



STATE OF IDAHO
**DEPARTMENT OF
ENVIRONMENTAL QUALITY**

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Dirk Kempthorne, Governor
C. Stephen Allred, Director

March 25, 2004

Michelle Pirzadeh, Director
US EPA, Region 10
Office of Ecosystem and Communities
1200 Sixth Avenue, ECO-087
Seattle, Washington 98101

RE: Official Submittal Idaho 2003 Nonpoint Source Management Program Annual Report

Dear Ms Pirzadeh:

The Department of Environmental Quality, Water Quality Division is pleased to submit the *2003 annual report* on behalf of the Nonpoint Source Management Program. The *2003 report to congress* is forthcoming.

The Clean Water Act §319(h) requires EPA to make an annual determination of the adequacy of the State's progress in meeting the schedule included in the approved state Nonpoint Source (NPS) Management Plan prior to the state award of grant funds for 2004. The annual report is the primary mechanism for enabling the EPA to determine whether satisfactory progress has been made by the State in meeting the milestones of the Idaho NPS Management Program.

The State of Idaho has been operating under an *Enhanced Benefit Status* since June 2000. The 2003 annual report marks the third full-year of implementation under the enhanced status. The NPS Management Plan represents a multifaceted effort to address and enhance water quality statewide.

If you should have any questions, please contact Todd Maguire, NPS Program Manager.

Sincerely,

Toni Hardesty, Administrator
State Water Quality Division

TH:TM:bmm

Enclosures: 2003 Annual Report (3 copies)

c: Rick Seaborne
Todd Maguire (file)

Taking Plans-to-Action

State of Idaho
Nonpoint Source Management Program

2003 Annual Report

January 1 thru December 31, 2003



Department of Environmental Quality
1410 North Hilton
Boise, ID 83706

Introduction

The Clean Water Act §319(h) requires EPA to make an annual determination of the adequacy of the State's progress in meeting the schedule included in approved state Nonpoint Source (NPS) Management Plans prior to the state award of grant funds. The annual report is the primary mechanism for enabling the EPA to determine whether satisfactory progress has been made by the State in meeting the milestones of the Idaho NPS Management Program.

Idaho's nonpoint source management program has spent most of 2003 working toward improving interfaces between itself and other Clean Water and Safe Drinking Water Act programs. The primary focus is working and collaborating within a watershed framework for protection and implementation activities across the state. The Program discovered that there are opportunities for collaboration and integration among programs upon which the watershed framework can be used for implementation of nonpoint source management activities.

The State of Idaho *Nonpoint Source Management Plan* represents commitment toward multifaceted efforts to address and enhance water quality statewide. The Plan incorporates many processes and partnerships driven by water quality law, which were developed to:

- Enhance targeting of §303(d) listed waters and Category I watersheds identified through the States' Unified Watershed Assessment;
- Pursuit of integrated watershed activities for the entire resource;
- Protect and maintain drinking water protection;
- Improve and enhance partnerships among local, state, and federal agencies; and
- Increase coordination and integration of integrative funding efforts among primary land management agency partners and cooperating ancillary agencies.

Organization of Report

The annual report is broken into three primary sections:

- Progress toward meeting program goals including statewide and sector descriptions,
- Report on watershed integration activities as they relate to implementation tracking, and
- Grant management.

Several documents are contained in the appendices include the Project Maps by Region for 1998 to 2003 projects, Agricultural TMDL—2003 Action Plan, and TMDL Implementation Activity Tracking by Region.

Overview—Idaho Nonpoint Source Management Program

The Idaho Nonpoint Source Management Program is a voluntary incentive-based program that is directed predominantly at TMDL implementation activities and activities that encompass TMDLs and drinking water protection concurrently through watershed prioritization approaches. A total of 25 projects were completed and essentially closed out in 2003. Another 6 projects are also pending closeout due to administrative reasons (e.g., lack of award acceptance, lack of match). A request is forthcoming to redirect almost \$562,000 from the 1997, 1998, and 1999 grants to new ground projects in 2004. Case study narratives in the form of summarized closeout reports are provided in the *2003 Idaho Report to Congress*. What remains active for 2004 are 50 projects with \$8,114,871 budget allocation (Map 1—Active Projects FY1998-2004).

The overwhelming trend of pass through funds to the local level continued in 2003. For example, the remaining 2003 federal allocation of the state award went to 7 new projects for about \$1,100,000, predominantly used for TMDL implementation activities. Sixteen (16) additional projects were also funded late in 2003 totaling almost \$2,518,000 for 2004. Fourteen (14) of the projects, accounting for over 80% of the total spent, went to pass through for local projects consisting predominantly of TMDL implementation activities. The remaining 15% of the allocation largely funded both administration and implementation of the NPS Management Program over two-years with the second multi-year work plan for 2004-05, as opposed to one, and covered regional office support of the Program with two FTEs spread over the state for the second time.

ID	GRANT YEAR	CONTRACT	PROJECT
1	1998	Q444	Sheridan Creek Restoration
2	1998	Q508	Raft River Riparian and Watershed Demonstration
3	2003	S070	Upper Thomas Fork Bank Protection
4	2003	S071	Cumulative Watershed Effects Analysis (State-Wide)
5	2003	S073	Blue Creek Bay Water Quality Improvement
6	1999	Q562	Paradise Creek TMDL Implementation #1
7	2003	S072	Tammany Creek Watershed Imp.
8	2003	S098S	Lower Payette River TMDL Implementation
9	2003	S074	Weiser Water Quality Project
10	1999	S031	Integrating Urban Design, Ecology & Water Quality Objectives
11	2000	S069	Paradise Creek TMDL Implementation #2
12	2000	Q606	Boulder/Willow Subwatershed BMP Implementation
13	2003	S075	Pack River Watershed Sediment Reduction
14	2000	Q608	Ashton Groundwater Protection
15	2003	S076	South Fork Palouse River Restoration
16	2003	S077	Mud Creek BMP Implementation
17	2003	S078	Lakeshore Drive Road Improvement
18	2000	S008	Twentyfour-mile Creek TMDL implementation
19	2003	S079	Perrine Coulee Wetland
20	2003	S099S	Cottonwood Creek TMDL Implementation
21	2003	S080	Gold Fork Watershed
22	2001	S014	Trestle Creek Watershed Conservation
23	2003	S015	Jim Fork Creek Watershed Enhancement
24	2001	S081	Panhandle Health District Bioretention Basin
25	2001	S017/S099S	South Fork of Cottonwood Creek TMDL Implementation, Phase I & II
26	2003	S018	Porter Riparian Restoration Cub River
27	2001	S089	Balanced Rock Cedar Draw Coulee
28	2003	S100S	Tammany Creek Restoration
29	2001	S021	Boulder/Willow Subwatershed Urban/Suburban stormwater Management Implementation
30	2001	S022	North City Park Wetland Pocatello
31	2001	S023	Upper Rapid Creek Subwatershed Riparian
32	2001	S032/S095S	Santa Creek Streambank Protection & Stability
33	2001	S025	Success Mill Site
34	2003	S049	Augar Falls Nutrient Removal
35	2001	S039	North-Central AFO Relocation Phase II
36	2003	S093	Edson Fichter Nature Area
37	2001	S042	CDA Nettleton Gulch Demonstration
38	2003	S094S	Camas Prairie Groundwater Nitrate
39	2001	S041	Kinsey Corral Relocation
40	2002	BRO	Scott Creek; Mann Creek BMPs for Groundwater
41	2002	S091	Sediment Retention Ponds Placement Implementing the Kid and Mica Creeks Sediment TMDLs
42	2002		Aluminum Sulfate Treatment of Hauser Lake
43	2003	S097S	Lewiston Urban Livestock BMPs
44	2002	S051	Medicine Lodge Creek TMDL Implementation
45	2002	S055	Hailey Big Wood River Improvement
46	2002	S054	Lemhi Watershed TMDL Implementation
47	2002	S053	Thomas Fork Stream Bank Protection
48	2002	S056	Implementation of Nonpoint Source Controls (BMPs) to Achieve Riparian Restoration on the East Fork of the Salmon River Watershed
49	2002	CDA	Monarch Mill Site Tailing Removal
50	2002		Valley County Roads #2



The total since 2000 or for the last four years used for on-ground implementation activities was almost \$8,758,000. The pass through to local implementation projects resulted in further leveraging over \$5,000,000 in local matching contributions.

The issue of TMDL implementation has continued to grow, demanding greater statewide coordination, while drinking water protection has begun to demand attention for the first time. Statewide coordination has been necessary to ensure effective prioritization of limited funding through the administration of nonpoint source subgrants. It also allows for opportunities to leverage limited-sources of funding with other mechanisms available through a number of programs administered by the Department of Environmental Quality, Idaho Soil Conservation Commission, the Idaho Office of Species Conservation, the Bonneville Power Administration, Army Corps of Engineers, among others.

The nonpoint source feedback loop is especially important for demonstrating that management measures being implemented are being assessed, and whether changes are necessary as a result of BMP effectiveness monitoring. Ongoing monitoring and analysis of data through TMDL development, Beneficial Use Reconnaissance Project (BURP), and Regional Groundwater Monitoring efforts ensure water quality standards are being met or maintained. Continued analysis of the overall successes and failures of past \$319 funded projects across the state will also provide insight into the factors necessary to ensure that new implementation projects incorporate elements of the upgraded nonpoint source management plan.

Progress Toward Meeting Program Goals

Statewide Overview

In 2003, the DEQ continued to emphasize the four keys to achieving clean water as goals of the NPS Management Program. The four keys encouraged for both surface water and ground water quality are (1) the watershed approach, (2) consistently applied federal and state standards, (3) natural resource stewardship, and (4) informed citizens and officials.

The Idaho water programs focuses on nonpoint source pollution using a watershed approach. Public participation is a major element of this program approach and is incorporated through community-based Basin Advisory Groups and Watershed Advisory Groups as required in the Idaho water quality statute, Idaho Code §39-3601 *et seq.* The identification and support of designated management agencies are also essential for ensuring the development and implementation of TMDLs consistent with the TMDL schedule and priorities established in concert with all state and federal agencies, and the public process.

An integrative dialogue and collaborative effort is the primary framework used to build upon implementation of nonpoint source management activities, which are necessary to meet requirements of approved TMDLs, watershed management plans, TMDL implementation plans, as well as drinking water protection and groundwater protection plans.

Goal: To provide technical support to cooperating agencies in implementing the nonpoint source management program; continued supervision and coordination through state office interaction to other designated agencies and related projects.

Objectives:

- Statewide lead agency program in facilitating and coordinating the implementation of the Nonpoint Source Management Plan.
- Coordinate consistent NPS activities related to ALL SEVEN SECTORS to ensure consistency with the *Idaho Nonpoint Source Management Plan*.
- Encourage the enhancement of natural resource partnerships and interagency collaboration through educational opportunities and information/knowledge transfer.

- Enhance program implementation by way of revising MOUs that support the *Idaho Nonpoint Source Management Plan*.
- Ensure statewide consistency of base-level activities related to preparing TMDL Implementation Plans by working directly with the TMDL Development Program Manager.
- Assist in the preparation of the “working” TMDL implementation plan guidance and related policies that are consistent with the *Idaho NPS Management Plan* and TMDL Development Program.
- Provide technical support, education, and information transfer on TMDL implementation and drinking water protection activities to ensure consistency with the *Idaho NPS Management Plan*.

Program Implementation

Task 1: State office management of the nonpoint source program.

Output: Coordinated the development and funding of twenty-three (23) new projects with base and incremental funding (Appendix 1). Encompassed within these new projects were two (2) statewide initiative projects. DEQ has improved the tracking of projects using Excel to enter on-going project balances and semi-annual reporting on a quarterly basis. Also, on-ground BMP installation was reviewed for over 50% of the on-going projects around the state (see section on Field Evaluation Progress). All funding expenditures have been in compliance with §319 program requirements and guidelines. Upon completion of this task, additional or remaining funding will be targeted to enhancement of the resource needs identified through the project review outlined in task 5. The program has maintained additional staff assistance from the Technical Services Division of DEQ to aid in contract maintenance and reporting to ensure better project tracking, reporting and a more timely delivery of requested products.

Task 2: Develop policies and guidance materials necessary to implement the states nonpoint source management program.

Output: The NPS Program co-sponsored a set of workshops around the state with the Idaho Soil Conservation Commission in September. The workshops focused on what makes a good project, presenting a draft proposed guidance and conceptual framework on ways of preparing them. The workshops were held in four locations: Pocatello, Twin Falls, Lewiston, and Coeur d'Alene. Well over 50 representatives from the agricultural sector attended. Additionally, the workshops were used to provide program updates and announce the 2005 funding cycle. The first step of pre-application was really emphasized during the workshops. Discussion was quite productive and did assist in revising the guidance, which is summarized in this document.

Output: The NPS Program revised, updated, and greatly expanded its website on the DEQ home page. The Program website is fully functional and comprehensive not only providing fully accessible portal, but also serves as an educational tool. The website can be viewed at http://www.deq.state.id.us/water/nps/nps_home.htm.

Output: The NPS Program finalized the drafting of the new formal application guidance entitled, "Project Application Reference Guide: Grants for Watershed and Aquifer Implementation Activities." It can be viewed at http://www.deq.state.id.us/water/nps/nps_application_refguide_05.pdf and http://www.deq.state.id.us/water/nps/nps_application_template_05.doc. The Reference Guide provides a description and process for preparing and submitting project applications for grants to conduct watershed and aquifer implementation activities. Project applications can either be focused on mitigation or prevention activities.

Project applications generally focused on mitigation activities are related to impaired water bodies. Proposals can be based on water quality limited water bodies from the State of Idaho approved §303(d) list or "Integrated Water Quality Report," approved TMDLs, from public water systems with certified drinking water protection plans, or other recognized water quality priority lists.

The other type of project application supported by the funding strategy is prevention oriented. These types of project applications will generally focus on waters of special concern (e.g., threatened and/or endangered species, sole source aquifer, etc.), promote anti-degradation, or waters where beneficial uses are fully supported, but where documented nonpoint source pollution threatens future use.

The "Project Checklist" is the primary framework for both organizing and evaluating project applications. The Checklist is comprised of four areas: Introduction, Method, Results, and Discussion. Each of these areas encompasses criteria both as prerequisites and credits that need to be covered in a project application. The criteria is stated as an "intent," "requirements," "submittals," and "resources" that are necessary to achieve each prerequisite and credit.

The framework of the Checklist serves as the organizational framework for preparing the application. In turn, the Checklist will serve as the basis for evaluation of all project applications. The 1999 Idaho Nonpoint Source Management Plan provides further background, explanations, and resources. An initial screening is conducted on each project application evaluating the four prerequisites. All "prerequisites," which are program administrative in nature must be achieved in order to qualify for the next step in technical evaluation.

In turn, project applications qualify for "technical merit" by meeting or exceeding each credit's requirements. All ten "credit" requirements must be met, which are elements of implementation in order to proceed to the third step of evaluation that is conducted by a respective basin advisory group. The process, use the "Requirements" under each "Credit" of the Project Checklist of the Reference Guide to answer yes or no. If any Credit cannot be answered in the affirmative, then the application is technically disqualified.

Output:

Idaho DEQ issued the announcement of the pre-application for FY2005 CWA, \$319 funding in August to over 300 agencies and groups, with a deadline of submitting applications of October 1, 2003. DEQ received 48 pre-applications plus other inquiries for informal review and comment. This again is a remarkable number of pre-proposals. Those pre-applications were reviewed and feedback with specifically tailored response to each within a sixty-day time frame. Formal funding application submittals were either invited for a February 1, 2004 deadline or rejected due to lacking sufficient technical qualifications. Overall, about 5% of the pre-applications were rejected and the majority

of the comments to each pre-applicant were intended to greatly improve the quality of formal application.

The formal application proposals will undergo a stringent review process to ensure that they meet federal and state guidelines, ensure consistency with the State NPS Management Plan, and also meet statewide/regional needs for the restoration of beneficial uses. An additional month has been made available to ensure that watershed and basin advisory groups have sufficient time to review and comment on all regional projects. The step now included in step 2 and 3 after the pre-application step ensures that all designated agencies and public advisory groups are participants with the local DEQ offices in the ranking and selection process.

Task 3: Continue the revision of existing NPS MOUs.

