



# Wyoming Nonpoint Source Program

## FY12 Annual Report

### October 1, 2011 – September 30, 2012

Prepared by the Watershed Protection Program  
Water Quality Division  
Wyoming Department of Environmental Quality



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## Wyoming Nonpoint Source Program Fact Sheet—Federal Fiscal Year 2012

<b>Summary of FY12 Program Activity</b>	
Date FY12 Section 319 Project Grant Award:	<i>May 15<sup>th</sup>, 2012</i>
Amount of FY12 Section 319 Project Grant:	<i>\$853,000</i>
Amount FY12 Incremental Project Funds:	<i>\$709,338</i>
Amount FY12 Base Project Funds:	<i>\$143,662</i>
FY12 Third-Party Projects Awarded:	<i>Crook County Natural Resource District—Belle Fourche Watershed Plan, Phase III</i>
	<i>City of Sheridan—Goose Creek Watershed TMDL Implementation</i>
	<i>Natrona County Conservation District—North Platte River Watershed, Segment I</i>
	<i>The Nature Conservancy—Cody River Days</i>
	<i>Teton Science Schools—Wyoming Stream Team 2012</i>
	<i>Sweetwater County Conservation District—Bitter Creek Sampling and Analysis</i>
Total # Active 319 Projects in FY12	<i>27</i>
FY12 Total Load Reduction Estimates:	<i>Sediment: 2,059.11 tons/year</i>
	<i>Phosphorus: 988.3 lbs./year</i>
	<i>Nitrogen: 2,733.1 lbs./year</i>
	<i>E. coli: 2.4E+14 MPN/year</i>
Summary of BMPs implemented in FY12 (includes BMPs where 319 funds provided technical assistance):	<i>2 corral relocations; 1 septic system; 15,270' streambank stabilized; 3 irrigation diversions rehabilitated; 8 off-channel stock tanks/spring developments; 10,198' fence; 25 mi decommissioned roads; 2.5 acres wetland restored; 1 rain garden; 12 stream crossings rehabilitated; 1 urban stormwater wetland; 752 acres reduced irrigation runoff</i>
<b>Summary of Program Activity From FY99-FY12</b>	
Total number of third-party projects:	<i>127</i>
Total grant funds expended/obligated on third-party projects:	<i>\$15,269,687</i>
Total non-federal match expended/obligated on third-party projects	<i>\$14,290,646</i>
Total number of project sponsors:	<i>51</i>
Project Sponsor type with highest percentage of projects sponsored:	<i>Conservation Districts (58%)</i>
Funds spent/obligated on BMP Implementation projects:	<i>\$10,285,624.30</i>
Funds spent/obligated on Planning/Assessment projects:	<i>\$1,915,099.44</i>
Funds spent/obligated on Information/Education projects:	<i>\$1,897,781.01</i>
Funds spent/obligated on Groundwater projects:	<i>\$1,133,179.36</i>
Funds spent/obligated on TMDL development projects:	<i>\$2,148,807.80</i>
Funds spent/obligated on WDEQ staffing and support projects:	<i>\$1,358,977.79</i>
Number of EPA Approved Stream Restoration Success Stories To-Date ( <a href="http://www.epa.gov/owow/NPS/success/">http://www.epa.gov/owow/NPS/success/</a> )	<i>8 stories for 11 restored stream segments</i>

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**What is Nonpoint Source Pollution?**

Unlike point source pollution, which can be traced back to a single defined source, nonpoint source pollution is caused by surface water runoff that is diffuse in nature and often widespread, making it difficult to assess the source of the problem. Nonpoint source pollution occurs when runoff from rainfall or snowmelt travels over and/or percolates through the ground and picks up contaminants. These contaminants are deposited into streams, lakes, rivers, and ground water. Nonpoint source pollution is generally associated with human land-disturbing activities such as urban development, construction, agriculture, recreation, timber harvesting, and mineral exploration. Common nonpoint source contaminants include fertilizers and pesticides from agricultural and residential activity; oil, grease, and toxic chemicals from urban runoff; sediment from construction activity or stream bank erosion; and bacteria and nutrients from livestock and pet waste or failing septic systems.



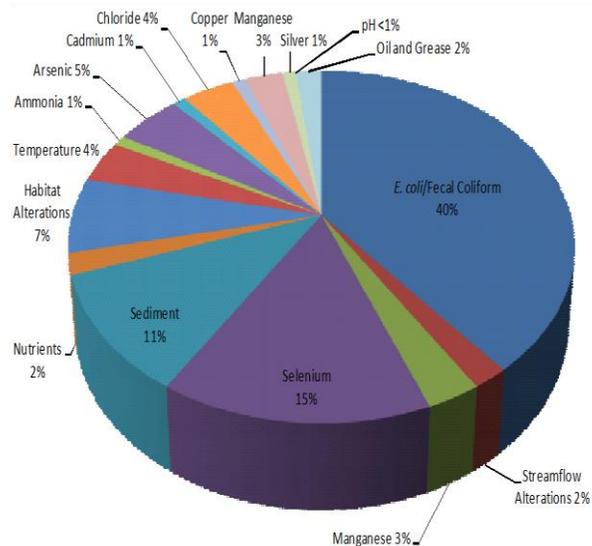
**Section 1. Introduction**

**1.1. Purpose of this Report**

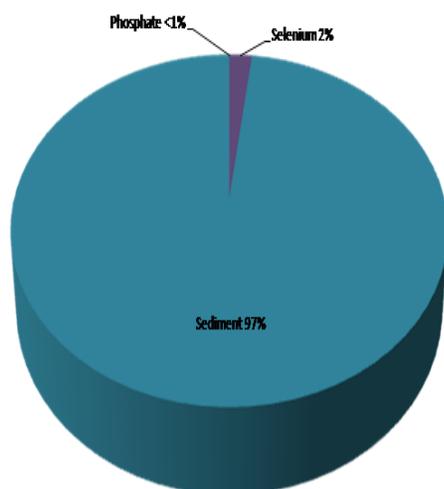
The purpose of this report is to provide a summary of the activities and accomplishments of the Wyoming Nonpoint Source Program for federal fiscal year 2012 (FY12). This report is also prepared to meet requirements of Section 319(h)(11) of the Clean Water Act (CWA) which requires that States report annually on (1) progress in meeting the schedule of milestones contained in their nonpoint source management programs, and (2) reductions in nonpoint source pollutant loadings and improvements in water quality resulting from program implementation. This report is also prepared to educate the public about nonpoint source pollution in Wyoming and actions being taken to address it at local, state, and federal levels.

**1.2. Nonpoint Source Pollution and Wyoming**

Nonpoint sources of pollution (see sidebar this page) continue to be recognized as the nation’s largest remaining cause of surface water quality impairments. The effects of nonpoint source pollution can be seen within the lakes, streams, and rivers of Wyoming. The three nonpoint source pollutants causing the majority of Wyoming’s surface water quality impairments are bacterial pathogens, sediment, and selenium (see Figures 1 and 2).



**Figure 1.** Chart showing the percentage of each cause for Wyoming’s impaired streams on the 2012 303(d) List.



**Figure 2.** Chart showing the percentage of each cause for Wyoming's impaired lakes/reservoirs on the 2012 303(d) List.

### 1.3. The Wyoming Nonpoint Source Program

As part of the Watershed Protection Program of the Wyoming Department of Environmental Quality (WDEQ), Water Quality Division (WQD), the goal of the Wyoming Nonpoint Source Program is: ***To identify sources of nonpoint source pollution to surface water and ground water of the State of Wyoming and to prevent and reduce nonpoint source pollution such that water quality standards are achieved and maintained.*** The program works through a set of overarching principles that emphasize voluntary and incentive-based participation, locally-led projects, partnerships, measurable water quality improvement, and effective and efficient program administration.

Detailed information about Nonpoint Source Program management is available in the Wyoming Nonpoint Source Management Plan (2012 Update) which can be accessed on the [Nonpoint Source Program website](#). This report provides information about how the Nonpoint Source Program is making progress according to the objectives, milestones, and tracking measures established in the updated Nonpoint Source Management Plan. Section 2 of this report provides highlighted accomplishments by each of the nine programmatic objectives established in the Nonpoint Source Management Plan. In addition, Appendix B provides a summary of milestones and tracking measures by objective.

### 1.4. FY12 Nonpoint Source Project Summary

The majority of water quality improvement work accomplished by the Nonpoint Source Program is funded through CWA Section 319 grants awarded to the State by the Environmental Protection Agency (EPA) (see sidebar next page). The State received \$853,000 of Section 319 funds in the FY12 allocation for project implementation. Reductions in the national Section 319 budget during FY12 further decreased Wyoming's project budget (FY11 project budget was approximately \$968,000; FY10 project budget was approximately \$1.2 million). The Nonpoint Source Program continued to fund water quality improvement projects during FY12 using the FY12 Section 319 allocation and unobligated funds on previous Section 319 grants. Proposals were reviewed by the WDEQ and the Nonpoint Source Task Force (see sidebar page 4). A total of seven proposals were received; the Nonpoint Source Task Force recommended six projects for funding:

- Crook County Natural Resource District—*Belle Fourche Watershed Plan, Phase III*
- Natrona County Conservation District—*North Platte River Watershed, Segment I*
- Sweetwater County Conservation District—*Bitter Creek Sampling and Analysis*
- Teton Science Schools—*Wyoming Stream Team 2012*
- The Nature Conservancy—*Cody River Days*
- City of Sheridan—*Goose Creek Watershed TMDL Implementation*

**What kind of funding is available through the Section 319 Program?**

*Through the NPS Program, Section 319 funds can be made available to state and local agencies, nonprofit organizations, and private individuals meeting CWA requirements. Those who can deliver a product having outcomes and targets that reduce the impacts of nonpoint source pollution and improve water quality are eligible. Nonpoint source pollution control funds are available each year on a competitive basis. Funds are awarded as reimbursement grants, meaning funds can be issued to the recipient only after proof of expenditure on eligible costs. All proposals submitted must identify at least 40 percent of the total project cost as non-federal cash or in-kind services match. The goal for the Wyoming Nonpoint Source Program is to prevent and reduce nonpoint source pollution to the surface water and ground water of the State of Wyoming such that water quality standards are achieved and maintained. An annual Request for Proposals is usually issued in the spring or early summer of each year. Additional information can be obtained on the program’s website at: <http://deg.state.wy.us/wqd/watershed/nps/NPS.htm> or by contacting the NPS Program at 307-777-6080.*



All of the six projects recommended for FY12 funding received a signed cooperative agreement and began project implementation in FY12.

In July 2012, the Environmental Protection Agency (EPA) Region 8 notified the WDEQ of the availability of \$31,500 of Section 319 funds that had been returned from another Region 8 state/tribe and earmarked for wildfire restoration projects. The WDEQ worked with local project sponsors to develop workplans to use this funding and was awarded the funding by EPA (funds were added to the FY10 Section 319 grant). The funding was applied to the two following projects:

- Wyoming State Forestry Division—2012 Wildfire Rehabilitation (\$30,000)
- University of Wyoming Cooperative Extension Service—Wildfire Education Publication (\$1,500)

Summaries of each of FY12’s new projects are provided in sidebars throughout this report.

In addition to the new projects in FY12, there were a total of 17 Section 319 projects that were already on-going during FY12. The WDEQ also initiated two new Total Maximum Daily Load (TMDL) development projects in FY12 using Section 319 funds. Appendix A provides a summary of FY12 Section 319 project activity and highlights the five third-party projects that closed in FY12. All closed third-party projects were completed successfully with a final report submission. Summaries of closed third-party projects are provided in sidebars throughout this report. Additional information on individual 319 projects can be found in the EPA [Grant Reporting and Tracking System](#) (GRTS) for Wyoming.

**The Nonpoint Source Task Force**

The NPS Task Force is a 13 member board of Governor-appointed citizens representing various industries and other public interest groups across the state. The Task Force provides oversight for the NPS Program by contributing valuable input for the program. Specifically, the Task Force contributes to the amendment of the Wyoming Nonpoint Source Management Plan, the revision and adoption of Best Management Practices, and the review, prioritization, and recommendation of funding for nonpoint source water quality improvement projects. Current members of the Task Force and their represented interest are as follows:

- Bill Alldredge**—Wildlife
- Bob Baumgartner**—Conservation Districts
- Robert Brug**—Conservation Districts
- Kathy Buchner**—Environment
- Bob Dundas**—Oil and Gas Industry
- Carson Engelskirger**—Timber Industry
- Linda Hamilton**—Sheep Industry
- Brenda Schladweiler**—Environment
- VACANT**—Recreation and Travel
- Donald Tranas**—Public at Large
- Lisa Kimsey**—Cattle Industry
- Mark Pepper**—Local Government
- Tyler Anderson**—Cropland

For more information about appointment to the Task Force, please contact the NPS Program at 307-777-6080 or the Governor’s Office at 307-777-5461.

**Section 2. Accomplishments of the Nonpoint Source Program During FY12**

**2.1. Introduction**

In the Wyoming Nonpoint Source Management Plan (2012 Update), the Nonpoint Source Program has established nine objectives that specifically identify the strategies by which the program will achieve its goal of reducing nonpoint source pollution within the state. Through the accomplishments highlighted in the following sections, the Nonpoint Source Program worked during FY12 to make progress towards meeting each of the nine objectives. In addition to the following information, a summary of milestones and tracking measures for each objective is presented in Appendix B.

**2.2. Objective #1: Identification and Prioritization**

*The WDEQ will continue to gather and use credible data to accurately and efficiently identify those surface waters of the state whose designated uses are determined to be threatened or impaired due to nonpoint source pollution. Those waters determined to be impaired or threatened by nonpoint source pollution will then be prioritized by the Nonpoint Source Program for restoration efforts.*

The following highlights achievements for this objective during FY12:

- The **WQD Standards Program** continued the triennial review process for Chapter 1 of the Wyoming Water Quality Rules and Regulations (water quality standards). Following the initiation of the triennial review in FY11 with outreach and scoping efforts, the Standards Program made revisions to Chapter 1 in FY12. The proposed revisions resolved EPA disapprovals and corrected inconsistencies identified since the last triennial review. The revisions also updated numeric criteria for priority and non-priority pollutants and revised the duration of the *E. coli* criteria. A public comment period for the proposed revisions was issued in August 2012.
- The **WQD Monitoring Program** continued to gather surface water quality data in accordance with the established [2010-2019 Monitoring Strategy](#). Information about work conducted during

## **EPA's Nine Key Elements for a Watershed-Based Plan**

Beginning in FY04, the EPA established nine key elements which must be contained in a watershed plan to be considered a "watershed-based plan" eligible for restoration funds. These nine key elements are as follows:

**Element 1:** Causes and sources of the impairment are identified

**Element 2:** Load Reduction Estimates for each management measure or BMP implemented

**Element 3:** Management Measures and BMPs (and associated costs) needed to achieve load reductions and identification of critical areas

**Element 4:** Technical and Financial Assistance that are estimated to be needed to implement the plan

**Element 5:** Information/Education Component to enhance public understanding and encourage public participation

**Element 6:** Schedule for implementing management measures

**Element 7:** Measurable Milestones—schedule of interim, measurable milestones to evaluate if management measures are being implemented.

**Element 8:** Evaluation of Progress—criteria for determining if load reductions are being achieved and progress is being made.

**Element 9:** Effectiveness Monitoring to determine effectiveness of management measures.

the 2012 monitoring season was outlined in the 2012 Water Quality Monitoring Annual Work Plan.

- The [2012 305\(b\)/303\(d\) Integrated Report](#) was completed in FY12 by the WQD **Assessment Program**. The report was submitted to and approved by EPA in April 2012.
- During FY12, the Nonpoint Source Program continued to work on the development of the **Impaired Waters Index (IWI)** database and mapping tool. Improvements were made to the mapping tool and database reports were linked to the mapping tool. The Nonpoint Source Program will continue to make improvements to the IWI in FY13 with plans to release the tool internally to WDEQ staff in FY13. A summary of IWI information is included in Appendix C.
- Watershed Protection Program staff attended preliminary training on EPA's newly released **Recovery Potential Screening Tool**. The Program worked to begin evaluating the use of this tool in Wyoming.

### **2.3. Objective #2: Planning**

*The WDEQ will continue to work with local stakeholders to develop and promote the development of tools that provide an accurate, efficient, and comprehensive plan on how the impairments to priority waters identified in Objective #1 will be addressed. This includes the development of EPA-approved Total Maximum Daily Loads (TMDLs) and the development of watershed-based plans that meet all of EPA's Nine Key Elements for Watershed-Based Planning.*

The following highlights achievements for this objective during FY12:

- The Nonpoint Source Program continued to support **TMDL development** during FY12 with Section 319 funding and technical assistance. TMDLs help provide planning elements that are needed prior to allocating the majority of 319 funds to restoration projects, per current grant conditions and national guidance (see EPA's Nine Key Elements for a Watershed-Based Plan, sidebar this page). The WQD continued to require that TMDLs funded with Section 319 funds include an implementation plan that incorporates these nine elements. The TMDL Program continued

to facilitate significant public involvement throughout TMDL development and to outreach to local organizations and agencies to encourage participation in the process. Two TMDL projects were initiated in FY12, as listed below. Table 1 provides the current status of nonpoint source TMDL development in Wyoming. Additional information about TMDL development is available on the [TMDL Program Website](#).

- The **Bear River TMDL** Project was initiated in FY12. This TMDL project addresses one stream segment impaired for aquatic life and fisheries uses due to high sediment levels.
- The **Shoshone River TMDLs** Project was initiated in FY12. This TMDL project addresses eight stream segments impaired for recreation use due to high bacteria levels.

