Review of Utah’s 319 Nonpoint Source Program

PART I:
PROGRAM ADMINISTRATION
AND OPERATION

Submitted by

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Objective 1 Summary

This report presents the findings of a process review of Utah’s 319 nonpoint source (NPS) program. The goal of the review was to identify those elements of the program’s administration and structure that function well, as well as those elements which are problematic. The review used program documents, reports and records, as well as results of structured interviews with 33 key individuals involved in different aspects of Utah’s 319 program. These interviews provided meaningful insights and input on ways to modify or strengthen the program.

Utah’s 319 Nonpoint Source Program has an ambitious mission of protecting the state’s waters from the negative impacts of diffuse, or nonpoint, pollutants and reducing or eliminating the sources of these pollutants. The federal CWA allows only voluntary, incentive-based approaches to controlling nonpoint source pollution, so the program relies on education, improved land use management practices, and incentives through cost share and technical assistance.

The 319 program is administered by Utah’s Division of Water Quality, but relies on the participation and coordination of many partners at state and local levels. A Water Quality Task Force assists in coordination at a state level, while watershed coordinators, steering committees and technical committees provide local leadership.

A common perception of this program in Utah is that its purpose is primarily to address agricultural sources and much of the program’s efforts were, in fact, focused on agricultural projects in its early years. In reality, the intent of EPA’s 319 program is to address all diffuse pollution sources, including urban and suburban storm water runoff, mining runoff, and impacts from recreational uses.

Between 1990 and 2010, Utah has received over $31 million in 319(h) grants from EPA. The required 40% non-federal match for this program has been provided by a combination of private and public sources, and totaled about $20 million dollars over this same period. Annual state grants from EPA peaked in 2001. Funding from 2005 – 2010 averaged about $1.8 million/year. The annual grant was cut by about 18% in FY 2011 and another 18% cut is expected in FY 2012.

EPA allocates 319 funding to each state based on a formula that relies heavily on total population and cropland area, with very low weight given to range and pasturelands or tourism activities. As a result, Utah is 44th among the states in the total 319 grant it receives, even though it is one of the largest states in the country. EPA requires that state 319 programs identify and prioritize sources and measure and report outcomes, all within a watershed-based management framework. These activities all scale with state size, resulting in even higher “fixed program costs” in Utah compared to total program funding.

Given these constraints, it is impressive that from 2001-2010, an estimated 42% of the state’s 319 grant was spent on implementation of best management practices, and another 25% on local watershed coordinators and technical assistance. On average 23% of the total was spent on administrative and management costs.
Utah’s 319 program has been very effective at meeting program requirements by leveraging other EPA and state funding sources. Utah’s total funding for nonpoint source programs includes state sources such as low interest loans from the State Revolving Fund and Hardship grants funded by interest from these loans. The program has also been allowed to use USDA Environmental Quality Incentive Program (EQIP) funds as match, an exception to the prohibition of federal match.

Utah’s 319 program has also succeeded largely through effective partnerships with other state agencies, federal land-management agencies, nonprofits and private organizations, academic institutions, and private citizens. Interview informants reported that good partnerships at state and local levels have been responsible for the program’s successes. A majority of these respondents, however, expressed concern that poor coordination among state land management programs was negatively impacting the effectiveness of all these programs.

The majority of those interviewed felt that the 319 program has been cost effective and has resulted in reduced pollution statewide. Respondents showed a good understanding of the diversity of pollutants and pollutant sources that Utah’s 319 program must address. A majority of respondents felt that the program has focused too heavily on agricultural sources in the past and would benefit from expanding its efforts to include other significant sources as well.

Those interviewed generally supported changes in the Utah program to concentrate funding on fewer watersheds at a time. They were very supportive of the use of Watershed Coordinators in local communities. Respondents generally understood the Total Maximum Daily Load watershed approach used by EPA, which establishes the maximum amount of pollutant a water body can handle before being impaired, quantifies pollutant loads from different sources in the watershed, and works to reduce the most significant sources. The consensus, however, was that TMDLs were best implemented within a broader watershed framework.

The program’s records and reporting outputs were extremely difficult to work with for this review. Records were incomplete, maintained in different offices or filing systems, and often were not sufficiently detailed to evaluate all elements of the program. Interviewees were extremely critical of the program’s poor record keeping. Other strong criticisms were directed at the program’s convoluted system of contract management that varies across the state. A separate component of this review is evaluating monitoring protocols and attempting to quantify impacts from projects which have already been implemented. This effort has been hampered by inadequate monitoring data. Interviews also identified this need for improved monitoring approaches to better detect impacts from implemented projects.

Although 319 funds have consistently been directed to outreach and public education, those interviewed felt that these efforts have has been ineffective in “telling the 319 story” to the citizens of the state. Several expressed frustration that this has resulted in poor understanding by the public and by decision makers of the program’s successes and its impacts.
**Introduction**

This report presents the findings of a review of Utah’s 319 nonpoint source (NPS) program, including program administration, record keeping, and allocation of funding and effort. A separate statewide evaluation of the effectiveness and impact of selected 319 implemented BMPs is ongoing and will be reported on separately.

The goal of this process review was to evaluate different elements of the state’s 319 NPS program, to identify strengths and weaknesses of the program, to determine how the program is perceived by the various state partners involved in protecting water and to recommend changes that could result in a more efficient and effective use of the limited funds that the state receives.

**Methods**

Information and sources used in this review included EPA and state guidance documents and reports to states, and Utah’s program records, including their statewide planning documents, annual reports and final project reports, MOUs and contracts, information from EPA’s Grants Record Tracking System, and other internal records. All documents are listed in the reference section of the report.

In addition to the document review, semi-structured interviews were conducted with key individuals involved in the Utah’s 319 program. Because of the relatively small number of individuals involved in administering, overseeing and implementing Utah’s 319 program, no attempt was made to randomly select informants to interview. Rather, key individuals were selected who work or have worked in different capacities with Utah’s 319 program, including administrators and staff in the Division of Water Quality and the Department of Agriculture and Food, watershed coordinators, and individuals in partner agencies and nonprofits. A total of 33 individuals with affiliations or knowledge of Utah’s 319 program were interviewed.

Other interviews included Gary Kleeman and Peter Monahan of EPA’s Region 8 office, several individuals at the national EPA office in DC contacted for clarification of issues or to address specific questions, and key individuals knowledgeable about other state programs (Arizona, Wisconsin, Kansas, Ohio).

A structured interview tool was developed which addressed key areas of interest. The interview also provided many opportunities for participants to offer additional insights, concerns, or comments. The interviews served several functions. First, they provided additional information on the structure and function of different elements of the existing statewide program, in particular those performed by different partners in the statewide program. Second, the interviews provided an indication of how well key individuals or groups understand the current program. Finally, the interviews were a means of soliciting input on ways to modify or strengthen the existing program. The interview tool was approved by Utah State University’s Institutional Review Board to assure that it was unbiased and that the process protected the confidentiality of individuals. The entire interview tool can be found in Appendix I.
**EPA 319 Program Description**

Water Quality protection in the United States is guided by the 1972 federal Clean Water Act (CWA). Amendments to the Act in 1987 included Section 319 (H) which provides guidance and a funding structure for nonpoint source control. As a result of this amendment, since 1990 EPA has provided grants to states for planning and implementing nonpoint pollution control. The CWA requires that this approach be voluntary and driven by financial incentives (cost share), coupled with education of landowners and effective partnerships with other agencies and other stakeholders.

Section 319 grants are intended for control of all sources of nonpoint source pollution. In many states these funds have been directed primarily to agricultural best management practices (BMPs). Over time, as the challenges inherent in nonpoint source pollution control became more apparent, EPA increasingly stressed the importance of planning in NPS management and mitigation. EPA has long recognized that nonpoint sources were best managed at a watershed scale. This management requires the identification of multiple sources, quantification of these sources, determination of the many diverse pathways that pollutants travel from source to receiving waters, and an understanding of the many transformations of different pollutant forms en route. Watershed based management plans were encouraged as a logical approach for identifying and mitigating all pollutant stressors. Approved Total Maximum Daily Loads (TMDLs) were later identified as the best mechanism for targeting the most critical pollutants and allocating allowable loads to the different sources in a waterbody in order to meet water quality standards. In 1999, the emphasis on TMDLs for 319 funding was made more explicit, when 319 funding to states was divided into base funds and incremental funds. Base funds could be used to hire staff and provide support for the different necessary components of the state’s nonpoint source program, including education, training, technical assistance, demonstration projects, and other financial assistance. Incremental funding, however, was specifically intended for work associated with an approved TMDL or part of a watershed management plan. EPA allows at least 20% of funds from both categories to be used for planning purposes.

EPA requires that states’ 319 programs operate under an approved statewide NPS management plan. EPA guidance released in 2003 (cite) established nine minimum key elements for these plans.

1. The state program must contain long-term goals, short-term objectives, and strategies to protect surface and ground water.
2. The state must strengthen its working partnerships and linkages with appropriate state, tribal, regional, and local entities (including conservation districts), private sector groups, citizens groups, and federal agencies.
3. The state must use a balanced approach that emphasizes both statewide NPS programs, and on-the-ground management of individual watersheds where waters are impaired and threatened.
4. The state program must: (a.) abate known water quality impairments from NPS pollution; and, (b.) prevent significant threats to water quality from present and future activities.
5-The state program must identify waters and their watersheds impaired by NPS pollution, and also identify important unimpaired waters that are threatened or otherwise at risk. Further, the state must establish a process to progressively address these identified waters by conducting more detailed watershed assessments and developing and implementing watershed implementation plans.

6- The state must review, upgrade, and implement all program components required by Section 319(b) of the Clean Water Act, and establish flexible, targeted, and iterative approaches to achieve and maintain beneficial uses of water as expeditiously as practicable.

7-The state must identify federal lands and activities which are not managed consistently with state NPS program objectives. Where appropriate, the state may seek U.S. EPA assistance to help resolve issues.

8-The state must manage and implement the NPS program efficiently and effectively, including necessary financial management.

9-The state must periodically review and evaluate its NPS program using environmental and functional measures of success, and revise its NPS assessment and its management program at least every 5 years.

EPA has also identified specific criteria for the watershed plans required in the key program element 5 (above). Watershed plans should include:

1. Identification of sources that must be controlled to reach the state’s NPS goals (or goals within specific TMDLS or watershed plans);
2. Identification of specific nonpoint source management measures, including targeting critical areas to result in reduced NPS loads;
3. Estimated load reductions anticipated from specific management measures;
4. Estimated financial and technical resources necessary to implement the plan;
5. A description of I&E efforts needed to increase public knowledge of and involvement in NPS reduction;
6. A timeline for implementing the elements of the plan;
7. Interim, quantifiable milestones to track progress;
8. Criteria to determine progress or identify changes in the plan to achieve success;
9. A clear monitoring program for determining whether these criteria have been met.

These requirements for the state program, as well as requirements for individual watershed projects, make clear that in addition to funding actual implementation of BMPs, 319 funding is to be used for those activities necessary to develop a clear nonpoint source management framework.
Utah’s 319 Program Description

Utah’s Department of Environmental Quality, Division of Water Quality (UDWQ), has been delegated by EPA as the lead agency for implementing the 319 program, and funding from 319 is used for administrative and technical staff in UDWQ. A Nonpoint Source Task Force (recently renamed the Utah Water Quality Task Force) assists in identification of priorities and coordinating activities between the many stakeholders and partners within the state. The Task Force membership includes representatives from state and federal land management agencies, interest groups, local governments, nonprofits and other partner organizations. Because of Utah’s early emphasis on agricultural sources, Utah’s Department of Agriculture and Food (UDAF) was given a shared leadership role in the state program. Each year an annual MOU between the two agencies identifies the UDAF’s role and responsibilities and has provided 319 funding for staffing and other assistance for agricultural projects in the state. These UDAF staff have assisted with contract management of agricultural projects, provided statewide outreach and education and technical assistance, and updated EPA’s grants reporting database. The UDAF, in turn, partnered with the Utah Association of Conservation Districts (UACD), relying on their network of conservation districts to provide a local connection to producers. Technical and other planning support for agricultural projects was provided when possible by the NRCS. To underscore the inclusion of the agricultural community in NPS management efforts, the chairmanship of the Task Force rotated each year between the head of the UDWQ and the Utah Commissioner of Agriculture.

Utah’s early 319 program allocated funding to major watershed projects through large multi-year contracts. Funds were used to implement demonstration projects and later to install BMPs throughout large watersheds. Utah’s early 319 program partnered effectively with USDA programs such as the Hydrologic Unit Areas and used the conservation district’s comprehensive resource management planning process to bring many partners and additional sources of funding to the table. Watershed coordination at a local level was provided by UACD, the conservation districts, USU Extension or NRCS staff and local watershed steering committees were encouraged to target their funding and to coordinate with other government or private programs and nonprofits. During these early projects, planning was encouraged, but seen as a necessary evil that drained critical funds from the important work of implementation. Monitoring was also considered a drain on limited funds which would be better used for mitigating pollution. This approach was effective at promoting good partnerships. Unfortunately, implementation of BMPs tended to be scattered and the benefits of these implementation projects were difficult to quantify and often could not be detected at a subwatershed scale. Since 1999, when 319 funding was divided into incremental and base funding, 319 funds have increasingly targeted those water quality efforts identified in approved TMDLs. Since 2002, watershed coordinators have been hired with 319 funds with the express purpose of implementing these TMDLs.

