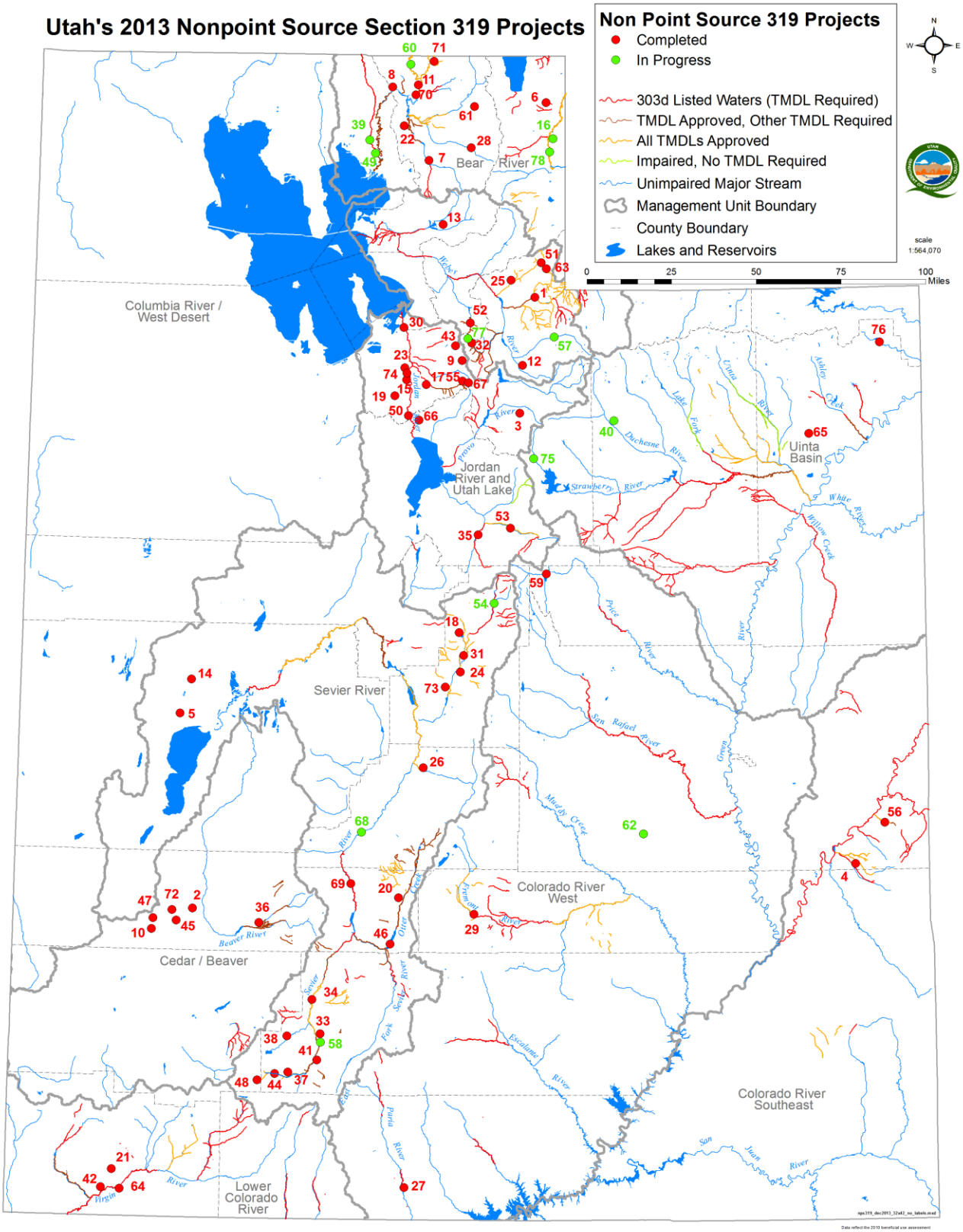


TABLE A- COMPLETED AND ACTIVE 319 PROJECTS (SEE FIGURE 1)