**Table 1.** Current status of TMDL development in Wyoming (only TMDLs involving nonpoint source pollution are shown).

<b>TMDL Project</b>	<b># TMDLs</b>	<b>Status</b>	<b>Funding Source(s)</b>
<i>Ocean Lake</i>	<b>1</b>	<i>Approved 12/09</i>	<i>N/A – WDEQ staff</i>
<i>Goose Creek Watershed</i>	<b>13</b>	<i>Approved 9/10</i>	<b>319 grant</b>
Belle Fourche River Watershed	7	Draft TMDLs under review	ARRA* 604(b) grant and 319 grant
North Platte River Selenium	11	Draft TMDLs under review	ARRA* 604(b) and 319 grants
Crow Creek	10	Draft TMDLs under review	319 and 604(b) grants, SEP** funds
Big Horn River	16	Draft TMDLs under review	319 grants
Gillette Fishing Lake	2	Draft TMDLs under review	319 grant, City of Gillette funding
Hams Fork	1	Monitoring data being collected	WDEQ staff, 319 grants
Bitter/Killpecker Creek	3	Data collection prior to TMDL development	WDEQ staff, 319 grants
Bear River	1	TMDL development in-process	319 grants
Shoshone River	8	TMDL development in-process	319 grants

\*ARRA (American Recovery and Reinvestment Act)

\*\*SEP (Supplemental Environmental Protection Funds)

**FY12 NEW PROJECT—Bitter Creek Sampling and Analysis**

*This project, sponsored by the Sweetwater County Conservation District, was awarded \$72,000 to continue monitoring and assessment efforts on Bitter Creek and Killpecker Creek in the vicinity of Rock Springs. Segments of Bitter and Killpecker Creeks are impaired for primary contact recreational uses due to elevated levels of bacterial pathogens. A segment of Bitter Creek is also impaired for aquatic life and fisheries uses due to elevated levels of chloride. This project will work to address fecal and chloride water quality impairments within the Bitter and Killpecker Creek watersheds through monitoring, public education and outreach, developing partnerships, and information sharing. Additional water quality and flow data obtained under this project will be important for upcoming TMDL development*



- The Nonpoint Source Program also continued to support development of **watershed-based plans** that local watershed groups chose to write in advance of TMDL development. To be considered a watershed-based plan, the plan must incorporate EPA’s nine key elements of watershed-based planning (see sidebar page 5). Table 2 provides a current summary of watershed-based plan development in Wyoming.

- Sheridan County Conservation District (SCCD) continued to develop the **Tongue River Watershed-Based Plan** in FY12. This effort was supported through a Section 319 grant previously awarded to SCCD. SCCD submitted a final draft of the plan to the WDEQ in FY12; the plan was reviewed by the Nonpoint Source and TMDL Programs.

- Nonpoint Source, TMDL, and Monitoring Program staff assisted the Sublette County Conservation District with the development of the **Little Sandy River Watershed-Based Plan**. This included providing input on watershed plan content, assistance with modeling, and assistance with data collection in the field.

- One new planning and assessment project was recommended for FY12 Section 319 funding. **Sweetwater County Conservation District (SWCCD)** was awarded funding to continue water quality monitoring on Bitter Creek and Killpecker Creek through the City of Rock Springs (see sidebar this page). The WDEQ worked with SWCCD to plan monitoring efforts and collect data. The WDEQ also provided equipment to obtain continuous flow data and automated samplers to obtain water quality samples during storm events.

- TMDL, GIS, and Nonpoint Source Program staff began intensive training on the **Hydrologic Simulation Program Fortran/Better Assessment Science Integrating Point and Nonpoint Sources (HSPF/BASINS)** modeling system for TMDL development. The HSPF/BASINS modeling system is being used extensively for TMDL development in Wyoming; training staff on the use of this modeling system will facilitate in-house development of future TMDL projects.

- Monitoring Program staff continued gathering water quality data on the **Hams Fork** in preparation for TMDL development. Flow, chlorophyll, nutrient, and pH data were obtained.

- Monitoring Program staff contributed a significant amount of time in FY12 towards the **review of draft TMDLs**, most notably the Crow Creek and Big Horn TMDLs.

**Table 2.** Current status of watershed-based plan development in Wyoming.

Watershed-Based Plan	# Impaired Segments Addressed	Sponsor	Status
<i>Flat Creek Watershed-Based Plan</i>	1	<i>Flat Creek Watershed Steering Committee</i>	<i>Approved</i>
<i>Prairie Dog Creek Watershed-Based Plan</i>	5	<i>Sheridan County Conservation District</i>	<i>Approved</i>
<i>Tongue River Watershed Based Plan</i>	7	<i>Sheridan County Conservation District</i>	<i>Approved</i>
Little Sandy Watershed-Based Plan	1	Sublette County Conservation District	Development In-Process

**2.4. Objective #3: Implementation**

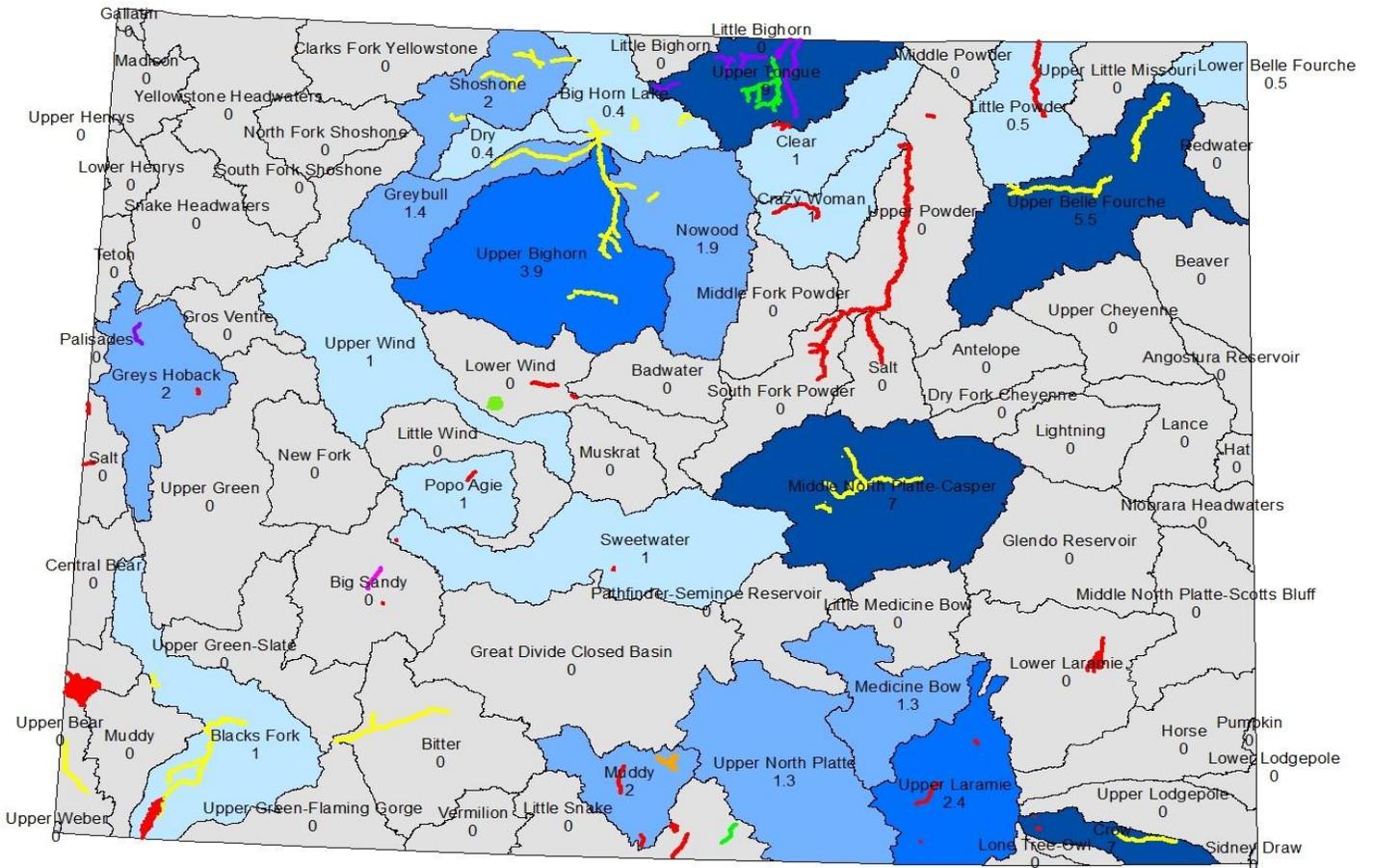
*The WDEQ will provide financial and technical assistance to implement efficient and effective watershed restoration projects in accordance with the watershed planning tools established in Objective #2 above. The purpose of the restoration projects will be to implement best management practices that reduce or eliminate nonpoint sources of pollution such that surface water quality standards are achieved and maintained.*

The following highlights achievements for this objective during FY12:

- Three new projects were recommended for funding in FY12 that will implement on-the-ground conservation practices to address impaired waterbodies.
  - Natrona County Conservation District** will address selenium impairments on the North Platte River and several tributaries under their “North Platte River Watershed—Segment I” project (see sidebar page 10).
  - The **City of Sheridan** will reduce sediment loading to the Goose Creek watershed under their “Goose Creek Watershed TMDL Implementation” project (see sidebar page 11).
  - Crook County Natural Resource District** will reduce bacteria loading to Donkey Creek and the Belle Fourche River under their “Belle Fourche Watershed Plan, Phase III” project (see sidebar page 12).
- In addition to the three new projects recommended in FY12, a total of seven projects were active under previous grants in FY12 that implemented conservation practices to address impaired waters (see Appendix A). Two of these projects closed during FY12.
- The Nonpoint Source Program continues to **focus funding to implementation projects** that address water quality impairments. 89% of the funds awarded to projects in FY12 went to

projects implementing conservation practices to address water quality impairments. Since 1999, 55% of 319 funds have been awarded to BMP implementation projects.

- Seven of the eight completed nonpoint source TMDLs/Watershed-Based Plans have received Section 319 funding to implement on-the-ground conservation practices (Belle Fourche River TMDLs, Goose Creek TMDLs, Gillette Fishing Lake TMDLs, North Platte River TMDLs, Flat Creek WSBP, Prairie Dog Creek WSBP, and Tongue River WSBP). The eighth completed nonpoint source TMDL/Watershed-Based Plan (Ocean Lake TMDL) received funding for implementation under the FY12 National Water Quality Initiative through the Natural Resources Conservation Service (NRCS). Thus, Wyoming has had **significant success in being able to implement its TMDLs and Watershed-Based Plans**. Figure 1 shows a map of restoration projects relative to impairments and the status of planning efforts for those impairments.



**Figure 3.** Summary of HUC8 watersheds where 319 watershed restoration (BMP implementation) projects have been funded since 1999. The number in each HUC8 watershed is the number of implementation projects funded. The darker the blue color, the more projects have been funded in the watershed. Red lines indicate impaired waterbodies without a TMDL or watershed-based plan; yellow lines indicate impaired waterbodies with a TMDL in progress; green lines indicated impaired waterbodies with an approved TMDL; pink lines indicate impaired waterbodies with a watershed-based plan in progress; purple lines represent impaired waterbodies with an approved watershed-based plan; orange lines represent impaired waterbodies that are now determined to be fully restored per the 2012 Integrated Report.

**FY12 NEW PROJECT—North Platte River Watershed Implementation Segment I**

*This project, sponsored by the Natrona County Conservation District, was awarded \$735,437 to reduce selenium loading to the North Platte River and tributaries. Sections of the North Platte River and several tributaries in the vicinity of Casper are impaired for aquatic life, wildlife, and/or fisheries designated uses due to elevated concentrations of selenium. This watershed restoration project will reduce selenium through the implementation of BMPs to increase irrigation conveyance and application efficiency in the Kendrick Irrigation District. This project will also assess and plan the need for BMPs on non-irrigated lands within the watershed. BMP implementation will be supported by an outreach/education program to encourage participation and monitoring to evaluate project effectiveness.*



**2.5. Objective #4: Documenting Environmental Results**

*The WDEQ will develop and implement methods to accurately and efficiently monitor and/or evaluate project effectiveness in terms of water quality improvements realized from watershed restoration project implementation.*

The following highlights achievements for this objective during FY12:

- **Third party project sponsors** continued to collect water quality data to evaluate project effectiveness and/or gather baseline data (see Table 3).
- **WDEQ Monitoring Program staff** continued to support 319 project management and monitoring through technical assistance, training, and field monitoring.
  - **Grass/Enos/Lefthand Creeks Nonpoint Source Reduction Phases I and II (The Nature Conservancy):** Monitoring Program staff continued to provide oversight for this project and to assist with monitoring protocols. In FY12, Monitoring Program staff helped review the final report for Phase I (ON804). Monitoring Program staff continued to provide water quality monitoring training and monitoring oversight in FY12 as the project entered into Phase II. Monitoring Program staff trained The Nature Conservancy staff in channel survey methods, provided a refresher on the use of Bank Erosion Hazard Index and Near Bank Stress methods, and helped evaluate ways to make future Phase III monitoring efforts more efficient.
  - Monitoring Program staff assumed project management responsibilities for the **North Platte River Watershed Segment I Project, Natrona County Conservation District**. A significant amount of assistance was provided to help revise the Sampling and Analysis Plan and establish a study design that will be able to determine project effectiveness.
  - Monitoring Program staff assumed project management responsibilities for the **Belle Fourche Watershed Plan Phase III Project, Crook County Natural Resource District**. Assistance was provided for this project to establish monitoring sites that will

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**FY12 NEW PROJECT—Goose Creek Watershed TMDL Implementation**

*This project, sponsored by the City of Sheridan, was awarded \$400,000 to reduce sediment loading to Goose, Big Goose, and Little Goose Creeks. Reduced sediment loading will help restore aquatic life and fisheries designated uses that are currently impaired in Goose Creek and Little Goose Creek. Sediment load reductions will be accomplished through the installation of six stormwater interceptors within the City limits. Monitoring will be used to determine locations where the interceptors will have maximum effectiveness. Monitoring will also be conducted after installation to help evaluate effectiveness. This project implements BMP recommendations from the Goose Creek TMDLs and represents another effort from the Sheridan community to proactively address water quality impairments within the area.*



better capture impacts from the project and will be used as part of a pilot microbial source tracking study.

- Monitoring Program staff provided input on the monitoring plan for the **City of Sheridan’s Goose Creek Watershed TMDL Implementation** project. Monitoring Program input on this project will help improve the efficiency and cost-effectiveness of baseline and BMP monitoring.
- **Laramie River Restoration Phase II and III** (Laramie Rivers Conservation District): Monitoring Program staff continued to oversee project management in FY12.
- **Medicine Bow Sediment Reduction** (United States Forest Service): Monitoring Program staff continued to oversee project management in FY12.
- Monitoring Program staff assisted Popo Agie Conservation District in collecting duplicate and split samples on the **Middle Fork of the Popo Agie River** for QA/QC purposes; monitoring on the Middle Fork has continued into FY12 under a 205(j) project.
- Monitoring Program staff assisted the Nonpoint Source Program and a private landowner by collecting chemical, physical, and biological data on **Whitelaw Creek** in Crook County. Data collected will help evaluate the effectiveness of agricultural BMPs implemented over the last two decades.
- Monitoring Program staff assisted Sublette County Conservation District with the collection of physical data on the impaired segment of the **Little Sandy River** to facilitate calculations of sediment loading for watershed-based plan development.
- Beginning in FY12, the Nonpoint Source Program and Monitoring Program supervisors discussed what **nonpoint source monitoring** needs the Monitoring Program could assist with in the upcoming monitoring season.
- With the approved 2012 305(b)/303(d) Integrated Report, one segment of **McKinney Creek** and one segment of **Muddy Creek** in the Little Snake River Basin were removed from the 303(d) list. [EPA-approved success stories](#) were finalized for the restored stream segments in FY12 and published in early FY13.

**FY12 NEW PROJECT—Belle Fourche Watershed Plan Phase III**

*This project, sponsored by the Crook County Natural Resource District (CCNRD), was awarded \$332,130 to reduce E. coli loading to the Belle Fourche River and Donkey Creek within Crook County. Segments of the Belle Fourche River and Donkey Creek are currently impaired for primary contact recreation use due to elevated levels of E. coli or fecal coliform. This project will implement BMPs to address sources of E. coli, continue a proactive information/education program, and continue monitoring to better identify sources and evaluate project effectiveness. This project implements recommendations from the Belle Fourche River TMDLs. BMPs under this project will focus on Animal Feeding Operation improvements, off-channel watering projects, and septic system remediations. Monitoring will include a pilot Microbial Source Tracking study to help identify bacterial sources.*



- Preliminary data indicate highly effective pollutant removal at the **Karns Meadow Stormwater Wetlands in Jackson**. The wetlands is removing sediment, bacteria, and other pollutants from urban runoff and preventing these pollutants from reaching Flat Creek. Data from one minor storm event in 2012 show a reduction in *E. coli* concentrations from >2,419.2 MPN/100 mL at the wetlands inlet to 14.8 MPN/100 mL at the wetlands outlet. Data from the same date indicate effective removal of sediment, with 2.10 mL being the greatest volume of total settleable solids at the inlet and 0 mL of total settleable solids detected at the outlet. Teton Conservation District is continuing to gather data to evaluate effectiveness of the wetlands, and the WDEQ will work with Teton Conservation District in FY13 to evaluate improving water quality trends in Flat Creek.

- Water quality data reported from **Phase I of The Nature Conservancy’s Grass/Enos/Lefthand Creeks Nonpoint Source Reduction project** indicate increased substrate size, improved macroinvertebrate metric scores, and decreased bank erosion at multiple sites in this watershed where BMPs have been implemented. Monitoring will continue under Phase II and a future Phase III to further detect post-BMP effectiveness trends.

