

**UTAH
NONPOINT SOURCE
POLLUTION MANAGEMENT PROGRAM**



**FISCAL YEAR 2014
ANNUAL REPORT**

January 2015

**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, Main Creek, Utah

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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.

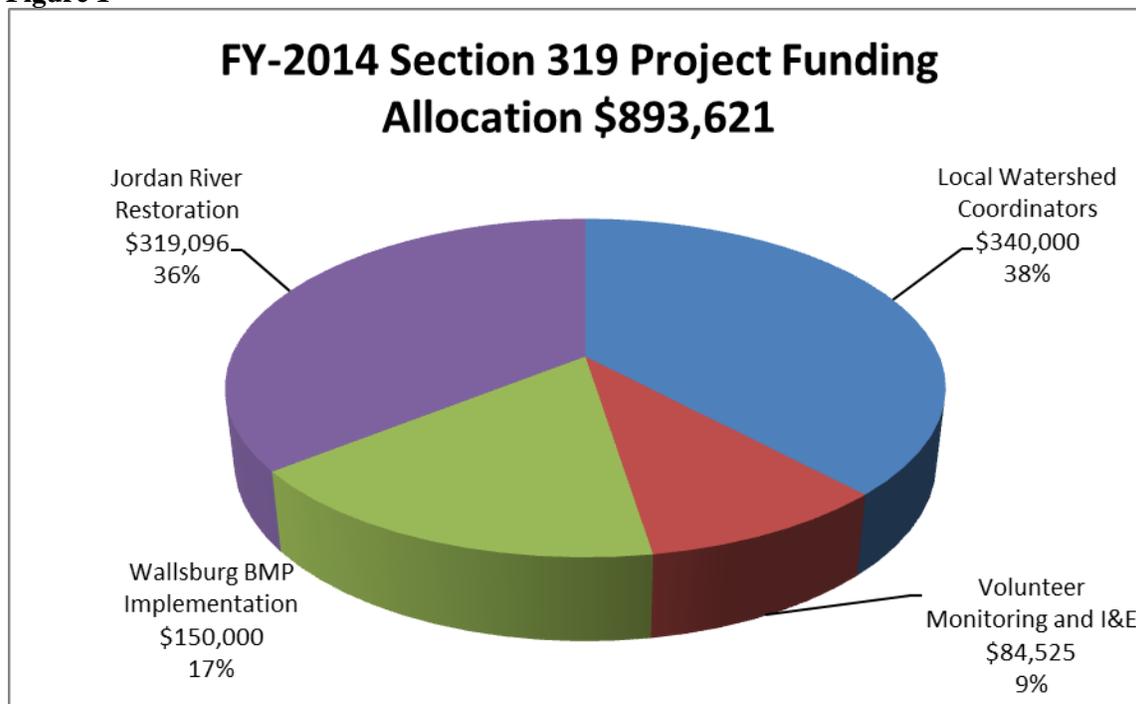
Nonpoint source pollution refers to diffuse pollutants that when added together from an entire watershed can significantly impact water quality in streams, lakes and reservoirs. Nonpoint source (NPS) pollution is diffuse, coming from land runoff, percolation, precipitation or atmospheric deposition. 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 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 2014 (FY-14) the Utah NPS program received \$1,396,000 in Federal Section 319(h) funds. Of these funds, \$502,379 was used for program related staffing and support, while the remaining \$893,621 was dedicated to 4 project grants. This was actually a 4% increase from the year before, allowing an additional \$32,000 to be used for on the ground project implementation.

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-14 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-09 contract expires September 30th, 2014 and is on schedule to be completely spent out by that date.

Table 1

Section 319(h) Nonpoint Source Funding Project Allocations				
Federal Fiscal Year	Grant Award	Expenditures in FY-2014	Total Expenditures	Percent Expended
FY-08	\$1,161,585	\$116,461	\$1,161,585	100%
FY-09	\$1,119,400	\$55,317	\$912,703	82%
FY-10	\$1,065,000	\$62,032	\$916,713	81%
FY-11	\$832,921	\$126,744	\$756,766	91%
FY-12	\$830,800	\$447,534	\$535,202	64%
FY-13	\$861,621	\$137,046	\$137,046	16%
FY-14	\$893,621	\$0	\$0	0%
Total	\$6,764,984	\$945,134	\$4,420,015	65%

2.1. Staffing and Support

In FY-14 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-14 Accomplishments and Milestones

FY-14 Accomplishments

- Utah closed out the FY-08 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 August 7th, 2013, November 19th, 2013, and May 19th, 2014.
- The annual agency coordination meeting was held on February 26th, 2014. 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 FY-14 including a Multi Indicator Monitoring (MIM) training where members of the Utah Riparian Stream Team presented the MIM protocol.
- 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 Fremont River Watershed has been submitted to EPA for approval.
- The Federal Consistency Review was conducted with the Division of Water Quality and the Forest Service in the Manti La Sal National Forest on October 7th and 8th.
- The Utah Division of Water Quality and the Environmental Protection Agency participated in a project evaluation tour in the Cedar / Beaver and Colorado River Watersheds on August 11th through the 13st.
- The Utah Division of Water Quality and the Natural Resource Conservation Service worked together to identify three 12 Digit HUCs in the Upper Sevier and Wallsburg Watersheds in which the National Water Quality Initiative funding will be spent.
- The Echo and Rockport TMDLs were approved as well as a TMDL on the Colorado River for Selenium.

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) 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 projects 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 Sampling Analysis Plans developed.
- Track status and updates of Utah's 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-14, refer to Table I in the appendices.

2.3. Summary of Active Utah 319(h) Grants During FY-14

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 approved by EPA for the State of Utah was issued in 2010. The Utah Division of Water Quality has completed the 2014 303(d) list and is awaiting approval from EPA. 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 65 TMDLs, (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- 14 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. Fifty NPS pre-proposals totaling nearly \$4.5 million were accepted from the middle of April to the first of June for the 2014 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. Once the proposals were ranked they were reviewed by a subcommittee of the Water Quality Task Force, and the final grant awards were determined. Of the proposals received, four projects were selected for funding with Section 319 funds. The Jordan River and Utah Lake Watersheds received the majority of Project funds available, since they were the targeted basin in FY-14. 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

**2014 Project Implementation Plans (PIPs) for CWA Section 319 Funding
(Prepared June 30th, 2014)**

<u>Proposal Title</u>	<u>Allocation</u>
1. USU Volunteer Monitoring and I&E	\$ 97,000
2. Local Watershed Coordinators	\$ 340,000
3. Jordan River Ecosystem Restoration	\$ 319,096
4. Strawberry River Restoration	\$ 150,000
Total	\$ 893,621

3. NPS Program Strategic Approach

To be eligible for funding, NPS projects must be located on a waterbody, or be 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 allows 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 conducts 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-14 represents the fifth 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 Jordan River/Utah Lake 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-15. The majority of these funds will be used to implement projects on Main Creek in the Wallsburg Watershed and the Jordan River. Projects have already been identified in the Colorado River Watershed, since it will be the targeted basin in 2015.

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 funds generated from interest earnings on loans awarded by the Utah Water Quality Board to address NPS issues. 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-14, 24 projects were funded, totaling \$985,642. In addition to these projects an additional \$14,358 was reserved for on-site septic system projects that may arise during the year. For a complete summary of FY-14 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 the Agriculture Resource Development Loan Program (ARDL), which in recent years has been expanded to include water quality improvement projects on farms and ranches. 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. These state programs are tremendous assets to the improvement of water quality in this state.

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	\$116,461	\$77,641	\$1,161,585	\$774,390
FY-09	\$55,317	\$36,878	\$912,703	\$608,469
FY-10	\$62,032	\$41,354	\$916,713	\$611,142
FY-11	\$126,744	\$84,496	\$756,766	\$504,511
FY-12	\$447,534	\$298,356	\$535,202	\$356,801
FY-13	\$137,046	\$91,364	\$137,046	\$91,364
FY-14	\$0	\$0	\$0	\$0
Total	\$945,134	\$630,089	\$4,420,015	\$2,946,677

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 them 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 in the project solicitation and selection process.

Middle and Lower Sevier River Watershed- Lynn Koyle

2014 will be the final year that the Division of Water Quality will be funding a position in the Middle Sevier Watershed due to a lack of funding and the need to focus efforts in the headwaters of this watershed. This position will be terminated on December 31st, 2014.

During the 2014 fiscal year this local watershed coordinator spent the majority of their time developing a watershed plan for the Otter Creek Watershed and continued to work on implementing projects along the Sevier River in the Marysvale area. However, the landowner that planned on doing the implementation work backed out of the project, and no further project work is anticipated to take place in the Middle Sevier for several years.

Southeastern Colorado River Watershed- Arne Hultquist

The Southeast Watershed Coordinator is a part time position. The major responsibility of the Southeast Watershed Coordinator is to provide support to the local watershed groups in the area. Currently the only local watershed group in Grand and San Juan counties, The Moab Area Watershed Partnership (MAWP), has been in existence a little over 3 ½ years and is still working on its watershed management plan. The watershed management plan has come a long way in the last year. It is only one section and a couple of sub-sections away from completion.

One mini-grant project was completed and two more were funded in FY-2014. The educational Kiosk building grant was completed and closed in this last year. Funding was received for signage that will expand on information provided by the Kiosk, as well as funding for 5 dog waste stations and accompanying bags. Two doggy waste stations were disbursed to, and installed by, the Bureau of Land Management (BLM), and three were given to Grand County but haven't been installed yet. The doggy bags were distributed to Moab Solutions, Grand Water and Sewer Service Agency, the BLM and Grand County.

The USFS Spring development projects have been started. Funding has been received for 6 projects this year in the MAWP watershed that will begin to be implemented in the fall of 2014.

Cedar/Beaver- David Dodds

The Cedar City watershed coordinator position is relatively new, and as such this year has been focused on acquiring funding for future projects. The North Fork, Chamberlain Ranch project has made progress this year with the completion of the pipeline easement which will allow construction to occur over the multiple land owners' property. Additionally, NEPA documentation has been occurring this year and should be completed by September 2014. Acquiring funding for future projects in this area has been successful with 5 new projects planned at an amount of \$461,320.00.

In addition to the project implementation work that has been taking place in the watershed, the local watershed coordinator has also assisted with watershed planning that is currently taking place in various locations around the watershed. Plans that are currently being developed include the North Fork of the Virgin River, and Pinto Creek near Newcastle Reservoir.

The coordinator has also attended several trainings to help him become more proficient at planning and designing BMPs in the watershed, and attended various conferences and meetings to better network with partners from the watershed.

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.

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. In addition to the Project work that will be conducted on Red Butte, the County also used 319 funds to do additional monitoring to identify the source of the E.coli present in the Creek.

Salt Lake County continues to work towards the installation of 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.

The Murray/Taylorville Jordan River Restoration, located at 5200 S through 4800 S on the Jordan River will restore 3,100 feet of stream bank on the Jordan River. 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 over 33 tons annually. Salt Lake County will be working with several partners including: Murray City, Taylorville City, Utah Division of Forestry Fire and State Lands and Salt Lake County Parks

Bingham Creek: In cooperation with the UACD, Salt Lake County Watershed personnel will design and install soil bioengineering strategies and wetland plants to reduce sediment loading and *E. coli* contamination in Bingham Creek and subsequently, the Jordan River. UACD will install fencing and manure management strategies to keep cattle from adversely affecting this area.