Map_ID	STATUS	PROJECT_NAME	Map_ID	STATUS	PROJECT_NAME
1	Completed	Chalk Creek	40	In Progress	Duchesne River
2	Completed	Milford Baseline GW and Aquifer Mapping	41	Completed	Upper Sevier River Information / Education
3	Completed	Wasatch County GW Study and Aquifer Mapping	42	Completed	Virgin River Information / Education
4	Completed	Spanish Valley Baseline GW Mapping	43	Completed	Emmigration Creek Water Quality Study
5	Completed	South Sevier Desert GW Recharge Area Mapping	44	Completed	Groundwater (Mammoth Creek)
6	Completed	Bear River Watershed Outreach Information/Education	45	Completed	Mitigation of NPS Chemicals - Milford Groundwater
7	Completed	Little Bear River Animal Waste System	46	Completed	Otter Creek Reservoir TMDL
8	Completed	Bear River TMDL Development	47	Completed	Milford Microbial Contamination GW Study
9	Completed	Millcreek Canyon Watershed Phase II	48	Completed	Cedar Mountain GW Assessment
10	Completed	Milford Baseline GW Contaminant Inventory	49	In Progress	Bear River Information / Education
11	Completed	Bear River Groundwater Contaminant Inventory	50	Completed	Jordan River WQ/TMDL Assessment
12	Completed	Kamas Valley Groundwater	51	Completed	Rees Creek Demonstration
13	Completed	Ogden Valley GW Recharge Area Mapping	52	Completed	East Canyon Instream Flow
14	Completed	Millard County Groundwater	53	Completed	Soldier Creek Spanish Fork
15	Completed	Jordan River Wetland	54	In Progress	San Pitch Watershed Implementation
16	In Progress	Bear River (Rich County)	55	Completed	Little Cottonwood ImplementationTMDL
17	Completed	SL County Lawn Fertilizer/Pesticides Impacts on GW	56	Completed	Onion Creek Impementation TMDL
18	Completed	Sanpete / Moroni Groundwater	57	In Progress	Upper Weber River Tech. Assist. & Information and Educ.
19	Completed	Salt Lake Valley Drink. Water Source Protect.	58	In Progress	Upper Sevier River TMDL Implementation
20	Completed	Otter Creek	59	Completed	Scofield Reservoir TMDL Implementation
21	Completed	Washington County Septic Tank Effects on GW	60	In Progress	Middle Bear River
22	Completed	Cache Valley GW/Aquifer Assessment & Classification	61	Completed	Spawn Creek Bank Restoration
23	Completed	Jordan River Parkway Millcreek Riparian	62	In Progress	Colorado River West
24	Completed	Sanpete Valley WQ Assessment and GW Mapping	63	Completed	Rees Creek Phase II
25	Completed	Echo Creek Demonstration	64	Completed	Virgin River TMDL Implementation
26	Completed	Stuart Johnson Salina Canyon	65	Completed	Oil/Gas Erosion Control
27	Completed	Paria River Restoration Demonstration	66	In Progress	Jordan Watershed Council
28	Completed	Hardware Ranch Demonstration	67	Completed	Alta Fen Rehab
29	Completed	Fremont River Demonstration	68	In Progress	Middle Sevier River Watershed TMDL Implementation
30	Completed	Peace Trees Information/Education (Salt Lake City)	69	Completed	Sevier River @Marysvale Animal Waste Demonstr
31	Completed	San Pitch River Information/Education	70	Completed	Bear River Amalga
32	Completed	East Canyon Creek	71	Completed	Cub River
33	Completed	Upper Sevier Rangeland Improvement Demonstration	72	Completed	Milford (Private Wells)
34	Completed	USU Panguitch - Sevier River	73	Completed	Sanpete Valley GW Recharge Area Mapping
35	Completed	Thistle Creek	74	Completed	Jordan River Ecosystem Restoration
36	Completed	Beaver River	75	In Progress	Upper Strawberry River Riparian Management
37	Completed	Mammoth Creek	76	Completed	Matt Warner Reservoir/ Pot Creek Riparian Management
38	Completed	Panguitch Creek	77	In Progress	East Canyon Stream Restoration
39	In Progress	Lower Bear River Malad	78	In Progress	Upper Bear River Riparian Restoration, BLRC