- BMP implementation has been very important to improving the water quality of **Muddy Creek** and the **Little Snake River**. The repair of a major wetland complex in the watershed has decreased peak stream flows in the threatened segment of Muddy Creek, greatly reducing the occurrence, magnitude and duration of scouring streamflows that can cause accelerated erosion, and allowing streambanks to stabilize and re-vegetate. The wetland complex functions as a filter that traps sediment eroded from upstream sources. Turbidity was used as a surrogate measure to estimate sediment trends; turbidity, total dissolved solids and specific conductivity were each significantly lower within the impaired segment following wetland reconstruction and BMP implementation. A significant reduction in temperature and turbidity when comparing sites above and below the wetland complex during spring runoff was also reported. The repair of the wetland complex reduced headcutting, gullyng and the threat of sedimentation in the lower Muddy Creek watershed.

- Table 4 provides a summary of **BMPs implemented** in FY12 and **estimated pollutant load reductions** for those BMPs.

**Table 3.** Surface water monitoring conducted by Section 319 projects active in FY12.

Project No.	Project Title	Water Bodies	Monitoring Effort
ON603	Middle Fk Popo Agie Septic and AFO Rehabilitation—Popo Agie Conservation District	Middle Fk Popo Agie River Hornecker Creek	Pathogens ( <i>E. coli</i> ), Field Parameters
ON801	Sheridan County Watershed Improvements #2—Sheridan County Conservation District	Tongue River Goose Creek Big Goose Creek Little Goose Creek Prairie Dog Creek	Temperature, pH, conductivity, dissolved oxygen, discharge, turbidity, and <i>E. coli</i> . Macroinvertebrates and habitat assessments at select sites.
ON802	Belle Fourche Watershed Phase II—Crook County Natural Resource District	Belle Fourche River Donkey Creek	Pathogens ( <i>E. coli</i> ), Chloride and ammonia, Field Parameters
ON806	Snowy Range Sediment	Laramie River	Sediment, Site visits to confirm successful closures, Physical habitat, Field Parameters
ON904	Karns Meadow Stormwater Wetlands	Flat Creek	Sediment (total suspended solids, total settleable solids and flow using flow-triggered stormwater auto-samplers), BURP, Field Parameters
NPS2010A	Laramie River Restoration Phase 2 and 3	Laramie River	Sediment (Bank Erosion Hazard Index and Near Bank Stress), Cross Sectional Data, Riffle Stability Index, Photopoint monitoring, WGFD fisheries monitoring
NPS2010B	Flat Creek Restoration	Flat Creek	Sediment (total suspended sediment and bedload), Macroinvertebrates, Riffle embeddedness, Channel cross-sections and profile, WGFD, fisheries monitoring, Vegetation surveys
NPS2010C	Lower Dry Creek Wetlands	Dry Creek	Sediment (total suspended solids)
NPS2011A	Sheridan County Watershed Improvements #3—Sheridan County Conservation District	Tongue River Goose Creek Big Goose Creek Little Goose Creek Prairie Dog Creek	Temperature, pH, conductivity, dissolved oxygen, discharge, turbidity, and <i>E. coli</i> . Macroinvertebrates and habitat assessments at select sites.
NPS2011B	Grass Creek/Enos/Lefthand Creek Nonpoint Source Reductions Phase II	Grass Creek Enos Creek Lefthand Creek	Sediment (Bank Erosion Hazard Index and Near Bank Stress), macroinvertebrates, habitat assessments, Field Parameters
NPS2010D	Goose Creek Watershed TMDL Implementation—City of Sheridan	Goose Creek Little Goose Creek Big Goose Creek	<i>E. coli</i> , Sediment (TSS and turbidity), Dry period flow detection, Optical brighteners
NPS2010E/ 2012E	North Platte River Watershed TMDL Implementation Segment I—Natrona County Conservation District	North Platte River Casper Creek Poison Spider Creek Oregon Trail Drain Johnson Reservoir Drain Poison Spring Creek Six Mile Drain	Selenium, Field parameters, Discharge
NPS2011D/ NPS2012B	Belle Fourche River Watershed Plan, Phase III—Crook County Natural Resource District	Belle Fourche River Donkey Creek	<i>E. coli</i> , Field Parameters, Pilot Microbial Source Tracking
NPS2012A/ ON70I	Bitter Creek Sampling and Analysis—Sweetwater County Conservation District	Bitter Creek Killpecker Creek	<i>E. coli</i> , Field Parameters, Flow

**Table 4.** Summary of BMPs completed during FY12 by Section 319 projects and estimated pollutant load reductions associated with those BMPs. Includes BMPs implemented or supported with technical assistance.

Project Name	Project No.	BMPs Implemented During FY12	Load Reduction Method	Estimated Load Reductions
Gillette Fishing Lake Wetlands	ON70C	5 sediment catch basins as part of a wetland complex at lake inlet	Stormceptor sediment removal estimates	600 tons/year sediment
Sheridan County Watershed Improvements #2	ON801	2 corral relocations, 1 septic, 12,520' streambank restoration, 2 ditch diversion restructures, 752 acres reduced irrigation runoff, 3 spring developments and stock tanks	STEPL and related methods, Wyoming Septic Model	2.4E+14 MPN/year E. coli 2,432 lbs./year Nitrogen 875 lbs./year Phosphorus 1,257 tons/year Sediment
Medicine Bow Forest Sediment Reduction	ON806	25 miles of road decommissioned; 12 stream crossings restored (1,450' streambanks stabilized), 11 wetland areas restored (2 acres)	Water Erosion Prediction Project (USFS)	34 tons/year Sediment
Sunrise Building Rain Gardens	ON902	1 rain garden	STEPL	0.4 lbs./year Nitrogen 0.1 lbs./year Phosphorus 0.01 tons/year Sediment
Flat Creek Restoration	NPS2010B	1300' bank stabilization, 0.5 acre wetland	STEPL	18.7 lbs./year Nitrogen 7.2 lbs./year Phosphorus 10.1 tons/year Sediment
Grass Enos Creek Phase II	NPS2011B	5 off site water tanks, 10,198' fence, noxious weed control	Monitoring, STEPL	282 lbs./year Nitrogen 106 lbs./year Phosphorus 80 tons/year Sediment
Sheridan County Watershed Improvements #3	NPS2011A	1 irrigation diversion	STEPL/related methods	78 tons/year Sediment

**2.6. Objective #5: Protection and Prevention**

*In addition to restoring impaired waters, the WDEQ will seek to protect those waters that are not listed as impaired or threatened, but may nonetheless be adversely affected by nonpoint source pollution or may be high quality, unique waters that warrant special protection. The quality of these surface waters will be maintained and improved through coordinated regulatory and non-regulatory methods, including nonpoint source pollution reduction and control, permitting of point sources, the National Environmental Policy Act (NEPA) review process, Clean Water Act Section 401 certifications, and providing technical assistance and public education. Where possible, the WDEQ will seek to be proactive and prevent new water quality impairments from arising.*

The following highlights achievements for this objective during FY12:

- Wyoming experienced an extreme wildfire season in the summer/fall of 2012 due to drought conditions. Section 319 funds were provided to **Wyoming State Forestry Division** in the summer of 2012 to aid in emergency rehabilitation efforts (see sidebar next page). Rehabilitation efforts will be important in preventing sediment loading to surface waterbodies in burned areas.

**FY12 NEW PROJECT—2012  
Wildfire Rehabilitation and  
Education**

**Wyoming State Forestry Division** (WSFD) received \$30,000 in FY12 to implement post-wildfire rehabilitation efforts on forest lands burned in 2012 to mitigate nonpoint source pollution (primarily sediment loading) to surface waters. The 2012 wildfire season was especially severe, with drought, above average temperatures, erratic winds and heavy fuel loads having led to an unprecedented number of large wildfires exhibiting severe fire behavior and resulting in extensive resource damage. WSFD will accomplish this project through the use of its personnel, conservation crews and professional service contracts to mitigate the extensive resource damage incurred during the 2012 wildfire season and enhance natural regenerative processes in order to minimize erosion, sedimentation and degradation of water quality.

In addition, \$1,500 of Section 319 funds will be used to support a publication by the **University of Wyoming Cooperative Extension Service** about wildfires and natural resources management. The publication will include an article about water quality impacts of wildfires and BMPs that can be used to mitigate those impacts. Funds will be used to assist with publishing and distribution costs.



- In addition to the 2012 wildfire restoration project, four other projects were active in FY12 that implemented conservation practices to protect unimpaired waters (see Appendix A). One of these projects was successfully completed in FY12.
- Section 401 of the CWA requires that anyone desiring to obtain a federal permit for any activity that may result in a discharge into waters of the United States must first obtain a state Section 401 water quality certification. This certification ensures that state water quality standards and other state regulations will be met and provides opportunity for states to have input into federally approved projects that may affect surface waters of the state. The WDEQ issued 52 individual **401 certifications** in 2012.
- The WDEQ issued 34 individual **turbidity waivers** to authorize activities that would cause short term turbidity increases determined to have minimal effect on water use. The WDEQ also re-issued a general authorization to the United States Forest Service (USFS) for temporary turbidity increases during routine maintenance projects meeting certain criteria or those resulting from force majeure circumstances.
- Monitoring Program staff participated on one **BMP audit** with the USFS in the Big Horn National Forest.
- Nonpoint Source Program staff reviewed BMP implementation and effectiveness monitoring information submitted by the **USFS** per the Memorandum of Understanding between USFS and WDEQ.
- Watershed Program staff continued to participate as a cooperator in the **National Environmental Policy Act (NEPA)** process as part of federal consistency efforts. This included, but is not limited to, reviewing NEPA documents, submitting comments, participating in alternative development, participating in monitoring planning, conducting field reviews, and participating on stakeholder committees. Major projects in FY12 included several land management plans (e.g. Shoshone National Forest Plan, Snake Headwaters Wild and Scenic Rivers Comprehensive River Management Plan,

**FY12 NEW PROJECT—Wyoming Stream Team 2012**

*This project, sponsored by Teton Science Schools, was awarded \$83,102 to continue the Wyoming Stream Team program. Wyoming Stream Team is a state-wide monitoring program, based at Teton Science Schools, focused on assessing and improving stream health. The Wyoming Stream Team educational program helps citizens (primarily teachers, community members, and students) collect data for use by students, teachers and local communities. Data collected by schools and other groups can be used to detect threats to stream health and encourage stewardship. The program is an extension of the water quality monitoring workshops conducted by Teton Science Schools in partnership with Wyoming Department of Environmental Quality since 1993. This phase of Stream Team will continue to educate the citizens of Wyoming about stream health, water quality and local water resource issues through trainings, volunteer monitoring and restoration projects. This phase will also implement long term monitoring, data collection and restoration projects on 303(d) impaired waterbodies by partnering Conservation Districts with local volunteer monitors.*



Bighorn Basin Resource Management Plan, Lander Resource Management Plan, Rock Springs Resource Management Plan, and National Forest Planning Rule Programmatic Environmental Impact Statement) and numerous energy projects (including oil and gas, uranium, and wind energy development projects as well as transmission line projects).

**2.7. Objective #6: Ground Water Protection**

*The WDEQ will work to understand current ground water quality conditions, improve ground water quality, protect drinking water supplies from nonpoint sources of pollution, protect the public health, and increase public awareness of the potential for nonpoint sources to contribute to ground water contamination and public health concerns.*

The following highlights achievements for this objective during FY12:

- One ground water project was active in FY12 (ON903, **WDEQ Ambient Groundwater Monitoring**). This project was successfully completed in FY12 (see sidebar page 19).
- Ground water protection outreach information continued to be provided through the WDEQ **“Know Your Well” Program**.
- During FY12, ground water samples were collected from an additional 58 water wells within four counties previously monitored (Uinta, Sublette, Platte, Sweetwater) and one additional county (Laramie) that had not yet been sampled. To date, samples have been collected within priority areas in six counties (Uinta, Sublette, Platte, Sweetwater, Laramie, and Carbon).

**2.8. Objective #7: Information and Education**

*The WDEQ will work to increase and maintain general public awareness of water quality and nonpoint source pollution through an effective education and outreach program.*

The following highlights achievements for this objective during FY12:

**FY12 NEW PROJECT—Cody River Days**

*This project, sponsored by **The Nature Conservancy**, was awarded \$20,000 to conduct an innovative information/education project. The Nature Conservancy will host the first annual Cody River Days festival in late August of 2013.*

*Demonstrations will be used to promote adoption of agricultural BMPs aimed at improving water quality, including: off-creek water development, riparian and spring protection fencing, beaver habitat enhancement, stream bank stabilization, water use efficiency, and riparian re-vegetation. On-site training in water quality monitoring techniques will also be provided and The Nature Conservancy will also lead interpretive hikes and floats that provide general riparian and aquatic habitat information. Finally, the event will be used as a way to disseminate information about landowner-assistance programs available for BMP implementation. This project will help build partnerships and encourage voluntary participation in future watershed restoration efforts, in addition to promoting awareness of water quality issues within the community.*



- Two new information/education projects were recommended for FY12 funding. **Teton Science Schools** received additional funding to continue the Wyoming Stream Team project (see sidebar previous page). **The Nature Conservancy** received funding to host a Cody River Days Festival to promote watershed restoration efforts and promote awareness of nonpoint source pollution efforts (see sidebar this page).
- Two other information/education projects were active in FY12 (see Appendix A). One of these projects was successfully completed in FY12.
- Approximately 1,200 Wyoming students and 60 volunteers attended **Worldwide Day of Monitoring** activities coordinated by 11 conservation districts and the Wyoming Association of Conservation Districts (WACD).
- The **2011 Wyoming Watersheds Progress Report** was published by the WACD in FY12. Five hundred hard copies were distributed and the report was published on the [WACD website](#).
- Worked progressed at the **Pathway to Water Quality** project at the State Fairgrounds in Douglas. Work during FY12 included Russian Olive removal, installation of a 1,450 ft. pathway made of permeable pavers, establishment of native grass plots along the pathway, installation of interpretative signage, and substantial completion of a wetland area. The wetland area captures runoff from the pathway and the surrounding area and demonstrates a functional wetland system that emulates a Wyoming ephemeral stream and wetland system. An Urban & Community Forestry grant provided by the Wyoming State Forestry Division helped plant trees within the wetlands complex. Watershed demonstrations through the use of a stream trailer and a GIS Watershed program were provided to attendees during the State Fair.
- One **Wyoming Stream Team** summer workshop provided water quality monitoring training to Wyoming teachers at Teton Science Schools. The workshop had great attendance this year, with 13 teachers participating.

### **FY12 CLOSED PROJECT—Wyoming Stream Team 2009-2012 (ON901)**

*The purpose of this project, sponsored by Teton Science Schools, was to educate Wyoming citizens, primarily teachers and their students, on stream health, water quality and local water resource issues through trainings and volunteer monitoring projects. A second purpose of this project was to implement long-term monitoring, data collection, and restoration projects. The Wyoming Stream Team recruited program participants, conducted education and trainings, supported monitoring/testing activities and performed program administration and collaboration. The program was successfully marketed through mailings, websites, e-mails and participation in conferences. The Wyoming Stream Team trained 27 participants in annual four-day workshops in 2009, 2010, and 2011. The Wyoming Stream Team also trained over 200 participants in various aspects of stream monitoring in shorter, specialized trainings. The program conducted over 30 site and outreach visits to schools and programs around the state. The program manual was revised with detailed background information, resources, and instructions specific to the Wyoming Stream Team program. Data sheets have been improved and have been posted on the [Wyoming Stream Team website](#). The data entry and retrieval process on the website has been streamlined and improved for ease of use. This project was started in July 2009 and completed in September 2012. A total of \$154,992 in Section 319 funds (57%) and \$117,651 in non-federal match (43%) were expended on this project.*

- The updated **Urban, Cropland, and Livestock/Grazing BMP manuals** were approved by the Nonpoint Source Task Force and submitted to public comment in FY12.
- The Nonpoint Source Program began revisions to the **Stream and Lakeshore Restoration BMP Manual** (previously the Hydrologic Modification BMP Manual) in FY12.
- The Nonpoint Source Program worked to improve its **website** by adding information to help current project sponsors with project management, providing better proposal guidance material, and adding general nonpoint source pollution information and education material.
- The Nonpoint Source Program began issuing **electronic newsletters** in FY12 using a Nonpoint Source List Serve system. Two newsletters were distributed in FY12 that notified list serve members of public comment opportunities, funding opportunities, links to other nonpoint source pollution resources, notices for workshops, and other related information. Currently, a total of 205 members are registered on the Nonpoint Source List Serve.
- Nonpoint Source Program staff collaborated with University of Wyoming faculty to prepare an educational article regarding **impacts to water quality from wildfires** and BMPs that can be used to mitigate impacts. This article will be published by the University of Wyoming Cooperative Extension Service in a special wildfire publication in FY13.
- Monitoring Program staff collaborated with Sheridan County Conservation District and the Wyoming Game and Fish Department to conduct a joint training session to teach **Tongue River High School science classes** about overall stream health. Monitoring Program staff educated students about how to perform *E. coli* monitoring and what *E. coli* means for stream health and recreation.
- Monitoring Program staff also attended the **Campbell**

### **FY12 CLOSED PROJECT—Ambient Groundwater Monitoring (ON903)**

The purpose of this project, sponsored by the **WDEQ Groundwater Program** in cooperation with the **United States Geological Survey**, was to implement Wyoming's Statewide Ambient Groundwater Monitoring Program. Groundwater quality data collected under this project will be used to 1) establish baseline ambient groundwater quality conditions, 2) determine appropriate response strategies to protect existing and potential use of groundwater resources, 3) target resources for future groundwater monitoring, and 4) identify areas where present groundwater management plans should be modified to prevent further degradation of groundwater quality. Ambient monitoring was conducted in priority areas where groundwater had been identified as an important source of drinking water, the groundwater was determined to be susceptible to contamination, and the groundwater was overlain by one or more land-use activities that could negatively impact groundwater resources. This project represented the first phase of this effort, with plans to seek additional funding to complete the entire state-wide program through future phases. A [fact sheet](#) on the WDEQ Groundwater Program website offers more information about this important program. This project began in May 2009 and was completed in June 2012. A total of \$150,000 of Section 319 funds (31%), \$100,000 in nonfederal match (21%) and \$235,000 in other federal funds (48%) were expended on this project.