Winchester: Salt Lake County Watershed personnel have been tasked with the design and construction of a navigable boat passage under the Winchester St. bridge. The design will use a natural channel design concept, and will re-contour the Jordan River channel including three rock cross vanes to drop the river the necessary 10 feet. Design work began in the summer 2014 with construction taking place in the winter/spring 2015.

In addition to the project implementation that is taking place, the watershed coordinator continues to fulfill their reporting responsibilities, as well as the information and education component of the watershed. This included the Jordan River Symposium, a water quality newsletter, and a day in the watershed when trash is collected.

Weber River Watershed- Jake Powell

Several major implementation projects in the East Canyon and Upper Weber watersheds that have been in the planning and development stages for several years were completed during the FY-14 fiscal year. Currently the local watershed coordinator is working with landowners to implement 9 projects. These projects include 8 projects that focus on protecting the riparian area by fencing animals from the stream corridor, and stabilizing eroding banks, thus allowing the vegetation to reestablish along the reach. There is also one project that focuses on improving water quality by increasing irrigation efficiencies in the Chalk Creek Watershed. In addition to the implementation of these projects, the watershed coordinator has also been tasked with monitoring these projects.

The watershed coordinator continues to work closely with the East Canyon Watershed Committee. This committee is currently working to develop an outreach and education campaign focused on increasing awareness about the low flow issues in East Canyon Creek. The coordinator also acts as the website administrator and frequently develops new content for the website and keeps current events and information up to date. He has also been heavily involved in the formation of the Weber River Partnership. This group seeks to act in the capacity of a watershed committee working to increase the coordination and effectiveness of groups working in the larger Weber Watershed.

The watershed coordinator worked as one of the core team members involved in a watershed planning effort that seeks to create consensus, cooperation, and a watershed planning document that outlines the values important in the watershed, challenges to these values, and a pathway toward protecting and restoring these values. This planning effort involves several partners and a planning tool developed by the Nature Conservancy called a Conservation Action Plan (CAP). This planning tool has focused the energy and efforts of the planning group and stakeholders. The coordinator has worked to represent the interests of the Upper Weber watershed, and wrote several sections of the plan and did all the final graphic design and layout of the publication. He also wrote a grant application and received \$21,000 from the Utah Department of Agriculture and Food to organize a Coordinated Resource Management (CRM) group in the South Fork of Chalk Creek. This watershed was identified as a high priority area in the Echo/Rockport TMDL because of its high contributions of sediment to the larger Chalk Creek watershed. He has worked to organize CRM meetings, develop presentations, gather relevant information that is available, and write the document. This planning process has raised awareness among the landowners of watershed scale issues as well as provided a foundation of partnership, collaboration, and planning within the watershed. The final document is on schedule to be completed early 2015 and is anticipated to become the watershed plan for the South Fork of Chalk Creek.

The watershed coordinator continues to participate in and lead the way for water quality education within the watershed. He participated in a local farm field day event, and continues to work with local schools where he addresses the students, and teaches them about the local issues that are impacting water quality within the watershed.

Middle and Lower Bear River Watershed- Justin Elsner

During FY-14 the local watershed coordinator completed 1 project to help improve water quality in the watershed. This was a riparian protection project that took place on the Logan River up Logan Canyon, and was funded with NRCS funding. In addition to completing this project the local watershed coordinator continues to work on 10 other 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 general public in his watershed. He spoke at the Northern Utah Water conference, assisted with the Cache County Storm Water Fair and the Bear River Celebration, and continues to inform landowners of practices that can be implemented on their property to improve 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-2014 \$73,585 in 319 funds were spent in the San Pitch Watershed. An additional \$23,170.67 in State NPS funds were spent in the watershed, as well as \$73,917 in EQIP funds. The total amount spent on water quality improvements within the San Pitch River Watershed during Fiscal Year 2014 was \$201,711. Projects include four riparian improvement projects, 2 irrigation improvements projects, and one pasture management project.

In addition to project implementation the San Pitch Watershed Coordinator has been helping the local Conservation District develop a coordinated resource management plan that will encompass all 9 of the EPA required watershed planning elements. He also continues to assist with the collection of water quality data that will be used in the development of this plan. He has also been involved with the monitoring of projects that have been implemented in his watershed to show project effectiveness. The watershed coordinator has completed all of his reporting requirements for his project funds, and has submitted his reports in a timely manner

The watershed coordinator has continued to conduct information and education related projects throughout the watershed. This includes a watershed field day that was held on April 30th at Snow College. All of the local 4th grade classes in the district attended this field day.

Upper Sevier Watershed- Wally Dodds

Even though the Upper Sevier will not be the targeted basin until 2015, there has still been a large amount of project implementation work that has been taking place within the watershed. Two watersheds in the Upper Sevier were selected as watersheds that would receive funding from the National Water Quality Initiative program sponsored by the NRCS. As a result, 6 applications were received for this funding, and two were funded for more than \$300,000 for stream restoration practices that will take place on the Sevier River. The Upper Sevier watershed coordinator has also been assisting with some restoration work that has been taking place over on the Fremont River since the planner that had historically done the planning for those projects recently retired.

In addition to the project work that is currently being planned, the watershed coordinator has been working on updating the watershed plan for the Upper Sevier Watershed. It is anticipated that this plan will be completed before the targeted basin funding is received in the spring of 2016.

The local watershed coordinator is also heavily involved in water quality information and education activities. This includes a natural resource field day that is held annually in the watershed. This allows student from local schools to learn about water quality issues in their watershed, and they get the opportunity to go out and help plant willows along the Sevier River near Panguitch.

Uinta Basin- Evan Guymon

The current Uinta Basin coordinator was hired just as the Uinta Basin had received the majority of the State's NPS funding in 2014. As a result, various projects had already been identified when he was hired. These projects had to go through formal consultation with USFWS due to the presence of Ute's Ladies Tress (*Sprianthes diluvialis*), an endangered plant. It was determined that the project work that had been planned could not take place for several years, or until the actual location of this endangered plant was determined through in-depth surveys. This meant that NRCS applications associated with these projects had to be cancelled while three years of surveys for this plant occurred. During the fall of 2013 the watershed coordinator found a cooperator whose project was approved by USFWS. The project will be funded by NRCS-EQIP funds, and will be implemented during the fall of 2015.

During the FY-2014 fiscal year, the watershed coordinator has coordinated the Ute Ladies Tress surveys, completed the Duchesne River Restoration Plan, and continued work on the Strawberry River Watershed plan. He has also coordinated an aerial photography flight of the Duchesne River, which will help identify additional water quality projects along the Duchesne River.

The coordinator has continued to report on the project work that is taking place in the watershed, and is submitting annual reports on the work that continues to take place in the watershed. He has assisted with monitoring that is being conducted to document project effectiveness, and continues to work with the local watershed groups and conservation districts.

Project Summary

In 2014 local watershed coordinators were involved with the completion of 13 projects throughout the State of Utah. These projects used \$194,688 in Section 319 funds and generated over \$243,557 of funding from other sources. These projects are estimated to result in a reduction of 525 pounds of phosphorous and 729 tons of sediment per year. In addition to the projects that have been completed, additional funding is also being spent on projects that are scheduled to be completed in the next fiscal year. Table 6 shows a summary of the projects that were completed in each 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)
Weber River	5	\$107,614	\$127,032	132	145
Bear River	1	\$0	\$15,227	8	2

San Pitch	7	\$87,074	\$101,298	385	582
Total	13	\$194,688	\$243,557	525	729

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 2014 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 (GRTS) 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 2014, the majority of the biological monitoring occurred as part of the Probabilistic Surveys performed in the Uinta 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 Sevier, Cedar, Beaver, and West Desert watersheds as well as the Bear River 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. DWQ staff are currently evaluating field methods for deployment of water quality stations as well as developing assessment methods for the evaluation of continuous data against water quality criteria.

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 FY2010 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.

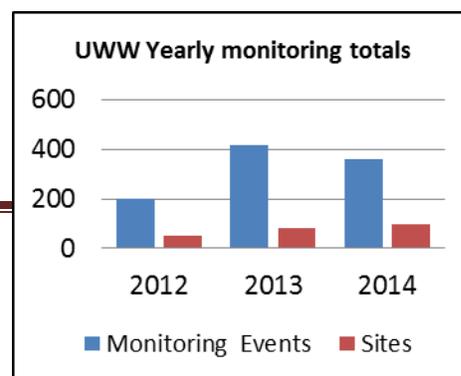
4.3 Volunteer Monitoring

Brian Greene (USU Water Quality Extension Educator)

Utah Water Watch Citizen Monitoring



In 2014, the Utah Water Watch (UWW) program continued to expand its reach. Through data collection, training and the social networking provided by this



program, hundreds of Utah citizens are becoming increasingly engaged in protecting their local streams. From its launch in 2012 through July 2014, they have trained 448 citizen monitors in 13 counties. UWW volunteers have conducted 979 monitoring events at 96 sites throughout Utah (see map to the left).

As part of Utah Water Week in May, 2014, they conducted their first “Monitor Utah” event. During that week, their volunteers collected Tier I data at 38 sites around the state. They highlighted the event in the news, reported the results with interpretation on the UWW website (see <https://extension.usu.edu/utahwaterwatch/htm/media/utah-water-week-results/water-temperature/>), and intend to make this “synoptic survey” of Utah an annual event.

They continue to expand their Tier II monitoring program, which focuses on monitoring needs of watershed coordinators. This part of the program calls for more diverse monitoring skills and a higher level of training. Following discussions with staff at UDWQ, they have developed a set of basic skills that all Tier II volunteers should know, including stream flow, operation and calibration of water quality probes, proper collection and handling of water chemistry samples, E. coli analysis using the IDEXX process and photo point monitoring. They are currently scheduling and providing training to interested volunteers in these protocols. Additional protocols will be taught as needed for specific sites. As the watershed coordinators begin to understand the potential for this program to expand their monitoring capacity at no cost, they are starting to see increased interest across the state.



Finally, through funding from other sources, they are developing signage at several sites in Northern Utah that highlight citizen monitoring activities (see photo above of the first installed sign). These signs will be located at popular sites along local rivers from Provo north, explaining basic monitoring concepts, as well as highlight recent monitoring results.

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. At the beginning of 2014, data associated with Utah's lakes was re-organized and imported into a test version of the database for further quality assurance review. Lake data will be migrated in the spring of 2015. During 2014, data was imported for rivers and streams through December 2013. River and stream data collected during 2014 will be imported into the database by early Spring of 2015.

The first priority for AWQMS is to establish quarterly data imports to the database so the data is current. This will be achieved by summer of 2015. The second priority is to resolve the data overlap between the historically migrated data and data imports for 2009. The third priority is to update the data sent to EPA 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 uses 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. It is anticipated that this study will be completed by March of 2015. Additional funding has been acquired from EPA to help continue this study throughout the state.