In 2009, in recognition of the need for more targeted implementation and more effective monitoring of project impacts, Utah’s 319 program began directing its funding to watershed projects on a rotating schedule. In the future, major watershed areas will have approximately two years of funding for assessment and planning followed by one to three years of increased funding for an intense implementation effort. Follow up funding for another 1 to 2 years will be used for additional monitoring for quantification and reporting of impacts. With this approach,
the bulk of the available 319 funding will directed at a single watershed at any one time, with lesser funding for those watersheds cycling into or out of their implementation phases. Proposals from other priority watersheds will also still be considered depending on available funding.

Since 1989, Utah’s NPS program has operated under an EPA approved NPS Management Plan. This plan has provided a blueprint for implementation of the state’s nonpoint source program. Two amendments to the plan, one detailing the state’s approach to hydrologic modifications and another covering NPS pollution control from silviculture, were submitted and approved in 1995 and 1998 respectively. In 2000, EPA approved an update of Utah’s Nonpoint Source Pollution Management Plan and DWQ has recently begun the process of updating this plan again.

Staff for DWQ’s current program is partially funded by 319 funds. Their NPS section includes a watershed section manager, a 319 statewide coordinator, and DWQ watershed coordinators (formerly known as TMDL coordinators) who assist with planning and targeting of efforts at a major river basin or watershed management unit level. They work closely with watershed committees and coordinators on individual watershed projects, assist with TMDL development, proposal writing, project management, and report writing.

**Allocation of 319 funds**

Each year the state’s annual 319 grant from EPA is tracked in EPA’s Grants Records Tracking System (GRTS) but the distribution of these annual grants to individual contracts, staffing and support was more difficult to determine. Until approximately a year ago, DWQ did not maintain separate electronic records, such as a database or even an Excel spreadsheet. Records were available as hard copy files, as summary tables in annual and final reports, and as contract entries in GRTS. These records were not always consistent, however, probably due to changes in contracts or spending decisions that were not fully documented. Additionally, spending categories were not well defined. Workplans for many of the major watershed contracts included technical support, I&E and monitoring, in addition to implementation of BMPs, but the allocation of the total grant to these categories was not easily teased out. The information presented in this section, therefore, is the best available information. Recommendations of this study include a significant effort at improved record keeping.

Between 1990 and 2010, Utah received over $31 million in 319(h) grants from EPA. Grants grew from roughly $400,000/year in 1990 to over $2.2 million per year in 2001. Funding remained at this high level until 2005, when annual grants fell to about $1.8 million/year (Figure 1 and Table 1). Funding levels for FY 2011 were cut by ~18% relative to FY 2010 levels and EPA anticipates additional cuts in FY 2012. Combining the EPA grant and the required 40% non-federal match, Utah’s 319 program totaled over $50 million between the years of 1990 and 2010.

Annual funding for staffing and support has also increased over the past 20 years (Figure 1). Between 1990 and 2002, an average of 34% of the annual grant was used for staffing and support. Most of this covered staff at DWQ and UDAP who assisted in program management and planning (Table 1).
Since 2003, the program has hired local watershed coordinators to assist in planning and implementing projects throughout the state (Figure 2). These watershed coordinators were considered necessary to provide planning, technical assistance, and other support duties that had previously been provided for many of the watershed projects by NRCS or UACD staff. This decision increased the total funding directed to staff and support, which has averaged about 52% of the total grant between 2003 and 2010.

Figure 1. Annual EPA 319 grants to Utah with distribution for staffing/support and all other grants
Table 1. Annual EPA 319 grant, with percent of grant distributed to staffing and support and to other contracts.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total EPA Grant</th>
<th>Percent of total in contracts *</th>
<th>Percent of total in Staff &amp; Support **</th>
</tr>
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<tbody>
<tr>
<td>1990</td>
<td>$415,324</td>
<td>62.2</td>
<td>39.2</td>
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<tr>
<td>1991</td>
<td>$623,512</td>
<td>55.4</td>
<td>43.1</td>
</tr>
<tr>
<td>1992</td>
<td>$582,570</td>
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<td>53.5</td>
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<tr>
<td>1993</td>
<td>$872,500</td>
<td>61.7</td>
<td>32.7</td>
</tr>
<tr>
<td>1994</td>
<td>$1,008,855</td>
<td>63.6</td>
<td>32.7</td>
</tr>
<tr>
<td>1995</td>
<td>$1,442,300</td>
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<td>27.3</td>
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<tr>
<td>1996</td>
<td>$1,507,835</td>
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</tr>
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<td>1997</td>
<td>$914,200</td>
<td>52.0</td>
<td>47.0</td>
</tr>
<tr>
<td>1998</td>
<td>$1,209,900</td>
<td>65.7</td>
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</tr>
<tr>
<td>1999</td>
<td>$1,833,400</td>
<td>57.8</td>
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</tr>
<tr>
<td>2000</td>
<td>$1,816,400</td>
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<td>2001</td>
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<td>$2,128,900</td>
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<tr>
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<td>2006</td>
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<td>34.4</td>
<td>64.8</td>
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<tr>
<td>2007</td>
<td>$1,733,800</td>
<td>37.5</td>
<td>56.5</td>
</tr>
</tbody>
</table>

* Implementation, information and education, groundwater projects, monitoring
** Staffing and support (UDWQ and UDAF), other technical assistance, watershed coordinators
Figure 3 details the distribution of funding for project implementation, groundwater monitoring and assessment, and information and education efforts. Total funding for specific watershed projects totals almost $13,000,000 (Table 2.)

Figure 2. Allocation of staffing and support expenses

Figure 3. Allocation of 319 contracts to implementation, groundwater and I&E projects
Approximately $1,400,000 has been contracted for statewide AFO/CAFO efforts, another $1,400,000 for other technical studies and support, $1,240,000 for groundwater studies and monitoring, and almost $2,000,000 for information and education projects. Although many of these watershed contracts included I&E, technical support and monitoring tasks, these elements were not split out for this report.

Table 2. Total of 319 contracts dedicated to specific watershed projects.

<table>
<thead>
<tr>
<th>Drainage</th>
<th>1990-2010</th>
<th>Sub-basin</th>
<th>1990-2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beaver / Cedar</td>
<td>$1,175,920</td>
<td>Beaver</td>
<td>$1,175,920</td>
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<tr>
<td>Bear River (UT)</td>
<td>$3,722,535</td>
<td>Lower Bear</td>
<td>$307,800</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Middle Bear</td>
<td>$3,036,795</td>
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<tr>
<td></td>
<td></td>
<td>Upper Bear</td>
<td>$377,940</td>
</tr>
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<td>Colorado River West</td>
<td>$915,000</td>
<td>Fremont</td>
<td>$476,600</td>
</tr>
<tr>
<td></td>
<td></td>
<td>W Colorado</td>
<td>$325,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Scofield Res</td>
<td>$113,400</td>
</tr>
<tr>
<td>Colorado River SE</td>
<td>$123,250</td>
<td>Onion Creek</td>
<td>$123,250</td>
</tr>
<tr>
<td>Jordan River</td>
<td>$722,230</td>
<td>Jordan</td>
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<td></td>
<td></td>
<td>Spanish Fork</td>
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<tr>
<td>Lower Colorado</td>
<td>$133,730</td>
<td>Virgin</td>
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<td>Sevier River</td>
<td>$3,248,459</td>
<td>Otter Creek</td>
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<td></td>
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<td>Sevier</td>
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<td>Uintah Basin</td>
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<td>$149,600</td>
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<tr>
<td>Weber Basin</td>
<td>$2,745,691</td>
<td>Chalk Creek</td>
<td>$2,310,091</td>
</tr>
<tr>
<td></td>
<td></td>
<td>East Canyon</td>
<td>$435,600</td>
</tr>
</tbody>
</table>

Perception of funding allocation by partners

Since its inception, the 319 program has operated under an implicit goal to put 319 funding “on the ground”. Several of those interviewed expressed concern about the actual allocation of funding, in particular that too much funding went toward “employees” or to administration. Others were critical of the level of documentation necessary with the 319 program or felt that the TMDL efforts “suck up too much money for what they get out of them”.

Figure 4 shows the percentage of total funds directed to different program elements from 2001 through 2010. This figure is based on the best estimate possible from the funding records available. The implementation category includes all watershed and agriculture watershed improvement projects. The I&E category includes contracts for watershed specific and statewide outreach efforts as well funding for one UDAF staff position dedicated to outreach.
Most of the UDWQ’s monitoring program is not funded out of the 319 program and almost all of the monitoring conducted with 319 dollars was for groundwater projects. The technical assistance category includes contracts for load estimation, critical area analysis, and BMP design. The administration and management category, which includes most of the UDAF and UDWQ staffing and support, is probably an over-estimate because the UDWQ state watershed coordinators provide technical assistance for TMDL development and project implementation.

Those interviewed were asked to estimate the distribution of 319 dollars in two ways. First, they were asked what percentage of total 319 dollars did they think stayed at a state level, and what percentage were spent at a “field level”. On average, respondents estimated that 43% of the total 319 funds were spent at a state level and 57 percent were spent throughout the state (field level). In contrast, those respondents with less knowledge of the program’s specifics (for example those representing other state and federal partners) estimated that only 23% of the total 319 grant stayed at a “state level”.

Figure 4. Allocation of Utah’s 319 grants from 2001 - 2010

Those interviewed were asked to estimate the distribution of 319 dollars in two ways. First, they were asked what percentage of total 319 dollars did they think stayed at a state level, and what percentage were spent at a “field level”. On average, respondents estimated that 43% of the total 319 funds were spent at a state level and 57 percent were spent throughout the state (field level). In contrast, those respondents with less knowledge of the program’s specifics (for example those representing other state and federal partners) estimated that only 23% of the total 319 grant stayed at a “state level”.

Figure 4. Allocation of Utah’s 319 grants from 2001 - 2010
Interviewees were then asked to estimate the percentage of the total 319 grant spent on different functions. The averages of their responses, summarized in Figure 5, are quite similar to the actual allocation of dollars (Figure 4). People who were most critical of the program tended to estimate somewhat lower funding for implementation, but on average the perceived distribution of funds was fairly close to the actual distribution.

Figure 5. Estimated allocation of Utah’s 319 grants by interview respondents

Spending categories such as “state”, “field”, implementation” or “on the ground” were intentionally used in the interview, because these are terms that are commonly used by participants and observers of the NPS program. The terms, however, are poorly defined. This lack of common definitions has likely led to some of the miscommunication between partners and even within DWQ and UDAF when discussing the value of the 319 nonpoint source program. Costs associated with actual BMP construction, operation and maintenance clearly fall within the heading of “on the ground”. Most people also included technical assistance in the form of engineering designs. When asked directly, most individuals recognized that proper NPS control required more than simply constructing BMPs, but also required watershed planning so that appropriate BMPs were applied to the most critical nonpoint sources within a given watershed. Those interviewed also acknowledged that education efforts are critical for
landowners to understand why specific BMPs have been installed, how they should be maintained for maximum effectiveness, and why different practices must be modified through the use of associated nutrient, grazing or irrigation management plans.

**Allocation of EPA 319 funds to Utah**

EPA allocates 319 funding to each state based on a “Planning Target Formula”, established in 1997. The formula includes different factors important in generating nonpoint sources but does not weight these factors equally (see Appendix 2). Greater weightings are given to population factors (0.2681), total cropland area (0.1581), and wellhead protection (0.1135). In contrast, rangeland and pasturelands are given a weighting of 0.0205 and total state area is not a consideration in the formula. This formula puts the states in the intermountain west at a disadvantage. Funding levels for four of the six states in EPA’s Region 8 are relatively low; Colorado, Montana, Wyoming, and Utah were ranked 36, 35, 43 and 44 respectively (see Appendix 3) even though these four states are among the largest states in the U.S., comprising 12% of the total area of the country. This very low total funding does not reduce a state’s “fixed costs” associated with EPA’s minimum requirements for managing nonpoint source pollution. As one of the interviewees noted, EPA Region 8 has been critical of the relatively high percentage of Utah’s total 319 grant dedicated to staff and support, although this is clearly a result of fixed program expectations that have to be paid by Utah’s small total grant.

Several of the nine minimum requirements of EPA’s 319 state programs scale with the total state area (for example, monitoring requirements, source identification, source quantification). All else equal, this results in higher “fixed costs” of the program in large states relative to smaller states.

