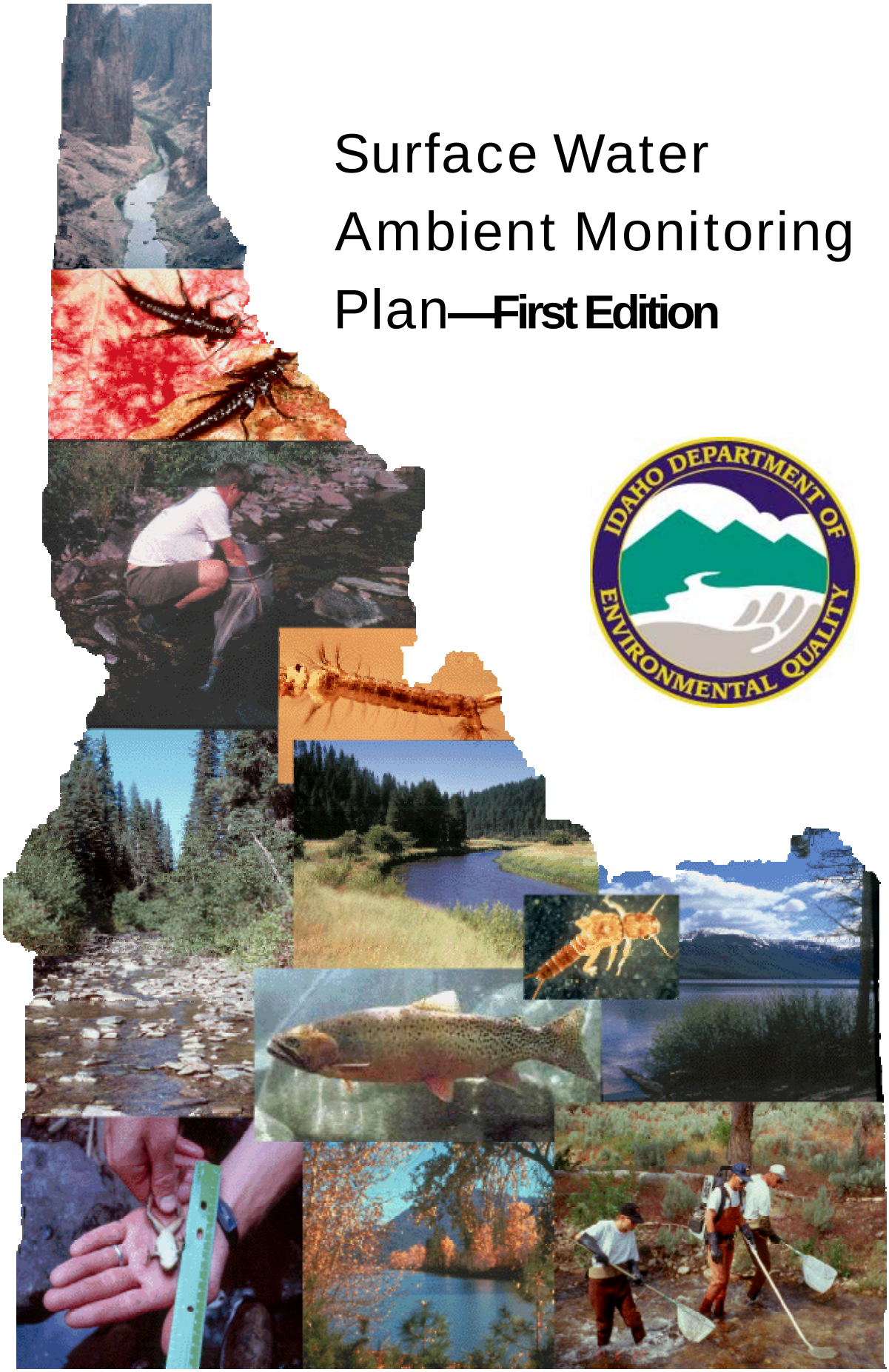
Surface Water Ambient Monitoring Plan—**First Edition**



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Surface Water Ambient Monitoring Plan—First Edition

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Acronyms

Acronym	Explanation
AMP	Ambient Monitoring Plan
AU	Assessment Unit
BURP	Beneficial Use Reconnaissance Program
CALM	Consolidated Assessment and Listing Methodology
CWA	Clean Water Act
DEQ	Department of Environmental Quality
EMAP	Environmental Monitoring and Assessment Program
EPA	Environmental Protection Agency
GAO	General Accounting Office
GIS	Geographic Information System
HUC	Hydrologic unit codes
NHD	National Hydrography Dataset
NRC	National Research Council
QA	Quality assessment
QC	Quality control
RBP	Rapid Bioassessment Protocol
SRS	Statewide Random Survey
TMDL	Total Maximum Daily Load
USGS	United States Geological Survey
WBAG	Water Body Assessment Guidance
WBID	Water Body Identification System
WQS	Water Quality Standard

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Executive Summary

The Surface Water *Ambient Monitoring Plan* (AMP) is an approach to streamline and integrate the collection of ambient monitoring data and address general water quality questions under the Clean Water Act (CWA). Specifically, ambient monitoring data is used to support the development of water quality criteria, report on the condition of the state's waters, identify impaired waters, and support development of subbasin assessments. The AMP is a dynamic strategy that will be adapted to meet new monitoring needs as changes occur in available resources, technology, agency priorities, and regulatory requirements.

Support for DEQ Goals and Objectives

The goals of the AMP include the following:

- Protect Idaho's water by using quality data in decision making
- Meet Clean Water Act requirements
- Streamline monitoring efforts and use resources efficiently
- Identify monitoring gaps and plan for program improvements
- Coordinate with other agencies and develop partnerships
- Inform Idaho citizens of monitoring plans and data results

The objectives of the AMP include the following:

- Determine the condition of Idaho waters
- Determine which waters are impaired and require *Total Maximum Daily Loads* (TMDLs)
- Determine how and when waters will be remonitored
- Determine the condition of waters with insufficient data
- Identify the expectations (reference condition) for Idaho waters

The AMP supports these goals and objectives by presenting a monitoring framework that bases surface water decisions on quality data.

Scope and Process of the Monitoring Plan

The AMP relates to other surface water quality programs as shown in Figure 1. The AMP consists of a combination of random and targeted monitoring surveys to address statewide evaluation of Idaho's waters and support other surface water quality programs. The ambient monitoring consists of a *Statewide Random Survey* (SRS), reference trend survey (targeted), unassessed assessment unit (AU) targeted survey, and an EPA-funded *Environmental Monitoring and Assessment Program* (EMAP) pilot probability survey. DEQ also participates in a cooperative agreement with the US Geological Survey (USGS) to conduct statewide trend monitoring.

DEQ uses random sampling of representative water bodies rather than focusing entirely on targeted surveys. This random sampling of representative water bodies is referred to as *probability-based sampling*.

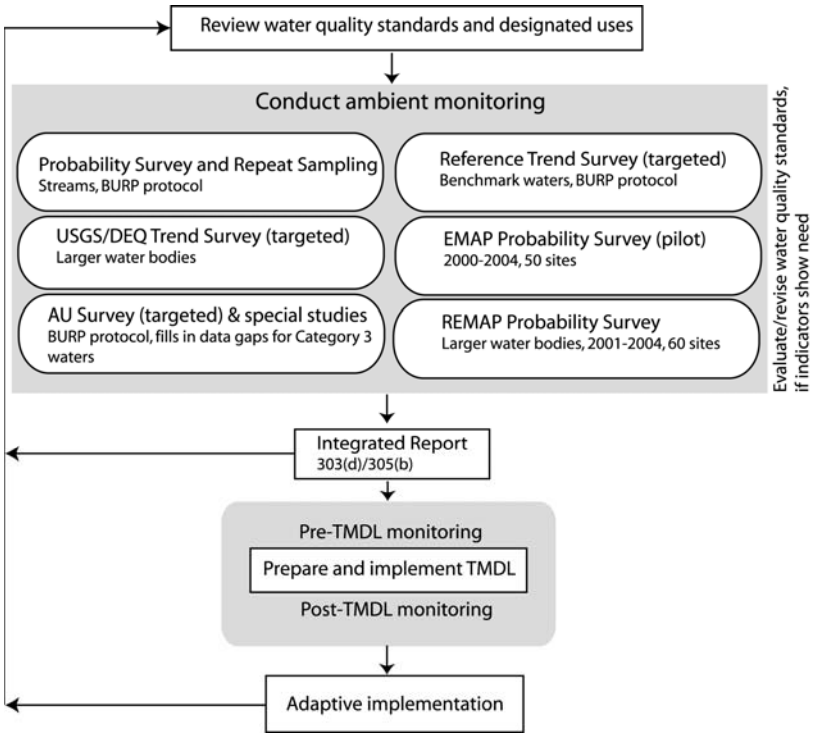

Figure 1. Elements of the Ambient Monitoring Plan and their relationship to other DEQ surface water quality programs.

Table 1 provides estimates for the number of ambient monitoring sites to be surveyed over the next five years. Monitoring 50 random sites per year will allow an estimation of the condition of the streams, and the REMAP rotation method (3 years) will provide an estimation of the condition of Idaho rivers.

Table 1. Ambient monitoring surveys and estimated number of sites to be surveyed, 2004-2008.

Monitoring Survey	Estimated Number of Sites				
	2004	2005	2006	2007	2008
State Random Survey (SRS)	50	50	50	50	50
10% Repeat Sampling (QA element of SRS)	6	6	6	6	6
Reference Trend Survey	25	25	25	25	25
AU Survey/Special Studies	265	265	265	265	265
BURP Surveys (total sites)	346	346	346	346	346
EMAP –Pilot (reference sites)	30	0	0	0	0
REMAP (rivers in central/south mountains)	20	0	0	0	0
EMAP Surveys (total sites)	50	0	0	0	0
USGS/DEQ Trend Survey	25	25	25	25	25

Steps in the monitoring process include the following:

Step 1: Identifying Water Quality Standards/Designated Uses. The AMP framework applies to designated and undesignated water bodies. Ideally, the monitoring plan should identify designated uses first to design data collection needs. Resources may be required to designate or categorize every water body prior to monitoring and assessment, so DEQ collects data that may be used to support designations, review current designated uses and other water quality standards, and prepare an integrated report of the support status of both designated and undesignated water bodies. (Throughout the water quality process, ambient monitoring data is used to support refinement of water quality standards to ensure appropriate water quality goals for Idaho waters and pollutant control measures.)

Step 2: Conducting Ambient Monitoring. DEQ performs annual water body monitoring based on agency priorities and available resources. DEQ also performs specific monitoring to support the development of subbasin assessments/TMDLs and evaluate the effectiveness of implementation plans—these TMDL monitoring activities continue to be funded separately from DEQ's ambient monitoring program, BURP. Further, DEQ participates in an EPA-funded pilot project, the *Environmental Monitoring and Assessment Program* (EMAP), to analyze water quality conditions of western rivers and streams.

Step 3: Preparing the Integrated Report. The *Integrated Report* combines reporting requirements of the CWA §305(b) and §303(d) lists. The report serves as a guide for developing and implementing watershed recovery plans to protect beneficial uses while achieving federal and state water quality standards.

The ambient monitoring data results are also reported in the *Integrated Report*. DEQ interprets and assesses the data based on the representativeness of a site for a particular water body and AU. DEQ assessors use best professional judgment and DEQ guidance to extrapolate and interpret the data.

For probability survey reports, DEQ extrapolates probability survey results over a much larger geographical area to estimate the condition of Idaho's waters. For purposes of the *Integrated Repor*t, extrapolation of probability survey data are reduced to ensure appropriate support determinations of specific water bodies or small watersheds.

Step 4: TMDLs and Adaptive Implementation. Ambient monitoring data may be used in the development of a subbasin assessment, the first step in developing a TMDL. DEQ separately funds more specific monitoring to support load determinations and implementation effectiveness. Adaptive implementation entails continuously improving management practices based on new information and technology as it becomes available. This includes adjusting the plan when it's discovered that a water body has changed status with respect to whether it is meeting standards and attaining uses assigned to it.

Step 5: Public Participation. Public participation is a valuable and needed resource in AMP. DEQ communicates progress of AMP implementation and encourages monitoring coordination and partnerships.

Design Considerations

DEQ designs monitoring surveys to collect data appropriate for the question being asked. For instance, “what is the condition of Idaho waters?” is a broad question requiring a survey design that interprets data from sample sites to determine statewide conditions. A random survey design, in which each monitoring site has an equal chance of being selected, is therefore used.

Data Analysis/Assessment, Data Management, and Quality Assurance

DEQ uses the *Water Body Assessment Guidance, Second Edition*, (WBAG II) to assess data and determine beneficial use support of Idaho water bodies. A water body assessment entails analyzing and integrating multiple types of water body data to evaluate water body impairment for different use categories (including aquatic life and contact recreation), determine the degree of biological integrity, and compile descriptive information about the water body.

Data used to perform ambient monitoring includes the following.

- **BURP Data**. All data collected under BURP are stored in a centralized database at the state office.
- **Assessment Database (ADB)**. DEQ uses EPA's 305(b) Assessment Database (ADB v.2) software to electronically store assessment information.
- **Trend Monitoring Data**. USGS manages the trend monitoring data in the USGS National Water Information System (NWIS).
- **EMAP Data**. EPA manages EMAP data through the EMAP Information Management System (see http://www.epa.gov/emap/html/data.html). The EMAP Web site provides guidelines regarding data management procedures and a directory of contact names to assist data request efforts.

Quality Assurance (QA) processes used for random sampling within the AMP are defined in the *Beneficial Use Reconnaissance Program Quality Assurance Plan for Field Data Sheets on Wadeable (Small) Streams*.

General Support and Infrastructure Planning

Presently, there are 17 *Full Time Equivalents* (FTEs, 35,360 labor hours) dedicated toward ambient monitoring and assessment. For the ambient monitoring that occurs under BURP, there is a state office program manager, six regional coordinators, and several technical support staff.

The AMP was designed assuming current resource and staffing levels will continue. Additional programmatic needs to address wetland, lake, and reservoir monitoring—as well as developing stressor identification methods and conducting TMDL effectiveness monitoring—would require additional resources. Further, pre-TMDL monitoring requires additional resources to adequately identify causes and sources before preparing load allocations. Without additional resources, it is likely that these program gaps will continue or the current amount of planned stream and river monitoring may need to be reduced to compensate for other programmatic needs.

1. Introduction to the Ambient Monitoring Plan

The *Surface Water Ambient Monitoring Plan* (AMP) is the Idaho Department of Environmental Quality's (DEQ) framework for collecting ambient surface water data to meet Clean Water Act (CWA) and agency goals. Ambient monitoring data is used to support the development of water quality criteria, report on the condition of the state's waters, identify impaired waters, and support development of subbasin assessments. Specifically, the AMP supports development of the *Integrated Report*, which describes the condition of Idaho waters, lists waters not meeting water quality standards (impaired waters), and identifies waters requiring Total Maximum Daily Loads (TMDLs). The AMP is a dynamic strategy that will be adapted to meet new monitoring needs as changes occur in available resources, technology, agency priorities, and regulatory requirements.

Purpose of This Document

This document provides internal guidance to DEQ staff regarding monitoring objectives and priorities of the AMP. Moreover, this document communicates DEQ's monitoring approach to other monitoring parties and the public. DEQ intends to improve communication of monitoring results, coordinate with other monitoring agencies, and establish partnerships that result in efficient use of monitoring resources.

Water Quality Information Needs Supported by the Ambient Monitoring Plan

The *Surface Water Ambient Monitoring Plan* (AMP) is an approach to streamline and integrate the collection of ambient monitoring data and to address general water quality questions under the Clean Water Act (CWA). Figure 2 provides an overview, within the context of the CWA framework, of how monitoring and collection of quality data is a foundational component of the surface water quality program.

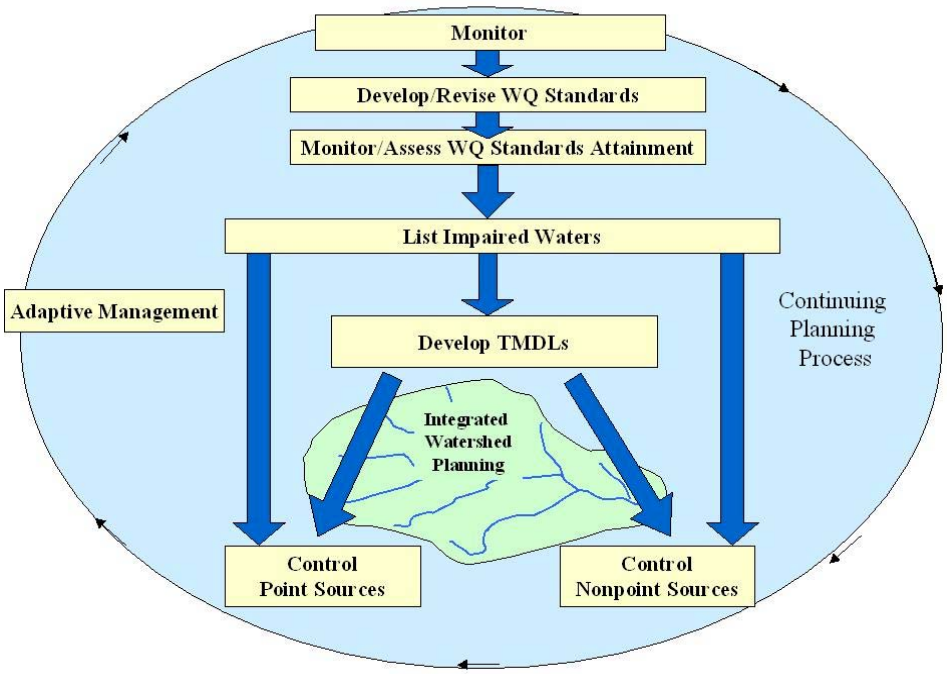

Figure 2. Relationship of monitoring to other water programs within the context of the CWA (EPA 2004).

The Plan's Relationship to the Clean Water Act

In 1972, Congress passed Public Law 92-500, Federal Water Pollution Control Act, commonly known as the *Clean Water Act*. The goal of this act was to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters" (Water Pollution Control Federation 1987). The federal government, through the U.S. Environmental Protection Agency (EPA), assumes the dominant role in defining and directing water pollution control programs across the country. DEQ implements the CWA in Idaho while the EPA provides oversight of Idaho's fulfillment of CWA requirements and responsibilities.

Integrated Report [305(b)/303(d)]

For the most part, the AMP addresses federal requirements found in Sections 303 and 305 of the CWA, but the statutory and regulatory requirements differ significantly for 303 and 305 reporting:

- Section 303 requires DEQ to monitor waters and specifically identify those not supporting beneficial uses. For those waters not supporting their beneficial uses, DEQ prepares TMDLs for each pollutant impairing the waters.
- Section 305 requires a general description and analysis of the water quality condition of Idaho waters. "Condition" is defined as the extent to which state waters are meeting water quality standards.

Under Sections 303 and 305, DEQ prepares an *Integrated Report* to describe the condition of Idaho waters and identify water bodies not meeting water quality standards (impaired waters). Impaired waters in Category 5 require further analysis

performed under a TMDL. Based on this information, a collaboration of designated state and federal agencies set appropriate controls to improve water quality and ensure water bodies meet their designated uses. (Appendix A provides a description of the different reporting categories of the Integrated Report [Sutfin 2001].)

Elements of a State Water Monitoring and Assessment Program

The AMP also addresses CWA Section 106(e)(1), which requires the EPA to determine that a state is monitoring the quality of navigable waters, compiling and analyzing data on water quality, and including results in the state's Section 305(b) report prior to the award of Section 106 grant funds. Section 106 of the CWA authorizes EPA to provide federal assistance to state agencies to establish and implement ongoing water pollution control programs. More information regarding Water Pollution Control Grants may be found at:

http://www.epa.gov/owm/cwfinance/pollutioncontrol.htm

In 2003, EPA distributed recommendations regarding basic elements of a state water monitoring program. The *Elements of a State Water Monitoring and Assessment Program* document (EPA 2003) serves as a tool to help EPA and the states determine whether a monitoring program meets the prerequisites of CWA Section 106(e)(1). This document encourages states to embark upon a long-term process to incrementally improve their monitoring programs and eventually address all state waters.

TMDL

The TMDL, a plan to improve water quality by limiting pollutant loads, is developed for impaired waters listed in Category 5 of the Integrated Report. In Idaho, the TMDL consists of two main sections: the *subbasin assessment* and the *load allocation*:

- The *subbasin assessment* uses ambient and other monitoring data to evaluate and summarize current water quality status, pollutant sources, and control actions to date.
- The *load allocation* is an estimate of the maximum pollutant amount that can be present in a water body and still allow that water body to meet water quality standards (40 CFR Part 130).

In common usage, a TMDL also refers to the written document that contains the statement of loads and supporting analyses, and it often incorporates TMDLs for several water bodies and/or pollutants within a given watershed.

Idaho Water Quality Standards

Ambient and other monitoring data support the development and revision of water quality standards. Idaho adopts water quality standards to protect public health, enhance water quality, and protect biological integrity (These standards are found in Idaho's *Water Quality Standards and Wastewater Treatment Requirements* IDAPA 58.01.02.100 and can be viewed at http://www2.state.id.us/adm/adminrules/rules/idapa58/58index.htm). Among other things, a water quality standard defines the goals of a water body by designating uses for the water and setting criteria necessary to protect those uses.