Additionally, several grants have been given to Utah State University to help educate septic owners on how they can properly maintain their septic systems to reduce pollutants from entering into groundwater. Technical service providers that commonly install and maintain those systems are also being trained on how to properly install and pump these systems.

5 Outreach Activities

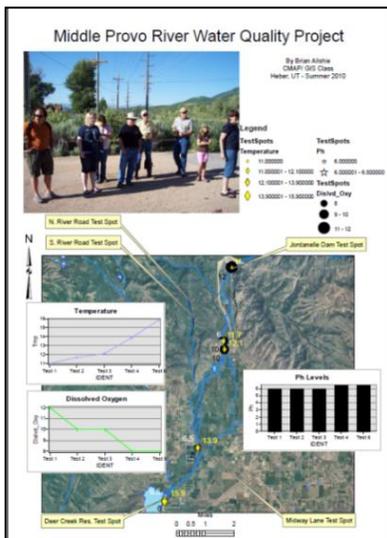
Utah State University Extension- Nancy Mesner (USU Water Quality Extension Specialist)

Outreach Activities

In 2014, USU Water Quality Extension continued to expand and improve its outreach programs in support of Utah's nonpoint source efforts. They leverage much of their 319 funding with grants from NSF, USDA and USU to greatly expand their capacity.

Youth outreach and teacher training:

Utah State University's water education program continues to reach youth across the state. In 2014, they provided hands-on activities at 20 separate events in 9 counties around the state, reaching over 5,600 youth. Almost all these activities include exploration of streams or ponds (see photo to right). They also continue to train educators and feel that this is where their impact is greatest. During summer 2014, they trained about 140 teachers at 9 different events on water quality and watershed concepts and lessons. About half of these trainings are through partnerships, such as the Community Mapping Project. The figure below shows the product of one of these trainings, in which teachers learn to integrate GPS and GIS skills with water quality monitoring techniques.

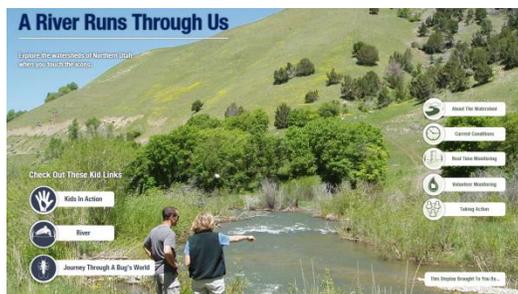


They continue to leverage funding in many ways. They have recently received \$35,000 from the Utah legislature to develop a new program that focuses on the high population centers along the Wasatch front and back. *Make A Splash in Utah* begins in mid-October and will extend through the spring of 2015. They will train and provide support to about 60 educators on water quality lessons, at the same time providing family friendly activities at Extension Centers in Provo, Park City and Ogden. Their hope is to demonstrate the value of this program and receive ongoing legislative support that can expand our reach to the entire state.

Finally, they are completing a standalone website for their watershed education programs (streamsidescience.usu.edu) which includes K-12 lessons, links to the core, STEM activities, and activities associated with specific watersheds in Utah. These watershed specific links include the first of their “virtual watersheds” which they are currently developing with other funds.

Watershed Coordinator Support:

USU continues to support local watershed coordinators in many ways. They are producing a second touchscreen display to highlight water quality data and issues in northern Utah streams, and are now under contract (non-319 funding) to produce two others for rivers in the Salt Lake and Provo areas. It is anticipated that producing more of these displays, which are highly visible and engaging, will include dashboards of data and easy to understand explanations, as well as “kids areas” that explore adaptations to aquatic life.



In 2014 they updated watershed fact sheets and produced 6 new ones for watershed throughout the state (see example to the right.) They continue to work closely with watershed coordinators around the state on their individual I&E and monitoring needs.



They also continue to maintain several websites with valuable information for the public, including a separate site for Utah Water Watch and its online database, the Bear River Watershed Information site, and our main extension

site which provides current and useful information for many different audiences (see www.extension.usu.edu/waterquality). In 2014 alone (through August), this site received over one million hits and almost 80,000 unique visitors. Over 100 documents, ranging from the watershed fact sheets to lesson plans, are available online through their website and through USU Extension’s publications link. Last year one of these (on stormwater activities for kids) was downloaded 880,000 times, making it the top Extension download in 2013.



Finally, USU acknowledged the exceptional work of 3 Utah citizens at a Utah Water Quality Board meeting. Nominations were solicited from around the state, searching for the most deserving and those who have had the greatest impact in their areas of expertise. Three award recipients were presented with a plaque and a check for \$300. This year’s winners included: a Utah Water Watch volunteer monitor, an organizer of a high quality water fair and youth program, and the manager of a water reclamation facility that is leading the way in his community, finding solutions to nutrient and other pollutant inputs.

Nutrient Management Education- Rhonda Miller

During FY-2014 Utah State University’s current nutrient management efforts are focused on maintaining and expanding the Producer’s Website and promoting the Critical Records of Animal

Production (C.R.A.P.) app. The C.R.A.P. app (available for iPhone and Android) assists producers in maintaining manure application records for their Nutrient Management Plan. The information can also be downloaded into a spreadsheet that will help producers with their overall nutrient management. The spreadsheet is available on the Producer's Website. The Producer's Website, which provides "one-stop" shopping for the producers, is being maintained and expanded. The website provides information, in laymen's terms, on the regulations producers are likely to encounter.

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 address those needs. The Districts and UACD partner with the Utah Division of Water Quality to implement 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 the Utah Envirothon, fairs, field days, and in-classroom presentations.

UACD has contracted with the Utah Division of Water Quality for 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 by 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 Program in the Department of Natural Resources focuses on protecting and enhancing core values for our present and future quality of life including watershed health (structure and function), water quality and yield, wildlife populations, and sustainable agriculture.

This is accomplished through the Utah Watershed Restoration Initiative (WRI), a diverse partnership of state and federal agencies working together with non-governmental organizations, industry, local elected officials and stakeholders, coordinated by the Utah Department of Natural Resources. Locally led teams identify conservation issues and focus areas using existing plans to address needs at the landscape (watershed) level. Program partners then propose projects to address these needs and receive input from other partners. Projects are reviewed and ranked by the regional teams using a standardized scoring system and then are funded from a variety of sources and contributors.

In fiscal year 2014, with support of \$3.95 million from the Utah Legislature, the WRI partnership (consisting of 91 partners) completed over 130 projects restoring 112,987 acres of uplands and 55 miles of stream and riparian areas. For a full list of WRI projects completed go to: <http://wri.utah.gov/WRI/Projects.aspx?display=Complete>. Through the partnership effort, funding to the Watershed Program from the Legislature was successfully leveraged at over 7 to 1 in on-the-ground projects.

The long-term results from this effort will be measured in reduced acres burned and suppression costs by 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 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 program 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.

The ACES workbook has been written by UDAF and reviewed by agriculture producer groups, environmental groups, and some State and Federal agencies. Comments have been very favorable and incorporated into the final version of the workbook. The UCC approved the final version of the workbook on September 15, 2014 and the program is now ready to start certifying agriculture producers, this will be a milestone in moving conservation forward and protecting our natural resources.

Utah Grazing Improvement Program (UGIP)

The Utah Grazing Improvement Program 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, disaster mitigation and cleanup, water conveyance projects for both private individuals and canal companies, and providing crop storage facilities and other farm structures outlined in the ARDL Policy. These projects all have a direct impact on protecting our natural resources, preventing or reducing pollution both to water and air and in sustaining the economic viability in rural communities.

The ARDL section also underwrites loans for the State Revolving Fund (SRF) under the Division of Water Quality financing projects that eliminate or reduce nonpoint source water pollution on privately owned lands. That program was recently expanded to include grants as well as loans. We also underwrite loans for the replacement of Petroleum Storage Tanks for the Department of Environmental Quality. This program is designed to assist owners and operators in rural Utah by upgrading, replacing, or closing existing underground tanks to comply with Federal regulations and to protect the environment.

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 which can be found at <http://ag.utah.gov/conservation-environmental.html> that state, local and federal governments and the private sector can implement. Agricultural 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 the SFY-2014, the following have been accomplished:

- Processed 2 notifications to conduct timber harvesting activities
- Conducted 4 post-harvest inspections
- Conducted 2 pre/in progress inspections of timber harvesting activities

- Completed a report on the effectiveness 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. The MOU is to be reviewed and updated as needed every 5 years. The Water Quality Task Force is currently in the process of updating this MOU, and should be completed within the State fiscal year.

1) Natural Resource Conservation Service- Norm Evenstad

NRCS employees work in partnership with land users to conserve natural resources 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 FY2014 through the various USDA-NRCS programs. Work that directly benefited Non-Point Source AFO/CAFO concerns in Utah included 1 CNMP plan applied in FY2014.

Non-Point Source/Water Quality related practices: The results shown in the Table H in the appendices are for all conservation practices planned and applied during fiscal year 2014. 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) establishes priority watersheds nationwide to help farmers, ranchers and forest landowners improve water quality and aquatic habitats in impaired streams. NRCS offers producers an opportunity to implement conservation and management practices through a systems approach to control and trap nutrient and manure runoff. Qualified producers can receive assistance for installing conservation practices such as cover crops and filter strips.

Three qualified areas (HUC-12 Watersheds) have been selected through an NRCS priority selection process in cooperation with the Utah Division of Water Quality and local partnerships.

Up to about \$500,000 may be made available through an application process conducted under authority of the Environmental Quality Incentives Program.

Partners sometimes offer financial assistance in addition to NRCS programs. Practices planned with WQI assistance may 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, Riparian Herbaceous Cover, etc.

The NRCS will continue to coordinate with local and state agencies, conservation districts, nongovernmental 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.

The NRCS-Utah's intent for prioritization of watersheds for the WQ initiative is to use the State Division of Water Quality's strategy of rotating planning/funding efforts by River Basin

2) Forest Service- Mark Muir

The Forest Service, an agency of the U.S. Department of Agriculture, manages National Forest System (NFS) lands 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 downstream 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 variety of land use and management activities¹, 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.

In 2014 the Forest Service continued implementation of a national best management practices program that provides a standard set of core BMPs² 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 Management Plan (LRMP) standard and guidelines specific to each of the six Forests, annual BMP monitoring information, and professional judgment.

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

² http://www.fs.fed.us/biology/resources/pubs/watershed/FS_National_Core_BMPs_April2012.pdf

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 2014, twenty of the national core BMPs were formally monitored by interdisciplinary teams. Results of the reviews will be entered into a national database, which over time will help demonstrate and document the effects of implementing BMPs for different activities across the country.

In 2014 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 that directly improved watershed conditions. 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. Additional projects were implemented that will have an indirect effect on sustaining and restoring 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, Swift Creek, located on the Ashley National Forest, was moved to an improved condition class per WCF protocols.

In addition to BMP implementation/monitoring, and watershed restoration activities, Forest Service (BAER) teams assessed fires that burned in Utah on NFS lands that had potential effects on life and property, long-term soil productivity, and water quality. Common recommendations for burned areas included Early Detection, Rapid Response (EDRR) treatment of noxious and invasive plants, seeding and mulching of hillslopes with moderate to severe soil burn severity, and various road drainage improvement projects.