Output: The *Agricultural Pollution Abatement Plan* was completed and made available to the public in early 2003. The plan includes an MOU for implementation and is awaiting signature of the Governor, and in turn, signatories to the NPS sector MOU for agriculture.

Output: DEQ held a meeting and had several correspondences with the Idaho Transportation Department in late 2003. The ITD drafted a policy MOU for review and comment. DEQ provided review comments to ITD. This dialogue will continue in 2004.

Task 4: Program Implementation

Output: A program announcement and request for pre-application was sent out to over 300 agencies, entities and individuals. Included with the pre-application announcement was a full schedule and project expectation for prospective applicants. It was also made available on the DEQ website at: http://www.deq.state.id.us/water/nps/nps_preapplication_05.doc.

Output: The grant application guide, "Project Application Reference Guide: Grants for Watershed and Aquifer Implementation Activities" was made available through announcement and solicitation in August. View it at http://www.deq.state.id.us/water/nps/nps_application_refguide_05.pdf and http://www.deq.state.id.us/water/nps/nps_application_template_05.doc. The guide also serves as the technical evaluation or standard.

Output: Funding was made available to ensure continuance of Idaho Nonpoint Source Monitoring Workshop on an annual basis. The 14th annual workshop was held at Boise State University during the first week

of January 2004. The 15th Annual Workshop is set for January 4-6, 2005 at Boise State University.

Output: The Program prepared a white paper and initiated a joint funding strategy to leverage funding and collaborative opportunities (see box on pages 11-12). One example in 2003 where the leveraging payed off was with identifying \$42,000 for funding a previously approved 319 project through the Governor's Office of Species Conservation.

Task 5: Facilitate discussion on TMDL implementation activities for urban watersheds; provide contractor to coordinate dialogue in Pacific Northwest and sponsor statewide conference.

Output: A PowerPoint presentation on Low Impact Development was given to the Middle Snake River Watershed Advisory Group in April.

Output: A conference is still being delayed until 2005. The conference has been tentatively rescheduled for Fall 2005 and tentatively entitled, "Western States Symposium: Finding a Place for Low-Impact Development." It will still focus on water quality practitioners, design professionals, and municipal and county officials, among others. The symposium is already intended to be co-sponsored by EPA, the NPS programs of the western U.S. states, the University of Idaho Architecture Department through the Idaho Urban Research Design Center, and the American Society of Landscape Architects—Idaho-Montana Chapter.

Task 6: On-ground review of existing nonpoint source projects for 50% of the regional projects.

Output: Twenty-seven of 50 projects were evaluated in the field during the summer and fall of 2003. The "2003 Field Evaluation Progress Report" was completed and made available to the public through the DEQ website:

http://www.deq.state.id.us/water/nps/FieldEvalReport_2003.pdf.

Task 7: Development of rules for the integration of NPS activities into the State Revolving Fund Program.

Output: Five loans under the integrative priority system affecting nonpoint source pollution were approved and implemented in 2002 with the assistance of the NPS Program. Each of the projects were funded through the Idaho Soil Conservation Commission in five geographic locations throughout the state. Of the five projects, only the Franklin Soil

and Water Conservation District has spent out the majority of their loan, approximately \$1,192,000. The other four locations are not finding prospective loan applicants. The sluggish economy and the reality that loans are highly competitive to lower interest rates compound some of this. Other possible reasons relate to an overall lack of a coordinated marketing approach to “sell” the idea by the Soil Conservation Commission.

I met with the Soil Conservation Commission administrator and two key state office staff regarding this issue in early December. The discussion went well and concluded with a deliberate intent on the part of our two agencies to work closely and collaborate toward a “comprehensive loan and grant package.” This essentially means using small percentage of 319 grants to help minimize risk and make loans more attractive and competitive for activities not ordinarily covered by grants (e.g., sprinkler irrigation systems for tier 2 and 3 classified lands, piping and other infrastructure capital, etc.). The dialogue with the Commission will continue into early 2004 to determine feasibility of proceeding and tying into the 2005 funding cycle.

Integrated Approaches to Clean Water and Source Water Management

Presenter: Todd Maguire, Department of Environmental Quality, Nonpoint Source Management Program, State of Idaho, 1410 North Hilton, Boise, ID 83706.

In support of Clean Water Act (CWA) and Safe Drinking Water Act (SDWA) integration objectives, the Department of Environmental Quality is piloting an “integrated watershed management” funding strategy. This effort support the U.S. EPA approved 1999 Nonpoint Source Management Plan that provides one of the first visions in the country aimed toward watershed integration of formal planning requirements and on-ground implementation activities. It also supports implementation of approved Total Maximum Daily Loads and certified drinking water protection plans.

Three traditionally separate programs of Total Maximum Daily Loads (TMDLs), Source Water Assessment and Protection, and CWA Section 319/State Nonpoint Source Grants have a critical overlap of objectives when considered in light of the watershed framework. The watershed is the appropriate scale of consideration for assessing water quality impacts and prioritizing suitable management measures that meet the multiple-objectives of these three programs. The combination of working at the watershed scale fosters local involvement and empowers those most affected to seek incentive funding to voluntarily pursue protection activities. In turn, projects derive from consensus, placed-based watershed implementation plans that are looking at both surface water and ground water to document measurable benefit for beneficial uses.

The vision of achieving watershed integration takes advantage of the inherent overlap between the three programs to provide multiple leveraging opportunities. Private and public partnerships, private investment, and hard and soft in-kind match bring a 40% local match to the table in the majority of projects implemented on the ground. Other programs like the U.S.D.A. “Environmental Quality Incentives Program,” administered by the Natural Resource Conservation Service, are also attractive as part of leveraging a diverse set of dollars for implementation, creating a patchwork of integrated funding sources watershed by watershed.

Successful on-the-ground projects for controlling polluted runoff aim at making connections in three primary ways. Those primary ways are the (1) scales of protection, (2) ecological context, and (3) adaptive design strategies. The scales of protection are habitat, the watershed, and ecoregion. Each of these scales are nested within each other, where the

Continued on page 16.

Integrated Approaches... continued.

cumulative actions of every habitat are going to determine whether a watershed remains hydrologically functional, set within the constraints of the ecoregion. This in turn sets the stage for using an ecological paradigm and the context of beneficial uses as the pretense for both understanding the problems and resolving them systemically with multiple objective solutions. An adaptive management paradigm driven by the feedback loop models should be the underlying strategy for design of programs and implementation projects.

An “integrated watershed management” approach should strive to create settings for collaboration and innovation by facilitating dialogue among local stakeholders. The overriding charge under the piloting of this approach is fostering a framework for dialogue among stakeholders for problem solving examining interdisciplinary solutions that are inherently multi-objective. That is, solutions able to address more than one problem simultaneously while addressing the entire resource based on local circumstances.

The Integrated Watershed Management Program proposes a framework for fostering interdisciplinary on-ground implementation activities. Interdisciplinary takes on a meaning of multiple dimensions and scales. In one instance vertical dimensions: encompassing both surface water and ground water quality at the watershed scale. In the other instance, the lateral dimension considering the varied land uses and land covers associated with agriculture, silviculture, mining, and hydrologic/habitat modification activities, as well as those associated with urbanization (e.g., land development, transportation, recreation, etc.). These land uses and activities give rise to varying degrees of nonpoint source pollution or polluted runoff, which is the major contributor to impaired waters.

Further, the Integrated Watershed Management Program views capacity building and outreach at the watershed scale as an important, on-going task. Capacity building creates opportunities for exploring ways of bringing stakeholders with common interests together within a watershed to look at potentially common, multi-objective solutions. These efforts will be characterized as a “placed-based area” focus, able to document on-ground implementation activities annually. Documentation of on-ground implementation activities shown to complement each other are also crucial to maintaining existing funding levels through federal and state grants and loans due to the higher standard for tracking and reporting requirements (e.g., Grants Reporting and Tracking System).

A short paper on this subject presented October 29-30, 2003 at “Getting It Done: The Role of TMDL Implementation in Watershed Restoration,” Stevenson, WA, can be viewed at: http://www.swwrc.wsu.edu/conference2003/pdf/Proceedings/Proceedings/Session%201A/PAPER_Maguire.pdf

Task 8: Statewide technical support, education, and information transfer on TMDL implementation activities with an emphasis on urban watersheds.

Output: The Program was invited to speak on two occasions during the year on a national stage. One occasion in June was at the National Source Water Protection Conference in Washington D.C. in collaboration with the DEQ Drinking Water Program and Idaho Rural Water Association. Another occasion was in October at the “Getting it Done TMDL Implementation” Conference in Stevenson, Washington. In both cases, the PowerPoint presentation focused on integrated watershed management and adaptive management approaches for integrating clean water and source water. On a third occasion in April, the Program was invited to speak about the Caldwell-Karcher Project at the 18th Annual Symposium of the International Association of Landscape Ecology, U.S. Chapter in Alberta, Canada.

Output: An essay entitled, “Building Site Ecology: An Introductory Framework and Solutions” was drafted as white paper for the Sustainable Communities for Idaho: Caldwell-Karcher Project. It is available upon request.

Output: Three PowerPoint presentations were given through the year to support drinking water protection and nonpoint source management. The three different occasions were (1) the Source Water Assessment and Protection Annual Planning Meeting in March, (2) the Drinking Water Program: Orientation and Training in August, and (3) the Statewide Drinking Water Meeting in September.

Output: The Program co-sponsored along with EPA 60% of the cost for holding training to support the DEQ Drinking Water Protection Program. The training held in Ketchum in October was entitled, “Source Water Protection through Best Management Practices.” The one-day training led to a second day spent with Blaine County stakeholders in a roundtable discussing funding options for nonpoint source pollution control and prevention.

Output: The *Compendium of Best Management Practices to Control Polluted Runoff* was made available on compact disk and through the DEQ website at <http://www.deq.state.id.us/water/nps/BMPs.htm>. The handbook is written for a laymen audience to encourage the selection of suitable and appropriate measures for managing nonpoint source pollution. It covers

all seven sectors within the *Idaho Nonpoint Source Management Plan* and additionally, marinas and boating recreational activities.

Output: The Compendium was incorporated and served to support the *Safe Drinking Water Leadership, Accountability, Action* handbook completed in autumn 2003 from the Association of Idaho Cities and Idaho Association of Counties.

Output: The NPS Program is supporting the effort to develop and implement a national standard and rating system for green buildings and sustainable development practices. The Program is supporting as a trial a two-year membership to the U.S. Green Building Council and the Leadership in Energy and Environmental Design (LEED). The main interest and focus of the NPS Program in this trial support of membership, education and information transfer, and soliciting demonstration projects revolves around the currently proposed development of neighborhood development standards that are performance based. These standards are due to be developed in 2004 and piloted nationally in 2005. The standards will be Smart Growth based with a legitimate incorporation of watershed and ecological standards for land development and transportation linkage at the community level. The first demonstration project supported by the NPS Program is planned to initiate in early 2004 demonstrating living roof (green or eco-roof) technologies.

Task 9: Submit FY2002 Report to Congress to EPA.

Output: Was completed in early 2003 and can be viewed at http://www.deq.state.id.us/water/nps/Report_Congress_2002_Full.pdf.

Task 10: Coordinate, review, and distribute completed annual report for NPS Program.

Output: 2003 Annual Report submitted to Region 10, NPS Program Coordinator.

Sector Overviews

Chapter 1 of the *Idaho NPS Management Plan* outlines the vision of the Program: All long-term goals and short-term objectives listed in tables 1.2 through 1.9 be implemented in a manner to protect or restore the beneficial uses of the State's surface and ground waters. These serve as the focus for prospective projects each year. The long-term goals in table 1.2 are driving factors for the Idaho NPS Program, as well as every sector. The goals and objectives of chapter 1 essentially serve as the qualifying criteria for projects each year. These are a primary focus for implementation by the NPS Program. It is anticipated that these goals and objectives will be updated in 2003.

In order to realize the goals outlined throughout the tables in Chapter 1, DEQ has focused efforts on further information and education to those participants listed in the tables as responsible agencies. Additionally DEQ continues to provide enhanced training opportunities to many of the listed agencies to ensure that the NPS Plan listed goals and objectives are incorporated into their planning and implementation processes. As a result of these efforts DEQ is invited to participate in strategic planning sessions for NRCS and ISCC and has also provided program presentations to many groups for their planning processes. The DEQ participated with both of these agencies in quarterly interagency roundtable meetings.

Successes in meeting these goals are demonstrated by:

- Development and implementation of a watershed-based joint funding strategy with a target of integration: focusing on the highest priorities in a watershed that fulfill as many programmatic objectives as possible while leveraging local human capital and generally grant dollars among funding programs.
- Increased number of requests for NPS Plan presentations and education for NPS implementation and funding opportunities for new groups to the NPS planning process such as the U.S. Forest Service, Idaho Transportation Department, Idaho Department of Water Resources, Bureau of Land Management, and U.S. Army Corps of Engineers.
- Technical and programmatic support for drinking water protection activities working in cooperation with the DEQ Drinking Water Program, regional offices, and local governmental or public water systems.
- Continuing efforts to submit TMDL implementation plans reflecting integrated funding from other listed agencies and entities. For example, the NRCS with the Environmental Quality Incentives Program and Idaho Soil Conservation Commission with the Water Quality Program for Agriculture.

- The application of new guidance for using wastewater State Revolving (loan) Funds for NPS pollution prevention/control measures, exemplified by the five projects with the Idaho Soil Conservation Commission.
- The continued tendency to incorporate ground water BMPs into TMDL implementation plans. Ground water is a major focus for 2003 with the recent reorganization of the DEQ Water Quality Division.

Agriculture/Silviculture/Hydrologic & Habitat Modification Sectors

Many of Idaho's current NPS projects focus on the restoration of riparian areas due to agriculture, grazing, and silvicultural practices. Significant gains to these impacted areas have been made from increased cooperation and collaboration with the Idaho Soil Conservation Commission, Idaho Association of Soil Conservation Districts, the U.S. Forest Service, and the U.S. Army Corps of Engineers.

Successes in meeting the goals as outlined in the NPS Plan tables 1.3 through 1.5 are evidenced by the following, listed in Table order:

- Awarded \$319 grant to Idaho SCC to provide funding for updating the State *Agricultural Pollution Abatement Plan* and supporting MOU and ensuring consistency with the *Idaho NPS Management Plan*. View the *Agricultural Pollution Abatement Plan* at <http://www.scc.state.id.us/PDF/AgPlan.pdf>
- Development of tracking software for implementing agriculture management measures for water quality among integrated funding sources. The tracking software which runs in Access is fully functional and being used by all soil conservation districts and managed centrally by the Idaho Soil Conservation Commission state office.
- Continued support in 2003 was provided by the DEQ to the various entities working to complete and implement the Idaho One Plan process, which is now up and running in late 2003.
- State support and meetings for further refining and implementation of the FS/BLM Protocol for 303(d) Listed Waters.
- Completion of agricultural components of TMDL implementation plan and statewide tracking for 2002 (see Appendix 3).
- A 319 subgrant was provided to the Soil Conservation Commission to prepare and implement a field guide for evaluating agricultural BMP effectiveness. The field guide entitled *Idaho Agricultural Best Management Practices* can be viewed at <http://www.scc.state.id.us/PDF/BMP%20Effectiveness%20Guidance%20Document.pdf>.

The Idaho Soil Conservation Commission has prepared 2003 agricultural TMDL action plan. The goal: Develop and implement agricultural portions of TMDL watershed plans in an equitable manner proportional to the problem, in order to achieve water quality standards and enhance beneficial uses. The objectives are listed below including specific watersheds that will be focused on in 2004. The full action plan is in appendix 3. To date, the Soil Conservation Commission has completed 23 agricultural component—TMDL watershed implementation plans, 13 additional are greater than 50% completed, and 15 additional are initiated but less than 50% completed (see table on pages 16-17). A map shows this spatial relationship of status among the 88 fourth-field hydrologic unit codes in the state, view this on-line at <http://www.scc.state.id.us/images/TMDL%20Progress.gif>.

Objective 1: Develop, refine and implement agricultural TMDL process.

Objective 2: Accelerate TMDL training and outreach.

Objective 3: Facilitate TMDL development and implementation through enhanced inter-agency coordination and communication efforts.

Objective 4: Ensure Effective TMDL implementation.

Objective 5: Intensify focus on riparian issues involved with TMDL implementation.