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2. How the Ambient Monitoring Plan Supports DEQ's Mission, Goals, and Monitoring Objectives

DEQ's mission is "to protect human health and preserve the quality of Idaho's air, land and water for use and enjoyment today and in the future (DEQ 2001)." The AMP supports this mission by presenting a monitoring framework that bases DEQ surface water decisions on quality data. The data collected is appropriate for the questions being asked and assists DEQ in protecting Idaho's water.

The AMP is also focused on building partnerships with federal agencies, other state agencies, the Tribes, communities, and businesses. In this way, the AMP supports DEQ's vision to "assess, sustain, preserve, and enhance environmental qualities in partnership with communities and businesses, and in concert with the economic vitality of the state (DEQ 2001)."

Additionally, the AMP supports DEQ goals and objectives as described in the following.

Use Quality Data in Decision Making

One of DEQ's guiding principles is to "rely on science and common sense to guide decisions and achieve results (DEQ 2001)." The AMP is designed to collect quality data appropriate for questions being asked.

For example, in making decisions concerning the status of Idaho's waters, DEQ uses data that is scientifically rigorous and relevant (see Appendix B for definitions of Tier I, II, and III data). DEQ uses Tier I data to develop the Integrated Report, while Tier II and III data are used in other water quality decisions, including monitoring planning. This guidance allows DEQ to have greater confidence in water quality decisions.

Meet Clean Water Act Requirements

The CWA, particularly sections 106(e), 303, and 305 (b), is the guiding statute for DEQ's surface water monitoring program. DEQ collects scientifically defensible data to support the development of water quality criteria, report on the condition of the state's waters, identify impaired waters, develop TMDLs, implement best management practices, and determine the effectiveness of pollution control strategies.

Streamline Monitoring Efforts and Use Resources Efficiently

It is important that DEQ use its resources as efficiently as possible. By streamlining monitoring efforts, DEQ reduces duplication of effort, leverages its monitoring resources, and improves coordination of common monitoring goals.

Identify Monitoring Gaps and Plan for Program Improvements

DEQ has focused ambient monitoring resources, so far, on developing a technically sound monitoring and assessment program for Idaho's streams and rivers. This focus on streams and rivers is used within the AMP because most of Idaho's surface water consists of streams and rivers. However, DEQ recognizes that other water body types, such as lakes, reservoirs, intermittent streams, springs, and wetlands, also require monitoring. DEQ plans to incorporate these waters into the monitoring program when resources are available.

Because of limited resources, DEQ must prioritize monitoring efforts and focus resources on top priorities. The result of this prioritization may lead to monitoring gaps or unanswered questions. The AMP framework acknowledges these gaps and allows for program expansion when resources become available.

Coordinate with Other Agencies and Develop Partnerships

An important way to use resources efficiently is to communicate with other monitoring groups and reduce duplication of data collection efforts. Because many Idaho agencies have common monitoring goals, coordination among these groups greatly helps all state and federal monitoring efforts.

Presently, there are several ways DEQ coordinates with other agencies and develops partnerships:

- The *Beneficial Use Reconnaissance Program* (BURP) coordinators participate in regional interagency monitoring meetings. These meetings are held around the state to exchange information regarding upcoming monitoring and discuss how to cooperate with different monitoring efforts.
- Another coordination tool is the *Nonpoint Source Water Quality Results Monitoring Workshop*. This workshop, started in 1991, assembles monitoring groups throughout Idaho to share monitoring results. The workshop provides an opportunity to interact with those in the monitoring field, improve consistency in monitoring methods, and build relationships for future coordination.
- Lastly, the *Coordinated Nonpoint Source Water Quality Monitoring Program for Idaho* (Clark 1990) describes roles and responsibilities of different agencies to ensure monitoring goals are addressed.

In addition to these efforts, an important component of the AMP is to notify interested parties exactly where DEQ will be conducting surveys. DEQ hopes this notification will create more opportunity for coordinating monitoring efforts and developing monitoring partnerships.

Inform Idaho Citizens of Monitoring Plans and Data Results

One of DEQ's principal responsibilities is to inform Idaho citizens about water quality conditions. Not only is it important to report final monitoring results, it is also important to inform the public of monitoring progress and ensure understanding of how DEQ evaluates monitoring data to determine water quality condition.

DEQ provides much of this information through the *BURP Annual Workplan* (DEQ 2004) and the *Water Body Assessment Guidance, Second Edition* (Grafe et al. 2002):

- The *BURP Annual Workplan* provides information regarding DEQ's annual monitoring goals and specifics of the monitoring focus.
- The *Water Body Assessment Guidance* describes how DEQ assesses monitoring data to determine the status of water quality in Idaho.

Both of these documents may be found at http://www.deq.state.id.us/water/surface_water/Monitoring_Assessment.htm. DEQ will use the AMP to improve public information regarding overall monitoring efforts.

Support Specific Objectives of Ambient Monitoring

DEQ has specific questions or objectives that shape the design of the monitoring plan, as described in the following.

Determine the Condition of Idaho Waters

One of DEQ's primary goals is to meet CWA requirements. An important CWA requirement is to report on the condition of Idaho waters to EPA, who incorporates this information into a national report for Congress.

To ensure that Idaho data can be effectively used in a national report, DEQ reviewed other state monitoring programs—Florida (Biernacki 1999), North Carolina (North Carolina Department of Environment and Natural Resources 2000), Oregon (Oregon Water Quality Monitoring Team 2001), South Carolina (South Carolina Department of Health and Environmental Control 2002), and Washington— (Ward 2001); as well as *Exploring the Connection Among WQS, 305(b) reports, and 303(d) Lists* (CALM 2000); *Building a Framework for the Future* (NWQMC 2002); and *The Condition of Our Nation's Streams and Rivers from the Mountains to the Coast* (Sutfin 2002). These states have turned to a random survey design to comprehensively answer questions concerning the condition of state waters. To determine the condition of Idaho waters, a monitoring plan must be designed to broadly address the entire state and different types of water bodies.

Determine Which Waters are Impaired and Require a TMDL

A more specific question is based on requirements for the 303(d) list and TMDL. The monitoring plan must provide data specific enough to determine which waters in Idaho are impaired and indicate whether there is a basis for requiring a TMDL for a specific water body. The plan must also be capable of determining the extent of impairment, so that DEQ can prepare TMDLs as efficiently as possible.

Determine How and When Waters Will Be Remonitored

Water quality conditions change because of best management practices, changes in human disturbance, and climatic events (e.g., floods, drought). Consequently, a monitoring program should evaluate the condition of the state's waters regularly. The sampling design to remonitor waters should be cost-effective and adequately address questions concerning trends in Idaho water quality.

Determine the Condition of Waters With Insufficient Data

DEQ has found that one of the most efficient monitoring strategies to evaluate aquatic life is directly measuring the biological condition of the water body. Historically, DEQ's census approach resulted in some data gaps. Consequently, the AMP incorporates a random sampling design to allow greater extrapolation of data and interpretation of water quality conditions. Such broad analysis reduces the number of water bodies for which there is insufficient data and helps target future monitoring efforts.

Identify the Expectations (Reference Condition) for Idaho Waters

To assess water quality status, DEQ must use benchmarks or *reference sites* for comparison purposes. These reference sites set water quality expectations for different types of water bodies located in different regions of the state:

- For *chemistry data*, there are often numeric criteria that set the benchmark for water quality conditions.
- However, for *biological* and *physical* data, DEQ uses the biological condition of minimally disturbed water bodies to set the reference condition that other water bodies are then compared against.

Under the AMP, DEQ regularly monitors reference benchmarks to understand biological and physical changes due to natural conditions.

3. Ambient Monitoring Plan Scope and Process

The AMP addresses monitoring goals and objectives through a systematic framework, based on several recommendations from the *National Resource Council* (NRC 2001) and EPA (2002). The scope of this framework, including its relationship to other surface water quality programs and the steps in the ambient monitoring process are described in the following.

Scope of the Plan

The scope of the AMP includes defining the number of sites to be surveyed, the target population, the georeferencing systems, and the relationship with other water quality programs.

Number of Sites to be Surveyed, 2004-2008

Table 2 provides estimates for the number of ambient monitoring sites to be surveyed over the next five years. Monitoring 50 random sites per year will allow 100% estimation of the condition of the streams, and the REMAP rotation method (3 years) will provide an estimation of the condition of Idaho rivers. The remainder of state waters—intermittent, wetlands, lakes, and reservoirs—are data gaps that cannot be addressed without funding from additional resources.

Table 2. Ambient monitoring surveys and estimated number of sites to be surveyed, 2004-2008.

Monitoring Survey	Estimated Number of Sites				
	2004	2005	2006	2007	2008
State Random Survey (SRS)	50	50	50	50	50
10% Repeat Sampling (QA element of SRS)	6	6	6	6	6
Reference Trend Survey	25	25	25	25	25
AU Survey/Special Studies	265	265	265	265	265
BURP Surveys (total sites)	346	346	346	346	346
EMAP –Pilot (reference sites)	30	0	0	0	0
REMAP (rivers in central/south mountains)	20	0	0	0	0
EMAP Surveys (total sites)	50	0	0	0	0
USGS/DEQ Trend Survey	25	25	25	25	25

Target Population

Before conducting ambient monitoring, DEQ must define the target population. By defining the target population (waters to be sampled), DEQ builds a sampling design that focuses resources appropriately and cost-effectively. Presently, DEQ defines the target population for AMP as perennial streams and rivers. The AMP does not address monitoring and assessment of ground water because this resource is within the purview of two different DEQ programs: ground water and source water assessment.

For more information regarding ground water monitoring and assessment, please refer to http://www.deq.state.id.us/water/water1.htm#groundwater.

Georeferencing System

DEQ uses the *National Hydrography Dataset* (NHD) as its georeferencing system to define the state's waters. The NHD is expected to change from a 1:100,000 scale to a finer resolution of 1:24,000. Because AMP incorporates a statistical probability design, the scale changes to NHD should easily be incorporated into the probability survey design.

Relationship to Other Surface Water Quality Programs

Figure 3 illustrates the relationship between ambient monitoring and other surface water quality programs. The AMP starts with reviewing water quality standards and defining the target population, and then DEQ conducts a combination of random and targeted surveys that provide comprehensive, general information needed to determine the condition of Idaho waters.

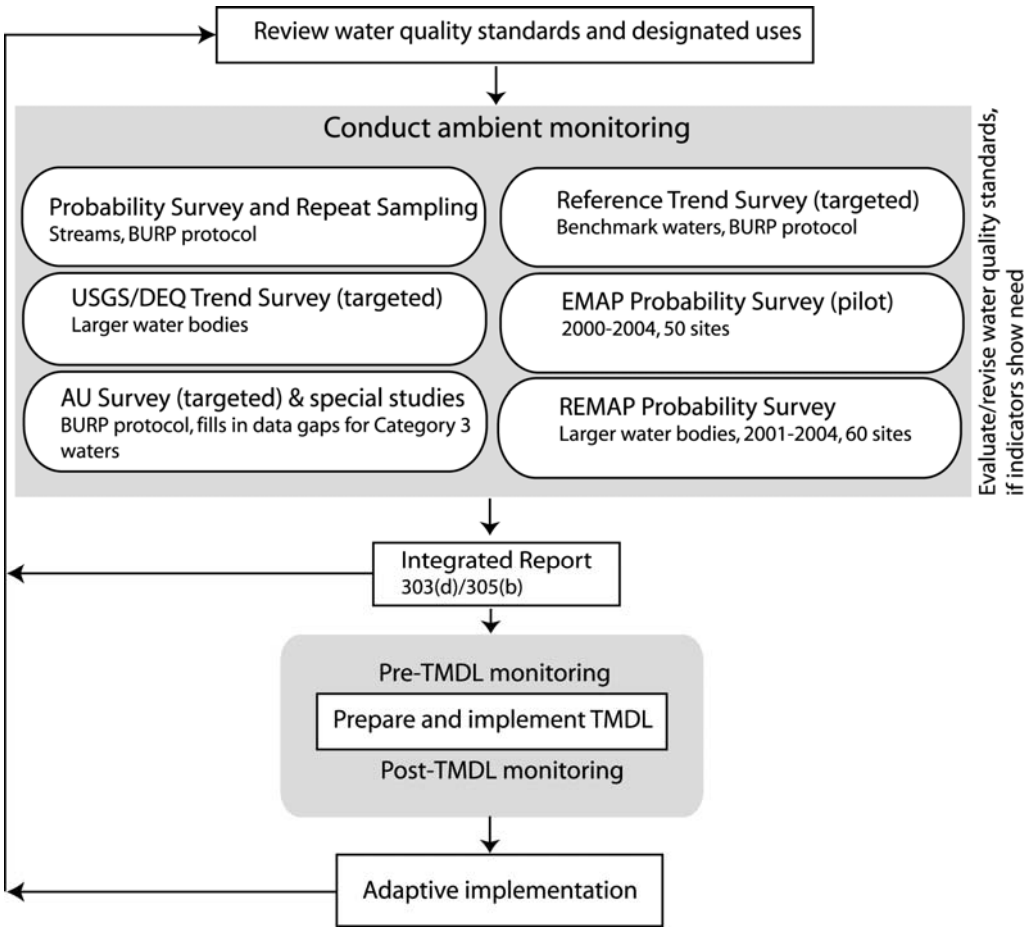

Figure 3. Ambient monitoring surveys and their relationship to other DEQ surface water quality programs.

Monitoring Process Steps

Steps in the monitoring process are as follows.

Step 1: Identifying Water Quality Standards/Designated Uses

The AMP framework applies to designated and undesignated water bodies. Ideally, the monitoring plan should identify designated uses first to design data collection needs. Resources may be required to designate or categorize every water body prior to monitoring and assessment, so DEQ collects data that may be used to support designations as well as review current designated uses and other water quality standards.

Throughout the water quality process, ambient monitoring data is used to support refinement of water quality standards to ensure appropriate water quality goals for Idaho waters and pollutant control measures.

Step 2: Conducting Ambient Monitoring

This step includes BURP monitoring, reference trend surveys, unassessed AU surveys, and other ambient monitoring elements:

- DEQ performs annual water body monitoring based on agency priorities and available resources. Historically, the *Beneficial Use Reconnaissance Program* (BURP) and the U.S. Geological Survey (USGS)/DEQ *Trend Monitoring Network* have been the primary elements of DEQ's ambient monitoring programs.
- DEQ also performs specific monitoring to support the development of subbasin assessments/TMDLs and evaluate the effectiveness of implementation plans. These TMDL monitoring activities continue to be funded separately from DEQ's ambient monitoring program, BURP, described below.
- Further, DEQ participates in an EPA-funded pilot project, the *Environmental Monitoring and Assessment Program* (EMAP), to analyze water quality conditions of western rivers and streams.

All of these elements of the AMP are described in the following.

Beneficial Use Reconnaissance Program (BURP)

In 1993, DEQ implemented BURP, the first element of the AMP. BURP is an ambient monitoring program aimed at integrating biological and chemical monitoring with physical habitat assessment as a way of characterizing water quality (McIntyre 1993). BURP mainly addresses small streams and large rivers, and the program closely follows concepts and methods described in EPA's *Rapid Bioassessment Protocols for Use in Streams and Rivers* (Barbour et al. 1999).

BURP primarily provides consistency in ambient monitoring data and collects data for beneficial use support assessments. Historically, BURP used a census survey design to answer specific questions regarding the condition of particular water bodies or small watersheds. To ensure representativeness, DEQ considered land use,

ecoregion, and stream order during site selection. These factors governed the extent to which a site represented a broader geographic area.

Figure 4 illustrates the distribution of BURP sample sites (1993 – 2003).

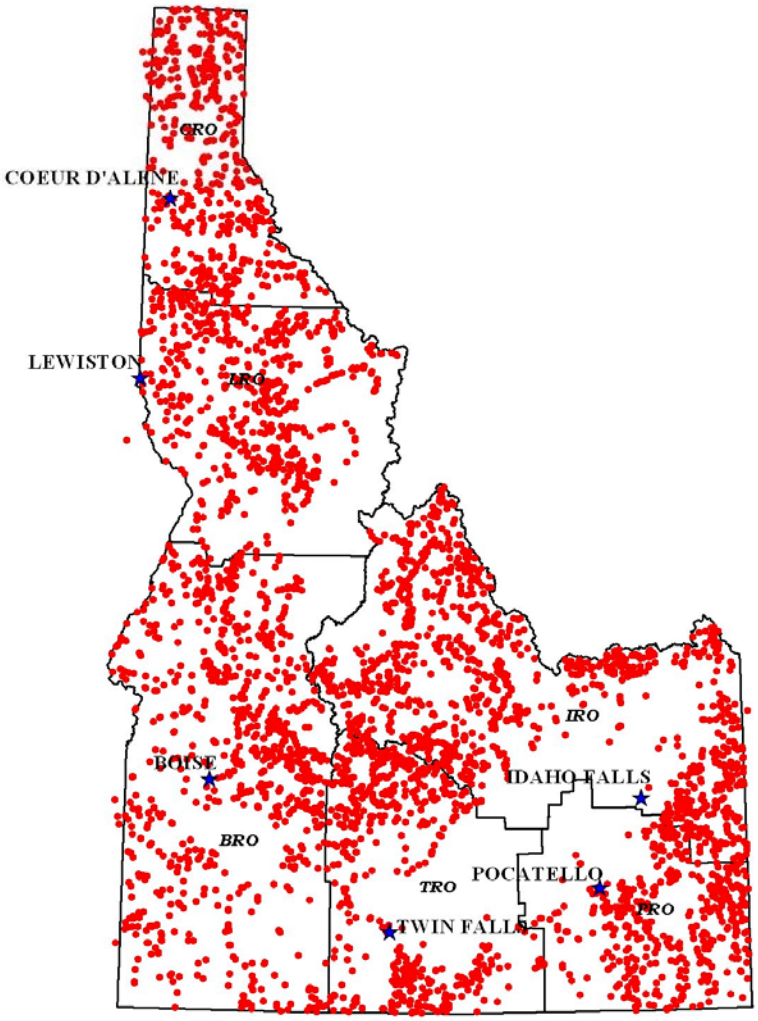

Figure 4. Distribution of BURP sample sites to date (1993 –2003).

BURP Core Elements and Parameters

DEQ publishes an annual work plan for statewide use by DEQ field crews as well as other entities. Under this plan, there are six regional BURP coordinators who centrally train and individually direct crews, while the state office program manager and other staff audit crews ensure consistent monitoring practices.

The monitoring defined in the work plan is conducted during the *index period* (i.e., the sampling timeframe) of July through September for streams and August through mid-October for rivers. Specifics of the BURP core elements and parameters may be found in the *BURP Field Manual* (DEQ 2004). Appendix C provides a summary of the overall protocol.

Survey Design Summary

The purpose of the Statewide Random Survey (SRS) is to determine the overall condition of Idaho wadeable streams and identify potential areas of impairment. The survey uses a probabilistic design and selects 50 random sites statewide to monitor annually. For perennial streams, DEQ ensures that a representative sample of different stream orders is taken by using a weighted approach.

Figure 5 uses one watershed to illustrate the differences between using a simple random design and a weighted random design. As seen in the example, the simple random design results in most of the site selections occurring on 1st and 2nd order streams. DEQ structured the weighted random design to proportion the sites among the different stream orders.

Table 3 summarizes the results of site selection differences in the two probability designs. The SRS is also designed to geographically distribute random sites, so that each DEQ regional office is monitoring about the same number of sites. Such regional distribution ensures relatively equal allocation (approximately eight sites per region) in monitoring resources among the six DEQ regional offices[1].

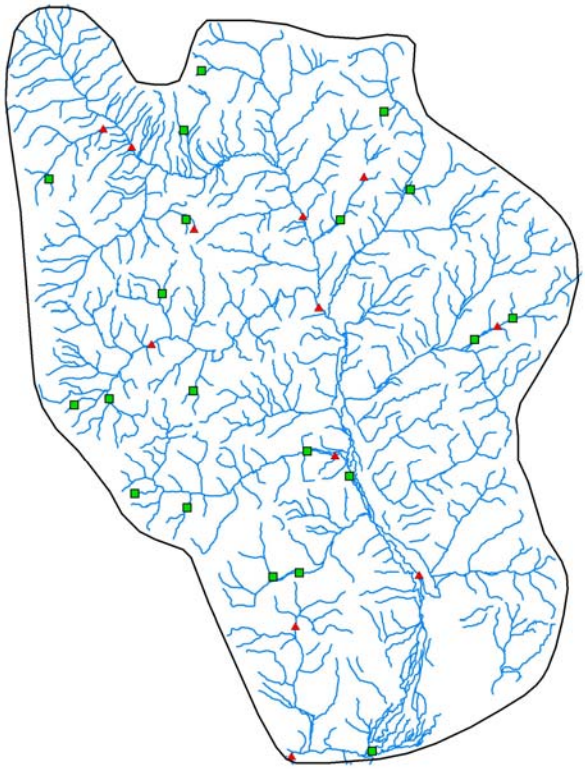

Figure 5. Example of site selections based on simple random and weighted random designs. The squares denote monitoring points in the simple random design while the triangles illustrate monitoring points in the weighted random design. Note that the majority of the squares (the simple random design) fall on 1st and 2nd order streams.

[1] Even though these regions do not have exactly "equal distributions" of water or land area.

Table 3. Stream order proportions selected by DEQ for weighted randomized design. Summary compares site selection differences for stream order based on the random versus weighted designs.

Stream Order	Random Design		Weighted Design	
	Total Sites Selected	% of Total	Total Sites Selected	% of Total
1-2	37	74%	25	50%
3	7	14%	15	30%
4–5	6	12%	10	20%

An example of an SRS site selection is provided in Appendix D. For more information regarding sites scheduled for SRS monitoring, refer to the *BURP Annual Work Plan*.