Per the Memorandum of Understanding (MOU) between the State of Utah and Federal Agencies, a federal consistency review of activities and conditions on NFS lands occurred on the Manti-LaSal National Forest. Personnel from the Utah Division of Water Quality joined FS employees for on site reviews of various projects, including fuels reduction, sediment catchment basins, seeding and mulching of burned hillslopes, and recreational erosion improvements. Federal consistency reviews are a useful opportunity for coordination and collaboration on nonpoint source pollution issues, and will continue on a different forest each year in Utah.

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

BLM manages 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.'* BLM manages lands and resources through a multiple-use framework that provides for a variety of uses including; energy & mineral development, livestock

³ <http://www.fs.fed.us/publications/watershed/>

grazing, recreation, and timber harvest, while protecting cultural/ historical properties, water resources, wildlife, and other natural resources.

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, BLM Healthy Lands Initiative, 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

In 2012, BLM staff reviewed 1950's era watershed improvement projects and discovered that the 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 geologic formations at the base of the Vermillion Cliffs. Since installation, the reservoir has accumulated ~16 feet of sediment over ~7 acres. The restoration plan to stabilize and increase flood & sediment storage capacity of the failing structure 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. The project was initiated in 2013 with \$85,000 of BLM/BOR Salinity Program funding, with all work being completed except for sediment removal and storage. In 2014, the GSENM received an additional \$100,000 of Salinity Program funding to remove sediment and increase the storage capacity of the failing structure. Approximately 13-15,000 cubic yards of sediment were excavated and deposited in a stable upland location.



Eight Mile Impoundment before excavation

Eight Mile Impoundment after excavation

BLM Healthy Landscape Initiative (HLI) and Utah Watershed Restoration Initiative (WRI)

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 treating 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 Dolores River Restoration Partnership, which has multiple NGOs, private, BLM, and other federal partners focusing efforts on the Dolores River.

Under this program, over 20,000 acres of BLM lands in Utah were treated in 2014, 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: <http://wildlife.utah.gov/WRI/>

Table J in the appendices shows a tally of the projects completed during FY 2014. 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 2014. 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 FY14 to construct grazing exclosures in moderately saline soils (8-16 mmhos/cm). This project has been ongoing since FY10, with a total of 19 grazing exclosures constructed to date by the Canyon Country Youth Corps. The goal of this project is to have grazing exclosure coverage in every grazing allotment with more than 10% saline soils. Most new exclosures are located adjacent to long-term study sites maintained by BLM range staff.

The BLM Moab Field Office continued to work with the USGS Southwest Biological Science Center (Mike Duniway) as part of the ongoing grazing exclosure project. The USGS is collaborating with BLM staff and collecting comprehensive soil and vegetation data at permanent paired study plots located inside and outside grazing exclosures. Monitoring data from these long-term study sites can help direct grazing management actions to ensure stable and healthy soil conditions in these sensitive and highly erodible soils. With good soil conditions, soil erosion and associated salinity loading to the Colorado River Basin is minimized.

In FY14, the BLM entered into an agreement with the Grand County Road Dept. and helped to fund a feasibility study to assess potential alternatives and stabilizing techniques for the Onion Creek road. This road is located in a narrow canyon corridor and crosses Onion Creek over 25 times in less than 8 miles. With a steep gradient, Onion Creek originates in the La Sal mountains and enters the Colorado River in less than 30 miles. This leads to frequent large floods which damage the roadbed and adjacent stream banks. The feasibility study will identify the most stable location for the road and develop a priority list of future stream bank stabilization projects.

In FY14, the BLM Moab Field Office conducted riparian restoration projects along 11 miles of the Colorado and Dolores River Corridors. These projects received over \$200,000 in funding from multiple partners including BLM Clean Water Watershed Restoration funds (CWWR), the Utah Watershed Restoration Initiative (UWRI), the Dolores River Restoration Partnership (DRRP) and The Nature Conservancy (TNC). Restoration actions included removal of invasive Tamarisk trees, herbicide treatments on secondary weeds such as Russian Knapweed and Kochia, and planting 2,000 locally-sourced shrubs and trees at previously treated sites along the Colorado and Dolores Rivers. The plantings were maintained by weeding and watering throughout the year, and are showing great survival rates.

The Moab Field Office is involved with the local Moab Area Watershed Partnership (MAWP), a group of land managers, water managers and concerned citizens that are committed to improving watershed and specifically water quality conditions in the Mill Creek and Castle Creek Watersheds. Both Mill Creek and Castle Creek are listed as impaired by the UDWQ. This partnership group has recently completed a draft watershed management plan which outlines water resource conditions, issues and potential projects.

As part of this collaboration, BLM has contracted with a local non-profit group Moab Solutions to organize frequent volunteer events in Mill Creek to clean up trash, close duplicate hiking trails and pull invasive species. To support the MAWP goals, BLM also assists with data collection in Mill Creek including stream temperature and stream flow studies, E.coli studies and general water quality monitoring. BLM funds a USGS stream gauge on Mill Creek downstream of a large irrigation diversion to monitor stream flows and stream temperature.

BLM Vernal Field Office



Pariette Wetlands

In 2014, the Vernal Field Office received ~\$50,000 for operations and ongoing studies associated with the Pariette Wetland system in the Uinta Basin of northeastern Utah. This salinity funding was provided to Utah State University (USU) to assist the BLM Vernal Field Office in the development of an Environmental Assessment (EA) which will produce an Integrated Activity Plan (IAP) for the management of the Pariette Wetlands Area of Critical Environmental Concern (ACEC).

Development of an Integrated Activity Plan is a requirement of the 2008 Vernal Resource Management Plan (RMP). The IAP identifies goals for the ACEC, management actions to achieve those goals, and monitoring requirements to ensure the identified goals are achieved. The management actions include RMP requirements, general management practices, allowable uses and constraints, and mitigation measures that would protect and enhance the Pariette Wetlands ACEC's relevant and important values, special status bird and plant habitat and wetlands ecosystem while recognizing valid existing rights.

Utah State University is in process of analyzing existing data to develop waterfowl trends for abundance, occupancy, and species richness.

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.

Previous phases I & II have concluded that 1) most disturbed sites are compacted and soils have high salinity content, 2) Invasive or noxious species (halogeton, cheatgrass, russian thistle) are prevalent, and 3) amending soils with organic carbon increases establishment of native plants and negatively affects invasive/noxious species. With 2014 salinity funding, a series of 6x6 meter plots with nine different treatments were established at two locations. Monitoring of native plant establishment, invasive/noxious species, compaction control, and organic carbon content are to be monitored for at least two years after plot establishment.



Photo of treatment plots.

Salt Lake Field Office

The Salt Lake Field Office experienced a number of wildland fires in 2014 and completed emergency stabilization and revegetation to reduce erosion. The Rocky Complex Emergency

Stabilization and Rehabilitation (ESR) project involved 1,935 BLM acres of which 1,862 were seeded and 1,570 acres were chained. 70 Erosion Control Structures were proposed, and something close to 70 were built. Other measures implemented following the fire include culvert replacement and fire-related sediment removal from ponds containing endangered Boreal Toads. The Wildflower ESR included components of willow plantings on ~0.7 miles of Lee Creek and seeding of 679 acres of burn area.



Willow Plantings on Lee Creek.

Willow Plantings on Lee Creek.

4) The Bureau of Reclamation- Ben Radcliffe

The US Bureau of Reclamation funds irrigation improvement projects through the Colorado River Basin wide Salinity Control Program. Reclamation Salinity Program projects in progress in 2014 include:

- Sheep Creek Irrigation Company – South Valley Lateral: Located in Dagget County, Utah, the South Valley Lateral serves the lower Lucern Valley near Manila, Utah. This earthen canal will be replaced with a 7.5 mile pipeline with an estimated off-farm salt load reduction of 3,373 tons/year. This off-farm project was fully funded by Reclamation through the Basinwide Program at \$4,026,000.
- Cottonwood Creek Consolidated Irrigation Co. – Blue Cut/Mammoth Project: This project is situated in Emery County near Castledale and Orangeville, Utah. Approximately 18.4 miles of earthen ditches will be replaced with a pressurized pipeline system with an estimated off-farm salt load reduction of 3,789 tons/year. This off-farm project was partially funded by Reclamation through the Basinwide Program at \$5,500,000.
- The Huntington-Cleveland Irrigation Company is continuing construction of their salinity control project in Emery County.

Reclamation is planning to release a Funding Opportunity Announcement in 2015 which will fund new projects beginning in Fiscal Year 2016.

5) U.S. National Park Service- Rebecca Weissinger

The National Park Service is a significant land manager of 2.1 million acres in Utah, or about 3.9% of the state, and hosts 9 million visitors per year. National Park System units have a dual Congressional mandate to preserve natural and cultural resources and to provide for their enjoyment by the public in such a manner that will leave them unimpaired for future generations.

There are 13 National Park System units in Utah. On-going water quality monitoring, in cooperation with the State of Utah, occurs at seven of these National Park units. In addition to routine water quality monitoring, sampling for pesticides, wastewater indicators, pharmaceuticals, and personal care products also occurred at seven national park units in Utah in cooperation with the Environmental Protection Agency and U.S. Geological Survey.

In 2014, the National Park Service completed the second year of a three-year funded project to treat non-native tamarisk trees and herbaceous non-native invasive plants at priority sites in the riparian corridors of the Colorado and Green Rivers in Canyonlands National Park. The primary benefits of this project include creating better visitor experiences, reducing fire risk in river campsites, preserving biodiversity by decreasing risk of fire spreading into native tree stands, and the eventual replacement of beetle-impacted tamarisk stands with native vegetation. Indirect benefits include overall reduced erosion of bank sediments into the river as fire frequency and fire size is reduced.

A cooperative study with Utah Division of Water Quality to determine the source and degree of bacterial contamination in the North Fork Virgin River was continued upstream from Zion National Park in 2014. Progress was made with agency coordination seeking a resolution to the *E. coli* contamination problem. The National Park Service entered into an agreement with the Utah Association of Conservation Districts to work with landowners and permittees on improving irrigation practices to reduce return flow back to the river. Limited monitoring in 2014 showed that the contamination is continuing similar to previous years.

8 Federal Consistency Review and NPS Project Tours for FY-14

During FY-14, 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 Manti La Sal National Forest and surrounding areas.

Utah Federal Consistency Review Manti La Sal National Forest October 7th-8th, 2014

Jim Bowcutt (UDEQ), Carl Adams (UDEQ), Amy Dickey (UDEQ), Scott Daly (UDEQ), Mark Muir (USFS), Jeff Bruggink (USFS), Robert Davidson (USFS), Molly Ryan (USFS)

October 7th (Day 1)

Dry Canyon Fuels Reduction

One of the priorities of the Forest Service is to conduct fuels reduction activities that will reduce the likelihood, extent, and intensity of wildfires on USFS administered lands. In the Dry Canyon area a fuels reduction project was done on the boundary of the Forest and private land. Since the main species of trees present at this site were Pinyon, Juniper, and scrub oak the “mastication” treatment was used. This treatment uses an attachment on a skid steer which mulches the trees in

place. The mulch is then left on the ground to help control erosion and improve soil health. Only the trees on the boundary of the Forest Service were treated, thus leaving a nice mosaic of habitat for the wildlife.