In contrast to 319 funds, Utah’s EQIP allocations are relatively generous. In FY10 Utah was ranked 22nd among the states for total EQIP funds ($15,491,255 in FY10). Utah has the lowest ratio of 319 to EQIP dollars of all the states in the country. Considering EPA’s minimum requirements for 319 funding, the total amount of 319 dollars available for implementation is even more constrained. This allocation of funding is not well understood or acknowledged by Utah’s partners as an important factor in managing nonpoint source pollution in Utah.

EPA recognizes that the formula results in “haves” and “have nots” among the states, but a reworking of the formula would result in a different set of “haves and have nots”. As a result, EPA is not likely to modify their ranking formula at this point (Dov Weitman, pers com). Ironically, NRCS has withdrawn some support for nonpoint source programs in recent years. Technical support was once provided by NRCS for 319 projects, but in recent years has been provided only for projects with USDA support. Those interviewed were responding to approaches by the NRCS under a previous administrator. The current state NRCS Conservationist, David Brown, has indicated that Farm Bill projects will be more fully integrated with 319 projects in the future.

One way in which Utah has maintained an effective nonpoint source program is by leveraging resources from Farm Bill and other programs. Utah’s total state funding for nonpoint source programs includes low interest loans from the State Revolving Loan and Hardship Grant
programs. This alone has almost doubled the resources of the state in addressing nonpoint source pollution. Also, very little 319 money is used to assess water bodies or to track the impacts of BMP implementations at a local or watershed level. Rather, DWQ uses state funds or moneys from other EPA programs for monitoring and assessment purposes. Finally, funding for Utah’s 319 program comes from multiple sources. As seen in Table 3, over $2,225,000 in funds from other federal, state and local sources were used as part of Utah’s NPS efforts in 2011.

Table 3. Funding sources used in conjunction with Utah 319 funding in 2011.

<table>
<thead>
<tr>
<th>Funding Source</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Ribbon</td>
<td>$38,600.00</td>
</tr>
<tr>
<td>Habitat council</td>
<td>$81,659.00</td>
</tr>
<tr>
<td>Watershed Restoration Initiative</td>
<td>$100,070.00</td>
</tr>
<tr>
<td>Environmental Quality Incentive Program (EQIP)</td>
<td>$468,584.13</td>
</tr>
<tr>
<td>Price River Mitigation</td>
<td>$8,600.05</td>
</tr>
<tr>
<td>Moab City</td>
<td>$2,524.69</td>
</tr>
<tr>
<td>Grazing Improvement Program</td>
<td>$92,445.60</td>
</tr>
<tr>
<td>Utah Transit Authority Mitigation</td>
<td>$55,000.00</td>
</tr>
<tr>
<td>Salt Lake County</td>
<td>$750,571.00</td>
</tr>
<tr>
<td>South Valley Water Reclamation Facility</td>
<td>$628,000.00</td>
</tr>
</tbody>
</table>

Interview Results

General program effectiveness

Interview respondents were asked to evaluate the NPS program in several different ways. First, they were asked to state the goal of the state’s NPS program and then to indicate whether they felt that Utah’s program was effectively and efficiently meeting these goals. All those interviewed provided a thoughtful description of the goal(s) of the program. Most responses mentioned reducing NPS sources. Thirteen answers focused on legislative authority and requirements, such as TMDL development and removal of water bodies from the 303d list. Nine individuals focused on implementation aspects of the program. Six of the respondents indicated that the goal was specifically to reduce agricultural sources. Twenty three of the respondents felt that the 319 program was effectively and efficiently meeting the goals (that they had identified), while six respondents said it was definitely or partially not meeting the program goals.

Interviewees were then asked to rate Utah’s overall NPS program on a scale of 1 to 10 (Table 4). As a group, respondents rated the general program above average for effectiveness at reducing pollution, the program’s cost effectiveness, the efficiency of the program administration, and the effectiveness of the program at avoiding redundancy with other programs. Different clusters of respondents perceived the program differently, however. Ten of the respondents were
categorized as “agricultural affiliated”, meaning that they worked for agricultural agencies or agricultural interests. Another group of 10 individuals were categorized as “DWQ affiliated” because they currently or in the past worked on nonpoint source issues within the DEQ. As a group, agriculture affiliated respondents gave higher than average rankings to the program’s effectiveness at reducing pollution and cost effectiveness. In contrast, the DWQ affiliated group gave these categories and the efficiency of program administration lower than average rankings but ranked the program higher than average for its avoidance of redundancy with other statewide efforts.

Table 4. Average ranking, on a scale of 2-10, of Utah's statewide 319 program.

<table>
<thead>
<tr>
<th>Average ranking</th>
<th>All respondents</th>
<th>Ag-affiliated respondents</th>
<th>DWQ affiliated respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectiveness at reducing pollution</td>
<td>6.9</td>
<td>8.0</td>
<td>6.5</td>
</tr>
<tr>
<td>Cost effectiveness</td>
<td>6.7</td>
<td>7.5</td>
<td>6.4</td>
</tr>
<tr>
<td>Efficiency in program admin</td>
<td>6.5</td>
<td>6.7</td>
<td>5.6</td>
</tr>
<tr>
<td>Lack of unnecessary redundancy/overlap</td>
<td>6.9</td>
<td>6.8</td>
<td>7.7</td>
</tr>
</tbody>
</table>

Respondents were also asked to rank specific program elements (Table 5). On average, respondents gave the highest rating to the program’s allocation of 319 funds, identification of the most important pollutant issues, and identification of the most important locations for pollution control. Measuring and monitoring of project outcomes, and communicating results to the public were ranked the lowest on average. The group of agriculture affiliated respondents viewed the 319 program’s identification of NPS pollutants and targeting the best locations more favorably than the average group, but ranked allocation of 319 funds lower than the average group. DWQ affiliated respondents also gave lower than average rankings to the program’s allocation of 319 funds and also ranked monitoring and communication lower than the average.
### Table 5. Average ranking, on a scale of 1-10, of specific elements of Utah’s 319 program.

<table>
<thead>
<tr>
<th>Average Ranking</th>
<th>All respondents</th>
<th>Ag-affiliated respondents</th>
<th>DWQ affiliated respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identifying the most important NPS pollutant issues</td>
<td>7.5</td>
<td>8.2</td>
<td>7.3</td>
</tr>
<tr>
<td>Identifying the most important locations to work on NPS problems</td>
<td>7.4</td>
<td>7.7</td>
<td>7.4</td>
</tr>
<tr>
<td>Ensuring that highest priority places / problems receive the most support</td>
<td>6.9</td>
<td>7.8</td>
<td>6.3</td>
</tr>
<tr>
<td>Designing projects that are likely to have measurable impacts</td>
<td>7.1</td>
<td>7.3</td>
<td>7.4</td>
</tr>
<tr>
<td>Providing clear and efficient structure for allocating 319 funds</td>
<td>7.9</td>
<td>6.9</td>
<td>6.6</td>
</tr>
<tr>
<td>Measuring and monitoring wq outcomes</td>
<td>5.3</td>
<td>5.8</td>
<td>4.6</td>
</tr>
<tr>
<td>Communicating results of nps projects to public</td>
<td>5.2</td>
<td>5.6</td>
<td>4.7</td>
</tr>
</tbody>
</table>

### Pollutants of concern and identification of specific sources

A series of follow up questions asked respondents for more specific information about the program’s identification and targeting of efforts toward specific pollutants of concern and pollutant sources. When asked to identify specific pollutants of concern, every respondent identified nutrients. Most also mentioned sediments while far fewer listed other pollutants such as salinity, temperature impacts, and bacterial (*E. coli*) contamination.

Many felt that agricultural sources had been focused on most intensely by the 319 program, especially for reducing nutrients, and most felt that that this had been an appropriate focus in the past. The AFO/CAFO program was mentioned in particular as having been targeted as a major pollutant source and several specifically mentioned this as a success. The perceived value of this effort varied widely, however. About half the respondents felt that the focus on AFO/CAFO projects had resulted in reduced pollution and that the effort was one of the state NPS program’s most significant successes. Several respondents, however, indicated that they felt that AFOs had never been the most important problem in Utah but were easily identifiable and easier to target.
Almost all respondents felt that other sources needed more attention from the state’s NPS program. Twelve specifically mentioned urban runoff as an area that needs more attention. Others mentioned range management, and a returned focus to riparian management. A small minority mentioned mining, legacy agriculture, irrigation, recreation and road construction as sources that needed more attention.

**Change in Utah’s NPS management approach over time**

Most of those interviewed felt that Utah’s NPS program goals had not changed over time but that approaches to reaching those goals had changed. Twenty of those interviewed felt that the changes were positive ones, resulting in better targeting of pollutants, better understanding of pollutant control, and a more efficient approach. As one individual stated, “(the program is) not as focused on the willingness of the cooperators to do a project, and more focused on the resource itself.” Another respondent expressed concern, however, that changes had not been sufficient, stating “In some ways (we’re still) looking at 2011 problems with a 1990 lens.”

Several mentioned TMDLs specifically as a good change over time. Others expressed hope that the recently implemented rotation of watershed focus would be a good change. A small minority felt strongly that rotating watershed focus and funding would be detrimental to the statewide program, because it would leave some watersheds with major funding gaps.

Four individuals mentioned the drift away from Coordinated Resource Management Planning, a process used by the conservation districts, as problematic. They noted that the movement away from this process has caused the NPS program to lose its locally led focus.

Two individuals were extremely critical of perceived recent changes to the program, with much of their criticism leveled at EPA. One individual was concerned about EPA’s “mission creep” that was resulting in a changing focus for nonpoint source pollution control. These individuals also were concerned about EPAs recent proposed changes in AFO/CAFO nutrient management.

The current Utah Nonpoint Source Management Plan was approved by EPA in 2000. At the time, it provided a sound blueprint for the state’s program and helped explain the organization of the program to other partners, but it is now seriously outdated. As such, it is not effective in guiding the current program. During the review interviews, several federal partners identified the outdated management plan as a particular concern. While the plan serves to guide Utah DWQ efforts, it is also relied upon by partner agencies as a guide for their ongoing involvement. Guidance based on a 12 year old plan is seen has having very limited value.

**TMDL approach**

The interview specifically asked about Utah’s TMDL approach to nonpoint source management. When asked if this approach has been successful, 19 respondents from a wide range of backgrounds felt that the TMDL approach had been effective. Several of these commented further on the value of TMDLs for quantifying loads from specific sources and stated that they
felt that the TMDL process had moved NPS management forward significantly. Six of the respondents felt that TMDLs had worked “pretty well” but could be improved and 4 were unsure. Only two respondents had strong negative responses to the TMDL, one labeling it a “disaster”.

Many of the answers revealed considerable misunderstanding of the TMDL process. One of the respondents stated “I don’t think the public understands it well and people then get mad about it.” Four other respondents, all of whom had long ties to the state’s program, stated that they still didn’t understand the process well. Those most critical of TMDLs stated that a more inclusive “watershed-based” approach would be better. A particular concern by several was that the state’s DWQ TMDL coordinators were missing the broader vision of watershed planning, especially as a “locally led” process. These respondents apparently did not fully understand the TMDL planning process, which is intended to be inclusive and at a watershed scale. One respondent commented that the TMDL coordinators should be serving on technical advising committees, not running the steering committees. Several respondents felt that nutrient TMDLs were problematic because of the lack of nutrient standards in the state.

Many of the existing TMDLs in the state were developed by consulting firms, but the DWQ coordinators are increasingly being asked to develop the TMDLs in-house. This is likely to be more cost-effective in the long run, but also is seen by some of 319’s traditional partners as a concentration of funding in agency positions. In addition, several respondents expressed concern that these TMDL coordinators do not fully understand the planning process, especially as it is undertaken within different agencies.

**Partner involvement**

A question about partner involvement elicited considerable comment. Almost all of those interviewed commented on the value of full engagement by federal state and local partners in managing water quality at a watershed scale. Many, however, felt that the state’s 319 program had lost the full involvement of several past partners and was not taking full advantage of other opportunities to partner with groups and agencies with common goals of resource management. NRCS and the Division of Wildlife Resources were identified, in particular, for the value of their past partnership. In recent years, NRCS has restricted its involvement in water quality efforts to those that had EQIP funding. This was seen as a major shift from the early days of the 319 program, when much of the technical support for BMP implementation was provided by NRCS engineers and staff. The Division of Wildlife Resources was also identified as a missing partner in 319 efforts, and many respondents expressed “real disappointment” that the DWR’s Watershed Initiative has not coordinated well with the DWQ’s 319 effort. Several respondents also expressed concern about a more confrontational tone taken by the UDAF recently.