Site Selection

Some of the SRS sites listed in Appendix D may not be monitored if DEQ determines they are "inaccessible" or "non-sampleable." DEQ uses a standardized procedure to verify randomly selected sites for monitoring (DEQ 2004). Using this guidance, DEQ may determine randomly selected sites are non-sampleable, due to factors such as safety issues, water body types outside the target population (e.g., intermittent or wetland), impoundments, physical barriers, presence of endangered or threatened species, non-wadeability, excessive time to monitor, and lack of private property permission or Tribal authorization. Results from the verification step may slightly change the ultimate proportion of stream orders monitored.

Repeat Sampling

Repeat sampling assists in quality assurance of data collection methods and determination of data result variability. DEQ annually resamples 10% of the SRS sites, and the resampling occurs among sites sampled within the index period to answer different questions concerning the index period and sample collection variability. Year-to-year variability is addressed using reference trend monitoring results. (See, Reference Trend Monitoring Network, page 15.)

Reporting

Using results from the SRS, DEQ estimates the condition of Idaho wadeable streams and reports these statewide estimations separately from the *Integrated Report*, as suggested in EPA guidance (Regan 2003). DEQ will prepare a *Statewide Random Survey Results Report* to summarize results and estimate statewide conditions. DEQ will use a rolling average method, based on five years of monitoring (i.e., 250 sites), to annually estimate statewide conditions. This averaging method reduces variability in estimations and allows better trend detection of water quality conditions and beneficial use support.

Initially, DEQ will have to report annual condition estimates based on less than 250 sites until five years of SRS monitoring has occurred. After that, DEQ will use the most recent results from 250 SRS sites to calculate and report the rolling average of statewide water quality conditions.

Reference Trend Monitoring Network

In 2001, DEQ selected sites to be used in a stream reference trend network (Figure 6). Approximately five sites were chosen for each of four major ecoregions, resulting in six sites in the central and southern mountains bioregion, six sites in the northern mountains bioregion, and ten sites in the basins bioregion. These sites have been monitored annually and were most recently used in a variability study of BURP monitoring protocols (Fore and Grafe 2003). *Selection of Reference Condition for Small Streams in Idaho: a Systematic Approach* (Grafe 2004) provides more detail of DEQ's reference selection approach and location specifics of the reference trend sites.

DEQ will continue to collect BURP data for wadeable streams via the reference trend network. Reference trend survey results are incorporated into the Idaho *Integrated Report* and are separately reported for various analysis purposes (Fore 2003).

DEQ intends to expand the number of sites in the network, possibly through using a rotating panel design, in which some new reference sites will be added to the network while others are rotated out of the monitoring cycle. The rotating panel design allows for greater data extrapolation and interpretation while maintaining a consistent level of sites sampled annually (Larsen et al. 1995, and Stevens and Olsen 1999).

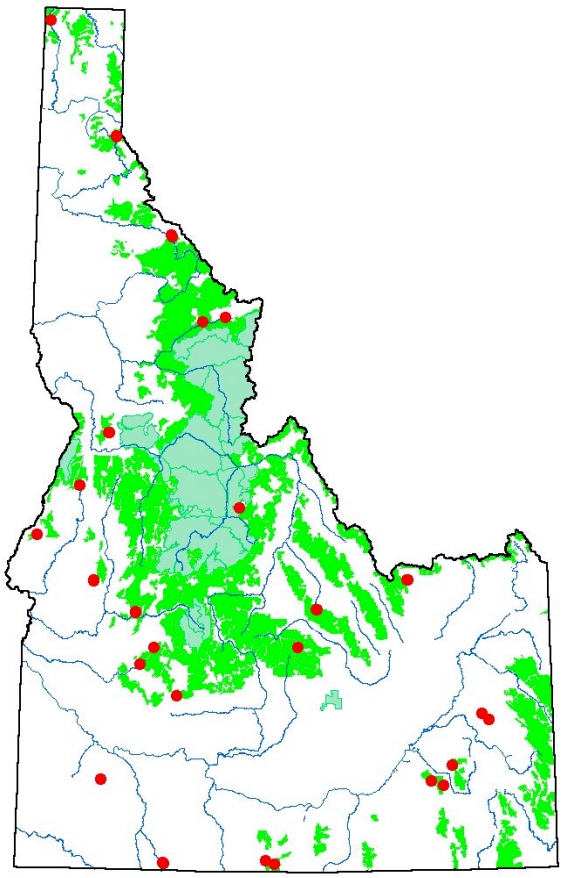

Figure 6. Statewide distribution of sites in the reference trend monitoring network.

AU Survey and Special Studies (Targeted)

Under the census survey approach, DEQ initially estimated that 30-35% of the AUs had not been assessed. After further investigation, DEQ determined that about 10-15% of these AUs were "nonsampleable." To address AUs with insufficient data, DEQ conducts a targeted survey, using best professional judgment to locate at least one representative site per unassessed AU. DEQ regional offices identify unassessed AUs, determine which AUs are sampleable, and prioritize these AUs for monitoring.

The survey's outcomes will be reported in the *Integrated Report* and result in reducing total stream miles reported in Category 3 (i.e., waters with insufficient data). More information regarding monitoring of AUs can be found in the *BURP Annual Workplan:*

.http://www.deq.state.id.us/water/surface_water/Monitoring_Assessment.htm#Quality

Over the next five years, DEQ may choose to continue the AU survey or perform special studies to address data gaps and program needs. An example of a special study is the *Variability Study* (2001 and 2002), which addressed reference conditions and evaluated variability of BURP survey methods (Fore 2003).

USGS/DEQ Trend Monitoring Network

In 1990, USGS, in cooperation with DEQ, implemented a statewide trend monitoring network as a second element of the AMP. The objective of the network was to provide water quality managers with a coordinated statewide program to detect trends in surface water quality. The USGS monitors 56 stations (Figure 7), 40 of which are designated as biological sampling sites. To accommodate budget limitations, biological sites are divided among three geographic regions (southeastern, southwestern, and northern) and sampled once over a three-year rotation (O'Dell et al. 1998).

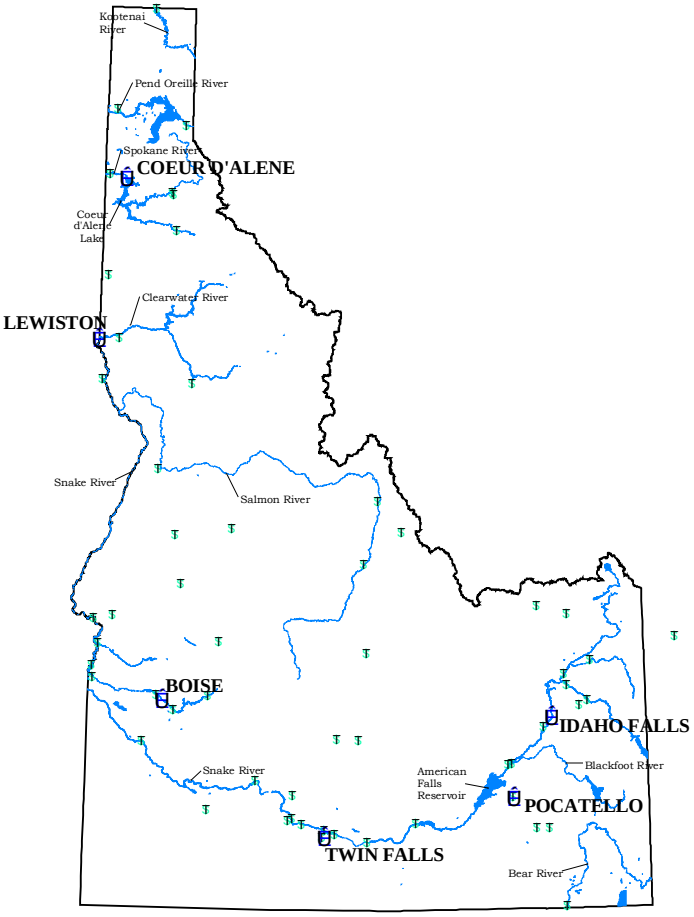

Figure 7. USGS/DEQ trend monitoring network consisting of 56 stations.

Note: These regions were developed previous to DEQ's bioregions and are based on USGS and DEQ best professional judgment. Consequently, these monitoring regions are different from the bioregion classification used in DEQ assessments.

At the trend monitoring stations, water chemistry sampling occurs monthly from April through September, consisting of discharge, specific conductance, pH, temperature, turbidity, dissolved oxygen, bacteria, nutrients, and suspended sediment. Temperature is recorded continuously during summer months (June to September) at sites where samples are collected for biological analyses. Major ions and alkalinity are sampled during base flow conditions in September. Biological sampling occurs during summer/fall low flow conditions and consists of gathering macroinvertebrates, fish, and associated stream habitat parameters (O'Dell et al. 1998).

DEQ will continue its cooperative monitoring agreement with USGS to survey statewide trend sites. This fixed station survey design provides valuable trend data for most of the large rivers in Idaho. Presently, USGS is preparing a comprehensive report, analyzing 10 years of trend monitoring data. When finished, the report will be available through the USGS Web site (http://id.water.usgs.gov/).

EMAP Pilot Project

Similar to BURP, EMAP—the third element of the AMP—uses direct measurement of ecological conditions to assess water quality conditions, particularly aquatic life uses. An EPA research program, EMAP uses a probability survey design that allows unbiased estimates of statewide water quality conditions. DEQ decided to participate in the EMAP western pilot to learn more about this type of survey design as well as to improve BURP biomonitoring and assessment techniques.

There are two components of the Idaho EMAP pilot project: 1) wadeable streams and 2) the Idaho River Intensive Study (REMAP).

Wadeable Streams

By 2003, DEQ had surveyed 50 randomly selected wadeable streams and completed the Idaho portion of the EMAP pilot project. In 2004, DEQ will be monitoring reference sites, hand-selected by EPA and DEQ, to support analysis of the EMAP data and eventual estimation of wadeable stream conditions in Idaho (Nelson 2003). DEQ will continue to evaluate how EMAP methods can be used to improve BURP biomonitoring and assessment techniques.

DEQ has been participating in the five-year wadeable stream study since 2000. The study comprises a random survey of 50 sites selected statewide. Peck et al. (2002) provides more specifics regarding the pilot project's objectives and survey design (also see the EMAP Web site at http://www.epa.gov/emap/west/index.html).

Rivers

The Idaho REMAP study was initiated in 2002, and it comprises a rotating monitoring program conducted over three bioregions (Grafe 2001). These bioregions were ecoregional groupings found to be reasonable classifications (Jessup and Gerritsen 2002). DEQ then used its water body size criteria (Grafe 2002) to select large enough streams for the study, typically fourth order or greater. DEQ monitored approximately 20 sites each in the basins, northern mountains, and central/southern mountains bioregions from 2002-2004.

In 2004, DEQ will monitor the central/southern mountains bioregion and complete the three-year rotation schedule for monitoring Idaho rivers. Similar to the SRS, DEQ intends to analyze the REMAP results (approximately 60 sites) and estimate the condition of rivers.

Upon completion of the analysis, DEQ will determine if a three-year rotation schedule of randomly selected sites is an appropriate monitoring design. Specifically, DEQ will consider how such an approach complements the current USGS/DEQ trend monitoring network. Further, DEQ will evaluate the EMAP, USGS, and BURP protocols to develop a comprehensive and cost-effective monitoring approach for Idaho rivers.

Other Ambient Monitoring

Other ambient monitoring conducted under the AMP includes USGS/DEQ trend surveys and EMAP surveys.

Step 3: Preparing the Integrated Report

The *Integrated Report* combines reporting requirements of the CWA §305(b) and §303(d) lists. Every two years, DEQ is required to conduct a comprehensive analysis of state water bodies to determine whether they meet state water quality standards. The report serves as a guide for developing and implementing watershed recovery plans to protect beneficial uses while achieving federal and state water quality standards.

The *Integrated Report* categorizes or classifies all of the state's waters into one of five different categories. (Appendix A provides a description of each of the categories.) The report also informs the public of the status of all of Idaho's waters and provides an opportunity to comment on that status.

The ambient monitoring data results are also reported in the *Integrated Report*. DEQ interprets and assesses the data based on the representativeness of a site for a particular water body and AU. DEQ assessors use best professional judgment and DEQ guidance to extrapolate and interpret the data (Grafe et al. 2002).

For probability survey reports, such as the SRS and EMAP reports, DEQ must extrapolate probability survey results over a much larger geographical area to estimate the condition of Idaho's waters. For purposes of the *Integrated Repor*t, extrapolation of probability survey data are reduced to ensure appropriate support determinations of specific water bodies or small watersheds.

Step 4: TMDLs and Adaptive Implementation

Ambient monitoring data may be used in the development of a subbasin assessment, the first step in developing a TMDL. Conducting a subbasin assessment entails analyzing and integrating multiple types of water body data, such as biological, physical, chemical, and landscape data. Its main purpose is to determine the causes and extent of the impairment when water bodies are not attaining water quality standards. DEQ separately funds more specific monitoring to support TMDL load determinations and implementation effectiveness.

Adaptive implementation entails continuously improving management practices based on new information and technology. NRC (2001) recommends using the monitoring plan to provide ongoing feedback to different surface water programs, particularly review of water quality standards.

Adaptive implementation also incorporates short-term and long-term actions to improve water quality. After a reasonable period, the entity responsible for monitoring surveys these waters to determine the response in the water body or biological condition. Once the water body is meeting its designated use(s), it is moved from Categories 4 or 5 of the integrated reporting list to Categories 1 or 2 and continues to be monitored through the AMP.

Step 5: Public Participation

Public participation is a valuable and needed resource in the AMP and other water quality programs. Using several different reporting tools, DEQ communicates ambient monitoring results to inform the public of water quality conditions. DEQ also informs monitoring agencies and other interested groups of monitoring locations and schedules to encourage monitoring coordination and partnerships.

DEQ appreciates informal feedback at any time. Commentary that is more formal is possible during public comment periods for scheduled *Integrated Reports* and individual subbasin assessments/TMDLs. The public may provide comments concerning water body assessments and agency priorities at these times. In general, the DEQ state office manages all public comments associated with the overall monitoring plans, monitoring locations, and the *Integrated Report* while appropriate regional offices handle comments concerning particular subbasin assessments/TMDLs.

4. Ambient Monitoring Survey Design Considerations, Including Core Indicators

DEQ designs monitoring surveys to collect data appropriate for the question being asked. For instance, “what is the condition of Idaho waters?” is a broad question requiring a survey design that interprets data from sample sites to determine statewide conditions. A random survey design, in which each monitoring site has an equal chance of being selected, is appropriate for this type of question. (Most election polls use a similar survey design.)

Other design considerations include the following:

- The 303(d) list requires more focused data, with DEQ confirming impaired waters and determining the extent of impairment. The appropriate survey design in this situation uses a combination of random and targeted designs. The randomly selected sites define the extent of impairment, while targeted sites are chosen for their locations near likely sources of impairment.
- By the time the TMDL process starts, DEQ has a clear picture of which waters are impaired, along with a general idea of the causes of the impairments. The pre-TMDL monitoring (which is separate from the ambient monitoring) refines pollutant identification and is the basis for load allocation. A targeted design requiring more intensive sampling is appropriate in this case.
- Post-TMDL monitoring determines whether the TMDL is effective in reducing pollutants and whether there is an upward trend in water quality. This type of monitoring also requires a targeted approach, although a few random sites throughout the watershed may be appropriate.

Table 4 summarizes the data requirements and appropriate sampling designs, along with general information regarding core indicators. Contaminant and fish tissue analyses are performed as needed to address site-specific issues, but these types of analyses are too expensive to include as core indicators of the AMP.

Table 4. Summary of survey data requirements.

Product	Question	Data Requirements	Survey Design	Core Indicators
305(b)/ Integrated Report	What is the condition of Idaho waters?	Obtain representative data of the entire target population.	Random (with weighting factors)	Biological, habitat and some water chemistry (BURP)
303(d)/ Integrated Report	Which waters are impaired and require a TMDL?	Confirm impairment and determine extent throughout watershed(s).	Random/ Targeted	Some additional water chemistry may be collected to confirm impairment.
TMDL (Pre-)	What is(are) the pollutant(s) causing impairment? What is the load allocation?	Confirm causes and sources. Determine pollutant loads for allocation purposes.	Targeted Intensive Survey	Additional water chemistry and habitat parameters collected to develop TMDLs.
TMDL (Post-)	Is the water body(ies) or watershed meeting water quality standards?	Confirm reduction of pollutant loads and improvement of water quality.	Targeted Trend Random (some)	Biological, habitat, and water chemistry (BURP)

In developing the AMP, DEQ placed some constraints on the survey framework, including the need to distribute resources among regions, report results within CWA timelines, consider tribal/wilderness boundaries, and operate within the current budget—all of which are described in the following. Changes in resources or monitoring priorities may place additional constraints.

Annually Distribute Resources Among DEQ Regions

DEQ wishes to continue implementing BURP monitoring out of each regional office annually to ensure resources are adequately distributed among the regions. Such annual distribution also ensures consistency for budgeting purposes. Figure 8 depicts the geographical boundaries of DEQ's six regional offices.

Report Results Within CWA Timeline

The CWA requires a comprehensive analysis of the state's waters every two years. Ambient monitoring data results must be available to support these reporting requirements and meet DEQs data quality needs (Grafe et al. 2002).

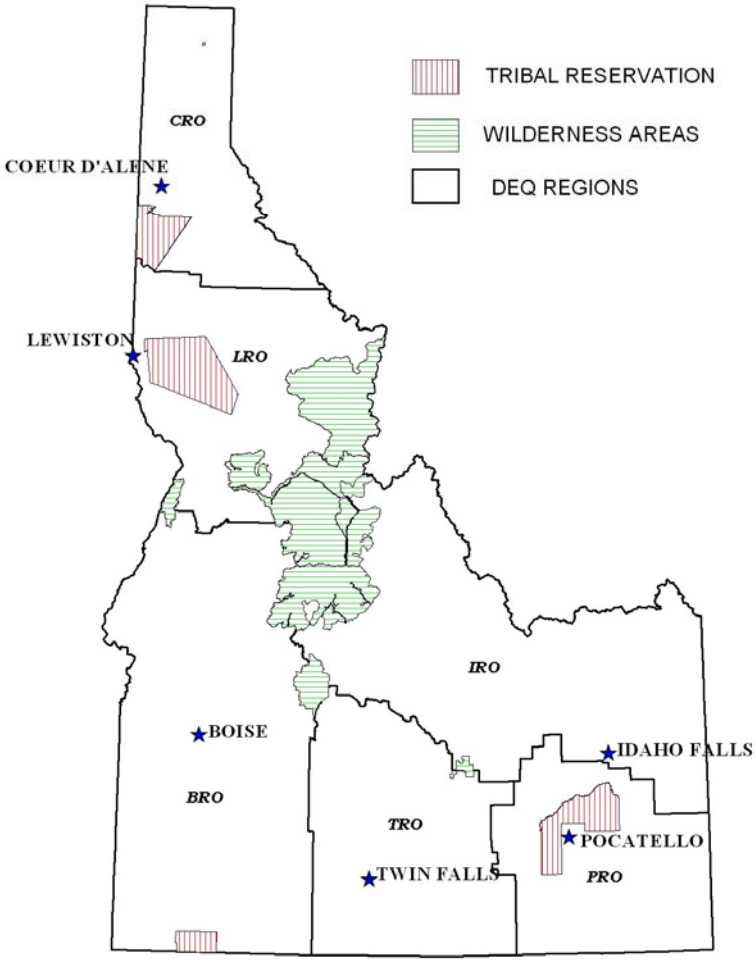

Figure 8. DEQ regional, Tribal reservation, and wilderness boundaries.

Consider Tribal Reservation and Wilderness Boundaries

Monitoring within wilderness boundaries can be resource-intensive in terms of time and funding. In 2000 and 2001, DEQ performed a monitoring pilot program to gather data in the Selway and Middle Fork of the Salmon tributaries and rivers. One of the pilot program's primary purposes was to collect baseline data for developing stream and river reference conditions, however, DEQ was also interested in the resources required to implement wilderness monitoring. DEQ determined that this type of monitoring could not be supported annually out of current BURP funding and would require special project funding for any future implementation. However, DEQ may elect to monitor wilderness sites that are considered "accessible" according to guidance found in the *BURP Field Manual* (DEQ 2004).

There are several Tribal reservations in Idaho (Figure 8); DEQ will look for opportunities to coordinate with the Tribes concerning monitoring plans and to determine how to efficiently monitor so that common Tribal and state goals are efficiently reached. An example is DEQ's coordination with the Nez Perce Tribe: the Nez Perce Tribe implements a probability-based design to address ambient

monitoring within reservation boundaries (Davis, personal communication). EPA provided EMAP training, organized by DEQ in 2001 and 2002, to assist the Tribe in gathering data that will meet their monitoring goals and that may be used in DEQ assessment reports. DEQ will collect and evaluate data within Tribal boundaries if given Tribal authorization to report monitoring results.

5. Data Analysis/Assessment, Data Management, and Quality Assurance

Multimetric indexes are used for data analysis and assessment within the AMP, while data management functionality is provided using centralized database management systems. Both of these features of the AMP are described in the following.

Data Analysis/Assessment

DEQ uses the *Water Body Assessment Guidance, Second Edition*, (WBAG II) to assess data and determine beneficial use support of Idaho water bodies. A water body assessment entails analyzing and integrating multiple types of water body data to evaluate water body impairment for different use categories (including aquatic life and contact recreation), determine the degree of biological integrity, and compile descriptive information about the water body.

