UTAH
NONPOINT SOURCE
POLLUTION MANAGEMENT PROGRAM

FISCAL YEAR 2010
ANNUAL REPORT

January 2011
Prepared by:
Utah Department of Environmental Quality
and
Utah Department of Agriculture and Food
in cooperation with NPS Task Force

ACKNOWLEDGEMENTS

Appreciation is expressed to the following individuals for contributing information and writing portions of this report: Roy Gunnell, WD Robinson, Jack Wilbur and Mark Quilter, Utah Department of Agriculture and Food; Chuck Gay, Nancy Mesner and Rhonda Miller, USU Extension; Gordon Younker, Utah Association of Conservation Districts; Norm Evenstad, Natural Resources Conservation Service; Bill Goodman, Forest Service; Lisa Bryant, Bureau of Land Management; Dave Thoma, National Park Service; Ben Radcliffe, US Bureau of Reclamation; Rory Reynolds, Mike Eriksson, Utah Department of Natural Resources; Scott Stoddard, U.S. Army Corps. of Engineers; Carl Adams, Robert Bird, Stacy Carroll, and Jim Harris, Utah Division of Water Quality. The DWQ also appreciates the progress reports submitted by the Local Watershed Coordinators as follows: Upper Sevier, Wally Dodds; Middle and Lower Sevier, Lynn Koyle; San Pitch, Tom Shore; West Colorado, Daniel Gunnell; Uinta Basin, Gary Weiser; Jordan River, Marian Hubbard; Upper Weber, Lars Christensen; Lower and Middle Bear, Jim Bowcutt; Upper Bear, Taylor Payne & Brady Thornock; and Bear Lake, Mitch Poulsen.

Thanks is also expressed to Gary Kleeman, Watershed Team, US Environmental Protection Agency, Region 8 in Denver for his review and input to the report.

Cover Photo: Stream restoration photos from High Creek taken by Jim Bowcutt, with Utah State University Extension.

Table of Contents

I. 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 enumeration of all nonpoint source activities, it describes the most important features of Utah's nonpoint source program.

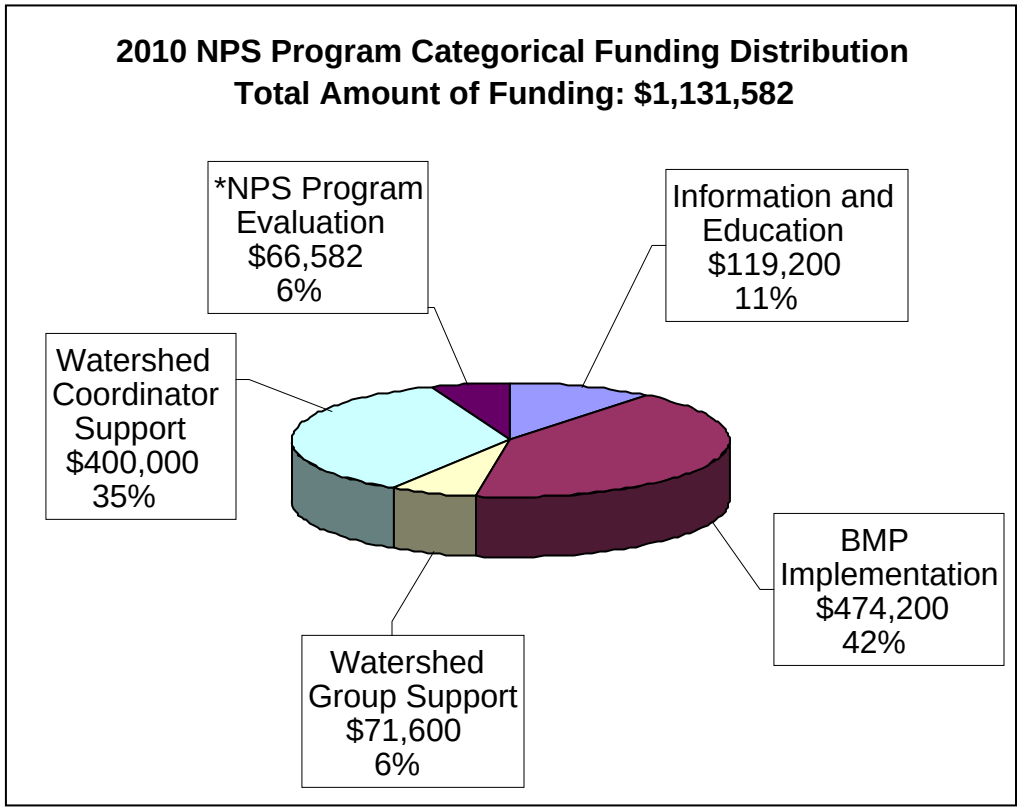
The mission of the Utah Nonpoint Source Pollution Management Program is to support the environmental protection goals of the state as described in the Utah Administrative Code R317-2 in part to: 1) to conserve the waters of the state; 2) to protect, maintain, and improve the quality of the waters of 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 and even have more cumulative impacts in lakes and reservoirs. Non point source (NPS) pollution is diffuse, generally not coming from a discrete point such as a pipe but as a result of land runoff, percolation, precipitation or atmospheric deposition. Rain and other forms of precipitation wash 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, salt 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) that are listed on the State's 2008 303(d) List of Impaired Waters are on the list 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 forestry operations, recreational activities, onsite septic treatment systems, construction, stream/riparian habitat degradation and natural sources.

II. Grant Management and Program Administration

In Fiscal Year 2010 (FY-10) the Utah NPS program received $1,773,800 in federal section 319(h) funds. Of these funds, $708,800 was used for staffing and support, while the remaining $1,065,000 was dedicated to 14 projects across the State of Utah. In addition to these funds an additional $66,582 was recertified from prior funding years to help conduct an in-depth evaluation of Utah's NPS Program. 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 government entities, watershed groups and individual cooperators. The projects selected for funding consisted of information and education projects, support of local watershed coordinators, Best Management Practice (BMP) implementation, and watershed group support, (See Figure 1).

Figure 1



*This project was supported by funds that were transferred from previous funding years.

In addition to the FY-10 funds Utah continues to manage five other federal grant awards, which have been partially or completely expended. Table 1 summarizes grant awards by year and the approximate percentage that has already been expended in each grant.

Table 1

Current Section 319(h) Nonpoint Source Funding Project Allocations				
Federal Fiscal Year	**Grant Award**	**Expenditures in FY-10**	**Total Expenditures**	**Percent Expended**
FY-05	$1,308,400	$275,017	$1,308,400	100%
FY-06	$1,219,600	$87,433	$907,445	74%
FY-07	$1,126,500	$450,530	$668,409	59%
FY-08	$1,161,585	$391,736	$682,628	59%
FY-09	$1,119,400	$297,908	$297,908	27%
FY-10	$1,131,582*	$2,523	$2,523	0.2%
Total	**$7,067,067**	**$1,505,147**	**$3,867,313**	**55%**

*Includes $66,582 from prior funding years

1) Staffing and Support

DEQ, Division of Water Quality continues to devote about 6.5 FTEs to the NPS Pollution Management Program that are funded 60% with 319 funds and 40% state revenue. Those positions include the following: NPS Program Coordinator; one full time monitoring position; 2.4 FTEs devoted to watershed planning and TMDL development; 0.4 FTE devoted to groundwater assessment and protection; two seasonal monitoring positions (0.7 FTE); and nearly 1 FTE supporting program management and administration.

Section 319 funds allocated to staffing and support functions are also utilized to pay for laboratory support and report preparation. This includes laboratory analysis of water samples. Phytoplankton samples are also 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.

The Utah Department of Agriculture and Food's (UDAF) Environmental Quality Section via contract with DEQ has management and statewide responsibility for the agricultural component of the NPS Program. UDAF received $235,245 in FY-10 319(h) funds to help fund 4 positions which include:

NPS Information and Education Coordinator (1 FTE) - This position oversees many of the outreach projects throughout the state. This includes workshops, press releases, articles, and other water quality propaganda.

Account Technician (1 FTE) - The responsibilities of this position include preparing nonpoint source contracts and processing payment requests. They are also in charge of tracking all contract funding and transactions of 319 funds managed by UDAF.

Program Tracking Specialist (1 FTE) - This employee collects information and reports from local project coordinators, then imports data into the Grant Reporting and Tracking System (GRTS).

Environmental Quality Section Manager (1 FTE) - Facilitates and assists with the development of the proposals and project implementation plans submitted by local watershed coordinators. H also administers three fiscal year statewide AFO 319 grant project implementation plans.

2) Milestones

- Utah continues to finish out older contracts. The FY-05 contracts will be closed in September of 2010. The majority of these projects have already been closed. Final reports have been received for all projects but three. Information will be entered into GRTS as it becomes available.
- Utah has developed a yearly basin funding approach. The purpose of this approach is to allocate the majority of the funds from each year to a targeted watershed. Funding will be based on a six year funding cycle.
- The NPS Task Force joined forces with other supporting agencies to sponsor the 20th Annual Nonpoint Source Water Quality Conference held October 5th-7th, 2010 in Richfield, Utah. The theme of the conference was "Landscape Approach to Watershed Health".

- The NPS Task Force continued to meet throughout the year. Meetings were held September 9th, 2009, December 15th, 2009, March 30th, 2010, and May 27th, 2010.
- The Utah Watershed Coordinating Council (UWCC) continues to meet 3 times per year to exchange information, provide training and promote the local ownership and development of watershed restoration plans.
- The Utah State Monitoring Council was organized, and meets 3 times a year. This council consists of several state and federal agencies that have a vested interest in water quality monitoring. Monitoring effectiveness and monitoring goals of the various agencies are discussed in these meetings.
- Utah State University has been contracted to do an in-depth evaluation of the Utah State NPS program. This evaluation will help determine if there are more effective ways to run the NPS program. It will also look at the effectiveness of the practices that are currently being installed to reduce nonpoint source pollution. This evaluation has already begun, and is scheduled to be completed by the spring of 2012. Preliminary results of the evaluation may be available as early as September of 2011.
- Utah continues to improve NPS contract close-out practices. During FY-10, the NPS team closed out 62 projects from the FY-01 through FY-06 grants. In addition, project closing instructions and expectations, such as final invoice, match reconciliation and final reports, are being communicated more clearly and systematically to project sponsors. To see the Projects that were closed in FY-10 see table A in the appendices.

3) Summary of Active Utah 319(h) Grants during FY-10 -For an entire summary of active Utah 319(h) projects see Table B in the appendices.

4) Watershed Based Plans/ TMDLs- Summary

Section 303(d) of the federal Clean Water Act (CWA) requires states to develop and submit for approval a list of waters targeted for Total Maximum Daily Load (TMDL) development every two years. This is referred to as the 303(d) list. The most recent version of the 303(d) list published for the state of Utah was issued in 2006. Currently the State of Utah has 64 waterbodies that are currently implementing TMDLs or watershed plans (See Table C and D in the appendices). The Utah Nonpoint Source Management Plan that was developed in October of 2000 determined that all impaired waterbodies in the state of Utah should have a TMDL established by 2010. However, due to the increased complexity of the TMDLs currently in progress within the more heavily populated watersheds of the state, the pace of TMDL submissions has decreased. It should be noted that all waters listed in 1998 have, or are in the process of having, TMDL studies completed on them. Additionally, a comprehensive tracking tool for TMDLs and waterbody assessments has been provided by EPA that will assist in accurately reporting TMDL completion status.

5) Project Proposals Approved for Funding During FY- 10 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. Twenty-five pre-proposals were accepted from the middle of April to the end of May for the 2010 fiscal year. These pre-proposals were reviewed by the Utah Division of Water Quality using a project selection ranking criterion. After reviewing and ranking all proposals, a draft funding recommendation list, consisting of 15 projects, was presented to the Environmental Protection Agency for approval. While $1,861,892 was requested by these applicants only $1,065,800 was awarded (see table 2).