Objective 6: Agricultural pollutant source/transport and ground water monitoring.

-
- Implementation of State Water Quality Program for Agriculture (WQPA), view a fact sheet at <http://www.scc.state.id.us/Docs/wqpafs.doc> and the rules at <http://www.scc.state.id.us/PDF/WQPA%20Rules%20and%20Regs.pdf>. Funding of the WQPA program was at \$1,214,700, 40% less from the previous year. The trend of funding is projected to continue dropping slightly in 2004 to \$1.1 million.
 - Integrated state, federal and private funding of eleven (11) TMDL implementation plans.
 - Fully funded implementation of Idaho One Plan with \$319 funds and multiple state sources. View the One Plan at <http://www.oneplan.org/>. Additionally, funding was made available in 2003 to ensure completion of the conservation-planning module with trial use of the modules in Fifteenmile Creek.

- Incorporation of Nutrient Management and CNMP into on-ground project implementation as appropriate (required for all federally funded projects – and extending into state funding).
- BMP effectiveness monitoring program between Idaho Soil Conservation Commission, Idaho Association of Soil Conservation Districts, and the Idaho State Department of Agriculture for all agricultural implementation projects (as per Agriculture TMDL Action Plan).
- Co-sponsored the two-day 2003 erosion control workshop to educate and encourage use of bio-remediation and bio-filtration techniques.
- General discussion on the NPS MOU and FS/BLM sector MOU for silviculture.

Table 1. Agricultural component TMDL implementation plan status.

TMDL	Implementation Plan Status	HUC
<i>Cascade Reservoir</i>	<i>Complete</i>	<i>17050123</i>
<i>Middle Snake-Rock (Phosphorus)</i>	<i>Complete</i>	<i>17040212</i>
<i>Paradise Creek</i>	<i>Complete</i>	<i>17060108</i>
<i>Jim Ford Creek</i>	<i>Complete</i>	<i>17060306</i>
<i>Winchester Lake</i>	<i>Complete</i>	<i>17060306</i>
<i>Cottonwood Creek</i>	<i>Complete</i>	<i>17060305</i>
<i>Lower Boise River</i>	<i>Complete</i>	<i>17050114</i>
<i>Lower Payette River</i>	<i>Complete</i>	<i>17050122</i>
<i>Upper Snake-Rock (Sediment)</i>	<i>Complete</i>	<i>17040212</i>
<i>Lake Walcott</i>	<i>Complete</i>	<i>17040209</i>
<i>Pahsimeroi River</i>	<i>In Progress (75%)</i>	<i>17060202</i>
<i>Lemhi River</i>	<i>Complete</i>	<i>17060204</i>
<i>Blackfoot River</i>	<i>In Progress (95%)</i>	<i>17040207</i>
<i>Portneuf River</i>	<i>Complete</i>	<i>17040208</i>
<i>Middle Bear River</i>	<i>In Progress (40%)</i>	<i>16010202</i>
<i>Central Bear River</i>	<i>In Progress (85%)</i>	<i>16010102</i>
<i>Bear Lake</i>	<i>In Progress (40%)</i>	<i>16010201</i>
<i>Weiser Flats</i>	<i>Complete</i>	<i>17050201</i>
<i>Big Wood River</i>	<i>In Progress (75%)</i>	<i>17040219</i>
<i>Weiser River</i>	<i>In Progress (25%)</i>	<i>17050124</i>
<i>North Fork Owyhee River</i>	<i>Complete</i>	<i>17050107</i>
<i>Middle Fork Owyhee River</i>	<i>Complete</i>	<i>17050107</i>
<i>Upper Owyhee River</i>	<i>In Progress (50%)</i>	<i>17050104</i>
<i>Brownlee Reservoir</i>	<i>In Progress (30%)</i>	<i>17050201</i>
<i>Palisades</i>	<i>Complete</i>	<i>17040104</i>
<i>Bruneau River</i>	<i>Complete</i>	<i>17050102</i>
<i>Coeur d'Alene Lake & Tributaries</i>	<i>Complete</i>	<i>17010303</i>
<i>St. Joe River - St. Maries River</i>	<i>Complete</i>	<i>17010304</i>
<i>Little Lost River</i>	<i>Complete</i>	<i>17040217</i>
<i>Willow Creek</i>	<i>In Progress (50%)</i>	<i>17040205</i>
<i>Medicine Lodge Creek</i>	<i>Complete</i>	<i>17040215</i>

Middle Snake – Succor	In Progress (50%)	17050103
Teton	In Progress (90%)	17040204
South Fork Clearwater River	In Progress (40%)	17060305
Lower North Fork Clearwater River	In Progress (95%)	17060308
Pend Orielle	In Progress (5%)	17010214
<i>Middle Fork Payette</i>	<i>Complete</i>	<i>17050121</i>
North Fork Payette	In Progress (10%)	17050123
Raft River	In Progress (80%)	17040210
Goose Creek	In Progress (50%)	17040211
Camas Creek	In Progress (25%)	17040220
Potlatch River	In Progress (10%)	17060108
<i>Tammany Creek</i>	<i>Complete</i>	<i>17060103</i>
Palouse River	In Progress (10%)	17060108
Cow Creek	In Progress (5%)	17060108
Little Wood	In Progress (50%)	17040221
Kootenai River	In Progress (50%)	17010104
Moyie River	In Progress (10%)	17010105
North Fork of the Coeur d'Alene	In Progress (5%)	17010301
Little Salmon	In Progress (5%)	17060210
Salmon Falls	In Progress (5%)	17040213

The “Magic Valley” Times-News

December 1, 2003

TOPSTORY...Coulee cleanup ... Canal company project should help TF water use, officials say.

By Jennifer Sandmann, Times-News writer

TWIN FALLS -- A clearer Perrine Coulee should flow through Twin Falls thanks to a water quality pond under construction south of town. The Twin Falls Canal Co. said the \$102,000 project paid for in part by a grant offers a number of benefits for its delivery system and water use within the city.

"We're building it to take the sediment out before it gets to town," said Brian Olmstead, field supervisor for the Twin Falls Canal Co. The pond will double as a seven-acre wetland for wildlife and as a regulating pool for the canal company to help better distribute and conserve water.

A series of channels and pools will slow down water, giving time for sediment and mud to settle out of the Perrine Coulee where it passes near the sugar plant south of Orchard Drive. Planting native vegetation such as willows will help filter the water and offer habitat for birds and wildlife. The canal/coulee is fed by irrigation water from the Lowline Canal, and it collects runoff from about 20,000 acres, Olmstead said.

Once it reaches town, the main Perrine Coulee runs through the east side of Twin Falls, channels under Blue Lakes Boulevard and passes through the College of Southern Idaho's campus. It empties into the Snake River between Canyon Springs Golf Course and Centennial Park. Along its city route, the coulee supplies irrigation water to new residential developments, schools, city parks and the CSI campus.

WATER QUALITY

A bulldozer pushes dirt onto what will be an island for wildlife and vegetation in a water quality control pond on the Perrine Coulee south of Twin Falls. The pond will be used to get rid of sediment before the water reaches town.

When the Perrine Coulee is running during irrigation season, sediment loads are averaging more than 100 milligrams per liter as the water approaches the outskirts of town, Olmstead said. Sediment loads must be half of that to meet federal water quality standards at the point the coulee drains into the Snake River.

Usually the coulee meets the 52 milligrams-per-liter standard by the time it reaches the river, but much of the mud and silt collects in water delivery laterals throughout town. The city must use settling ponds to filter out silt before it can pump the water.

The canal company estimates it can capture most of the coulee's sediment load in the new pond, Olmstead said. That will reduce the need to dredge laterals in town where it is difficult to maneuver large equipment. And it will aid city efforts to conserve drinking water by using the canals for landscape irrigation.

Because of the benefits to the city, the City Council agreed to contribute \$1,400 a year to help maintain the pond. Twin Falls' movement toward citywide pressurized irrigation has helped cope with growth and an increasing demand for drinkable water. "We had reached a point where we did not have adequate drinking water in the spring to meet demand," City Manager Tom Courtney said.

That was during the 1990s. Today the city has developed new wells and begun using the canal system for irrigation to reduce demands on the drinkable water supply. The \$102,000 pond project includes \$61,000 in grant money available through federal Clean Water Act programs administered by the Idaho Department of Environmental Quality. The Snake River Soil and Water Conservation District and the Twin Falls Canal Co. together are contributing \$42,000. Fifteen acres of land were purchased.

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Mining Sector

Much of the NPS efforts related to mining are remedial efforts tied to historic mining districts. The Mining Advisory Committee remains the mechanism by which statewide NPS coordination and implementation goals and objectives are achieved. DEQ also works with the designated agency for mining operations, the Idaho Department of Lands (IDL), to prioritize annual abandoned mine reclamation sites and interagency remediation efforts. The Waste Division of the DEQ is working to remediate several key mining areas by pursuing grants in 2004 and 2005.

The Monarch Mill Site Tailings Removal is the latest project being sponsored by the DEQ Coeur d'Alene Regional Office. Another is the Pine Creek Watershed, Denver Creek Restoration Project. Two new projects in the vicinity of New Meadows and McCall, Idaho were approved for implementation in 2004. Those two projects that will apparently pursue multiple-year funded subgrants are the Meadow Creek Restoration and the Glory Hole Fish Passage and Habitat. Continued dialogue in 2004 will foster more attention toward the need of site mining reclamation.

Urban, Transportation, and Groundwater Sectors

The Program again devoted much effort to these three sectors under tables 1.7 thru 1.9 of the Idaho NPS Plan. The purpose of so much attention revolves around the fact that Idaho's population is growing and projected to continue at one of the highest rates nationally over the next decade. With growth comes opportunity for incorporating innovation into new land development projects. One such opportunity that the Program has spent some time on this last year is green building.

The dialogue between cultural expression and environmental conditions in architecture and construction has changed considerably in recent years. High performance building practices incorporate energy efficiency, water conservation, waste minimization, pollution prevention, resource-efficient materials, and improved indoor air quality to help conserve natural resources, improve environmental quality, and increase the long-term value of a project. Used interchangeably with sustainable, green, or healthy building, high performance buildings refer to design, construction, and operations that conserve resources and improve the performance of buildings and users.

Systemic solutions for air, land, and water impacts related to nonpoint source pollution are designing buildings and dwellings of all types within the context of their ecology. Buildings within urban and suburban areas could literally be

another nonpoint source sector covered in the *Idaho Nonpoint Source Management Plan*. For now, work with demonstrating and supporting green building falls under the scope of the Urban Sector of the NPS Plan. Common features of high performance buildings that directly benefit the Urban NPS Sector include:

- Team collaboration during site selection, design, construction, and operation.
- Consideration of a project's true costs such as community and environmental impact, and long term maintenance and performance.
- Efficient and conservative use of natural resources.
- Water conservation and on-site stormwater management.
- Minimal site disturbance, including a modest building footprint.
- Native landscaping.
- Integration of reused or recycled materials during both construction and deconstruction.

High performance building practices represent a conscious effort to alter and use a modified set of assumptions for designing and constructing buildings. What are the environmental, economic and social benefits of high performance buildings to a business or organization? There are multiple benefits afforded by high performance buildings (see Appendix 2 on pages 50-55). More importantly is looking beyond the individual building envelope to neighborhood development scales that are on par with watersheds. The cumulative effect of neighborhood development when done under a sustainable development paradigm holds great promise for improving water quality and in particular nonpoint source pollution.

Categories encompassing a possible LEED—Neighborhood Development Rating System is exploring five main areas. The Rating System for neighborhood development is due out for piloting in 2005. Those five categories that may encompass the rating system include (1) location and linkage, (2) neighborhood pattern, (3) sustainable sites, (4) green buildings, and (5) innovation and design process. In particular, the first three areas will focus on ways of making location and linkages among sustainable siting and patterns on several scales encompassing the site, neighborhood, and community.

Ground water is addressed as a consideration in every project application. The Program does not make differentiation between surface water and ground water.

The transportation sector has been moving in a direction of collaboration. In all instances, the transportation sector is being addressed comprehensively in

every watershed implementation project application. Some of the examples started in 2003 and anticipated to start in early 2004 include these watersheds: lower North Fork Clearwater and Cascade Reservoir Lake Shore Drive Road Improvement. The Program is supporting a statewide educational demonstration project in 2004 with the Idaho Highway Technical Advisory Council and the University of Idaho Technology Transfer Center. The purpose of the project is to develop, publish, and provide statewide training on BMPs to county government and highway districts.

Leadership in Energy and Environmental Design (LEED™) Statewide Demonstration Project

PROJECT DESCRIPTION:

The living roof project offers a demonstration of high performance building technology for preventing urban nonpoint source pollution through design integration. The project proposes to research, test, design and construct a “green roof” or “living roof” for a single commercial building or a series of smaller residential buildings with a roof area of about 5,000 square feet. The living roof(s) will be integrated into the building either through initial design as new development or through retrofit of a redeveloped site. The objective is to approach nonpoint source pollution “upstream” at the source taking a highly cost effective approach, considered a “site level solution.”

PROJECT GOALS:

- Research and test living roof systems, soils and plants for applicability on roofs in Idaho.
- Build a demonstration living roof on an actual building for monitoring, education, and promotion of living roofs.
- Engage students in design, engineering, construction, and environmental professions in the application of this technology.
- Build consumer demand for living roofs.
- Demonstrate the value of integrated design and high performance building practices.
- Obtain LEED certification for the demonstration living roof to promote integrated design.

PROJECT PURPOSE:

Rooftops, the last urban frontier... an unexplored area that arguably has the greatest potential of all urban spaces for preventing the effects of nonpoint source pollution and creating a higher quality of life for residents and the environment.

Living roofs provide an opportunity to mitigate the displacement of the natural environment, which occurs when a building is built on the land, by replicating the natural functions on the rooftops. On-site stormwater retention and runoff control from expansive roof surface areas of buildings can be accomplished through living roofs. Living roof systems reduce the volume of stormwater flowing into streams and drainage channels, resulting in the control of sediment transport and overall soil erosion. Depending on rain intensity and living roof soil depths, between 15 to 90 % of the precipitation can be absorbed in soils and plantings, thereby considerably reducing runoff and potential pollutants from traditional impervious roofing surfaces. Plants intercept and delay rainfall runoff and the peak flow rate, and eventually return water to the surrounding atmosphere by evaporation and transpiration. Average runoff absorption rates are between 50 to 60%.

A living roof is a best management practice ideal for the urban setting, addressing specifically urban environmental and economic ills. In areas of commercial high-density, where pervious surface and open ground make up 10% or less of total surface area capable of absorbing or diverting storm water runoff, living roofs provide significant environmental and financial benefits, including:

Continued on page 29.

- Storm water management
- Moderation of the Urban Heat Island Effect
- Filtration of Airborne Particulate
- Provide Ecological Benefits

Living roofs are an important component of high performance building practices, which have recently emerged to address energy and environmental issues. Today, building development is driven almost exclusively by first-cost economics that do not factor in long-term energy, environmental, social, and occupant impacts. The net result of this approach to development has helped speed ecosystem degradation, both at the site and in remote places where energy is generated and where raw materials are extracted. It doesn't end once the building is built—today, occupants are exposed to increasing levels of toxins, lack of daylight, and poor indoor air quality (U.S. Green Building Council at <http://www.usgbc.org>). The global impacts of conventional building practices are staggering:

- 40 percent of the world's total energy use,
- 30 percent of raw materials consumption,
- 25 percent of timber harvest,
- 35 percent of the world's CO₂ emissions -- the chief pollutant blamed for climate change,
- 16 percent of fresh water withdrawal,
- 40 percent of municipal solid waste destined for local landfills, and,
- 50 percent of ozone-depleting CFCs still in use.

The dialogue between cultural expression and environmental conditions in architecture and construction has changed considerably in recent years. High performance building practices incorporate energy efficiency, water conservation, waste minimization, pollution prevention, resource-efficient materials, and improved indoor air quality to help conserve natural resources, improve environmental quality, and increase the long-term value of a project. Used interchangeably with sustainable, green, or healthy building, high performance buildings refer to design, construction, and operations that conserve resources and improve the performance of buildings and users.