**County Ag Expo** in April 2012. A table was manned at this event to teach third graders about aquatic insects and stream health.

### **2.9. Objective #8: Partnerships and Interagency Cooperation**

The WDEQ will work to maintain and improve existing partnerships and develop new partnerships with other agencies, non-profit organizations, local watershed groups, and individuals who also seek to reduce nonpoint source pollution and improve water quality. Partnerships and coordination will allow watershed restoration and protection efforts to occur more efficiently and effectively.

The following highlights achievements for this objective during FY12:

- The Nonpoint Source Program provided input to the NRCS about watersheds selected for FY12 **National Water Quality Initiative Funding**.
- Nonpoint Source, Assessment, and Monitoring Program staff presented at the 2011 **WACD annual convention**.
- Assessment and Monitoring Program staff provided assistance with **2012 WACD Water Quality Module trainings**.
- The Nonpoint Source Program and WACD **promoted Section 319 funding opportunities** to local watershed groups resulting in increased proposal submittals for the FY13 funding cycle.
- The Nonpoint Source Program worked with **Wyoming State Forestry Division** to provide financial assistance for 2012 wildfire rehabilitation efforts.
- The Nonpoint Source Program Coordinator participated on the **NRCS State Technical Committee** meetings and provided input to encourage use of Farm Bill funding for water quality-related projects.

**FY12 CLOSED PROJECT—Lower Dry Creek Wetlands (NPS2010C)**

*The purpose of this project, sponsored by Laramie County, was to improve water quality in Crow Creek and its tributary Dry Creek through the construction of a wetland in the lower Dry Creek basin near Cheyenne. Laramie County managed the design and construction of a 3 acre wetland feature to passively treat urban stormwater runoff entering Dry Creek from the City of Cheyenne. The wetland feature collects, filters, and passively treats stormwater runoff from impervious surfaces in urban areas. Sediment is the primary pollutant of concern, but the wetland is also helping to remove hydrocarbons, nutrients, and other pollutants associated with urban runoff. The project included design and construction of the wetlands, including excavation, materials placement, and seeding for the installation of the constructed wetland. Two public meetings were held to educate the public about the wetlands and to gather public input. Monitoring for Total Suspended Sediment (TSS) indicated that an estimated 22 tons/year of sediment are being captured by the wetland and prevented from entering Crow Creek. This project began in July 2010 and was completed in December 2011. A total of \$149,457 in Section 319 funds (49%) and \$152,485 in non-federal match (51%) were expended on this project.*



- The Nonpoint Source Program Coordinator participated in **State Engineer Office Water Forum** meetings.
- The Nonpoint Source Program Coordinator participated on the **Pathway to Water Quality Steering Committee**.
- The WDEQ provided outreach to appropriate agencies and stakeholders in advance of and during **TMDL development**.
- The Nonpoint Source Program continued discussions with the **Clean Water State Revolving Fund Program** to evaluate options to encourage the use of SRF loans for nonpoint source pollution reduction projects.

**2.10. Objective #9: Efficient and Effective Program Administration**

*The WDEQ will administer its Nonpoint Source Program as effectively and efficiently as possible, with a focus on integration of Watershed Protection Program programs, demonstration of accountability, and continual program evaluation.*

The following highlights achievements for this objective during FY12:

- The WDEQ completed revisions to the **2012 Nonpoint Source Management Plan Update** and the updated plan was approved by the Nonpoint Source Task Force. The management plan was submitted to public notice in FY12 and the Nonpoint Source Program responded to all comments in early FY13. The updated management plan was approved by the Water and Waste Advisory Board in December 2012, and the Nonpoint Source Program is currently preparing to send the document to the Governor’s Office for certification to submit the plan to EPA for final approval. Three **updated BMP Manuals—Cropland, Urban, and Livestock/Wildlife**—are being submitted with the updated Nonpoint Source Management Plan for approval. The updated Nonpoint Source Management Plan and BMP Manuals can be accessed on the [Nonpoint Source Program website](#).

### **FY12 CLOSED PROJECT—Gillette Fishing Lake Wetlands (ON70C)**

*The goal of this project, sponsored by the City of Gillette, was to reduce sediment and phosphorus loading to the Gillette Fishing Lake through the construction of a wetlands complex at the inlet to the lake. The Gillette Fishing Lake is currently listed as impaired due to elevated levels of sediment and phosphorus. TMDLs completed for Gillette Fishing Lake indicate that stormwater runoff from the urban watershed surrounding the lake was the primary contributor of nonpoint source pollution to the lake. The City of Gillette worked with a professional consultant to develop a wetlands design in the low lying area on Donkey Creek between Gillette Fishing Lake and Highway 59. A series of five catch basins were laid out in locations that will maximize sediment capture and will be accessible for periodic maintenance and cleanout. One pre-construction meeting was held at the Lake and an interpretive sign has been designed and will be installed at the lake. The installation of the sedimentation ponds is estimated to remove at least 500 cubic yards of sediment per year. Actual sediment removal will be more accurately determined through sedimentation monitoring and future maintenance activities. This project began in May 2012 and was completed in September 2012. A total of \$399,456 in Section 319 funds (53%) and \$356,723 (47%) in non-federal match were expended on this project.*



- The Nonpoint Source Program Coordinator participated in a **State/EPA workgroup process** that provided input on proposed **revisions to national Section 319 Nonpoint Source Program guidance**. The Coordinator also attended a three day national Nonpoint Source Program meeting and participated in extensive discussion held at the meeting about issues related to the revised guidance.
- Two Section 319 grants were successfully closed in FY12. The **FY06 Section 319** grant expired on December 31, 2011; all funds on this grant were expended and no funds were returned to the EPA. A close-out report detailing the use of funds on the FY06 grant was submitted to EPA on March 28, 2012. The **FY07 Section 319 grant** expired on September 30, 2012; all funds on this grant were also expended and no funds were returned to the EPA. A close-out report detailing the use of funds on the FY07 grant was submitted to EPA on December 10, 2012.
- The Nonpoint Source Program continues to **obligate and expend funds** on active Section 319 grants in a timely manner. See Appendix B for more information about grant expenditure rates.
- Beginning with FY12 projects, the Nonpoint Source Program released a **Project Management Database** to assist project sponsors with project management. This database will facilitate submission of reimbursement requests, annual reporting, progress reporting, and BMP tracking and reporting.
- The Nonpoint Source Program continued to update and maintain its **electronic library**, and expanded the library to include Sampling and Analysis Plans.
- The Nonpoint Source Program worked with other programs within WDEQ to encourage the use of **Supplemental Environmental Project (SEP) funds** collected as part of permit violation enforcements to go towards nonpoint source pollution reduction projects.

**FY12 CLOSED PROJECT—Middle Fork Popo Agie River Septic and AFO Project (ON603)**

*The goal of this project, sponsored by the Popo Agie Conservation District, was to reduce bacterial contributions along a segment of the Middle Fork of the Popo Agie River that was not meeting state water quality criteria. The major targets were to (1) implement the rehabilitation of failing septic systems, (2) enhance implementation efforts with a public outreach and education program, and (3) monitor improvement to water quality. The project was amended in 2009 to incorporate agricultural BMPs to address potential bacterial contributions from livestock operations. Five landowners received cost-share assistance to replace their failed septic systems. One Animal Feeding Operation was also addressed. One new grazing management plan was voluntarily implemented in the watershed during the life of the project. A public information program was also implemented. After six years of monitoring, PACD documented improvement in water quality on the Middle Fork. Since 2009, there has been a reduction in total geometric mean data sets that exceed the water quality standard from 33 to 8. Monitoring under this project also helped identify spatial boundaries of the impairment and sources of nonpoint source pollution. This project began in June 2006 and was completed in October 2011. A total of \$57,611 of Section 319 funds (60%) and \$38,637 in non-federal match (40%) were spent on this project.*

- **Annual Milestones for FY13:** The annual milestones presented in Table 5 have been established for FY13; progress in meeting these milestones will be reported in the FY13 annual report.

**Table 5.** Annual milestones established for FY13.

Obj.	Annual Milestone
1	The WDEQ will continue to work to improve the Impaired Waters Index (IWI) by refining the mapping tool, correcting database links, and updating database information. The WDEQ plans to release an internal version of the IWI to Watershed Program Staff in FY13.
	The Watershed Protection Program will continue evaluating the use of the Recovery Potential Screening Tool and by the end of FY13 will determine whether or not the program will pursue the use of this tool.
2	The WDEQ will continue to support development of the Little Sandy Watershed-Based Plan with technical and financial assistance as resources allow.
	The WDEQ will have a draft of the Shoshone River TMDLs by 9/30/13.
3	The WDEQ will outreach to project sponsors in the Big Horn River Basin to promote application for FY14 Section 319 funding.
	The WDEQ will work to promote an implementation project for one new nine element watershed plan.
4	The WDEQ will work with Teton Conservation District and its partners to evaluate improving water quality data trends in Flat Creek through the Town of Jackson. Provided resources remain available, WDEQ Monitoring Program staff will assist in data collection for this effort.
	All active BMP projects will have a field visit by the NPS Program Coordinator and/or project officer.
5	The WDEQ will work to promote funding for one new protection/prevention project with FY14 funds.
	The WDEQ will continue to work with Wyoming State Forestry to support wildfire rehabilitation efforts as resources allow.
7	The WDEQ will publish four electronic nonpoint source newsletters.
	The WDEQ will continue to work to update its website with information about the updated BMP manuals and information about current Section 319 projects.
8	The WDEQ will work with NRCS to improve coordination on FY13 NWQI funding.
	The WDEQ will request comments from Wyoming Game and Fish Department on its Stream and Lakeshore Restoration BMP manual.
9	The WDEQ anticipates Water and Waste Advisory Board, Governor and EPA approval of the updated Nonpoint Source Management Plan and three BMP manuals (Cropland, Urban, and Livestock/Wildlife) in FY13.
	The WDEQ will obtain Nonpoint Source Task Force approval on the revised Stream and Lakeshore BMP manual in FY13.
	Updated grant progress reports will be provided to EPA by 9/30/13.

### **Section 3. Nonpoint Source Reduction Activities Outside of the WDEQ-WQD NPS Program**

#### **3.1. Introduction**

Numerous organizations within Wyoming work to address water quality problems, protect water resources, and improve watershed health. Thus, many of these organizations work to directly or indirectly reduce nonpoint source pollution. The Wyoming Nonpoint Source Program seeks to cooperate with other agencies (state, local and federal), non-profit organizations, and local watershed groups that are working to protect or restore Wyoming's water resources by addressing nonpoint source pollution. This section provides information about activities conducted by entities outside of the WDEQ Nonpoint Source Program that are directly or indirectly reducing nonpoint source pollution. ***This is not intended to be a comprehensive list of all other activities within the state, but instead highlights major activities known to the WDEQ at the time this report was prepared.*** Links are provided to websites where contact information and further information can be found for each respective agency or program.

#### **3.2. [United States Forest Service](#)**

In FY12, the USDA Forest Service (Forest Service) established a national BMP program with the publication of "National Best Management Practices for Water Quality Management on National Forest System Lands, Volume 1: National Core BMP Technical Guide". The purpose of the national BMP program is to:

1. Establish uniform national direction for BMP implementation to control nonpoint source pollution.
2. Establish a consistent process to monitor and evaluate efforts to implement BMPs and the effectiveness of those BMPs at protecting water quality.
3. Establish a consistent and credible process to document and report Forest Service BMP implementation and effectiveness.

In FY13 and FY14, the agency will begin implementing the BMP monitoring component of the national program on all administrative units in Wyoming.

The general approach to nonpoint source pollution management for the Forest Service is to (1) apply BMPs or Watershed Conservation Practices (WCPs) when implementing all land management projects, (2) monitor implementation and effectiveness of those practices, and (3) adjust those practices where monitoring shows concerns about the effectiveness of the practice. National Forests in Wyoming use BMPs and WCPs as well as Forest Plan standards and guidelines to ensure that State water quality standards are met and existing and designated uses of water are protected when projects are designed and implemented on the ground. Forest Service personnel perform formal and informal monitoring of these practices and adjust them as necessary, per the nonpoint source management strategy.

The Forest Service also has direction in a number of program areas to restore watersheds to reduce or prevent nonpoint source pollution.

- **Burned Area Emergency Response (BAER) Program:** The purpose of this program is to alleviate emergency conditions following wildfire to help stabilize soil; to control water, sediment and debris movement; to prevent permanent impairment of ecosystem structure and function; and to mitigate significant threats to health, safety, life, property or downstream values. In FY12, approximately 250 acres of land and 10 miles of roads on Forest Service lands in Wyoming received BAER treatments.
- **Healthy Forests and Rangelands – Hazardous Fuels Reduction and Landscape Restoration:** The purpose of this program is to treat the excessive accumulation of hazardous or unusually flammable fuels in the forests and rangelands that are the root cause of an unprecedented fire risk on national forest lands. Fuels treatments occur both inside and outside the wildland urban interface (WUI). Treatments inside the WUI are designed to reduce fuels around homes, communities and other resources (such as municipal water supplies and infrastructure) to slow or stop wildland fires from threatening these high-value areas. Treatments outside the WUI help protect communities by creating conditions that enable firefighters to more successfully suppress fires before they enter the WUI and reduce fire severity and impacts on valued landscapes and natural resources. In FY12 in Wyoming, the Forest Service completed fuel treatment projects on 465 acres inside the WUI and another 32 acres outside the WUI for a total of 497 acres.
- **Watershed Restoration:** The purpose of this program is to improve watershed conditions using upland and instream treatments. Possible projects include road improvements such as correction of cut or fill slope failures, scarification of compaction on upland areas, and reclamation of old gravel quarries, as a few examples. National Forests in Wyoming reported accomplishing about 5,500 acres of soil and water improvements in FY12.
- **Road Maintenance:** The regular road maintenance program provides for the upkeep of roads and trails including the surface and shoulders, parking and side areas, drainage structures and signs necessary for the safe and efficient operation of the transportation system. Road maintenance provides access to the National Forests while reducing resource damage. National Forests in Wyoming reported accomplishing about 1,500 miles of road maintenance in FY12.
- **Legacy Road and Trail Program:** This activity funds the repair, restoration, rehabilitation, and decommissioning of both system and unauthorized roads and trails where the conditions are causing water quality issues in streams and other water bodies, adversely affecting threatened, endangered, or sensitive species or impacting community water systems. The road decommissioning activity encompasses a range of activities, from posting a sign or installing a gate closing a road to public use, to “storm-proofing” a road by pulling drainage structures, to road obliteration including scarification and seeding of the road surface, to actually re-contouring the slope to eliminate the road prism. In FY12 in Wyoming, there were 2 road rehabilitation projects, 10 culverts replaced, 3 road drainage improvement projects, 2 bridge

replacement/reconstruction projects, 9 road decommissioning projects and 3 stream restoration developments completed with Legacy Road and Trail Program funds.

### 3.3. Bureau of Land Management

The Bureau of Land Management (BLM) works to protect water quality as part of its administration of federal lands under its jurisdiction. The BLM is required to comply with provisions of the CWA and is required to meet the water quality standards established by the WDEQ. The BLM works to address current water quality issues as well as to prevent future issues from occurring due to land management decisions. Their preventative approach includes the use of BMPs. BLM continues to work to manage grazing, energy development, and other surface disturbing activities according to appropriate federal regulations. These actions have a cumulative effect of reducing nonpoint pollution by reducing impacts to the vegetative community and keeping water on the land longer. The BLM also works regularly with Wyoming Game and Fish to improve fish passage through culverts at key road crossings. This helps to reduce nonpoint pollution by controlling stream energies and sediment contributions at road crossings. The BLM also conducts or partners with other agencies to conduct watershed restoration activities. The following information, provided by BLM, highlights just some of the BLM watershed restoration projects or other related activities that were active during FY12:

- Within the Big Horn Basin:
  - Rest or deferred grazing management was implemented on over 29,000 allotment acres.
  - Over 2,400 acres were treated with prescribed fire and mechanical conifer removal was conducted on 35 acres.
  - Russian olive and salt cedar were removed on 275 acres.
  - 15 riparian/wetland projects were maintained to ensure that stabilization of those areas continued.
  - Fencing was installed to protect 20 acres of riparian area.
  - A livestock enclosure fence was installed to protect 2 acres of a natural wetland and adjacent upland.
  - Two miles of streambanks were stabilized through willow plantings.
  
- Within the Little Snake River Basin:
  - The **Muddy Creek Riparian Plantings Project** planted a variety of woody riparian plant species throughout the upper Muddy Creek watershed. A total of 778 plants were planted within a 200 acre area. This project continues habitat restoration activities within the watershed, and will reduce erosion, improve stream channel stability, and increase riparian plant diversity.
  - The **Upper Muddy Creek Sheet Piling Modification Project** modified a series of fish barriers through a process of modifying existing structures, constructing additional in-stream structures, and widening the existing flood plain. In addition, riparian plantings were conducted as part of the reclamation process. The project directly benefited a

total of 187 acres of riparian habitat and is a continuation of efforts to restore fish passage and improve stream function in the Muddy Creek Watershed.

- The **Dry Cow Reservoir Enclosure Project** fenced off 20 acres around Dry Cow Reservoir to exclude livestock from sensitive riparian habitat. Protecting riparian habitat will increase bank stability, decrease erosion and sedimentation, and provide an improved water source for wildlife. **Nellie's Park Spring Enclosure Project** fenced off approximately 1 acre around a spring to exclude livestock from sensitive riparian habitat.
- Additional work included deferred grazing management on multiple pastures, repair or maintenance on 25-30 culverts, repair of nine reservoirs, and maintenance of 65 riparian and spring enclosures.