Fuels Reduction Project in Dry Canyon

Forest Service Sediment Catchment Basins Huntington Canyon

In an attempt to capture some of the debris flows resulting from the Seeley fire, the Forest Service installed a catchment basin consisting of three sediment control structures. These structures were constructed to allow the main flow of the creek to pass down the side of the structures, and capture sediment only during high flow events in the adjacent ponds. While it appeared that these structures worked for a time, a recent storm had deposited enough fallen trees, rock and sand to shift all of the creek flow to the catchment basins. This caused the upper diversion structures to fail, and very little sediment was caught in the basins. The Forest Service explained that they have found that it is much more effective to treat burn areas higher in the watershed, especially the larger fires such as the Seeley Fire. The Forest Service plans on coming back in, cleaning the debris from the creek bed, and fixing the structures in the future.



Sediment Catchment Basins

Debris Blocking the Creek

Miller Flat Recreational Erosion Improvements

Miller Flats at the top of Huntington Canyon is an area that is heavily used for recreational activities such as camping, hunting, and riding ATVs. In the past, illegal roads and over-use of the lands had resulted in high rates of erosion and compaction of the soils in the area. Over the past several years the Forest Service has been working to help reduce recreational impacts to the lands and reduce erosion. To accomplish this they have been blocking off areas where ATVs and trucks had left the established roads. They have also been removing some of the dead standing spruce trees and planting new trees in popular camping areas. A good gravel base has been laid down on the main road to encourage people to stay on the established roadways. This has significantly reduced erosion, and improved the quality and the aesthetics of the forest in the area.



*Improved road and camping area
in Miller Flat Area*



Vehicle Barriers in Miller Flat Area

October 8th (Day 2)

Gentry Mountain Area

Gentry Mountain is located near the top of the watershed that had been burned by the Seeley Fire in 2009. In an attempt to reestablish vegetation, and reduce erosion in the burn area the Forest Service aerially applied winter wheat to the burn area, and layed down wood mulch to help reduce erosion. The goal of the Forest Service was to achieve 50% ground cover with the mulch. It appeared as though the burn area was recovering very well. There were still large areas where mulch and winter wheat were present, but there was also large amounts of native vegetation that had taken hold including wild raspberries, grasses, and aspen trees. It appeared as though cattle had been allowed to graze the area. It is recommended that cattle not have access to the treated area for 1-2 years after treatment, but this is very hard to enforce. Overall it appears to be a very successful project.



Treated area near Gentry Mountain

Huntington Debris Basin

To help protect infrastructure below the watershed that had been impacted by the Seeley Fire, Emery County has installed a large debris catchment structure on the main stem of Huntington River. This structure consists of a large “trash rack” that catch larger debris such as trees and large boulders from passing downstream. It also has a large catchment area that allows the finer sediments to settle out. While this is a very effective structure, it does require a large amount of maintenance especially after large storm events. The larger debris needs to be cleaned out after every storm, and the finer sediments will need to be dredged out from time to time. Overall, it appeared as though the structure was holding up well with the large storm events that the area had recently experienced, and seems to be functioning as it was intended.



Debris Catchment Basin on Main Stem of Huntington River



Debris Removed from Catchment Basin

Left Hand Fork of Huntington River

The Left hand Fork of Huntington Canyon was heavily impacted by the Seeley Fire. As a result large debris flows resulted in closure of the campground at the bottom of the canyon while crews

work to stabilize the watershed and install structures that will reduce the amount of large woody debris leaving the drainage. The Forest Service has been getting pressure from the County to remove large log jams that are present in the drainage. However, some of these log jams are so large that it has not been determined the process that should be used to do this. The Forest Service has installed several structures across the river that will catch large woody debris that will then be removed from the stream. Some possible scenarios for the larger log jams could be burning of the log jams, or simply leaving them and allowing them to catch sediment behind them, and come down on their own. It was noted that the recent larger storms that the area had experienced did clear out about one third of the logs that had previously been present in the log jam.



Campground impacted by Debris Flow



Structure for capturing Large Woody Debris



Log Jam in Left Hand Fork of Huntington Canyon

Bridges Campground

Bridges Campground is located in Huntington Canyon at the bottom of a drainage that had burned in the Seeley Fire. One of the areas of debate that resulted from the Seeley Fire was how long the Forest Service needed to keep certain campgrounds closed. While some individuals wanted to open the Bridges Campground almost immediately after the fire it was decided that it would be best in the interest of public safety if the campground remained closed indefinitely. Shortly after this decision was made large storm events sent debris down the drainage essentially destroying the campground. While the upper sites may open in the next 4-5 years, the lower campground will remain closed indefinitely.



Old Campground Site



Tree Showing Depth of Debris Flow (10-12 ft)

County Sediment Catchment Basins

The County has installed catchment basins similar to the ones that were installed by the Forest Service. Crews were there maintaining these basins. Since the County used more riprap and concrete to build their structures it appeared as though they were able to withstand the impacts from the recent storm events better than the ones that were installed by the Forest. They also were able to catch a large amount of sediment during the recent storms. However, there is still some question as to if constructing catchment basins this low in the watershed is the most effective use of resources when a catastrophic fire takes place. These structures will continually need to be cleaned out to continue to function properly.



County Sediment Catchment Basin

End of report

2014 EPA Project Tour

August 11th-13th, 2014

Location:

Colorado River Watershed

Participants:

Gary Kleeman (Environmental Protection Agency), Jim Bowcutt, Carl Adams, Scott Daly, Amy Dickey, Mike Allred, Hilary Arens (Utah Division of Water Quality), Marian Hubbard (Salt Lake County), Arne Hultquist (Grand Conservation District), Rick Rosenberg (Rosenberg Associates), Jason Bradshaw (Natural Resource Conservation Service), Jim Webb (Circle 4 Farms), David Erley (City of Castle Valley), Tina Marian (US Forest Service), Ann Marie Aubry (Bureau of Land Management), Kara Dohrenwend (Grand Conservation District), Jon Pike (St. George City), Keith Hanson (Salt Lake County Service Area 3)

Day 1 August 11th

Jordan River Watershed

Emigration Creek (Salt Lake County)

In 2013 Salt Lake County transferred \$46,633 in Section 319(h) funding from a project on the main stem of the Jordan River, which had been completed, to a project on Emigration Creek. This project is located at the mouth of Emigration Canyon and continues downstream through the Hogle Zoo. Emigration Creek is listed for E.coli, and also has issues with erosion in various locations. The sources of E.coli include septic systems and pet waste due to the high traffic usage of this area.

One of the main purposes of this project was to restrict access of dogs to the riparian area, and restore the riparian corridor to a properly functioning state. In order to do this a fence was constructed around a popular wading area restricting pets and their owners from entering into a retention basin located at the mouth of Emigration Canyon. The site was also revegetated using seed mixtures, vegetative plugs, and fibrous netting. Initially, people that utilize the adjacent park were disgruntled that their animals were restricted from the riparian area, and even tried to take the fence down, but now it appears as though people have begun to accept the need for the fence, and recently very little vandalism has been observed.

The restoration work is scheduled to continue down through the Zoo, and should be completed by the end of October.



Fencing and restoration work on Emigration Creek

Alta Zinc Reduction Project

Little Cottonwood Creek is currently listed on the State 303(d) list of impaired waterbodies due to high levels of zinc present in flows from old abandoned mines north of Alta Ski Resort. In an attempt to reduce zinc concentrations Salt Lake County, in cooperation with the Friends of Alta, received a 319 grant to field test a limestone treatment system to evaluate its feasibility for reducing zinc from the water leaving the collapsed mine portal.

The water is run through a series of 55 gallon plastic drums containing limestone and a slow sand filter. Sodium hydroxide (NaOH) is also injected during the treatment process to help with the flocculation of the zinc which then drops out into the drums, and is disposed of as sludge in an approved disposal facility.

Currently only 1-3 gallons per minute are being treated at the site due to the amount of limestone needed to treat the water. However, once the study has been completed, and the process optimized they will install two larger treatment containers and treat upwards of 100 gallons per minute. While it's not anticipated that the treatment process will reduce the amount of zinc in the drainage water low enough to meet standards, once the treated water reaches Little Cottonwood Creek it will be diluted, and Little Cottonwood Creek is expected to meet water quality standards.



Pilot Zinc Treatment Project Near Alta Ski Resort

Price River Watershed

Helper City Project- Price River

One of the goals in the West Colorado River FY-2009 & 2010 Section 319 project implementation plans is to reduce sediment loading to the Price River through the stabilization of streambanks. The area of focus for this restoration activity is located near the town of Helper City. The Price River through Helper City has been channelized, and is choked with debris that is decreasing the functionality of the riparian zone. The purpose of this project is to help restore the flood plain, and reduce erosion that is currently taking place through this reach of the Price River. During this site visit an informal discussion between local leaders and the Utah Division of Water Quality was held to determine if additional funding would be available in the future to continue with project implementation. It was determined that the demonstration project should be completed before additional funding would be awarded. It was also determined that the Division of Water Quality does not have enough funding to fund the project in its entirety, and that additional funding sources must continue to be sought.

Helper City is currently evaluating bids from contractors for the demonstration project, and the work should be done by the end of October.



Meeting between State and Local Decision Makers on Site in Helper City

Day 2 August 12th

Moab Watershed

Pack Creek Riparian Restoration Project

The lower section of Pack Creek runs through the middle of Moab City and is highly urbanized. At this site a large amount of concrete rip-rap was dumped in the floodplain then covered with Soil. This large mound of earth has restricted the floodplain, and is susceptible to erosion during storm events, which are common in this flashy system. It is proposed that 319 funding be used to remove the earth and concrete rip-rap from the floodplain and restore the connectivity of the riparian zone. This project is being proposed by Moab City.



Earthen deposit located in the Floodplain on Pack Creek in Moab City

Mill Creek Revegetation Project

In Southern Utah invasive species such as Tamarisk and Russian Olive trees have taken over much of the riparian zones. When an area is infested with these species native vegetation is smothered and eventually dies out, greatly reducing ideal habitat that previously existed. To improve habitat and biodiversity many agencies around the state are involved in an effort to eradicate these invasive species. However after the invasive species have been removed the landscape is more prone to erosion since no native vegetation is present. In an attempt to reduce erosion and increase shading to reduce water temperatures in Mill Creek, Rim to Rim Restoration has received a grant to revegetate these areas with native vegetation. This will help restore the

riparian corridor to its natural state, reduce erosion, increase shading of the river, and improve wildlife habitat.

At this site erosion was evident as a result of the lack of vegetation. Rim to Rim Restoration has done some planting in the vicinity, and is familiar with what species seem to do well in this area. This project will be funded with FY-2015 319 funding, and planting could begin as soon as next summer.



Erosion on Mill Creek West of Moab

Mill Creek Recreational Impacts

Over the years Moab has become a very popular recreational destination in Utah. With the increase of usage, the upper section of Mill Creek has also seen an increase in degradation. Much of this degradation is a result of the encroachment of invasive species in the riparian zone, as well as an increase of foot traffic.