Other agencies that also engage in some degree of watershed-scale planning and management were cited, including the Utah Divisions of Water Resources and Drinking Water, the USFWS, , and the UDAF’s GIP program. The USFS and BLM and the National Parks also participate actively in watershed-scale planning efforts. In all cases, respondents felt a need for better communication between the state leadership of these agencies to identify and better align their shared interests in resource management.
In addition to the importance of better communication and coordination between state leadership, respondents felt that the Water Quality (NPS) Task Force had also lost participation of important partners and that other partners were “just filling in chairs”. Several respondents expressed appreciation that some entities, such as State Lands and Forestry, have remained engaged. “Missing partners” cited by respondents included representatives of local and state government, water conservancy groups, urban partners involved in stormwater management, non-profit interest groups, private water quality businesses, and environmental groups (specifically those seen as non-litigious). Trout Unlimited was commended for its ongoing involvement, but respondents noted other groups such as the Elk Foundation, Audubon and Nature Conservancy were no longer active members of the Task Force. Respondents also expressed hope that the Division of Oil, Gas and Mining, UDOT, the USGS and ACOE would re-engage with the NPS program at a state level or through the WQ Task Force.

Several respondents commented that water quality interests were not being well represented at other state-wide, regional or local planning efforts and saw this as a missed opportunity to demonstrate the value of partnering with the 319 program. Suggestions included regularly getting on the agenda of other coordinating groups or agency meetings, and meeting with municipal, county and state level decision makers and elected officials to provide updates and reinforce the value of collaborative efforts.

Several individuals criticized the DWQ for not sufficiently participating in the local work groups in each county. These work groups establish priorities for distribution of USDA funding. A more active involvement and engagement by the TMDL coordinators or other representatives of DWQ was seen as critical if water quality was to be identified as a priority resource. This is especially important in a state where EQIP funding is so much greater than 319 funding.

Local participation through steering committees and watershed subcommittees was the one level of partner participation that is viewed as quite effective. Again, the loss of NRCS involvement at a local level was viewed by many as having seriously impacted the capacity of locally driven watershed projects. There was concern expressed by some that DWQ TMDL coordinators were not sufficiently engaged with local efforts and more frequent visits in their watersheds would help local partners feel more engaged and would also allow the state coordinators to better understand the challenges and strengths of these diverse efforts across the state.

The watershed coordinators were singled out as critically important to successful engagement at a local level. These coordinators experience a number of challenges, however, that diminish their effectiveness. Several watershed coordinators felt somewhat isolated from the DWQ because the staff and leadership are concentrated in SLC. Others felt that they did not get sufficient support for vehicles, computers and other equipment necessary for them to be effective at their jobs. Those watershed coordinators who do not share office space with NRCS or the local conservation districts stated that they were not able to access NRCS training and other online resources. Many respondents also expressed concern about the low pay for these positions. As a result, watershed coordinators are often entry level positions, often recent graduates who are looking for experience. The DWQ and its partners on the Watershed Coordinating Council invest considerable resources and time in training these individuals on
everything from planning processes, monitoring and reporting requirements, and permitting and design requirements for project implementation. The time and associated costs of this training is wasted if these positions experience rapid turnover. In addition, the connections with local partners and landowners are lost when watershed coordinators leave to seek better pay. Several coordinators stated that they would love to stay, but felt that they would be forced to leave eventually for financial reasons.

The interviews revealed a mixed attitude about the involvement and leadership of EPA’s regional office in Utah’s 319 efforts. Several felt that the Denver office was disconnected and lacked deep or nuanced understanding about Utah’s program or about specific projects. One individual commented that if you could “get Gary out (to your watershed) he won’t have nearly as many comments about proposed activities”. Others interviewed felt that EPA lacked trust in Utah’s leadership, resulting in “micromanagement” of some elements of the program. Interviews with regional EPA staff suggest that they rely heavily on their experiences in other states and with other programs. These interviews revealed an appreciation of Utah’s program but frustration that Utah had not been able to demonstrate success through approved “success stories” or delisted waterbodies. Several Utah interviewees expressed their own frustration that regional EPA staff did not appear to appreciate the significance of the extremely low level of 319 funding that Utah receives relative to the requirements of the 319 program.

**UDAF Role in Utah’s 319 NPS Program**

UDAF’s involvement with the 319 program has provided an important linkage with the agricultural community, the Conservation Commission and the Utah Association of Conservation Districts. Since the inception of Utah’s 319 program, UDAF has received funding for up to 5 FTEs tasked with assisting with the 319 program (Figure 6). The future of this funding is part of an ongoing discussion between UDWQ and UDAF, as the state program grapples with reduced overall funding and a need to address urban runoff and other non-agricultural sources.

A majority of those interviewed for this report felt that many of the tasks performed by the UDAF for the 319 program may no longer be necessary, or have become redundant as tasks are taken up by UDWQ, watershed coordinators or other partners. In particular, UDAF’s involvement in reimbursements for contracts was seen as inefficient, adding an extra layer of bureaucracy with little or no value added. Other activities identified in UDAF’s work plan are now being conducted primarily by UDWQ, including monitoring, and review and updating plans. GRTS reporting may also be conducted more efficiently through the UDWQ, which may currently have a more complete understanding of all program elements.

The UDAF does provide important links to other land management programs such as the Grazing Initiative Program, the Salinity Program, the AFO/CAFO statewide strategy and pesticide management. This should continue to be UDAF’s focus as the core of their NPS involvement, and UDAF should be encouraged to be more effective at integrating these and other agriculture related efforts with NPS pollution reduction goals.
Utah’s 319 program must be responsive to all the nonpoint source issues within the state, including impacts from urban activities, recreation, mining and gas development, in addition to agriculture. All these efforts should identify and acknowledge the multiple benefits to be gained from comprehensive planning and management. It is important, therefore, to identify a clear mission for UDAF’s involvement in the state’s NPS program that focuses on those activities already within UDAF’s purview, such as the grazing management, AFO management, and salinity and other impacts from irrigation water management.

**Contract management**

The management of Utah’s 319 program contracts is not a single process but rather is an array of different approaches determined by the type of contract, the recipient, and the agency that houses a particular watershed coordinator position. Those interviewed were extremely critical of some of the current processes in place, citing long delays in payments, too many different lines of authority, and a concern that multiple layers of control and oversight is financially inefficient.

Since the program’s beginning, UDWQ has directly managed a small number of contracts but negotiated with the UDAF each year to manage most of the agriculturally-based projects. UDAF staff worked with project cooperators on work plans, processed reimbursements for work performed, assured that match was properly accounted for, and assured that project interim and
final reports were approved and submitted. Watershed projects typically involved work by individual landowners, subcontractors, suppliers and others involved in planning and implementing local practices. The UDAF turned to the Utah Association of Conservation District (UACD) to provide invoicing services. UACD staff, therefore, handled actual reimbursements and tracked of payments for most of the agricultural 319 contracts. For a local watershed coordinator, the transparency of the process, as well as the ease of repayment, appears to depend on whether they are an employee of the UACD, a local conservation district, USU Extension or some other entity. Complicated reimbursement processes have added additional administrative expenses to the 319 program as well. For a number of years, UDAF had a 319 funded position devoted to contract management. In addition, UACD has charged a processing fee for handling invoices based on a percentage of the invoice.

In some cases, the invoicing process has been extremely convoluted. To get a local contractor’s invoice paid, the watershed coordinator for the Western Colorado basin must first get approval of the invoice by a quorum of his local conservation district (by attending their monthly meeting or driving to their homes for their signatures). The invoice is then forwarded to the state UACD office, which then forwards it to the UDAF. Once UDAF approves, UACD is informed and makes out a check to the local conservation district which is tasked with paying the subcontractor. This process creates unnecessary delays for reimbursements of up to 3 months. This has given 319 projects a bad reputation among some local contractors who are unwilling or unable to accept long delays in their reimbursements.

Other watersheds have established far more streamlined mechanisms. For example, Snyderville Basin Water Reclamation District partners with the East Canyon watershed project to process their local reimbursements and invoices to the state. Expenses incurred in this process are tracked as match to 319, which has had the double benefit of saving 319 grant money. As noted above, UDWQ has also managed some contracts and reimbursements directly, eliminating all “middle men” in the process.

Until recently one of UDAF’s 319-funded positions was devoted primarily to managing these contracts. Between 1990 and 2010, between 8 and 22 contracts/year have been active (Figure 7). The number of active contracts will likely decrease in the future as the 319 program transitions to a focus on fewer watersheds at a time. This should simplify contract administration and lower the costs associated with this effort. A simpler process will also benefit the watershed coordinators. As one said during the interview, “I’ve been doing this a long time and still doesn’t understand the state payment system.” Each watershed coordinator currently has a different tracking system in house that was developed locally. Records are lost, important information is not recorded, and subsequent reporting for projects can be extremely difficult to locate and incomplete.
The involvement of the UDAF in contract management was originally seen as one way to highlight partnerships between the 319 program and the agricultural community. It currently brings little added value to the program, however. The UDWQ has the institutional capability of managing grants and should bring all these activities into a single office. This effort should be designated to a single individual, rather than distributing this task between the different Watershed coordinators. Close coordination between the Watershed coordinators within the DWQ and the 319 grants manager position is necessary, however, to assure that invoices do not get delayed unnecessarily.

The UACD has been efficient in processing 319 invoices and has maintained good records, necessary for projects such as these with major match requirements. UACD’s compensation has charged for this service, however, rather than apply the value of the service as match to the state grant. If UACD wishes to be reimbursed for this process, the DWQ should negotiate a set annual fee or a fee per invoice, rather than a percentage of the invoice value, which apparently is the current mechanism.

The DWQ should establish a standard bookkeeping approach and software to be used by all watershed coordinators. In this way, coordinators would all receive the same training and replacement of one coordinator by another would not involve a significant loss of institutional memory or worse, loss of actual records. The UACD may be an excellent resource for suggestions on the most straightforward and efficient bookkeeping system to utilize.

Figure 7. Number of 319 contracts tracked each year in EPA’s Grant Records Tracking System
**Reporting**

EPA and other federal programs are under increased pressure by Congress for greater accountability of federal funds. EPA requires reporting on individual 319 grants through the Grants Records and Tracking System (GRTS) database. In addition, annual and final written reports must be submitted to EPA for all contracts and for the annual 319 grants. This level of reporting has met EPA’s minimal requirements although it has not sufficiently demonstrated the impact of 319 to EPA. The current reporting also does not compile the metrics and demonstrate 319’s impacts in a way that demonstrates the program’s value to the decision makers and partners within the state.

GRTS has the potential for capturing an enormous amount of information about a state’s NPS program, but has not been used to its full potential in Utah. This is in part because of incomplete reporting by individual projects, as well as monitoring programs that have not been targeted for detecting real change or impacts as a result of implementations and other project objectives. Record keeping at all levels should be as systematic as possible, should be understood by watershed coordinators, and the State coordinators and program managers within DWQ. Past attempts to improve reporting have resulted in complicated reporting forms for individual contracts. This has only marginally improved the quality of the reporting itself. DWQ must decide what project information needs to be maintained and develop a clear and consistent reporting template. The reporting process should include more coordination between individual contract recipients, watershed coordinators, the DWQ TMDL coordinators and the 319 program manager, including face to face meetings if necessary, to assure that reports are clear, concise, complete and meaningful.

One of the ongoing challenges of this process review and of the BMP assessment still underway is the scattered nature of the documentation for the 319 program. Many of the recent documents and some of the significant planning documents are available online but the list is not complete. In addition, the structure of the DEQ’s website results in scattered reports by different program elements. A revision of the WQ Task Force charter included a recommendation that a common, online web site be designated as the clearing house for reports, plans, minutes of meetings, and other information that provides the program’s record and updated guidance. This process has begun, with an obvious attempt to post more NPS documentation and reports on the UDWQ web site. This would be most effective if it receives guidance and commitment from the UDWQ and if a subcommittee or individual is tasked with tracking this.

Reconstructing the financial records for this 319 program review was also challenging because these records were also scattered, and reporting was inconsistent and data from different sources was not always easily reconciled. Projects were categorized in GRTS reports (e.g. groundwater or watershed management) but the categories were often too broad to be meaningful and in some cases seemed arbitrary. In many cases, drilling down into individual project proposals and reports was the only way to determine how money was actually spent. During this review process, at least one of the annual reports was never located electronically although almost all of the relevant information for the past decade by reviewing old hard copy files and scavenging information out of the reports that could be found.
This scattered nature of documentation is seen at all levels of the program. As individuals retire, their institutional memory retires with them. As an example, tracking of the contracts between the UDWQ and the UDAF contracts could be found only in hard copy files. No central database or spreadsheet maintained a clean and complete set of financial records that accounted for the distribution of all 319 dollars entering the state. Likewise, reports and planning documents are not easily accessed or maintained in a systematic way. The distributed and scattered nature of 319 records and poor tracking of program spending and impacts by geographic area, pollutant type or BMP activity has no doubt led to some of the confusion and concern expressed by several of those interviewed about allocation of funding.

Since this review was initiated, steps have begun to revise the State of Utah’s Nonpoint Source Management plan. Expedited efforts to update the state management plan and prioritize those sections of the plan that promote active partnership with other agencies is recommended. The plan will be most useful if it is considered a living document, with regular update to important sections as needed.