Table 2

2010 Project Implementation Plans (PIPs) for CWA Section 319 Funding
(Prepared December 16th 2010)

	Proposal Type & Title	Requested	Base Funds Final
Information & Education (I & E) and T.A.		Amount	Allocation
1.	Pot Creek Water Quality Improvement	$75,000	$63,600
2.	USU Septic System Ed. Enhancement	51,100	51,100
3.	Local Watershed Coordinating Council	30,000	30,000
4.	USU NPS I&E Outreach	600	600
	Sub Totals	$156,700	$145,300
Planning, Tech. Assist. and Implementation			Incremental Funds
4.	USU NPS I&E Outreach	$ 36,400	$ 36,400
5.	Lower Bear River TMDL Implem.	200,000	80,000
6.	Middle Bear River TMDL Implem.	330,000	100,000
7.	Upper Bear River Riparian Restor. BLRC	15,600	15,600
8.	Upper Bear AFO/ CAFO & Riparian	200,000	70,000
9.	East Canyon Stream Restoration	102,000	50,000
10.	Mud Ck/ Scofield Riparian Restorat..	205,800	50,000
11.	Salt Lake Co. Stream Guide	62,210	31,100
12.	Jordan R Council Capacity/ I&E	41,600	41,600
13.	West Colorado R Watershed Improve.	45,000	45,000
14.	TMDL Watershed Coordinator Support	400,000	400,000
15.	*319 Project Program Evaluation	66,582	66,582
	Sub Totals	$1,705,192	$986,282
	Grand Total	$1,861,892	$1,131,582

*This project was supported by funds that were transferred from previous funding years.

III. NPS Program Strategic Approach

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

1) Targeted Basin Approach

The State of Utah has decided to implement a targeted basin funding approach to help reduce the impacts of nonpoint source pollution. FY-10 was the first year of a six year cycle that will

allocate the majority of the state nonpoint source funds to a targeted watershed (See Table 3). The target basin approach will help identify areas of concern, estimate project effectiveness, and facilitate project planning and reporting. The Bear River Watershed was the first watershed to receive funds using this approach, receiving 60% of the funds available for project implementation in 2010. In future funding years it is anticipated that an even higher percentage of the funds will go toward the target basin.

Table 3

Basin Priority Funding Schedule											
Watershed	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
(1) Jordan/ Utah lake											
(2) Colorado River											
(3) Sevier, Cedar-Beaver											
(4) Bear River											
(5) Weber River											
(6) Uinta Basin											

2) Utah State NPS Funding

While 319 funds have historically been the main source of funding for NPS pollution projects in the State of Utah, additional state funding has become available to help implement NPS projects throughout the state. This additional funding will occur in the form of State NPS Source funds. These funds are acquired from interest accumulated from loans given by the water quality board for private and municipal water treatment facilities. Individuals, businesses, private entities, associations, and government agencies are eligible to receive these grants. Much like section 319(h) funds all project proposals received are prioritized. The highest priority projects are those that address a critical water quality need, will improve human health concerns, or would be not be economically feasible without the grant. In the 2010 fiscal year twenty-one projects, totaling $640,504, were selected for funding with State NPS funds. For a complete summary of FY-10 funded projects see table E in the appendices.

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 UDAF 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 has begun to provide State NPS funds as match to selected 319 projects to provide an additional incentive to implement BMPs.

There are several State programs which have been very helpful in generating match for the 319 projects. The Division of Wildlife Resources manages a couple of state general fund grant programs (Habitat Council funds and Blue Ribbon Fishery program) designed strictly for the improvement of all habitat types on public and private lands. The Utah Conservation Commission manages an Agriculture Resource Development Loan Program, ARDL, which in recent years has been expanded to include water quality improvement purposes on farms and ranches. These state programs are tremendous assets to the improvement of water quality in this state. The relatively new Watershed Restoration Initiative Program through the Department of

Natural Resources and the Grazing Improvement Program at the Utah Department of Agriculture and Food both provide state revenue to improve upland and riparian areas throughout the state. Occasionally these programs provide match for 319 revenues in jointly funded projects. Table G in the appendix reflects the project match accrued from FY-05 throughFY-10 using these additional state funding sources.

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. The Utah Department of Agriculture and Food also provides state revenue to match the portion of those funds passed through to UDAF via an annual contract.

Table 4

Grant Year	319 Funds Spent in FY-10	Match Accrued in FY-10	Total 319 Funds Spent	Total Match Accrued
FY-05	$275,017	$183,345	$1,308,400	$872,266
FY-06	$87,433	$58,289	$907,445	$604,963
FY-07	$450,530	$300,353	$668,409	$445,606
FY-08	$391,736	$261,157	$682,628	$455,086
FY-09	$297,908	$198,605	$297,908	$198,605
FY-10	$2,523	$1,682	$2,523	$1,683
Total	**$1,505,147**	**$1,003,431**	**$3,867,313**	**$2,578,209**

4) Integrating Watersheds and NPS Funding (Basin wide summary)

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

Middle and Lower Sevier River Watershed- Lynn Koyle

During FY-10 work continued on the Stream Visual Assessment Protocol (SVAP) survey of the Middle Sevier River. The river was broken down into sections by vegetation types, slopes, and irrigated or non irrigated areas. Channel condition, hydrologic alterations, bank conditions, riparian quantity and quality, water appearance, and nutrient enrichment were evaluated in the survey.

There are several river restoration projects planned for the near future, however the EQIP funds that landowners applied for did not materialize. The local watershed coordinator is working on other sources of funding to match the 319 funds, including State NPS Grants and ARDL loans.

In 2010 four projects were completed. These projects included three stream bank restoration projects and one animal feedlot relocation. There has also been significant progress made on the development of the watershed plan for the Sevier Watershed.

Scofield and West Colorado Watershed- Daniel Gunnell

Project implementation continues in the Scofield and West Colorado watershed. During FY-10 two riparian projects have commenced, and financial assistance has continued to be provided to help the DWR complete work on Mud Creek, in the Scofield drainage. Other projects have also been identified, including erosion issues on irrigation canals and range management projects. Additional proposals have been submitted to help obtain funding for these projects.

Significant information and education efforts have taken place in the watershed. These projects include the marking of storm drains in urban areas, and organizing a Stream Side Science day. The Stream Side Science activity focused on children from 4th- 9th grade. It taught the kids the importance of water, and what they can do to help protect our rivers and streams.

The local watershed coordinator also continues to facilitate meetings for local watershed groups, assist with monitoring, and conduct inventories of local animal feeding operations. He has also attended various trainings that will help him become a certified conservation planner.

Jordan River Watershed- Marian Hubbard

With the use of the South Valley Water Reclamation Funds, County match, and 319 funds, Salt Lake County is in the process of constructing an overland flow wetland complex for improvement of water quality in the 8600 South Storm Drain that discharges into the Jordan River. Restoration Work has also recently started along 8600 South to 9000 South along the Jordan River. 319 funds have also been acquired to help reconstruct the Alta Wetland Fen. Additional planning will be required before the project can be undertaken.

Salt Lake County has begun a large restoration project with $1.5 million in grant funds to restore 7,000 feet of the Jordan River. Construction is scheduled to occur in the fall of 2010. Salt Lake County is also partnering with Salt Lake City using ARRA funds to treat four additional sites, by restoring bank stability. Construction has been completed on these sites and re-vegetation is currently taking place.

In addition to project implementation, monitoring has also been one of the main areas of focus on the Jordan River. The data collection includes: *E. coli*, flow, and a suite of multi-parameter analyses such as DO, pH, TSS, Salinity, Conductivity, ORP, and Temperature, as well as macroinvertibrate sampling. This data will be used to create water quality models and update future watershed plans.

An effort has also been made to educate the general public about the Jordan River, and the environmental issues that exist. To do this the county launched the “I Love the Jordan River Campaign”. This campaign includes interactive games and a fun booth. Prizes are awarded to participants, which also help spread the message of the Jordan River and watershed stewardship. Since the start in April 2010 they have participated in approximately nine events and have many more planned throughout the year.

Weber River Watershed- Lars Christensen

There are currently four TMDLs that are being implemented in the Upper Weber Watershed. These TMDLs include: East Canyon Creek, Chalk Creek, Echo Creek and Silver Creek. Due to the large gap in time between watershed coordinators there were very few projects in the implementation phase when the current watershed coordinator was hired. However, the new

watershed coordinator has been able to find several projects to implement. It is anticipated that several projects will be ready to go on the ground during the next funding year, when the Weber Watershed receives the bulk of NPS funds. Stream restoration projects have been implemented in the Swaner Nature Preserve on Kimball Creek. The local coordinator has been actively involved in planning for future projects by conducting environmental assessments, obtaining the necessary permits, and completing cultural resource inventories.

The local watershed coordinator has also assisted with monitoring efforts in the watershed. This data will be used for future watershed planning and to document project effectiveness in the coming years. He has also taken an active role working with local conservation districts and watershed groups.

Middle and Lower Bear River Watershed- Jim Bowcutt

Several projects are currently under way in the Middle Bear River Watershed. In FY-10 one stream bank project was completed, and several others began implementation. Currently there are two riparian enhancement projects that are under way, one of which includes fencing seven miles of river in the upper end of the watershed. There are also two animal feeding operations that have begun construction. Both of these projects should be completed by December 2010. Terraces are also being installed on select fields to help reduce sediment entering into Cutler Reservoir during spring runoff and large storm events.

There are currently two projects that are in various stages of planning in the Lower Bear River Watershed. There is one riparian protection project, and one animal feedlot improvement project. The riparian project should be completed by spring of 2011 and the feedlot should be finished by November of 2010.

The local watershed coordinator has also conducted several information and education activities. The main areas of focus have been manure management, and the proper disposal of pharmaceuticals. Fact sheets and other propaganda have been developed to help get the message to the public.

In addition to project implementation the local watershed coordinator has also been involved in facilitating meetings for local watershed groups, gathering water quality data through monitoring, and submitting proposals for additional grants to help fund various projects throughout the watershed.

Upper Bear River Watershed- Brady Thornock

Popularity of watershed improvement projects have grown over the last few years in the Upper Bear River Watershed. In the last year, four fencing projects helped pull animals off the river, one animal feeding operation was corrected, and one stream bank stabilization project was undertaken. There are also other projects that are in various stages of project planning.

Education and outreach have also been areas of focus in the past year. Several tours were conducted to highlight the efficiencies and benefits of various BMPs. A producer dinner was also held to recognize landowners that had installed these practices.

The Upper Bear River Watershed coordinator has been very involved in organizing a grazing allotment, which will help several landowners develop a grazing management plan. This management plan will encompass all of their land into a joint grazing system. This will help

reduce the impacts of grazing throughout the watershed, and decrease the amount of sediment and nutrients reaching local waterbodies.

San Pitch Watershed

Various projects have taken place in the San Pitch Watershed during the 2010 fiscal year. One project helped improve pasture management, and helped re-seed 118 acres of pasture to prevent sediment from entering waterbodies from overland flow. Five irrigation improvement projects were also completed during this time period. These improved irrigation systems will help reduce the amount of total dissolved solids, sediments, and nutrients that enter into neighboring streams and rivers via overland flow. Three stream bank projects were also completed, covering over 6,400 linear feet of stream bank. While there is still a large amount of funding that has not been spent from the remaining 319 contracts, all the remaining funds have been allocated. Implementation of these projects should take place within the next two years.

A watershed education day was held on April 6, 2010 at Snow College for the North Sanpete and South Sanpete School Districts. This involved 24 presenters and a total of 431 fourth-grade students for the entire day as well as some parents who were helping the teachers with the students.

Upper Sevier Watershed- Wally Dodds

Three projects were completed in FY-10 in the Upper Sevier watershed. One project was a fuel reduction project in the South Canyon/ Five Mile area. This project focused on clearing junipers and pinion pines from rangeland. This should help reduce the frequency of fires thus reducing erosion in the watershed. Two riparian projects were completed. One project involved fencing both sides of the river to restrict cattle from damaging the riparian area. The other project installed rock structures and planted willows to reduce erosion. In addition to the projects that were completed two additional projects are also in the final stages of implementation.

The Upper Sevier Coordinator is also extensively involved in outreach and educational activities. These activities included a spring watershed tour, the production of educational newsletters, and participation in a local natural resource field day. He also put on two workshops that helped inform local watershed groups of the success that they are having in their planning efforts.

The local coordinator is actively involved in local conservation district meetings. He also helps facilitate and support the Upper Sevier Committee. He also serves on the Sage Grouse Planning Committee and as chairman of the Color County Cooperative Weed Management Area. He is constantly approaching landowners in need of financial assistance to improve the riparian corridor, and is currently working with three different individuals to obtain additional funding.