The purpose of this site visit was to look at a project that is proposed for funding in 2015 using Section 319 funding. It is proposed that the funding will be used to help improve the riparian zone by removing invasive plants, replanting native vegetation and restricting access to the riparian area. They will also improve the existing trails in hopes that it will encourage people to stay on the trails. They will also police the trails, and erect signage stating what the impacts of improper use can have on the ecosystem.



Recreational Impacts on Upper Mill Creek



Treated Site on Mill Creek

Manti LaSal Spring Protection Projects

The Utah Division of Water Quality has awarded grants to the U.S. Forest Service for spring protection projects on the Manti-La Sal National Forest for the past two years. These projects

were funded with State NPS funding. During this tour, Old Pole Spring and Web Spring were visited.

In order to protect the springs and wetlands surrounding the springs from cattle trampling, the Forest Service has fenced the area surrounding the springs and conveyed water down the hill to watering troughs located far away from the spring and adjacent wetlands. The Forest service plans on implementing several other spring protection projects similar to these in the coming years.



Old Pole Spring Exclosure



Old Pole Spring Watering Trough



Web Spring Exclosure

Castle Valley Porcupine Fire Restoration

In 2009 the Porcupine fire burned approximately 4,000 acres in the upper section of the Castle Valley watershed. This caused significant erosional issues, and resulted in large debris flows. While much of the watershed has been reseeded and recovered from this fire, there are still areas of the watershed that are void of vegetation, and pose an erosional threat that may undo what healing has occurred. The City of Castle Valley will be receiving \$16,000 in State NPS Funds to help with additional reseeded throughout the watershed.



Burn area of the 2009 Porcupine Fire and proposed restoration site

Castle Creek Restoration Project

Castle Creek flows directly through the town of Castle Valley east of Moab. Castle Creek is currently listed as impaired for Total Dissolved Solids (TDS). One of the most significant sources of salts found in the watershed comes from eroding stream banks. In a flashy system such as this, the establishment of vegetation is the best way to stabilize the streambanks. The City of Castle Valley is planning on using \$12,000 in section 319 funds to help stabilize the stream banks using vegetative plantings along the river through the town. This project will be initiated in the spring of 2015 when the 319 funding is made available.



Castle Creek in Castle Valley, Utah

Day 3- August 13th

Virgin River Watershed

St. George Storm Water Retention Basins

While the Utah Division of Water Quality does not fund storm water infrastructure required by a MS4 storm water permit, they are willing to fund demonstration projects that go above and beyond their storm water permit requirements, and use innovative approaches to provide additional water quality benefits.

The City of St. George has received a State Nonpoint Source grant to help improve an existing storm water retention basin on the edge of the Virgin River to reduce the amount of sediment entering into the Virgin River during storm events and provide additional wildlife habitat. The retention basin is one of three that were submitted for funding from DWQ. If this retention basin proves to be an effective means to remove sediment from the Virgin River, or if it can make it so the system is not as flashy during storm events there is a possibility that other similar projects could be funded in the future.



Proposed location of St. George Retention Basin

Pinto Creek Demonstration Project

The Sevier, Cedar, and Beaver watershed management units will be the targeted basins for the FY-2016 funding. It is anticipated that Pinto Creek, a tributary to Newcastle Reservoir, will be an area of focus during this funding cycle. To help generate interest for water quality improvement projects in this watershed a demonstration project will be implemented this year. This project will include the stabilization of the stream bank, limiting cattle access to the river, improved pasture management, and installation of juniper revetments. While several land owners have already expressed interest in participating in these implementation efforts, the Division of Water Quality feels as though this will be good to bring on any landowners that are unsure of their future commitments regarding the implementation of conservation practices on their property.



Future Pinto Creek Project Locations

Circle Four Hog Farm

The final visit of the tour was to the Circle Four Farms in Milford Utah. During this site visit the Environmental Specialist for the farm led a tour to see how the pig waste was being disposed. Currently most of the liquids are being disposed of through evaporation ponds. They also have a nice composting facility to dispose of the solids. These solids are sold to local landowners, and are applied to their fields to help meet crop nutrient needs.

A methane digester is also being used to generate power from the pig waste. The power generated from the digester is sold to the power company.

Circle Four Farms has also been excited to participate in the ACES program. They would like to set an example for other producers in the state, and show the Utah Division of Water Quality and the Department of Agriculture and Food that they are committed to be good stewards of the land.

9 APPENDICIES

Figure 1 Project Location Map

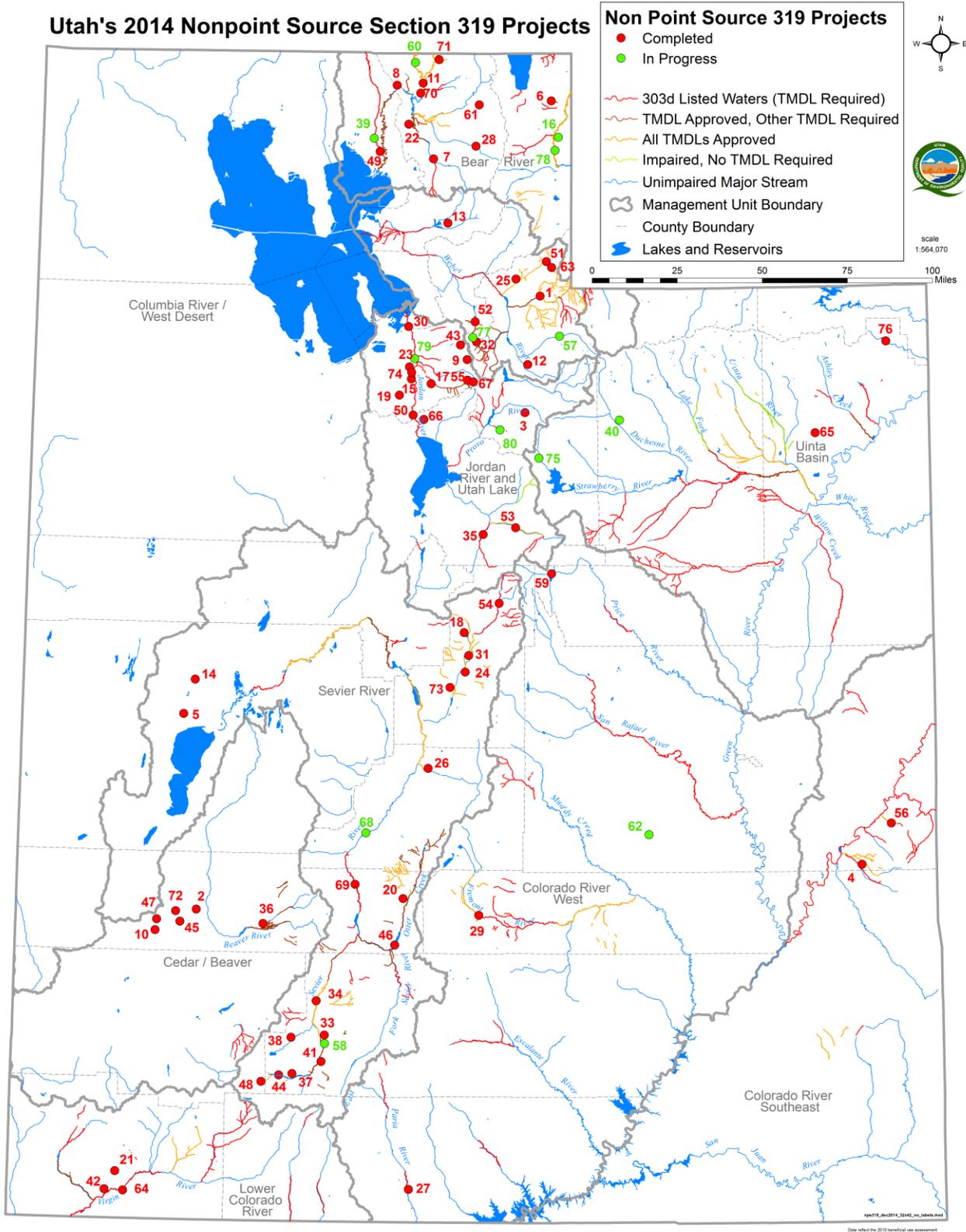


TABLE A- COMPLETED AND ACTIVE 319 PROJECTS (SEE FIGURE 1)

Map_ID	STATUS	PROJECT_NAME	Map_ID	STATUS	PROJECT_NAME
1	Completed	Chalk Creek	41	Completed	Upper Sevier River Information / Education
2	Completed	Milford Baseline GW and Aquifer Mapping	42	Completed	Virgin River Information / Education
3	Completed	Wasatch County GW Study and Aquifer Mapping	43	Completed	Emmigration Creek Water Quality Study
4	Completed	Spanish Valley Baseline GW Mapping	44	Completed	Groundwater (Mammoth Creek)
5	Completed	South Sevier Desert GW Recharge Area Mapping	45	Completed	Mitigation of NPS Chemicals - Milford Groundwater
6	Completed	Bear River Watershed Outreach Information/Education	46	Completed	Otter Creek Reservoir TMDL
7	Completed	Little Bear River Animal Waste System	47	Completed	Milford Microbial Contamination GW Study
8	Completed	Bear River TMDL Development	48	Completed	Cedar Mountain GW Assessment
9	Completed	Millcreek Canyon Watershed Phase II	49	In Progress	Bear River Information / Education
10	Completed	Milford Baseline GW Contaminant Inventory	50	Completed	Jordan River WQ/TMDL Assessment
11	Completed	Bear River Groundwater Contaminant Inventory	51	Completed	Rees Creek Demonstration
12	Completed	Kamas Valley Groundwater	52	Completed	East Canyon Instream Flow
13	Completed	Ogden Valley GW Recharge Area Mapping	53	Completed	Soldier Creek Spanish Fork
14	Completed	Millard County Groundwater	54	In Progress	San Pitch Watershed Implementation
15	Completed	Jordan River Wetland	55	Completed	Little Cottonwood ImplementationTMDL
16	In Progress	Bear River (Rich County)	56	Completed	Onion Creek Impementation TMDL
17	Completed	SL County Lawn Fertilizer/Pesticides Impacts on GW	57	In Progress	Upper Weber River Tech. Assist. & Information and Educ.
18	Completed	Sanpete / Moroni Groundwater	58	In Progress	Upper Sevier River TMDL Implementation
19	Completed	Salt Lake Valley Drink. Water Source Protect.	59	Completed	Scofield Reservoir TMDL Implementation
20	Completed	Otter Creek	60	In Progress	Middle Bear River
21	Completed	Washington County Septic Tank Effects on GW	61	Completed	Spawn Creek Bank Restoration
22	Completed	Cache Valley GW/Aquifer Assessment & Classification	62	In Progress	Colorado River West
23	Completed	Jordan River Parkway Millcreek Riparian	63	Completed	Rees Creek Phase II
24	Completed	Sanpete Valley WQ Assessment and GW Mapping	64	Completed	Virgin River TMDL Implementation
25	Completed	Echo Creek Demonstration	65	Completed	Oil/Gas Erosion Control
26	Completed	Stuart Johnson Salina Canyon	66	In Progress	Jordan Watershed Council
27	Completed	Paria River Restoration Demonstration	67	Completed	Alta Fen Rehab
28	Completed	Hardware Ranch Demonstration	68	In Progress	Middle Sevier River Watershed TMDL Implementation
29	Completed	Fremont River Demonstration	69	Completed	Sevier River @Marysvalle Animal Waste Demonstr
30	Completed	Peace Trees Information/Education (Salt Lake City)	70	Completed	Bear River Amalga
31	Completed	San Pitch River Information/Education	71	Completed	Cub River
32	Completed	East Canyon Creek	72	Completed	Milford (Private Wells)
33	Completed	Upper Sevier Rangleland Improvement Demonstration	73	Completed	Sanpete Valley GW Recharge Area Mapping
34	Completed	USU Panguitch - Sevier River	74	Completed	Jordan River Ecosystem Restoration
35	Completed	Thistle Creek	75	In Progress	Upper Strawberry River Riparian Management
36	Completed	Beaver River	76	Completed	Matt Warner Reservoir/ Pot Creek Riparian Management
37	Completed	Mammoth Creek	77	In Progress	East Canyon Stream Restoration
38	Completed	Panguitch Creek	78	In Progress	Upper Bear River Riparian Restoration, BLRC
39	In Progress	Lower Bear River Malad	79	In Progress	Jordan River Restoration
40	In Progress	Duchesne River	80	In Progress	Wallsburg Watershed Restoration