Common features of high performance buildings include:

- Team collaboration during site selection, design, construction, and operation.
- Consideration of a project's true costs such as community and environmental impact, and long term maintenance and performance.
- System integration that results in greater mechanical systems efficiencies and human performance.
- Transit, pedestrian, and bicycle-friendly features and siting.
- Efficient and conservative use of natural resources.
- Native landscaping, water conservation, and on-site storm water management.
- Minimal site disturbance, including a modest building footprint.
- Climate-appropriate siting for maximum heating and cooling efficiency.
- Integration of reused or recycled materials during both construction and deconstruction.
- Adaptability for future flexibility, expansion, and building demolition.
- Energy efficient systems.
- Optimal indoor air quality and ventilation.
- Daytime reliance on natural lighting.

Case Study: Compendium of Best Management Practices for Controlling Polluted Runoff

The control of polluted runoff can be a complex process. Polluted runoff may originate from more than one type of land use and from many sources, and may include a variety of contaminants, transported by different delivery mechanisms. Each of these variables complicates the search for a set of practices that will provide a cost-effective solution. The effectiveness of many management practices is determined by a variety of factors such as land use, site conditions, cost, and maintenance requirements. The strategic choice and placement of the appropriate practices or systems of practices in the watershed are critical to their success in reducing the input of individual pollutants and improving water quality.

There are many sources of information for the wide variety of management practices that can be used to protect, maintain, or enhance water quality. Much of the information in this document has been adapted from information developed by the U.S. Environmental Protection Agency. While much information is available, finding the best set of management practices for a particular problem can be a time-consuming and confusing process. Knowing how to select the most appropriate practices from among the many options available further complicates the process.

The Compendium is designed to provide the reader with an introduction to the process of characterizing a water quality problem an overview of the types of practices that can be used for water quality protection or remediation, and a discussion of the factors that should be considered when selecting practices. The remaining sections of this document provide information about the following land and water use sectors:

- Section 2. Agricultural Activities
- Section 3. Silviculture Activities
- Section 4. Hydrologic and Habitat Modification Activities
- Section 5. Mining Activities
- Section 6. Urban Activities/Storm Water Runoff
- Section 7. Transportation Activities
- Section 8. Marinas and Recreational Boating Activities

Included in each of these sections is an overview of the activities that can be sources of polluted runoff and the pollutants that they can potentially generate. The pollutants can potentially affect surface water and ground water. Both potential pathways must be considered in selecting the best approach to control pollution. Each section includes a discussion of the types of practices available to prevent or remediate pollution from the activities within that sector.

For each of the seven land and water use sectors, a list of pollutant control practices is provided in a table at the end of the section. These practices are organized by the category of activities to which they apply. For instance, biotechnical stabilization, a practice used to control sediment is located under the subheading of Active Mining in the table for Mining Activities. The list of practices is not all-inclusive and does not preclude the use of other technically sound practices.

Case Study: The Caldwell-Karcher Design Charrette

Landscape design by the “Green” Team for the Caldwell-Karcher project area relies on and incorporates the existing irrigation canal and drain conveyance system throughout the site. The Green Team explored and examined ways of preserving the drains and canals—using them as a starting point—for expanding “green” infrastructure for streets, parks, schools, and residential neighborhood layout. Landscape design that is ecologically sensitive in the context of developing livable communities can be influenced by the historic rural heritage of the area.

The present land mosaic of the Caldwell-Karcher site is predominantly irrigated cropland and secondarily rural development. Suburbanization is encroaching from the north and large blocks of suburban development are scattered mostly on the northwest side of the project area. The landscape is hydrologically functional maintaining a shallow aquifer due to the irrigation canal and drain system. The conversion of this land mosaic that is predominantly rural to one more urban must consider the existing hydrologically functioning landscape otherwise, there is a real possibility of its loss altogether.

Land mosaics are comprised of patches, corridors, and a background matrix. Patches and corridors were integrated throughout the scale of both community and site. A patch is a relatively homogeneous nonlinear area that differs from its surroundings possessing several vital, potential functions including conversion, conduit, filter, assimilation, storage, and networking (1). Corridors are similar but contrast in being a linear feature. At the scale of the individual site, a patch and corridor function as solutions for natural drainage design (2). Some common examples are bioretention basins, bioswales, green streets, and green alleys.

The urban design challenge for the Green Team was to provide natural areas, open spaces, and green infrastructure systems which both increase ecological function as well as real estate and community value. Green Team design incorporated an interconnected system of neighborhood and parcel scale natural drainage design solutions including patches and corridors and wove them throughout the site. There are a number of suitable site natural drainage features for stormwater runoff management, differing from conventional best management practices in that they are adaptive, pre-tailored to inherent site functions. Special emphasis was made connecting corridors to patches in the form of schools, parks, small patches of community gardens, and urban agricultural sites to form an interconnected web of functional nodes.

Continued... Case Study: Caldwell-Karcher Design Charrette

Small and large patches of land were preserved throughout the project area to encourage community gardens and urban agriculture. Not only are gardens and small-scale farming practices consistent for the site, but important in retaining a connection with cultural heritage and identity of the community. The benefits are many encouraging ease of access for residents, local sources of organic production in an urban area, and close proximity for ensuring fresh produce.

The general southeast-northwest trending irrigation system bifurcates the landscape corresponding to the natural topography and subsurface flow of the shallow aquifer in the area. Likewise, the urban development trends from most to least density, southwest to northeast, roughly corresponding to both the highest slope conditions and depth to ground water to the most gentle gradients and shallow water table column.

The Green Team focused on ways of preserving and restoring the natural hydrologic cycle of the project area. This was accomplished through design in a variety of ways throughout the proposed development. A diversity of stormwater infiltration facilities were used, designed so that they perform multiple functions by providing storm water infiltration treatment and serving as community landscape amenities.

For purposes of presentation, a survey of design solutions were grouped into the following five categories:

- 1) Using the site ecology
- 2) Creating functional landscapes
- 3) Minimizing impervious surfaces
- 4) Configurations fitting the landscape
- 5) Rainwater reuse

The integrative nature of a number of the solutions means that they fit into more than one of these categories.

The project for Boise River implementation is a collaborative effort with the University of Idaho Urban Research and Design Center (IURDC) in partnership with Idaho Department of Environmental Quality, Idaho Smart Growth, U.S. Environmental Protection Agency Region 10, and the interagency Northwest Regional Watershed Coordination Team.

Field Evaluation Progress

During summer and fall of 2003 staff from the DEQ State Office, Technical Services Division traveled to 25 geographical areas of Idaho to evaluate fieldwork related to 32 Non-point source (NPS) water quality enhancement contracts. These evaluations resulted in 28 individual reports with four projects including two contracts each. The project evaluations covered a variety of best management practices (BMPs) related to recognized NPS categories including agriculture, hydrologic habitat modification, transportation, and urban storm water runoff.

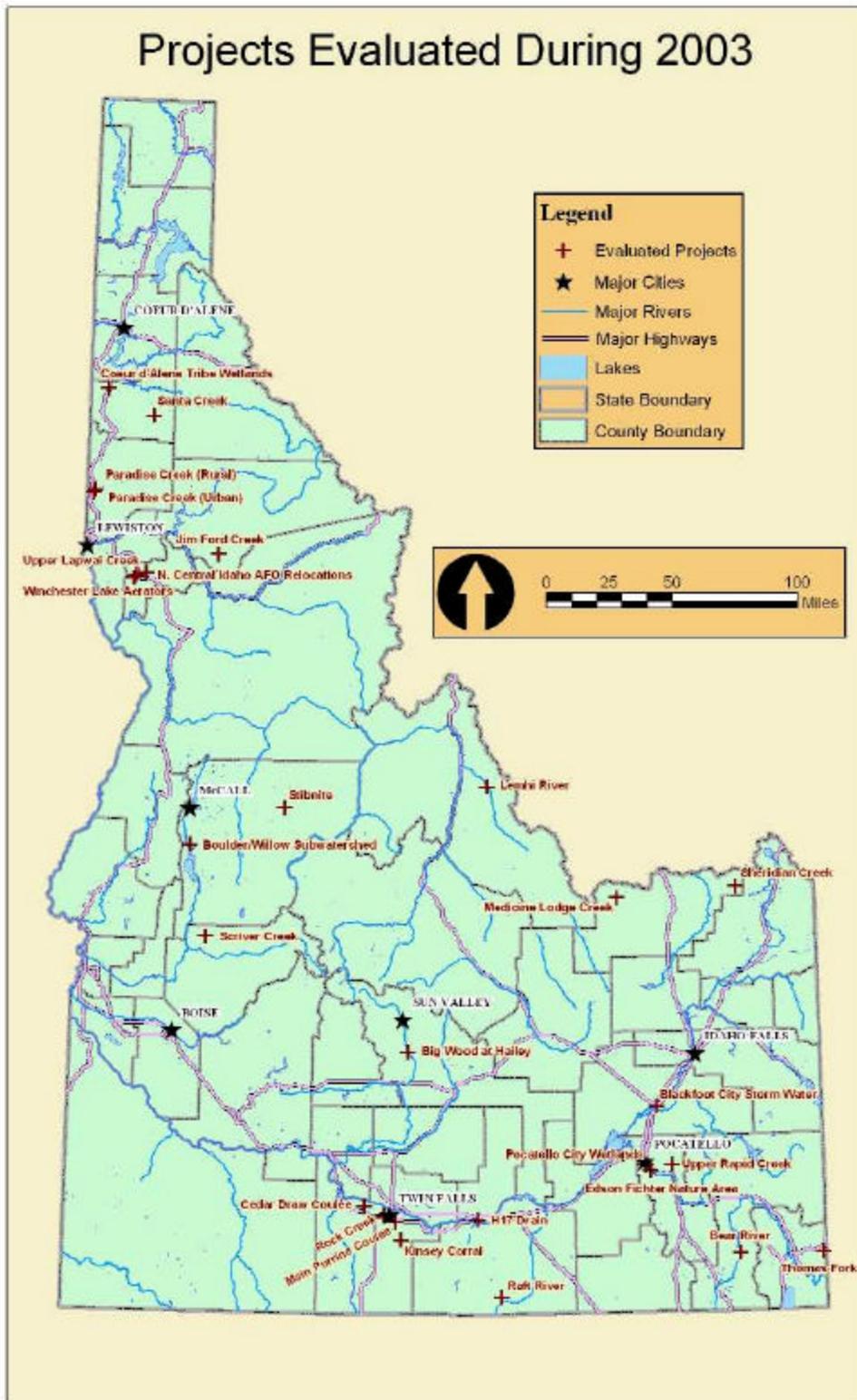
Four project areas -- the Jim Ford Creek Watershed Enhancement Project, the Thomas Fork Stream Bank Protection Project, the Medicine Lodge Creek Total Maximum Daily Load (TMDL) Implementation Project, and the Paradise Creek TMDL Implementation Project -- are highlighted in this year's annual report because they exemplify outstanding coordination, design and implementation. The 28 evaluation reports are summarized in Table 1. The 2003 Field Evaluation Progress Report can be viewed electronically on DEQ's website at http://www.deq.state.id.us/water/nps/FieldEvalReport_2003.pdf.

Introduction

DEQ currently oversees approximately 50 NPS regional projects in Idaho. To assist in tracking, each project is assigned a contract number. If projects are extended to several years with additional tasks and funding, additional contract numbers may be assigned to a project area (see Table 1). To assure that the projects are completed in a timely manner and achieve their overarching goal of cleaning up and preventing NPS water pollution, all projects are subject to field evaluations by DEQ. The Nonpoint Source Program is mandated to field evaluate and establish the progress of at least half of all current projects annually. Therefore, over a two-year period all of the on-going projects will receive a field evaluation. During the summer and fall of 2003 staff from the DEQ State Office Technical Services division exceeded that goal by evaluating 32 of 50 on-going NPS contracted projects.

A map of locations shows the distribution of projects evaluated over the 2003 field evaluation season. Table 1 lists summary details of all 32 of the NPS contracted projects that were field evaluated during the summer and fall of 2003. These 32 projects (contracts) occurred at 28 sites around Idaho.

Projects Evaluated During 2003



Creation of the Field Evaluation Process

DEQ used its list of NPS field project requirements to generate a detailed evaluation form for staff to use for field evaluations. For all projects the DEQ evaluator visiting the site carefully reviewed the project's subgrant agreement and made notes prior to going to the field. The evaluator routinely contacted the project manager to make arrangements to accompany the project manager, DEQ regional staff, and any other stakeholders to the field. In all cases the evaluation form was used as a guide to assure that all NPS requirements were being met in the field. A copy of the evaluation form is available upon request.

Results of the 2002 Field Evaluation

DEQ evaluators traveled to 25 geographical areas of Idaho and evaluated 32 contracted projects during the summer and fall of 2003. Of the 32 contracts evaluated, 28 appear to be fully meeting their contractual obligations by demonstrating substantial progress toward completion of their designated tasks to reduce, eliminate or prevent NPS water pollution. Three contracts appear to be proceeding unsatisfactorily, and work on one contract has been delayed until next year.

Unsatisfactory Projects

Two of the projects where unsatisfactory work is occurring include storm water BMPs at the City of Blackfoot and storm water BMPs at the City of Pocatello. During our evaluation of the Blackfoot projects (Contract Number S020) we learned that the Blackfoot Tribe which owns adjacent land, has elected to not let the City of Blackfoot use Indian land at the outflow end of both retention ponds involved in this project. This denial of land use will cause the storm water capacity of the one pond to be reduced considerably and will cause the other pond to not function as a flow-through facility as originally designed. No further 319 funds should be spent on either pond until this problem can be solved.

During our evaluation of the City of Pocatello's North City Park Wetland project we discovered that there appears to be problems with the proposed location of the bioinfiltration/wetland facility. It appears that the area selected for the wetland and bioinfiltration basin will not be maintainable without the installation of a costly irrigation system. An irrigation system would be required because the bottom of the proposed wetland would be situated too far above the water table for the wetland to be self-sustainable. It is also unclear whether the conveyance pipeline and outlet that has already been installed will work properly in a storm event. After discussing the project with DEQ engineers and

the city engineer it is suggested that no additional 319 funds be spent on this project until these issues have been resolved.

Satisfactory Projects

The great majority of projects evaluated last summer and fall are proceeding satisfactorily. The project evaluations covered a variety of best management practices (BMPs) related to recognized NPS categories including agriculture, hydrologic habitat modification, transportation, mining, and urban storm water runoff.

Projects evaluated include irrigation water cleanup, wetland creation, and settling ponds in south-central and southeast Idaho. We evaluated Animal Feeding Operations (AFO's) relocations, stream bank restoration, and livestock exclusion in north-central Idaho. We evaluated abandoned mine dump restoration near yellow Pine Idaho. We evaluated pollution preventative measures in the watershed above Winchester Reservoir including low-till and no-till farming techniques, and lake water cleanup techniques in Winchester Reservoir including lake water aeration.