The Uintah Basin- Gary Wieser

The Uinta Basin coordinator position sat vacant for several months during the 2010 fiscal year. A new watershed coordinator has recently been hired, and is building relationships with the local landowners. Work continues to progress in the Calder/ Pot Creek watershed. The Division of Wildlife Resources, along with Uinta County, have partnered on this project. This project includes road improvements, and the installation of erosion control structures. Much of the work has been done, and replanting will occur in the fall of 2010, or spring of 2011.

The local watershed coordinator also helped facilitate meetings for the Uinta Basin Watershed Council. There was a large effort to recruit additional members of the council. The larger group will then be divided into smaller sub-watershed work groups that will assist with the development of watershed plans. Funds were acquired from the UWCC to help purchase outreach and education materials to help establish these groups.

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 and Utah Department of Agriculture and Food (UDAF) in the holistic management of Utah's watersheds, with a focus on reduction of nonpoint source pollution.

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

Specific Products of the Utah Water Quality Task Force include:

- The Annual Utah Nonpoint Source Program Report. This report is required by EPA, but is not restricted to 319 funded efforts. The report is prepared by DEQ in coordination with UDAF. 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, the Utah Partners for Conservation and Development, and the Utah Conservation Commission.
- Organize an annual NPS Conference to share information, highlight successes, and improve networking throughout the state and region.
- Provide annual water quality awards to individuals and organizations whose actions or products have protected water quality and exemplified good stewardship of our waters.
- 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

Utah Monitoring Council- Robert Bird

The Utah Water Quality Monitoring Council was formed in late 2009. The goal of the council is to promote volunteer monitoring between cooperative agencies, schools, citizens and the Division of Water Quality. The council met in February, June, and October of 2010. The first meeting

was held in conjunction with the annual cooperators meeting where they introduced the Monitoring Council and stated the purpose and goals. The last meeting was held in conjunction with the Watershed Coordinating Council. By meeting like this they were able to foster better attendance with those agencies which currently assist in monitoring and draw on their knowledge and experiences with their volunteer monitoring.

Currently the Utah Water Quality Monitoring Council has a very small citizen based volunteer monitoring program and they are in the process of working with Utah State University to bolster this. They are working to enhance their Lake Watch program and are drawing on their citizen based programs to gain ideas on how to expand citizen based monitoring.

The Utah Water Quality Monitoring Council has also used these meetings to gain greater participation in the *E.coli* monitoring program. They have used several federal cooperating agencies to put the *E.coli* processing equipment and incubators in different areas of the state thus allowing them to sample for E. coli and send the results into the state.

They have also presented the Ambient Water Quality Management Systems (AWQMS) data base, which will serve as the new water quality information database, and are working on customizing templates to better aide in data entry and data requests from cooperators. Data input from the different agencies will be sent to a staging area where QA/QC protocols are performed on the data before it is entered into AWQMS and sent to the EPA.

6) Grants Reporting and Tracking System

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

DEQ is the lead agency for administering the 319 Program. Because most of the project grants are agricultural related, much of the grant funds are passed through to UDAF. As a result, UDAF plays a critical role in maintaining the GRTS database. Essential training of UDAF staff in this system continued during FY-09 through attendance at the national user group conference. UDAF will continue to maintain GRTS information for all active 319 projects in the state of Utah. DWQ will continue to oversee DWQ administered contracts including the tracking and review of all reports. Upon completion, mid-year and annual progress reports will be forwarded to UDAF for entry into GRTS. Also as 319 Project Final Reports are completed and approved by DEQ with EPA concurrence, those reports are sent to UDAF for entry into the GRTS database.

IV. Water Quality Information

1) Sampling and Assessment Activities- Jim Harris

As more restoration is implemented around the state, monitoring 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 water quality. 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 Utah's Comprehensive Assessment of Stream Ecosystems (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 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 2010, the majority of the biological monitoring occurred as part of the Probabilistic Surveys performed in the Jordan River /Utah Lake and the Colorado River basin and as a result there were few sites targeted specifically for the evaluation of nonpoint source projects utilizing UCASE protocols. However, the focus of the Targeted Monitoring Program which collects primarily water chemistry data was centered on the Jordan River and Utah Lake watersheds as well. 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 TMDL staff to identify particular assessment and evaluation needs to meet their programs

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.

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 concern 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 Stategic 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.

2) Ground Water Protection

Ground water protection remains an area of interest in the state of Utah. In the past various projects were funded using 319(h) funds to help analyze ground water around the state. In FY-2010 $25,000 of State NPS funds were contracted to the Utah Geological Survey to help classify the aquifers in Davis County. By understanding the locations and classifications of local aquifers, contamination of ground water can be avoided. As urban development continues to increase throughout the State of Utah, groundwater protection will continue to be an area of focus for the State Division of Water Quality.

V. Outreach Activities- Jack Wilbur

Nonpoint source outreach and education efforts are constantly taking place across the state. These outreach efforts are generally a collaborated effort between Utah State University Extension, local watershed coordinators, and the Utah Department of Agriculture and Food.

In 2010 the Utah Nonpoint Source statewide information and education program continued to support the Utah Nonpoint Source Conference, continued publishing Utah Watershed Review and continued the watershed outreach mini grant program in three watersheds, among other highlights.

The annual Utah NPS Conference was held in Richfield, Utah in October. The conference was attended by about 80 water quality professionals from throughout Utah. The event featured conference sessions Tuesday afternoon, an awards barbecue on Tuesday night, conference sessions all day Wednesday and a day-long watershed tour on Thursday.

The Statewide I&E coordinator continued working with local watershed groups in FY 10, including the three watersheds awarded outreach mini grant money from Utah State University, by way of Wilbur and UDAF. By the end of 2010 outreach plans were developed for the Price River, San Pitch and Cutler/Lower Bear River watershed. These plans included the development of informational surveys that identified water quality issues that needed to be addressed in each watershed. Wilbur's involvement in the individual committees decreased after the surveys were completed and the results were analyzed. Each watershed went in a somewhat different direction. The San Pitch watershed committee plans to use their remaining funds to create a septic system map of the watershed which can overlay a map of the critical recharge areas and other vulnerable areas of the watershed. In the Price River and Cutler/Bear River watersheds, the local committees were preparing advertisements promoting positive water quality behaviors. In Price River, general storm water awareness and behavior changes such as recycling used oils and not letting fertilizers run off into ditches were the main areas of focus. In the Cutler area of Cache Valley, properly disposing of prescription medications is the main issue being tackled.

Wilbur continued to work with the East Canyon Watershed I&E committee to research and implement social marketing and education campaigns designed to change behaviors among specific audience groups within the watershed. The first phase of the effort, targeting dog owners, continues to be in the implementation phase. A radio and print advertising campaign, "scoop it: it's what best friends do," ran in February and March 2009, and again in October and November. In 2010, they initiated a campaign targeting storm water pollution in yards and neighborhoods.

Wilbur continued his work as co-chair of the national States-EPA NPS Outreach Workgroup by conducting workshops and presentations to groups in several parts of the country, including Vermont, and New York. Additionally he continued to work with watershed groups within EPA's Region III as a special advisor to their social marketing assessment and implementation efforts.

Utah Watershed Review, a newsletter highlighting watershed issues, was published three times in 2010. Due to in-state travel restrictions, Wilbur will have to rely more on watershed coordinators and statewide representatives from other agencies to provide material to keep the publication vital and informative.

VI. State 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. They are trusted and provide local leadership to identify resource needs and assist private property owners/managers obtain the resources to addresses those needs. The districts and UACD work in partnership with the Utah Division of Water Quality, Utah Department of

Agriculture and Food, and other state and federal agencies to implement the Clean Water Act, Section 319 projects throughout Utah.

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

UACD provides for state-level NPS contract administration and coordination of member conservation districts' contracting with NPS program participants. Various reimbursable contracts are entered into with the Utah Department of Agriculture and Food and the Utah Division of Water Quality for cost-sharing with landowners implementing agricultural related projects. Further, UACD provides payroll, accounting, and personnel management for conservation districts employing staff, including NPS program watershed coordinators.

2) Utah State University Extension- Nancy Mesner (USU Water Quality Extension Specialist & Rhonda Miller (USU Agricultural Environmental Quality Extension Specialist)

During the 2010 calendar year, Utah State University Water Quality Extension again provided outreach and education programs and materials for Utah's Nonpoint Source Program. Each year we solicit input from our various partners and clients in the state. We use this input to determine which of our past efforts have been effective and to identify new and emerging needs. We continue to develop and implement our own programs but also draw upon high quality programs and materials developed by others in our national network of Extension Water Quality Programs. Our outreach efforts are partially funded by an annual 319 outreach grant but we also utilize other external funds, including several grants from USDA and EPA.

USU Extension's NPS ongoing programs include youth outreach, teacher education and training, Utah's water quality awards, and assistance to watershed groups. This year we continued to expand our citizen monitoring efforts, completed our BMP monitoring training materials, and distributed materials to the state developed by other Extension programs, such as a web site devoted to well water quality protection, an updated toolkit for analyzing water testing results, and a DVD on septic tank care.

USU Water Quality Extension has been a national leader in assessing the effectiveness of youth curricula and programming. Our Stream Side Science continues to be acknowledged as one of the national successes of USDA's water program because its effectiveness has been demonstrated through rigorous pre and post testing. We are now using a similar methodology to evaluate the effectiveness of short term water quality experiences, such as field days that engage grade school children in brief hands-on experiences. Nationally, an enormous amount of effort and funding is directed to outreach programs such as these, although their effectiveness has never been formally evaluated. Our study focuses on 4th graders and should help us understand whether these programs result in short term or long term changes in knowledge or attitudes about protecting our water.

The following paragraphs provide a summary of some of the major elements USU Water Quality Extension's Statewide NPS I&E program. Visit our website at www.extension.usu.edu/waterquality to learn more.

Water Quality Education

In 2010, USU Water Quality Extension reached thousands of youth and their families through tested, age-appropriate, hands-on water quality activities. We provided activities in 13 of Utah's 29 counties, including all the most populated areas, but also some of the most rural corners of the state.

Students learn about aquatic insects during Natural Resources Field Days

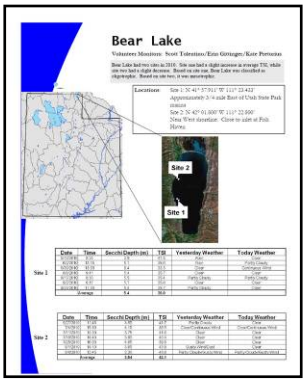
- We provided stream-side or other experiential activities to over 5800 youth in classrooms, camps, library programs, field days, and youth environmental competitions. These programs include at least an hour of activities and instruction focused on understanding watershed and water science and the importance of protecting our water quality.
- We provided activities and booths for watershed and water festivals and field days throughout the state, reaching an estimated additional 7600 youth and their families.

Teachers learn Stream Side Science field techniques at a St George workshop.

- We trained over 160 educators in 1 to 2 days workshops watershed and water science curricula. This year we worked with geography teachers through Utah's Community Mapping Program, we provided watershed training to participants in USU's Master Naturalist program, and we trained teachers in Project Wet and Stream Side Science curricula. We presented a session at Utah's Agriculture / Natural Resources statewide summer workshop on incorporating water science and water quality into their classroom activities.

Citizen Monitoring

Utah's Division of Water Quality encourages the involvement of citizen monitors as one means of increasing the coverage necessary to evaluate Utah's water resources. Extension recognizes the value of citizen monitoring events as an effective outreach tool nationwide for NPS education, as it helps people connect their daily actions with the quality of the water they value. This year we continued to support lake monitoring efforts through our Utah Lake Watch program, in which volunteers recorded secchi depths at 13 lakes and reservoirs throughout the summer. Several of these waterbodies are monitored at the traditional mid-lake site, but also at sites nearer shore where low water clarity and poor water quality may be more evident to those visiting the lake. All our results are provided to Utah's Division of Water Quality. We also produce a one page (2 sided) fact sheet about each water body and share these with the volunteers, watershed groups, extension offices and others interested in these specific lakes or reservoirs.