WBAG II details how DEQ uses multimetric indexes to determine aquatic life use support (see Section 6 of the WBAG document). DEQ uses different indexes depending on whether the water body is classified as a stream or river. The *Stream Macroinvertebrate Index*, *Stream Habitat Index*, and *Stream Fish Index* constitute the stream indexes; the river indexes consist of the *River Macroinvertebrate Index*, *River Diatom Index*, and *River Fish Index*. Supporting technical analyses for these documents are found in the *Idaho Stream Ecological Assessment Framework* (Grafe 2002b) and *Idaho River Ecological Assessment Framework* (Grafe 2002c), documents distributed separately from the WBAG II.

Although the WBAG II was designed primarily to assess BURP data, DEQ also evaluates existing and readily available data from other sources. Specifically, DEQ evaluates the scientific rigor and relevance of non-BURP-compatible data to determine where and how it will be incorporated into the assessment process and other water quality decisions (EPA 1997). DEQ uses a tiered approach to provide consistent weighting and consideration of various types of data. (Appendix B summarizes the three tiers and provides examples of different data types in each tier, along with describing how DEQ uses different tiered data for planning and reporting purposes.)

The WBAG II also describes the methods DEQ uses to stratify (classify data by stream order and land use) and compare the data for use support determination. Specifically, WBAG II, Section 2 explains the *Idaho Water Body Identification* (WBID) *System* and *assessment unit* (AU) structure used to extrapolate and interpret data.

A WBID usually represents a small watershed and is used in Idaho's water quality standards to geo-locate waters in the state. The scale of a WBID is generally comparable to a 6th-field watershed —12-digit *hydrologic unit code* (HUC)—although some may be larger or smaller (Figure 9). The AU is a mechanism for grouping waters within a WBID into a meaningful unit for assessment purposes only. Presently, most AUs are grouped based on stream order and land use; however, DEQ staff members have the option to further delineate AUs based on additional

information. Therefore, the number of WBIDs in Idaho is presently a fixed total, whereas the total number of AUs will continue to change based on current and future assessment decisions.

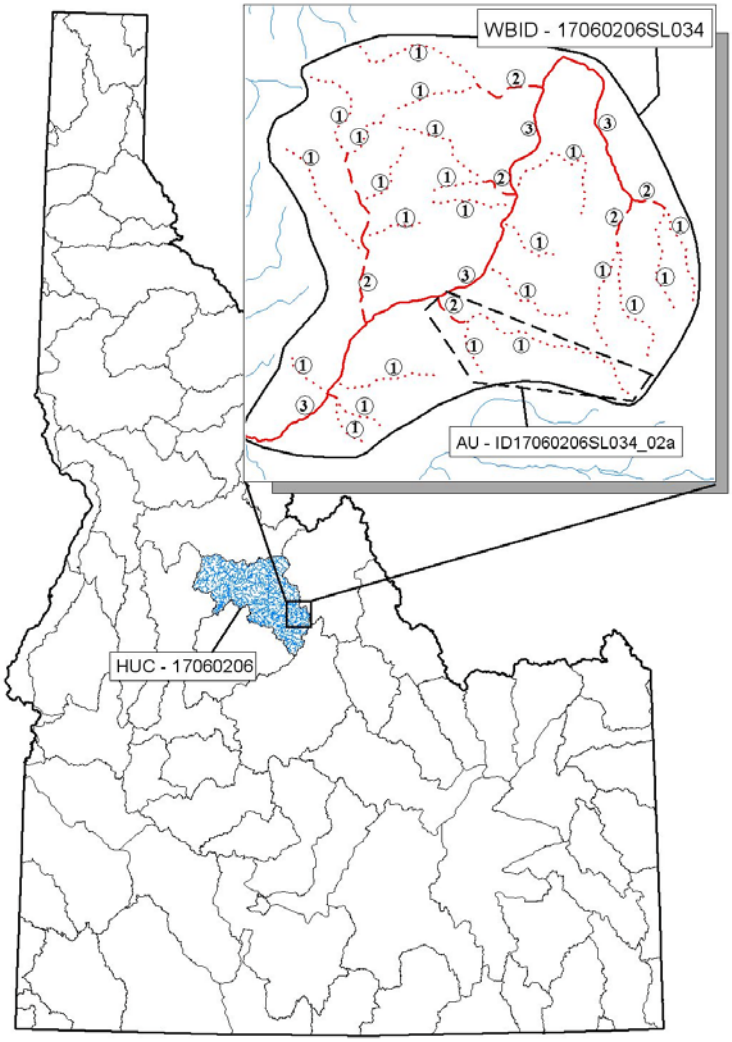

Figure 9. Example of the scale differences for DEQ's reporting units. WBIDs (17060206SL034) are located within HUCs (17060206); assessment units (17060206SL034_02a) are contained within WBIDs.

Data Management

Ambient monitoring data is managed as described in the following.

BURP Data

All data collected under BURP are stored in a centralized database at the state office. Data for each sample site are recorded on standard field forms; regional offices keep copies of the field forms and send the originals directly to the state office for quality assurance (QA) review prior to data entry. (Regional offices also house other DEQ data collected to support subbasin assessments, TMDLs, and implementation plans.)

Assessment Database (ADB)

DEQ uses EPA's 305(b) *Assessment Database* (ADB v.2) software to electronically store assessment information. The main function of the ADB v.2 is to store assessment information in compliance with EPA guidance on generating and integrating 305(b) and 303(d) reports (EPA 2003). The ADB v.2 can also produce the attainment category report, as described in Appendix A, based on that assessment information. An advantage of using ADB v.2 is that it's organized around AUs. Assessment information associated with an AU may include designated uses, assessment metadata, causes of impairment (or observed effects), sources of impairment, and assessment category.

Trend Monitoring Data

USGS manages the trend monitoring data in the USGS National Water Information System (NWIS). The agency summarizes this data in official reports, providing hydrologic data upon request (see http://waterdata.usgs.gov/id/nwis/sw/).

EMAP Data

EPA manages EMAP data through the EMAP Information Management System (see http://www.epa.gov/emap/html/data.html). The EMAP web site provides guidelines regarding data management procedures and a directory of contact names to assist data request efforts.

Quality Assurance

Quality Assurance (QA) processes used for random sampling within the AMP are defined in the *Beneficial Use Reconnaissance Program Quality Assurance Plan for Field Data Sheets on Wadeable (Small) Streams* (DEQ 2001).

As described in Step 2 of the AMP process (page 11), repeat sampling assists in quality assurance of data collection methods and determination of data result variability. DEQ resamples 10% of the randomly selected sites to answer different questions concerning the index period and sample collection variability. Year-to-year variability is addressed using reference trend monitoring results (page 15).

During the BURP QA process, the field forms are checked for completeness, legibility, and accuracy. Presently, DEQ does not manage data collected by third parties, except for some fish data associated with BURP sites.

Collected data are transmitted to the state office for quality assurance review and entry into a statewide BURP database. The quality assurance process follows the DEQ *Beneficial Use Reconnaissance Program Quality Assurance Plan for Field Data Sheets on Wadeable (Small) Streams* (DEQ 2001).

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6. General Support and Infrastructure Planning

Organizational support, along with resource planning and constraints, for the AMP are described in the following.

Organizational Support

The DEQ organization consists of a state program office, six regional offices, and *Technical Services* staff. The regional offices implement programs while the state program office develops and oversees programs. *Technical Services* staff assist with implementation, providing technical expertise as requested.

Resource Planning

DEQ *Surface Water Quality* staff, who implements most of the CWA requirements, are organized according to the five major programs listed in Table 5. Presently, there are 17 *Full Time Equivalents* (FTEs, 35,360 labor hours) dedicated toward ambient monitoring and assessment. For the ambient monitoring that occurs under BURP, there is a state office program manager, six regional coordinators, and several *Technical Services* staff.

The AMP was designed assuming current resource and staffing levels will continue. Other programmatic needs to monitor other water body types (wetland, lake, and reservoir monitoring), develop stressor identification methods, and conduct more TMDL effectiveness monitoring would require additional resources. Further, pre-TMDL monitoring requires additional resources to adequately identify causes and sources before preparing load allocations. Without additional resources, it is likely that these program gaps will continue or the current amount of planned stream and river monitoring may need to be reduced to compensate for other programmatic needs.

Table 5. Approximate Full Time Equivalents (FTEs) and associated person hours supporting the Surface Water Program Quality programs.
Contractual agreements are not included. Numbers are subject to change.

Program	# of FTEs	Person Hours
Water Quality Standards	2.0	4,160
Monitoring and Assessment	17.0	35,360
Integrated Report [303(d)/305(b)]	2.8	5,824
TMDLs	26.0	54,080
Nonpoint Source Management (319)	3.2	6,656

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Glossary

Note: This glossary is intended to define terms within the context of the AMP. Unless otherwise cited, these working definitions were prepared by DEQ.

Term	Definition
305(b)	Refers to section 305 subsection "b" of the Clean Water Act. 305(b) generally describes a report of each state's water quality, and is the principle means by which EPA, congress, and the public evaluate whether US waters meet water quality standards, the progress made in maintaining and restoring water quality, and the extent of the remaining problems.
303(d)	Section 303 subsection "d" of the Clean Water Act. 303(d) requires state to develop a list of water bodies that do not meet water quality standards. This section further requires total maximum daily loads (TMDLs) be prepared for listed waters. Both the list and the TMDLs are subject to EPA approval.
Ambient	General conditions in the environment. In the context of water quality, ambient waters are those representative of general conditions, not associated with episodic perturbations, or specific disturbances such as a wastewater outfall (Armantrout 1998, EPA 1996).
Aquatic	Pertaining to water. In this context, usually refers to plants or animal life living in, growing in, or adapted to water.
Assessment Unit	The assessment unit (AU) is a mechanism for grouping waters within a water body ID (WBID) into a meaningful unit for assessment purposes only.
Beneficial use	Any of the various uses of water, including, but not limited to, aquatic life, recreation, water supply, wildlife habitat, and aesthetics.
Beneficial Use Reconnaissance Program (BURP)	Systematic biological and physical habitat surveys of water bodies in Idaho. BURP protocols address wadeable streams, rivers, lakes, and reservoirs.
Best Management Practices (BMPs)	Structural, nonstructural, and managerial techniques that are recognized to be the most effective and practical means to control nonpoint source pollutants, yet are compatible with the productive use of the resource to which they are applied.

Term	Definition
Best Professional Judgment (BPJ)	A conclusion and/or interpretation derived by a trained and/or technically competent individual by applying interpretation and synthesizing information.
Biological integrity	1) The condition of an aquatic community inhabiting unimpaired water bodies of a specified habitat as measured by an evaluation of multiple attributes of the aquatic biota (EPA 1996). 2) The ability of an aquatic ecosystem to support and maintain a balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to the natural habitats of a region (Karr 1991).
Clean Water Act	The Federal Pollution Control Act (PL92-500, commonly known as the Clean Water Act), as last reauthorized by the Water Quality Act of 1987 (PL100-4), establishes a process for states to develop information on and control the quality of the nation's water resources.
Criteria	Numeric or descriptive factors taken into account in setting standards for various pollutants. These factors are used to determine limits on allowable concentration levels and to limit the number of violations per year. EPA develops criteria guidance; states establish criteria.
Designated uses	Those water uses identified in state water quality standards that must be achieved and maintained as required under the Clean Water Act.
Disturbance	Any event or series of events that disrupt ecosystem, community or population structure and alter the physical environment.
Ecological indicator	A characteristic of an ecosystem that is related to, or derived from, a measure of a biotic or abiotic variable that can provide quantitative information on ecological structure and function. An indicator can contribute to a measure of integrity and sustainability. Ecological indicators are often used within the multimetric index framework.
Ecological integrity	1) A living system exhibits integrity if, when subjected to disturbance, it sustains and organizes self-correcting ability to recover toward a biomass end-state that is normal for that system. 2) The condition of an unimpaired ecosystem as measured by combined chemical, physical (including habitat), and biological attributes (EPA 1996).

Term	Definition
Ecosystem	The interacting system of a biological community and its non-living environmental surroundings.
Existing beneficial use or existing use	A beneficial use present in waters on or after November 28, 1975, whether or not the use is designated for those waters in the *Water Quality Standards and Wastewater Treatment Requirements*.
Extrapolation	Estimation of unknown values by extending or projecting from known values.
Fixed-location monitoring	Sampling of an environmental or ambient medium for pollutant concentrations at one location continuously or repeatedly.
Fully supporting	In compliance with water quality standards and criteria, and meeting the reference conditions for all designated and existing beneficial uses as determined through the Water Body Assessment Guidance (WBAG).
GIS	Geographic Information System, a georeferenced database.
Habitat	The place where a population (e.g., human, animal, plant, microorganism) lives and its surroundings, both living and non-living.
Hydrologic Unit Code (HUC)	A watershed numbering system developed by the U.S. Geological Survey.
Intermittent stream	1) A stream (in contact with the ground water table) that flows only part of the year, such as when the ground water table is high or when it receives water from springs or from some surface source, such as melting snow in mountainous areas. It ceases to flow above the streambed when losses from evaporation or seepage exceed the available stream flow. 2) A stream that has a period of zero flow for at least one week during most years. A stream with a 7Q2 [a moving average of measured flow for seven consecutive days] of less than 0.1 cfs is considered intermittent for steady-state waste load allocation modeling. Streams with perennial pools that create aquatic life uses are not intermittent (Idaho Water Quality Standards and Wastewater Treatment Requirements, IDAPA 58.01.02.51).
Macroinvertebrate	An invertebrate animal (without backbone) large enough to be seen without magnification and retained by a 0.595 mm (U.S.#30) screen.

Term	Definition
Monitoring	Periodic or continuous surveillance or testing to determine the level of compliance with statutory requirements and/or pollutant levels in various media or in humans, plants, and animals.
Natural condition	A condition without human-caused disruptions.
Nonpoint sources	Diffuse pollution sources (i.e., without a single discrete point of origin or not introduced into a receiving stream from a specific outlet). These pollutants are generally carried off the land by storm water. Common nonpoint sources are agriculture, forestry, urban, mining, construction, dams, channels, land disposal, and saltwater intrusion.
Nutrient	Any substance assimilated by living things that promotes growth. In water, the term is generally applied to nitrogen and phosphorus, but it is also applied to other essential and trace elements and organic carbon.
Parameter	A variable, measurable property whose value is a determinant of the characteristics of a system; e.g., temperature, pressure, and density are parameters of the atmosphere.
Periphyton	Attached microflora growing on the bottom, or on other submerged substrates, including higher plants. Epilithic periphyton is flora growing on the surface of rock or stones. Diatoms are a type of periphyton.
Pollutant	Generally, any substance introduced into the environment that adversely affects the usefulness of a resource or the health of humans, animals, or ecosystems.
Pollution	A concept that encompasses the presence of a substance in the environment that because of its chemical composition or quantity prevents the functioning of natural processes and produces undesirable environmental and health effects as well as the human-made or human-induced alteration of the physical, biological, chemical, and radiological integrity of water and other media.
Probability-based sample	A sample selected in such a manner that the probability of being included in the sample is known for every unit on the sampling frame (EPA 2000b).
Protocol	A series of formal steps for conducting a test or survey.

Term	Definition
Quality assurance (QA)	A program organized and designed to provide accurate and precise results. Included are selection of proper technical methods, tests, or laboratory procedures; methods of sample collection and preservation; selection of limits; evaluation of data; quality control; and qualifications and training of personnel. Its goal is to assure the data provided are of the quality needed and claimed (Rand 1995, EPA 1996).
Quality control (QC)	Routine application of specific actions required to provide information for the quality assurance program. Included are standardization, calibration, and replicates. Quality control is implemented at the field or bench level (Rand 1995, EPA 1996).
Quantitative	Descriptive of size, magnitude, or degree.
Random sampling	A probability-based sampling design that protects against selection bias. Specifically, a simple random sample of size n is defined as a sample selected from a population such that all possible samples of n elements have the same chance of being selected (EPA 2000b).
Reconnaissance	An exploratory or preliminary survey of an area.
Reference condition	(1) A condition that fully supports applicable beneficial uses with little affect from human activity and represents the highest level of support attainable. (2) A benchmark for populations of aquatic ecosystems used to describe desired conditions in a biological assessment and acceptable or unacceptable departures from them. The reference condition can be determined through examining regional reference sites, historical conditions, quantitative models, and applying expert judgment (Hughes 1995).
Reference site	A specific locality on a water body that is minimally impaired and is representative of the expected ecological integrity of other localities on the same water body or nearby water bodies (EPA 1996).
Representative sample	A portion of material or water that is as similar in content and consistency as possible to that in the larger body of material or water being sampled.
Representativeness	The measure of the degree to which data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, a process condition, or an environmental condition (EPA 2000b).
River	Large, natural or human-modified stream that flows in a defined course or channel, or a series of diverging and converging channels.

Term	Definition
Sample	A set of units or elements selected from a larger population, typically to be observed for making inferences regarding that population (EPA 2000b).
Sample size	The number of sample units to be collected (EPA 2000b).
Sampling design	A description of the sample collection plan that specifies the number, type, and location (spatial or temporal) of sampling units to be selected for measurement (EPA 2000b).
Spring	Ground water seeping out of the earth where the water table intersects the ground surface.
Stream	A natural water course containing flowing water, at least part of the year, together with dissolved and suspended materials, that normally supports communities of plants and animals within the channel and the riparian vegetation zone.
Stream order	Hierarchical ordering of streams based on the degree of branching. A first-order stream is an unforked or unbranched stream. Two first-order streams flow together to form a second-order stream, two second-order streams combine to make a third-order stream, etc. (Strahler 1957).
Surface water	All water naturally open to the atmosphere (rivers, lakes, reservoirs, streams, impoundments, seas, estuaries, etc.) and all springs, wells, or other collectors that are directly influenced by surface water.
Target population	The set of all units or elements (e.g. barrels of waste or points in time and/or space) about which a sample is intended to produce inferences (EPA 2000b).
Targeted survey	The use of professional judgment to choose sampling locations (EPA 2000b).
TMDL	An acronym that stands for total maximum daily load. A TMDL is an estimation of the maximum pollutant amount that can be present in a water body and still allow that water body to meet water quality standards (40 CFR Part 130). In common usage, a TMDL also refers to the written document that contains the statement of loads and supporting analyses and often incorporates TMDLs for several water bodies and/or pollutants within a given watershed.
Water body	A homogeneous classification that can be assigned to rivers, lakes, estuaries, coastlines, or other water features.

Term	Definition
Water quality	A term used to describe the biological, chemical, and physical characteristics of water with respect to its suitability for a beneficial use.
Water quality criteria	Levels of water quality expected to render a body of water suitable for its designated use. Criteria are based on specific levels of pollutants that would make the water harmful if used for drinking, swimming, farming, or industrial processes.
Water quality standards	State-adopted and EPA-approved ambient standards for water bodies. The standards prescribe the use of the water body and establish the water quality criteria that must be met to protect designated uses.
Watershed	The land area that drains into a stream. An area of land that contributes runoff to one specific delivery point; large watersheds may be composed of several smaller "subwatersheds," each of which contributes runoff to different locations that ultimately combine at a common delivery point.
WBID	Water body identification number; a number that identifies a water body and correlates to Idaho Water Quality Standards and GIS information.
Wetland	An area that is saturated by surface or ground water with vegetation adapted for life under those soil conditions. Examples of wetlands include swamps, bogs, fens, marshes, and estuaries.

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Appendix A. Integrated Reporting Categories

Based on its assessment and listing methodology, each state or territory should report to EPA the water quality standard attainment status of all AUs in their jurisdiction. Each AU should be placed in only one of the five unique assessment categories. Monitoring needed to support water quality management actions for each AU should be scheduled by year for all categories. Each category and recommended monitoring is described below:

Category Description

1. **Attaining the water quality standard and no use is threatened**. AUs should be listed in this category if there are data and information that meet the requirements of the state's or territory's assessment and listing methodology and support a determination that the water quality standard is attained and no use is threatened. States and territories should consider scheduling these AUs for future monitoring to determine if the water quality standard continues to be attained.

2. **Attaining some of the designated uses; no use is threatened; and insufficient or no data and information is available to determine if the remaining uses are attained or threatened.** AUs should be listed in this category if there are data and information that meet the requirements of the state's or territory's assessment and listing methodology to support a determination that some, but not all, uses are attained and none are threatened. Attainment status of the remaining uses is unknown because there is insufficient or no data or information. Monitoring should be scheduled for these AUs to determine if the uses previously found to be in attainment remain in attainment and to determine the attainment status of those uses for which data and information was previously insufficient to make a determination.

3. **Insufficient or no data and information to determine if any designated use is attained**. AUs should be listed in this category when the data or information to support an attainment determination for any use is not available, consistent with the requirements of the state's or territory's assessment and listing methodology. To assess the attainment status of these AUs, the state or territory should obtain supplementary data and information or schedule monitoring as needed.

4. **Impaired or threatened for one or more designated uses but does not require the development of a TMDL**.

    A. **TMDL has been completed**. AUs should be listed in this subcategory once all TMDL(s) have been developed and approved by EPA that, when implemented, are expected to result in full attainment of the standard. Where more than one pollutant is associated with the impairment of an AU, the AU will remain in Category 5 until all TMDLs for each pollutant have been completed and approved by EPA. Monitoring should be

scheduled for these AUs to verify that the water quality standard is met when the water quality management actions needed to achieve all TMDLs are implemented.