Table 1. ACTIVE NONPOINT SOURCE PROJECTS THAT WERE FIELD EVALUATED DURING SUMMER/FALL 2003

Grant Year	Contract Number*	Project Name	Hydrologic Unit Number	Tasks or BMPs Evaluated	DEQ Region
2000	Q609	Bear River Fencing and Riparian Enhancement	16010202	Stream bank stabilization, fencing, grazing plans, weed control	Pocatello
2000, 2001	Q607 and S020	Blackfoot, City of, Engineered Wetland and Urban Runoff		Two storm water retention ponds.	
1998, 1999	Q529 and Q366	Coeur d' Alene Tribe Wetland Creation and Restoration/Lake Creek – Plummer	1701030423	Sediment control BMPs for dirt roads	Coeur d' Alene
2003		Cedar Draw Coulee Wetland		A series of three serpentine shaped ponds that will be interconnected with riparian wetland areas	Twin Falls
2003	S093	Edson Fichter Nature Area		Revetments, seeding along stream bank, restoration of 700 feet of meandering stream channel, installation of 300 feet of pipe to convey water to a settling pond, installation of a small settling pond	Pocatello
1999	S029	H 17 Drain TMDL Implementation Plan		200 feet long and 50 feet wide Sediment basin installed at the bottom end of a six-mile long irrigation canal. Captures sediment from return irrigation water prior to discharge to Goose Creek and Snake River.	Twin Falls

Grant Year	Contract Number*	Project Name	Hydrologic Unit Number	Tasks or BMPs Evaluated	DEQ Region
2002	S055	Hailey Big Wood River Improvement	17040219	Stream bank stabilization – 1300 feet, Rock drop structures – 4 Removed highway maintenance material that was adjacent to river, Planted woody and grass vegetation along bank and filter strip Removed illegal land fill including asbestos, Installed ½ acre settling pond/wetland used for normal river flow and for storm water runoff	
2001	S015	Jim Ford Creek Watershed Enhancement	17060306	Road rocking and culvert installation, 6 miles of exclusion fencing, 9200 willow cuttings planted, 3300 lodgepole pine seedlings planted, 1100 dogwood seedlings planted, 2500 hawthorne seedlings planted, 100 alders, 100 cottonwoods, 200 spirea planted. One quarter mile of stream rehabilitation and re-alignment completed.	Lewiston
		Kinsey Corral relocation Note: This project has been delayed and will be completed next year.		We visited the current location of Kinsey corral and discussed the relocation and reclamation of the old site. We observed where 3,500 feet of exclusionary fencing will go to keep livestock out of McMullen Creek. We visited the site where the new corral will be built.	
2002	S054	Lemhi Watershed TMDL Implementation		Fencing, diversion berms, pipe line, water troughs, well	Twin Falls
2003	S079	Maine Perrine Coulee Wetland		Future site for a concrete diversion structure, a large (8 acre) settling pond and several wetlands. These features will treat 80 to 90% of all the water coming through Main Perrine Coulee.	Twin Falls
2002	S051	Medicine Lodge Creek TMDL Implementation	17040215 050100	Willow Clumps, Willow pole plantings Toe rock rip rap, Vertical bundles of willows, V-Notch weirs used for drop structures, Grass , Fencing.	Idaho Falls

Grant Year	Contract Number*	Project Name	Hydrologic Unit Number	Tasks or BMPs Evaluated	DEQ Region
2001	S039 & S???	North-central AFO Relocation		Project involves relocation of numerous AFOs belonging to 27 operators over five conservation districts. BMPs include corral relocations, hardened crossings, fencing, culverts and water troughs.	Lewiston
1999	Q562	Paradise Creek (Urban) TMDL Implementation	17060108	Wetlands, stream channel restoration, extensive plantings, fencing, woody plant riparian buffers, wildlife habitat structures stream bank stabilization, noxious weed control, flood plain restoration.	Lewiston
2000	Q605	Paradise Creek (Rural) TMDL Implementation	17060108	Wetlands – 5 projects totaling 522,700 square feet within 11 wetlands, gully plugs, fencing – 16,000 feet, woody vegetation – 10,547 plants, herbaceous vegetation – 168,680 plants stream bank restoration – 18,750 feet, noxious weed control, storm water bioinfiltration ponds, vegetated buffer – 685,364 square feet.. (Note: all figures are proposed amounts upon project completion)	Lewiston
1997		Pocatello First Street Wetland	17040208	3 acre combined wetland and retention/evaporation basin	Pocatello
2001	S022	Pocatello North City Park Wetland	17040208	One small catchment basin has been constructed, conveyance pipeline and infiltration sump have been installed, a large bioinfiltration wetland basin could be constructed in an oxbow to the Portneuf River	Pocatello
1999	Q508	Raft River Riparian and Watershed Demonstration		Rock crossings, 20-rock drop structures, stream bank stabilization revetments, 12 diversion structures, 12 weirs, 12 concrete irrigation return flow structures, plantings including willows and grass, grazing management	Twin Falls
2001	S023	Rapid Creek Riparian Project		Water well and pump, corral modification, pipeline, water troughs, 1,500 feet of fencing, stream bank restoration, grass and woody plantings	Pocatello

Grant Year	Contract Number*	Project Name	Hydrologic Unit Number	Tasks or BMPs Evaluated	DEQ Region
2001	S026	Rock Creek Restoration	17010304	Two storm water detention ponds, stream bank sloping and stabilization geo-matting, seeding, trees, shrubs, sprinkler system, installation of 5000 yards of topsoil, removal of old concrete from a two acre area, installation of two pedestrian bridges across rock Creek	Twin Falls
2001	S024	Santa Creek Stream Bank Restoration	17010304	Electric fencing, hard crossings , re-vegetation along stream bank including wild rose, willow, aspen, thin leaf alder, syringa, wild apple, white pine, ponderosa pine, Douglas fir, and larch	Coeur d' Alene
1999, 2000	Q564 and S009	Scriver Creek Watershed Roads and Forested Lands	17050112	Sediment control BMPs for dirt roads including culverts, gravel road base, road sloping, ditches, two sediment collection/measuring boxes	Boise
1996	Q444	Sheridan Creek Restoration	17040202	Nine large diversions have been completed, (one remains to be completed), 14 miles of fencing, 10 rock check dams, six culverts numerous rock drop structures, 0.5 mile of riparian plantings along stream banks, one water well	Idaho Falls
2003		Stibnite Mine Meadow Creek Restoration		Two sub-project areas include the Glory Hole project and Meadow Creek area. Glory Hole BMPs include relocation and stabilization of mine tailings, adj. To Meadow Creek. Meadow Creek BMPs include construction of a large composting operation, application of compost to reclaimed mine waste piles, additional reclamation of mine waste piles, installation of stream bank plantings.	Boise
2001, 2002	S016, and S053	Thomas Fork Stream Bank Protection	16010102	Numerous rock barbs, 13,267 feet of stream bank sloping and rip-rapping, 13,267 feet of stream bank plantings including grass and woody vegetation, 10,000 of fencing, drop fencing for variable flows, one 18 foot wide and 66 foot long bridge across Thomas Fork River, one manure separator, one wetland complex	Pocatello

Grant Year	Contract Number*	Project Name	Hydrologic Unit Number	Tasks or BMPs Evaluated	DEQ Region
2000	Q606	Willow /Boulder Creeks BMP Implementation	17050123	Fencing, Hardened crossings, trees and scrubs, stream bank restoration and stabilization, cattle exclusion, pest management	Boise
2002	S043	Winchester Lake In-Lake Phosphorous Reduction	17060306	Five electric powered aerators installed on Winchester Lake, one fish cleaning station	Lewiston
1999	S011	Winchester Lake Upper Lapwai Creek Watersheds	17060306	Nine fish friendly culverts, filter strips between cultivated fields and dirt roads, no-till farming techniques applied to 30% of all cultivated fields, reduced till farming techniques applied to 60% of all cultivated fields, grass planted in intermittent waterways	Lewiston

* More than one contract number for a project indicates that additional funding was later granted for additional tasks

Implementation Status and Tracking

The TMDL schedule has increasingly become the source of deriving state water quality priorities and targeting watershed restoration activities. Integration of efforts and coordination of technical and financial assistance to public watershed groups and landowners has been a primary focus of these efforts and for the NPS Program. There have been increasing other drivers coming into play for implementation activities. In particular, ground water and drinking water protection activities.

The Source Water Assessment Program is gearing down from several years of effort and a transition has begun toward source water and drinking water protection. The Drinking Water Protection Program is looking to transition toward on-ground implementation activities that best puts the State Revolving Fund set-aside toward drinking water protection activities. The challenge is to be able to both fund full-time protection work in each of the regional offices at least a full-time equivalent, but also provide pass through grant dollars to on-ground implementation activities associated with public water systems. Limitations with set-aside dollars prohibit protection activities on surface water public drinking water systems.

Implementation plans are expected to reflect unique circumstances of a watershed. A genuine effort is expected to fully account for waterbody impairment or speak toward preventing those impairments. The implementation plan should provide a foundation for demonstrating that state water quality standards will be attained, maintained, or prevented through management measures and activities. The guidance revolves around the premise of fully accounting for a combination of sources: both point sources and non-permitted nonpoint sources, in the implementation plan. The state is hence moving to encourage adaptive management approaches for implementation activities.

Elements of the Implementation Plan

A comprehensive implementation plan should contain specific information, some of which may have been developed for a TMDL or concurrently with the TMDL. It is completely appropriate that the implementation plan rely on information from the TMDL or a source water assessment, given that the implementation plan essentially describes how the pollution reduction targets are to be achieved.

The implementation plan may use an adaptive management approach. Although adaptive management has many meanings, it usually includes an

understanding that nothing is certain. That is, uncertainty is inherent in all systems and should be built in at the bottom level as a foundation of the implementation plan. The flexibility recognized through an adaptive management approach should be shared through a good faith effort on the part of all involved stakeholders.

The overall expectation is to strive for integrating elements on multiple levels by tying them together through feedback mechanisms. An adaptive management approach allows flexibility to constantly evaluate and make iterative changes to key load reduction activities, which are tied to specific milestones throughout the implementation schedule set within context of stated watershed priorities and goals.

For impaired waterbodies that are affected by nonpoint sources, those sources not subject to permit, DEQ expects that the implementation plan will rely predominantly on the 1999 *Idaho Nonpoint Source Management Plan* and the updated "Memorandum of Understanding for Implementing the Nonpoint Source Water Quality Program in the State of Idaho" for reasonable assurance. Nonpoint source implementation actions that are part of the TMDL load allocation rely on approved management measures. The seven sectors expected to be covered in an implementation plan as appropriate include (1) agriculture, (2) silviculture, (3) mining, (4) urban runoff, (5) transportation, (6) hydrologic and habitat modification, and (7) ground water.

Tracking and reporting tools which allow monitoring of progress in TMDL implementation plan activities may be useful for documenting accomplishments and providing a comparison with projections of water quality improvement. The basic components of the implementation plan to be managed are the BMPs and pollution reduction projects that are the essential ingredients of the plan. Tracking individual projects, target dates for construction, costs, sources of funding, expected pollutant removal performance, actual pollutant removal performance, and so on, may provide useful information for sustained management and administration of the TMDL implementation plan.

For impaired waterbodies that are affected by a combination of both point sources and nonpoint sources implementation plans should include all elements. Implementation plans with both types of sources should specify the extent to which each will achieve the expected load allocation reduction. This accounting of source types can document tradeoffs between wasteload and load allocations that are expected during implementation. Flexibility is encouraged to promote local strategies to accommodate the combination of factors. The implementation plan will be approvable as long as the wasteload and load allocations together will ultimately achieve the TMDL.

Further, an implementation plan should describe, at a level of detail appropriate to the unique circumstances of the watershed, necessary key load reduction activities. Implementation plans provide a foundation for demonstrating that state water quality standards will be attained and maintained through pollution controls tailored to the local circumstances of the watershed. An effective implementation plan is not limited to, but should always include these core elements:

- (1) Clearly stated watershed **priorities** and goals for implementation,
- (2) A description of key load reduction **activities** (e.g., best management practices and performance measures) and expected level of load reductions,
- (3) An estimate of the amounts of technical and **accountable** financial assistance, associated costs, and sources of existing **authorities** that will be relied upon for implementation,
- (4) Tracking and reporting tools of choice: **monitoring for results** and effectiveness toward TMDL load reduction targets.
- (5) Associated **costs and benefits** for key load reduction activities that serves as a prioritization of measurable milestones,
- (6) A description of interim, **measurable milestones** (to provide checkpoints for assessing implementation effectiveness) **and schedule** for implementation with anticipated start and finish dates of individual measurable milestones,
- (7) **Levels of participation** and responsible parties for individual measurable milestones (designated agencies and specific sources, where possible),
- (8) **Feedback loop provision** showing how a given project fits into the larger-picture watershed framework,
- (9) Approximate time required to reach water quality objectives or the **beneficial use attainment**,
- (10) An **information and education** component that involves and engages the public on multiple levels throughout the process (preferably tied into schedule as interim measurable milestones),

Tracking Implementation Activities

Implementation plans address pollution problems systematically by identifying those problems, ideally linking them to watershed priorities and management practices, and establishing measurable objectives for water quality improvement within a designated schedule. A two-pronged approach is thus preferred: place the TMDL allocation *reductions* into practice on the ground and also consider ways concurrently to *prevent* future water body impairment as practicable. The same approach applied for drinking water protection with reducing and preventing high-risk contaminant sources. In preventing future impacts, the opportunity for accounting for future growth and the potential for

resultant reductions should be fully explored and incorporated into an overall implementation plan.

Activities for TMDL implementation are being tracked statewide by the Nonpoint Source Management Program (Appendix 4).

Grant Management

FY2003 §319 Projects

Project 1. Core Program - NPS Program Implementation and Urban NPS
Sponsor: Idaho DEQ
§319: \$226,920
State: \$151,280

Description: A multiyear work plan providing funding for watershed NPS management and TMDL implementation activity coordination, local project grant management and administration, statewide program and grants information, education, and training, program guidance and development.

Project 2. Core Program—Regional Office Support for Implementing the NPS Program
Sponsor: Idaho DEQ
§319: \$165,000
State: \$110,000

Description: The DEQ is spreading two (2) full-time equivalents among the six regions to implement the NPS Program and provide incentive to encourage and improve regional project delivery.

Project 3. North Idaho AFO Relocation Phase 2 (S069)
Sponsor: Lewiston Regional Office
§319: \$144,149
Local: \$
Status: 50% completion

Description: Relocating animal feeding operations throughout a five county area encompassing the Clearwater River basin.

Project 4. Upper Thomas Fork Stream Restoration (S070)
Sponsor: Bear Lake Regional Commission
§319: \$68,580
Status: 15% Completion.

Description: Continued support to restore additional channel along Thomas Fork.

Project 5. Cumulative Watershed Effects Analysis (S071)
Sponsor: Idaho Dept. of Lands
§319: \$118,412
Status: 75% Completion

Description: Collection and monitoring of data in Northern Idaho in forested watersheds to assist TMDL development.

Project 6. Tammany Creek Watershed Implementation (S072)
Sponsor: Nez Perce Soil and Water Conservation District
§319: \$100,800
Status: 5% Completion.

Description: Implementation of the approved Tammany Creek TMDL.

Project 7. Blue Creek Bay Water Quality Improvement (S073)
Sponsor: East Side Highway District
§319: \$43,650
Status: 5% Completion.

Description: Relocation of the Sunny Side Road adjacent to Lake Coeur d'Alene, which provides a significant amount of sedimentation and nutrients.

Project 8. Weiser Water Quality Protection (S074)
Sponsor: Weiser Soil and Water Conservation District
§319: \$280,000
Status: 60% Completion, anticipated completion this summer.

Description: Developing management plan for area driven by local stakeholder committee involving the Boise Regional Office.

Project 9. Pack River Watershed Sediment Reduction (S075)
Sponsor: Bonner Soil and Water Conservation District
§319: \$9,910

Status: 5% Completion.

Description: Replacing a culvert causing major sedimentation downstream.

Project 10. S. Fork Palouse River Restoration Phase 1 (S076)

Sponsor: Palouse Clearwater Environmental Institute

\$319: \$255,767

Status: 80% Completion.

Description: River restoration on property adjacent and within the Moscow city limits.

Project 11. Mud Creek BMP Implementation (S077)

Sponsor: Tamarack Resort on Lake Cascade and Valley S&WCD.

\$319: \$77,849

Status: 10% Completion, anticipated completion this summer.

Description: Implement BMP activity in the Mud Creek Subwatershed of the Cascade Reservoir TMDL.

Project 12. Lakeshore Drive Sediment Reduction (S078)

Sponsor: City of Cascade

\$319: \$57,025

Status: 5% Completion.

Description: Improve 0.8 miles of road adjacent to Cascade Reservoir.

Project 13. Perrine Coulee Wetland Management (S079)

Sponsor: Snake River Soil and Water Conservation District

\$319: \$44,600 (addendum \$16,000)

Status: 90% Completion.

Description: Design and construct pretreatment and primary treatment facilities for the Perrine Coulee prior to discharging to the Snake River.

Project 14. Goldfork Subwatershed BMP Phase I (S080)

Sponsor: Valley Soil and Water Conservation District

§319: \$114,835
Status: 80% Completion.

Description: Implement BMP activity in the Goldfork Subwatershed of the Cascade Reservoir TMDL.

Project 15. Panhandle Bioretention Basin Demo (S081)

Sponsor: Panhandle Health District
§319: \$102,227 (addendum \$23,000)
Status: 95% Completion.

Description: Demonstration of bioretention technology in Northern Idaho.

Project 16. Cedar Draw/F Coulee Treatment Wetland (S089)

Sponsor: Balanced Rock Soil & Water Conservation District
§319: \$25,000
Status: Project just initiated in fall 2003.