Lake reports are provided to all citizen volunteers

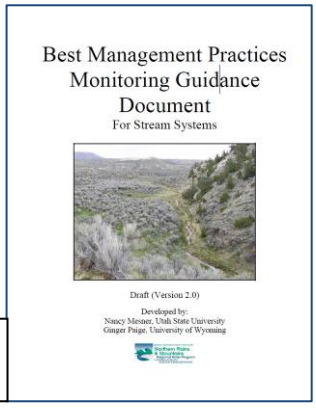
In 2010 we participated in a second pilot study on the use of citizen monitors to help the Division of Water Quality screen high-use beaches for *E coli* contamination. We helped recruit citizen monitors and took the lead in training and collecting bacteriological data at 15 beaches throughout Utah (representing one third of all the beaches monitored in 2010). The challenges of citizen monitoring include identifying and maintaining a core of trained volunteers, but also providing the necessary equipment for volunteers located throughout the state. We are working with the recently formed Utah Monitoring Council to develop protocols, training, and a volunteer network that will enable us to expand this effort.

Support for Watershed Groups

In 2010, we completed and printed 500 copies of watershed fact sheets for the the Middle Bear River, the Middle Sevier River and Mill Creek, and are in the final formatting and printing stage for fact sheets for Price River, San Rafael, Scofield Reservoir and the Lower Bear River. We have begun fact sheets for an additional 6 watershed groups and expect to complete those in 2011. These publications involve the combined efforts of the Utah Association of Conservation Districts, the Utah Division of Water Quality, and the Utah Partners for Conservation and Development. The printed fact sheets are distributed through these offices, through USU Extension county offices and to all our watershed coordinators. Electronic copies are also available at: http://extension.usu.edu/waterquality/htm/watershedmanage.

In 2010, we also began sharing the lessons learned from a USDA Conservation Effectiveness Assessment Grant awarded to USU in 2005. We gave several detailed presentations to UDAF, UDWQ, and other partners on the challenges and solutions to quantifying the impacts of BMPs implemented for water quality improvement. We also offered several training sessions on the use of a new BMP monitoring manual and training materials. The materials guide users systematically through the steps necessary to assure that monitoring efforts are focused on project objectives and are designed in ways to capture true BMP impacts. The BMP materials and manuals are in final printing and all will be available on-line by February 2011. Training of watershed coordinators and follow up projects involving effective monitoring practices will continue through 2011.

Workshop on improving monitoring of best management practices



Additional activities have also focused on educating agricultural producers about the new Animal Feeding Operation (AFO) regulations. A Producer's Website, which provides "one-stop" shopping for the producers, was created and is being expanded. This website provides information, in laymen's terms, on the regulations producers are likely to encounter. In addition, nine workshops for AFOs are scheduled for January and February, 2011. These workshops will cover the latest developments in the AFO regulations, and the options available to producers. Information on risk assessment, and nutrient management plans (NMPs), which are required for all of the permits, will be presented. Fact sheets to assist producers with their NMPs are being developed.

3) Utah Division of Natural Resources- Rory Reynolds

Utah's Watershed Restoration Initiative

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

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

In fiscal year 2010 with support of $2.3 million from the Utah Legislature, the Watershed Initiative has implemented over 120 rangeland and river restoration projects involving over 77,213 acres and 2 miles of river enhancements. For a full list of WRI projects implemented go to: http://wri.utah.gov/WRI/Projects.aspx?display=Complete. Through the partnership effort funding from the Legislature has been successfully leveraged over 4 to 1 in on-the-ground projects.

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

VII. Federal Agency Contributions

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

1) Natural Resource Conservation Service- Norm Evenstad

NRCS employees work in partnership with land users to conserve natural resource on private lands. These employees are distributed among 26 field offices and 3 area offices that cover the state of Utah. These offices are managed by District Conservationists. NRCS employees along with Utah Association of Conservation District (UACD) employees report progress on activities in the USDA-NRCS system, which is the basis for the following information.

A total of **$** 54,067,132 was obligated to land owners, sponsors & managers in Utah during FY2010 through the various USDA-NRCS programs listed in the table 5 *(including the Emergency Watershed Protection Program)*. A considerable percentage directly benefited Non-Point Source AFO/CAFO concerns in Utah with 18 CNMP plans applied in FY2010.

Table 5

NRCS Program	FY2009		FY2010	
	Dollars Obligated	Number of Contracts/Easements	Dollars Obligated	Number of Contracts/Easements
Agricultural Management Assistance (AMA)	684,118	6	481,920	18
Conservation Stewardship Program (CSP)	0	0	1,738,582	78
Emergency Watershed Protection Program (EWP)	5,044,360	5	32,635,264	6
Environmental Quality Incentives Program (EQIP)	14,184,687	332	15,214,202	323
Agricultural Water Enhancement Program (AWEP)	0	0	0	0
Farm and Ranch Lands Protection Program (FRPP)	950,000	2	255,690	1
Grassland Reserve Program (GRP)	490,000	4	2,013,860	6
Healthy Forests Reserve Program (HFRP)	0	0	0	0
Wetlands Reserve Program (WRP)	0	0	1,527,449	3
Wildlife Habitat Incentives Program (WHIP)	576,219	8	170,195	5

During FY2010, customers were assisted through a combination of federal and state conservation programs. The tables and graphics below summarize the measures applied that may directly or indirectly impact non-point source pollutant concerns in Utah.

Summary of Conservation Measures directly or indirectly associated with NPS benefits – FY2010 (Table 6)

Report adapted from NRCS – Performance Results System (PRS) – Report # 6.14 –Last updated Friday, October 1, 2010 – 12:30 AM.

Table 6

Performance by Program - Field Measures	Net Total Progress	Progress with Multiple Programs	AMA	Colorado River Basin Salinity Control	CRP	CSP	Conservation Technical Assistance-Gen.	EQIP	EQIP-Ground/Surface Water	GRP	RCD	WHIP
Conservation Plans Written (ac)	220,663	0					220,663					
Watershed/Area-wide conservation plans developed (Nol)												
Cropland with conservation applied to improve soil quality (Ac.)	12,929	58			50		9,422	3,085	430			
Land with conservation applied to improve water quality (Ac)	80,428		1,270		50		36,272	31,363	430			11,044
CNMP written (No.)	0											
CNMP applied (No.)	18	0					2	16				
Land with conservation applied to improve irrigation efficiency (Ac)	17,488	298	1,750				1,819	11,434	560			2,223
Grazing and forest land with conservation applied to protect and improve the resource base (Ac.)	176,539	519	1,876				108,451		48,824			17,907
Non-federal land with conservation applied to improve fish and wildlife habitat quality (Ac.)	10,350						8,353					1,996
Wetlands created, restored or enhanced (Ac.)	2											2

A table from the NRCS showing the Performance Results System (PRS) totals for the 2010 fiscal year is found in Table F in the appendices. This report only shows the practices entered by the NRCS and their partners.

Information in this table shows the planning and implementation accomplishments for all conservation programs. Report selection criteria include location, time period, plan/applied, CNMP, land use, resource concern, and agency. The report database was last updated on Friday, October 01, 2010 12:30 AM.

2) Forest Service- Bill Goodman

Watershed Improvement and Water Quality Management Activities, Fiscal Year 2010

Each year, Congress appropriates funding specifically dedicated towards maintaining and improving watershed conditions, including water quality. During the federal government fiscal year 2010, non-point source pollutant control resulted either directly from projects designed for soil and water improvement or indirectly resulting from project mitigation measures, such as prescribing and implementing best management practices.

The Forest Service's Watershed Improvement Program delivers direct benefits to improved water and soil quality on National Forest System lands in Utah. During fiscal year 2010, National Forests in Utah completed 2,821 acres of watershed improvement (Table 7). This total includes projects completed using other appropriated funding sources (i.e., non-soil and water funds).

Water quality monitoring programs include high elevation lake sampling, cooperative water quality sampling in conjunction with Utah DEQ, TMDL data collection, and Best Management Practices implementation and effectiveness evaluations.

The types of projects implemented to improve watersheds condition include the following:
- Road Decommissioning projects are intended to improve water quality by reducing or eliminating motorized impacts in sensitive watershed areas.
- Routine maintenance (grading, surfacing and drainage improvement) of the road system improves water quality by decreasing erosion and sedimentation
- Exclosures and fences were constructed to protect sensitive riparian and wetland areas. The protection of these sites contributes to the overall water quality within a watershed.
- Project level monitoring, including implementation and effectiveness monitoring of BMPs. Projects monitored in 2009 include oil and gas developments, range allotments, timber projects, as well as portions of the Forest motorized travel system involved in the Travel Plan revision project.
- Fish Passage Projects- Culverts that formed barriers to fish passage were replaced by designs which allowed for passage and more natural channel processes.
- Road Decommissioning- Roads were decommissioned by blocking access, scarifying and reseeding the road surface.
- Numerous ATV-users created crossings and routes were obliterated thereby improving water quality and aquatic habitat.

Forest Service Burned Area Emergency Response (BAER) Program
Fires that had a BAER team included the Twitchell Fire (Fishlake NF) and Coffee Pot (Manti La Sal NF) in FY 2010. The BAER program includes several activities that aim to protect or improve water quality after wildfire. An example includes road and trail improvements to address increased runoff response. These treatments directly and indirectly address water quality, generally through reduction of erosion and reducing chemical and temperature alterations to water quality. Land treatments generally include mulching, and/or seeding. Acres improved through the BAER program are not included in table 7 below.

Table 7. Watershed Improvement Projects Completed on National Forest System lands in fiscal year 2010 (October 1, 2009 – September 30, 2010).

Forest	Total Acres Improved
Ashley	459
Dixie	689
Fishlake	506
M-L	425
U-W-C	742
Total	**2,821**

3) National Park Service- Dave Thoma

National Park Service Water Quality Activities, Fiscal Year 2010 (October 2009 – September 2010)

The National Park Service units in Utah work closely with the Utah Division of Water Quality to monitor water quality and mitigate non-point source impacts when noted. During fiscal year 2010 water quality in Utah National Parks was monitored at 37 sites, most of them on a monthly basis (Table 8).

Table 8. Water Quality monitoring sites in Utah National Parks in fiscal year 2010. Numbers in parentheses represent site count for aquatic macroinvertebrate monitoring.

Park	Coop Sites Monitored by NPS
Arches	1(1)
Bryce Canyon	2
Capitol Reef	3
Canyonlands	[1]6(1)
Glen Canyon	3
Hovenweep	3(1)
Natural Bridges	3
Timpanogos Cave	1
Zion	4
Total	**25(2)**

[1]Three sites on the Green River and Colorado River in Canyonlands were monitored six times in the 2010 river season. The site at Potash on the Colorado River sites upstream of the park, was monitored six times, and the site upstream of the park at Mineral Bottom on the Green River was monitored twice.

Northern Colorado Plateau Network Park Projects

- The second bi-annual report on water quality in Utah Parks was completed in 2010 for previous water years. It is available at: http://science.nature.nps.gov/im/units/ncpn/WQBrief.cfm

- Presented talks on non-point source pollution issues at the Utah Nonpoint Source Water Quality Conference, Richfield, UT October 5-6.
  - Indicators of Fire Effects and Post-Fire Recovery
  - Bacterial Water Quality in Zion National Park, Case Study from 2009
  - Assessment of Nutrients in Surface Waters of the National Park Service Northern Colorado Plateau Network 1972 through 2007

- Integrated monitoring of riparian vegetation, shallow ground water and channel morphology was continued in Zion and Capitol Reef in 2010 and initiated at Arches. A brief report on objectives of this project is available on-line at: http://science.nature.nps.gov/im/units/ncpn/Link_Library/Web_Briefs/Riparian_Brief_2009.pdf

- 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 implemented upstream from Zion in 2010. Results were shared with stakeholders November 29, 2010 in Cedar City, UT.

- Hosted a multi agency training session December 2-3 attended by 30 people on the Automated Geospatial Watershed Assessment Tool for watershed modeling and planning. The model predicts runoff and erosion from watershed based on vegetation cover, topography, and fire severity.

- In cooperation with EPA Region 8 analyzed 21 sites for waste indicator compounds and pesticides. Monthly monitoring of spring flow in the western part of Arches National Park has been ongoing since early 2001. NPS Water Resource Division hydrologist James Harte and University of Utah researchers released a report on groundwater age dating of Arches springs.