### 3.4. [Natural Resources Conservation Service](#)

Through conservation planning, technical assistance, and financial assistance, the Natural Resources Conservation Service (NRCS) works with landowners to conserve soil, water, and other natural resources on private property. A significant number of Section 319 projects have utilized NRCS resources for technical assistance and/or additional financial assistance through the Environmental Quality Incentives Program (EQIP) or other NRCS Programs. Through EQIP, the NRCS provides technical and financial assistance to producers to implement conservation practices on agricultural land. Nationally, the reduction of nonpoint source pollution is a priority for EQIP. Water quality is one of NRCS-Wyoming's priorities for EQIP funds as based on recommendations from the Wyoming State Technical Committee, of which the Wyoming Nonpoint Source Program Coordinator is a participating member. The majority of EQIP funds are allocated to the county level so that applications are evaluated and selected based on local priorities. A total of \$14,115,291 in EQIP funds was obligated in FY12; \$5,615,198 of this allocation was allocated at the county level.

The following highlights some of the FY12 NRCS-Wyoming programs/initiatives related to water quality:

- As in previous years, Wyoming NRCS used EQIP funds to assist producers with **Livestock Waste Management** resource concerns. A total of 7 contracts covering 385 acres were funded in FY12, with total obligations at \$418,816. These contracts will continue to assist participants in improving facilities to reduce runoff and improve water quality.
- 15 contracts obligating \$415,208 of EQIP funds were used under a **Wildfire Initiative** to assist private landowners affected by drought and wildfire in 2012. This included prescribed grazing management to defer grazing in burned pastures for two years, and assistance with infrastructure (e.g. fencing and water development) to facilitate a prescribed grazing system. A total of 39,102 acres are covered by the contracts. In addition, Wyoming was sent \$500,000 in **Emergency Watershed Program** (EWP) funds to cover watershed protection projects following the wildfires the state experienced in 2012. Three projects were funded under EWP.
- Ocean Lake Watershed in Fremont County was selected for **National Water Quality Initiative** (NWQI) funds in FY12. Eight applications were funded, treating 1,011 acres to reduce sediment loading from flood irrigated cropland fields into Ocean Lake, which is currently impaired for

fisheries and aquatic life designated uses due to excess sediment. Participants were given the opportunity to convert existing flood irrigation systems to sprinkler (center pivot or side-roll) irrigation systems. Partners in this effort included the Lower Wind River Conservation District, Wyoming Game and Fish, Midvale Irrigation District, WDEQ, US Fish and Wildlife Service, and the Wyoming Association of Conservation Districts. A total of \$450,000 was originally allocated to the NWQI; Wyoming added an additional \$215,928 to this initiative, bringing the total obligated in FY12 under NWQI to \$665,928.

- FY12 was the second year that Wyoming offered a state level **Conservation Innovation Grant (CIG) Program**. CIG offers an opportunity for eligible applicants to submit proposals for projects that focus on innovative conservation practices and technologies. Three projects were selected for FY12 CIG funding: (1) an animal composting facility in Laramie County, (2) implementation of innovative technologies to remove selenium and other heavy metals in co-produced waters for watershed protection, and (3) fence-marker design and installation on “high risk” fences to reduce sage-grouse collisions on private lands.
- The **Agricultural Management Assistance (AMA)** program continued to prioritize the control of invasive species, primarily Russian olive and salt cedar in the Big Horn Basin. A total of 3,957 acres have been treated since 2008. In 2012, fourteen applications were funded with a total of 501 acres to be treated. The program is focused on watersheds where strong cooperative efforts are underway. This year, funding went to projects in Hot Springs County.
- In FY12, 57 applications totaling 244,709 acres were funded under the **Conservation Stewardship Program** to provide financial and technical assistance to help participants conserve and enhance soil, water, air and related natural resources on their land.
- This year, Wyoming participated in a Reserved Grazing Rights Pilot under the **Wetland Reserve Program (WRP)** in the Bear River area in addition to the regular WRP. This will allow some grazing use of the land under easement while maintaining wetland and wildlife values. Wyoming received \$1.9 million for easements and restoration projects in FY12. Four WRP workshops were held around the state to train NRCS field staff in wetland restoration and program administration to help field personnel recognize potential WRP projects.

Through NRCS’ numerous Farm Bill programs, many BMPs or other conservation practices are realized each year in Wyoming, a good portion of which either directly or indirectly reduce nonpoint source pollution. The NRCS has provided the following information to highlight some of the “on-the-ground” accomplishments during FY12. While not all of the following practices directly impact nonpoint source pollution, they help provide a picture of the conservation work being conducted by NRCS.

- 24,658 feet and 207.4 acres of conservation buffers installed (includes riparian buffers, stream bank and shoreline protection, windbreaks, and shelterbelts). Conservation buffers reduce erosion and sediment loading into surface waters.
- 14,075 acres where irrigation practices were applied. Efficient irrigation practices reduce runoff carrying sediment and nutrients.
- 334,819 acres where prescribed grazing practices were applied. Improved grazing practices can reduce erosion and provide protection for riparian areas.

- 13,641 acres of cropland where residue management practices were applied. Residue management practices include no-till, mulch-till, crop rotation, and cover crops, as a few examples, and help to prevent erosion and sedimentation.
- 48,006 acres were incorporated into conservation easements.

### 3.5. [Wyoming State Forestry Division](#)

The Wyoming State Forestry Division is charged with managing forest resources under the jurisdiction of the State. Their mission is, “To utilize science-based, professional forestry practices to establish, enhance, protect, and utilize Wyoming’s forests, trees, and associated resources to contribute to the socio-economic well-being of Wyoming.” The Division works to directly manage timber resources on state lands, including harvesting, fire protection, and fire suppression. The Division also works to promote good forest management and protection throughout the state. The Wyoming Forestry Best Management Practices publication was revised in 2006 and provides a good reference for silviculture practices that reduce nonpoint source pollution. In 2000, 2001, 2004, 2007, and 2011, audits of silviculture BMPs were conducted by a multi-disciplinary team of forestry professionals on state, federal, and private timber harvest areas. The audits were followed by statewide training sessions to increase BMP knowledge. Some of the audit and training activities were partially funded by past Section 319 grants.

- In June 2012, Wyoming State Forestry hosted three forestry BMP workshops held in Cheyenne, Casper, and Saratoga. Forestry BMPs are a set of recommended practices designed to protect soil and water resources during resource management activities by limiting soil disturbance, preventing soil erosion, and protecting sensitive areas. While the implementation of forestry BMPs is voluntary in Wyoming, private industry and state and federal agencies have taken the initiative to hold training sessions and conduct field audits in a system of continual self-monitoring and improvement. These workshops consisted of classroom presentations, and if time allowed, a brief field visit to a nearby location. Objectives of the workshop were to acquaint participants with the Wyoming BMPs and review implementation measures. Emphasis was placed upon stream crossings, streamside management zones, and road drainage structures and maintenance. An additional BMP workshop was held in September 2012.

### 3.6. [Wyoming Wildlife Natural Resource Trust](#)

The Wyoming Legislature created the Wyoming Wildlife and Natural Resource Trust (WWNRT) in 2005. Funded by interest earned on a permanent account, donations, and legislative appropriation, the purpose of the program is to enhance and conserve wildlife habitat and natural resource values throughout the state. Any project designed to improve wildlife habitat or natural resource values is eligible for funding. The WWNRT is an important source of funding for natural resource projects throughout the state. Many Section 319 projects use WWNRT funds as a source of non-federal match.

WWNRT projects fund a wide range of activities, including many that directly or indirectly improve water quality. Invasive species removal, wetlands creation and restoration, riparian area enhancements and restoration, upland water development, conservation easements, conifer control, stream channel improvements, fencing, grazing management, fish passage, and establishment of beaver populations are just some of the activities conducted through WWNRT projects that improve water resources. Promoting healthy watersheds by addressing all habitats—aquatic, riparian, and upland—will lead to improved water quality.

The following information from WWNRT highlights just some of the WWNRT projects selected for funding in FY12 that will have a positive impact on water quality. Additional project information, as well as information about applying for WWNRT funding, can be found on that program's website (<http://wwnrt.state.wy.us/index.htm>).

- **McWilliams Conservation Easement:** Conservation easement on approximately 190 acres and more than one mile of Big Goose Creek near Sheridan.
- **Tongue-River Dayton:** Continued stream enhancement and irrigation improvement on the main stem of the Tongue River near Dayton.
- **Upper Tongue Riparian Habitat:** Stabilization and recruitment of riparian woody vegetation on the upper Tongue River to stabilize streambanks and improve water quality.
- **Buckskin Ed:** Stream habitat improvements to allow fish passage and eliminate sources of erosion and turbidity in Buckskin Ed Creek in Big Horn County.
- **Sibert Wetlands:** Wetland creation and restoration on approximately 65 acres of historic habitat in the Bridger Valley.
- **Yellow Creek:** Streambank stabilization and channel improvement on Yellow Creek near Evanston to improve fish habitat and reduce erosion and loss of riparian habitat.
- **Little Snake Wetlands:** Watershed-scale wetland creation and restoration on the main stem of the Little Snake River and tributaries, including oxbow restoration and wetland establishment.
- **Little Snake Aspen V:** Conifer removal and aspen regeneration on watersheds in the Little Snake River Valley.
- **Greybull River—Dry Creek Invasives, Big Horn Invasives, and Yellowtail CRM V:** Continued efforts to remove and eliminate invasive Russian olive and salt cedar from riparian areas and grasslands in the Big Horn Basin.
- **Slover Conservation Easement:** Conservation easement on approximately 1,500 acres to protect and enhance riparian and stream habitats and Sage-Grouse Core Population Areas in Washakie County.
- **Absaroka Riparian II:** Riparian enhancement including fencing, water development, livestock management, and invasive species removal on the Absaroka Front near Meeteetse.
- **V Ranch Conservation Easement:** Conservation easement on 3,000 acres of native rangeland near Kirby to continue to enhance a large watershed effort to reduce erosion, increase forage production, and stabilize streams.

- **Mishurda Mountain Conservation Easement:** Conservation easement on approximately 8,000 acres adjacent to V Ranch that are integral to the Kirby Creek Coordinated Resource Management efforts.
- **Stinking Creek:** Stream habitat improvement to reduce erosion and sediment loading in the North Platte River.

Many WWNRT projects have addressed waterbodies listed as impaired by the WDEQ, have worked in conjunction with Section 319 funding to restore or protect waterbodies, or are notable examples of watershed restoration efforts. Some examples are as follows:

- Restoration of stream function and habitats on **Goose Creek** within the City of Sheridan.
- Rehabilitation of several miles of the **Tongue River** including re-establishing natural stream function through placement of stream structures and other methods.
- Rehabilitation and replacement of four existing irrigation diversion structures on the **Tongue River**.
- Conservation easement on the **Ham's Fork** bottomlands.
- Restoration of wetland function and enhancement of riparian habitats on **Crow Creek** southeast of Cheyenne.
- Restoration of **Laramie River** through the City of Laramie.
- Restoration of **Savery Creek** using channel shaping along with the use of strategically placed rocks and trees.
- Creation of high-desert wetlands in the **Muddy Creek** Watershed, Little Snake River Basin.
- Habitat restoration in the **Medicine Bow National Forest** through road decommissioning, restoration of native habitats, and travel management.
- Permanent easements on the **Nowood River**.
- Fencing along the **Greybull River** to allow seasonal use of the riparian area at times when use will not impact streambanks and water quality.
- Removal of invasive species on **Big Horn River and numerous tributaries**.
- Stream restoration, riparian area habitat enhancements, grazing management, irrigation management, and upland grassland restoration over more than one million acres in Hot Springs County, **Kirby Creek** Watershed.
- Sediment removal and water flow enhancement in **Gillette Fishing Lake**.
- Encouraging beaver population establishment to stabilize erosive tributaries to the **North Platte River**.
- Bank stabilization on the **North Platte River**.
- Stream habitat enhancements on **Flat Creek** in the town of Jackson.

### 3.7. [Abandoned Mine Land Division](#)

The Abandoned Mine Land Division (AML) of the WDEQ works to eliminate safety hazards, repair environmental damage, and assist communities impacted by past mining activities. The AML traditional reclamation program has reclaimed thousands of acres of abandoned coal, bentonite, and uranium

open pit mines. New projects are initiated each year; many of which impact surface and/or ground water quality. Most AML reclamation projects are performed on currently disturbed, unvegetated lands that have unstabilized mine waste piles and other soil materials where plants are unable to grow. AML reclamation buries unsuitable soils, stabilizes landforms using a “natural regrade” topographic grading system to reduce erosion, and ultimately re-establishes native vegetation on barren areas. Often, at larger sites, the reconnection and re-establishment of through-flowing drainage channels is part of the abandoned mine restoration project. This reclamation generally reduces potential sediment loads reporting to drainages, and decreases the potential for mine waste to become airborne or to degrade surface waters.

During FY12, there were several active AML projects that had positive impacts on surface water quality. The following projects were selected to highlight in this report:

- The Lionkol Drainage Reclamation Project adjacent to the City of Rock Springs reclaimed 6,100 feet of incised and straightened channel. The project added meanders, stabilized the channel slope, and shaped the banks to promote vegetation growth. A stock reservoir was added at the end of the reclaimed channel to control sediment and reduce flows through the City of Rock Springs. Approximately 30 acres of land surrounding the channel were revegetated during the project. The reclamation project provides a stable landform and improved conditions for vegetation growth, which will result in reduced sedimentation, increased habitat, improved safety for travel along the adjacent road, and an aesthetically pleasing view.
- Reclamation work done at the Rosebud Pit (an abandoned coal strip mine in the Hanna area) included removing coal slack piles that were eroding into drainages.

### 3.8. [EPA Urban Waters Small Grants Program](#)

In 2012, the EPA awarded \$2.7 million to 46 organizations in 32 states and Puerto Rico to help restore urban waters, support community revitalization, and protect public health. Awarded grants ranged from \$30,000 to \$60,000.

- Under this grant program, **Washakie County Conservation District** was awarded \$60,000 to help assess the City of Worland’s storm drain infrastructure and to develop best practices for retrofitting the system. Currently, stormwater from the City of Worland drains directly to either the Bighorn River or the Lower Hanover Canal, contributing pollution the District hopes to eliminate in the future.

## **Appendix A**

### **FY12 Project Summary**

**Table A1.** Section 319 projects active during part or all of FY12. Projects in bold italics closed during FY12.

State ID	Project Title	Project Sponsor	Grant #(s)	Ending Date	Amendment Types*	Project Type
<b>ON603</b>	<b><i>Middle Fork Popo Agie River Septic and AFO Project</i></b>	<b><i>Popo Agie Conservation District</i></b>	<b><i>008630-06</i></b>	<b><i>10/31/11</i></b>	<b><i>1, 2, 3</i></b>	<b><i>Implementation—Impaired</i></b>
<b>ON60G</b>	<b><i>Crow Creek TMDLs</i></b>	<b><i>WDEQ</i></b>	<b><i>008630-06, 07</i></b>	<b><i>9/30/12</i></b>	<b><i>2, 3</i></b>	<b><i>TMDL</i></b>
<b>ON60J</b>	<b><i>Big Horn River TMDLs</i></b>	<b><i>WDEQ</i></b>	<b><i>008630-06, 07, 08</i></b>	<b><i>7/31/12</i></b>	<b><i>N/A</i></b>	<b><i>TMDL</i></b>
ON801	Sheridan County Watershed Plan Implementation #2	Sheridan County Conservation District	008630-08	10/31/12	3	Implementation—Impaired
ON802	Belle Fourche Watershed Plan Implementation—Phase II	Crook County Natural Resource District	008630-08	1/31/13	1, 2	Planning/Assessment
ON806	Medicine Bow Sediment Reduction	US Forest Service	008630-08	3/31/13	1	Implementation—Prevention
<b>ON901</b>	<b><i>Wyoming Stream Team</i></b>	<b><i>Teton Science Schools</i></b>	<b><i>008630-09</i></b>	<b><i>9/30/12</i></b>	<b><i>N/A</i></b>	<b><i>Information/Education</i></b>
ON902	Sunrise Rain Gardens	Historic Sunrise Creamery	008630-09	12/31/12	N/A	Implementation—Impaired
<b>ON903</b>	<b><i>Groundwater Ambient Monitoring</i></b>	<b><i>WDEQ-Groundwater</i></b>	<b><i>008630-09, 06</i></b>	<b><i>6/30/12</i></b>	<b><i>1, 2, 3</i></b>	<b><i>Groundwater</i></b>
ON904	Karns Meadow Stormwater Wetlands	Town of Jackson	008630-09	9/30/13	N/A	Implementation—Impaired
NPS2010A	Laramie River Restoration Phase II and III	Laramie Rivers Conservation District	008630-10	6/30/14	N/A	Implementation—Prevention
NPS2010B	Flat Creek Restoration	Teton Science Schools	008630-10	12/31/13	1, 2, 3	Implementation—Impaired
<b>NPS2010C</b>	<b><i>Lower Dry Creek Wetlands</i></b>	<b><i>Laramie County</i></b>	<b><i>008630-10, 06</i></b>	<b><i>12/31/11</i></b>	<b><i>2</i></b>	<b><i>Implementation—Prevention</i></b>
NPS2011A	Sheridan County Watershed Improvements #3	Sheridan County Conservation District	008630-11	12/31/15	N/A	Implementation—Impaired