Description: To construct primary and secondary treatment of canal irrigation water from the Cedar Draw and F Coulee prior to its ultimate discharge to the mid Snake River.

Project 17. Edson Fichter Nature Area Treatment Wetland (S093)

Sponsor: Idaho Fish and Game Department
§319: \$111,240
Status: 75% Completion.

Description: To reconstruct the stream channel along the Portneuf River in Pocatello and provide adjacent wetland storage and treatment as part of a state park amenity and education center for the public.

Project 18. Camas Prairie Groundwater Nitrate Reduction (S094S)

Sponsor: Lewis Soil and Water Conservation District
§319: \$81,997
Status: 5% Completion.

Description: No-till direct seed applications and monitoring to determine field effectiveness.

Project 19. Santa Creek TMDL Implementation (S095S)

Sponsor: Benewah Soil & Water Conservation District
§319: \$87,058

Status: Project just initiated in fall 2003.

Description:

Project 20. Urban Livestock BMPs

Sponsor: City of Lewiston and Lewiston 4-H Club

§319: \$15,500

Status: Project just initiated in fall 2003.

Description:

Project 21. Lower Payette River TMDL Implementation (S098S)

Sponsor: Gem Soil & Water Conservation District

§319: \$211,320

Status: 15% Completion.

Description: Implement the Lower Payette River TMDL.

Project 22. Cottonwood Creek TMDL Implementation (S099S)

Sponsor: Idaho County Soil & Water Conservation District

§319: \$247,974

Status: Project just initiated in fall 2003.

Description: Implement the Cottonwood Creek TMDL.

Project 23. Tammany Creek Restoration (S100S)

Sponsor: Nez Perce Soil & Water Conservation District

§319: \$78,419

Status: Project just initiated in fall 2003.

Description: Implement the Tammany Creek TMDL.

Project 24. Meadow Creek Restoration Phase 1

Sponsor: Internally administered through DEQ Waste Office Division

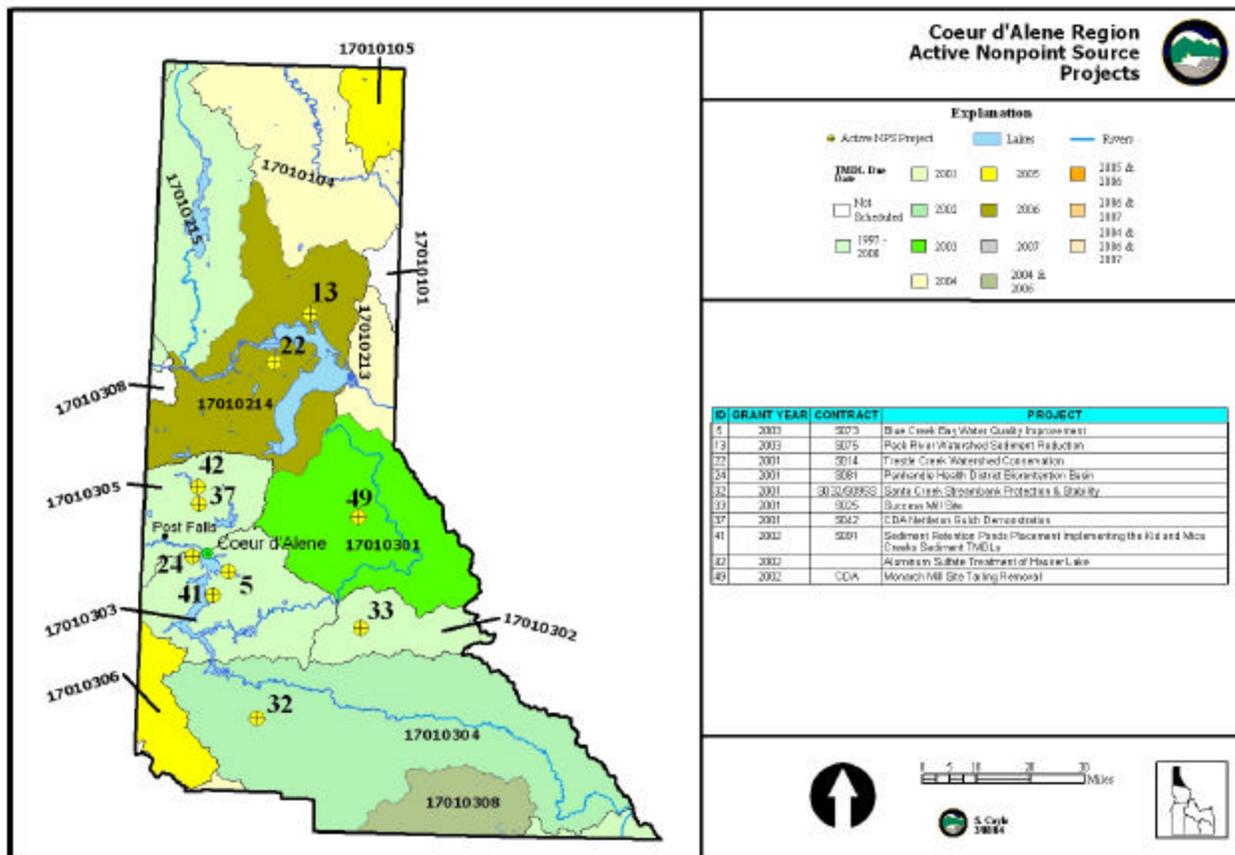
§319: \$350,000

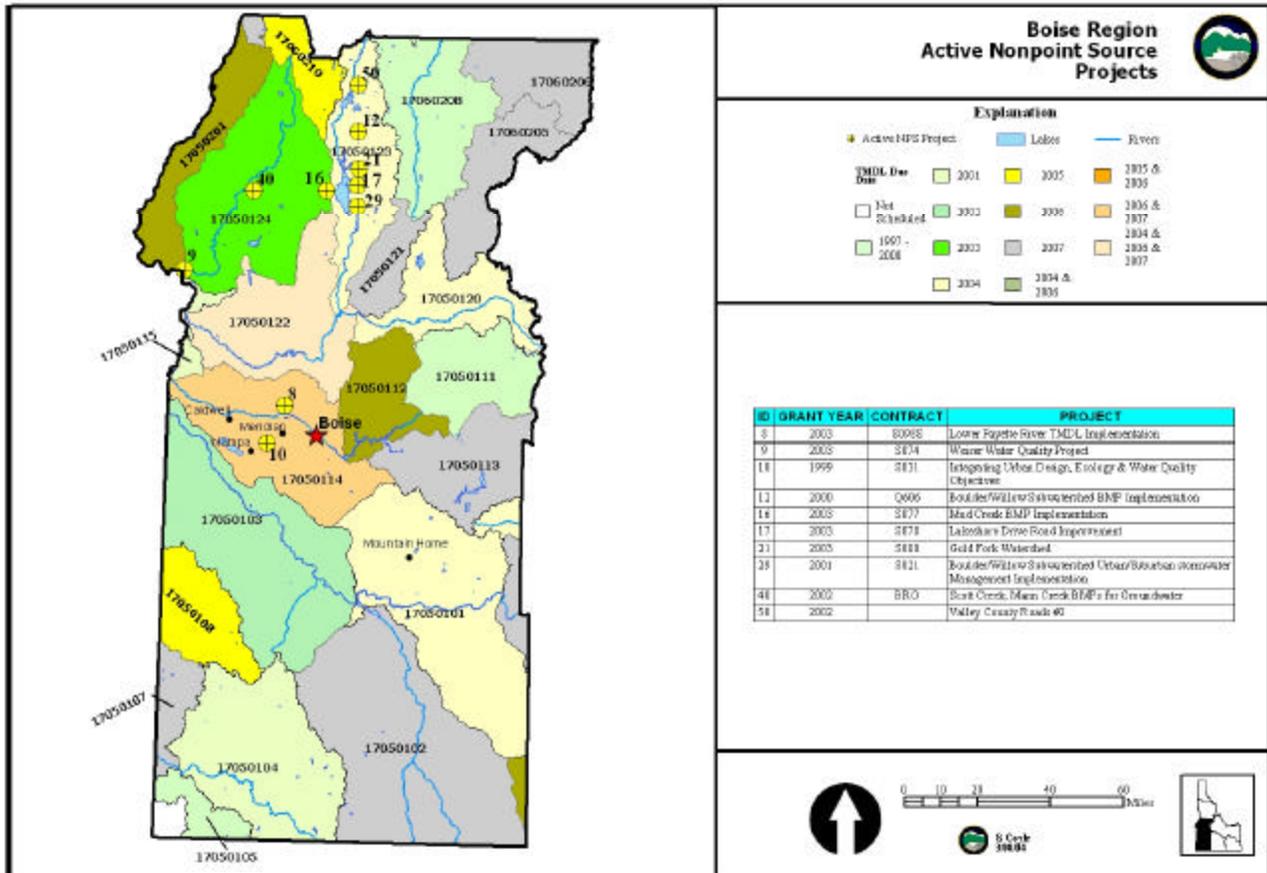
Status: 25% Completion.

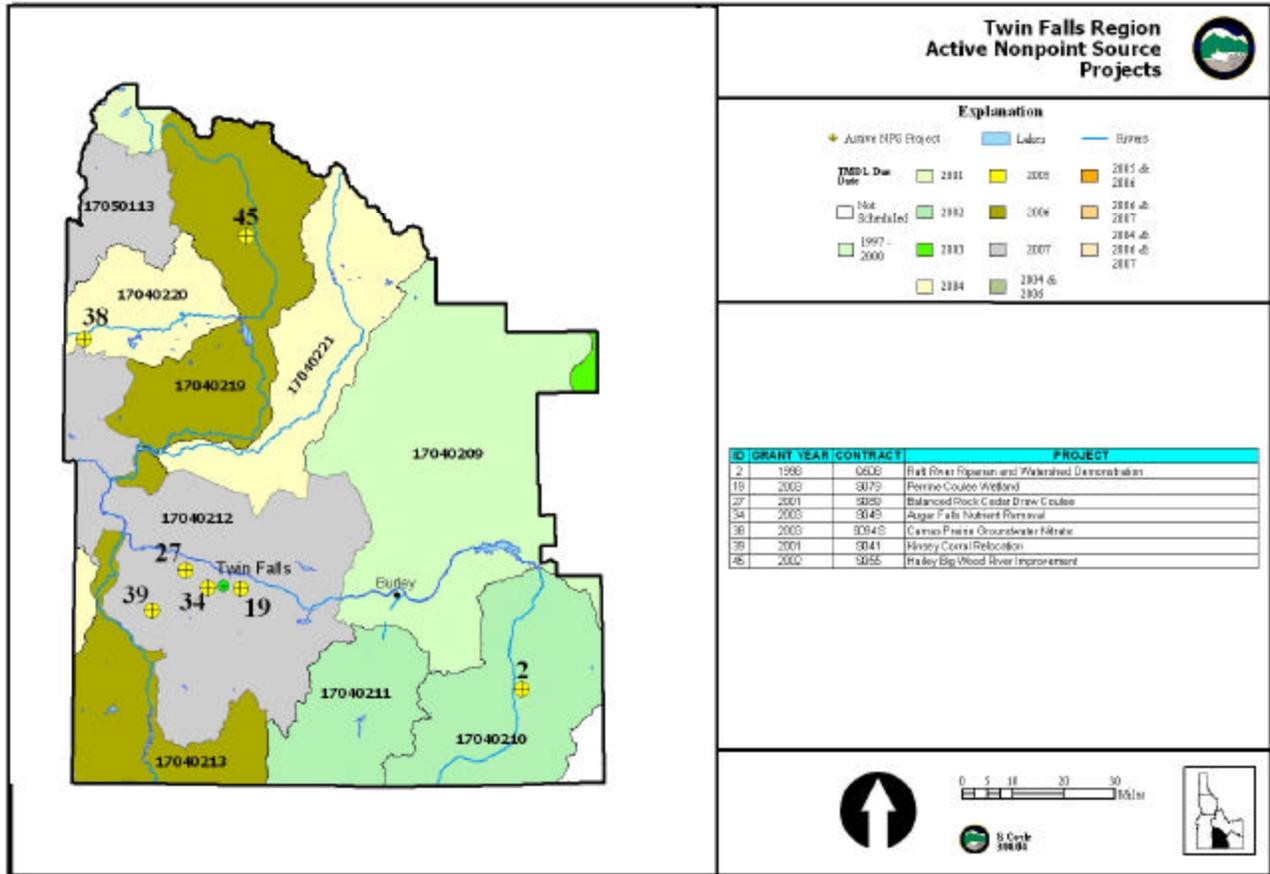
Description: Mining reclamation and stream channel restoration work in the upper Salmon involving multiple state and federal partners.