- DWQ met with Park Service staff in Capitol Reef to discuss the monitoring strategy and perform Demonstration of Capability assessment using IDEXX methods. Bacteria exceedances on the Fremont River prompted an increased monitoring intensity in 2010 that will continue during warm seasons in 2011.

Glen Canyon National Recreation Area

Water Quality Monitoring

During 2010, the Lake Powell Beach Monitoring Program at Glen Canyon National Recreation Area (NRA) sampled Lake Powell for *E. coli* to protect public health. The National Park Service operates two state certified laboratories for sample processing. Lake Powell sanitary water quality in 2010 remained very good.

Monitoring of water quality parameters, nutrients, metals, and other constituents was conducted at over twenty sites throughout Lake Powell, including major inflows, the dam, and the tailwaters in cooperation with the Grand Canyon Monitoring and Research Center.

Other sites throughout the park including the Escalante River, Coyote Gulch, and a natural off-channel impoundment, were monitored for water quality parameters and constituents.

Grazing Management
Grazing is managed on nearly a million acres of land within Glen Canyon NRA. The Park, working closely with the Bureau of Land Management, has undertaken many water quality pollution abatement activities associated with grazing.

Dreissenid Mussel Prevention
Zebra and quagga mussel prevention continued for the tenth year at Glen Canyon NRA. All vessels and equipment brought to Lake Powell were required to be screened for risk of spreading dreissenid mussels.

Riparian Restoration
Riparian restoration and invasive plant control efforts continued in 2010. Weeds, including Russian olive, tamarisk, ravenna grass, and others were removed from riparian areas. Glen Canyon is organizing and participating in the new Escalante River Watershed Partnership, which is focused on watershed level management of both public and private lands in the Escalante River watershed.

Special Projects

- Glen Canyon continued work on an Off-Highway Vehicle Environmental Impact Statement addressing public use on Glen Canyon's many miles of backcountry roads.
- Funding was secured for two large studies on Lake Powell that will begin in 2010. These studies, to be conducted in cooperation with the U.S. Geological Survey, will complete development of baseline data regarding hydrocarbon constituents and explore what contaminates are being accumulated in the sediment deltas of the San Juan and Escalante Rivers.
- Exploratory research on mercury concentrations in game fish tissues continued in cooperation with the State of Utah and the U.S. Geological Survey.

4) The Bureau of Reclamation- Ben Radcliffe

The US Bureau of Reclamation funds irrigation improvement projects through the Colorado River Basinwide Salinity Control Program. Reclamation Salinity Program projects completed in 2010 include:

- Peoples Canal: Located in Sweetwater County, Wyoming and Dagget County,Utah, the Peoples Canal serves the lower Henry's Fork River in Wyoming and the lower Lucern Valley near Manila, Utah. This earthen canal was replaced with an 8 mile pipeline with an estimated off-farm salt load reduction of 5,700 tons/year. This off-farm project was fully funded by the salinity program at $7,250,000.

- Red Cap Canal: The Red Cap Project is situated in Duchesne County near Arcadia, Utah. Approximately 8.6 miles of earthen ditches were replaced with a pipeline system with an estimated off-farm salt load reduction of 1,817 tons/year. This off-farm project was fully funded by the salinity program at $2,500,000.

- The Huntington-Cleveland Irrigation Company is continuing construction of their salinity control project in Emery County.

Reclamation released a Funding Opportunity Announcement in September 2010 which closed in December 2010. New Projects will be chosen for funding early in 2011.

5) Bureau of Land Management- Lisa Bryant

In 2010, Utah BLM continued to implement a strong Healthy Lands and Watershed Restoration program, focused on improving habitat, vegetation, and improving water quality by reducing erosion from BLM lands. These efforts included many watershed improvement projects that will contribute to improved land health and long term reduction of erosion, and sediment, which also benefits the salinity program. Five projects specifically funded by the salinity program were also implemented including OHV management/trail closures, wetland restoration and management, research and monitoring on OHV impacts in Mancos Shale Terrain, and protective exclosures for riparian areas.

Utah Watershed Restoration Initiative - Utah BLM is in its seventh year of a cooperative effort in implementing the Utah Watershed Restoration Initiative through its participation in the Utah Partners for Conservation and Development. Over 21,000 acres of BLM lands within the Colorado Plateau were treated in 2010 under this program. The total treatment area including other Federal, State and private lands as part of the cooperative effort is well more than double that figure. 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.

Other BLM Watershed Improvement projects:
In addition to the projects implemented through the Utah Partners for Conservation and Development, Utah Field Offices (FO) also reported an additional 22,000 acres of watershed and range improvement projects funded through other appropriated dollars such as range, fuels, wildlife or riparian funds. In 2010 nearly 6000 acres were treated with herbicide and reseeded with native and and some soil stabilizing non-native species to improve habitat and plant diversity. An additional 1000 acres was treated by hand and mechanical treatments to cut, scatter, and use prescribed fire to remove juniper slash, opening up areas for seeding and restoration of native grassland/shrub communities.

In the Richfield FO several riparian projects were identified as having benefits to the salinity program, in addition to upland watershed treatments completed under the Utah Watershed Restoration Initiative:

a) Two large silt free reservoirs in the Hanksville area were maintained by removing several years worth of captured sediment from the sediment traps.
b) A prescribed burn is planned for Sept. 7-11 in Beaver Wash near Hanksville to remove chemically treated Tamarisk from the riparian corridor. This will allow willows to be reestablished in the riparian area.
c) Sixty acres of Tamarisk at Pool Springs (upper part of Beaver Wash) near Hanksville were chemically treated in the fall of 2009.

The Price FO completed a large reservoir cleanout and repair project in their Desert Allotment. This was part of a longer term cooperative project with the permittee in which 15 reservoirs have been cleaned out and repaired over the last several years. The Price River bisects the allotment, roughly creating a north and south pasture. The improved reservoirs will help slow sediment movement and better distribute cows throughout the allotment. Through improved grazing management it is anticipated that trampling of livestock concentration areas will be reduced.

ARRA funded BLM deferred maintenance, habitat restoration, and travel plan implementation projects.
Several key projects initiated in 2009 under the American Recovery and Reinvestment Act were completed in 2010. $3,250,000 was spent in 2009-2010 for habitat restoration including multiple biomass stewardship projects statewide. These activities included erosion control, trail maintenance, closures of illegal routes, signage, public education activities to encourage responsible recreation, etc.

Pariette Wetlands is a large artificially-augmented wetland in the northeastern portion of Utah. This has been a long-term, multi-faceted project operating and monitoring the wetland area for wildlife management and salinity/water-quality control. $80,000 in salinity funding was divided two ways:
1) A portion was used to match other MLR funds and contribute to labor for a Pariette Wetland Manager that maintained sediment control structures and conducted water quality monitoring.
2) Most of the salinity program funding is being used to support a Financial Assistance Agreement with Utah State University to do additional research on the effects various land uses are having on water quality. A comprehensive study plan was completed this year and is available upon request.

Salinity Reduction/ Grazing Exclosures: The BLM Moab Field Office was granted $20,000 in FY10 to construct 5 grazing exclosures in saline soils. These exclosures will provide good reference sites to better understand impacts to moderately saline soils (>8 mmhos/cm) from grazing activity.

Factory Butte OHV Study - A long-term study was initiated summer 2007 in the Hanksville area of Central Utah to assess soil and water quality impacts related to OHV use on Mancos Shale in the Factory Butte. A third season of erosion data was collected this summer from sediment traps/silt fences and rainfall simulation sites following deliberate OHV disturbance last year. The primary focus in 2009 has been to develop a water quality monitoring plan to help determine salt contribution from the OHV play area to the Fremont River.

Nine Mile Canyon Fencing/Range Improvement Project
$10,000 in salinity funds was provided to the Price FO to begin implementation of projects identified in the Nine Mile Community Watershed Restoration Planning effort of previous years (partially funded through the salinity program). The main focus of these projects was fencing projects along riparian areas.

US Army Corps of Engineers- Scott Stoddard

Environmental Infrastructure (Sec 595) Program- This program was authorized in 2004 and initially funded in 2005. The program assists rural communities in funding both improvements to, as well as new infrastructure, to provide clean, safe drinking water and wastewater collection and treatment to Rural Utah communities only on a cost-shared basis. At least one of our Sec 595 - Environmental Infrastructure Projects that is considered an NPS project:

Elwood Wastewater Collection & Treatment Facilities (new project - at the request of the State): The monitors have taken samples from the land drains that cross Elwood and used the fluorescence test for caffeine on them as a preliminary indicator of human waste. At least one of the land drains tested positive.

The Corps of Engineers has also completed or is working on several other wastewater projects in Rural Utah - Moroni, Cedar City/Iron County, Richmond & Mona (which along with Elwood is still ongoing).

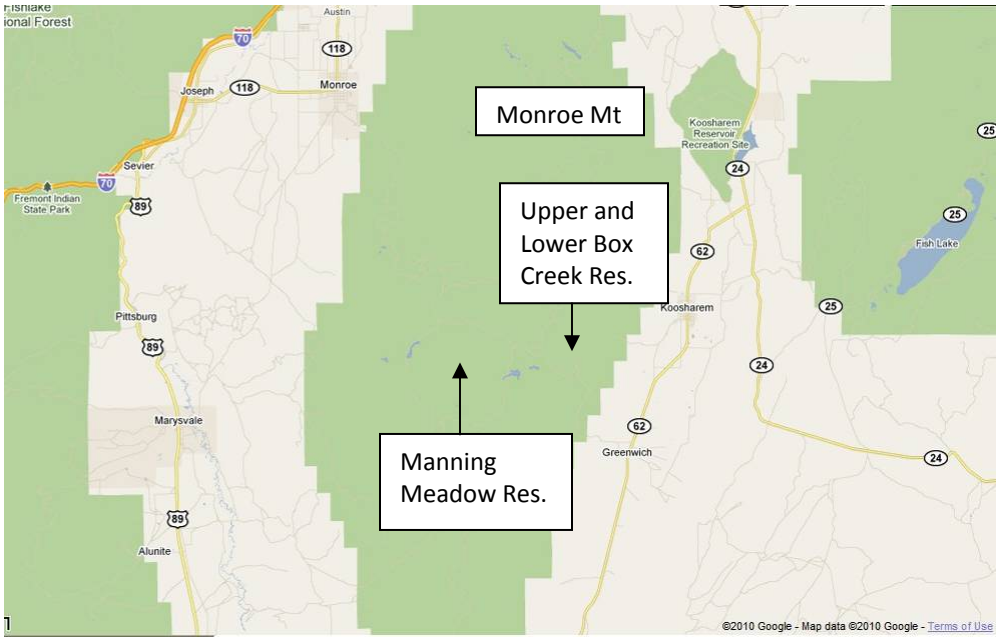
VIII. Federal Consistency Review and NPS Project Tours for FY-2010

During FY-2010, 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 Fish Lake National Forest, as well as a project tour that visited several of the projects that had been implemented using Section 319(h) funds.

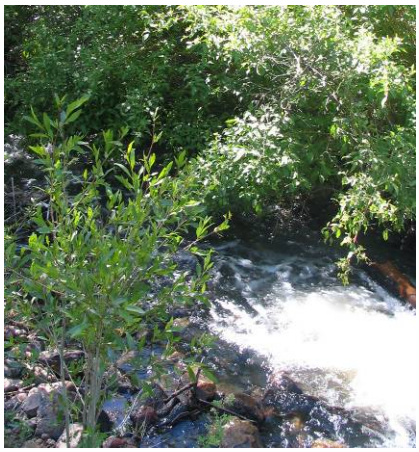
Fish Lake National Forest Tour
June 17, 2010

Participants	Organization Representing
Rick Hopson	Region 4, Forest Service
Bill Goodman	Region 4, Forest Service
Adam Solt	Fishlake National Forest
Scott Daly	Division of Water Quality
Carl Adams (Author)	Division of Water Quality

This tour of water quality related management practices on the Fish Lake National Forest took place on Monroe Mountain located between the Otter Creek drainage on the east and the Sevier Valley on the west.