Managing records and reports and making this information available in a meaningful way to stakeholders within the state will require a conscious effort by UDWQ. A lead individual or position should be tasked with assuring that program reports, plans and guidance documents are clearly catalogued and posted online or otherwise made available to stakeholders and decision makers. This should be considered an ongoing effort, not a onetime task. At a minimum the following reports should be available and easily accessed online:

- NPS Management Plan (2000 and working draft)
- Appendices to NPS Management Plan
- All final 319 project reports
- All annual 319 annual reports
- All TMDL plans
- The NPS Task Force Charter and membership
- Minutes and documents presented at NPS Task Force
- Links to outreach documents (e.g. Watershed Review, Watershed Fact Sheets)
- Links to EPA documents and important sites, including 319 program explanations (example) and guidance on impact reporting

Identifying and documenting impacts

One of EPA Region 8’s concerns about Utah’s 319 program is its lack of documented “success stories” or demonstrated improved water quality. As Congress has required greater accountability for 319 funds, EPA’s increasingly requires evidence that 319 funds are resulting in improved water quality. Impacts of 319 funding are notoriously difficult to quantify but guidance by EPA identifies two means by which impacts can be measured: reduction of pollutant loads at a watershed scale or “delisting” of a waterbody. EPA provides specific guidance on these two approaches, referred to as SP12 or WQ 10, which can be found in Appendix 4.
In discussions with administrators at EPA’s Region 8, and in interviews with several state programs, it appears that these successes and true measures of impact of 319 are relatively rare. Kansas is identified by EPA as one of the best programs in the country, yet only 2 waterbodies have been delisted as a result of reduction of NPS pollutants. An interview with an individual in Arizona’s program indicates that they have delisted just one waterbody. Region 8 states also have had relatively few documented success stories, but Utah stands out because it has only one documented success (Upper Section of the Little Bear River).

In a review of over 10 years of annual reports I found many examples of successes. Some of these are beautifully documented with before and after photographs and with excellent descriptions of improvements. These examples are buried in reports that are not easily available to the public or other partners. The Watershed Review and the Watershed Fact sheets also highlight some of these successes, but these do not appear to be reaching a large audience. Chalk Creek was cited as one example with many successes. Several of those interviewed expressed frustration that Utah’s NPS program is not seen as a huge success. To paraphrase one interviewee when discussing a completed project, “rather than just writing a report and distributing it to EPA, we should have had a huge party with press releases.”

The challenge for UDWQ will be to sufficiently document these successes to EPA and to stakeholders within Utah. Every new project should be seen as a potential success story. Before ANY money is put on the ground, there should be a reasonable plan on how impact will be determined through appropriate monitoring and record keeping. Reporting and documentation from the beginning of a project through the end should include those elements required in reporting documentation.

Another measure of success, particularly to state legislators and decision makers who evaluate the relative merits of state projects, is the degree to which a government program leverages other funds. The 319 program does a very good job of tracking the 40% non-federal match required. The GRTS database, however, contains almost no documentation on other funds brought to a project. All projects should carefully track and report on all additional resources resulting from a 319 project. Examples of leveraged funds include:

- ALL federal cost share programs and grants that are utilized in the planning and implementation of NPS projects.
- ALL volunteer time – including implementation efforts, monitoring, and outreach.
- Monitoring activities provided by other programs.
- Outreach activities provided by other programs.

One of the challenges of the NPS program nationally is understanding the potential impact of different BMPs in different geographic areas. The interviews revealed a need for better understanding of the effectiveness of specific BMPs or specific approaches taken in Utah landscapes. Most of what is known about BMP effectiveness and about NPS pollution movement and transformations comes from studies conducted in very different landscapes (rainfed eastern watersheds, Pacific NW, Midwestern croplands). Differences in precipitation (total amount as well as timing and distribution), and in soils and basic geology makes application of these results to the semi-arid Intermountain West problematic.
The final reports for completed 319 projects contain a number of “lessons learned” but these typically are not reported on widely, if at all. These lessons need to be extracted from the reports and pulled together to share with watershed coordinators and State coordinators. The program cannot afford to lose this knowledge and cannot afford to repeat mistakes unnecessarily.

Project annual and final reports should have a stand alone “Impact Report” which addresses reach–scale successes or 12 digit HUC successes. EPA requires evidence of impact as measured by chemical data or biological indicators. DWQ’s revised monitoring strategies are now designing monitoring plans specifically to capture these impacts. These reports should also include other indicators of impacts, including photos, physical data, and evidence of changes in behaviors or land management. The State NPS website should also maintain have a section identified as “success stories”. These should include photos and “testimonies by landowners and partners”.

**Technical Support**

The heart of the 319 grants program is the design and construction of best management projects to reduce or mitigate NPS pollution. Utah’s 319 program has relied on design standards established by NRCS as part of their larger suite of conservation practice standards published in their Field Office Technical Guide (FOTG). The FOTG contains design specifications and requirements for installation of each individual practice approved by NRCS. Use of these standards and specifications is required for practices funded by any USDA grants. Because USDA conservation program funding is often coupled with 319 funding, Utah has incorporated these practice standards and specifications as well.

Some technical staff within the 319 program have been critical of the FOTG “one size fits all” approach, which can result in design specs that they feel are excessive for conditions in Utah. The obvious benefit of this approach, however, is its engineering rigor, protection from liability and training opportunities. NRCS engineers and technicians are trained in the specific application of these standards. Watershed coordinators, technical staff with the conservation districts and others can also receive this training through NRCS if they are located in NRCS field offices or otherwise have access to NRCS online training materials.

Technical support for projects is currently only available from NRCS if the project includes financial support from USDA programs. This restriction has resulted in a loss of technical support for many 319 projects. NRCS itself has apparently lost some technical staff, resulting in their own backlogs and delays. Many of those interviewed cited the loss or significant delay in NRCS technical support as a serious barrier for effective 319 project implementation. It was suggested in several interviews that better alignment of NRCS and 319 priorities could open the door again for more NRCS involvement with 319 projects.

The state partners have provided technical support when possible. The UACD has hired an engineer specifically for assisting with these projects. This alone was noted by many of those interviewed as significantly improving their ability to move a project forward. In the past, USU Extension had an agricultural engineer who was able to assist in design of some agricultural practices but this position is no longer filled. As noted in one interview, EPA has not played
much role in providing technical assistance. Technical support for urban projects will increasingly be needed as 319 diversifies its projects. Currently, many watershed and TMDL coordinators write technical support directly into their grants. One interviewee estimated that 10% of each budget was designated for this purpose.

The diversity of projects implemented through the 319 program creates additional technical challenges. The technical assistance provided by NRCS, UACD and Extension (in the past) has been primarily “ag-centric” as one interviewee put it. Stream restoration projects require knowledge of hydrology and fluvial geomorphology that is often not part of agricultural engineering training. One of the UDAF 319 funded staff was originally hired to provide technical support for stream restoration projects, but does not appear to be engaged in this effort any more. Many of the DWQ’s watershed coordinators as well as DWR’s technical staff have received training in stream restoration through Rosgen’s programs or USU’s Intermountain Center for River Rehabilitation and Restoration. Projects throughout the state that have partnered effectively with the DWR have benefited enormously from their technical support. There is no actual certification process to assure that stream and riparian projects meet established standards. Several of those interviewed expressed concern about liability for these projects and felt that, at a minimum, there should be some level of engineering review, perhaps by a technical review team.

Many projects also require a number of permits (e.g. 404 or stream channel alteration permits) or special studies such as cultural resource inventories. General permits were negotiated in the past which streamlined this process but these general permits are no longer in use. Several of those interviewed indicated that the current multi-phased permitting approach introduces considerable scheduling problems. One possibility is an MOU with the ACOE and the state to streamline the stream channel and wetland permitting process.

The state 319 program relies on watershed coordinators to have a fairly high level of understanding on technical issues and understanding of planning process. The watershed coordinators are encouraged to receive as much technical training as possible, as well as training in general planning. It can take 3-4 years of training for a watershed coordinator to gain all the proficiency necessary for their jobs. As noted by a number of those interviewed, too often these coordinators leave for better pay once they have gained some experience.

Finally, the development of TMDLs typically requires some degree of modeling expertise. Many of the TMDLs developed over the past 5-10 years have relied on consulting firms with expertise in water quality and watershed modeling. DWQ plans to keep more TMDL development in house, relying on TMDL coordinators. Several of these coordinators expressed concern that DWQ will need to improve its capacity for modeling and other technical expertise required to develop a rigorous and defendable TMDL.

The interviews also revealed a lack of sufficient office support for all the watershed coordinators. Several coordinators were concerned about inadequate office equipment, including phones, vehicle availability and computers. Computers that are not adequately networked can also result in limited access to NRCS training or other web-based training materials and opportunities.
Monitoring

An evaluation of the impacts of different types of BMPs is ongoing as part of this project, and will be reported on in a separate document. This effort is focusing on identifying meaningful ways to quantify project impacts and is building on results of a USDA funded Conservation Effectiveness Assessment Project conducted in northern Utah as well as other “CEAP” projects across the country over the past five to eight years. These projects have collectively identified many common problems in existing monitoring efforts that have limited the usefulness of monitoring data in determining the impacts of nonpoint source implementations. Too often, monitoring specifically for 319 projects has been viewed as an unnecessary expense. Ironically, this perception is in some ways justified, because much of the monitoring that has been conducted has not been sufficiently directed to project objectives and the data that have been collected, therefore, have not been adequate for detecting project impacts.

The inadequacy of the 319 program’s monitoring efforts was reflected in the low rating given this program element by those interviewed. The average ranking of all those interviewed was 5.3 out of 10. Those affiliated with UDWQ ranked monitoring even lower (4.6 out of 10). Furthermore, most of those interviewed did not regularly review monitoring data and were not familiar with different data sources.

UDWQ has maintained a significant water quality monitoring effort since the 1980s, resulting in a large body of historical water quality data throughout the state. These data have been collected primarily to meet assessment needs and as such, have been very successful at determining whether specific waterbodies meet water quality standards and support their designated beneficial uses. Most of Utah’s 319 projects have assumed that these monitoring efforts would be sufficient to demonstrate impacts of BMP implementation at a local or watershed scale. Unfortunately, the data appropriate for assessment purposes are not sufficient to demonstrate changes in pollutant loads at a reach or watershed scale. For example, discharge (flow) is still not systematically collected at many sites, rendering the data at these sites useless for determining pollutant loads. Even when discharge data are available, monitoring sites often do not effectively bracket areas of project implementation, limiting the usefulness of these data for any effective “upstream / downstream” change detection. Finally, the frequency of monitoring at specific sites has not captured the variability in flow and concentrations that are typical of many streams and rivers in much of Utah. Snow melt and isolated summer storms may deliver a significant proportion of the total annual pollutant load in a given watershed, but these relatively rare events are often missed entirely by monitoring programs with collection frequencies of weeks to months.

Utah has expanded its monitoring approaches in recent years. Biological monitoring is becoming far more sophisticated and is providing meaningful data on long term changes in aquatic life. The challenge with biological data is to identify the pollutant or stressor causing impairment. Other monitoring efforts, specifically gauging stations established by USGS, do collect high quality discharge data. These sites are established for USGS program objectives however, and often do not align well with 319 monitoring needs. Other monitoring efforts, for example fisheries data collected by the Utah Division of Wildlife Resources, likewise are rarely coordinated or well aligned with 319 project objectives. Monitoring of landscape conditions and
specific landuses is also ongoing but often is not coordinating well with the UDWQ efforts. For example, UDAF’s Grazing Initiative Program (GIP) and the UDWR’s Watershed Initiative both collect upland data and some riparian data. These projects list water quality protection among their multiple benefits but do not appear to coordinate sufficiently with the UDWQ on data collection methodologies and opportunities to collect data that would also be meaningful to water quality impact detection.

A state monitoring council has been established with the goal of better coordinating monitoring efforts across the state. The UDWQ has also recently begun a serious citizen monitoring effort. The UDWQ also conducts ongoing training and coordination with monitors from other agencies and firms. These efforts all have great potential for improving monitoring outcomes for all partners, for reducing redundancies in monitoring and assuring that the most meaningful data are collected for the objectives of these many efforts.

Utah’s DWQ has recognized that monitoring for nonpoint source identification and to determine impacts of 319 projects must be improved and the state has already undertaken significant efforts to improve their nonpoint source impact monitoring programs. To be successful, however, the different agencies and even the different sections within UDWQ must coordinate regularly and at all levels to assure that sites and parameters are collected which will truly capture project impacts. A “one size fits all” approach will not be effective to detect nonpoint source project impacts. Monitoring planning and approaches for specific watersheds must include monitoring staff and leadership as well as watershed coordinators and DWQ TMDL coordinators to assure that sites, parameters and collection frequency are appropriate for the 319 project objectives. Watershed coordinators must also understand that a state level monitoring program will not be able to capture all the impact data needed.