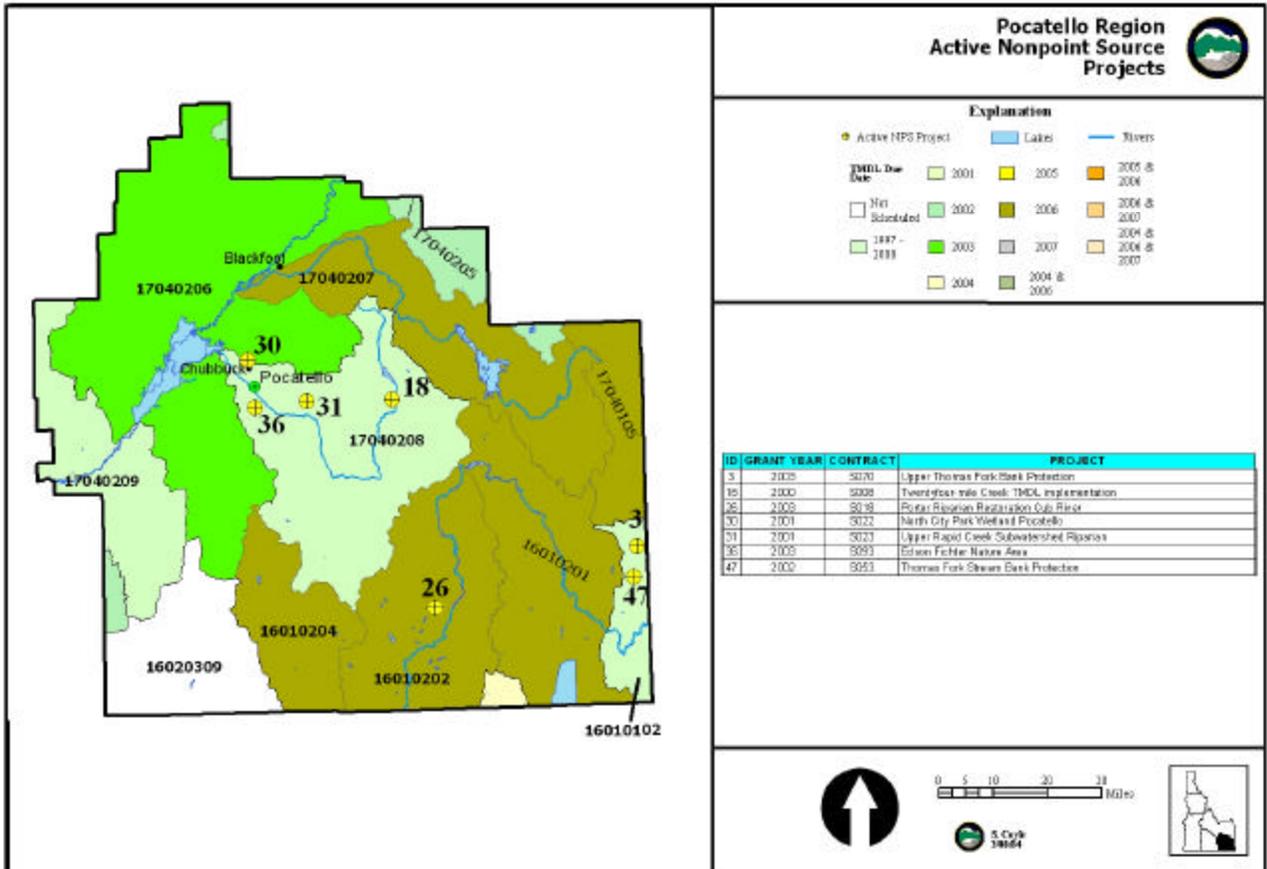
APPENDIX 1

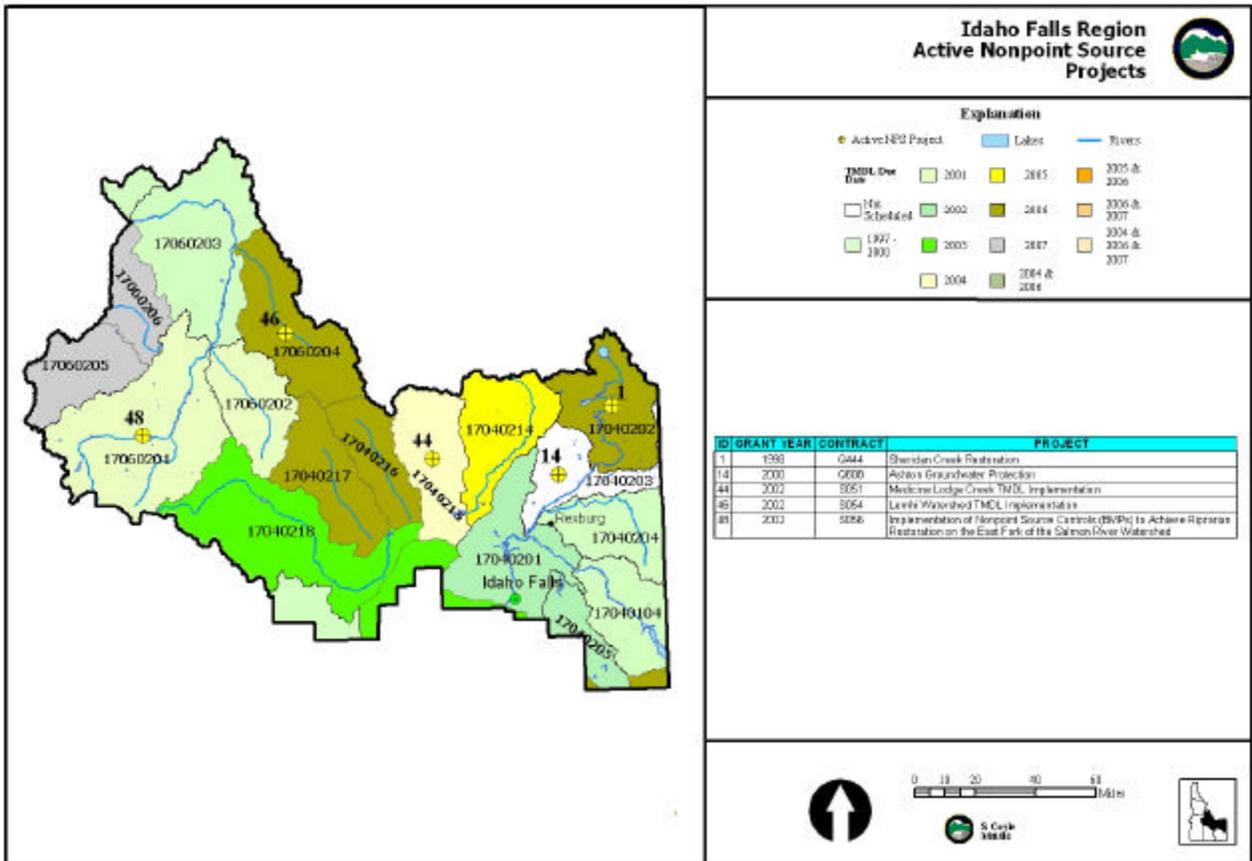
Map of Projects by Region for 1998 to 2003











APPENDIX 2

Benefits of High-Performance Buildings

WHAT ARE THE BENEFITS OF HIGH-PERFORMANCE GREEN BUILDINGS?

ECONOMIC BENEFITS

Green building considers design and construction from wider point of view than bottom-line costs and profits. In today's market, this approach makes sense for companies able to consider a wider set of values in calculating benefits of a building as a strategic resource. They include:

1) REDUCED OPERATING COSTS

Operating costs include utilities such as energy, water and waste; repairs and replacement; maintenance staff; and management supervision. They account for approximately 5 times construction costs over the typical 60-year life of a building. Green Buildings are less costly to operate in multiple ways. They include:

Energy Efficiency

- Climate-sensitive design and energy technology use can cut heating and cooling energy consumption by 60 percent and lighting energy requirements by 50 percent in U.S. buildings.
- Returns on investment for energy-efficiency measures can be higher than rates of return on conventional and even high-yielding investments.

Water Efficiency

- Water-efficient appliances, fixtures, and irrigation methods can reduce consumption by up to 30 percent or more (an annual savings of \$4400 in a typical 100,000 sq ft office building).

Waste Reduction

- 35 to 40 percent of municipal solid waste is construction and demolition waste.
- In 1997, Portland's Rose Garden Arena project saved \$186,000 through waste diversion and construction site recycling.
- Recycling creates jobs. Diverting these materials to local processors instead of local landfills creates new economic opportunities.

Integrated Design

- Rehabilitating an existing building can lower infrastructure and materials costs.
- Integrated design can use the payback from some strategies to pay for others.
- Energy efficient buildings can reduce their equipment needs -- downsizing some equipment, such as chillers, or eliminating equipment, such as perimeter heating.
- Designing flexible interiors with underfloor air and cabling distribution systems, which can greatly reduce the time and materials needed to reconfigure the layout and infrastructure for offices (also known as "churn" costs).

2) INCREASED RETURN ON INVESTMENT

The initial capital costs and long-term operational and personnel costs of a building are affected by decisions made in the planning, programming, and design phases. In a typical commercial building over its lifetime, design and construction accounts for 2 percent, O and M accounts for 6 percent, and personnel accounts for 92 percent of total costs.

Costs can be significantly lowered by implementing better design and engineering that set environmental goals early in the project and integrate and calibrate systems. Many green building measures make good long-term economic sense if the first cost is subtracted from all future savings, and savings are calculated with market capitalization rates. In other words, many green measures can be thought of as investments that will gain value over time, over and above investments at market interest rates. Conversely, low up-front expenditures can often result in much higher costs over the life of a building.

3) INCREASED PRODUCTIVITY AND HUMAN HEALTH

In the US, Sick Building Syndrome and other building related illnesses are estimated to cost \$60 billion per year in medical expenses and lost worker productivity. Studies show that access to better light (daylighting) and indoor air quality makes for healthier working environments that can boost productivity from 5-15 percent (not including absenteeism and employee turnover). Linking energy efficiency and IAQ to employee productivity makes it possible to achieve deep energy savings (through lighting, efficient HVAC equipment, etc.) with paybacks of less than two years - a Return on Investment exceeding 50 percent. For example, improvements to an average office building that reduces energy use by 40 percent and increases employee productivity by 5 percent can save \$1 per square ft in annual energy costs and add more than \$10 per square ft in new profits.

4) ENHANCED IMAGE AND MARKETABILITY

Organizations that care about the environment and their workers enjoy a positive image. As sustainability, commitment to long-term success, and holistic thinking continue to emerge as important concepts in the business world, applying green design can position a company as a leader and innovator.

Marketability is directly affected in a leasing situation. The potential cost savings a building tenant can realize, through enhanced productivity and cheaper operations, makes a green building attractive. Building owners will find their green buildings in high demand for this reason.

Finally, case studies suggest that employers' ability to recruit and retain choice employees improve with a green building. Not only are green buildings self-evidently a desirable workplace for the employees, corporate commitment to the well being of its workers and to the environment encourage employee loyalty. For more information see Technical Resources economic benefits.

5) MEETING REGULATORY REQUIREMENTS

Compliance with local codes and regulations is a common function of design and construction. However, investors are increasingly concerned about how changing regulations affect their business investments. Green buildings are ahead of the curve in areas where regulations are likely in the future:

- Global warming and greenhouse gases
- Reduced ozone depletion
- Stormwater management
- Indoor air quality
- Toxic materials

6) REDUCED LIABILITY

The EPA ranks poor indoor air quality, which can lead to "Sick Building Syndrome" and building related illnesses as one of the top 5 environmental problems in the USA. Numerous legal cases have established that building owners and employers can be held liable for workers' compensation and health care costs brought about by sick buildings. Liabilities are resulting in larger compensation awards, reduce insurance coverage and greater exposure. Ironically, the EPA recently lost a \$1 million lawsuit to employees who became ill after new carpet was installed during a renovation.

The number of such sick building cases is on the rise, and the exact extent of this liability is still being established in the courts. Green building practices avoid these risks by:

- Providing cleaner indoor air
- Eliminating and reducing of hazardous materials
- Controlling moisture and mold

ENVIRONMENTAL BENEFITS

Land Use

In Portland, the efficient use and reuse of land for residential, commercial, and industrial activities within the Urban Growth Boundary has become critical as undeveloped land becomes scarcer. In addition, new development strategies are needed to heal local ecosystems altered from years of urbanization. Strategies include:

- Reducing sprawl with mixed use and increased densities.
- Restoring and redeveloping polluted brownfields.
- Reducing soil erosion.
- Restoring natural functions of rainwater and reducing pollution of surface water.
- Landscaping that re-establishes native species and requires less toxic chemicals and water.

Global Warming

Buildings are responsible for over 35 percent of the world's CO2 emissions - the chief pollutant blamed for climate change (construction and operations). Impacts can be reduced by:

- Designing and operating buildings to use energy efficiently. Buildings can be cost-effectively designed to be 20-40 percent more energy-efficient than a conventional building.
- Producing on-site energy and/or purchasing green power.
- Reducing the number of trips by automobile by providing safe and healthy pedestrian and bicycle access.

Threatened and Endangered Salmon Habitat

Human activities threaten watershed health and aquatic habitat that salmon need to thrive. Land use, stormwater management, and water pollution are directly impacted by development. Green building techniques address these issues by:

- Preserving existing vegetation and cluster development to preserve streamside habitat.
- Minimizing impervious surfaces to decrease flooding and protect base stream flows.

- Amending landscape soils with compost to increase stormwater retention and reduce irrigation demand.
- Installing water efficient building systems to protect area water supplies and habitat areas.
- Using low toxic building materials that reduce water demand.
- Installing water efficient building systems to protect area water supplies and habitat areas.
- Using low toxic building materials that reduce water pollution during manufacturing and installation.
- Minimizing energy consumption and provide renewable on-site power generation in order to reduce demand for hydropower.
- Using sustainably certified lumber from the Pacific Northwest region.

Building Materials

Building materials make up 30 percent of raw materials consumption and 25 percent of timber harvests throughout the world. Impacts can be seen throughout the region from over-harvested forests to the toxic open pit mines. Strategies to minimize materials use and toxicity include:

- Using building materials that, in comparison to similar products, have a reduced effect on the environment by using life-cycle analysis (LCA) to quantify impacts over the life of the material.
- Reducing volume of material through efficient construction practices and using engineered and recycled content building products.

Solid Waste

Over 40 % of landfill waste is generated during building construction and demolition. Strategies to reduce waste and save money in unnecessary tipping fees include:

- Restoring and reusing older structures
- Carefully deconstructing structures that must be demolished
- Recycling construction waste
- Specifying salvaged and recycled-content framing

COMMUNITY BENEFITS

For many years, Portland has developed strategies to balance growth with the protection of natural resources. Promoting green buildings are part of this effort to protect and rehabilitate local ecosystems, promote smart growth, provide a range of transportation options, and enhance Portland's urban vitality. Green building help support the local economy through the demand for new products and services. New job opportunities are arising in areas of ecosystem services, stormwater management, energy-effective building design, renewable energy systems, and low-toxic, low-impact building materials.

Sources:

U. S. Green Building Council at <http://www.usgbc.org/>

Portland G-Rated Website, a nexus to green building expertise, at <http://www.green-rated.org/g Rated/grated.html>



AGRICULTURAL TMDL 2004 ACTION PLAN

APPENDIX 3

Agricultural TMDL—2004 Action Plan



AGRICULTURAL TMDL 2004 ACTION PLAN

Goal: *Develop and implement agricultural portions of TMDL watershed plans in an equitable manner proportional to the problem, in order to achieve water quality standards and enhance beneficial uses.*

Objective 1:

Develop, refine, and implement agricultural TMDL process.

Action Items:

1. Assist other agencies with understanding the overall TMDL effort as a dynamic watershed process.

Responsibility: *EPA and DEQ*

Target Date: *Immediate/Ongoing*

2. Provide feedback to EPA and DEQ with regard to future changes in TMDL process.

Responsibility: *Agricultural TMDL Technical Committee*

Target Date: *Ongoing*

3. Follow all TMDL outlines and guidance provided by DEQ and EPA.

Responsibility: *Agricultural TMDL Technical Committee*

Target Date: *Immediate/Ongoing*

Objective 2:

Accelerate TMDL training and outreach

Action Items:

1. Reactivate Training and Outreach subcommittee

Responsibility: *ISCC*

Target Date: *07/01/04*

2. Emphasize TMDL training to local SCDs, and WAGs.

Responsibility: *Training and Outreach Sub-Committee*

Target Date: *Immediate*

3. Accelerate the dissemination of TMDL information and education to agricultural landowners and general public.

Responsibility: *ISCC, U of I, and SCDs*

Target Date: *Ongoing*

4. Funding and program training integration for ISCC field staff

Responsibility: *ISCC Program Staff*

Target Date: *Ongoing*



AGRICULTURAL TMDL 2004 ACTION PLAN

5. Accelerate the Distribution of TMDL information and education through the use of local and topic-specific workshops.

Responsibility: *Training and Outreach Subcommittee*

Target Date: *12/01/04*

Objective 3:

Facilitate TMDL development and implementation through enhanced inter-agency coordination and communication efforts.

Action Items:

1. Use Coordinated Resource Management Process (CRMP) to ensure complete TMDLs and comprehensive watershed management plans for watersheds with mixed federal, state, and private ownerships as appropriate. See CRM handbook.

Responsibility: *All core agencies*

Target Date: *Per TMDL schedule*

2. Establish and maintain effective communication linkages between all agricultural agencies, industry organizations, SCDs, individual farmers and ranchers to provide a unified voice for agricultural in the TMDL process

Responsibility: *ISCC*

Target Date: *Ongoing*

3. Complete annual TMDL coordination meetings on a regional basis

Responsibility: *ISCC*

Target Date: *12/01/04*

Objective 4:

Ensure Effective TMDL implementation

Action Items:

1. Continue providing technical assistance to SCDs in gathering and providing information to Department of Environmental Quality for development of subbasin assessments and TMDLs.

Responsibility: *ISCC*

Target Date: *In accordance with TMDL schedule*

2. Continue providing assistance to SCDs with review and comment on subbasin and TMDLs

Responsibility: *ISCC*

Target Date: *Based upon completion by DEQ*

3. Initiate agricultural TMDL actions as per Idaho's TMDL schedule.

Responsibility: *Agricultural Agencies*

Target Date: *Immediate*



AGRICULTURAL TMDL 2004 ACTION PLAN

4. Work with local SCDs, WAGs, local working groups, DEQ regional offices and NCRS field offices to identify surface and groundwater priorities for implementation.

Responsibility: *ISCC, NCRS, ISDA*

Target Date: *Immediate*

5. Initiate development of program neutral agricultural components of TMDL watershed implementation plans based on local priorities for the following areas:

- a. Willow Creek
- b. Lower Bear – Malad River
- c. Lower Henry’s Fork
- d. Big Lost River
- e. Little Wood River
- f. Cow Creek
- g. South Fork of the Clearwater River
- h. Little Salmon River
- i. Salmon Falls Creek
- j. American Falls Reservoir
- k. C.J. Strike Reservoir
- l. Lower North Fork of the Payette River

Responsibility: *ISCC*

Target Date: *Ongoing*

6. Complete agricultural components of the TMDL implementation plans in the following areas:

- a. Blackfoot River
- b. Teton River
- c. Teton River
- d. Raft River
- e. Big Wood River
- f. Weiser River
- g. Upper Owyhee River
- h. Mid-Snake - Succor

Responsibility: *ISCC*

Target Date: *December 31, 2004*

Objective 5:

Intensify focus on riparian issues involved with TMDL implementation.