B. **Other pollution control requirements are reasonably expected to result in the attainment of the water quality standard in the near future**. Consistent with the regulation under 130.7(b)(i),(ii), and (iii), AUs should be listed in this subcategory when other pollution control requirements required by local, state, or federal authority are stringent enough to implement any water quality standard (WQS) applicable to such waters. EPA expects that these requirements must be specifically applicable to the particular water quality problem. Monitoring should be scheduled for these AUs to verify that the water quality standard is attained as expected.

C. **Impairment is not caused by a pollutant**. AUs should be listed in this subcategory if the impairment is not caused by a pollutant. States and territories should consider scheduling these AUs for monitoring to confirm that there continues to be no pollutant-caused impairment and to support water quality management actions necessary to address the cause(s) of the impairment.

5. **The water quality standard is not attained. The AU is impaired or threatened for one or more designated uses by a pollutant(s) and requires a TMDL**. This category constitutes the Section 303(d) list of waters impaired or threatened by a pollutant(s) for which one or more TMDL(s) are needed. An AU should be listed in this category if it is determined, in accordance with the state's or territory's assessment and listing methodology, that a pollutant has caused, is suspected of causing, or is projected to cause an impairment. Where more than one pollutant is associated with the impairment of a single AU, the AU will remain in Category 5 until TMDLs for all pollutants have been completed and approved by EPA.

For AUs listed in this category, states or territories should provide monitoring schedules that describe when data and information will be collected to support TMDL establishment and to determine if the standard is attained. EPA recommends that while the state or territory is monitoring the AU for a specific pollutant to develop a TMDL, it should also monitor the watershed to assess the attainment status of other uses.

A state or territory must submit a schedule for the establishment of TMDLs for all waters in Category 5. This schedule must reflect the state's or territory's own priority ranking of the listed waters.

Appendix B. Data Quality Criteria Table (Tier I, II, III)

Table 6. Description, Examples, and Incorporation of Data Tiers

Tier	Scientific Rigor	Relevance	Example	How Used
I	• Quantitative. • Parameters measured. • Established monitoring plan with QA and defined protocols. • >30 hours of supervised training. • Samples processed in EPA-certified lab following standard methods or by professional taxonomist. • Organisms identified by a professional taxonomist.	• Data relates to either water quality standard(s), especially numeric, or a beneficial use. • ≤5 years old. • Data relates to a named water body (GIS, latitude and longitude or map location provided).	• Ph.D. or masters thesis. • Published or printed studies or reports. • Published predictive models. • EPA EMAP. • BURP data. • Use attainability analyses. • Rapid Bioassessment Protocols (RBP).	• 303(d) listing or de-listing. • 305(b) reports • Subbasin assessments. • TMDLs. • Planning for future monitoring.
II	• Qualitative or semi-quantitative in nature. • May have a monitoring plan. • No QA/QC provided for within plan. • Protocols may or may not be defined. • Parameters rated. • Field staff may not be trained: Lab may not be certified. • Taxonomist may not be a professional.	• Data may relate to a watershed. • Not water body specific. • Data >5 years old. • Data may relate to other agency guidelines or objectives.	• Environmental assessments. • Proper Functioning Condition. • Cumulative Watershed Effects. • Most citizen monitoring. • Models with documentation. • Agency planning documents.	• 305(b) reports. • Subbasin assessments or TMDLs when data adds to overall assessment quality. • Planning for future monitoring.
III	• May be qualitative in nature. • Parameters evaluated. • Field staff have little to no training. • No documented monitoring plan. • No QA/QC. • Anecdotal in nature.	• Not specific to water quality standards or beneficial uses. • Location not specific. • Data ≥10 years old.	• Non-specific reports or studies. • Newspaper articles. • Simple models without any documentation.	• Planning for future monitoring. • Hold for further investigations.

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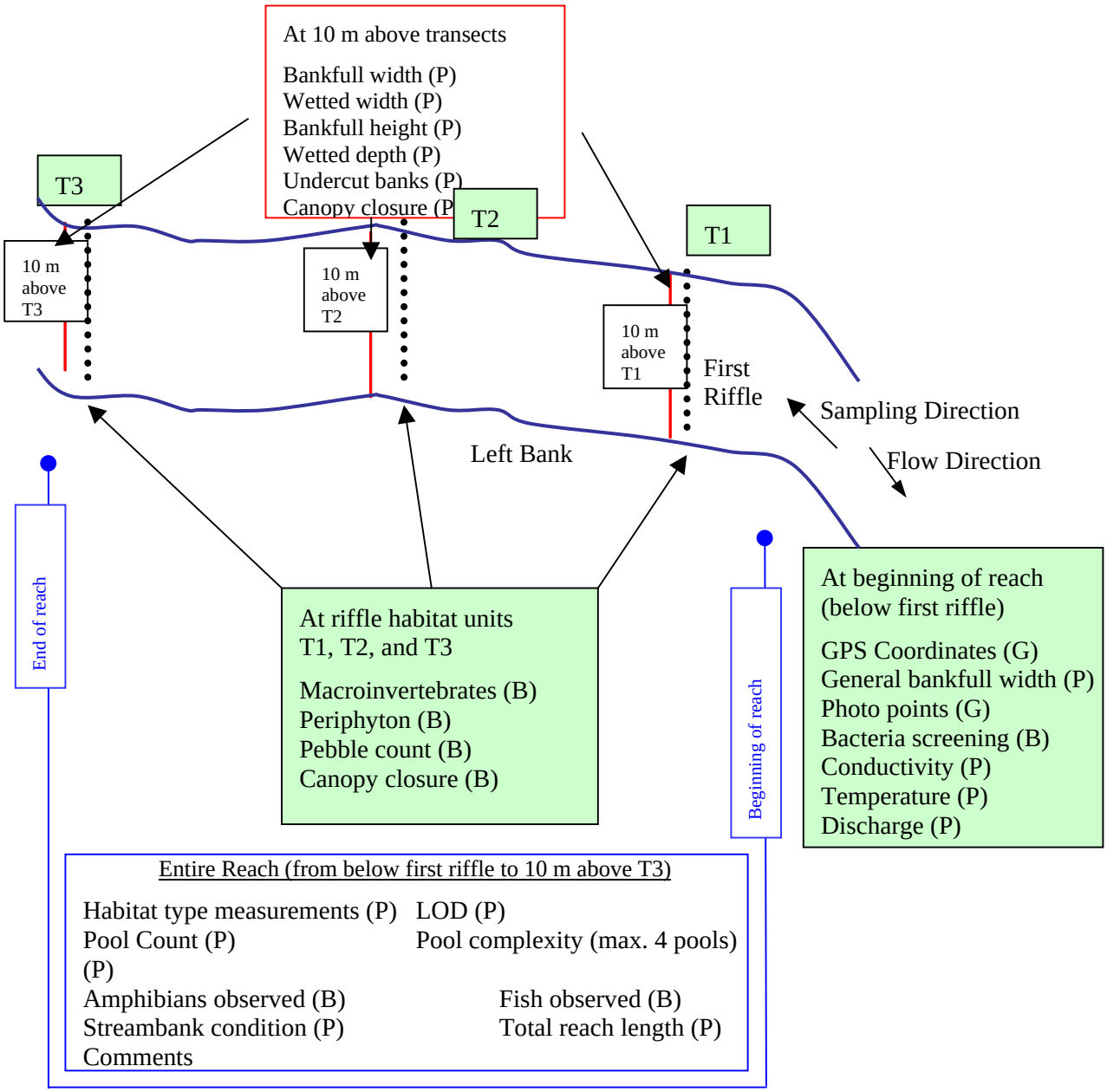
Appendix C. Summary of BURP Core Indicators

Performing Monitoring Activities in the Field

Figure 10 illustrates a typical BURP reach and the variables collected along the reach. The figure depicts whether the variable is a biological (B), physical habitat (P), chemical (C), or general (G) core indicator. The *Draft BURP Field Manual* (http://www.deq.state.id.us/water/surface_water/burp_field_manual_2004_entire.pdf) provides more information regarding the methods used to collect each variable.

Indicators types: Biological (B), Physical Habitat (P), Chemical (C), General (G)

Figure 10. Core elements and parameters collected under BURP protocol (DEQ 2004).



* Canopy closure will be measured at these three additional points as part of a pilot project in 2003.

Appendix D. Example of SRS Random Site Selections, Along With Reserve/Alternate Sites

Table 7. Example of SRS Random Site Selections for 2004

SRS Random Site Selection for 2004							
SITE_ID	STREAM_NAM	HUC4CODE	COUNTY	DMS_LAT	DMS_LONG	QUAD100K	REG
IDW04451-020		17060206	Lemhi	45 4 0.23 N	114 29 21.12 W	BIGHORN_CRAGS-ID	IDF
IDW04451-021	Sand Creek	17040201	Bonneville	43 24 27.61 N	112 1 31.62 W	BLACKFOOT-ID	IDF
IDW04451-022	Tenmile Creek	17060201	Custer	44 29 11.98 N	114 38 5.64 W	WHITE_CLOUD_PEAKS-ID	IDF
IDW04451-027	Threemile Creek	17040214	Clark	44 20 48.01 N	112 8 33.32 W	DUBOIS-ID	IDF
IDW04451-029		17040215	Clark	44 5 0.64 N	112 39 39.71 W	DUBOIS-ID	IDF
IDW04451-031		17040218	Butte	43 40 31.94 N	113 14 42.54 W	ARCO-ID	IDF
IDW04451-046	Sage Creek	17040218	Custer	44 5 15.58 N	113 59 24.14 W	BORAH_PEAK-ID	IDF
IDW04451-006		17060306	Latah	46 47 13.88 N	116 42 23.15 W	POTLATCH-ID	LEW
IDW04451-010	North Fork Clearwater River	17060307	Clearwater	46 46 22.94 N	115 29 10.14 W	HEADQUARTERS-ID	LEW
IDW04451-012	Meadow Creek	17060302	Idaho	45 47 34.58 N	115 7 24.28 W	ELK_CITY-ID	LEW
IDW04451-014		17060209	Idaho	45 22 28.60 N	116 6 16.20 W	RIGGINS-ID	LEW
IDW04451-026	Silver Creek	17060108	Latah	47 2 16.26 N	117 0 7.06 W	ROSA-WA	LEW
IDW04451-030	Meadow Creek	17060305	Idaho	45 53 59.14 N	115 55 12.50 W	ELK_CITY-ID	LEW
IDW04451-040	French Creek	17060307	Clearwater	46 33 17.50 N	115 37 25.21 W	HEADQUARTERS-ID	LEW
IDW04451-048		17060209	Idaho	45 33 35.86 N	116 16 44.83 W	GRANGEVILLE-ID	LEW
IDW04451-002		17010301	Kootenai	47 47 31.20 N	116 20 12.55 W	COEUR_D_ALENEE-ID	CDA
IDW04451-004	Pend Oreille River	17010214	Bonner	48 14 59.21 N	116 32 11.40 W	SANDPOINT-ID	CDA
IDW04451-016	Wonderful Creek	17010304	Shoshone	47 24 37.76 N	115 44 34.15 W	WALLACE-ID	CDA
IDW04451-018		17010214	Bonner	47 57 13.36 N	116 26 56.33 W	COEUR_D_ALENEE-ID	CDA
IDW04451-034		17010304	Shoshone	47 9 49.86 N	115 49 47.21 W	WALLACE-ID	CDA
IDW04451-036	Squaw Creek	17010306	Benewah	47 9 1.84 N	116 49 25.10 W	SAINT_MARIES-ID	CDA
IDW04451-038	Trail Creek	17010104	Boundary	48 34 4.62 N	116 22 58.73 W	BONNERS_FERRY-ID	CDA
IDW04451-044		17010104	Boundary	48 32 4.49 N	116 12 16.96 W	BONNERS_FERRY-ID	CDA
IDW04451-050		17010105	Boundary	48 53 35.95 N	116 8 24.14 W	BONNERS_FERRY-ID	CDA
IDW04451-003	Cassia Creek	17040210	Cassia	42 13 59.34 N	113 36 2.99 W	OAKLEY-ID	TWF
IDW04451-005		17040212	Gooding	43 0 43.02 N	114 56 40.34 W	FAIRFIELD-ID	TWF
IDW04451-007		17040212	Twin Falls	42 28 16.90 N	114 16 9.70 W	ROGERSON-ID	TWF
IDW04451-008	Pole Creek	17060201	Blaine	43 55 12.65 N	114 46 52.90 W	SUN_VALLEY-ID	TWF
IDW04451-009		17040213	Twin Falls	42 1 4.48 N	114 54 15.08 W	ROGERSON-ID	TWF
IDW04451-013		17040221	Blaine	43 12 32.69 N	114 11 18.20 W	FAIRFIELD-ID	TWF
IDW04451-023		17040219	Blaine	43 34 47.64 N	114 20 28.14 W	SUN_VALLEY-ID	TWF
IDW04451-039	Deer Creek	17040220	Camas	43 20 0.20 N	114 39 37.94 W	FAIRFIELD-ID	TWF
IDW04451-041	Rock Creek	17040219	Blaine	43 23 7.26 N	114 23 42.58 W	FAIRFIELD-ID	TWF
IDW04451-001	Left Fork	16010201	Bear Lake	42 21 0.47 N	111 13 11.53 W	PRESTON-ID	POC
IDW04451-011	Rawlins Creek	17040207	Bingham	43 6 39.24 N	111 53 21.73 W	PALISADES-ID	POC
IDW04451-017		17040105	Caribou	42 32 38.04 N	111 9 38.23 W	SODA_SPGS-ID	POC

SRS Random Site Selection for 2004							
IDW04451-019	Malad River	16010204	Oneida	42 6 53.14 N	112 17 6.68 W	MALAD_CITY-ID	POC
IDW04451-035		17040208	Bannock	42 33 1.66 N	112 21 52.96 W	POCATELLO-ID	POC
IDW04451-037	Lanes Creek	17040207	Caribou	42 54 19.87 N	111 18 26.42 W	SODA_SPGS-ID	POC
IDW04451-043		16010204	Oneida	42 16 23.23 N	112 31 19.42 W	MALAD_CITY-ID	POC
IDW04451-045	Homer Creek	17040205	Bingham	43 14 44.70 N	111 39 26.14 W	PALISADES-ID	POC
IDW04451-047		17040209	Power	42 38 31.49 N	112 48 42.01 W	POCATELLO-ID	POC
IDW04451-015		17050104	Owyhee	42 10 30.40 N	116 6 8.06 W	RIDDLE-ID	BOI
IDW04451-024	Warm Lake Creek	17060208	Valley	44 40 1.99 N	115 41 50.24 W	PISTOL_CREEK-ID	BOI
IDW04451-025	Bear Valley Creek	17060205	Valley	44 20 17.45 N	115 26 5.10 W	DEADWOOD_RIVER-ID	BOI
IDW04451-028	Johnson Creek	17060208	Valley	44 43 39.94 N	115 33 12.13 W	PISTOL_CREEK-ID	BOI
IDW04451-032	Sinker Creek	17050103	Owyhee	43 9 25.96 N	116 25 12.65 W	MURPHY-ID	BOI
IDW04451-033		17050102	Owyhee	42 14 29.83 N	115 21 22.75 W	SHEEP_CREEK-ID	BOI
IDW04451-042	Mann Creek	17050124	Washington	44 26 8.48 N	116 54 57.71 W	WEISER-ID	BOI
IDW04451-049	Pot Hole Creek	17050101	Owyhee	42 34 3.11 N	115 9 54.76 W	GLENNS_FERRY-ID	BOI

Table 8. Example of SRS Reserve or Alternate Sites

Reserve or Alternate Sites							
SITE_ID	STREAM_NAM	HUC4CODE	COUNTY	DMS_LAT	DMS_LONG	QUAD100K	REG
IDW04451-252	Elk Creek	17060201	Custer	44 17 13.31 N	115 4 43.28 W	DEADWOOD_RIVER-ID	IDF
IDW04451-253	Dry Fork	17040201	Bonneville	43 23 14.35 N	111 57 32.36 W	PALISADES-ID	IDF
IDW04451-263		17040104	Bonneville	43 5 28.79 N	111 13 39.90 W	PALISADES-ID	IDF
IDW04451-268	East Fork Salmon River	17060201	Custer	43 59 14.14 N	114 29 24.58 W	SUN_VALLEY-ID	IDF
IDW04451-279	Pine Creek	17040104	Bonneville	43 31 18.62 N	111 20 4.34 W	REXBERG-ID	IDF
IDW04451-280		17060201	Custer	44 25 58.84 N	114 47 34.40 W	WHITE_CLOUD_PEAKS -ID	IDF
IDW04451-285		17040214	Clark	44 24 32.22 N	111 53 54.71 W	ASHTON-ID	IDF
IDW04451-295		17040216	Lemhi	44 22 43.64 N	113 1 9.80 W	BORAH_PEAK-ID	IDF
IDW04451-299		17040218	Custer	43 45 41.15 N	114 6 52.13 W	SUN_VALLEY-ID	IDF
IDW04451-311	Pole Creek	17040104	Bonneville	43 10 33.46 N	111 21 41.54 W	PALISADES-ID	IDF
IDW04451-312	Pahsimeroi River	17060202	Custer	44 38 25.87 N	114 0 18.61 W	CHALLIS-ID	IDF
IDW04451-317	West Camas Creek	17040214	Clark	44 26 55.72 N	111 59 6.32 W	ASHTON-ID	IDF
IDW04451-327		17040206	Jefferson	43 39 31.54 N	112 33 57.38 W	CIRCULAR_BUTTE-ID	IDF
IDW04451-331	Lava Creek	17040209	Butte	43 29 45.46 N	113 38 54.35 W	CRATERS_OF_THE_M OON-ID	IDF
IDW04451-343		17040204	Madison	43 49 24.78 N	111 43 26.54 W	REXBERG-ID	IDF
IDW04451-344	Bull Creek	17060204	Lemhi	44 37 46.56 N	113 12 19.98 W	LEADORE-ID	IDF
IDW04451-348	Warm Springs Creek	17060201	Custer	44 9 31.21 N	114 43 7.90 W	WHITE_CLOUD_PEAKS -ID	IDF
IDW04451-359		17040218	Custer	43 50 10.46 N	113 24 35.53 W	ARCO-ID	IDF
IDW04451-360		17060206	Lemhi	44 42 42.77 N	114 32 26.99 W	CHALLIS-ID	IDF
IDW04451-375		17040104	Bonneville	43 26 36.46 N	111 14 41.75 W	PALISADES-ID	IDF
IDW04451-376		17060202	Custer	44 33 41.72 N	113 57 33.52 W	LEADORE-ID	IDF
IDW04451-381	Robinson Creek	17040202	Fremont	44 7 53.08 N	111 10 27.05 W	ASHTON-ID	IDF
IDW04451-391		17040214	Jefferson	44 2 30.66 N	112 13 12.07 W	DUBOIS-ID	IDF
IDW04451-395		17040209	Butte	43 30 51.52 N	113 16 14.05 W	ARCO-ID	IDF
IDW04451-407		17040204	Fremont	43 56 32.21 N	111 16 36.44 W	REXBERG-ID	IDF
IDW04451-408	Redrock Creek	17040217	Custer	44 25 5.63 N	113 26 16.19 W	BORAH_PEAK-ID	IDF
IDW04451-413	Sand Creek	17040203	Fremont	44 8 57.30 N	111 35 36.53 W	ASHTON-ID	IDF
IDW04451-423	Williams Creek	17040217	Butte	44 7 16.75 N	113 14 1.75 W	BORAH_PEAK-ID	IDF
IDW04451-427		17040218	Custer	43 59 54.89 N	113 57 55.19 W	ARCO-ID	IDF
IDW04451-439	Tex Creek	17040205	Bonneville	43 24 38.99 N	111 38 36.38 W	PALISADES-ID	IDF
IDW04451-440	Mahogany Creek	17060202	Custer	44 9 51.37 N	113 46 17.15 W	BORAH_PEAK-ID	IDF