The tour began on the east side of the mountain along the Box Creek drainage, a perennial tributary to Otter Creek. A diversion structure on Box Creek near the Forest Service boundary diverts surface flow during the summer to irrigate hay and pasture lands surrounding the community of Greenwich. The riparian corridor appeared to be in excellent condition with an extensive overstory of cottonwood and willow. Dispersed recreation sites along the creek bottom appeared to be in fairly good condition with a minimal amount of trash and vegetation disturbance.



Box Creek near Forest Service Boundary

The tour continued to the top of Monroe Mountain which consists alternately of broad gently sloping meadows and deeply dissected valleys. Along the way we stopped at both Lower Box Creek and Upper Box Creek Reservoirs. It was noted that water levels in both reservoirs were higher than in many years previous owing to the preceding wet winter. Lower Box Creek was less developed than the Upper consisting of a single access point of access to the water's edge.

Lower Box Creek Reservoir

Upper Box Creek Reservoir Dam Outlet

Water quality concerns in the reservoirs include elevated water temperatures and algal blooms that typically coincide with draw down of the reservoirs during late summer.

Along the way to Manning Meadow Reservoir a project site was visited where a short cut trail had been ripped and seeded. Many illegal trails have been similarly treated throughout the Forest.

R**ipped and seeded illegal trail**

The excellent condition of the road along Manning Meadow reservoir was noted with well placed culverts and graveled surface.

Improved road along Manning Meadow Res.

When we arrived at Manning Meadow Reservoir, Division of Wildlife Resources personnel and volunteers were collecting and processing spawning Colorado Cutthroat trout in a small tributary to the reservoir, collecting their eggs for hatching and rearing at a State Fish Hatchery.

Colorado Cutthroat Trout egg collection

Concerns regarding OHV access to surface waters are being addressed through strategic placement of signage, gates, and rock. We visited a small lake near Manning Meadow where construction of a gate was underway and rock and pole fencing had recently been placed.

Gate to prevent lakeshore OHV access

Pole fencing and rock placement along roadway to prevent OHV access to surface waters

The last site we visited was on the eastern slope of the Tushar Mountains to the southwest of Monroe Mountain in the upper reaches of a small intermittent tributary to Sevier River. This area has experienced extensive head cutting over the last several decades. In the 1970's small detention basins were constructed to slow runoff and trap sediments.

Detention basin

More recently, fencing has been constructed just above the head cut stream channel to facilitate rotational grazing management with excellent results.

New pasture fencing along intermittent tributary to Sevier River

NPS Tour
August 24-26, 2010

The 2010 NPS Tour focused on several watersheds in the northern part of the State that have had significant implementation projects completed in recent years. Tour participants included Gary Kleeman (EPA Region 8), Carl Adams (Utah Division of Water Quality), W.D. Robinson (Utah Dept. of Agriculture and Food) and Roy Gunnel (Utah Dept. of Agriculture and Food). Individuals involved in the specific projects joined the tour at their respective project locations.

Day 1 - Rees Creek

The tour began in the upper Weber River watershed on Rees Creek south of Interstate 80 in Echo Canyon. Rees Creek was identified as a major source of sediment into the Weber River from severe channel erosion. Through a cooperative planning effort between the owner of the property, Ensign Ranch, the NRCS, cost share funding from EPA, and several state and local agencies, a series of ponds were constructed to slow water flow, drop out sediment, and raise the water table. This project has proven to be highly effective towards achieving its goals, although follow up work was required in one of the lower ponds' outlet structures.

Echo Creek

The next site visited was a stream stabilization project on Echo Creek along Interstate 80 which was also identified as a major sediment source into the Weber River. The valley through which Echo Creek has been a major transportation corridor since pioneer settlement of the west, and is currently situated between the Union Pacific railroad and the Interstate. Consequently the flood plain of the creek has been constrained to the point where very little remains. To remediate the severely eroding banks and re-establish instream structure, a series of rock structures have been placed in the channel to direct erosive flows from the banks and create riffle-pool habitat. This project is unique in that technical assistance has been provided by US Fish and Wildlife Service in addition to several other Federal and State partners including the Utah Dept. of Agriculture and Food. Funding for this work has primarily been from EPA as well as in-kind match from the Weber Basin Water Conservancy District.

Chalk Creek

Chalk Creek was one of the first NPS project sites completed in the State of Utah. It is a tributary to the Weber River south of Echo Creek. The site visited was on the property of Jerrold Richins who became a staunch proponent for riparian restoration following the

successful implementation of his project. Over the years he has spoken to hundreds of agricultural producers and local children on the benefits of protecting riparian areas including before and after pictures of his property in an educational kiosk near the creek. A comment was made that this portion of the creek would serve as an excellent 319 success story, demonstrating the long term benefits of riparian area management.

East Canyon Creek

East Canyon Creek and one its tributaries, Kimball Creek, were visited north of Park City. This area has experienced rapid land use changes from primarily agricultural to residential and recreational. A recently completed project was visited on Kimball Creek where Christmas trees were used as revetment along eroding bends and perennial woody plants such as willows, wild rose and dogwood were planted along the tops of the banks to eventually provide shading to the creek. Shading has been identified as a critical need for East Canyon Creek and its tributaries due to exceedances of the State's cold water temperature criteria during the late summer.

Day 2 – Ogden River
A major urban river restoration project was initiated on the Ogden River in 2009 with the award of a $1 million ARRA grant through EPA. This project entails several unique features including stormwater settling basins, foot paths, and instream structures to create pool habitat for fish. It has the strong support of Ogden City and is anticipated for completion in 2011.

Parleys Creek
Following a brief stop at the Water Quality Board meeting to witness the career achievement award ceremony for Mike Reichert, Utah's longtime NPS Program Manager and Coordinator Parleys Creek in Salt Lake City was visited. Parleys Creek, like Echo

Creek, is situated within the same canyon through the Wasatch Mountain Range as Interstate 80. At the mouth of the canyon, Parleys Creek flows through the Parleys Nature Reserve, the management of which has become a controversial topic recently. It was opened to off leash dog access in 2005 and has since become very popular with both dogs and their owners to the point where water quality impacts have been observed, specifically high E coli bacteria counts. A restoration plan has been developed to protect water quality while still maintaining some access.

Little Cottonwood Creek / Alta Fen

The day's tour ended in Little Cottonwood Canyon at the base of Alta Ski Area where significant historic mining activities occurred. The mines, which extend throughout the Wasatch Mountains east of Salt Lake City, collect water and discharge it at specific points within the canyon. The discharge point visited is the Columbus-Rexall mine that contains high concentrations of zinc for which a TMDL was established in 2002. A pilot scale fen was constructed in cooperation with Salt Lake County and showed promising results in reducing zinc concentrations. However progress in expanding the fen was delayed by confusion over land ownership and liability concerns. It is interesting to note that following this tour the mine outlet was blocked by a landslide and is now apparently filling the mine works inside the mountain and/or discharging somewhere else in the canyon thereby negating the need for the expanded fen, at least in the short term.

Day 3 – Jordan River

Two sites were visited on the Jordan River, the first in the upstream reach below Utah Lake where significant land use changes are occurring including extensive housing tracts and commercial developments. The purpose of this first site visit was to meet with representatives from Thanksgiving Point to learn of their proposal to develop an outreach program on environmental stewardship near the river and wetland mitigation site for thousands of children who visit on school field trips. The second stop was an EPA funded project site downstream where eroding stream banks were stabilized by placing rock barbs into the channel to direct flow into the center of the channel thereby allowing woody vegetation to establish and protect the banks during high flows. This project was completed by Salt Lake County as part of their Water Quality Stewardship Plan.

Upper Bear River

The final tour visit was along the Upper Bear River in Rich County where several 319 funded demonstration projects have been implemented. This area is largely agricultural with extensive grass pasture and hay land fields surrounding the meandering Bear River. The project site visited demonstrated the effectiveness of sloping back the eroding outside bank and fencing from livestock access to allow vegetation to re-establish.

Although willow poles were planted the majority of recruitment appeared to come from regeneration of native stands.