Action Items:

1. Schedule riparian assessments according to TMDL implementation plan schedule.

Responsibility: *ISCC*

Target Date: *April 30, 2004*



AGRICULTURAL TMDL 2004 ACTION PLAN

2. The following assessments will be scheduled or are expected for 2004:
 - a. Little Salmon River & Big Creek
 - b. Weiser River – Cottonwood, Cove, Johnson, Little Weiser, Mann, North and South Fork Crane, Pine, and West Fork Weiser Creeks
 - c. Little Wood River – Little Wood, Fish, and Dry Creeks
 - d. Jordan Creek – Jordan, Louse, Louisa, Williams, and Flint Creeks
 - e. Middle Fork Payette – Middle Fork Payette, Scriver, and Anderson Creeks
 - f. West Branch Tributaries of the Priest River
 - g. Kootenai River – Deep Creek
 - h. North Fork of the Coeur d'Alene River
 - i. Lower Bear – Little Malad
 - j. Middle Portneuf
 - k. Pocatello Creek
 - l. Willow Creek
 - m. Corral Creek
 - n. Lower Blackfoot
 - o. Lower Rapid Creek

Responsibility: *ISCC Staff*

Target Date: *December 1, 2004*

3. Prepare and/or assist local ISCC, NCRS, SCD and other field staff on 2003 scheduled riparian assessments accordingly, dependent on TMDL problem assessment, water quality, and habitat needs.

Responsibility: *ISCC and NCRS*

Target Date: *Ongoing*

4. Provide local ISCC, NCRS, SCD and other field staff reports of findings after riparian assessments have been completed.

Responsibility: *ISCC*

Target Date: *Ongoing*

Objective 6:

Agricultural pollutant source/transport and ground water monitoring

Action Items:

1. Plan and implement agricultural pollutant source/transport monitoring associated with 303(d)-listed waterbodies

Responsibility: *ISDA, IASCD, SCDs, ISCC, and NCRS*

Target Date: *Ongoing*

2. Utilize water quality data in TMDL implementation plans. Complete final project reports and present data to appropriate agencies and public groups

Responsibility: *ISDA, IASCD, SCDs, and ISCC*

Target Date: *Ongoing*



AGRICULTURAL TMDL 2004 ACTION PLAN

3. Develop water quality data outreach program
Responsibility: *ISDA, IASCD, SCDs, and ISCC*
Target Date: *Ongoing*
4. Assist local Soil Conservation Districts with the development of water quality monitoring plans for the agricultural components of TMDL implementation plans
Responsibility: *ISDA, IASCD, SCDs, and ISCC*
Target Date: *Ongoing*
5. Continue to implement the Regional Ground Water Quality Monitoring Program
6. Currently 12 active regional projects statewide
7. Plans are ongoing to eliminate projects showing good water quality over the past five years and substitute them with new projects in other geographical areas of the state.
Responsibility: *ISDA, IASCD, SCDs, and ISCC*
Target Date: *Ongoing*
8. Continue to implement local scale projects (<10 mi²) to evaluate potential agricultural impacts
9. Two pesticide-related projects and six dairy/CAFO-related projects are currently being implemented.
10. Plans are ongoing to implement new projects.
Responsibility: *ISDA, IASCD, SCDs, and ISCC*
Target Date: *Ongoing*
11. Continue ground water quality testing at dairies across the state that have tested above the health standard for nitrate.
12. Individual dairies currently being evaluated through on-site assessments to determine potential for ground water impacts. Sites showing greatest potential for negative ground water quality impacts will be prospects for more in-depth monitoring projects.
13. All dairies having historically high ground water nitrate levels have been or will be retested.
Responsibility: *ISDA, IASCD, SCDs, and ISCC*
Target Date: *Ongoing*



AGRICULTURAL TMDL 2004 ACTION PLAN

Objective 7:

Accelerate and expand implementation of BMP effectiveness evaluation and monitoring.

Action Items:

1. Reactivate the BMP effectiveness subcommittee in order to provide technical input and guidance for enhancement of the BMP effectiveness evaluation process.
Responsibility: ISCC
Target Date: February 1, 2004

2. Distribute BMP Effectiveness Field Guide to all ISCC/IASCD/SCD field staff.
Responsibility: ISCC
Target Date: March 1, 2004

3. Complete BMP Effectiveness Field Guide use training for ISCC/IASCD/SCD field staff.
Responsibility: ISCC
Target Date: 05/31/04

4. Coordinate ongoing water quality monitoring efforts with BMP effectiveness field evaluations.
Responsibility: ISCC
Target Date: April 1, 2004

5. Continue to refine the ISCC documentation and reporting process for BMP effectiveness implementation statewide.
Responsibility: ISCC
Target Date: Ongoing

Component Plan References

Agricultural TMDL Technical Committee is co-chaired by the Idaho Soil Conservation Commission and Natural Resources Conservation Service

1. The Committee is comprised of the following core agencies and organizations:
 - a. Idaho Soil Conservation Commission
 - b. Idaho Association Soil Conservation Districts
 - c. Idaho State Department of Agriculture
 - d. University of Idaho Extension System
 - e. Farm Services Agency
 - f. Idaho Department of Lands
 - g. Natural Resources Conservation Service

2. Other participating entities are as follows:
 - a. Idaho Department of Environmental Quality



AGRICULTURAL TMDL 2004 ACTION PLAN

- b. Idaho Water Users Association
 - c. Idaho Department of Water Resources
 - d. Idaho Department of Fish and Game
 - e. U.S. Bureau of Reclamation
 - f. U.S. Bureau of Land Management
 - g. U.S. Geological Society
 - h. U.S. Environmental Protection Agency
 - i. U.S. Forest Service
3. Training and Outreach Sub-Committee members include:
- a. University of Idaho Cooperative Extension Service
 - b. Idaho Association Soil Conservation Districts
 - c. Idaho Soil Conservation Commission
 - d. Idaho State Department of Agriculture
 - e. Idaho Department of Environmental Quality
 - f. Natural Resources Conservation Service

APPENDIX 4

Idaho TMDL Approval Status Summary

(as of update 2/22/04)

TMDL Implementation Status

Coeur d'Alene Regional Office

31-Dec-03

TMDL Watershed	Subbasin Assessment	TMDL Schedule	Status of Implem. Plan	WAG Status	Primary Contact	Information on Monitoring	Existing Implem. Project	Existing Implem. Projects	Relevant Issues and Comments	HUC #	Pollutant addressed	Expected Load Reduction
Lake Coeur d'Alene	Completed	Approved	Completed	Active	Ed Tulloch			Lake Creek SAWQP				
S.F. Coeur d'Alene	Completed		State implement plan with IDL-CWE	None	Glen Rothrock		EPA/DEQ, NRCS working on remediation feasibility		Metals			
N.F. Coeur d'Alene	Completed	Going to Public Comment	IDL-CWE	None	Glen Rothrock		USFS		Tribal involvement			
Pend Oreille Lake	Completed	Approved	IDL-CWE	None	Dave Stasney		Stream bank inventory					
Priest Lake	Completed	Pending EPA Approval	IDL-CWE	Active	Glen Rothrock		Stream bank inventory					
Upper Spokane	Completed Approved			None	Glen Rothrock							
St. Joe at St Maries	In Progress	2002		Active	Shantel Apracio		EQIP		Tribal involvement; moving forward with implementation plan			
Upper Coeur d'Alene		2003			Glen Rothrock							
Lower Kootenai River		2004		Active	Dave Mosier							
Lower Clark Fork		2004			Dave Stasney							
Moyie River		2005			Dave Mosier							
Hangman Creek		2005			Darren Brandt		SAWQP		Mostly Tribal			

TMDL Implementation Status
Lewiston Regional Office
31-Dec-03

TMDL Watershed	Subbasin Assessment	TMDL Schedule	Status of Implem. Plan	WAG Status	Primary Contact	Information on Monitoring	Existing Implem. Project	Existing Implem. Projects	Relevant Issues and Comments	HUC #	Pollutant addressed	Expected Load Reduction
Paradise Creek	Completed	Approved	Completed	Active	Ken Stinson	Active	319, CRP, and WQPA				TSS, TP, BacT, Temp.	
Winchester Lake	Completed	Approved	Completed	Active		Active	319 Funding applied for FY2001	WQPA, PL-566 Tribal 319 Project--BMP effectiveness with SCC/SCD/Uof I	FY 2002 319 for Aeration of lake			
Jim Ford Creek	Completed	Approved	Completed	Active	Mike Hoffman	Need to target upper watershed for BacT & Nutrients	319, CRP, and WQPA	EQIP Riparian Restoration			BacT & Nutrients	
Cottonwood Creek	Completed	Approved	Final draft under WAG review	Active	Cliff Tacke	AFO/CAFO focus	319 & WQPA sought					
S.F. Clearwater River	2002	delayed to 2002		Active	Tom Dechert				Delayed as per EPA/tribal Mou			
*Big Canyon			Will use SAWQP Plan				SAWQP & WQPA	BPA BMP effectiveness ongoing				
*Nichols Canyon			Will use SAWQP Plan				BPA & WQPA		Desire to accelerate implementation			

TMDL Watershed	Subbasin Assessment	TMDL Schedule	Status of Implem. Plan	WAG Status	Primary Contact	Information on Monitoring	Existing Implem. Project	Existing Implem. Projects	Relevant Issues and Comments	HUC #	Pollutant addressed	Expected Load Reduction
*Little Canyon			Will use SAWQP Plan				SAWQP, BPA, & WQPA		Desire to accelerate implementation			
*Holes Long Hollow			Will use SAWQP Plan				SAWQP, BPA, & WQPA		Desire to accelerate implementation			
N.F. Clearwater River	Upper/00 and Lower/01				Mike Hoffman				Need EPA & Tribal Direction			

TMDL Implementation Status

Boise Regional Office

31-Dec-03

TMDL Watershed	Subbasin Assessment	TMDL Schedule	Status of Implem. Plan	WAG Status	Primary Contact	Information on Monitoring	Existing Implem. Project	Existing Implem. Projects	Relevant Issues and Comments	HUC #	Pollutant addressed	Expected Load Reduction
MF Payette River	Completed	Approved	In progress	Active	Bidondo	BURP, CWE	319 Projects in Scriver Creek		Need ag lands inventory & plan for lower section			
Upper Boise	Completed	New listed streams scheduled for 2006	NA	None	Steed	BURP, CWE	WQPA Contract on one Ranch		proposed for delisting after public comment			
Lower Payette	Completed	Approved	In progress	Inactive	Ingham	Water Chemistry	EQIP/CRP, SAWQP/WQPA, IDFG Conservation					
NF, NF Owyhee Rivers	Completed	Approved	In progress	Active	Bidondo	BURP, temp	BLM RMPs					
Lower Boise River	Completed	Approved	In progress	Active	Horsburgh	BURP, water chemistry	WQPA, 319, OnePlan on 15 mile.	WQPA on Dixie.	Tributary TMDLs due 2001			
SF Salmon River	Near completion	Completion of 1991 TMDL	USFS	None	Shepard	BURP	USFS Projects		USFS implementing within watershed			
Snake River Hells Canyon	Linked to efforts underway on the Lower Boise, Lower Payette, and Weiser River. Due 2001	To be completed March, 2002	Oregon Plan included. Idaho Plan in 18 months	Public Advisory Team Active	Dombrowski	Idaho Power, City of Boise, BOR, DEQ	Weiser PL-566 Planning initiated		Interstate coordination occurring; integration of data and implementation programs.			

TMDL Watershed	Subbasin Assessment	TMDL Schedule	Status of Implem. Plan	WAG Status	Primary Contact	Information on Monitoring	Existing Implem. Project	Existing Implem. Projects	Relevant Issues and Comments	HUC #	Pollutant addressed	Expected Load Reduction
Cascade Reservoir	Completed	Approved	Completed	Active	Dombrowski	Lake and stream monitoring through 2003	EQIP/CRP, SAWQP/WQPA	319 Funds; State Restoration funds for J-ditch.				

TMDL Implementation Status
Twin Falls Regional Office
31-Dec-03

TMDL Watershed	Subbasin Assessment	TMDL Schedule	Status of Implem. Plan	WAG Status	Primary Contact	Information on Monitoring	Existing Implem. Project	Existing Implem. Projects	Relevant Issues and Comments	HUC #	Pollutant addressed	Expected Load Reduction
Mid Snake	Completed	Approved 1997	Approved 1997	Active	Sonny Buhidar	Trend Monitoring Plan	WQPA, SAWQP, EQIP, & PL-566					
Upper Snake Rock	Completed	Approved 1999	Approved 2001	Active	Sonny Buhidar	Trend Monitoring Plan						
Lake Walcott	Completed	Approved 1999	In Progress	Active	Clyde Lay	Inventory initiated + Trend Monitoring Plan	drain elimination & reduction program					
Bruneau	Completed	Submitted	In Progress	Active	Clyde Lay	Monitoring plan in place	BLM grazing plans					
Big Wood River	Completed	Submitted 2001	In Progress	Active	Sonny Buhidar	Trend Monitoring Plan to be developed						
Goose Creek	In Progress	2002	In Progress	Active	Clyde Lay	TMDL Monitoring						
Raft River	In Progress	2002	In Progress	Active	Mike Etcheverry	TMDL Monitoring	EQIP & PL-566					
Camas Creek	In Progress	2003	In Progress	Active	Jennifer Claire	TMDL Monitoring	SAWQP & WQPA					
Little Wood River	In Progress	2003	In Progress	Active	Jennifer Claire	TMDL Monitoring	SAWQP & WQPA					
C.J. Strike	Boise RO	2004	Boise RO		Boise RO		Boise RO					
Salmon Falls Creek	In Progress	2005	In Progress	Active	Clyde Lay	Monitoring plan to be developed						

TMDL Implementation Status

Pocatello Regional Office

31-Oct-03

TMDL Watershed	Subbasin Assessment	TMDL Schedule	Status of Implem. Plan	WAG Status	Primary Contact	Information on Monitoring	Existing Implem. Project	Existing Implem. Projects	Relevant Issues and Comments	HUC #	Pollutant addressed	Expected Load Reduction
Portneuf River	Completed	Submitted 12/00		Not working		for Ag. Priorities	WQPA, 319 on 24 Mile Creek; SAWQP	319 on Upper Rapid and Marsh Cr.; EQIP; CRP	Final approval of TMDL by EPA. WAG lacks leadership and focus			
Blackfoot River	Completed	due 1999	Riparian assessment in progress	Not working		for Ag. Priorities; Tribe monitoring below dam	CRP, 319, RCRDP					
Bear River	Contracted out to ERI, Logan, UT.	2001	Thomas Fork ASWRP Plan Bear River RC&D Watershed Imp. Plan	Not working			CRP, 319, EQIP, & RCRDP					
Malad River		2002		None								
American Falls Reservoir	start 2001	2003		None								
Salt River		2004		None								

TMDL Implementation Status

Idaho Falls Regional Office

31-Dec-03

TMDL Watershed	Subbasin Assessment	TMDL Schedule	Status of Implem. Plan	WAG Status	Primary Contact	Information on Monitoring	Existing Implem. Project	Existing Implem. Projects	Relevant Issues and Comments	HUC #	Pollutant addressed	Expected Load Reduction
Teton	Draft	Due	POW Comp. Inventory	Active	Henry's Fork Foundation		SAWQP, CRP, & EQIP					
Palisades		Approved	Completed	Active	South Fork WAG		SAWQP, CRP, & EQIP	Watershed Planned SAWQP				
Middle Salmon Panther		Approved	Completed	None	Lemhi Riparian Agreement Group							
Upper Salmon	Completed	Draft Due		Active	Challis Experimental Stewardship Group							
Pahsimeroi	Completed	Approved		Active	Water Users							
Medicine Lodge	100% Completed	Draft Due 12/04	POW Comp. Draft	Active	Continental Divide WAG		Continuous CRP/EQIP Riparian Demo (319 Grant - '02)					
Lemhi		Approved	POW Comp. Complete	None	Lemhi Riparian Agreement Group		Model Watershed ((2) 319 grants '02)					
Little Lost		Approved	Completed		Howe Citizen's Group							
Big Lost	being negotiated	Due 12/02			None							

TMDL Watershed	Subbasin Assessment	TMDL Schedule	Status of Implem. Plan	WAG Status	Primary Contact	Information on Monitoring	Existing Implem. Project	Existing Implem. Projects	Relevant Issues and Comments	HUC #	Pollutant addressed	Expected Load Reduction
Willow Creek	starting 3/01		POW Comp. Inventory	Active	Willow Creek WAG		Coordinating range planning w/IDL	NRCS Grazing Plans Comp. For 8,000 acres				