Reserve or Alternate Sites							
IDW04451-445	Sheridan Creek	17040202	Fremont	44 24 4.18 N	111 34 28.70 W	ASHTON-ID	IDF
IDW04451-446		17060205	Custer	44 37 32.41 N	115 9 21.64 W	PISTOL_CREEK-ID	IDF
IDW04451-455		17040215	Clark	44 12 55.37 N	112 43 1.67 W	DUBOIS-ID	IDF
IDW04451-459	Antelope Creek	17040218	Custer	43 48 44.64 N	113 25 34.00 W	ARCO-ID	IDF
IDW04451-462	West Fork Hull Creek	17060203	Lemhi	45 28 25.28 N	114 3 41.22 W	BIGHORN_CRAGS-ID	IDF
IDW04451-471		17040204	Madison	43 42 48.89 N	111 34 57.00 W	REXBERG-ID	IDF
IDW04451-472		17060203	Lemhi	44 59 42.32 N	113 56 22.96 W	LEADORE-ID	IDF
IDW04451-476	Mosquito Creek	17060201	Custer	44 5 50.78 N	114 8 11.80 W	WHITE_CLOUD_PEAKS -ID	IDF
IDW04451-478	Panther Creek	17060203	Lemhi	45 1 31.51 N	114 18 29.12 W	BIGHORN_CRAGS-ID	IDF
IDW04451-487	South Fork Willow Creek	17040201	Bonneville	43 33 40.75 N	111 57 4.39 W	REXBERG-ID	IDF
IDW04451-488		17060201	Custer	44 33 9.86 N	114 10 52.61 W	CHALLIS-ID	IDF
IDW04451-495		17040104	Bonneville	43 14 41.50 N	111 3 15.95 W	PALISADES-ID	IDF
IDW04451-503	Willow Creek	17040205	Bonneville	43 22 43.57 N	111 45 23.15 W	PALISADES-ID	IDF
IDW04451-508	Cape Horn Creek	17060205	Custer	44 21 26.75 N	115 13 55.27 W	DEADWOOD_RIVER-ID	IDF
IDW04451-509	Conant Creek	17040203	Fremont	44 0 5.69 N	111 19 50.84 W	ASHTON-ID	IDF
IDW04451-519	Deep Creek	17040105	Bonneville	43 4 4.98 N	111 6 25.99 W	PALISADES-ID	IDF
IDW04451-535		17040204	Teton	43 39 59.94 N	111 9 38.81 W	REXBERG-ID	IDF
IDW04451-536		17060201	Custer	44 28 59.09 N	114 40 49.87 W	WHITE_CLOUD_PEAKS -ID	IDF
IDW04451-541		17040202	Fremont	44 8 32.35 N	111 28 46.67 W	ASHTON-ID	IDF
IDW04451-551	Badger Creek	17040217	Butte	44 5 17.59 N	113 10 17.00 W	BORAH_PEAK-ID	IDF
IDW04451-568		17060204	Lemhi	44 44 21.77 N	113 49 41.92 W	LEADORE-ID	IDF
IDW04451-573		17040214	Clark	44 32 58.52 N	112 17 40.31 W	LIMA-MT	IDF
IDW04451-583		17040217	Butte	43 43 54.91 N	113 0 25.88 W	ARCO-ID	IDF
IDW04451-587	Dry Fork Creek	17040218	Butte	43 36 22.57 N	113 36 36.32 W	ARCO-ID	IDF
IDW04451-590		17060203	Lemhi	45 15 53.39 N	113 59 59.24 W	SALMON-MT	IDF
IDW04451-599		17040201	Madison	43 46 38.53 N	111 52 21.61 W	REXBERG-ID	IDF
IDW04451-600		17060201	Custer	44 47 18.10 N	114 13 48.90 W	CHALLIS-ID	IDF
IDW04451-604		17060201	Custer	44 4 42.38 N	114 56 43.30 W	WHITE_CLOUD_PEAKS -ID	IDF
IDW04451-606	Little Deep Creek	17060203	Lemhi	45 1 1.88 N	114 9 11.02 W	BIGHORN_CRAGS-ID	IDF
IDW04451-615		17040218	Custer	43 57 42.73 N	113 35 16.40 W	ARCO-ID	IDF
IDW04451-616	Pats Creek	17060201	Custer	44 35 40.20 N	114 20 51.72 W	CHALLIS-ID	IDF
IDW04451-632	Pahsimeroi River	17060202	Custer	44 22 3.18 N	113 40 32.99 W	BORAH_PEAK-ID	IDF
IDW04451-636		17060201	Custer	44 23 58.45 N	114 45 55.66 W	WHITE_CLOUD_PEAKS -ID	IDF
IDW04451-637	Targhee Creek	17040202	Fremont	44 40 11.78 N	111 18 55.15 W	HEBGEN_LAKE-MT	IDF

Reserve or Alternate Sites							
IDW04451-647		17040214	Clark	44 8 0.92 N	112 13 11.03 W	DUBOIS-ID	IDF
IDW04451-651		17040218	Butte	43 37 42.31 N	113 24 35.60 W	ARCO-ID	IDF
IDW04451-663	Teton River	17040204	Teton	43 44 33.50 N	111 11 43.91 W	REXBERG-ID	IDF
IDW04451-664	Lee Creek	17060204	Lemhi	44 42 33.55 N	113 30 17.96 W	LEADORE-ID	IDF
IDW04451-668		17060201	Custer	44 13 40.15 N	114 30 6.08 W	WHITE_CLOUD_PEAKS -ID	IDF
IDW04451-679	Sawmill Creek	17040217	Custer	44 14 24.14 N	113 19 24.49 W	BORAH_PEAK-ID	IDF
IDW04451-683	Coyote Creek	17040218	Custer	43 52 4.40 N	113 50 26.41 W	ARCO-ID	IDF
IDW04451-695	Pine Creek	17040104	Bonneville	43 29 31.34 N	111 24 27.32 W	PALISADES-ID	IDF
IDW04451-696		17060201	Custer	44 17 29.04 N	114 1 15.92 W	WHITE_CLOUD_PEAKS -ID	IDF
IDW04451-701	Spring Creek	17040214	Clark	44 20 0.74 N	111 53 37.43 W	ASHTON-ID	IDF
IDW04451-702	Indian Creek	17060205	Custer	44 40 11.17 N	114 49 2.78 W	CHALLIS-ID	IDF
IDW04451-711		17040215	Clark	44 12 21.92 N	112 21 50.62 W	DUBOIS-ID	IDF
IDW04451-715	Fall Creek	17040218	Custer	43 48 24.55 N	114 2 14.17 W	SUN_VALLEY-ID	IDF
IDW04451-718	Trail Creek	17060203	Lemhi	45 14 21.80 N	114 16 26.98 W	BIGHORN_CRAGS-ID	IDF
IDW04451-727	Teton River	17040204	Fremont	43 55 21.97 N	111 34 57.72 W	REXBERG-ID	IDF
IDW04451-728	Lemhi River	17060204	Lemhi	44 48 15.01 N	113 33 54.54 W	LEADORE-ID	IDF
IDW04451-732	Big Lost River	17040218	Custer	43 57 26.46 N	114 5 43.19 W	SUN_VALLEY-ID	IDF
IDW04451-743	Snake River	17040201	Jefferson	43 40 32.38 N	112 5 14.64 W	CIRCULAR_BUTTE-ID	IDF
IDW04451-744		17060201	Custer	44 28 20.32 N	114 31 44.80 W	WHITE_CLOUD_PEAKS -ID	IDF
IDW04451-256	Big Canyon Creek	17060306	Nez Perce	46 19 43.86 N	116 29 17.74 W	OROFINO-ID	LEW
IDW04451-264	Little Clearwater River	17060301	Idaho	45 44 31.31 N	114 48 50.15 W	NEZ_PERCE_PASS-ID	LEW
IDW04451-272		17060209	Idaho	45 47 1.93 N	116 17 53.77 W	GRANGEVILLE-ID	LEW
IDW04451-276		17060108	Latah	46 45 38.41 N	116 52 52.86 W	POTLATCH-ID	LEW
IDW04451-286	McCalla Creek	17060207	Idaho	45 21 24.34 N	115 4 13.22 W	WARREN-ID	LEW
IDW04451-288	Rattlesnake Creek	17060210	Idaho	45 16 3.04 N	116 20 25.22 W	RIGGINS-ID	LEW
IDW04451-296	Bear Creek	17060301	Idaho	46 1 56.24 N	114 46 28.88 W	HAMILTON-MT	LEW
IDW04451-298	Robin Creek	17060303	Idaho	46 27 17.50 N	114 47 1.00 W	HAMILTON-MT	LEW
IDW04451-304		17060302	Idaho	46 14 8.38 N	115 0 37.91 W	KOOSKIA-ID	LEW
IDW04451-308	Lolo Creek	17060306	Clearwater	46 16 19.70 N	115 49 37.96 W	KOOSKIA-ID	LEW
IDW04451-320		17060306	Nez Perce	46 31 34.61 N	116 46 10.60 W	POTLATCH-ID	LEW
IDW04451-328		17060305	Idaho	45 53 12.12 N	115 34 40.62 W	ELK_CITY-ID	LEW
IDW04451-334		17060301	Idaho	45 41 33.79 N	114 33 25.88 W	NEZ_PERCE_PASS-ID	LEW
IDW04451-336		17060302	Idaho	46 8 31.81 N	115 4 9.19 W	KOOSKIA-ID	LEW
IDW04451-340		17060306	Clearwater	46 47 54.78 N	116 18 1.26 W	POTLATCH-ID	LEW
IDW04451-350		17060207	Idaho	45 20 29.80 N	115 26 18.35 W	WARREN-ID	LEW

Reserve or Alternate Sites							
IDW04451-352	Rhett Creek	17060207	Idaho	45 29 5.10 N	115 24 39.74 W	WARREN-ID	LEW
IDW04451-362	Tepee Creek	17060307	Clearwater	46 42 56.88 N	115 38 3.59 W	HEADQUARTERS-ID	LEW
IDW04451-368		17060305	Idaho	45 42 41.90 N	115 18 37.30 W	ELK_CITY-ID	LEW
IDW04451-372		17060305	Idaho	46 4 47.35 N	116 16 30.07 W	OROFINO-ID	LEW
IDW04451-384		17060306	Lewis	46 20 23.28 N	116 13 3.97 W	OROFINO-ID	LEW
IDW04451-392		17060305	Idaho	46 7 26.04 N	115 58 44.76 W	KOOSKIA-ID	LEW
IDW04451-398	Chamberlain Creek	17060207	Idaho	45 27 14.51 N	114 56 8.23 W	BIGHORN_CRAGS-ID	LEW
IDW04451-400	South Fork White Bird Creek	17060209	Idaho	45 47 28.25 N	116 13 46.06 W	GRANGEVILLE-ID	LEW
IDW04451-404	McKinnon Creek	17060308	Clearwater	46 35 57.30 N	116 5 1.46 W	POTLATCH-ID	LEW
IDW04451-410	Little North Fork Clearwate	17060308	Clearwater	46 53 60.00 N	115 50 54.67 W	HEADQUARTERS-ID	LEW
IDW04451-416	Stratton Creek	17060207	Idaho	45 16 59.81 N	115 43 17.40 W	WARREN-ID	LEW
IDW04451-424	Cooper Creek	17060301	Idaho	45 52 28.42 N	114 35 0.35 W	NEZ_PERCE_PASS-ID	LEW
IDW04451-426	Johnny Creek	17060307	Clearwater	46 36 8.17 N	115 20 59.14 W	HEADQUARTERS-ID	LEW
IDW04451-432	Meadow Creek	17060302	Idaho	45 52 29.82 N	115 7 47.53 W	ELK_CITY-ID	LEW
IDW04451-436		17060307	Clearwater	46 29 58.06 N	115 38 15.14 W	KOOSKIA-ID	LEW
IDW04451-456	Rainy Day Creek	17060305	Idaho	45 48 8.50 N	115 41 32.21 W	ELK_CITY-ID	LEW
IDW04451-458		17060303	Idaho	46 19 49.37 N	114 45 20.81 W	HAMILTON-MT	LEW
IDW04451-464	Bald Mountain Creek	17060303	Idaho	46 24 25.49 N	115 15 21.02 W	KOOSKIA-ID	LEW
IDW04451-468		17060306	Clearwater	46 33 58.75 N	115 58 13.15 W	HEADQUARTERS-ID	LEW
IDW04451-480	Big Boulder Creek	17060209	Idaho	45 34 43.28 N	116 4 12.94 W	GRANGEVILLE-ID	LEW
IDW04451-484		17060103	Nez Perce	46 0 14.04 N	116 50 55.64 W	OROFINO-ID	LEW
IDW04451-490	Kelly Creek	17060307	Clearwater	46 43 1.78 N	115 2 47.29 W	HEADQUARTERS-ID	LEW
IDW04451-496		17060207	Idaho	45 31 6.89 N	115 15 24.30 W	ELK_CITY-ID	LEW
IDW04451-500	Big Canyon Creek	17060306	Lewis	46 17 51.18 N	116 31 18.41 W	OROFINO-ID	LEW
IDW04451-506		17060108	Latah	46 55 43.61 N	116 48 55.12 W	POTLATCH-ID	LEW
IDW04451-512	Captain John Creek	17060103	Nez Perce	46 8 50.50 N	116 52 45.16 W	OROFINO-ID	LEW
IDW04451-520	Green Creek	17060207	Idaho	45 45 1.22 N	115 2 16.73 W	ELK_CITY-ID	LEW
IDW04451-526	Hamilton Creek	17060207	Idaho	45 35 8.63 N	114 56 13.67 W	NEZ_PERCE_PASS-ID	LEW
IDW04451-528	Hepner Creek	17060305	Idaho	45 39 23.36 N	116 1 20.28 W	GRANGEVILLE-ID	LEW
IDW04451-532	West Fork Little Bear Creek	17060306	Latah	46 40 25.72 N	116 42 46.33 W	POTLATCH-ID	LEW
IDW04451-538	North Fork Clearwater River	17060308	Clearwater	46 50 18.13 N	115 52 8.00 W	HEADQUARTERS-ID	LEW
IDW04451-544	Beaver Dam Creek	17060101	Idaho	45 19 8.44 N	116 37 17.62 W	RIGGINS-ID	LEW

Reserve or Alternate Sites							
IDW04451-552	Selway River	17060301	Idaho	46 3 41.54 N	114 51 26.53 W	HAMILTON-MT	LEW
IDW04451-554	Kelly Creek	17060307	Clearwater	46 42 42.05 N	115 6 29.02 W	HEADQUARTERS-ID	LEW
IDW04451-560	North Fork Moose Creek	17060302	Idaho	46 16 37.85 N	114 55 26.47 W	HAMILTON-MT	LEW
IDW04451-564		17060306	Clearwater	46 26 31.02 N	116 14 50.86 W	OROFINO-ID	LEW
IDW04451-576	Tammany Creek	17060103	Nez Perce	46 21 21.20 N	117 0 35.82 W	CLARKSTON-WA	LEW
IDW04451-584	Pilot Creek	17060305	Idaho	45 55 53.62 N	115 41 2.18 W	ELK_CITY-ID	LEW
IDW04451-586	Storm Creek	17060303	Idaho	46 29 12.05 N	114 32 15.25 W	HAMILTON-MT	LEW
IDW04451-592	Sponge Creek	17060303	Idaho	46 22 41.16 N	115 4 2.50 W	KOOSKIA-ID	LEW
IDW04451-596	West Fork Potlatch River	17060306	Latah	46 55 18.19 N	116 26 31.70 W	POTLATCH-ID	LEW
IDW04451-608		17060209	Idaho	45 33 32.04 N	116 8 15.32 W	GRANGEVILLE-ID	LEW
IDW04451-612		17060209	Idaho	45 54 52.56 N	116 38 11.83 W	GRANGEVILLE-ID	LEW
IDW04451-618	Drift Creek	17060307	Clearwater	46 53 55.10 N	115 26 51.18 W	HEADQUARTERS-ID	LEW
IDW04451-624	Red River	17060305	Idaho	45 46 25.00 N	115 13 22.76 W	ELK_CITY-ID	LEW
IDW04451-628		17060306	Idaho	46 6 35.96 N	116 27 20.48 W	OROFINO-ID	LEW
IDW04451-634		17060108	Latah	46 51 58.75 N	116 43 52.07 W	POTLATCH-ID	LEW
IDW04451-640	Lapwai Creek	17060306	Nez Perce	46 22 21.79 N	116 42 48.17 W	OROFINO-ID	LEW
IDW04451-648	Clear Creek	17060304	Idaho	46 3 56.88 N	115 52 51.89 W	KOOSKIA-ID	LEW
IDW04451-654	Wilkerson Creek	17060301	Idaho	45 35 18.85 N	114 39 57.02 W	NEZ_PERCE_PASS-ID	LEW
IDW04451-656	Meadow Creek	17060302	Idaho	46 0 19.33 N	115 16 55.34 W	KOOSKIA-ID	LEW
IDW04451-660	Long Meadow Creek	17060308	Clearwater	46 43 57.97 N	116 18 24.08 W	POTLATCH-ID	LEW
IDW04451-670		17060208	Idaho	45 15 57.31 N	115 24 31.61 W	WARREN-ID	LEW
IDW04451-672		17060207	Idaho	45 38 19.50 N	115 30 51.70 W	ELK_CITY-ID	LEW
IDW04451-680	White Cap Creek	17060301	Idaho	45 58 5.16 N	114 30 6.30 W	NEZ_PERCE_PASS-ID	LEW
IDW04451-682		17060307	Clearwater	46 38 5.10 N	115 33 19.15 W	HEADQUARTERS-ID	LEW
IDW04451-688		17060305	Idaho	45 37 58.30 N	115 23 25.15 W	ELK_CITY-ID	LEW
IDW04451-692		17060307	Idaho	46 29 3.91 N	115 24 36.14 W	KOOSKIA-ID	LEW
IDW04451-704	Lake Creek	17060208	Idaho	45 17 3.30 N	115 55 21.18 W	WARREN-ID	LEW
IDW04451-712		17060305	Idaho	45 56 26.77 N	116 5 38.29 W	GRANGEVILLE-ID	LEW
IDW04451-714		17060303	Idaho	46 26 48.19 N	114 52 2.93 W	HAMILTON-MT	LEW
IDW04451-720	Old Man Creek	17060303	Idaho	46 14 48.80 N	115 18 57.92 W	KOOSKIA-ID	LEW
IDW04451-724	Grasshopper Creek	17060306	Clearwater	46 24 39.64 N	115 54 12.85 W	KOOSKIA-ID	LEW
IDW04451-736	Rice Creek	17060209	Idaho	45 50 58.38 N	116 24 56.84 W	GRANGEVILLE-ID	LEW
IDW04451-740		17060306	Nez Perce	46 36 21.10 N	116 36 41.65 W	POTLATCH-ID	LEW
IDW04451-258		17010301	Shoshone	47 36 36.36 N	116 13 32.30 W	COEUR_D_ALENEE-ID	CDA
IDW04451-262	Priest River	17010215	Bonner	48 28 21.68 N	116 55 0.19 W	SANDPOINT-ID	CDA
IDW04451-266	Moyie River	17010105	Boundary	48 50 28.79 N	116 10 12.32 W	BONNERS_FERRY-ID	CDA

Reserve or Alternate Sites							
IDW04451-274	Saint Maries River	17010304	Benewah	47 13 22.62 N	116 36 23.15 W	SAINT_MARIES-ID	CDA
IDW04451-278	Kalispell Creek	17010215	Bonner	48 36 19.62 N	116 58 36.41 W	BONNERS_FERRY-ID	CDA
IDW04451-282	Canyon Creek	17060308	Shoshone	47 1 24.38 N	115 36 54.50 W	WALLACE-ID	CDA
IDW04451-290		17010304	Benewah	47 4 49.51 N	116 24 41.26 W	SAINT_MARIES-ID	CDA
IDW04451-294		17010214	Bonner	48 7 11.71 N	116 42 42.80 W	SANDPOINT-ID	CDA
IDW04451-302	Boulder Creek	17010104	Boundary	48 36 54.40 N	116 3 57.46 W	BONNERS_FERRY-ID	CDA
IDW04451-306	Canyon Creek	17010302	Shoshone	47 31 12.00 N	115 49 11.39 W	THOMPSON_FALLS-MT	CDA
IDW04451-310		17010301	Shoshone	47 43 16.79 N	116 0 32.65 W	COEUR_D_ALENEE-ID	CDA
IDW04451-314	Bean Creek	17010304	Shoshone	47 0 9.58 N	115 15 42.98 W	WALLACE-ID	CDA
IDW04451-322	Cedar Creek	17010303	Kootenai	47 37 19.45 N	116 34 49.73 W	COEUR_D_ALENEE-ID	CDA
IDW04451-326	Pend Oreille River	17010214	Bonner	48 14 41.24 N	116 37 20.32 W	SANDPOINT-ID	CDA
IDW04451-330	Grass Creek	17010104	Boundary	48 59 26.63 N	116 46 0.59 W	BONNERS_FERRY-ID	CDA
IDW04451-338	Trout Creek	17010304	Shoshone	47 20 33.50 N	116 14 2.98 W	SAINT_MARIES-ID	CDA
IDW04451-342	Stewart Creek	17010301	Kootenai	47 49 47.68 N	116 23 0.20 W	COEUR_D_ALENEE-ID	CDA
IDW04451-346	Marble Creek	17010304	Shoshone	47 7 14.77 N	116 5 4.20 W	SAINT_MARIES-ID	CDA
IDW04451-354		17010304	Benewah	47 12 52.81 N	116 44 10.03 W	SAINT_MARIES-ID	CDA
IDW04451-358		17010104	Boundary	48 38 6.54 N	116 23 23.53 W	BONNERS_FERRY-ID	CDA
IDW04451-366	Lightning Creek	17010213	Bonner	48 18 38.20 N	116 10 9.91 W	SANDPOINT-ID	CDA
IDW04451-370		17010215	Bonner	48 50 21.26 N	117 1 26.76 W	COLVILLE-WA	CDA
IDW04451-374	North Fork Hayden Creek	17010305	Kootenai	47 51 13.97 N	116 38 32.71 W	COEUR_D_ALENEE-ID	CDA
IDW04451-378	Saint Joe River	17010304	Shoshone	47 13 57.25 N	115 38 5.03 W	WALLACE-ID	CDA
IDW04451-386		17010303	Kootenai	47 40 7.93 N	116 50 57.37 W	COEUR_D_ALENEE-ID	CDA
IDW04451-390	Pend Oreille River	17010214	Bonner	48 8 44.05 N	116 50 40.02 W	SANDPOINT-ID	CDA
IDW04451-394		17010104	Boundary	48 53 3.91 N	116 31 32.77 W	BONNERS_FERRY-ID	CDA
IDW04451-402	Rockford Bay	17010303	Kootenai	47 30 46.55 N	116 54 27.72 W	COEUR_D_ALENEE-ID	CDA
IDW04451-406	Pack River	17010214	Bonner	48 26 33.14 N	116 32 7.37 W	SANDPOINT-ID	CDA
IDW04451-418	Davis Creek	17010304	Benewah	47 9 10.69 N	116 26 6.58 W	SAINT_MARIES-ID	CDA
IDW04451-422	Pend Oreille River	17010214	Bonner	48 7 31.22 N	116 26 36.20 W	SANDPOINT-ID	CDA
IDW04451-430	Cone Creek	17010104	Boundary	48 32 38.90 N	116 21 7.99 W	BONNERS_FERRY-ID	CDA
IDW04451-434	Horsecamp Creek	17010304	Shoshone	47 11 56.54 N	115 50 23.42 W	WALLACE-ID	CDA
IDW04451-438		17010214	Kootenai	47 55 48.86 N	117 1 41.23 W	SPOKANE-WA	CDA
IDW04451-442	Medicine Creek	17010304	Shoshone	47 3 31.90 N	115 7 46.78 W	WALLACE-ID	CDA
IDW04451-450	Bussel Creek	17010304	Shoshone	47 8 24.07 N	116 7 8.54 W	SAINT_MARIES-ID	CDA
IDW04451-454		17010214	Bonner	48 8 14.64 N	116 29 5.78 W	SANDPOINT-ID	CDA
IDW04451-466		17010301	Shoshone	47 38 5.06 N	115 50 23.50 W	THOMPSON_FALLS-MT	CDA