Monitoring should be expanded to include evidence of behavior change by producers, landowners and other land managers. Ongoing operation and maintenance monitoring protocols should be established and implemented. Coordination with the DWR could result in fisheries population and habitat data that would meet DWR’s monitoring needs and the needs of watershed projects. Photopoints, geomorphic data, landscape data, and GIS coverages developed by other agencies and projects need to be routinely identified and catalogued. All data collection needs to be clearly georeferenced for it to be meaningful for nonpoint source projects.

To be useful, DWQ’s data as well as data from other monitoring efforts must be available to DWQ state staff and local watershed coordinators, as well as to other state agencies and to consultants working with watershed projects. Poor access to water quality data should be improved with the roll out of DWQ’s new database. A coordinated effort by UDWQ and other agencies would improve access to other data as well.

Because of concerns about landowner privacy, data collected on animal feeding operations across the state have been unavailable except as summary data at a relatively large watershed scale. TMDL development, watershed modeling efforts and our general understanding of the effectiveness of different animal waste BMPs require data on a finer geographic scale. Under the current system, these data must be obtained independently, which is costly and inefficient. As
the state’s AFO/CAFO strategies continue to evolve, mechanisms need to be developed to make these data available at a more meaningful scale while still protecting landowner confidentiality.

Monitoring plans of past 319 watershed projects have often not aligned well with project objectives. Each objective in a proposal must include a plan or strategy for demonstrating how that objective will be met. Reports and proposals for new funding have also often not included a meaningful review of existing data. Management decisions must be data-driven and must be updated regularly as new data are collected. In addition to improving the value of individual projects, this approach expands our understanding of nonpoint source implementations and project effectiveness across the state and region. Regular attention to data would also allow inadequate monitoring strategies to be detected at earlier stages.

Many of the watershed projects have relied on consulting firms for analysis of monitoring data and the application of these data to TMDL related modeling efforts. This has been effective but is also expensive. Increasingly, state staff will be relied upon to develop future TMDLs. This effort will be greatly enhanced by the active involvement of technical advisory committees who can assist in review of data and evaluate the effectiveness of monitoring efforts.

**Outreach:**

An effective outreach program is essential for the successful management and mitigation of nonpoint source pollution. In acknowledgement of this, Utah has directed a significant amount of funding to outreach over the past 20 years. A statewide I&E Specialist position, housed at UDAF, was created in the early years of the 319 program and continued to be funded until 2011. This position was tasked with organizing statewide NPS outreach, including organizing the state NPS conference, producing a statewide newsletter (Watershed Review), maintaining the UDAF’s NPS web site, and chairing the state NPS I&E subcommittee (a standing committee of the state Water Quality Task Force.) Over the years, this I&E specialist also created a number of videos on statewide, watershed specific and agriculture-related topics. This individual also trained watershed coordinators on the use of “Getting in Step”, national guidance for designing and conducting effective NPS outreach campaigns.

In addition to a dedicated staff position, a total 64 contracts for specific I&E projects have been awarded since the program’s inception in 1990 (Figure 8). These grants, totaling $2,264,600 from 1990 – 2010, have been awarded to UDAF, USU Extension, UACD, and specific watersheds for a wide variety of outreach projects and products. USU Water Quality Extension’s program has received the most consistent funding, averaging $35,000/year. This statewide I&E program has focused on support for TMDL watersheds and watershed coordinators (such as minigrants, training, web sites and fact sheets), youth outreach and teacher education, citizen monitoring, and funding for statewide water quality awards.
319 grants for outreach and education.

When asked to rank seven program elements in the state’s NPS Management Program, those interviewed as part of this review ranked “communicating NPS results to the public” the lowest. The average of all respondents was 5.2 out of 10, and 19 of the 31 respondents gave it their lowest individual ranking. About one third of those interviewed commented that they didn’t think “the public” was typically seen as a target audience for Utah’s NPS outreach.

Those interviewed were also asked to comment about the effectiveness of specific outreach tools and techniques that have been used in Utah.

Face to face interactions were generally ranked high. Almost all respondents felt that field tours were effective, commenting that these were a great way to demonstrate BMPs. Field tours were seen as especially useful with farmers or in association with a conference. Less positive comments focused on the cost and a sense that field tours were overused. Field days were also seen in a fairly positive light, although many respondents commented that their effectiveness was harder to evaluate. Six of the positive responses referred specifically to youth field days, several others referred to other specific audiences, and many of the respondents commented on the importance of properly identifying the target audience.

Formal presentations at meetings or conferences were also given relatively high ranks. The state NPS conference was viewed as successful in its early years and when done well. About one quarter of the respondents felt that the conference had become repetitive or now overlapped too much with other statewide conferences. Those who were aware of the Watershed Coordinating Council or had attended the NPS Task Force meetings felt that presentations were useful in highlighting specific issues or results for these more targeted and knowledgeable audiences.

**Figure 8.** 319 grants for outreach and education.
Most respondents felt that informal youth activities were effective. Many commented on the importance of reaching young people and the potential for also reaching their parents through this approach. Twelve of the 32 respondents did not have any knowledge of formal school outreach efforts such as curriculum development or teacher training.

Respondents valued newsletters and fact sheets if done well. The watershed fact sheets were ranked quite highly by most, but several commented that they were not well distributed. One third of those interviewed were not aware of the Watershed Review, and of those who were aware of it, only 11 thought it was effective or reaching a broad enough audience. The use of other newsletters was also noted as an effective means of reaching broader audiences at a relatively low cost.

Most respondents felt that web resources and media publicity were not being used effectively. Media campaigns were seen by many as too expensive. Many felt that web resources were too often out of date or not well marketed to their target audiences.

Table 6 summarizes the categories of outreach approaches in the order of most to least positive interview responses.

Table 6. Interview respondents assessment of the value of different types of outreach.

<table>
<thead>
<tr>
<th>Approach</th>
<th>Yes, it is effective</th>
<th>Can be effective if done right</th>
<th>Not effective</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field Tours</td>
<td>29</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Informal youth activities</td>
<td>26</td>
<td>1</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Watershed Fact Sheets -</td>
<td>24</td>
<td>4</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Field Days</td>
<td>21</td>
<td>4</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Presentations to state “NPS” conference</td>
<td>21</td>
<td>7</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Presentations to Watershed coordinating council</td>
<td>18</td>
<td>4</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>Other newsletters</td>
<td>15</td>
<td>9</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Presentations to NPS Task Force</td>
<td>16</td>
<td>1</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>School curricula, activities through classrooms</td>
<td>15</td>
<td>3</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Watershed Review (Utah NPS newsletter)</td>
<td>11</td>
<td>7</td>
<td>14</td>
<td>1</td>
</tr>
<tr>
<td>Web Resources</td>
<td>9</td>
<td>17</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Media publicity</td>
<td>7</td>
<td>17</td>
<td>7</td>
<td>0</td>
</tr>
</tbody>
</table>
General assessment of statewide NPS Outreach program:

Outreach requires significant energy and commitment by partners and particularly by those tasked with leading the effort. Much of Utah’s statewide outreach program appears to have lost momentum. The I&E subcommittee of the NPS Task Force no longer meets and the state’s I&E strategy has not been updated since 1995. There is currently very little sharing of outreach programs across the state. There has also been a breakdown in sharing information about the program’s successes with other partners and with the public. In contrast, individual programs or watershed efforts have been more effective, targeting specific audiences about well defined problems.
Conclusions and Recommendations

At the end of each interview, individuals were asked to identify elements of the 319 program that were exemplary and elements that were problematic. They were then asked to identify the one thing that they would change about the program. These responses were open ended, but tended to fall into distinct categories which are summarized below in Tables 7-9.

Cooperation between partners, the value of local watershed coordinators and the value of locally run projects and local leadership were cited collectively by 20 individuals as the most exemplary and effective aspect of the state’s NPS program. This clearly speaks to the good partnerships in past efforts and the importance of maintaining these partnerships even as the program evolves and changes over time. The consensus, however, is that the strength of this program comes from its shared leadership and vision at a state level and its ability to coordinate efforts with local partners and landowners.

Table 7. Exemplary and effective aspects of the 319 program identified by interview respondents.

<table>
<thead>
<tr>
<th>Exemplary and effective aspect of Utah’s 319 program</th>
<th># of respondents within each category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperation among partners and WQ Task Force</td>
<td>8</td>
</tr>
<tr>
<td>Watershed Coordinators</td>
<td>7</td>
</tr>
<tr>
<td>Locally run leadership and projects</td>
<td>4</td>
</tr>
<tr>
<td>AFO/CAFO strategy</td>
<td>5</td>
</tr>
<tr>
<td>Specific projects</td>
<td>4</td>
</tr>
<tr>
<td>Good NPS leadership and staff at DWQ</td>
<td>2</td>
</tr>
<tr>
<td>New monitoring approaches</td>
<td>2</td>
</tr>
<tr>
<td>Extension’s I&amp;E program</td>
<td>1</td>
</tr>
</tbody>
</table>

Interviewees showed less consensus when asked about the most problematic aspects of the state’s 319 program. No one felt indicated that the program itself should be eliminated or that efforts should be reduced. Rather, most of these comments pertained to specific program processes that they felt would improve the effectiveness of the nonpoint source program in general.
Table 8. Problematic elements of the 319 program identified by interview respondents.

<table>
<thead>
<tr>
<th>Problematic aspects of Utah’s 319 program</th>
<th># of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Missing stakeholders (NRCS, DNR, municipalities, local leaders, other academic institutions.</td>
<td>5</td>
</tr>
<tr>
<td>Prioritization of funding</td>
<td>3</td>
</tr>
<tr>
<td>Statewide I&amp;E program</td>
<td>2</td>
</tr>
<tr>
<td>EPA’s micromanagement and inadequate understanding of local issues</td>
<td>2</td>
</tr>
<tr>
<td>Contract administration</td>
<td>2</td>
</tr>
<tr>
<td>Poor understanding of BMP effectiveness</td>
<td>2</td>
</tr>
<tr>
<td>Need for updated integrated reports and statewide plans</td>
<td>1</td>
</tr>
<tr>
<td>Poor coordination between TMDLs and other watershed planning efforts</td>
<td>1</td>
</tr>
<tr>
<td>Lack of focus on urban / stormwater issues</td>
<td>1</td>
</tr>
<tr>
<td>Lack of available technical support</td>
<td>1</td>
</tr>
<tr>
<td>Inadequate support (financial and training) for watershed coordinators</td>
<td>1</td>
</tr>
<tr>
<td>Poor understanding by stakeholders and partners about NPS program</td>
<td>1</td>
</tr>
<tr>
<td>Poor monitoring and impact assessment</td>
<td>1</td>
</tr>
<tr>
<td>UDAF’s involvement</td>
<td>1</td>
</tr>
<tr>
<td>Lack of transparency in AFO/CAFO program</td>
<td>1</td>
</tr>
</tbody>
</table>

When asked to identify a single change to the state NPS program, a majority of respondents focused on the need to identify program impacts and get this information disseminated throughout the state and region.

Table 9. Interview responses to "one change that would make a difference".

<table>
<thead>
<tr>
<th>One change to improve the state’s 319 program</th>
<th># of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Better monitoring to determine impacts and effectiveness of BMPs</td>
<td>6</td>
</tr>
<tr>
<td>More money</td>
<td>5</td>
</tr>
<tr>
<td>Better reporting of project impacts</td>
<td>4</td>
</tr>
<tr>
<td>Expand focus of program (less ag, more urban sw)</td>
<td>2</td>
</tr>
<tr>
<td>Improve program transparency</td>
<td>2</td>
</tr>
<tr>
<td>Streamline repayments</td>
<td>1</td>
</tr>
<tr>
<td>Better statewide I&amp;E</td>
<td>1</td>
</tr>
<tr>
<td>Get NRCS / DNR back “to the table”</td>
<td>1</td>
</tr>
</tbody>
</table>
Recommendations - Program structure and priorities

Most of those interviewed were supportive of recent changes in Utah’s 319 funding cycles and priorities. Many expressed concern about a trend away from full engagement of 319’s traditional partners. The program is encouraged to continue involving partners in decisions about program priorities and allocation of resources.

The 319 program shares a common goal with many of its partners in managing private and public lands responsibly. To the extent possible, management cycles and priorities of state and federal agencies should be coordinated and aligned. This effort would bring additional resources to specific watershed areas, improving planning and implementation efficiencies and effectiveness and reducing total cost.

To encourage ongoing active engagement by UDAF, identify a clear mission for UDAF’s involvement in the state’s NPS program that focuses on those activities already within UDAF’s purview, such as the grazing management, AFO management, and salinity and other impacts from irrigation water management.

Much of the coordination of the 319 program occurs through the Water Quality Task Force or at a local level. Whenever possible, the state 319 program should get on the agenda of the meetings of other coordinating groups or agencies, municipalities, and state and local decision makers to provide program updates and successes and to reinforce the value of collaborative efforts.