TABLE B- 319 FINAL PROJECT REPORTS SUBMITTED IN FY-13

Project Title	**Total NPS Award**	**Date Received**
FY-07 Alta Fen Rehab (TMDL Implementation)	$13,500	8/31/2012
FY-07 San Pitch River Watershed TMDL Implementation	$153,000	11/15/2012
FY-07 Upper Sevier River Watershed TMDL Implementation	$229,000	12/20/2012
FY-08 West Colorado River Watershed Improvement	$70,000	10/31/2012
FY-08 Scofield Reservoir Riparian Revegetation	$35,500	9/04/2012
FY-08 Local Watershed Coordinator Support	$400,000	4/25/2013
FY-09 USU Extension NPS I&E Outreach	$33,500	9/01/2012
FY-10 Utah Watershed Coordinating Council	$30,000	4/25/2013
FY-10 Mud Creek/Scofield Riparian Restoration	$50,000	9/04/2012
FY-10 Jordan River Council Capacity- I&E	$41,600	8/28/2012

TABLE C- SUMMARY OF ACTIVE UTAH 319(H) GRANTS FY-12

Project Title	Total NPS Award	Grant Status
Upper Bear River WS TMDL Implementation FY-08	$30,000	Final Report Submitted Awaiting Approval
Middle Bear River TMDL Implementation FY-08	$32,100	Project Complete Awaiting Final Report
Lower Bear River TMDL Implementation FY-08	$212,500	Project Complete Awaiting Final Report
Strawberry River/ East Daniels FY-08	$61,600	Project Complete Awaiting Final Report
San Pitch River WS TMDL Implementation FY-08	$118,000	Project Complete Awaiting Final Report
Middle Sevier River WS TMDL Implementation FY-08	$137,085	Final Report Submitted Awaiting Approval
West Colorado River Watershed Improvement Project FY-08	$70,000	Final Report Submitted Awaiting Approval
Matt Warner, Calder Reservoir/ Pot Creek FY-08	$64,800	Project Complete Awaiting Final Report
Scofield Reservoir Riparian Revegetation FY-08	$35,500	Final Report Submitted Awaiting Approval
Local Watershed Coordinators Support FY-08	$400,000	Final Report Submitted Awaiting Approval
USU Extension NPS I&E Outreach FY-09	$33,500	Final Report Submitted Awaiting Approval
Lower Bear River WS TMDL Implementation FY-09	$84,000	Ongoing
Upper Bear River WS TMDL Implementation FY-09	$110,140	Ongoing
Middle Sevier River WS TMDL Implementation FY-09	$60,000	Ongoing
Upper Sevier River WS TMDL Implementation FY-09	$122,790	Ongoing
West Colorado River WS TMDL Implementation FY-09	$70,000	Ongoing
Forest Water Quality Guidelines Monitoring FY-09	$33,870	Project Complete Awaiting Final Report
Jordan River Ecosystem	$24,560	Project Complete Awaiting

Restoration FY-09		Final Report
Emigration Creek Restoration FY-09	$46,633	Ongoing
Little Cottonwood Zinc Project FY-09	$24,807	Ongoing
Local Watershed Coordinator Support FY-09	$509,100	Project Complete Awaiting Final Report
Matt Warner/Pot Creek Road Rehabilitation FY-10	$63,600	Project Complete Awaiting Final Report
USU NPS I & E Outreach FY-10	$37,000	Project complete awaiting final report
Lower Bear R TMDL Impl. FY-10	$80,000	Ongoing
Middle Bear R TMDL Impl FY-10	$100,000	Ongoing
Upper Bear R TMDL Impl FY-10	$70,000	Ongoing
West Colorado River Watershed Improvement FY-10	$45,000	Ongoing
USU Septic System Ed. Enhancement FY-10	$51,100	Ongoing
Utah Watershed Coordinating Council FY-10	$30,000	Final Report Submitted Awaiting Approval
Upper Bear Riparian Restoration FY-10	$15,600	Ongoing
East Canyon Stream Restoration - Phase IV FY-10	$50,000	Ongoing
Mud Ck/Scofield Riparian Restoration FY-10	$50,000	Final Report Submitted Awaiting Approval
Salt Lake County Stream Guide FY-10	$31,100	Ongoing
Jordan River Council Capacity - I&E FY-10	$41,600	Final Report Submitted Awaiting Approval
TMDL Local Watershed Coordinators FY-10	$400,000	Project Complete Awaiting Final Report
Utah NPS Program - Management Review FY-10	$66,582	Project Complete Awaiting Final Report
Utah Watershed Coordinating council FY-11	$10,000	Ongoing
USU Volunteer Monitoring and I&E FY-11	$102,500	Ongoing
Utah Watershed Coordinating council FY-11	$340,000	Ongoing