Reserve or Alternate Sites							
IDW04451-470	Coeur d'Alene River	17010301	Shoshone	47 57 28.30 N	116 9 4.90 W	COEUR_D_ALENEE-ID	CDA
IDW04451-474	Merry Creek	17010304	Shoshone	47 2 13.27 N	116 11 32.03 W	SAINT_MARIES-ID	CDA
IDW04451-482	Saint Joe River	17010304	Benewah	47 18 51.88 N	116 21 10.26 W	SAINT_MARIES-ID	CDA
IDW04451-486	Smith Creek	17010104	Boundary	48 53 38.76 N	116 41 31.96 W	BONNERS_FERRY-ID	CDA
IDW04451-494	Moores Creek	17010215	Bonner	48 21 29.34 N	116 59 24.22 W	SANDPOINT-ID	CDA
IDW04451-498	Curley Creek	17010104	Boundary	48 42 27.29 N	116 3 15.77 W	BONNERS_FERRY-ID	CDA
IDW04451-502		17010301	Shoshone	47 45 40.90 N	116 8 31.88 W	COEUR_D_ALENEE-ID	CDA
IDW04451-514	Copper Creek	17010301	Kootenai	47 38 54.64 N	116 21 56.92 W	COEUR_D_ALENEE-ID	CDA
IDW04451-518	Pend Oreille River	17010214	Bonner	48 10 11.46 N	116 52 30.58 W	SANDPOINT-ID	CDA
IDW04451-522		17010104	Boundary	48 49 5.77 N	116 18 25.45 W	BONNERS_FERRY-ID	CDA
IDW04451-530		17010303	Kootenai	47 31 44.87 N	116 45 59.08 W	COEUR_D_ALENEE-ID	CDA
IDW04451-534	Horton Creek	17010215	Bonner	48 35 2.36 N	116 49 34.64 W	BONNERS_FERRY-ID	CDA
IDW04451-546	Moolock Creek	17010304	Benewah	47 5 34.08 N	116 32 17.45 W	SAINT_MARIES-ID	CDA
IDW04451-550		17010213	Bonner	48 15 59.15 N	116 12 39.10 W	SANDPOINT-ID	CDA
IDW04451-558	Grouse Creek	17010214	Bonner	48 27 20.05 N	116 17 25.08 W	SANDPOINT-ID	CDA
IDW04451-562	Beaver Creek	17010301	Shoshone	47 33 27.68 N	115 54 47.81 W	THOMPSON_FALLS-MT	CDA
IDW04451-566	Falls Creek	17010301	Shoshone	47 47 44.41 N	115 56 34.91 W	THOMPSON_FALLS-MT	CDA
IDW04451-570		17010304	Shoshone	47 8 21.37 N	115 17 19.82 W	WALLACE-ID	CDA
IDW04451-578		17010303	Kootenai	47 33 21.64 N	116 34 47.03 W	COEUR_D_ALENEE-ID	CDA
IDW04451-582	Pend Oreille River	17010214	Bonner	48 12 21.02 N	116 42 55.01 W	SANDPOINT-ID	CDA
IDW04451-594	East Fork Pine Creek	17010302	Shoshone	47 28 28.70 N	116 13 7.36 W	SAINT_MARIES-ID	CDA
IDW04451-598	Coeur d'Alene River	17010301	Shoshone	47 58 22.51 N	116 11 39.88 W	COEUR_D_ALENEE-ID	CDA
IDW04451-602	Gold Center Creek	17010304	Shoshone	47 0 43.34 N	116 8 5.60 W	SAINT_MARIES-ID	CDA
IDW04451-610	Hangman Creek	17010306	Benewah	47 11 7.26 N	116 58 19.13 W	SAINT_MARIES-ID	CDA
IDW04451-614		17010104	Boundary	48 45 58.28 N	116 20 49.52 W	BONNERS_FERRY-ID	CDA
IDW04451-622	Lower West Branch Priest Ri	17010215	Bonner	48 16 47.64 N	116 57 4.50 W	SANDPOINT-ID	CDA
IDW04451-626	Blue Joe Creek	17010104	Boundary	48 55 55.27 N	116 53 6.86 W	BONNERS_FERRY-ID	CDA
IDW04451-630	Hayden Creek	17010305	Kootenai	47 49 25.72 N	116 39 7.42 W	COEUR_D_ALENEE-ID	CDA
IDW04451-642	Spokane River	17010305	Kootenai	47 41 46.25 N	117 0 45.54 W	SPOKANE-WA	CDA
IDW04451-646		17010215	Bonner	48 16 20.21 N	116 45 45.00 W	SANDPOINT-ID	CDA
IDW04451-650		17010104	Boundary	48 56 53.88 N	116 50 55.46 W	BONNERS_FERRY-ID	CDA
IDW04451-658	Little Hangman Creek	17010306	Benewah	47 17 8.48 N	116 59 37.10 W	SAINT_MARIES-ID	CDA
IDW04451-662	Fall Creek	17010104	Boundary	48 35 9.64 N	116 31 13.58 W	BONNERS_FERRY-ID	CDA
IDW04451-666	Rutledge Creek	17060308	Shoshone	47 6 30.53 N	115 43 0.05 W	WALLACE-ID	CDA

Reserve or Alternate Sites							
IDW04451-674	John Creek	17010304	Benewah	47 11 21.66 N	116 35 51.43 W	SAINT_MARIES-ID	CDA
IDW04451-678	Myrtle Creek	17010104	Boundary	48 42 25.13 N	116 25 56.32 W	BONNERS_FERRY-ID	CDA
IDW04451-686	Pack River	17010214	Bonner	48 20 58.70 N	116 23 29.72 W	SANDPOINT-ID	CDA
IDW04451-690	Slate Creek	17010304	Shoshone	47 18 6.91 N	115 55 43.72 W	WALLACE-ID	CDA
IDW04451-694		17010303	Kootenai	47 42 53.82 N	116 38 48.73 W	COEUR_D_ALENEE-ID	CDA
IDW04451-698	Saint Joe River	17010304	Shoshone	47 11 3.66 N	115 28 26.18 W	WALLACE-ID	CDA
IDW04451-706	Saint Joe River	17010304	Shoshone	47 19 14.09 N	116 17 42.72 W	SAINT_MARIES-ID	CDA
IDW04451-710	Kreiger Creek	17010214	Bonner	48 3 33.41 N	116 34 7.50 W	SANDPOINT-ID	CDA
IDW04451-722	Big Creek	17010302	Shoshone	47 30 6.62 N	116 4 13.22 W	COEUR_D_ALENEE-ID	CDA
IDW04451-726	Ulm Creek	17010301	Shoshone	47 52 27.26 N	115 59 7.12 W	THOMPSON_FALLS-MT	CDA
IDW04451-730		17010304	Shoshone	46 58 16.36 N	116 17 2.69 W	POTLATCH-ID	CDA
IDW04451-738	Saint Joe River	17010304	Benewah	47 20 34.94 N	116 29 54.42 W	SAINT_MARIES-ID	CDA
IDW04451-742		17010104	Boundary	48 45 34.92 N	116 34 8.36 W	BONNERS_FERRY-ID	CDA
IDW04451-746	Canyon Creek	17060308	Shoshone	47 0 45.04 N	115 38 45.56 W	WALLACE-ID	CDA
IDW04451-750	West Fork Moores Creek	17010215	Bonner	48 22 17.51 N	117 0 22.90 W	CHEWELAH-WA	CDA
IDW04451-251	Cold Spring Creek	17040212	Cassia	42 23 3.08 N	114 9 24.80 W	ROGERSON-ID	TWF
IDW04451-255		17050113	Camas	43 33 46.37 N	115 0 6.01 W	IDAHO_CITY-ID	TWF
IDW04451-259	South Fork Warm Springs Cre	17040219	Blaine	43 36 15.08 N	114 36 0.22 W	SUN_VALLEY-ID	TWF
IDW04451-261	Raft River	17040210	Cassia	42 16 19.02 N	113 20 34.62 W	OAKLEY-ID	TWF
IDW04451-275		17040221	Blaine	43 18 3.85 N	113 56 10.72 W	CRATERS_OF_THE_MOON-ID	TWF
IDW04451-281	Big Creek	17040213	Twin Falls	42 2 50.21 N	114 24 34.60 W	ROGERSON-ID	TWF
IDW04451-283		17040209	Minidoka	42 47 53.88 N	113 43 32.59 W	LAKE_WALCOTT-ID	TWF
IDW04451-284	Johnson Creek	17050113	Camas	43 47 17.27 N	114 54 53.86 W	SUN_VALLEY-ID	TWF
IDW04451-287	Little Wood River	17040221	Lincoln	43 2 14.57 N	114 10 38.28 W	FAIRFIELD-ID	TWF
IDW04451-291		17040209	Blaine	43 27 11.63 N	113 38 21.91 W	CRATERS_OF_THE_MOON-ID	TWF
IDW04451-293		16020309	Cassia	42 0 27.29 N	113 4 53.33 W	OAKLEY-ID	TWF
IDW04451-313	Blue Hill Creek	17040211	Cassia	42 1 40.87 N	113 51 44.78 W	OAKLEY-ID	TWF
IDW04451-315		17040211	Cassia	42 12 27.86 N	113 50 7.37 W	OAKLEY-ID	TWF
IDW04451-316	Ross Fork	17050113	Camas	43 47 34.58 N	114 58 48.22 W	SUN_VALLEY-ID	TWF
IDW04451-319		17040219	Gooding	43 2 17.45 N	114 41 1.43 W	FAIRFIELD-ID	TWF
IDW04451-323	Salt Creek	17050113	Camas	43 33 47.59 N	114 52 16.72 W	SUN_VALLEY-ID	TWF
IDW04451-325	Circle Creek	17040210	Cassia	42 4 34.18 N	113 40 56.35 W	OAKLEY-ID	TWF
IDW04451-347		17040209	Cassia	42 33 11.74 N	113 35 48.55 W	LAKE_WALCOTT-ID	TWF
IDW04451-355		17040221	Blaine	43 32 47.65 N	113 57 19.44 W	ARCO-ID	TWF
IDW04451-361		17040213	Twin Falls	42 6 46.84 N	114 25 21.50 W	ROGERSON-ID	TWF

Reserve or Alternate Sites							
IDW04451-363		17040219	Blaine	43 31 1.67 N	114 18 56.05 W	SUN_VALLEY-ID	TWF
IDW04451-371	Clover Creek	17040212	Gooding	43 10 19.13 N	114 59 38.90 W	FAIRFIELD-ID	TWF
IDW04451-379		17040211	Cassia	42 12 54.40 N	113 46 12.11 W	OAKLEY-ID	TWF
IDW04451-383		17040219	Lincoln	43 5 37.79 N	114 26 9.46 W	FAIRFIELD-ID	TWF
IDW04451-387	Big Wood River	17040219	Blaine	43 47 20.40 N	114 25 43.68 W	SUN_VALLEY-ID	TWF
IDW04451-389		17040210	Cassia	42 3 18.50 N	113 31 12.36 W	OAKLEY-ID	TWF
IDW04451-403		17040221	Gooding	42 56 13.88 N	114 40 58.84 W	TWIN_FALLS-ID	TWF
IDW04451-409		17040213	Twin Falls	42 10 31.37 N	114 51 52.70 W	ROGERSON-ID	TWF
IDW04451-411	Rock Creek	17040212	Twin Falls	42 32 9.92 N	114 27 11.45 W	TWIN_FALLS-ID	TWF
IDW04451-412	Big Smoky Creek	17050113	Camas	43 41 58.56 N	114 44 42.40 W	SUN_VALLEY-ID	TWF
IDW04451-419	Silver Creek	17040221	Blaine	43 18 53.28 N	114 8 20.98 W	FAIRFIELD-ID	TWF
IDW04451-435	East Fork Threemile Creek	17040220	Camas	43 18 46.98 N	114 49 13.91 W	FAIRFIELD-ID	TWF
IDW04451-443		17040210	Cassia	42 16 11.60 N	113 30 55.87 W	OAKLEY-ID	TWF
IDW04451-447		17040221	Lincoln	43 6 33.41 N	114 14 57.70 W	FAIRFIELD-ID	TWF
IDW04451-451	Deer Creek	17040219	Blaine	43 32 55.72 N	114 26 7.26 W	SUN_VALLEY-ID	TWF
IDW04451-453		17040210	Cassia	42 4 18.59 N	113 19 31.48 W	OAKLEY-ID	TWF
IDW04451-473		17040213	Twin Falls	42 19 33.96 N	114 52 50.74 W	ROGERSON-ID	TWF
IDW04451-475	Raft River	17040210	Cassia	42 22 41.09 N	113 21 31.93 W	OAKLEY-ID	TWF
IDW04451-483		17040221	Blaine	43 23 19.82 N	113 47 9.96 W	CRATERS_OF_THE_MOON-ID	TWF
IDW04451-489	Goose Creek	17040211	Cassia	42 2 13.88 N	114 15 46.73 W	ROGERSON-ID	TWF
IDW04451-491		17040219	Blaine	43 39 5.36 N	114 15 55.04 W	SUN_VALLEY-ID	TWF
IDW04451-493		17040210	Cassia	42 8 51.32 N	113 21 17.24 W	OAKLEY-ID	TWF
IDW04451-507	Big Cottonwood Creek	17040211	Cassia	42 18 10.98 N	114 0 49.97 W	ROGERSON-ID	TWF
IDW04451-511		17040219	Camas	43 14 29.76 N	114 23 48.55 W	FAIRFIELD-ID	TWF
IDW04451-515	Warm Springs Creek	17040219	Blaine	43 40 4.84 N	114 26 16.37 W	SUN_VALLEY-ID	TWF
IDW04451-517		17040210	Cassia	42 4 20.93 N	113 28 45.37 W	OAKLEY-ID	TWF
IDW04451-537		17040213	Twin Falls	42 12 10.30 N	114 45 26.17 W	ROGERSON-ID	TWF
IDW04451-539		17040209	Minidoka	42 42 1.55 N	113 51 22.82 W	LAKE_WALCOTT-ID	TWF
IDW04451-540	Big Wood River	17040219	Blaine	43 48 57.82 N	114 35 31.09 W	SUN_VALLEY-ID	TWF
IDW04451-547	Big Wood River	17040219	Blaine	43 21 34.13 N	114 17 26.30 W	FAIRFIELD-ID	TWF
IDW04451-555	Little Copper Creek	17040221	Blaine	43 39 1.73 N	113 56 53.95 W	ARCO-ID	TWF
IDW04451-571		17040211	Cassia	42 18 41.00 N	113 48 23.51 W	OAKLEY-ID	TWF
IDW04451-572	South Fork Boise River	17050113	Camas	43 36 54.68 N	114 56 42.07 W	SUN_VALLEY-ID	TWF
IDW04451-575		17040219	Gooding	43 4 23.88 N	114 50 48.12 W	FAIRFIELD-ID	TWF

Reserve or Alternate Sites							
IDW04451-579	Blackhorse Creek	17050113	Camas	43 34 25.64 N	114 42 25.99 W	SUN_VALLEY-ID	TWF
IDW04451-581		17040210	Cassia	42 3 48.82 N	113 21 23.58 W	OAKLEY-ID	TWF
IDW04451-595	Deadman Creek	17050101	Twin Falls	42 36 35.28 N	114 57 45.61 W	TWIN_FALLS-ID	TWF
IDW04451-603	Marsh Creek	17040209	Cassia	42 31 25.86 N	113 33 55.66 W	LAKE_WALCOTT-ID	TWF
IDW04451-611		17040221	Blaine	43 31 8.62 N	113 59 49.09 W	ARCO-ID	TWF
IDW04451-617		17040211	Cassia	42 9 16.13 N	114 4 18.55 W	ROGERSON-ID	TWF
IDW04451-619		17040219	Blaine	43 32 43.84 N	114 20 2.33 W	SUN_VALLEY-ID	TWF
IDW04451-627		17040220	Camas	43 16 21.32 N	115 2 42.47 W	MOUNTAIN_HOME-ID	TWF
IDW04451-635	South Cottonwood Creek	17040211	Cassia	42 9 22.21 N	113 59 59.96 W	OAKLEY-ID	TWF
IDW04451-639	Black Canyon Creek	17040219	Gooding	43 9 0.18 N	114 45 7.24 W	FAIRFIELD-ID	TWF
IDW04451-643	Little Smoky Creek	17050113	Camas	43 33 20.20 N	114 45 47.16 W	SUN_VALLEY-ID	TWF
IDW04451-645		17040210	Cassia	42 4 6.06 N	113 34 46.74 W	OAKLEY-ID	TWF
IDW04451-665		17040213	Twin Falls	42 9 27.61 N	114 59 42.76 W	ROGERSON-ID	TWF
IDW04451-667	Deep Creek	17040212	Twin Falls	42 38 22.06 N	114 50 32.32 W	TWIN_FALLS-ID	TWF
IDW04451-675	Seamans Creek	17040219	Blaine	43 27 56.77 N	114 14 3.48 W	FAIRFIELD-ID	TWF
IDW04451-681	North Fork Deep Creek	17040212	Twin Falls	42 11 14.42 N	114 30 19.40 W	ROGERSON-ID	TWF
IDW04451-691	Corral Creek	17040220	Camas	43 19 49.91 N	114 55 21.97 W	FAIRFIELD-ID	TWF
IDW04451-699		17040209	Cassia	42 24 36.50 N	113 41 4.13 W	OAKLEY-ID	TWF
IDW04451-703	Little Wood River	17040221	Lincoln	43 1 51.13 N	114 11 25.76 W	FAIRFIELD-ID	TWF
IDW04451-707	Brush Creek	17040220	Blaine	43 25 4.19 N	114 32 25.26 W	FAIRFIELD-ID	TWF
IDW04451-709		17040210	Cassia	42 6 10.40 N	113 6 31.68 W	OAKLEY-ID	TWF
IDW04451-729		17040211	Cassia	42 5 18.60 N	113 44 4.45 W	OAKLEY-ID	TWF
IDW04451-731	Warm Creek	17040210	Cassia	42 27 44.68 N	113 18 24.37 W	OAKLEY-ID	TWF
IDW04451-739	Friedman Creek	17040221	Blaine	43 28 29.24 N	113 56 50.14 W	CRATERS_OF_THE_MOON-ID	TWF
IDW04451-745		17040213	Twin Falls	42 1 18.95 N	114 27 56.77 W	ROGERSON-ID	TWF
IDW04451-747	Big Wood River	17040219	Blaine	43 41 22.52 N	114 22 22.87 W	SUN_VALLEY-ID	TWF
IDW04451-749		17040210	Cassia	42 14 27.85 N	113 15 38.81 W	OAKLEY-ID	TWF
IDW04451-257	Montpelier Creek	16010201	Bear Lake	42 14 56.44 N	111 15 53.21 W	PRESTON-ID	POC
IDW04451-267		17040209	Power	42 31 26.51 N	112 57 45.04 W	POCATELLO-ID	POC
IDW04451-269	Mink Creek	16010202	Franklin	42 11 41.93 N	111 46 19.16 W	PRESTON-ID	POC
IDW04451-271		17040206	Power	42 54 15.19 N	113 2 36.46 W	LAKE_WALCOTT-ID	POC
IDW04451-277		17040207	Caribou	42 50 31.85 N	111 32 51.97 W	SODA_SPGS-ID	POC
IDW04451-289	Birch Creek	17040208	Bannock	42 24 13.43 N	112 12 8.46 W	MALAD_CITY-ID	POC
IDW04451-301		16010204	Oneida	42 24 55.51 N	112 20 47.40 W	MALAD_CITY-ID	POC