State ID	Project Title	Project Sponsor	Grant #(s)	Ending Date	Amendment Types*	Project Type
NPS2011B	Grass, Enos, Lefthand Creeks NPS Reduction Phase II	The Nature Conservancy	008630-11, 06	12/31/13	4	Implementation—Prevention
NPS2011C	Statewide NPS Information/Education	Wyoming Natural Resources Foundation	008630-11	7/30/13	1	Information/Education
NPS2010D	Goose Creek Watershed TMDL Implementation	City of Sheridan	008630-10	3/31/15	N/A	Implementation—Impaired
NPS2010E/2012E	North Platte River Watershed—Segment I	Natrona County Conservation District	008630-10, 12	12/31/15	N/A	Implementation—Impaired
NPS2012D/ON70J	Wyoming Stream Team 2012	Teton Science Schools	008630-07, 12	12/31/14	N/A	Information/Education
NPS2012C	Cody River Days	The Nature Conservancy	008630-12	12/31/13	N/A	Information/Education
NPS2012A/ON70I	Bitter Creek Sampling and Analysis	Sweetwater County Conservation District	008630-07, 12	12/31/15	N/A	Planning/Assessment
NPS2011D/2012B	Belle Fourche Watershed Plan, Phase III	Crook County Natural Resource District	008630-11, 12	12/31/15	N/A	Implementation—Impaired
NPS2010F	2012 Wildfire Rehabilitation	Wyoming State Forestry	008630-10	9/30/14	N/A	Implementation—Prevention
<b>ON70C</b>	<b><i>Gillette Fishing Lake Wetlands</i></b>	<b><i>City of Gillette</i></b>	<b><i>008630-07</i></b>	<b><i>9/30/12</i></b>	<b><i>2</i></b>	<b><i>Implementation—Impaired</i></b>
NPS2010G	UW Wildfire Publication	University of Wyoming	008630-10	9/30/13	N/A	Information/Education
ON70K/80K	Shoshone River TMDLs	WDEQ	008630-07, 08	9/30/13	N/A	TMDL
ON80L/905	Bear River TMDLs	WDEQ	008630-08, 09	05/30/14	N/A	TMDL

\*Amendment Types:

1 = Term Extension: ending date of project extended beyond original expiration date

2 = Budget Modification: modifications were made to the 319 funding amount or non-federal match amount and/or individual task budgets were adjusted

3 = Scope of Work: the project scope of work was amended to modify the tasks to be accomplished by the project

4 = Minor or typographical correction to cooperative agreement/contract language

N/A = no amendments to-date

## **Appendix B**

# **Summary of Milestones and Tracking Measures by Program Objective**

Objective #	Description	FY12 Response
<b>Objective #1: Identification and Prioritization</b>		
1	<b>Milestone:</b> By the end of FY2016, have the internal version of the Impaired Waters Index completed.	<i>During FY12, the Nonpoint Source Program continued to work on the development of the Impaired Waters Index (IWI) database and mapping tool. Improvements were made to the mapping tool and database reports were linked to the mapping tool. The Nonpoint Source Program will continue to make improvements to the IWI in FY13 with plans to release the tool internally to WDEQ staff in FY13. A summary of IWI information was included with the FY12 Request For Proposals to help identify waterbodies eligible for Section 319 funding.</i>
1	<b>Milestone:</b> By the end of FY2020, have the public version of the Impaired Waters Index completed.	<i>See note above. The WDEQ GIS Coordinator did preliminary work in FY12 to create public access for the IWI.</i>
1	<b>Milestone:</b> By the end of FY2017, have the EPA Recovery Potential Screening Tool integrated into the Nonpoint Source Program.	<i>Nonpoint Source Program staff attended preliminary training on EPA's newly released Recovery Potential Screening Tool. The Program worked to begin evaluating the use of this tool in Wyoming.</i>
1	<b>Tracking Measure:</b> Number of stream miles assessed and use support status determined.	<i>17,515 miles</i>
1	<b>Tracking Measure:</b> Number of stream miles assessed and determined to be impaired/threatened (all sources).	<i>2,296.8 miles</i>
1	<b>Tracking Measure:</b> Number of stream miles impaired/threatened due to nonpoint source pollution (includes Category 4 and 5 waters of Integrated Report).	<i>2,035.7 miles (11.6% of assessed waters, 89% of impaired waters)</i>
1	<b>Tracking Measure:</b> Number of lake/reservoir acres assessed and use support status determined.	<i>18,713 acres</i>
1	<b>Tracking Measure:</b> Number of lake/reservoir acres assessed and determined to be impaired/threatened (all sources).	<i>6,253.2 acres</i>

Objective #	Description	FY12 Response
1	<b>Tracking Measure:</b> Number of lake/reservoir acres impaired/threatened due to nonpoint source pollution (includes Category 4 and 5 waters of Integrated Report).	<i>6,253.2 acres (33.4% of assessed waters, 100% of impaired)</i>
1	<b>Tracking Measure:</b> Total number of impaired/threatened waterbodies (pollutant/segment combinations) due to nonpoint source pollution (includes Category 4 and 5 waters of Integrated Report).	<i>137 segments impaired from nonpoint source pollution out of 152 total impaired segments (90%)</i>
1	<b>Tracking Measure:</b> Number of HUC12 watersheds with data compiled for EPA Recovery Potential Screening Tool.	<i>None. Wyoming is in preliminary stages of evaluating use of the Recovery Potential Screening Tool.</i>
1	<b>Tracking Measure:</b> Progress towards completion of Impaired Waters Index.	<i>See note first milestone this objective.</i>
<b>Objective #2: Planning</b>		
2	<b>Milestone:</b> As of the end of FY2011, a total of 20 nonpoint source impaired waterbodies were addressed through a nine-element planning document (TMDL or watershed-based plan). This represents 15% of the total nonpoint source impaired segments listed in the Integrated Report at that time. By the end of FY2016, have at least 40% of the nonpoint source impaired segments in the current Integrated Report addressed by a nine-element planning document. By the end of FY2020, have at least 90% of the nonpoint source impaired segments in the current Integrated Report addressed by a nine-element planning document.	<p><i>Total at end of FY12: 47 nonpoint source impaired segments addressed by an approved nine-element planning document. This represents 34% of the nonpoint source impaired segments in the FY12 Integrated Report.</i></p> <p><i>Ocean Lake TMDL (1)</i>  <i>Goose Creek TMDLs (13)</i>  <i>Flat Creek Watershed-Based Plan (1)</i>  <i>Prairie Dog Creek Watershed-Based Plan (5)</i>  <i>North Platte River TMDLs (11)*</i>  <i>Gillette Fishing Lake TMDLs (2)*</i>  <i>Belle Fourche River TMDLs (7)*</i>  <i>Tongue River Watershed-Based Plan (7)*</i></p> <p><i>*approved by WDEQ as a nine-element watershed-based plan in FY12; EPA approval of TMDL still pending</i></p>

Objective #	Description	FY12 Response
2	<p><b>Tracking Measure:</b> Number of TMDLs approved (total and per fiscal year). Excludes TMDLs that do not include a nonpoint source component.</p>	<p><i>34 TMDLs approved total, 20 TMDLs approved in FY12</i></p> <p><i>Ocean Lake TMDL (1)</i>  <i>Goose Creek TMDLs (13)</i>  <i>North Platte River TMDLs (11)*</i>  <i>Gillette Fishing Lake TMDLs (2)*</i>  <i>Belle Fourche River TMDLs (7)*</i></p> <p><i>*approved by WDEQ as a nine-element watershed-based plan in FY12; EPA approval of TMDL still pending</i></p>
2	<p><b>Tracking Measure:</b> Number of TMDLs under development.</p>	<p><i>39 TMDLs under development.</i></p> <p><i>Crow Creek TMDLs (10)</i>  <i>Bitter/Killpecker Creek TMDLs (3)</i>  <i>Hams Fork TMDL (1)</i>  <i>Big Horn River TMDLs (16)</i>  <i>Bear River TMDL (1)</i>  <i>Shoshone River TMDLs (8)</i></p>
2	<p><b>Tracking Measure:</b> Number of TMDLs initiated (per fiscal year).</p>	<p><i>9 TMDLs initiated in FY12.</i></p> <p><i>Bear River TMDL (1)</i>  <i>Shoshone River TMDLs (8)</i></p>
2	<p><b>Tracking Measure:</b> Number of Watershed-Based Plans approved in absence of TMDL (total and per fiscal year).</p>	<p><i>3 watershed-based plans approved total (13 segments addressed), 1 watershed-based plan approved in FY12 (7 segments addressed)</i></p> <p><i>Flat Creek Watershed-Based Plan (1)</i>  <i>Prairie Dog Creek Watershed-Based Plan (5)</i>  <i>Tongue River Watershed-Based Plan (7)</i></p>

Objective #	Description	FY12 Response
2	<b>Tracking Measure:</b> Number of Watershed-Based Plans under development.	<p><i>1 watershed-based plan addressing 1 segment under development</i></p> <p><i>Little Sandy River Watershed-Based Plan (1)</i></p>
2	<b>Tracking Measure:</b> Number and percentage of nonpoint source impaired waterbody/pollutant combinations addressed by an approved TMDL or Watershed-Based Plan (total and per fiscal year).	<p><i>47 total nonpoint source impaired segments addressed by an approved nine-element planning document. This represents 34% of the nonpoint source impaired segments in the FY12 Integrated Report. 27 of these segments (20%) were approved in FY12.</i></p>
2	<b>Tracking Measure:</b> Number and percentage of nonpoint source impaired waterbody/pollutant combinations with a TMDL or Watershed-Based Plan under development (per fiscal year).	<p><i>40 nonpoint source impaired segments will be addressed by a nine-element planning document currently under development. This represents 29% of the nonpoint source impaired segments in the FY12 Integrated Report.</i></p>
2	<b>Tracking Measure:</b> Number and percentage of nonpoint source impaired waterbody/pollutant combinations without TMDL or Watershed-Based Plan initiated.	<p><i>50 nonpoint source impaired segments currently do not have a nine-element planning document approved or under development. This represents 37% of the nonpoint source impaired segments in the FY12 Integrated Report.</i></p>
2	<b>Tracking Measure:</b> Number of third-party Section 319 planning/assessment projects active in each fiscal year.	<p><i>2 third-party planning/assessment projects were active in FY12.</i></p>
2	<b>Tracking Measure:</b> Amount and percentage of Section 319 funds reserved/used for planning activities (including TMDL and Watershed-Based Plan development) for each active Section 319 grant.	<p><i>FY08—\$580,123 incremental (56% incremental, 46% total)</i>  <i>FY09—\$206,446 incremental (20% incremental, 16% total)</i>  <i>FY10—\$195,320 incremental (20% incremental, 16% total)</i>  <i>FY11—\$146,020 incremental (20% incremental, 15% total)</i>  <i>FY12—\$55,560 base (39% base, 7% total)</i></p>
<b>Objective #3: Implementation</b>		
3	<b>Milestone:</b> As of the end of FY2011, a total of 19 nonpoint source impaired segments were being or had been addressed by at least one BMP implementation project in accordance with a nine-element planning document	<p><i>As of the end of FY12, a total of 45 (33%) nonpoint source impaired segments were being or had been addressed by at least one BMP implementation project in accordance with a</i></p>

Objective #	Description	FY12 Response
	<p>(TMDL or watershed-based plan). This represents 14% of the nonpoint source impaired segments in the 2012 Integrated Report. By the end of FY2020, have at least 80% of the nonpoint source impaired segments on the current Integrated Report addressed by at least one BMP implementation project. Have at least 40% of the nonpoint source impaired segments addressed by two or more BMP implementation projects.</p>	<p><i>nine-element plan.</i></p> <p><i>Goose Creek TMDLs (13)</i>  <i>Prairie Dog Creek Watershed Based Plan (5)</i>  <i>Flat Creek Watershed Based Plan (1)</i>  <i>North Platte River TMDLs (11)</i>  <i>Belle Fourche River TMDLs (5 of 7 segments addressed)</i>  <i>Tongue River Watershed Based Plan (7)</i>  <i>Gillette Fishing Lake (2)</i>  <i>Ocean Lake (1)</i></p>
3	<p><b>Tracking Measure:</b> Track watersheds targeted for funding in annual Section 319 RFP.</p>	<p><i>Watersheds were not targeted for FY12 funding.</i></p>
3	<p><b>Tracking Measure:</b> Track number and percentage of nonpoint source impaired segments with an approved nine-element planning document that are being or have been addressed by at least one BMP implementation project.</p>	<p><i>As of the end of FY12, a total of 45 (33%) nonpoint source impaired segments were being or had been addressed by at least one BMP implementation project in accordance with a nine-element plan.</i></p> <p><i>Goose Creek TMDLs (2)—NPS2010D, NPS2011A</i>  <i>Goose Creek TMDLs (11)—NPS2011A</i>  <i>Prairie Dog Creek Watershed Based Plan (5)—NPS2011A</i>  <i>Flat Creek Watershed Based Plan (1)—ON904 and NPS2010B</i>  <i>North Platte River TMDLs (11)—NPS2010E/2012E</i>  <i>Belle Fourche River TMDLs (5 of 7 segments addressed)—NPS2011D/2012B</i>  <i>Tongue River Watershed Based Plan (7)—NPS2011A</i>  <i>Gillette Fishing Lake (2)—ON70C</i>  <i>Ocean Lake (1)—through NRCS NWQI funding</i></p>

Objective #	Description	FY12 Response
3	<b>Tracking Measure:</b> Track number and percentage of nonpoint source impaired segments with an approved nine-element planning document that are being or have been addressed by two or more BMP implementation projects.	<p><i>As of the end of FY12, a total of 3 (2%) nonpoint source impaired segments were being or had been addressed by two or more BMP implementation projects in accordance with a nine-element plan.</i></p> <p><i>Goose Creek TMDLs (2)—NPS2010D, NPS2011A Flat Creek Watershed Based Plan (1)—ON904, 2010B</i></p>
3	<b>Tracking Measure:</b> For each completed nine-element planning document (TMDL or watershed-based plan), track estimated level of implementation (not implemented, less than 50% implemented, greater than 50% implemented, or fully implemented).	<p><i>Ocean Lake TMDL—less than 50% Goose Creek TMDLs—less than 50% Flat Creek Watershed-Based Plan—greater than 50% Prairie Dog Creek Watershed-Based Plan—less than 50% North Platte River TMDLs (11)—less than 50% Gillette Fishing Lake TMDLs (2)—less than 50% Belle Fourche River TMDLs (7)—less than 50% Tongue River Watershed-Based Plan (7)—less than 50%</i></p>
3	<b>Tracking Measure:</b> Track amount of Section 319 funds allocated to BMP implementation tasks for projects that address impaired segments for FY2011 and later grants.	<p><i>FY11--\$335,040 FY12--\$1,129,000 (includes funds from FY10 and FY11 grants that were obligated in FY12)</i></p>
3	<b>Tracking Measure:</b> Track amount of Section 319 funds allocated to project tasks that support BMP implementation on impaired segments for FY2011 and later grants.	<p><i>FY11--\$119,740 FY12--\$338,567 (includes funds from FY10 and FY11 grants that were obligated in FY12)</i></p>
3	<b>Tracking Measure:</b> Track total amount of Section 319 funds used for BMP implementation or direct support of BMP implementation on impaired segments for FY2011 and later grants.	<p><i>FY11--\$454,780 FY12--\$1,467,567 (includes funds from FY10 and FY11 grants that were obligated in FY12)</i></p>
<b>Objective #4: Documenting Environmental Results</b>		
4	<b>Milestone:</b> Full restoration of a total of four impaired waterbodies between the 2014, 2016, 2018, and 2020 305(b)/303(d) Integrated Reports (WQ-10 performance measure).	<p><i>2 impaired segments (Muddy Creek and McKinney Creek) were removed from the 303(d) list with the 2012 Integrated Report.</i></p>

Objective #	Description	FY12 Response
4	<p><b>Milestone:</b> For each annual Nonpoint Source Program report prepared through FY2020, have at least one watershed where improving water quality trends can be documented with monitoring data (SP-12 performance measure).</p>	<p><i>BMP implementation has improved the water quality of Muddy Creek and the Little Snake River. The repair of a major wetland complex in the watershed has decreased peak stream flows in the threatened segment of Muddy Creek, greatly reducing the occurrence, magnitude and duration of scouring streamflows that can cause accelerated erosion, and allowing streambanks to stabilize and re-vegetate. The wetland complex functions as a sediment filter that traps sediment eroded from upstream sources. Turbidity was used as a surrogate measure to estimate sediment trends; turbidity, total dissolved solids (TDS) and specific conductivity were each significantly lower within the impaired segment following wetland reconstruction and BMP implementation. A significant reduction in temperature and turbidity when comparing sites above and below the wetland complex during spring runoff was also reported. The repair of the wetland complex reduced headcutting, gullying and the threat of sedimentation in the lower Muddy Creek watershed.</i></p>
4	<p><b>Milestone:</b> By the end of FY2020, the Nonpoint Source Program will develop a method to electronically manage water quality data submitted by third parties as part of Section 319 or 604(b) project reporting requirements. Electronic management of this data will facilitate its use by the WDEQ, EPA, other agencies, and the public.</p>	<p><i>In FY12, the Monitoring Program worked under the WDEQ Information Technology Initiative to develop a new database system to house monitoring program data. The NPS Program is investigating how to incorporate 319 project monitoring data into this system in the future. Upgrades to the existing system to allow entry of Section 319 project data are anticipated in FY14 (estimated).</i></p>