The state coordinators should make every effort to participate fully in the local work groups of each county and should otherwise assure that the 319 program is always represented at these meetings. These work groups establish priorities for distribution of USDA funding. A more active involvement and engagement by the TMDL coordinators or other representatives of DWQ is critical if water quality is to be identified as a priority resource. This is especially important in a state where total EQIP funding is so much greater than 319 funding.

Recommendations about EPA involvement

The interviews revealed a sense that EPA’s 319 leadership in Denver’s regional office was disconnected with Utah’s program and lacked a deep or nuanced understanding about the state effort or about specific projects. To increase engagement, EPA program leaders should be encouraged to visit Utah as often as they visit with Colorado’s 319 leadership and watershed sites. When in Utah, encourage EPA staff to meet with individual watershed committees, with other Utah partners, and to participate in implementation or monitoring activities. This would provide EPA staff with a deeper understanding of Utah’s ongoing efforts and of the constraints of Utah’s program.

Likewise, Utah staff and partners should visit EPA’s regional offices as frequently as possible to establish name and face recognition and to better understand EPA’s concerns about Utah’s 319 program.
Meeting attendance by conference call does not fully engage individuals in a meeting. When EPA staff cannot attend important meetings, Skype or other means of video conferencing should be utilized to encourage full involvement in these meetings in lieu of participating by conference call.

Increased trust between EPA and Utah’s 319 program could also alleviate what several respondents felt was a lack of trust in Utah’s leadership which has resulted in “micromanagement” of some elements of the program.

**Recommendations about staffing**

State watershed coordinators will be taking on additional TMDL development activities in the future and must be fully trained to take on this challenge. These state coordinators also need additional training in the general watershed planning process.

The state coordinators should be encouraged to visit their watershed coordinators frequently to review reporting and monitoring efforts, and to familiarize themselves with specific project successes and challenges. It is critical that the state coordinators are fully engaged with local efforts and fully understand the challenges and strengths of each watershed project. This will be increasingly important with 319’s new approach to funding watershed projects on a rotational basis.

The state coordinators are also an important link with the state monitoring section and should be fully engaged with contacts in the monitoring section to assure that data collection is appropriate to the monitoring needs.

There was concern expressed by some that DWQ TMDL coordinators were not sufficiently engaged with local efforts. More frequent visits in their watersheds would help local partners feel more engaged and would also allow the state coordinators to better understand the challenges and strengths of these diverse efforts across the state.

Every effort should be made to increase the salaries and benefits for watershed coordinators and to increase the number of watershed coordinators. These positions provide the real connection with local communities (rural and urban) and are the “boots on the ground” that will assure that Utah’s limited 319 funds are effectively used. The watershed coordinators are typically retired or place-based individuals who are willing to accept low pay, or recent graduates seeking experience before they move on to better paying positions. The time and associated costs of this training is wasted if these positions experience rapid turnover. In addition, the connections with local partners and landowners are lost when watershed coordinators leave to seek better pay.

Resources for these watershed coordinators should be consistent across the state. In some cases, coordinators did not have access to NRCS training, or even to adequate office space or internet services. Others felt that they did not get sufficient support for vehicles, computers and other equipment necessary for them to be effective at their jobs.
Recommendations about Project Reporting and Documentation

Reporting on 319 activities has been sporadic and inconsistent. Reporting should be thoughtfully considered at the beginning of a project so that appropriate data are maintained in a clear and logical format. The entire program would benefit by creating a standard reporting format.

One of the challenges of BMP reporting is that a single best management project (e.g., restricting cattle access to a river) often includes multiple NRCS approved practices (e.g., fencing, replanting of riparian corridor, installation of alternate watering systems, possibly containment of manure, a nutrient management plan). This same project also may result in multiple benefits (e.g., reduced nutrients and sediment loads to a water body, improved wildlife habitat along riparian corridor, improved fish habitat, improved pasture). One suggested approach would be to assign each “project” a unique identification number and align multiple practices and multiple benefits with the unique project ID. All projects would follow a standard “naming” convention and would be clearly georeferenced. Georeferencing all projects would allow easy sorting of projects by county, watershed, or any other geographic unit.

Local and state (DWQ) watershed coordinators and 319 program administrators should work closely together on developing the reporting tool, so it is clear and useful for local purposes and for statewide reporting needs. Reporting should not be viewed as the purview of local coordinators alone, but should be conducted in close consultation between local and state coordinators and other partners in an individual project.

The reporting tool should contain a clear definition of practices and types of projects so that reporting is consistent across the state and over time. Review of these on a regular basis will protect against drift and inaccurate reporting.

Watershed coordinators should also be provided with a clear technique and unambiguous well-defined terms for recording project expenditures, match, and additional sources of leveraged funds. These would also be aligned to unique project ID’s, allowing a better accounting of actual costs associated with different types of practices. Watershed and state coordinators should be trained in standard accounting programs and protocols. Training would include appropriate record keeping and filing. The DWQ should establish a standard bookkeeping approach and software to be used by all watershed coordinators. A consistent procedure understood by watershed coordinators and DWQ coordinators would mitigate against the loss of records and institutional memory that has plagued the 319 program.

GRTS reporting has been adequate but the database has far more potential for tracking implementation and spending within Utah. Improved and consistent reporting categories within each watershed should greatly improve GRTS reporting as well. Electronic records can be transferred easily to the state office to alleviate excessive and repeated data entry.

Leveraging of finances is an extremely effective way of demonstrating success. Leveraged funds are not currently being tracked, even though this would be easy to do in GRTS. Include
match and any other resources that were brought to a specific project (local funds or support, federal grants, volunteer efforts, landowner efforts, etc.).

The state has just initiated an update of its Nonpoint Source Management Plan, which was last updated in 2000. This plan serves to guide UDWQ efforts in all aspects of nonpoint source control, but is also utilized by partner agencies as a guide for their ongoing involvement. The plan will be most useful if it is considered a living document, with regular update to important sections as needed.

Public access to state reports and plans is extremely difficult. The UDAF nonpoint source web site contains some of the reports, and the UDWQ web site has recently improved its efforts at posting these reports. A concerted effort is recommended to assure that all NPS documents are available to the public in an organized and meaningful fashion. These documents include the state NPS plan and Modifications to that plan, UDWQ’s Annual Reports to EPA, Annual and Final Reports for Projects funded by 319, TMDLs and other planning documents that form the basis for implementation of watershed projects, and monitoring plans.

It is recommended that a lead individual is identified who will assure that these reports are posted and that the web site remains current and active.

**Recommendations about Contract Management**

The UDWQ has the institutional capability of managing grants and should bring all these activities into a single office. This effort should be designated to a single individual, rather than distributing this task between the different State TMDL coordinators. Close coordination between the TMDL coordinators within the DWQ and the 319 grants manager position is necessary, however, to assure that invoices do not get delayed unnecessarily.

The UACD has been efficient in processing 319 invoices and has maintained good records, necessary for projects such as these with major match requirements. UACD has charged for this service, typically as a percentage of the invoice value. DWQ should negotiate a set annual fee or a fee per invoice or encourage UACD to apply the value of the service as match to the state grant.

**Recommendations about Technical Assistance**

Seek ways to restore NRCS technical support for watershed projects. Better coordination at a state level may help create a pathway for improved technical support in the future.

NRCS training materials are available to watershed coordinators who are housed in USDA facilities but are not easily available to others. All watershed coordinators should have equal access to training opportunities. This issue should be addressed at a state level, rather than expecting individual watershed coordinators to work this out themselves.
UACD is to be commended for hiring an engineer for the express purpose of providing technical support. It is difficult for a single engineer to meet the diversity of technical expertise required for watershed projects. Ongoing coordination between state partners would help identify current needs and possibly identify ways of combining resources to meet these needs.

There is no certification or required review process in place for river and stream corridor restoration projects. Several of those interviewed expressed concern about liability for these projects and felt that, at a minimum, there should be some level of engineering review, perhaps by a technical review team.

Permitting for projects can also present significant delays. General permits were negotiated in the past but these general permits are no longer in use. It is recommended that the state work with federal and other state partners to streamline the permitting process whenever possible. A designated point person at the state UDWQ could help identify necessary permits and timelines and assist in permit applications for all watershed projects.

Recommendations about Monitoring

As with reporting, monitoring plans should be developed in close consultation between the watershed coordinators and the state DWQ coordinators for a given watershed. Monitoring plans should be closely tied to clear project objectives. The approaches taken should be flexible and data-driven.

All participants in this effort should be familiar with the existing data for a water body or river reach. Watershed coordinators may not have the background or expertise to analyze data, but they should work closely with DWQ coordinators to assure that they understand the implications of previous data and how future data will be used to help identify impacts.

The monitoring plans developed for individual watershed projects should be reviewed by point people in the UDWQ’s monitoring section. The Monitoring Section personnel must clearly note limitations to the monitoring plan and help suggest alternative approaches when necessary. In turn, the Watershed Section coordinators should review data regularly to assure that monitoring plans are being followed and to take corrective measures when necessary.

The Watershed Coordinating Council should function as a coordinating body in this effort. This council is also providing appropriate monitoring training for agency and other professional partners.

Utah’s new citizen monitoring program should also work closely with project monitoring efforts, assisting in design when possible, helping to identify citizen monitors to help fill data gaps when necessary.

The Utah DWQ is implementing a new database which should greatly improve access to data. Data reports and additional studies should be catalogued and made available online or as hard copy. Group monitoring efforts that involve multiple agencies or entities should clearly determine where primary data will be stored and should establish a clear process for analyzing these data and making them available to all partners.
Recommendations about Outreach

The state’s NPS program will benefit from a re-energized statewide outreach program that engages all partners. This can be accomplished by re-creating the Utah Water Quality I&E subcommittee, identified in the state’s WQ Task Force Charter as a standing subcommittee, and tasking this committee with leading the statewide I&E effort. A statewide I&E strategy would be based on measurable I&E goals that will help guide the program.

Outreach should be strategic, clear and unambiguous. It must be flexible enough to address diverse issues and target different audiences. The statewide outreach program should conduct regular needs assessments to identify new and emerging concerns and unmet ongoing needs. The committee should also review its current programs and related activities to determine their ongoing relevance, their short and long term impacts, and to identify necessary changes or modifications. The NPS outreach sub-committee should assure that the programs and approaches used have demonstrated and measurable impacts. A regular review of the programs and efforts of partners across the state and nation will help generate messages and materials that cross programmatic boundaries. The state I&E committee must also assure that Utah’s watershed coordinators have the resources and training to continue implementing high quality and well targeted local I&E efforts.

The statewide NPS program should establish a set of messages that address statewide goal. Suggested messages could include:

- A clear explanation of the statewide program and its state and local goals;
- Messaging about the programs successes, including water quality benefits, leveraged funds, other benefits;
- Emphasis on the multiple benefits that arise from good water quality and good watershed management;
- Helping individuals and groups connect individual and collective behaviors and land use activities with water quality and other benefits derived from clean water;
- Clear descriptions of why we focus on different types of pollutants and the different types of sources.

The statewide NPS Outreach Strategy must tailor its messages to the many different audiences. A “one size fits all” approach is not effective. Messages must be respectful and cognizant of the different backgrounds, needs and concerns of different audiences.

Different audiences include:

- Legislators and decision makers: Work with DWQ staff, watershed coordinators and others working with legislators on a couple of “elevator speeches” and on simple 1 page, colorful factsheets. Provide decision makers with sound bites and short messages.
- Farmers / Producers: Continue to need information on why different types of pollutants matter, BMPs to reduce these pollutants, programs to help address their problems, programs to highlight successes (eg. UDAF certification program). Help producers
understand that an emphasis on ag is because working lands cover a large percentage of the state, and not because the program has focused only on ag sources.

- Urban dwellers: Understand link between impervious surfaces and urban/suburban land uses and downstream water quality and beneficial uses. Opportunities to make personal choices to protect waters. Information on land use and zoning choices that urban areas can make to protect water. Better understanding of how much other groups (eg farmers) have already done to protect wq.

- Rural dwellers: Understand risks to local wells and practices that protect ground and surface waters. Understand benefits from farmstead practices that protect waters.

- Youth: Understand watershed functions, aquatic ecology, water quality science. Understand links between personal choices and benefits from our waters. Ways to take these messages home and to build lifelong interest in protecting water.

- Educators: Training on use of effective materials and activities. Assure that activities are correlated to core curricula, STEM disciplines. Be respectful of their time and their limited financial resources.

- Media: Provide press releases, brief news stories, successes, sound bites, opportunities for highly visual events.

- Partners – agencies, nonprofits, ngos, municipalities: Understand their motivations and mandates. Identify common messages and common ground.

### Use diverse approaches and delivery of messages and programs:

The outreach program should use diverse approaches and types of delivery. A statewide strategy on should include a critical evaluation of past approaches. Suggested new and effective ongoing approaches include:

- Improved web site – possibly DWQ’s site or a site housed thru USU Extension?: Use site as “one stop shopping” for partners and for public. Assure that the website chosen can be regularly and easily updated, with outdated information removed promptly. Provide access to reports, plans, current information, funding sources, photos, maps, fact sheets, videos, success stories. Include links to partner pages, national and statewide $E sites, watershed sites, specific events, databases, links to Utah Water Watch and other citizen action organizations.