East Canyon Restoration FY-11	$380,421	Ongoing
TMDL Local Watershed Coordinators FY-11	$340,000	Ongoing
Utah Watershed Coordinating council FY-12	$10,000	Ongoing
USU Volunteer Monitoring and I&E FY-12	$102,500	Ongoing
East Canyon Restoration FY-12	$283,070	Ongoing
Upper Weber TMDL Implementation FY-12	$95,230	Ongoing
TMDL Local Watershed Coordinators FY-12	$340,000	Ongoing
USU Volunteer Monitoring and I&E FY-13	$97,000	Ongoing
Strawberry River Restoration FY-13	$275,140	Ongoing
Duchesne River Restoration FY-13	$149,481	Ongoing
TMDL Local Watershed Coordinators FY-13	$340,000	Ongoing

TABLE D- APPROVED TMDLS

Water Body	Date Approved
Chalk Creek	12/23/1997
Otter Creek	12/23/1997
Little Bear River	5/23/2000
Mantua Reservoir	5/23/2000
East Canyon Creek	9/1/2000
East Canyon Reservoir	9/1/2000
Kents Lake	9/1/2000
LaBaron Reservoir	9/1/2000
Minersville Reservoir	9/1/2000
Puffer Lake	9/1/2000
Scofield Reservoir	9/1/2000
Onion Creek (near Moab)	7/25/2002
Cottonwood Wash	9/9/2002
Deer Creek Reservoir	9/9/2002
Hyrum Reservoir	9/9/2002
Little Cottonwood Creek	9/9/2002
Lower Bear River	9/9/2002

Malad River	9/9/2002
Mill Creek (near Moab)	9/9/2002
Spring Creek	9/9/2002
Forsyth Reservoir	9/27/2002
Johnson Valley Reservoir	9/27/2002
Lower Fremont River	9/27/2002
Mill Meadow Reservoir	9/27/2002
UM Creek	9/27/2002
Upper Fremont River	9/27/2012
Deep Creek	10/9/2002
Uinta River	10/9/2002
Pineview Reservoir	12/9/2002
Browne Lake	2/19/2003
San Pitch River	11/18/2003
Newton Creek	6/24/2004
Panguitch Lake	6/24/2004
West Colorado	8/4/2004
Silver Creek	8/4/2004
Upper Sevier River	8/4/2004
Lower and Middle Sevier River	9/17/2004
Lower Colorado River	9/20/2004
Upper Bear River	8/4/2006
Echo Creek	8/4/2006
Soldier Creek	8/4/2006
East Fork Sevier River	8/4/2006
Koosharem Reservoir	8/4/2006
Lower Box Creek Reservoir	8/4/2006
Otter Creek Reservoir	8/4/2006
Thistle Creek	7/9/2007
Strawberry Reservoir	7/9/2007
Matt Warner Reservoir	7/9/2007
Calder Reservoir	7/9/2007
Lower Duchesne River	7/9/2007
Lake Fork River	7/9/2007
Brough Reservoir	8/22/2008
Steinaker Reservoir	8/22/2008
Red Fleet Reservoir	8/22/2008

Newcastle Reservoir	8/22/2008
Cutler Reservoir	2/23/2010
Middle Bear River	2/23/2010
Pariette Draw	9/28/2010
Emigration Creek	7/18/2012
Jordan River Phase I	6/05/2013
Ashley Creek	Awaiting EPA Approval

TABLE E- WATERSHED PLANS

Watershed	**Date Approved**
Middle and Lower Sevier	October-10
San Pitch	January-06
Upper Sevier	June-04
Virgin River	February-06
Paria River	2006
Escalante River	2006
Wallsburg CRMP	10/01/2012
Duchesne River	Submitted to EPA for approval
Strawberry River Watershed	Submitted to EPA for approval