TABLE B- 319 FINAL PROJECT REPORTS SUBMITTED IN FY-14

Project Title	Total 319 Award	Date Received
FY-08 Middle Bear River TMDL Implementation	\$212,500	12/9/2013
FY-08 Lower Bear River TMDL Implementation	\$32,100	12/16/2013
FY-08 Strawberry River/East Daniels	\$61,600	12/13/2013
FY-08 San Pitch River WS TMDL Implementation	\$118,000	12/12/2013
FY-08 Matt Warner, Calder Res/Pot Creek	\$64,800	9/9/2013
FY-09 Jordan River Ecosystem Restoration	\$24,560	9/12/2013
FY-09 Local Watershed Coordinator Support	\$517,691	9/20/2013
FY-10 Utah NPS Program Management Review	\$66,582	12/15/2013
FY-10 Matt Warner, Calder Res/Pot Creek	\$63,600	9/9/2013

TABLE C- SUMMARY OF ACTIVE UTAH 319(H) GRANTS FY-14

Project Title	Total NPS Award	Grant Status
USU Extension NPS I&E Outreach FY-09	\$33,500	Final Report Submitted Awaiting Approval
Lower Bear River WS TMDL Implementation FY-09	\$41,000	Project complete Awaiting Final Report
Upper Bear River WS TMDL Implementation FY-09	\$153,140	Project complete Awaiting Final Report
Middle Sevier River WS TMDL Implementation FY-09	\$44,984	Project complete Awaiting Final Report
Upper Sevier River WS TMDL Implementation FY-09	\$122,790	Project complete Awaiting Final Report
West Colorado River WS TMDL Implementation FY-09	\$85,017	Project complete Awaiting Final Report
Forest Water Quality Guidelines Monitoring FY-09	\$33,870	Project Complete Awaiting Final Report
Jordan River Ecosystem Restoration FY-09	\$24,560	Final Report Submitted Awaiting Approval
Emigration Creek Restoration FY-09	\$38,028.66	Project Complete Awaiting Final Report
Little Cottonwood Zinc Project FY-09	\$24,807	Project Complete Awaiting Final Report
Local Watershed Coordinator Support FY-09	\$517,691	Project Complete Awaiting Final Report
Matt Warner/Pot Creek Road Rehabilitation FY-10	\$63,600	Project Complete Final Report Approved
USU NPS I & E Outreach FY-10	\$37,000	Final Report Submitted Awaiting Approval
Lower Bear R TMDL Impl. FY-10	\$44,000	Ongoing
Middle Bear R TMDL Impl FY-10	\$136,000	Ongoing
Upper Bear R TMDL Impl FY-10	\$70,000	Ongoing
West Colorado River Watershed Improvement FY-10	\$45,000	Project Complete Awaiting Final Report
USU Septic System Ed. Enhancement FY-10	\$51,100	Project Complete Awaiting Final Report
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 Approved

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Salt Lake County Stream Guide FY-10	\$31,100	Project Complete Awaiting Final Report
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
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	Project Complete Awaiting Final Report
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	Project Complete Awaiting Final Report
USU Volunteer Monitoring and I&E FY-13	\$97,000	Ongoing
Strawberry River Restoration FY-13	\$275,140	Project Complete Awaiting Final Report
Duchesne River Restoration FY-13	\$149,481	Ongoing
TMDL Local Watershed Coordinators FY-13	\$340,000	Ongoing
USU Volunteer Monitoring Program FY-14	\$84,525	Ongoing
Local Watershed Coordinators FY-14	\$340,000	Ongoing
Wallsburg Watershed Restoration Project FY-14	\$150,000	Project Complete Awaiting Final Report
Jordan River Restoration Project FY-14	\$319,096	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	9/14/2010
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
Echo Reservoir	9/16/2014
Colorado River	6/17/2014
Rockport Reservoir	9/16/2014

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	7/31/2014
Strawberry River Watershed	12/18/2014
Spanish Valley Watershed Plan	Submitted to DWQ for Approval
North Fork of The Virgin River	Submitted to DWQ for Approval
San Pitch Watershed Plan (revision)	Initiated
Weber River	Initiated
Price River	Initiated
South Fork of Chalk Creek	Initiated
Spanish Fork River	Initiated
Pinto Creek	Initiated
Upper Sevier River (revision)	Initiated

TABLE F- STATE NPS FUNDS ALLOCATED IN 2014

Project Title	Watershed	Project Type	Amount Awarded
Rain Water Harvesting Exhibit	Jordan River	I&E	\$25,000
NPS Project Monitoring Equipment	Statewide	Monitoring	\$80,000
Mercury Take Back	Statewide	I&E	\$6,000
Kristen Klien Grazing	Bear River	Grazing/Fencing	\$25,000
Newcastle Mercury	Beaver	Mercury	\$5,000
North Fork Irrigation Project	Cedar Beaver	Irrigation	\$131,000
Watershed Coordinators	Statewide	Technical Assistance	\$30,000
Onsite Waste Water Operator Certification	Statewide	I&E	\$41,142
Wallsburg Septic Study	Jordan River	Study	\$15,000
La Sal Mountain Spring Development	South East Colorado	Stream Protection	\$11,500
Mark Hampton Stream Bank	San Pitch	Stream Bank	\$45,000
Cart Creek Watershed	Uinta Basin	Road Decommissioning	\$87,000
Parriette Draw Study	Uinta Basin	Study	\$60,000
Parriette Draw Assessment	Uinta Basin	Study	\$90,000

Dale Prince Stream Bank	Upper Sevier	Stream Bank	\$66,000
Clair Richins stream bank	Weber River	Stream Bank	\$35,000
Helper River Pilot Project	West Colorado	Stream Bank	\$35,000
Smith's Dairy AFO Project	Bear River	AFO	\$50,000
Bingham Creek	Jordan River	Stream Bank	\$50,000
John Adkins Stream Bank	Weber River	Stream Bank	\$5,000
Big Bend Habitat Restoration	Jordan River	Habitat	\$75,000
Stoner Ranch Conservation Easement	Weber	Easement	\$5,000
Nutrient Management Website	Statewide	I&E	\$10,000
Friends of Strawberry Valley I&E	Uinta Basin	I&E	\$3,000
Onsite Reserves	Statewide	Septic	\$14,358
Total			\$1,000,000

TABLE G- ADDITIONAL FUNDING CURRENTLY ALLOCATED IN CONJUNCTION WITH SECTION 319 FUNDING IN FY-14.

Funding Source	Amount
Utah State NPS Funding	\$726,775
Watershed Restoration Initiative	\$123,000
Bureau of Reclamation	\$2,167,000
Environmental Quality Incentive Program (EQIP)	\$1,227,050
County Funds	\$327,271
Total	\$4,571,096

TABLE H- SUMMARY CONSERVATION PRACTICES- NRCS FISCAL YEAR 2014

Utah FY2014 Summary – Conservation Practices	Planned (acres)	Applied (acres)	Planned Count	Applied Count
Above Ground, Multi-Outlet Pipeline (431) (ft)		1,025		1
Access Control (472) (ac)		5		1
Access Road (560) (ft)		2,717		1
Agricultural Energy Management Plan, Landscape - Written (124) (no)	32	2	32	2
Agricultural Energy Management Plan, Headquarters - Written (122) (no)	7	3	7	3
Agricultural Secondary Containment Facility (710) (no)	1		1	
Apply enhanced efficiency fertilizer products (WQL24) (ac)	1,784		156	
Brush Management (314) (ac)	16,534	14,423	160	117
Channel Bed Stabilization (584) (ft)	3,518	313	30	6
Clearing and Snagging (326) (ft)	307		3	
Composting Facility (317) (no)	1		1	
Comprehensive Nutrient Management Plan - Written (102) (no)		1		1
Conservation Cover (327) (ac)	1,791	5,115	52	48
Conservation Crop Rotation (328) (ac)	1,724	5,664	106	53
Conservation Plan Supporting Organic Transition - Written	32		32	

(138) (no)				
Cover Crop (340) (ac)	4,748	250	177	14
Critical Area Planting (342) (ac)	11	5	5	2
Diversion (362) (ft)	3,706	367	25	1
Dust Control on Unpaved Roads and Surfaces (373) (sq ft)		359,160		10
Fence (382) (ft)	550,350	204,855	157	79
Filter Strip (393) (ac)	1	3	1	4
Firebreak (394) (ft)	41,726		6	
Forage and Biomass Planting (512) (ac)	980	496	32	30
Forage Harvest Management (511) (ac)	1,449	1,249	52	35
Forest Management Plan - Written (106) (no)	7	4	7	4
Forest Stand Improvement (666) (ac)	109	121	3	7
Grazing management to improve wildlife habitat (ANM09) (ac)		1,246		33
Harvest hay in a manner that allows wildlife to flush and escape (ANM10) (ac)	2,291		203	
Heavy Use Area Protection (561) (ac)	3	0	3	1
Hedgerow Planting (422) (ft)	2,419		1	
Herbaceous Weed Control (315) (ac)	4,065	4,361	92	73
Integrated Pest Management (IPM) (595) (ac)	9,903	12,249	429	368
Irrigation Ditch Lining (428) (ft)	40,042	21,113	31	15
Irrigation Field Ditch (388) (ft)				
Irrigation Land Leveling (464) (ac)	671	163	48	9
Irrigation Pipeline (430) (ft)	432,746	333,467	464	343
Irrigation Reservoir (436) (ac-ft)	101	9	16	4
Irrigation System, Microirrigation (441) (ac)	85	84	27	21
Irrigation System, Surface and Subsurface (443) (ac)	83	336	8	9
Irrigation Water Conveyance (430) (ft)		282		2
Irrigation Water Conveyance, Pipeline, High-Pressure, Underground, Plastic (430DD) (ft)		12,657		16
Irrigation Water Management (449) (ac)	8,136	17,669	501	829
Irrigation Water Management Plan - Written (118) (no)	19	1	19	1
Land Clearing (460) (ac)	31		3	
Livestock Pipeline (516) (ft)	529,508	193,856	100	68
Monitor key grazing areas to improve grazing management (PLT02) (ac)		7,021		3
Mulching (484) (ac)	493	102	31	4
Nutrient Management (590) (ac)	6,404	6,306	355	293
Obstruction Removal (500) (ac)	625	4	14	4
Open Channel (582) (ft)	4,383		4	
Plant Tissue Testing and Analysis to Improve Nitrogen Management (WQL04) (ac)	1,830		164	
Pollinator Habitat Plan - Applied (147) (no)				
Pollinator Habitat Plan - Written (146) (no)				
Pond (378) (no)	3	25	3	7
Pond Sealing and Lining, Soil Cement (740) (no)				
Pond Sealing or Lining, Bentonite Sealant (521C) (no)	6	2	6	2
Pond Sealing or Lining, Compacted Clay Treatment (521D) (no)	4	2	4	2
Pond Sealing or Lining, Flexible Membrane (521A) (no)	3	4	3	4
Prescribed Burning (338) (ac)	1,300	9	1	2