- Create new or identify existing fact sheets on successful BMPs for different types of NPS problems

- Provide watershed specific information. Current watershed factsheets should be revisited to assure that they are ass effective as possible.

- Develop success stories for different types of practices and different areas of the state. Much information, photos, and other documentation already exists in final reports that currently are filed away. Success stories should link to reduced pollutants or pollutant loads, but also emphasize other beneficial uses, such as improved or protected fisheries, wildlife corridors, grazing, recreation or tourism opportunities, drinking water sources, etc. Success stories should be quantitative – miles of river, acres or numbers of lakes, gallons of water – and use comparisons to known reference points (number of swimming pools of water saved, cost of fertilizer for a 1 acre field of corn, avoided treatment costs, etc.).
• Continue with successful approaches from the past as appropriate (tours, field days, youth activities, etc).
• Highlight new, positive approaches such as UDAF’s Certification program.
• Continue or revisit water quality awards as an additional way to highlight good efforts.
• Take advantage of national campaigns and events (World Water Day, GW day, Secchi Dip In).
• Assist with press releases for all high profile events and assure that spokesmen for these events have a clear, consistent story to tell.
• Encourage local watersheds to submit stories regularly to their local newspapers and other media and to local or partner newsletters / inserts to mailings. They should know the local reporters, offer to meet with them, provide copy or photos.
• Work closely with partners – attend their meetings, get on agendas to tell the NPS story across the state and to demonstrate the common ground, submit stories to partner newsletters, know the contact for outreach, links (both ways) between NPS website(s) and partner websites.
• Because of turnover among watershed coordinators and other partners, assure that training on outreach is conducted regularly. Encourage sharing of materials and ideas.
• Improve collection of NPS data throughout the state – assure that through GRTS or other database, it will be easy to track BMPs and projects by pollutant type, geographic distribution, partners, etc. Keep records of all impacts (see above), costs, leveraged funds. Assure that additional contextual information is included in the database, such as why and when specific BMPs succeeded or failed in different settings.

The I&E subcommittee should assure that statewide and local needs are assessed regularly. The I&E subcommittee should also regularly inventory current outreach programs in the state and region that overlap or tell a similar message. This will help with consistency in our messaging and identify opportunities to work together more effectively.

The I&E subcommittee should also assure that the impacts of different outreach methods are measured and quantified when possible. Attempts should also be made to link outreach efforts to improved water quality and other tangible benefits. Approaches include:

• Use of data from a previous study that measured impacts for similar activities or materials
• Conduct a primary study when this information is not available – simple before / after testing, longitudinal studies, statewide assessments, etc.
• Track numbers and demographics (when possible) of participants, type, number and locations of events
• Assure that participants at all events have one or more ways to provide feedback – eg an evaluation form at end of event, a follow up mailed or emailed survey, web feedback forms, follow up focus groups or surveys.
• Capture quotes, photos, meaningful information about events and share this with others.
• Assure that assessment covers awareness of issues, knowledge of issues, behavior changes or adoption of new methods.
Sources


Appendix I. Interview questions used for Utah’s NPS 319 program review.
Information about respondent:

1. What is your job title?

2. How long have you had this job?

3. Have you had other jobs related to nonpoint source pollution (NPS) programming in the past?

4. Which of the following program functions do you or have you performed? Identify which of these were your primary roles?
   - Administration,
   - Accounting / budgeting
   - Assessment and targeting
   - Planning and establishing priorities
   - Grant contract management
   - Providing technical support or training
   - Outreach / I&E
   - Monitoring
   - Modeling
   - Reporting
   - Other (identify):

5. What NPS-specific training (eg workshops) have you received for these functions?

Respondent perception of statewide NPS program.

6. In your own words, what are the goals of Utah’s NPS program?

7. Do you feel that the Utah NPS program is effectively and efficiently meeting these goals? Why/why not?

8. To what extent have institutional, financial, or technical barriers been a problem?
   - Institutional
   - Financial
   - Technical barriers
9. On a scale of 1-10 (where 10 is high), how would you rate the OVERALL Utah NPS program along each of the following dimensions? Elaborate on why you chose that score.

- Effective at reducing pollution
- Cost effectiveness
- Efficiency in program administration
- Lack of redundancy / overlap with other programs

10. Rank the following specific aspects of Utah’s NPS program from 1-10.

- Identifying the most important nonpoint pollutant issues for Utah
- Identifying the most important locations to work on NPS problems
- Ensuring that the highest priority places and problems receive the most support
- Designing projects that are likely to have a measurable impact on NPS problems
- Providing a clear and efficient structure for allocating EPA 319 funds to address NPS problems in Utah
- Measuring and monitoring water quality outcomes associated with NPS projects
- Communicating the results of NPS projects to the public

11. List specific water quality pollutants or stressors that are the main focus of Utah’s NPS program?

- Do you think this is the right focus (too few, just right, too many)?
- Are there any pollutants that are over- or under-emphasis

12. Which types of pollution sources are the target of Utah’s NPS program?

- Do you think this is right focus / emphasis (too few, just right, too many)?
- Are there any sources that are over- or under-emphasized?

13. How well has the use of the TMDL approach worked to address water quality problems in Utah?

14. Do you feel that the goals and approaches promoted by the NPS program have changed over time?

- Do you think these changes have strengthened, hindered or not really affected the strength of the program?

15. Which public & private partners are currently most actively involved in Utah’s NPS program?

- Do you think this is (too few, just right, too many)?
- Are there any partners that should be more (or less) involved?

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• In what ways have you seen benefits or problems from engaging partners from outside the agency in your NPS program work?

16. With respect to the current distribution of EPA 319 NPS funds within Utah, what proportion of the resources do you think go to state-level administration and support for the program versus NPS project expenses in the field –

17. Of the total 319 funds from EPA to Utah, what proportion do you think go to the following functions?
  • Technical support
  • Information and outreach
  • Monitoring
  • Managing/administering/reporting grants
  • On the ground

18. Do you think that the balance between these different uses of 319 funds is about right?

• If not, in what ways might the balance be changed and why?
• Are there any specific uses of 319-funds you feel get TOO MUCH or TOO LITTLE support?

19. Have you ever applied for a 319-funded NPS project? (If NO, go to question 24)
   If yes, was it (were they) funded?
   If yes , has the (have the) project(s) been implemented?
   If yes…How did the project(s) work out?

If recipient of a Utah 319 grant – ask the next three questions

20. In implementing the grant, how much of your time was spent on the following types of activities? give answer categories: MOST, A LOT, SOME, A LITTLE, NONE)

  • Assessment / problem characterization
  • Technical planning
  • Implementation of BMPs
  • Monitoring
  • Maintenance and follow up on BMPs
  • Training
  • Outreach / I&E
  • Meeting / coordinating with others about NPS program
  • Reporting
  • Grant writing / seeking funds
  • On which types of activities do you feel you spent TOO MUCH or TOO LITTLE time?
21. Did you receive any technical support in implementing your 319 grant? 
   • If so, from whom? 
   • Do you feel you received sufficient levels of technical support? 

22. What kinds of specific training have you received to help you work on this 319 grant? (e.g. gone to a workshop, taken course?) 

23. Given your experiences with or understanding of the 319 *contracting* process. 

24. Do you feel that the current system for allocating NPS funds is *effective* at addressing NPS pollution? 
   • Do you feel that the current system is *fair*? 
   • Do you feel that the current system is *inclusive*? 
   • Do you feel the current application process is *efficient*? 

25. Have you been involved with monitoring associated with the NPS program or with a specific 319-funded project? (If NO, go to question 31) 

26. If yes… what kinds of monitoring have you done? 
   • Biological 
   • Chemical 
   • Physical 
   • Behavioral (adoption of methods, behavior changes, etc) - 
   • Project specific impact evaluations 
   • Other 

27. Do you feel that the data are useful to you? Why or why not? 

28. Do you feel that the monitoring was targeted effectively to measure changes in pollution? 

29. Have you used these monitoring data for decision making / project design? *If so, how?* 

30. How often do you review or use monitoring data for projects that you work on?
31. Have you ever used any of the following materials or approaches for your I&E/Outreach work and which do you think are the most and least effective?

- Watershed Fact Sheets
- Watershed review
- Other Newsletters
- Presentations to Watershed Coordinating Council
- Presentations at the state NPS conference
- Presentations to the NPS task force
- Field Tours
- Field Days
- Media publicity
- Informal Youth
- Formal youth programs
- Web resources
- Social Media
- Other? (please indicate)

32. Please identify any areas of Utah’s NPS program that you feel are exemplary and especially effective.

33. Please identify any areas of Utah’s NPS program that you feel are “problematic” and in need of review or change.

34. If you had the power to change the program, what changes would you implement?

35. Thinking of ways to help you do a better job in your current position, please list specific topics of training or assistance would benefit you in your job performance?

36. Which types of delivery do you prefer for upgrading your skills:

- Webinars or web-based learning
- Instate conferences, workshops, short courses
- Out-of-state conferences, workshops, short courses
- Other
Appendix II. EPA’s Planning Target Formula for 319 grant allocation
From Program and Grants Guidance – FY 1997 and Future Years – Assessment of State Programs, (APPENDIX G) ([http://water.epa.gov/polwaste/nps/npsguid3.cfm#VIIg](http://water.epa.gov/polwaste/nps/npsguid3.cfm#VIIg))

<table>
<thead>
<tr>
<th>FACTOR</th>
<th>DATA SOURCE</th>
<th>WEIGHTING</th>
<th>RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>1980 Census; 1987 Census (est.)</td>
<td>0.2861</td>
<td>Factors include State fraction of national population, pop'n density, and pop'n growth.</td>
</tr>
<tr>
<td>Minimum amount for the States and Territories</td>
<td>N/A</td>
<td>0.2643</td>
<td>All States, D.C., and territories receive funds to institutionalize NPS control activities &amp; programs</td>
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<tr>
<td>Cropland Acreage</td>
<td>1987 Ag Census; 1987 NRI data; 1980 Census Data; 1986 ASIWPCA NPS Report</td>
<td>0.1581</td>
<td>Cropland is used as a surrogate for sediment and nutrient problems, which account for about 85% of ag NPS problems. Modeling approach based partly on 1986 ASIWPCA national data.</td>
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<tr>
<td>Wellhead Protection Areas</td>
<td>Wellhead Protection Program Allotment Formula–EPA</td>
<td>0.1135</td>
<td>Factors include relative risk to ground water, number or people potentially impacted, number of wellheads to be protected &amp; size of states.</td>
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<tr>
<td>Mining</td>
<td>1987 NRI 1980 RCA Appraisal</td>
<td>0.0572</td>
<td>State's fraction of mined acres as surrogate for mining.</td>
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<tr>
<td>Forest Harvest Acreage</td>
<td>EPA</td>
<td>0.0429</td>
<td>Acreage of private &amp; Federal forest harvested annually.</td>
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<tr>
<td>Pasture &amp; Rangeland Acreage</td>
<td>1987 Ag Census</td>
<td>0.0205</td>
<td>Animal units &amp; animal units/farm acre used as surrogate for BOD &amp; bacteria problems, which account for about 11% of the ag NPS problem.</td>
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<td>Pesticides</td>
<td>1987 NRI; 1986 National Pesticide Usage Data Base, RFF, &amp; EPA</td>
<td>0.0074</td>
<td>Amount &amp; rate of application of active ingredients for pesticides recommended for inclusion in EPA's National Pesticide Survey.</td>
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<td>I. Statutory set-aside for Indian Tribes</td>
<td>Sec. 106 allocation formula</td>
<td>0.0033</td>
<td>Sec. 518(f)</td>
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<tr>
<td>1988 Section 305(b) Report</td>
<td>1988 Draft – 10/89</td>
<td>N/A</td>
<td>National data used to determine the weighting factors for ag., urban, mining, &amp; forestry as indicated below.</td>
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<tr>
<td>Other Use Impact – 319(a)</td>
<td>N/A</td>
<td>N/A</td>
<td>All NPS factors for ag., urban, forestry &amp; mining are based upon land–based activities, therefore addressing impaired &amp; threatened waters.</td>
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<tr>
<td>II. Other *</td>
<td></td>
<td></td>
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Appendix 3. Comparison of 319 and EQIP grants to states, territories and districts for Fiscal Year 2010.
<table>
<thead>
<tr>
<th>State, territory or district</th>
<th>EPA 319 grant</th>
<th>USDA EQIP financial obligated</th>
<th>Ratio of EPA to EQIP funding</th>
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<tr>
<td></td>
<td>Total</td>
<td>state rank</td>
<td>Total</td>
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<td>Alabama</td>
<td>$3,788,000</td>
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<td>American Samoa</td>
<td>$453,000</td>
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