TABLE F- STATE NPS FUNDS ALLOCATED IN 2013

Watershed	Project Sponsor	Project Description	Amount Awarded
Bear River	Private	AFO Project	$30,000
GSL	Environ International	Cyano Bacteria and Mercury	$43,004
Colorado	USGS	Newcastle Thermocline Study	$43,425
Colorado	Helper City	Price River Feasibility Study	$35,000
Lower Bear River	UDEQ	Lower Bear River TMDL	$25,000
GSL	USU	Mapping of Wetland Vegetation	$40,531
San Pitch	Private	Stream Restoration	$37,640
San Pitch	Frandsen MacArther Ditch Co.	Irrigation System	$75,000
South East Colorado	UDEQ	Moab Area Watershed Partnership Coordinator	$38,500
Statewide	USU	Groundwater Outreach	$30,000
Statewide	USU	Septic I&E Outreach	$48,041
Statewide	UDEQ	Watershed Coordinators	$30,000
Statewide	UWCC	UWCC	$10,000
Statewide	USU	AFO Outreach	$25,162
Statewide	UDEQ	Mercury Take Back Program	$6,000
Uinta Basin	USU	Pariette Draw Study	$59,806
Uintah Basin	USGS	Pariette Draw Study	$27,010
Upper Sevier	UACD	Stream Bank Stabilization	$50,000
Jordan - Utah Lake	UACD	Watershed Restoration - Wallsburg	$138,760
Weber Basin	UDEQ	Targeted Basin - East Canyon Implementation	$114,621
Weber Basin	UDEQ	Targeted Basin - Upper Weber Implementation	$37,500
Weber Basin	UDEQ	Silver Creek Nutrients TMDL study	$30,000
		Reserve for on-site systems	$25,000
		Total	**$1,000,000**

TABLE G- ADDITIONAL FUNDING CURRENTLY ALLOCATED IN CONJUNCTION WITH SECTION 319 FUNDING IN FY-13.

Funding Source	Amount
Utah State NPS Funding	$275,928
Watershed Restoration Initiative	$73,917
Habitat council	$83,755
Environmental Quality Incentive Program (EQIP)	$678,533
Grazing Improvement Program	$85,029
Salt Lake County	$55,171
Total	**$1,970,887**

TABLE H- SUMMARY CONSERVATION PRACTICES- NRCS FISCAL YEAR 2013

Utah FY2013 Summary – Conservation Practices	Planned (acres)	Applied (acres)	Planned Count	Applied Count
Access Control (472) (ac)		404		6
Agricultural Energy Management Plan, Landscape - Written (124) (no)	2		2	
Agricultural Energy Management Plan, Headquarters - Written (122) (no)	3	3	3	3
Anionic Polyacrylamide (PAM) Application (450) (ac)		14		3
Apply controlled release nitrogen fertilizer (WQL06) (ac)		20		4
Apply enhanced efficiency fertilizer products (WQL24) (ac)	2,646		20	
Apply nutrients no more than 30 days prior to planned planting date (WQL05) (ac)	8,532		126	
Aquatic Organism Passage Barrier Removal (ANM28) (no)	13		5	
Atmospheric Resource Quality Management (370) (ac)		1		2
Biological suppression and other non-chemical techniques to manage brush, weeds and invasive species (WQL01) (ac)	200	105	1	3
Brush Management (314) (ac)	15,457	20,793	84	132
Channel Bed Stabilization (584) (ft)	6,470		12	
Clearing and Snagging (326) (ft)	120		3	
Combustion System Improvement (372) (no)		1		1
Comprehensive Nutrient Management Plan (100) (no)		1		1
Conservation Cover (327) (ac)	20,128	11,336	377	213
Conservation Crop Rotation (328) (ac)	15,044	27,113	424	528
Conversion of cropped land to grass-based agriculture (SQL09) (ac)	48		3	
Cover Crop (340) (ac)	191	157	10	10
Critical Area Planting (342) (ac)	61	1	5	2
Dike (356) (ft)		195		9
Diversion (362) (ft)	800	972	1	1
Dust Control on Unpaved Roads and Surfaces (373) (sq ft)	226,512		6	
Fence (382) (ft)	237,306	264,281	111	107
Filter Strip (393) (ac)	14		8	
Firebreak (394) (ft)	9,194	12,237	1	2
Forage and Biomass Planting (512) (ac)	362	1,031	35	54
Forage Harvest Management (511) (ac)	843	2,747	52	92
Forest Management Plan - Written (106) (no)	3		3	
Forest Stand Improvement (666) (ac)	43	31	7	5
Fuel Break (383) (ac)	11		2	
GPS, targeted spray application (SmartSprayer), or other chemical application electronic control tec (AIR07) (ac)	9,918		168	
Grazing management to improve wildlife habitat (ANM09) (ac)	8,727	3,813	12	6
Harvest hay in a manner that allows wildlife to flush and escape (ANM10) (ac)	20,997		690	
Heavy Use Area Protection (561) (ac)	87		5	
Herbaceous Weed Control (315) (ac)	19,892	3,678	160	75