APPENDICIES

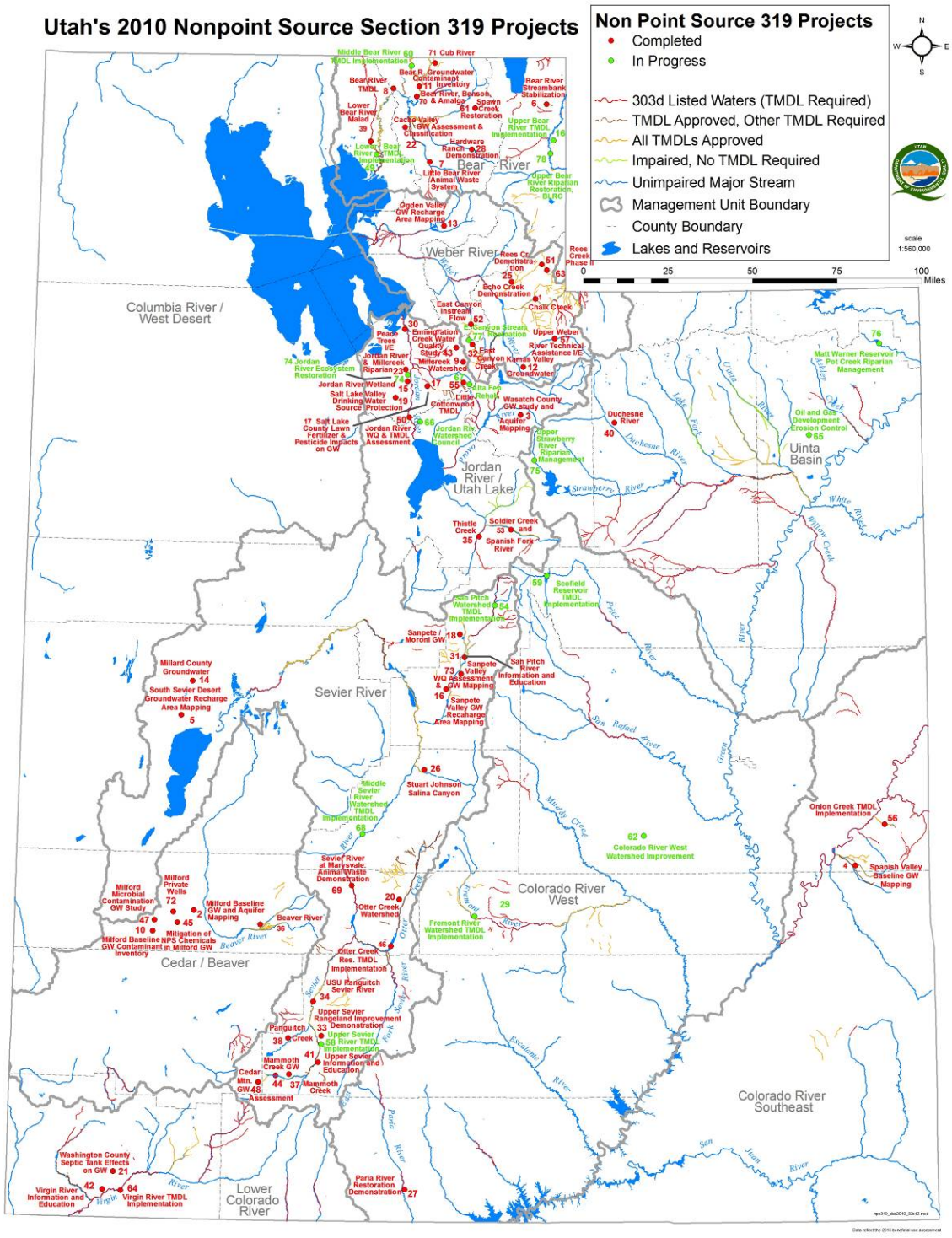


Table A- 319 Projects Closed in 2010

Project Title	Total NPS Award	Date Closed
USU Extension Statewide NPS Pollution I&E FY-01	$40,200	5/11/10
San Pitch River I&E FY-01	$470,700	5/26/10
Salina Creek Watershed Stuart Johnson Demonstration Project FY-01	$22,000	5/12/10
Paria River Restoration FY-01	$13,000	12/22/09
Fremont River I&E and Mack Morrell FY-01	$25,600	2/10/10
USU Panguitch-Sevier River FY-01	$58,980	11/19/09
Upper Sevier River Watershed Rangeland Improvement Demo FY-01	$13,770	5/12/10
Little Logan Watershed of the Middle Bear River FY-01	$46,550	4/29/10
Amalga Benson Area of the Middle Bear River Watershed FY-01	$105,000	6/7/10
Little Bear River Watershed Project FY-01	$119,000	6/7/10
Malad Portion of the Lower Bear River Watershed FY-01	$105,000	4/9/10
East Canyon Watershed Stream Restoration FY-01	$54,600	6/28/10
AFO Manure Management FY-02	$100,000	5/26/10
Amalga Benson Middle Bear River Watershed FY-02	$189,700	6/7/10
Chalk Creek Watershed Project FY-02	$175,000	7/8/10
Beaver River Watershed FY-02	$200,000	6/14/10
Cub River Watershed FY-02	$226,700	6/7/10
Upper Bear River Watershed FY-02	$36,400	5/25/10
Lower Bear River TMDL Implementation FY-02	$111,700	4/29/10
USU Extension Statewide NPS Pollution I&E FY-02	$30,300	1/21/10
Forest WQ Guidelines FY-02	$67,408	1/27/10
Migration NPS Chemicals GW in Milford Area FY-02	$84,900	6/7/10
Otter Creek Reservoir Watershed TMDL Development FY-02	$70,000	12/23/09
East Canyon Watershed Stream Restoration Phase II FY-02	$156,000	6/28/10
USU Extension Statewide NPS Pollution I&E FY-03	$43,000	3/12/10
USU Extension Watershed I&E Modules FY-03	$42,500	6/10/10
Potential CAFO Assistance Team FY-03	$150,000	6/14/10
Utah Local Watershed Coordinating Council FY-03	$21,100	7/12/10
San Pitch River Watershed TMDL Implementation FY-03	$113,300	7/7/10
Small Reservoir Flushing-Managing Impacts FY-03	$99,100	7/13/10
Upper Sevier Watershed Community I&E and Stream Dom FY-03	$15,000	6/7/10
Upper Weber River Tech Assistance and I&E FY-03	$40,000	7/12/10
Reese Creek Demonstration FY-03	$38,400	8/17/09
Soldier Creek Watershed Project FY-03	$132,000	4/22/10
Bear River I&E Outreach and WQ Coordination FY-03	$42,300	3/26/10
East Canyon Instream Flow Augmentation Study FY-03	$75,000	6/28/10
GW Quality Assessment Selected Statewide Monitoring FY-03	$245,000	7/13/10

Otter Creek & Reservoir TMDL Development FY-03	$47,164	12/23/09
Jordan River WQ TMDL Assessment FY-03	$38,000	3/26/10
Cedar Mountain GW Monitoring FY-03	$21,800	6/29/10
Little Cottonwood Creek Implementation TMDL FY-03	$40,100	5/21/10
East Canyon Watershed Stream Restoration Phase III FY-03	$175,000	6/28/10
Onion Creek Implementation TMDL FY-03	$30,000	3/12/10
Utah Potential CAFO Team UACD FY-04	$150,000	6/14/10
AFO Manure Management FY-04	$313,400	6/2/10
USU Ext. Statewide NPS Pollution I&E FY-04	$39,230	7/14/10
Scofield Reservoir TMDL Implementation FY-04	$18,000	5/27/10
Upper Sevier River Watershed Implementation FY-04	$294,600	7/1/10
San Pitch River TMDL Implementation FY-04	$200,000	7/7/10
TMDL Development and Watershed Planning Local Watershed Coordinators FY-04	$320,000	7/13/10
Fremont River TMDL Implementation FY-04	$100,000	7/8/10
Utah Potential CAFO Team FY-05	$150,000	6/14/10
Onion Creek TMDL Implementation FY-05	$93,250	3/12/10
Fremont River TMDL Implementation FY-05	$100,000	7/8/10
Upper Bear River Stream Bank Stabilization FY-05	$36,850	7/27/10
TMDL Development and Watershed Planning, Local Watershed Coordinators FY-05	$320,000	7/13/10
Bear River I&E Outreach FY-05	$41,600	7/27/10
Ground Water Vulnerability to Pesticides FY-05	$44,000	7/28/10
Reese Creek Project FY-06	$40,200	8/17/09
Cedar Mountain Round Water Monitoring Fy-06	$21,800	6/29/10
Ground Water Vulnerability to Pesticides FY-06	$34,000	7/28/10
Spawn Creek Bank Restoration FY-06	$34,000	7/28/10

Table B- Summary of Active Utah 319(h) Grants FY-10

Project Title	**Total NPS Award**	**Grant Status**
San Pitch River Watershed TMDL Implementation FY-05	$225,000	Project Complete Awaiting Final Report
Upper Sevier River Watershed TMDL Implementation FY-05	$225,000	Project Complete Awaiting Final Report
Scofield Reservoir TMDL Implementation FY-05	$25,200	Project Complete Awaiting Final Report
USU Extension Statewide NPS Pollution I&E FY-06	$35,420	Project Complete Awaiting Final Report
Fremont River TMDL	$100,000	Ongoing

Implementation FY-06		
San Pitch River Watershed Implementation FY-06	$200,000	Ongoing
Scofield River TMDL Implementation FY-06	$20,200	Ongoing
Middle Bear River Watershed TMDL Implementation FY-06	$37,500	Project Complete Awaiting Final Report
West Colorado River Watershed Implementation FY-06	$70,000	Ongoing
Middle Sevier River Watershed TMDL Implementation FY-06	$104,680	Ongoing
Upper Bear River Stream Bank Stabilization FY-06	$34,000	Project Complete Awaiting Final Report
TMDL Development and Watershed Planning Local Watershed Coordinators FY-06	$387,800	Project Complete Awaiting Final Report
Virgin River Watershed TMDL Implementation FY-06	$100,000	Project Complete Awaiting Final Report
Bear River I&E Outreach FY-07	$41,600	Project Complete Awaiting Final Report
Jordan River Watershed Council Capacity Grant FY-07	$35,350	Ongoing
Oil & Gas Sediment Erosion FY-07	$6,000	Ongoing
Septage Treatment and Handling FY-07	$29,500	Final Report Submitted Awaiting Approval
USU Extension NPS I&E FY-07	$19,900	Ongoing
Watershed Coordinator Rich County FY-07	$30,000	Project Complete Awaiting Final Report
Ag. Watershed Improvement Project FY-07	$24,000	Ongoing
State Riparian and Stream Restoration FY-07	$340,920	Final Report Submitted Awaiting Approval
Alta Fen Rehab FY-07	$87,500	Ongoing
Middle Sevier River Watershed TMDL Implementation	$100,000	Ongoing
San Pitch River Watershed TMDL Implementation FY-	$153,000	Ongoing

07		
Upper Sevier River Watershed TMDL Implementation FY-07	$155,000	Ongoing
Virgin River Watershed Improvement FY-07	$33,730	Project Complete Awaiting Final Report
West Colorado Watershed Improvement Project FY-07	$70,000	Ongoing
Upper Bear River WS TMDL Implementation FY-08	$30,000	Ongoing
Middle Bear River TMDL Implementation FY-08	$32,100	Ongoing
Lower Bear River TMDL Implementation FY-08	$212,500	Ongoing
Strawberry River/ East Daniels FY-08	$61,600	Ongoing
San Pitch River WS TMDL Implementation FY-08	$118,000	Ongoing
Middle Sevier River WS TMDL Implementation FY-08	$137,085	Ongoing
West Colorado River Watershed Improvement Project FY-08	$70,000	Ongoing
Matt Warner, Calder Reservoir/ Pot Creek FY-08	$64,800	Ongoing
Scofield Reservoir Riparian Revegetation FY-08	$35,500	Ongoing
Local Watershed Coordinators Support FY-08	$400,000	Ongoing
USU Extension NPS I&E Outreach FY-09	$33,500	Ongoing
Lower Bear River WS TMDL Implementation FY-09	$84,000	Ongoing
Upper Bear River WS TMDL Implementation FY-09	$110,140	Ongoing
Middle Sevier River WS TMDL Implementation FY-09	$60,000	Ongoing
Upper Sevier River WS TMDL Implementation FY-09	$122,790	Ongoing

West Colorado River WS TMDL Implementation FY-09	$70,000	Ongoing
Forest Water Quality Guidelines Monitoring FY-09	$33,870	Ongoing
Jordan River Ecosystem Restoration FY-09	$96,000	Ongoing
Local Watershed Coordinator Support FY-09	$509,100	Ongoing

Table C- Approved TMDLs

Water Body	Date Approved
Middle Bear River	February 23, 2010
Chalk Creek	December 23, 1997
Otter Creek	December 23, 1997
Little Bear River	May 23, 2000
Mantua Reservoir	May 23, 2000
East Canyon Creek	September 1, 2000
East Canyon Reservoir	September 1, 2000
Kents Lake	September 1, 2000
LaBaron Reservoir	September 1, 2000
Minersville Reservoir	September 1, 2000
Puffer Lake	September 1, 2000
Scofield Reservoir	September 1, 2000
Onion Creek (near Moab)	July 25, 2002
Cottonwood Wash	September 9, 2002
Deer Creek Reservoir	September 9, 2002
Hyrum Reservoir	September 9, 2002
Little Cottonwood Creek	September 9, 2002
Lower Bear River	September 9, 2002
Malad River	September 9, 2002
Mill Creek (near Moab)	September 9, 2002
Spring Creek	September 9, 2002
Forsyth Reservoir	September 27, 2002
Johnson Valley Reservoir	September 27, 2002
Lower Fremont River	September 27, 2002
Mill Meadow Reservoir	September 27, 2002
UM Creek	September 27, 2002
Upper Fremont River	September 27, 2002
Deep Creek	October 9, 2002
Uinta River	October 9, 2002
Pineview Reservoir	December 9, 2002
Browne Lake	February 19, 2003
San Pitch River	November 18, 2003

Newton Creek	June 24, 2004
Panguitch Lake	June 24, 2004
West Colorado	August 4, 2004
Silver Creek	August 4, 2004
Upper Sevier River	August 4, 2004
Lower and Middle Sevier River	August 17,2004
Lower Colorado River	September 20, 2004
Upper Bear River	August 4, 2006
Echo Creek	August 4, 2006
Soldier Creek	August 4, 2006
East Fork Sevier River	August 4, 2006
Koosharem Reservoir	August 4, 2006
Lower Box Creek Reservoir	August 4, 2006
Otter Creek Reservoir	August 4, 2006
Thistle Creek	July 9, 2007
Strawberry Reservoir	July 9, 2007
Matt Warner Reservoir	July 9, 2007
Calder Reservoir	July 9, 2007
Lower Duchesne River	July 9, 2007
Lake Fork River	July 9, 2007
Brough Reservoir	August 22, 2008
Steinaker Reservoir	August 22, 2008
Red Fleet Reservoir	August 22, 2008
Newcastle Reservoir	August 22, 2008
Cutler Reservoir	February 23, 2010

Table D Watershed Plans

Watershed	Date Approved
Middle and Lower Sevier	October 2010
San Pitch	January 2006
Upper Sevier	June 2004
Virgin River	February 2006
Paria River	2006
Escalante River	2006
Strawberry Watershed	April 2004

Table E State NPS Funds Allocated in 2010

Waterbody	Applicant	Project Description	Amount Requested	Amount Authorized
East Fork Sevier	Creston Black	Riparian restoration	$27,730	$27,730
San Pitch	Sanpete Cty Soil Con	Stream Stabilization Engineering	$70,000	$70,000