Reserve or Alternate Sites							
IDW04451-303		17040207	Bingham	43 7 49.94 N	112 19 13.76 W	BLACKFOOT-ID	POC
IDW04451-309		16010201	Bear Lake	42 33 16.02 N	111 18 25.45 W	SODA_SPGS-ID	POC
IDW04451-321	Portneuf River	17040208	Bannock	42 37 5.63 N	112 3 39.60 W	POCATELLO-ID	POC
IDW04451-333		16010204	Oneida	42 14 8.20 N	112 15 48.92 W	MALAD_CITY-ID	POC
IDW04451-335	Cedar Creek	17040206	Bingham	43 18 0.97 N	112 1 5.95 W	BLACKFOOT-ID	POC
IDW04451-341	Toponce Creek	17040208	Caribou	42 50 53.34 N	112 0 25.85 W	POCATELLO-ID	POC
IDW04451-349	Bear River	16010201	Bear Lake	42 11 48.48 N	111 12 19.69 W	PRESTON-ID	POC
IDW04451-351		17040206	Power	42 47 49.81 N	112 33 0.97 W	POCATELLO-ID	POC
IDW04451-353		16010203	Franklin	42 5 31.49 N	111 36 28.51 W	PRESTON-ID	POC
IDW04451-357		17040207	Caribou	42 47 3.23 N	111 16 0.01 W	SODA_SPGS-ID	POC
IDW04451-365		16020309	Oneida	42 15 7.42 N	112 45 11.12 W	MALAD_CITY-ID	POC
IDW04451-367		17040205	Bingham	43 4 24.49 N	111 38 50.17 W	PALISADES-ID	POC
IDW04451-373	Cub River	16010202	Franklin	42 8 9.10 N	111 38 47.22 W	PRESTON-ID	POC
IDW04451-385	Montpelier Creek	16010201	Bear Lake	42 18 13.25 N	111 19 58.26 W	PRESTON-ID	POC
IDW04451-397		16010204	Oneida	42 2 26.70 N	112 18 27.97 W	MALAD_CITY-ID	POC
IDW04451-399	Bannock Creek	17040206	Power	42 49 52.25 N	112 38 4.49 W	POCATELLO-ID	POC
IDW04451-405	Corral Creek	17040207	Caribou	42 57 10.76 N	111 44 29.54 W	SODA_SPGS-ID	POC
IDW04451-415		17040206	Bingham	43 23 59.46 N	112 34 34.03 W	BLACKFOOT-ID	POC
IDW04451-417	Rattlesnake Creek	17040206	Power	42 39 40.79 N	112 31 10.99 W	POCATELLO-ID	POC
IDW04451-421		17040207	Caribou	42 47 44.92 N	111 15 57.10 W	SODA_SPGS-ID	POC
IDW04451-429	South Fork Rock Creek	17040209	Power	42 20 43.48 N	112 49 52.54 W	MALAD_CITY-ID	POC
IDW04451-431		17040205	Bingham	43 9 35.10 N	111 45 57.64 W	PALISADES-ID	POC
IDW04451-437		16010201	Bear Lake	42 34 18.52 N	111 30 21.49 W	SODA_SPGS-ID	POC
IDW04451-449	Portneuf River	17040208	Bannock	42 40 48.61 N	112 12 18.29 W	POCATELLO-ID	POC
IDW04451-461	East Fork Rock Creek	17040209	Power	42 33 31.90 N	112 46 53.18 W	POCATELLO-ID	POC
IDW04451-463	Middle Fork Toponce Creek	17040208	Caribou	42 52 49.12 N	112 5 38.90 W	POCATELLO-ID	POC
IDW04451-469	Crow Creek	17040105	Caribou	42 33 50.58 N	111 9 27.07 W	SODA_SPGS-ID	POC
IDW04451-477	Little Malad River	16010204	Oneida	42 9 39.96 N	112 18 35.71 W	MALAD_CITY-ID	POC
IDW04451-479		17040206	Bannock	43 1 5.95 N	112 39 20.05 W	BLACKFOOT-ID	POC
IDW04451-485	Meadow Creek	17040207	Caribou	42 57 52.31 N	111 31 16.25 W	SODA_SPGS-ID	POC
IDW04451-501		16010202	Franklin	42 17 17.48 N	111 47 31.67 W	PRESTON-ID	POC
IDW04451-513	Montpelier Creek	16010201	Bear Lake	42 24 10.33 N	111 10 44.26 W	PRESTON-ID	POC
IDW04451-523	South Fork Rock Creek	17040209	Power	42 32 30.80 N	112 52 3.90 W	POCATELLO-ID	POC
IDW04451-525	Weston Creek	16010202	Franklin	42 1 32.70 N	111 56 28.28 W	PRESTON-ID	POC

Reserve or Alternate Sites							
IDW04451-527	Bannock Creek	17040206	Power	42 44 42.22 N	112 36 34.70 W	POCATELLO-ID	POC
IDW04451-533	Johnson Creek	17040207	Caribou	42 41 54.38 N	111 22 39.29 W	SODA_SPGS-ID	POC
IDW04451-543		17040206	Bingham	43 20 9.13 N	112 39 5.00 W	BLACKFOOT-ID	POC
IDW04451-545	Shingle Creek	16010202	Bannock	42 27 4.68 N	111 57 58.07 W	PRESTON-ID	POC
IDW04451-549	Bacon Creek	17040207	Caribou	42 49 40.69 N	111 16 26.65 W	SODA_SPGS-ID	POC
IDW04451-557		17040206	Oneida	42 24 28.04 N	112 34 25.21 W	MALAD_CITY-ID	POC
IDW04451-559	Blackfoot River	17040207	Caribou	42 58 57.65 N	111 45 31.86 W	SODA_SPGS-ID	POC
IDW04451-565	Co-Op Creek	16010201	Bear Lake	42 27 13.50 N	111 31 32.92 W	PRESTON-ID	POC
IDW04451-567	Crane Creek	17040205	Bingham	43 8 45.60 N	111 40 40.26 W	PALISADES-ID	POC
IDW04451-577	Portneuf River	17040208	Bannock	42 47 27.64 N	112 16 17.54 W	POCATELLO-ID	POC
IDW04451-589	Bannock Creek	17040206	Power	42 28 44.54 N	112 32 25.44 W	MALAD_CITY-ID	POC
IDW04451-591		17040207	Bingham	43 4 53.04 N	112 11 51.97 W	BLACKFOOT-ID	POC
IDW04451-597		17040105	Caribou	42 40 16.54 N	111 3 12.85 W	SODA_SPGS-ID	POC
IDW04451-605	Thomas Fork	16010102	Bear Lake	42 15 41.83 N	111 4 32.66 W	PRESTON-ID	POC
IDW04451-607		17040208	Bannock	42 53 14.75 N	112 20 23.17 W	POCATELLO-ID	POC
IDW04451-613	Horse Creek	17040105	Caribou	42 47 45.46 N	111 5 4.24 W	SODA_SPGS-ID	POC
IDW04451-621		16020309	Oneida	42 19 35.00 N	112 36 47.16 W	MALAD_CITY-ID	POC
IDW04451-623		17040206	Bingham	43 11 43.12 N	112 55 7.64 W	BLACKFOOT-ID	POC
IDW04451-629	Cottonwood Creek	16010202	Franklin	42 21 11.12 N	111 53 34.48 W	PRESTON-ID	POC
IDW04451-631	Mill Creek	17040205	Bingham	43 13 45.88 N	111 48 49.28 W	PALISADES-ID	POC
IDW04451-641	Bear River	16010201	Bear Lake	42 19 59.45 N	111 21 1.22 W	PRESTON-ID	POC
IDW04451-653		17040208	Bannock	42 21 52.56 N	112 11 46.64 W	MALAD_CITY-ID	POC
IDW04451-655		17040207	Bingham	43 7 12.40 N	112 8 21.12 W	BLACKFOOT-ID	POC
IDW04451-661		17040208	Caribou	42 45 37.22 N	111 55 9.91 W	SODA_SPGS-ID	POC
IDW04451-669		16010102	Bear Lake	42 7 15.49 N	111 9 24.55 W	PRESTON-ID	POC
IDW04451-671		17040206	Bingham	43 24 48.46 N	112 33 1.69 W	BLACKFOOT-ID	POC
IDW04451-673		17040206	Power	42 29 34.15 N	112 30 26.75 W	MALAD_CITY-ID	POC
IDW04451-677	Sheep Creek	17040207	Caribou	42 51 42.98 N	111 20 14.46 W	SODA_SPGS-ID	POC
IDW04451-685		17040210	Power	42 23 44.95 N	112 59 55.68 W	MALAD_CITY-ID	POC
IDW04451-687	Blackfoot River	17040207	Bingham	43 2 51.54 N	111 52 45.52 W	PALISADES-ID	POC
IDW04451-693	Right Fork Williams Creek	16010202	Franklin	42 19 53.87 N	111 36 41.47 W	PRESTON-ID	POC
IDW04451-705	Portneuf River	17040208	Bannock	42 37 19.31 N	111 59 45.31 W	SODA_SPGS-ID	POC
IDW04451-717	Mill Creek	17040208	Bannock	42 20 38.87 N	112 17 51.50 W	MALAD_CITY-ID	POC
IDW04451-719		17040208	Caribou	43 0 58.39 N	111 59 13.49 W	PALISADES-ID	POC
IDW04451-725	Diamond Creek	17040207	Caribou	42 39 18.40 N	111 11 55.68 W	SODA_SPGS-ID	POC
IDW04451-733		16020309	Oneida	42 11 52.98 N	112 30 57.78 W	MALAD_CITY-ID	POC
IDW04451-735		17040206	Bingham	42 51 59.65 N	112 55 9.41 W	POCATELLO-ID	POC
IDW04451-741		17040205	Bingham	43 5 31.06 N	111 36 40.82 W	PALISADES-ID	POC

Reserve or Alternate Sites							
IDW04451-254	Tamarack Creek	17060208	Valley	44 59 30.62 N	115 19 45.62 W	PISTOL_CREEK-ID	BOI
IDW04451-260	Middle Creek	17050124	Washington	44 24 24.73 N	116 26 52.62 W	WEISER-ID	BOI
IDW04451-265		17050107	Owyhee	42 31 57.25 N	116 49 34.61 W	TRIANGLE-ID	BOI
IDW04451-270	Kimmel Creek	17060206	Valley	45 4 4.55 N	114 45 12.20 W	BIGHORN_CRAGS-ID	BOI
IDW04451-273	Succor Creek	17050103	Owyhee	43 10 53.22 N	116 51 26.35 W	MURPHY-ID	BOI
IDW04451-292	Weiser River	17050124	Washington	44 22 55.63 N	116 47 58.99 W	WEISER-ID	BOI
IDW04451-297	Big Flat Creek	17050102	Owyhee	42 7 54.98 N	115 14 31.67 W	SHEEP_CREEK-ID	BOI
IDW04451-300	North Fork Willow Creek	17050114	Gem	43 51 12.13 N	116 18 45.43 W	BOISE-ID	BOI
IDW04451-305		17050102	Owyhee	42 44 12.77 N	115 56 6.50 W	GLENNS_FERRY-ID	BOI
IDW04451-307	Camas Creek	17040220	Elmore	43 16 11.46 N	115 17 34.22 W	MOUNTAIN_HOME-ID	BOI
IDW04451-318	Marble Creek	17060205	Valley	44 53 55.82 N	115 3 52.42 W	PISTOL_CREEK-ID	BOI
IDW04451-324	Johnson Creek	17050124	Adams	44 41 57.23 N	116 32 26.70 W	MCCALL-ID	BOI
IDW04451-329	Sugar Creek	17050102	Owyhee	42 33 41.18 N	115 52 42.82 W	GLENNS_FERRY-ID	BOI
IDW04451-332	Sand Creek	17050114	Ada	43 26 6.11 N	116 19 2.53 W	MURPHY-ID	BOI
IDW04451-337		17050102	Owyhee	42 30 35.21 N	116 4 51.49 W	TRIANGLE-ID	BOI
IDW04451-339		17050101	Owyhee	42 45 15.08 N	115 5 3.59 W	GLENNS_FERRY-ID	BOI
IDW04451-345		17050102	Owyhee	42 26 24.54 N	115 22 34.86 W	SHEEP_CREEK-ID	BOI
IDW04451-356		17050122	Gem	43 53 19.93 N	116 34 21.94 W	BOISE-ID	BOI
IDW04451-364	Sulphur Creek	17060205	Valley	44 32 39.73 N	115 20 20.80 W	PISTOL_CREEK-ID	BOI
IDW04451-369	Indian Creek	17050108	Owyhee	42 45 16.27 N	116 48 39.24 W	TRIANGLE-ID	BOI
IDW04451-377	Lightning Creek	17050121	Boise	44 12 17.39 N	115 50 1.64 W	DEADWOOD_RIVER-ID	BOI
IDW04451-380	South Fork Payette River	17050120	Boise	44 6 57.56 N	115 8 42.00 W	DEADWOOD_RIVER-ID	BOI
IDW04451-382	Blackmare Creek	17060208	Valley	44 48 41.22 N	115 44 34.30 W	PISTOL_CREEK-ID	BOI
IDW04451-388	Indian Creek	17050122	Payette	44 7 53.72 N	116 36 4.97 W	WEISER-ID	BOI
IDW04451-393	Bruneau River	17050102	Owyhee	42 26 31.56 N	115 37 1.88 W	SHEEP_CREEK-ID	BOI
IDW04451-396	Indian Creek	17050114	Ada	43 23 22.34 N	116 1 51.53 W	MURPHY-ID	BOI
IDW04451-401		17050104	Owyhee	42 14 53.38 N	116 31 52.25 W	RIDDLE-ID	BOI
IDW04451-414	Mud Creek	17060206	Valley	45 2 29.98 N	115 7 19.81 W	WARREN-ID	BOI
IDW04451-420	Weiser River	17050124	Washington	44 26 9.17 N	116 45 4.75 W	WEISER-ID	BOI
IDW04451-425		17050102	Owyhee	42 0 18.04 N	115 40 52.39 W	SHEEP_CREEK-ID	BOI
IDW04451-428	Pine Creek	17050113	Elmore	43 28 30.11 N	115 43 37.02 W	MOUNTAIN_HOME-ID	BOI
IDW04451-433	North Fork Castle Creek	17050103	Owyhee	42 47 53.95 N	116 31 44.08 W	TRIANGLE-ID	BOI
IDW04451-441	Anderson Creek	17050121	Boise	44 6 52.49 N	115 57 57.13 W	DEADWOOD_RIVER-ID	BOI
IDW04451-444		17050111	Elmore	43 44 22.56 N	115 21 46.15 W	IDAHO_CITY-ID	BOI
IDW04451-448	Mud Creek	17060210	Adams	45 2 41.06 N	116 22 13.30 W	RIGGINS-ID	BOI

Reserve or Alternate Sites							
IDW04451-452	West Fork Weiser River	17050124	Adams	44 50 17.30 N	116 28 41.45 W	MCCALL-ID	BOI
IDW04451-457		17050105	Owyhee	42 7 52.57 N	116 48 38.23 W	RIDDLE-ID	BOI
IDW04451-460		17050114	Ada	43 41 4.63 N	116 14 59.21 W	BOISE-ID	BOI
IDW04451-465	Poison Creek	17050103	Owyhee	42 46 19.16 N	116 16 27.66 W	TRIANGLE-ID	BOI
IDW04451-467	Long Tom Creek	17050101	Elmore	43 16 0.62 N	115 36 59.58 W	MOUNTAIN_HOME-ID	BOI
IDW04451-481		17050108	Owyhee	42 49 6.85 N	116 43 36.73 W	TRIANGLE-ID	BOI
IDW04451-492	Skunk Creek	17050123	Valley	44 22 57.68 N	115 58 42.31 W	DEADWOOD_RIVER-ID	BOI
IDW04451-497	Castle Creek	17050104	Owyhee	42 25 32.02 N	116 41 28.14 W	RIDDLE-ID	BOI
IDW04451-499	Lime Creek	17050113	Elmore	43 26 20.40 N	115 9 26.53 W	MOUNTAIN_HOME-ID	BOI
IDW04451-504	North Fork Payette River	17050123	Valley	45 6 26.46 N	116 1 33.02 W	RIGGINS-ID	BOI
IDW04451-505	Tenmile Creek	17050120	Boise	44 3 43.88 N	115 19 41.30 W	DEADWOOD_RIVER-ID	BOI
IDW04451-510	North Fork Fitsum Creek	17060208	Valley	45 0 24.52 N	115 50 26.34 W	WARREN-ID	BOI
IDW04451-516	Second Fork Squaw Creek	17050122	Gem	44 18 44.32 N	116 18 2.45 W	WEISER-ID	BOI
IDW04451-521		17050102	Owyhee	42 38 49.85 N	115 33 36.90 W	GLENNS_FERRY-ID	BOI
IDW04451-524		17050114	Canyon	43 32 27.13 N	116 28 54.98 W	BOISE-ID	BOI
IDW04451-529	Jordan Creek	17050108	Owyhee	42 56 27.49 N	117 1 1.99 W	JORDAN_VALLEY-OR	BOI
IDW04451-531	Snake River	17040212	Elmore	42 54 29.27 N	115 9 25.13 W	GLENNS_FERRY-ID	BOI
IDW04451-542	Crooked Creek	17060206	Valley	45 11 46.75 N	115 4 39.54 W	WARREN-ID	BOI
IDW04451-548	Pine Creek	17050124	Washington	44 36 50.11 N	116 45 33.12 W	MCCALL-ID	BOI
IDW04451-553	Bruneau River	17050102	Owyhee	42 10 48.47 N	115 40 46.92 W	SHEEP_CREEK-ID	BOI
IDW04451-556	Fall Creek	17050113	Elmore	43 29 10.07 N	115 23 53.66 W	MOUNTAIN_HOME-ID	BOI
IDW04451-561	McKeeth Wash	17050103	Owyhee	43 0 7.02 N	116 11 39.26 W	MURPHY-ID	BOI
IDW04451-563	Lester Creek	17050113	Elmore	43 25 37.74 N	115 20 45.64 W	MOUNTAIN_HOME-ID	BOI
IDW04451-569		17050201	Adams	45 2 16.04 N	116 35 15.18 W	RIGGINS-ID	BOI
IDW04451-574	Pistol Creek	17060205	Valley	44 40 58.33 N	115 22 29.39 W	PISTOL_CREEK-ID	BOI
IDW04451-580	Grizzly Creek	17050124	Washington	44 37 46.99 N	116 36 55.66 W	MCCALL-ID	BOI
IDW04451-585		17050105	Owyhee	42 5 22.70 N	116 38 59.35 W	RIDDLE-ID	BOI
IDW04451-588		17050112	Boise	43 51 5.04 N	116 1 2.35 W	BOISE-ID	BOI
IDW04451-593		17050104	Owyhee	42 12 34.96 N	116 6 38.05 W	RIDDLE-ID	BOI
IDW04451-601		17050101	Owyhee	42 25 14.38 N	115 6 38.48 W	SHEEP_CREEK-ID	BOI
IDW04451-609		17050108	Owyhee	42 46 1.20 N	116 57 5.29 W	TRIANGLE-ID	BOI
IDW04451-620	South Fork Gold Fork River	17050123	Valley	44 39 41.15 N	115 52 49.33 W	PISTOL_CREEK-ID	BOI
IDW04451-625		17050107	Owyhee	42 37 2.42 N	116 53 33.22 W	TRIANGLE-ID	BOI
IDW04451-633	South Fork Payette River	17050120	Boise	44 5 48.16 N	115 27 43.74 W	DEADWOOD_RIVER-ID	BOI

Reserve or Alternate Sites							
IDW04451-638		17060205	Valley	44 48 58.82 N	115 1 30.61 W	PISTOL_CREEK-ID	BOI
IDW04451-644		17050124	Washington	44 17 48.88 N	116 33 17.50 W	WEISER-ID	BOI
IDW04451-649		17050102	Owyhee	42 28 17.11 N	115 52 28.81 W	SHEEP_CREEK-ID	BOI
IDW04451-652		17050103	Owyhee	43 16 40.84 N	116 35 46.93 W	MURPHY-ID	BOI
IDW04451-657	Marys Creek	17050102	Owyhee	42 15 51.52 N	115 56 8.52 W	SHEEP_CREEK-ID	BOI
IDW04451-659		17050101	Owyhee	42 46 0.19 N	115 18 46.98 W	GLENNS_FERRY-ID	BOI
IDW04451-676	Warm Springs Creek	17050201	Washington	44 17 13.27 N	117 3 38.77 W	BROGAN-OR	BOI
IDW04451-684	Crown Creek	17050101	Elmore	43 22 47.75 N	115 41 46.43 W	MOUNTAIN_HOME-ID	BOI
IDW04451-689	Pole Creek	17050104	Owyhee	42 34 3.54 N	116 34 23.38 W	TRIANGLE-ID	BOI
IDW04451-697		17050112	Boise	43 53 55.32 N	115 47 12.26 W	IDAHO_CITY-ID	BOI
IDW04451-700	Middle Fork Boise River	17050111	Elmore	43 48 22.25 N	115 10 21.58 W	IDAHO_CITY-ID	BOI
IDW04451-708	Weiser River	17050124	Adams	44 55 43.07 N	116 22 56.53 W	MCCALL-ID	BOI
IDW04451-713	Marys Creek	17050102	Owyhee	42 5 26.23 N	116 1 46.63 W	RIDDLE-ID	BOI
IDW04451-716		17050114	Canyon	43 42 43.45 N	116 35 5.10 W	BOISE-ID	BOI
IDW04451-721		17050102	Owyhee	42 36 43.27 N	116 9 34.96 W	TRIANGLE-ID	BOI
IDW04451-723	Ryegrass Creek	17050101	Elmore	43 7 45.19 N	115 24 11.48 W	MOUNTAIN_HOME-ID	BOI
IDW04451-734	Canyon Creek	17060206	Valley	45 7 27.48 N	114 56 3.16 W	BIGHORN_CRAGS-ID	BOI
IDW04451-737		17050103	Owyhee	42 59 1.28 N	116 29 12.84 W	TRIANGLE-ID	BOI
IDW04451-748	Deadwood River	17050120	Valley	44 23 5.86 N	115 37 8.11 W	DEADWOOD_RIVER-ID	BOI

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