Objective #	Description	FY12 Response
4	<p><b>Milestone:</b> For each annual Nonpoint Source Program report prepared through FY2020, have at least one project where collection of BMP effectiveness data was assisted by the WQD Monitoring Program.</p>	<p><i>Monitoring Program staff assisted in the collection of chemical, physical, and biological data on Whitelaw Creek in Crook County to help assess the effectiveness of riparian improvement BMPs implemented in the 1990s under a Section 319 project.</i></p>
4	<p><b>Tracking Measure:</b> Number of nonpoint source impaired waterbody segments/pollutant combinations restored to meeting water quality standards due to nonpoint source remediation efforts (total and per fiscal year). Include total mileage/acreage of restored segments.</p>	<p><i>11 segments restored total (104.49 mi total) 2 segments restored in FY12 (16.5 mi)</i></p>
4	<p><b>Tracking Measure:</b> Track development of project management database (BMP reporting).</p>	<p><i>The Project Management Database was finalized in FY12 and released to all FY12 project sponsors to facilitate reporting, reimbursement requests, and BMP tracking.</i></p>
4	<p><b>Tracking Measure:</b> Track progress towards electronic data management system completion.</p>	<p><i>The NPS Program is working with the Monitoring Program to evaluate the possibility of incorporating electronic 319 project data into the recently developed SWM database (see milestone response above).</i></p>
4	<p><b>Tracking Measure:</b> Number and percentage of BMP implementation projects that close each year that provide pre- and post-BMP water quality monitoring data to evaluate water quality improvement.</p>	<p><i>2 of the 3 (67%) BMP implementation projects that closed in FY12 provided water quality monitoring data to evaluate water quality improvement (ON603 and NPS2010C). The City of Gillette does not have the equipment to conduct lake monitoring for project ON70C; the WDEQ will assist with monitoring on Gillette Fishing Lake in the future with plans to collect nutrient data in FY13.</i></p>
4	<p><b>Tracking Measure:</b> Number of projects where effectiveness monitoring was conducted or assisted in field by WQD Monitoring Program staff.</p>	<p><i>2 Section 319 Projects(NPS2011B and Whitelaw Creek Monitoring) 1 Section 205(j) Project (205j2011A)</i></p>

Objective #	Description	FY12 Response
4	<b>Tracking Measure:</b> Number of projects whose monitoring programs were provided technical assistance by WQD Monitoring Program staff.	<i>6 Section 319 Projects (NPS2011B, NPS2010E/2012E, NPS2011D/2012B, NPS2010C, NPS2010A, ON806)</i>  <i>1 Section 205(j) Project (205j2011A)</i>
4	<b>Tracking Measure:</b> Estimated load reductions for sediment, nitrogen, phosphorus, and other applicable pollutants per fiscal year.	<i>2,059.11 tons/year sediment; 2,733.1 lbs./year Nitrogen, 988.3 lbs./year Phosphorus; 2.4E+14 MPN/year E. coli</i>
4	<b>Tracking Measure:</b> Acres of wetland created and feet of streambank stabilization accomplished by Section 319 projects for each fiscal year.	<i>0 acres created (2.5 acres restored); 15,270' streambank stabilized</i>
4	<b>Tracking Measure:</b> Description of BMPs implemented per fiscal year through Section 319 funding.	<i>2 corral relocations; 1 septic system; 15,270' streambank stabilized; 3 irrigation diversions rehabilitated; 8 off-channel stock tanks/spring developments; 10,198' fence; 25 mi decommissioned roads; 2.5 acres wetland restored; 1 rain garden; 12 stream crossings rehabilitated; 1 urban stormwater wetland; 752 acres reduced irrigation runoff</i>
4	<b>Tracking Measure:</b> Amount of annual Section 319 funding allocated to project effectiveness monitoring task activities for FY2011 and later grants.	<i>FY11--\$86,745 FY12--\$166,309 (includes funds from FY10 and FY11 grants that were obligated in FY12)</i>
4	<b>Tracking Measure:</b> Number of third-party projects closed and number of final reports received per fiscal year.	<i>5 of the 5 (100%) closed third-party projects in FY12 submitted final reports</i>
<b>Objective #5: Protection and Prevention</b>		
5	<b>Milestone:</b> The 2014, 2016, 2018, and 2020 Integrated Reports will not show more than a 5% increase in the percentage of assessed stream miles designated as impaired due to nonpoint source pollution compared to the 2012 Integrated Report (12% in 2012 Integrated Report).	N/A
5	<b>Milestone:</b> The 2014, 2016, 2018, and 2020 Integrated Reports will not show more than a 5% increase in the percentage of assessed lake/reservoir acreage designated as impaired due to nonpoint source pollution compared to the 2012 Integrated Report (33% in 2012 Integrated Report).	N/A

Objective #	Description	FY12 Response
5	<b>Tracking Measure:</b> Percentage of assessed stream miles designated as impaired due to nonpoint source pollution for each Integrated Report.	11.6%
5	<b>Tracking Measure:</b> Percentage of assessed lake/reservoir acres designated as impaired due to nonpoint source pollution for each Integrated Report.	33.4%
5	<b>Tracking Measure:</b> Number of project-specific 401 certifications issued per fiscal year.	52
5	<b>Tracking Measure:</b> Number of turbidity waivers issued per fiscal year.	34
5	<b>Tracking Measure:</b> Number USFS BMP audits WQD participated in.	1
5	<b>Tracking Measure:</b> Number of Section 319 Protection/Prevention projects active in each fiscal year.	5 active protection/prevention projects in FY12
5	<b>Tracking Measure:</b> Amount of Section 319 funding allocated to BMP implementation tasks on unimpaired segments for FY2011 and later grants.	FY11—\$183,986 FY12—\$0
5	<b>Tracking Measure:</b> Amount of Section 319 funding allocated to tasks that directly supported BMP implementation tasks on unimpaired segments for FY2011 and later grants.	FY11—\$52,625 FY12—\$0
5	<b>Tracking Measure:</b> Track total amount of Section 319 funds used for BMP implementation or direct support of BMP implementation on unimpaired segments for FY2011 and later grants.	FY11--\$236,611 FY12—\$0
<b>Objective #6: Ground Water Protection</b>		
6	<b>Milestone:</b> Expand statewide ground water monitoring into priority ground water areas within five additional counties.	During FY12, ground water samples were collected from an additional 58 water wells within four counties previously monitored (Uinta, Sublette, Platte, Sweetwater) and one additional county (Laramie) that had not yet been sampled. To date, samples have been collected within priority areas in six counties (Uinta, Sublette, Platte, Sweetwater, Laramie, Carbon).
6	<b>Milestone:</b> Work with other divisions within WDEQ to design and develop a ground water data management and electronic data delivery system. Have	A Work Group was formed in August 2011, composed of designees from Land, Water, and Solid and Hazardous

Objective #	Description	FY12 Response
	data management system designed and operational within three years.	<i>Waste Divisions. The group held several meetings during FY12 to review ground water data management systems developed for other projects and discuss potential design options.</i>
6	<b>Milestone:</b> Participate and support the State Ground Water Committee in development of measures and strategies to protect groundwater.	<i>WDEQ continues to participate and support the State Ground Water Committee.</i>
6	<b>Tracking Measure:</b> Number of Section 319 Ground Water projects active in each fiscal year.	<i>1 ground water Section 319 project was active in FY12.</i>
6	<b>Tracking Measure:</b> Track the number of priority ground water areas (and counties) that have been monitored under the statewide monitoring program.	<i>Groundwater Sampling has been conducted in 15 priority areas in six counties. Approximately 153 ground water wells have been sampled.</i>
6	<b>Tracking Measure:</b> Track the progress and status of development of a ground water data management and electronic data delivery system.	<i>WDEQ continues to track the progress and status of development of a ground water data management and electronic data delivery system. WDEQ plans to develop an RFP for a contractor to complete tasks including, to create/design a data management template with appropriate fields to standardize data submittals, to research, inventory, and describe existing data in detail, and to conduct a pilot study to take data from one program and import it into the new system.</i>
6	<b>Tracking Measure:</b> Track the progress and status of development of ground water protection measures and/or strategies developed or endorsed by the State Ground Water Committee.	<i>A strategy to evaluate the consistency between state agencies' well plugging and abandonment requirements was initiated during FY12 and is currently in progress.</i>
<i>Objective #7: Information and Education</i>		
7	<b>Milestone:</b> By the end of FY2015, have all BMP manuals updated. Review each manual every five years thereafter at a minimum. Post all current BMPs manuals on Nonpoint Source Program website.	<i>The updated Cropland, Urban, and Livestock/Wildlife BMP Manuals were finalized, approved by the Nonpoint Source Task Force, and submitted to public notice in FY12. The WDEQ anticipates final approval of these three manuals in</i>

Objective #	Description	FY12 Response
		<i>FY13. The WDEQ also worked in FY12 to prepare a revised draft of the Stream and Lakeshore Restoration BMP manual, which is still in draft form and under review). The WDEQ will continue to move forward with this manual in FY13.</i>
7	<b>Milestone:</b> By end of FY2015, have Nonpoint Source Program website updated with improved design and content. Continue to maintain and update website in following years.	<i>The NPS Program worked in FY12 to improve its website, including adding improved RFP information, information to assist current project sponsors, and general NPS information/education. The website was maintained during the year to provide current information to the public. Improvements will continue to be made in FY13 and beyond.</i>
7	<b>Milestone:</b> For each year through FY2020, issue two electronic Nonpoint Source Program newsletters through the Listserve.	<i>Two electronic newsletters were distributed via the NPS Listserve in FY12 (May and September 2012).</i>
7	<b>Tracking Measure:</b> Progress towards updating BMP manuals.	<i>See milestone comment above.</i>
7	<b>Tracking Measure:</b> Progress towards improving the Nonpoint Source Program website.	<i>See milestone comment above.</i>
7	<b>Tracking Measure:</b> Number electronic newsletters issued per year via Listserve.	2
7	<b>Tracking Measure:</b> Distribution of the Nonpoint Source Program annual report.	<i>Distributed to EPA, NPS Task Force, WQD Management, and Watershed Protection Program; posted on NPS Program website</i>
7	<b>Tracking Measure:</b> Progress towards increased distribution of nonpoint source educational material.	<i>In FY12, the website was updated with basic information about water quality, nonpoint source pollution, and watersheds. The two NPS electronic newsletters included information about NPS related links and tools. NPS Program staff contributed to an article about water quality and nonpoint source pollution from wildfires.</i>
7	<b>Tracking Measure:</b> Number of Information/Education Section 319 projects active per fiscal year.	<i>5 Information/Education projects were active in FY12.</i>

Objective #	Description	FY12 Response
7	<b>Tracking Measure:</b> Amount of annual Section 319 funding allocated to information/education tasks for FY2011 and later grants.	FY11—\$52,050 FY12—\$126,039 (includes funds from FY10 and FY11 grants that were obligated in FY12)
7	<b>Tracking Measure:</b> Coordinate with WACD to track number of World Wide Day of Monitoring events held across the state, the number of participating students, and WQD involvement for each year.	Estimated that approximately 1,200 students and 60 volunteers participated at events hosted by 13 conservation districts. WQD staff were unable to participate this year.
<i>Objective #8: Partnerships and Interagency Cooperation</i>		
8	<b>Milestone:</b> Finish compiling information about statewide nonpoint source reduction activities in the Impaired Waters Index by end of FY2016.	Work was not accomplished on this milestone in FY12 due to other activities being higher priority.
8	<b>Milestone:</b> Every two years, have documented outreach to/coordination with at least 80% of the partners identified in Section 5.	See Section 2.9 of annual report and tracking measure below.
8	<b>Milestone:</b> By FY2020, have at least one watershed fully restored due to coordination with NRCS and use of National Water Quality Initiative funds.	N/A. FY12 was first year NWQI funds were allocated.
8	<b>Tracking Measure:</b> Progress towards entering information about statewide nonpoint source reduction activities in the Impaired Waters Index.	Work was not accomplished on this activity in FY12 due to other activities being higher priority.
8	<b>Tracking Measure:</b> Highlight important interactions with partner agencies on an annual basis.	FY12 highlights: USFS—BMP review and operation under general turbidity waiver; NRCS—provided input on NWQI watershed selection and participated on State Technical Committee; WDA—requested review of agricultural BMP manuals; WGFD—requested review of Livestock/Wildlife BMP manual; WSF—worked to direct funds towards wildfire rehabilitation; UW CES—contributed water quality article and financial assistance to publication; WWDC—coordinated TMDL and Level I study information on North Platte impairments; outreach to all relevant agencies during TMDL development process; WACD—regular communication on program issues, presentation at annual convention, and assistance with Water Quality Module Trainings.

Objective #	Description	FY12 Response
8	<b>Tracking Measure:</b> Provide, in annual report, summaries of non-WDEQ nonpoint source reduction activities.	<i>See Section 3 of FY12 annual report.</i>
8	<b>Tracking Measure:</b> Track use of National Water Quality Initiative funds and coordination with NRCS.	<i>FY12 NWQI funds went to the Ocean Lake Watershed (HUCs 100800050202, 100800050107, 100800050201)</i>
<i>Objective #9: Effective and Efficient Program Administration</i>		
9	<b>Milestone:</b> By the end of FY2016, no more than 50% of the projects closed in that year will have needed an amendment. No more than 25% of closed projects will have needed more than one amendment.	<i>See tracking measure below; this milestone has not yet been achieved. The NPS Program will work to reduce the number of amendments needed by projects.</i>
9	<b>Milestone:</b> Conduct detailed program evaluations in FY2015 and FY2020.	<i>N/A</i>
9	<b>Tracking Measure:</b> Track training of WQD staff and project sponsors for project management.	<i>Project management database was released to FY12 project sponsors along with packets to educate them about project management requirements. WQD staff was trained as necessary based on requests for assistance.</i>
9	<b>Tracking Measure:</b> Track program evaluation metrics.	<i>N/A—the next program evaluation is scheduled for FY15.</i>
9	<b>Tracking Measure:</b> Percentage of projects closed each fiscal year that required at least one amendment and percentage of projects closed each fiscal year that required two or more amendments.	<i>5 of the 7 (71%) closed projects in FY12 required at least one amendment. 3 of the 7 (43%) closed projects in FY12 required more than one amendment.</i>
9	<b>Tracking Measure:</b> Release date of Section 319 RFP, number of proposals received, and number of proposals funded.	<i>FY12 RFP released 6/15/12; seven proposals received; six proposals funded</i>
9	<b>Tracking Measure:</b> Number of grants closed per year and total amount of funds returned to EPA on closed grants.	<i>2 grants closed FY06 Section 319 grant closed 12/31/11; \$0 returned FY07 Section 319 grant closed 9/30/12; \$0 returned</i>

Objective #	Description	FY12 Response
9	<b>Tracking Measure:</b> Information documenting rate of grant expenditures including (for each active grant): Grant information (grant number, fiscal year, project period), Grant award amount, Amount and percent liquidated obligations (expended funds), Amount and percent unliquidated obligations (unexpended funds/grant balance), Percentage of funded projects each grant year on or ahead of schedule.	<i>See Table A-1 below.</i>

Table A-1. Grant expenditure information.

Fiscal Year	Grant Number	Project Period	Grant Award Amount	Amount expended	% Expended	Amount Unexpended	% Unexpended	% projects on or ahead of schedule	Comments
FY08	C9008630-08	7/21/08-9/30/13	\$1,271,281	\$891,213.91	70%	\$380,067.09	30%	100% (11/11)	Unexpended funds primarily represent funds that were reserved for TMDL development; the pace of TMDL development and contract obligations/expenditures were delayed in FY12 due to staff turnover the preceding year.
FY09	C9008630-09	7/25/09-9/30/14	\$1,279,717	\$878,487.37	69%	\$401,230.25	31%	100% (4/4)	On-schedule
FY10	C9008630-10	6/15/10-9/30/15	\$1,240,000	\$415,125.38	33%	\$824,874.62	67%	100% (4/4)	On-schedule
FY11	C9008630-11	6/7/11-9/30/16	\$967,755	\$131,143.41	14%	\$836,611.59	86%	100% (3/3)	On-schedule
FY12	C9008630-12	5/2/12-5/14/17	\$853,000	\$11,715.37	1%	\$841,284.63	99%	100% (5/5)	On-schedule

## **Appendix C**

# **Impaired Waters Index Summary**

**Impaired Waters Index Summary Table  
(Updated 1-31-13)**

Level	EPA Identifier	Surface Water Name	River Basin	Use Support	Pollutant (Year Listed)
A	WYBH100800030207_01	Popo Agie River, Middle Fork	Bighorn	Recreation (Not Supporting)	E. coli (2002)
A	WYBH100800050404_01	Poison Creek	Bighorn	Recreation (Not Supporting)	E. coli (2002)
A	WYBH100800050607_01	Muddy Creek	Bighorn	Recreation (Not Supporting)	E. coli (2002)
A	WYBR160101010801_01	Bridger Creek	Bear	Aquatic Life (Threatened)	Sediment (1998)
A	WYGR140401040303_01	Pacific Creek	Green River	Recreation (Not Supporting)	E. coli (2012)
A	WYLS140500030408_01	Savery Creek	Little Snake	Aquatic Life, Cold Water Game Fish (threatened)	Habitat (1998)
A	WYLS140500030408_02	Loco Creek West Fork	Little Snake	Aquatic Life, Cold Water Game Fish	Habitat (1996)
A	WYLS140500030408_02	Loco Creek West Fork	Little Snake	Aquatic Life, Cold Water Game Fish (threatened)	Nutrients (1996)
A	WYLS140500030408_02	Loco Creek West Fork	Little Snake	Aquatic Life, Cold Water Game Fish (threatened)	Temperature (1996)
A	WYLS140500040308_01	Muddy Creek	Little Snake	Aquatic Life (not supporting)	Chloride (2010)
A	WYLS140500040308_01	Muddy Creek	Little Snake	Aquatic Life (not supporting)	Selenium (2010)
A	WYNP101800060104_01	Lander Creek	North Platte	Recreation (Not Supporting)	E. coli (2012)
A	WYNP101800100201_01	Laramie River	North Platte	Recreation (Not Supporting)	E. coli (2012)
A	WYNP101800100605_01	Little Laramie River	North Platte	Recreation (Not	E. coli (2012)