High level Integrated Pest Management to reduce pesticide environmental risk (WQL13) (ac)	2,339		128	
Incorporate native grasses and/or legumes into 15% or more of the forage base (ANM03) (ac)		3		1
Integrated Pest Management (IPM) (595) (ac)	6,046	20,358	158	415
Irrigation Ditch Lining (428) (ft)	9,335	13,715	12	16
Irrigation Land Leveling (464) (ac)	686	373	39	21
Irrigation Pipeline (430) (ft)	441,651	281,279	412	281
Irrigation pumping plant evaluation (WQT03) (no)	1		1	
Irrigation Reservoir (436) (ac-ft)	52	25	6	11
Irrigation System, Microirrigation (441) (ac)	191	52	37	19
Irrigation System, Surface and Subsurface (443) (ac)	92	284	5	16
Irrigation Water Conveyance (430) (ft)	1,000	20,149	4	35
Irrigation Water Conveyance, Ditch and Canal Lining, Plain Concrete (428A) (ft)		1,200		1
Irrigation Water Conveyance, Pipeline, High-Pressure, Underground, Plastic (430DD) (ft)	1,960	88,532	2	79
Irrigation Water Conveyance, Pipeline, Low-Pressure, Underground, Plastic (430EE) (ft)		580		2
Irrigation Water Management (449) (ac)	12,404	12,690	710	546
Irrigation Water Management Plan - Written (118) (no)	1		1	
Land application of only treated manure (WQL14) (ac)	1,038		39	
Leave standing grain crops un-harvested to benefit wildlife (ANM34) (ac)	665		40	
Lined Waterway or Outlet (468) (ft)	100		1	
Livestock Pipeline (516) (ft)	199,711	365,864	76	62
Managing Calving to Coincide with Forage Availability (ANM26) (ac)	1,256	7,628	1	15
Monitor key grazing areas to improve grazing management (PLT02) (ac)	132,737	7,862	152	18
Monitoring nutritional status of livestock using the NUTBAL PRO System (ANM17) (ac)	1,256		1	
Mulching (484) (ac)	369	118	11	5
Nitrification inhibitors or urease inhibitors (AIR08) (ac)	10,603		553	
Nutrient Management (590) (ac)	3,064	12,350	194	345
Nutrient Management Plan - Written (104) (no)	10	10	10	10
Obstruction Removal (500) (ac)	1	37	2	4
Open Channel (582) (ft)	5,902		1	
Plant Tissue Testsing and Analysis to Improve Nitrogen Management (WQL04) (ac)	3,484		150	
Pond (378) (no)	14	6	10	6
Pond Sealing or Lining, Bentonite Sealant (521C) (no)	2	1	2	1
Pond Sealing or Lining, Compacted Clay Treatment (521D) (no)		59		5
Pond Sealing or Lining, Flexible Membrane (521A) (no)	4	1	4	1
Pond Sealing or Lining, Soil Dispersant (521B) (no)	2		2	
Prescribed Burning (338) (ac)	33	252	4	3