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Prescribed Grazing (528) (ac)	95,824	140,035	266	389
Pumping Plant (533) (no)	132	53	114	54
Range Planting (550) (ac)	16,478	10,919	162	90
Recycle 100% of farm lubricants (ENR04) (no)		23		23
Renewable Energy System (716) (no)		1		1
Residue and Tillage Management, No-Till (329) (ac)	4,952	7,896	180	115
Residue and Tillage Management, Reduced Till (345) (ac)	46	1,964	4	52
Restoration and Management of Rare and Declining Habitats (643) (ac)		3		1
Retrofit watering facility for wildlife escape (ANM18) (no)		5		5
Riparian Forest Buffer (391) (ac)	4	1	9	1
Riparian Herbaceous Cover (390) (ac)	11	2	5	1
Rotation of supplement and feeding areas (WQL03) (ac)	56,722	7,021	79	3
Seasonal High Tunnel System for Crops (798) (sq ft)	88,426	25,669	51	20
Split applications of nitrogen based on a PSNT (WQL25) (ac)	1,784		156	
Split nitrogen applications 50% after crop/pasture emergence/green up (WQL07) (ac)	134		24	
Spring Development (574) (no)	12	5	12	5
Sprinkler System (442) (ac)	10,002	5,356	424	271
Stream Crossing (578) (no)	8		8	
Stream Habitat Improvement and Management (395) (ac)	7	13	5	2
Streambank and Shoreline Protection (580) (ft)	21,588	7,192	78	12
Structure for Water Control (587) (no)	241	220	223	179
Terrace (600) (ft)	28,751	46,354	13	6
Tree/Shrub Establishment (612) (ac)	8	55	7	14
Tree/Shrub Pruning (660) (ac)		2		1
Upland Wildlife Habitat Management (645) (ac)	80,847	133,824	91	94
Variable Frequency Drive Electric Motors (ENR09) (no)	1		1	
Waste Facility Closure (360) (no)	2		2	
Waste Separation Facility (632) (no)	3	2	3	2
Waste Storage Facility (313) (no)	5	4	5	4
Waste Transfer (634) (no)		2		2
Waste Treatment (629) (no)	1		1	
Water and Sediment Control Basin (638) (no)	5		5	
Water Harvesting Catchment (636) (no)	1		1	
Water Well (642) (no)	14	5	14	5
Watering Facility (614) (no)	207	6,624	162	105
Windbreak/Shelterbelt Establishment (380) (ft)	11,761	1,973	14	3
Woody Residue Treatment (384) (ac)	7,693	34	36	5

TABLE I- MILESTONES OF THE UTAH STATEWIDE NPS PROGRAM

Milestone	2013	2014
Objective 1: Environmental Protection:		
Number of TMDLs Completed	2	2
Number of TMDLs Initiated	Huntington Creek- Selenium Pelican Lake-pH Nine Mile Creek- Temperature	Huntington Creek-selenium Parley's Creek- E.coli Lower Bear River- TP Red Creek Reservoir-TP
Number of 9 Element Watershed Based Plans Developed	Strawberry River Duchesne River	Spanish Valley North Fork of Virgin
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	Price River Upper Sevier San Pitch Middle Green/Desolation Canyon Weber River North Fork of Chalk Creek Spanish Fork River Pinto Creek
Number of projects dedicated to the protection of threatened waterbodies identified in Utah's 303(d) list	0	(1) The Cart Creek Watershed project funded using State NPS funding.
Number of projects focused on groundwater protection throughout the state	One Septic I&E Program, One Groundwater outreach program.\$78,041 total in State NPS Funding	One Septic I&E Program, One Groundwater outreach program \$41,142. Bothwell ground water has continued to be implemented. \$14,358 for septic enhancements.
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	.71 miles of in-stream restoration 2.01 miles of riparian fencing
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	Phosphorus- 8,899 lbs/year Sediment- 8,942 tons/year E.coli- 3,100 lbs/year Nitrogen-20,385 lbs/year
Number of Final Project Reports Submitted	10 (See Table B)	9 (See Table B)
Number of 319 Grants Open During the Fiscal Year	6 (See Table5)	6 (See Table5)
Amount of Unexpended Funds in Each Open 319 Grant (As of June 30, 2014)	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)	FY-09- \$206,697 FY-10- \$148,287 FY-11- \$76,155 FY-12- \$295,598 FY-13- \$724,575 FY-14- \$893,621
Number of Success Stories Showing the environmental Benefits of Completed NPS	2- Cub River and East Canyon Creek	1- Fremont River

Projects Submitted to EPA for Approval		
Objective 3: Improve Public Participation and Understanding of NPS Issues		
Number of Participants Involved in the Statewide Volunteer Monitoring Program	196	448
Number of I&E Projects Implemented with Section 319 and State NPS Funding	3 projects -AFO Outreach (NPS) -Septic I&E Outreach (NPS) -Volunteer monitoring program (319)	6 projects -AFO Outreach (NPS) -Septic I&E Outreach (NPS) -Volunteer monitoring program (319) -Mercury Take Back (NPS) -Strawberry Valley I&E (NPS) -Rain Water Exhibit (NPS)
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.	We have begun working with USU Extension to create a website focused solely on NPS pollution. This will include an interactive map showing where projects have taken place in the state as well as movies highlighting the NPS projects that have been implemented throughout the state.
Objective 4: Improve Data Collection and Management		
Track Updates Made to Enhance NPS Monitoring in the Division of Water Quality's Annual Monitoring 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.	The equipment that was purchased in 2013 has been distributed to the local watershed coordinators, and a training was conducted during the summer of 2014 showing the local watershed coordinators how to use this equipment.
Number of SAPs Developed	8	1- Many of the SAPs needed throughout the basins were developed last year. It is anticipated that several more will be developed next year.
Track Status and updates of AWQMS database	See Section 4.4 of this report	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	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	Held February 26 th , 2014
Conduct Annual Consistency Reviews with State and Federal Agencies	Conducted August 13 th and 14 th , 2013.	Conducted October 7 th and 8 th , 2014
Number of Water Quality Task Force Meetings Held During the Fiscal Year	Three meetings were held. October 10 th 2012, February 14 th , 2013, and May 22 nd 2013	Three meetings were held. August 7 th , 2013, November 19 th , 2013, and May 19 th , 2014.

Amount of Funding Used to Leverage 319 Funding Throughout the State	\$1,970,887 (See Table G)	\$4,571,096 (See Table G)
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TABLE J- FY-14 BLM WRI PROJECTS

2014 UT WRI Funded/Implemented projects					
ID	Title	Spent	Acres Treated	BLM Acres	%BLM
2869 Total	Big Hollow Discretionary Seed Project	\$ 5,244	76	1	1
2260 Total	San Rafael River Restortion Phase III	\$ 115,967	1110	25	2
2562 Total	Marshall Draw / Warren Draw Lop and Scatter	\$ 24,081	946	139	15
2218 Total	Moon Ridge Chaining	\$ 208,531	541	129	24
2593 Total	South Book Cliffs Vegetation Improvement Phase 1	\$ 177,183	343	95	28
2628 Total	Steer Ridge Lop and Scatter	\$ 22,629	566	193	34
2234 Total	Little Mountain Lop and Scatter Phase I	\$ 12,451	472	201	43
2635 Total	Jack Trap Canyon	\$ 68,970	334	192	57
2626 Total	Moonshine Bullhog Phase III	\$ 85,750	426	305	72
2203 Total	Pine Springs bullhog phase II	\$ 190,227	495	361	73
2574 Total	West Grouse Creek Bullhog Phase 2	\$ 302,060	1079	851	79
2640 Total	Indian Springs Bullhog Maintenance	\$ 16,643	610	525	86
2696 Total	Upper Kanab Creek Phase II Bullhog - Bald Knoll	\$ 510,814	1425	1227	86
2666 Total	Escalante River Watershed Restoration Phase 6	\$ 216,973	182	168	92
2227 Total	South Beaver Vegetation Enhancement Year 7	\$ 385,201	1367	1300	95
2577 Total	FY14 San Pitch Mountains Fuels Reduction and Habitat Restoration	\$ 59,779	853	830	97
2547 Total	Parker Front PJ removal	\$ 313,671	899	896	100
2268 Total	Bake Oven Sagebrush Restoration	\$ 23,786	129	129	100
2614 Total	Eureka/East Tintic Squarrose Knapweed Treatment	\$ 24,257	654	653	100
2575 Total	Stockton Sagebrush Enhancement	\$ 54,068	496	495	100
2571 Total	Stockton Bullhog Phase 3	\$ 227,635	803	802	100
2866 Total	Grimes Wash BLM Stewardship P/J Removal	\$ 5,203	181	181	100

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2177 Total	Dark Canyon Phase I (formerly Beef Basin Phase 1)	\$ 167,346	236	236	100
2554 Total	Black Ridge Fuels Reduction and Vegetative Restoration - Phase III	\$ 120,019	637	637	100
2616 Total	Horse Canyon Fuel Reduction and Habitat Restoration- Phase II	\$ 440,192	1088	1088	100
2589 Total	Park Ridge bullhog maintenance	\$ 11,684	474	474	100
2534 Total	Onaqui East Bench Bullhog Phase 2	\$ 327,769	1221	1221	100
2527 Total	East Tintic Bullhog Phase 2	\$ 253,702	996	996	100
2465 Total	Anthro Mountain P-J Treatment	\$ 92,006	403	403	100
2291 Total	Little Valley Fuels Reduction and Habitat Improvement FY14	\$ 11,000	137	137	100
2540 Total	Dugout Creek Fuels Reduction and Habitat Restoration: Phase III	\$ 201,160	507	507	100
	Fire Rehabilitation (Fires: Rocky Complex, Rush Lake, Black Mountain, Gap)	\$ 1,417,007	6222	5249	
		\$ 6,093,007		20,646	