San Pitch	Sanpete Cty Soil Con	Stream Stabilization Project	$100,000	$80,000
Beaver Crk	Milky Way Dairy	Stream Reveg/Stabilization	$10,606	$10,606
Price River	Price River Conserv Dist	Stream Reveg/Stabilization	$52,500	$52,500
Jordan River	DWQ	Jordan River TMDL Development	$96,000	$96,000
GSL	DWQ	Paleolimnology of GSL	$90,000	$90,000
Davis County	Utah Geological Survey	Davis County Aquifer Classification	$25,000	$25,000
Statewide	DWQ	WQ Handbook for Elected Officials	$40,000	$40,000
East Canyon	Myra C. Evans	Animal Waste Control	$101,000	$23,196
Clyde Cr/Straw	Forest Service Heber Dist	Phos/Sed Reduction	$125,000	$75,000
Calder Res	Uintah County Conservation Dist	Phos/Sed Reduction	$100,000	$50,000
Bear River	Bob Hoffman/Randolph	Erosion Control	$15,000	$4,096
Chalk Crk	Kenneth Boyer	Stream Erosion Control	$31,500	$31,500
Chalk Crk	Kevin Hirschi	Erosion Control	$9,500	$9,500
UBC Ponds	USU Botanical Center	Enhance Wetlands/Habitat	$100,000	$100,000
GSL	DEQ	Analyze samples 40 sites	$25,200	$25,200
Cutler Res	Wurtsbaugh	Quantify O2,nutrient,macros	$2,156	$2,156
Statewide	DWQ	Data Logger repair (10)	$5,945	$5,945
Statewide	Farm Bureau	AFO Inventory Program	$40,000	$49,000
groundwater	Coons	individual onsite wastewater	$4,075	$4,075

Table F

Summary Conservation Practices - FY2010	Planned	Applied
Above Ground, Multi-Outlet Pipeline (431) (ft)	9,921	9,660
Access Control (472) (ac)	5	37
Access Road (560) (ft)	44,772	250
Amendments for the Treatment of Agricultural Waste (591) (ani unt)	3,762	7,054
Anaerobic Digestor (366) (no)		1
Animal Trails and Walkways (575) (ft)		180
Anionic Polyacrylamide (PAM) Application (450) (ac)	68	
Apply controlled release nitrogen fertilizer (WQL06) (ac)	4,210	
Apply nutrients no more than 30 days prior to planned planting date (WQL05) (ac)	494	
Apply split applications of nitrogen based on a pre-sidedress nitrogen test on cropland (WQL08) (ac)	3,172	
Atmospheric Resource Quality Management (370) (ac)		14
Biological suppression and other non-chemical techniques to manage brush, weeds and invasive species (WQL01) (ac)	737	
Brush Management (314) (ac)	29,831	19,660
Channel Bank Vegetation (322) (ac)		2,113

Channel Bed Stabilization (584) (ft)	1,148	
Closure of Waste Impoundment (360) (no)	1	
Comprehensive Nutrient Management Plan - Applied (103) (no)	12	4
Comprehensive Nutrient Management Plan (100) (no)	7	21
Conservation Completion Incentive First Year (CCIA) (no)		1
Conservation Cover (327) (ac)	6,411	16,802
Conservation Crop Rotation (328) (ac)	15,293	20,943
Conservation Plan Supporting Organic Transition - Written (138) (no)	1	
Conservation Power Plant (716) (no)	7	1
Constructed Wetland (656) (ac)	6	
Continuous cover crops (SQL02) (ac)	2,202	
Controlled traffic system (SQL01) (ac)	2,667	
Conversion of cropped land to grass-based agriculture (SQL06) (ac)	180	
Cover Crop (340) (ac)	2,652	27
Critical Area Planting (342) (ac)	12	26
Dam (402) (ac-ft)	2	2
Defer crop production on temporary and seasonal wetlands (ANM02) (ac)	23	
Dike (356) (ft)	2,846	880
Diversion (362) (ft)	2,650	12,587
Establish pollinator habitat (PLT01) (ac)	235	
Extending existing field borders for water quality protection and wildlife habitat (ANM07) (ac)	1	
Fence (382) (ft)	521,068	380,754
Field Border (386) (ac)	148	
Filter Strip (393) (ac)	6	1
Firebreak (394) (ft)	73,429	141,000
Forage and Biomass Planting (512) (ac)	1,787	1,485
Forage Harvest Management (511) (ac)	4,769	1,976
Forest Slash Treatment (384) (ac)	11	31
Forest Stand Improvement (666) (ac)	11	34
Fuel Break (383) (ac)		5
GPS, targeted spray application (SmartSprayer), or other chemical application electronic control tec (AIR07) (ac)	7,005	
Grade Stabilization Structure (410) (no)	1	
Grassed Waterway (412) (ac)		1
Grazing Land Mechanical Treatment (548) (ac)	2,897	44
Grazing Management Plan - Written (110) (no)	3,620	
Grazing management to improve wildlife habitat (ANM09) (ac)	31,408	
Harvest hay in a manner that allows wildlife to flush and escape (ANM10) (ac)	6,695	
Heavy Use Area Protection (561) (ac)	1	5
High level Integrated Pest Management to reduce pesticide environmental risk (WQL13) (ac)	18,325	
Improve the plant diversity and structure of non-cropped areas for wildlife food and habitat (ANM08) (ac)	135	
Incorporate native grasses and/or legumes into 15% or more of the forage base (ANM03) (ac)	535	

Integrated Pest Management (595) (ac)	43,865	27,190
Intensive Management of Rotational Grazing (PLT10) (ac)	6	
Irrigation Field Ditch (388) (ft)	1,537	
Irrigation Land Leveling (464) (ac)	252	1,394
Irrigation Pipeline (430) (ft)		
Irrigation pumping plant evaluation (WQT03) (no)	162	
Irrigation Regulating Reservoir (552) (no)	10	11
Irrigation Reservoir (436) (ac-ft)	198	
Irrigation system automation (WQT01) (ac)	1,917	
Irrigation System, Microirrigation (441) (ac)	231	77
Irrigation System, Sprinkler (442) (ac)	12,153	12,449
Irrigation System, Surface and Subsurface (443) (ac)	73	562
Irrigation Water Conveyance, Ditch and Canal Lining, Flexible Membrane (428B) (ft)	20,000	
Irrigation Water Conveyance, Ditch and Canal Lining, Plain Concrete (428A) (ft)	9,225	3,650
Irrigation Water Conveyance, Pipeline, High-Pressure, Underground, Plastic (430DD) (ft)	610,781	445,092
Irrigation Water Conveyance, Pipeline, Low-Pressure, Underground, Plastic (430EE) (ft)	18,142	24,219
Irrigation Water Conveyance, Pipeline, Rigid Gated Pipeline (430HH) (ft)	1,400	1,000
Irrigation Water Conveyance, Pipeline, Steel (430FF) (ft)	220	152
Irrigation Water Management (449) (ac)	20,799	14,150
Land application of only treated manure (WQL14) (ac)	402	
Land Smoothing (466) (ac)	6	
Locally grown and marketed farm products (ENR05) (ac)	4,637	
Managing Calving to Coincide with Forage Availability (ANM26) (ac)	2,543	
Managing livestock access to water bodies/courses (WQL12) (ac)	89	
Monitor key grazing areas to improve grazing management (PLT02) (ac)	31,219	
Monitoring nutritional status of livestock using the NUTBAL PRO System (ANM17) (ac)	8,247	
Mulching (484) (ac)	158	8
Mulching for moisture conservation (WQT02) (ac)	7	
Nitrogen Stabilizers for Air Emissions Control (AIR02) (ac)	800	
Non-forested riparian zone enhancement for fish and wildlife (ANM13) (Linear Ft /yr)	1,320	
Nutrient Management (590) (ac)	16,327	9,105
Obstruction Removal (500) (ac)	368	21
On Farm Research and Demonstrations (FRD01) (ac)	19	
Open Channel (582) (ft)	600	1,700
Pasture Grazing Bundle #1 (BPA01) (ac)	854	
Patch-burning to enhance wildlife habitat (ANM11) (ac)	50	
Pipeline (516) (ft)	324,109	349,015
Plant an annual grass-type cover crop that will scavenge residual nitrogen (WQL10) (ac)		
Plant Tissue Testsing and Analysis to Improve Nitrogen Management (WQL04) (ac)	5,860	
Pond (378) (no)	57	1,880

Pond Sealing and Lining, Soil Cement (740) (no)		
Pond Sealing or Lining, Bentonite Sealant (521C) (no)	17	2
Pond Sealing or Lining, Compacted Clay Treatment (521D) (no)	386	1
Pond Sealing or Lining, Flexible Membrane (521A) (no)	7	13
Prairie Restoration for Grazing and Wildlife Habitat (ANM21) (ac)	81	
Prescribed Burning (338) (ac)	145	317
Prescribed Grazing (528) (ac)	109,695	270,172
Prescribed Grazing (528A) (ac)		6,626
Pumping Plant (533) (no)	107	118
Pumping plant powered by renewable energy (ENR03) (no)	41	
Range Grazing Bundle #1 (BRA01) (ac)	17,251	
Range Planting (550) (ac)	22,081	14,298
Recycle 100% of farm lubricants (ENR04) (no)	3,532	
Reduce the concentration of nutrients on livestock farms (WQL15) (ac)	338	
Regional weather networks for irrigation scheduling (WQT04) (ac)	6,492	
Renovation of a windbreak or shelter belt, or hedgerow for wildlife habitat (PLT06) (ac)	185	
Replace burning of prunings and other crop residues with non-burning alternatives (AIR03) (ac)	657	
Residue and Tillage Management, Mulch Till (345) (ac)	16,246	4,013
Residue and Tillage Management, No-Till/Strip Till/Direct Seed (329) (ac)	35	1,105
Residue Management, Mulch Till (329B) (ac)		1,096
Residue Management, Seasonal (344) (ac)	306	4,042
Resource-Conserving Crop Rotation (CCR99) (ac)	2,870	
Restoration and Management of Rare or Declining Habitats (ANM22) (ac)	55	
Retrofit watering facility for wildlife escape (ANM18) (no)	111	
Riparian forest buffer, terrestrial and aquatic wildlife habitat (ANM14) (Linear Ft /yr)	2,500	
Roof Runoff Structure (558) (no)	5	
Rotation of supplement and feeding areas (WQL03) (ac)	75,927	
Salinity and Sodic Soil Management (610) (ac)	12	6
Seasonal High Tunnel System for Crops (798) (sq ft)	20,182	3,747
Shallow water habitat (ANM12) (ac)	135	
Solar powered electric fence charging systems (ENR02) (no)	2	
Solid/Liquid Waste Separation Facility (632) (no)	5	
Split nitrogen applications 50% after crop/pasture emergence/green up (WQL07) (ac)	5,709	
Spring Development (574) (no)	9	9
Stream Habitat Improvement and Management (395) (ac)	25	
Streambank and Shoreline Protection (580) (ft)	7,568	12,783
Structure for Water Control (587) (no)	1,537	610
TA Application (912) (no)	43	4,130
TA Check-Out (913) (no)	45	1,311
TA Design (911) (no)	39	1,559
Terrace (600) (ft)	91,254	116,477
Transition to Organic Cropping Systems (WQL20) (ac)	3,065	

Tree/Shrub Establishment (612) (ac)	6,406	391
Tree/Shrub Pruning (660) (ac)	11	8
Tree/Shrub Site Preparation (490) (ac)	1,060	
Upland Wildlife Habitat Management (645) (ac)	111,660	40,749
Use deep rooted crops to breakup soil compaction (SQL05) (ac)	2,324	
Use drift reducing nozzles, low pressures, lower boom height and adjuvants to reduce pesticide drift (AIR04) (ac)	18,141	
Use of Cover Crop Mixes (SQL04) (ac)	2,202	
Use of legume cover crops as a nitrogen source (WQL16) (ac)	2,202	
Use of non-chemical methods to kill cover crops (WQL17) (ac)	2,202	
Waste Storage Facility (313) (no)	37	58
Waste Transfer (634) (no)	58	17
Watering Facility (614) (no)	193	10,111
Wetland Enhancement (659) (ac)	1,406	495
Wetland Restoration (657) (ac)	144	
Wetland Wildlife Habitat Management (644) (ac)	2,260	117
Wildlife corridors (ANM19) (ac)	10	

Information relating to the specific conservation practices listed in the table can be found at the following weblink:
http://ias.sc.egov.usda.gov/prsreport2010/report.aspx?report_id=222

Table G- State Program Funds Used In Conjunction with 319 Funds

Program	Amount
Blue Ribbon Fishery Program	$113,020.00
Watershed Restoration Initiative Program	$364,447.00
Habitat Council	$263,048.00
Grazing Enhancement Program	$14,850.00

This table reflects the only the funds used in conjunctin with 319 grants. The total amount of funds put on the ground by these programs is much larger.