Prescribed Grazing (528) (ac)	241,358	264,644	392	354
Pumping Plant (533) (no)	120	73	88	73
Pumping plant powered by renewable energy (ENR03) (no)		1		1
Range Planting (550) (ac)	40,570	30,100	79	54
Renewable Energy System (716) (no)		3		3
Replace burning of prunings and other crop residues with non-burning alternatives (AIR03) (ac)	1,147		120	
Residue and Tillage Management, Mulch Till (345) (ac)	3,096	1,369	22	43
Residue and Tillage Management, No-Till/Strip Till/Direct Seed (329) (ac)	4,463	11,211	42	108
Retrofit watering facility for wildlife escape (ANM18) (no)	647	15	71	11
Riparian Forest Buffer (391) (ac)	0	89	1	1
Riparian Herbaceous Cover (390) (ac)		131		1
Roof Runoff Structure (558) (no)		1		1
Rotation of supplement and feeding areas (WQL03) (ac)	85,440	7,862	396	18
Seasonal High Tunnel System for Crops (798) (sq ft)	52,963	35,565	30	19
Sediment Basin (350) (no)	2		1	
Split applications of nitrogen based on a PSNT (WQL25) (ac)	4,409		115	
Split nitrogen applications 50% after crop/pasture emergence/green up (WQL07) (ac)	5,792		57	
Spring Development (574) (no)		6		5
Sprinkler System (442) (ac)	7,396	7,734	341	346
Stream Crossing (578) (no)	4	2	4	2
Streambank and Shoreline Protection (580) (ft)	12,500	3,218	11	14
Structure for Water Control (587) (no)	417	284	234	222
TA Application (912) (no)		306		19
TA Check-Out (913) (no)		128		19
TA Design (911) (no)		587		21
Terrace (600) (ft)	51,659		20	
Tree/Shrub Establishment (612) (ac)	62	42	12	6
Tree/Shrub Pruning (660) (ac)		3		2
Tree/Shrub Site Preparation (490) (ac)	40		6	
Upland Wildlife Habitat Management (645) (ac)	33,261	77,057	179	106
Use deep rooted crops to breakup soil compaction (SQL05) (ac)	1,154		4	
Use drift reducing nozzles, low pressures, lower boom height and adjuvants to reduce pesticide drift (AIR04) (ac)	18,664		515	
Variable Frequency Drive Electric Motors (ENR09) (no)	23		8	
Waste Recycling (633) (ac)		59		1
Waste Separation Facility (632) (no)		2		2
Waste Storage Facility (313) (no)	9	14	6	14
Waste Transfer (634) (no)	1	4	1	4
Water and Sediment Control Basin (638) (no)		2		2
Water Harvesting Catchment (636) (no)		2		2
Water Well (642) (no)	657	8	8	8
Watering Facility (614) (no)	147	111	86	64
Wetland Creation (658) (ac)		216		1

Wetland Enhancement (659) (ac)		218		1
Wetland Restoration (657) (ac)		216		1
Wildlife Friendly Fencing (ANM27) (ft)	56,815		22	
Windbreak/Shelterbelt Establishment (380) (ft)		2,457		1
Windbreak/Shelterbelt Renovation (650) (ft)		1,700		2
Woody Residue Treatment (384) (ac)	557	6	17	4

TABLE I- MILESTONES OF THE UTAH STATEWIDE NPS PROGRAM

Milestone	2013	2014
Objective 1: Environmental Protection:		
Number of TMDLs Completed	2	
Number of TMDLs Initiated	Huntington Creek- Selenium Pelican Lake-pH Nine Mile Creek- Temperature	
Number of 9 Element Watershed Based Plans Developed	Strawberry River Duchesne River	
Number of 9 Element Watershed Based Plans Initiated	Price River North Fork of the Virgin River Otter Creek Upper Sevier San Pitch Middle Green/Desolation Canyon Weber River Watershed Plan Upper Weber Watershed Plan	
Number of projects dedicated to the protection of threatened waterbodies identified in Utah's 303(d) list	0	
Number of projects focused on groundwater protection thorughout the state	One Septic I&E Program, One Groundwater outreach program.$78,041 total in State NPS Funding	
Objective 2: Improve Program Efficiency and Effectiveness through Reporting and Evaluation.		
Total Number of Stream Miles Restored	0.77 miles of in-stream restoration implemented 5.35 miles of protective riparian fencing implemented	
Total Estimated Load Reductions Reduced in Project Areas (includes reductions from annual and final reports)	Nitrogen- 10,161 lbs/year Phosphorus- 3,878 lbs/year Sediment- 2,500 tons/year	
Number of Final Project Reports Submitted	10 (See TableB)	
Number of 319 Grants Open During the Fiscal Year	6 (See Table5)	
Amount of Unexpended Funds in Each Open 319 Grant (As of June 30, 2013)	FY-08- $90,405 FY-09- $252,811	