Level	EPA Identifier	Surface Water Name	River Basin	Use Support	Pollutant (Year Listed)
				Supporting)	
A	WYNP101800100707_01	Laramie River	North Platte	Recreation (Not Supporting)	E. coli (2012)
A	WYNP101800110502_01	Wheatland Creek	North Platte	Recreation (not supporting)	Fecal Coliform (2002)
A	WYNP101800110502_02	Rock Creek	North Platte	Recreation (Not Supporting)	Fecal Coliform (2002)
A	WYPR100902020102_00	Powder River	Powder	Aquatic Life, Warm Water Game Fish, Wildlife (not supporting)	Selenium (2000)
A	WYPR100902020103_01	Powder River	Powder	Aquatic Life, WW Game Fish, Wildlife (not supp)	Selenium (2000)
A	WYPR100902020600_01	Powder River	Powder	Aquatic Life, Warm Water Game Fish, Wildlife (not supporting)	Selenium (2000)
A	WYPR100902020808_01	Middle Prong Wild Horse Creek Lower	Powder	Recreation (Not Supporting)	E. coli (2006)
A	WYPR100902030400_01	South Fork Powder River	Powder	Aquatic Life, Non-Game Fish, Wildlife (not supporting)	Selenium (2006)
A	WYPR100902030403_01	Willow Creek	Powder	Aquatic Life, Cold Water Game Fish, Wildlife (not supporting)	Selenium (2006)
A	WYPR100902030404_01	Posey Creek	Powder	Aquatic Life, Wildlife (not supporting)	Selenium (2008)
A	WYPR100902030407_01	Murphy Creek	Powder	Aquatic Life (not supporting)	Selenium
A	WYPR100902040300_01	Salt Creek	Powder	Aquatic Life, Non-Game Fish, Wildlife (not supporting)	Selenium (2008)

Level	EPA Identifier	Surface Water Name	River Basin	Use Support	Pollutant (Year Listed)
A	WYPR100902050305_01	Crazy Woman Creek	Powder	Drinking Water (Not Supporting)	Manganese (2002)
A	WYPR100902060303_01	North Piney Creek	Powder	Recreation (Not Supporting)	E. coli (2006)
A	WYPR100902060303_02	Dalton Ditch	Powder	Recreation (Not Supporting)	E. coli (2006)
A	WYPR100902060303_03	Piney-Cruse Ditch	Powder	Recreation (Not Supporting)	E. coli (2008)
A	WYPR100902080500_01	Little Powder River	Powder	Recreation (Not Supporting)	E. coli (2002)
A	WYSP101900090101_01	Middle Fork Crow Creek	South Platte	Recreation (Not Supporting)	E. coli (2010)
A	WYSP101900090104_01	Crow Creek North Branch North Fork	South Platte	Recreation (Not Supporting)	E. coli (2004)
A	WYSP101900090107_05	Crow Creek	South Platte	Recreation (Not Supporting)	E. coli (2012)
A	WYSR170401030305_01	Clark's Draw	Snake	Recreation (Not Supporting)	E. coli (2012)
A	WYSR170401050203_01	Stump Creek	Snake	Recreation (Not Supporting)	E. coli (2008)
A	WYSR170401050309_01	Salt River	Snake	Recreation (Not Supporting)	E. coli (2002)
A	WYTR100901010301_01	Tongue River	Tongue	Cold Water Fish (not supporting)	Temperature (2002)
A	WYTR100901010400_01	Prairie Dog Creek	Tongue	Cold Water Fishery (Not Supporting)	Temperature (2012)
A	WYTR100901010400_01	Prairie Dog Creek	Tongue	Drinking Water (Not Supporting)	Manganese (2012)
A	WYTR100901010401_01	Meade Creek	Tongue	Drinking Water (Not Supporting)	Manganese (2012)

Level	EPA Identifier	Surface Water Name	River Basin	Use Support	Pollutant (Year Listed)
A	WYTR100901010402_01	Prairie Dog Creek	Tongue	Cold Water Game Fish (Not Supporting)	Temperature (2012)
A	WYTR100901010402_01	Prairie Dog Creek	Tongue	Drinking Water (Not Supporting)	Manganese (2002)
A	WYPR100902050100_01	Crazy Woman Creek, North Fork	Powder	Aquatic Life, Cold Water Game Fish (threatened)	Habitat (1996)
A	WYPR100902050100_01	Crazy Woman Creek, North Fork	Powder	Aquatic Life, Cold Water Game Fish (threatened)	Nutrients (1996)
B	WYGR140401070106_01	Blacks Fork	Green	Recreation (Not Supporting)	E. coli (2000)
B	WYGR140401070205_01	Willow Creek	Green	Aquatic Life, Cold Water Game Fish (threatened)	Habitat (1998)
B	WYGR140401070208_00	Smiths Fork	Green	Recreation (Not Supporting)	Fecal coliform (2002)
B	WYGR140401070208_01	Smiths Fork	Green	Aquatic Life, Cold Water Game Fish (not supporting)	Habitat (2000)
B	WYGR140401070208_01	Smiths Fork	Green	Recreation (Not Supporting)	E. coli (2002)
B	WYGR140401070403_01	Blacks Fork	Green	Recreation (Not Supporting)	E. coli (2000)
B	WYBR160101010303_01	Bear River	Bear	Aquatic Life, Cold Water Fish (Not Supporting)	Sediment (2002)
B	WYGR140401050506_01	Bitter Creek	Green	Aquatic Life, Non-Game Fish (Not Supporting)	Chloride (2002)
B	WYGR140401050506_01	Bitter Creek	Green	Recreation (Not Supporting)	Fecal coliform (2002)
B	WYGR140401050808_01	Killpecker Creek	Green	Recreation (Not Supporting)	Fecal Coliform (2000)
B	WYBH100800070305_01	Owl Creek	Bighorn	Recreation (threatened)	Fecal Coliform (2002)

Level	EPA Identifier	Surface Water Name	River Basin	Use Support	Pollutant (Year Listed)
B	WYBH100800070500_01	Kirby Creek	Bighorn	Recreation (threatened)	Fecal Coliform (2002)
B	WYBH100800070809_01	Nowater Creek	Bighorn	Recreation (Not Supporting)	Fecal Coliform (2002)
B	WYBH100800070909_01	Fifteenmile Creek	Bighorn	Recreation (Not Supporting)	Fecal Coliform (2002)
B	WYBH100800071000_01	Bighorn River	Bighorn	Recreation (Not Supporting)	E. coli (2002)
B	WYBH100800071000_02	Bighorn River	Bighorn	Recreation (Not Supporting)	Fecal Coliform (2000)
B	WYBH100800071001_01	Sage Creek	Bighorn	Recreation (Not Supporting)	Fecal Coliform (2002)
B	WYBH100800071001_02	Slick Creek	Bighorn	Recreation (Not Supporting)	Fecal Coliform (2002)
B	WYBH100800080603_01	Paint Rock Creek	Bighorn	Recreation (Threatened)	Fecal Coliform (2002)
B	WYBH100800080705_01	Nowood River	Bighorn	Recreation (Not Supporting)	Fecal Coliform (2002)
B	WYBH100800090405_01	Greybull River	Bighorn	Recreation (Not Supporting)	Fecal Coliform (2002)
B	WYBH100800100102_01	Granite Creek	Bighorn	Recreation (Not Supporting)	E. coli (2002)
B	WYBH100800100204_01	Beaver Creek	Bighorn	Recreation (threatened)	Fecal Coliform (2002)
B	WYBH100800100206_01	Shell Creek	Bighorn	Recreation (Not Supporting)	Fecal Coliform (2002)
B	WYBH100800100301_01	Bighorn River	Bighorn	Recreation (Not Supporting)	Fecal Coliform (2002)
B	WYBH100800110204_01	Dry Creek	Bighorn	Recreation (threatened)	Fecal Coliform (2002)
B	WYBH100800140107_01	Dry Gulch	Bighorn	Recreation (Not Supporting)	E. coli (2008)
B	WYBH100800140206_01	Bitter Creek	Bighorn	Recreation (Not Supporting)	Fecal coliform (2000)

Level	EPA Identifier	Surface Water Name	River Basin	Use Support	Pollutant (Year Listed)
B	WYBH100800140303_01	Whistle Creek	Bighorn	Recreation (not supporting)	Fecal Coliform (2000)
B	WYBH100800140307_01	Foster Gulch	Bighorn	Recreation (threatened)	Fecal Coliform (2002)
B	WYBH100800140407_01	Polecat Creek	Bighorn	Recreation (not supporting)	Fecal Coliform (2002)
B	WYBH100800140408_01	Sage Creek	Bighorn	Recreation (Not Supporting)	Fecal Coliform (2002)
B	WYBH100800140408_02	Big Wash	Bighorn	Recreation (not supporting)	Fecal Coliform (2002)
B	WYBH100800140504_00	Shoshone River	Bighorn	Recreation (not supporting)	Fecal Coliform (2002)
B	WYGR140401070701_01	Hams Fork	Green	Aquatic Life, Cold Water Game Fish (not supporting)	pH (1996)
B	WYSP101900090107_01	Crow Creek	South Platte	Recreation (Not Supporting)	E. coli (1996)
B	WYSP101900090107_02	Crow Creek	South Platte	Non-Game Fishery, Aquatic Life other than Fish (Not Supporting)	Sediment (2012)
B	WYSP101900090107_02	Crow Creek	South Platte	Recreation (Not Supporting)	E. coli (2012)
B	WYSP101900090107_03	Crow Creek	South Platte	Cold Water Game Fishery, Aquatic Life other than Fish (not supporting)	Sediment (2010)
B	WYSP101900090107_03	Crow Creek	South Platte	Recreation (Not Supporting)	E. coli (2012)
B	WYSP101900090107_04	Crow Creek	South Platte	Cold Water Game Fishery, Aquatic Life other than Fish (Not Supporting)	Sediment (2012)
B	WYSP101900090107_04	Crow Creek	South Platte	Recreation (Not Supporting)	E. coli (2012)
B	WYSP101900090203_01	Crow Creek	South Platte	Recreation (Not Supporting)	E. coli (1996)

Level	EPA Identifier	Surface Water Name	River Basin	Use Support	Pollutant (Year Listed)
C	WYGR140401040203_01	Little Sandy River	Green River	Cold Water Game Fishery, Aquatic Life other than Fish (Not Supporting)	Sediment (2012)
D	WYBF101202010504_00	Belle Fourche River	Belle Fourche	Aquatic Life, Warm Water (Not Supporting)	Ammonia (2008)
D	WYBF101202010504_00	Belle Fourche River	Belle Fourche	Aquatic Life, Warm Water (Not Supporting)	Chloride (2008)
D	WYBF101202010600_01	Donkey Creek	Belle Fourche	Recreation (Not Supporting)	E. coli (2000)
D	WYBF101202010602_01	Stonepile Creek	Belle Fourche	Recreation (Not Supporting)	Fecal Coliform (2002)
E	WYTR100901010101_01	North Tongue River	Tongue	Recreation (Not Supporting)	E. coli (2004)
E	WYTR100901010106_01	Columbus Creek	Tongue	Recreation (Not Supporting)	E. coli (2002)
E	WYTR100901010106_02	Smith Creek	Tongue	Recreation (Not Supporting)	E. coli (2002)
E	WYTR100901010107_02	Little Tongue River	Tongue	Recreation (Not Supporting)	E. coli (2002)
E	WYTR100901010108_01	Fivemile Creek	Tongue	Recreation (Not Supporting)	E. coli (2002)
E	WYTR100901010110_01	Wolf Creek	Tongue	Recreation (Not Supporting)	E. coli (2002)
E	WYTR100901010111_01	Tongue River	Tongue	Recreation (Not Supporting)	E. coli (2010)
E	WYBF101202010504_00	Belle Fourche River	Belle Fourche	Recreation (Not Supporting)	E. coli (1996)
E	WYBH100800050202_01	Ocean Lake	Bighorn	Aquatic Life, Warm Water (not supporting)	Sediment (1996)
E	WYBF101202010501_01	Belle Fourche River	Belle	Recreation (Not	E. coli (1996)

Level	EPA Identifier	Surface Water Name	River Basin	Use Support	Pollutant (Year Listed)
			Fourche	Supporting)	
E	WYBF101202010601_01	Gillette Fishing Lake	Belle Fourche	Aquatic Life, Cold Water Game Fish, Wildlife (not supporting)	Phosphate (1996)
E	WYBF101202010601_01	Gillette Fishing Lake	Belle Fourche	Aquatic Life, Cold Water Game Fish, Wildlife (not supporting)	Sediment (1996)
E	WYBF101202010904_00	Belle Fourche River	Belle Fourche	Recreation (Not Supporting)	Fecal Coliform (1996)
E	WYNP101800070300_01	North Platte River	North Platte	Aquatic Life, Cold Water Game Fish, Wildlife (not supporting)	Selenium (1998)
E	WYNP101800070302_01	Poison Spring Creek	North Platte	Aquatic Life, Wildlife (not supporting)	Selenium (2000)
E	WYNP101800070302_02	Rasmus Lee Lake	North Platte	Aquatic Life, Wildlife (not supporting)	Selenium (2000)
E	WYNP101800070302_03	Goose Lake	North Platte	Aquatic Life, Wildlife (not supporting)	Selenium (2000)
E	WYNP101800070303_01	Oregon Trail Drain	North Platte	Aquatic Life, Wildlife	Selenium (2000)
E	WYNP101800070406_01	Poison Spider Creek	North Platte	Aquatic Life, Cold Water Game Fish, Wildlife (not supporting)	Selenium (2000)
E	WYNP101800070406_02	Poison Spider Creek	North Platte	Aquatic Life, Non-Game Fish, Wildlife (not supporting)	Selenium (2000)
E	WYNP101800070406_03	Poison Spider Creek	North Platte	Aquatic Life, Wildlife (not supporting)	Selenium (2000)

Level	EPA Identifier	Surface Water Name	River Basin	Use Support	Pollutant (Year Listed)
E	WYNP101800070503_01	Ilco Pond	North Platte	Aquatic Life, Wildlife (not supporting)	Selenium (2000)
E	WYNP101800070504_01	Casper Creek	North Platte	Aquatic Life, Cold Water Game Fish, Wildlife (not supporting)	Selenium (2000)
E	WYNP101800070703_01	Thirty Three Mile Reservoir	North Platte	Aquatic Life, Wildlife (not supporting)	Selenium (2000)
E	WYTR100901010204_01	Park Creek	Tongue	Recreation (Not Supporting)	E. coli (2000)
E	WYTR100901010204_02	Rapid Creek	Tongue	Recreation (Not Supporting)	E. coli (2000)
E	WYTR100901010205_01	Big Goose Creek	Tongue	Recreation (Not Supporting)	E. coli (1996)
E	WYTR100901010205_02	Beaver Creek	Tongue	Recreation (Not Supporting)	E. coli (2000)
E	WYTR100901010207_01	Sackett Creek	Tongue	Recreation (Not Supporting)	E. coli (2000)
E	WYTR100901010207_02	Jackson Creek	Tongue	Recreation (Not Supporting)	E. coli (2000)
E	WYTR100901010208_01	Little Goose Creek	Tongue	Aquatic Life, Cold Water Fish (Not Supporting)	Habitat, Sediment (2006)
E	WYTR100901010208_01	Little Goose Creek	Tongue	Recreation (Not Supporting)	E. coli (1996)
E	WYTR100901010208_02	McCormick Creek	Tongue	Recreation (Not Supporting)	E. coli (2004)
E	WYTR100901010208_03	Kruse Creek	Tongue	Recreation (Not Supporting)	E. coli (2000)
E	WYTR100901010209_01	Goose Creek	Tongue	Aquatic Life, Cold Water Fish (Not Supporting)	Habitat, Sediment (2006)
E	WYTR100901010209_01	Goose Creek	Tongue	Recreation (Not	E. coli (2000)

Level	EPA Identifier	Surface Water Name	River Basin	Use Support	Pollutant (Year Listed)
				Supporting)	
E	WYTR100901010209_02	Soldier Creek	Tongue	Recreation (Not Supporting)	E. coli (2000)
E	WYTR100901010400_01	Prairie Dog Creek	Tongue	Recreation (Not Supporting)	E. coli (2004)
E	WYTR100901010401_01	Meade Creek	Tongue	Recreation (Not Supporting)	E. coli (2012)
E	WYTR100901010402_01	Prairie Dog Creek	Tongue	Recreation (Not Supporting)	E. coli (2004)
E	WYTR100901010402_02	Wildcat Creek	Tongue	Recreation (Not Supporting)	E. coli (2012)
E	WYTR100901010405_01	Dutch Creek	Tongue	Recreation (Not Supporting)	E. coli (2012)
F	WYSR170401030205_01	Flat Creek	Snake	Aquatic Life, Cold Water Game Fish (threatened)	Habitat (2000)
F	WYLS140500040104_01	Muddy Creek	Little Snake	Aquatic Life, Non-Game Fish (threatened)	Habitat (1996)
H	WYLS140500040102_01	McKinney Creek	Little Snake	Aquatic Life, Cold Water Game Fish (threatened)	Habitat (1996)
H	WYLS140500040103_01	Muddy Creek	Little Snake	Aquatic Life, Cold Water Game Fish (threatened)	Habitat (1996)
I	WYPR100902050100_01	Crazy Woman Creek, North Fork	Powder	Aquatic Life, Cold Water Game Fish (threatened)	Bioindicators (1996)

Summary		
Total Count	Level	Description
45	A	Impairment identified
43	B	TMDL being developed
1	C	Plan other than TMDL being developed
4	D	TMDL/WSBP completed, Implementation not yet begun
42	E	Implementation of TMDL/WSBP
2	F	Re-evaluation
0	G	Request Removal
2	H	Fully Restored
1	I	Removals—Other