	FY-10- $188,479 FY-11- $341,358 FY-12- $667,452 FY-13- $861,621 (See Table1)	
Number of Success Stories Showing the envionmental Benefits of Completed NPS Projects Submitted to EPA for Approval	2- Cub River and East Canyon Creek	
Objective 3: Improve Public Participation and Understanding of NPS Issues		
Number of Participants Invovled in the Statewided Volunteer Monitoring Program	196	
Number of I&E Projects Implemented with Section 319 and State NPS Funding	3 projects -AFO Outreach (NPS) -Septic I&E Outreach (NPS) -Vollunteer monitoirng program (319)	
Updates Made to the State NPS Program Website	The website was updated to include additional information for grant applicants including Final reporting guidance, and grant applications. In 2014 USU Waterquality extension will begin development of a much improved website.	
Objective 4: Improve Data Collection and Management		
Track Updates Made to Enhance NPS Monitoroing in the Division of Water Quality's Annual Monitoirng Strategy	Additional monitoring equipment was purchased for the Local Watershed Coordinators to assist with NPS project monitoring. Trainings were also offered on the development of SAPs.	
Number of SAPs Developed	8	
Track Status and updates of AWQMS database	See Section 4.4 of this report	
Report on Water Quality Data Uploaded to the EPA WQX Database	See Section 4.4 of this report	
Objective 5: Improve Coordination of Governmental and Private Sectors		
Hold Annual NPS Management Program Coordination Meetings	Held February 26, 2013	
Conduct Annual Consistency Reviews with State and Federal Agencies	Conducted August 13th and 14th, 2013.	
Number of Water Quality Task Force Meetings Held During the Fiscal Year	Three meetings were held. October 10th 2012, February 14th, 2013, and May 22nd 2013	
Amount of Funding Used to Leverage 319 Funding Throughout the State	$1,970,887 (See Table G)	

TABLE J- FY-13 BLM WRI PROJECTS

WRI Projects and Accomplishments for 2013			
WRI Project #	Project Name	Acres Treated	Exclosures Constructed
2220	Onaqui East Bench Sagebrush Habitat Enhancement	1,179	
2221	Clover Creek Bullhog Phase 4	1,137	
2223	Chriss Creek PJ Removal Phase 2	499	
2208	Stockton Bullhog Phase 2	1,068	
2191	Iosepa Bullhog Phase 5	368	
2222	East Tintic Bullhog	1,085	
2218	Moon Ridge Chaining	1,165	
2203	Pine Springs Bullhog Phase II	584	
2202	Deadman Bench Follow-up Herbicide Treatment	1,103	
2274	Bottom Canyon Bullhog Phase II	415	
2271	Book Cliffs Aspen Exclosure Phase II		2
2267	Moonshine Bullhog Phase II	129	
2270	Anthro Mountain Bullhog Phase II	256	
2273	Red Fleet Phase II (Maintenance)	317	
2272	Seep Ridge Phase II Bullhog Maintenance	729	
2266	Davis Draw Sage Brush Project	424	
2269	Atchee Ridge Lop & Scatter Phast II	606	
2375	White River Russian Olive Removal & Streambank Restoration	1,056	
2268	Bake Oven Sagebrush Restoration	129	
2224	North Grouse Creek Bullhog	1,065	
2241	Box Elder Sage-Grouse Winter Range Fire Restoration	1,947	
2161	Bitter Creek Phase II	3,100	
2177	Beef Basin Phase I	2,173	
2238	Horse Canyon Fuels	1,280	
2311	South Canyon (Hilldale)	2,695	
2206	UKC Bald Knoll Sage-Grouse Project - Phase I	3,203	
2227	South Beaver Vegetetation Enhancement - Year 7	1,366	
2359	Pine Point Hand-Thinning	2,525	
2059	Bucket Hollow Lop & Scatter	570	
1998	Habitat Restoration Maintenance	9,318	
2354	Petrified Hollow Bullhog	4,232	
2383	Buckskin Lop & Scatter FY13	565	
2239	Antimony Pinyon-Juniper Improvement	1,590	
2239	Antimony Riparian Improvement	150	
2365	Kitchen Sagebrush Restoration	2,971	
2303	Duncan Creek/Hwy 56 Interface - Phase I	1,115	
2288	Escalante River Watershed Restoration - Phase 5	58	
	Total Acres Treated	**52,172**	**2**