UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

OFFICE OF
WATER AND
WATERSHEDS

SEP 29 2011

Barry N. Burnell, Administrator
Water Quality Program
Department of Environmental Quality
1410 N. Hilton
Boise, Idaho 83706

Re: Approval of Idaho's Final 2010 303(d) list

Dear Mr. Burnell:

The U.S. Environmental Protection Agency (EPA) has conducted a review of Idaho's 2010 Section 303(d) List, supporting documentation and information. Based on our review of the submittal, the EPA has determined that Idaho's 2010 list of 912 water bodies (as identified by assessment units (AU)) still requiring TMDLs meets the requirements of Section 303(d) of the Clean Water Act (CWA) and the Agency's implementing regulations. Therefore, by this order, the EPA hereby approves Idaho's 2010 303(d) list. Specifically, the agency approves the State's decision to list the 912 AUs and associated pollutants identified in the State's 303(d) list. The statutory and regulatory requirements, and a summary of the EPA's review of Idaho's compliance with each requirement, are described in the enclosure to this letter.

The EPA has received Idaho's long-term schedule for TMDL development for all waters on the State's 2010 Section 303(d) list. As a policy matter, the Agency has requested that States provide such schedules. The EPA is not taking any action to approve or disapprove this schedule pursuant to Section 303(d).

In 1994, in response to a federal District Court order, the EPA published a 303(d) list for the State of Idaho which identified all impaired waters within the State of Idaho, including some waters within Indian Country as defined at 18 USC 1151. The Agency's approval of the State's 2010 303(d) list does not apply to any waters, or portions thereof, that are within Indian Country. The EPA is taking no action to approve or disapprove the State's list with respect to any waters within Indian Country.

We recognize and appreciate the excellent work of Nicole Deinarowicz and Michael McIntyre at IDEQ in developing the final 2010 303(d) List. We look forward to continuing to work with you on this process to address the water quality issues in the State.

If you have any questions please contact Tracy Chellis, Impaired Waters Program Manager at (206)553-6326, or Dave Croxton, Manager, Watershed Unit at (206) 553-6694.

Sincerely,

Michael A. Bussell, Director
Office of Water and Watersheds

Enclosure

cc: Michael McIntyre, Surface Water Manager, IDEQ
Nicole Deinarowicz, Federal Reporting Coordinator, IDEQ

Enclosure 1: The EPA's Review of Idaho's 2010 Integrated Report

Purpose

The purpose of this document is to describe the EPA's rationale for approving Idaho's 2010 Clean Water Act (CWA) Section 303(d) list of water quality limited segments. The following sections identify those elements to be included in the list submittal based on the CWA and the EPA regulations (see 40 CFR 130.7). The EPA reviewed methodology used by the State in developing its list and the description of the data and information it considered. The EPA's review of Idaho's list is based on the EPA's analysis of whether the State reasonably considered existing and readily available water quality related data and information and reasonably identified waters required to be listed. This review describes the basis for the EPA's decision to approve the State's listings of water quality limited segments requiring a Total Maximum Daily Load (TMDL) identified in the State's 2010 Integrated Report.

Statutory and Regulatory Background

Identification of water quality limited segments (WQLS) for inclusion on Section 303(d) list

Section 303(d)(1) of the Act directs States to identify those waters within their jurisdiction for which effluent limitations required by CWA Section 301(b)(1)(A) and (B) are not stringent enough to implement any applicable water quality standard, and to establish a priority ranking for such waters, taking into account the severity of the pollution and the uses to be made of such waters. The Section 303(d) listing requirement applies to waters impaired by point and/or nonpoint sources, pursuant to the EPA's long–standing interpretation of Section 303(d).

The EPA regulations provide that States do not need to list waters where the following controls are adequate to implement applicable standards: (1) technology–based effluent limitations required by the Act, (2) more stringent effluent limitations required by federal, State or local authority, and (3) other pollution control requirements required by State, local, or federal authority. *See* 40 CFR 130.7(b)(1).

Consideration of existing and readily available water quality-related data and information

In developing Section 303(d) lists, States are required to assemble and evaluate all existing and readily available water quality–related data and information, including, at a minimum, consideration of existing and readily available data and information about the following categories of waters: (1) waters identified as partially meeting or not meeting designated uses, or as threatened, in the State's most recent Section 305(b) report; (2) waters for which dilution calculations or predictive modeling indicate nonattainment of applicable standards; (3) waters for which water quality problems have been reported by governmental agencies, members of the public, or academic institutions; and (4) waters identified as impaired or threatened in any Section 319 nonpoint assessment submitted to the EPA. *See* 40 CFR 130.7(b)(5). In addition to these minimum categories, States are required to consider any other data and information that is existing and readily available. The EPA's 1991 *Guidance for Water Quality-Based Decisions* describes categories of water quality–related data and information that may be existing and readily available. *See* the EPA 1991 Guidance, Appendix C. While States are required to evaluate all existing and readily available water quality–related data and information, States may decide to rely or not rely on particular data or information in determining whether to list particular waters.

In addition to requiring States to assemble and evaluate all existing and readily available water quality–related data and information, the EPA regulations at 40 CFR 130.7(b)(6) require States to include as part of their submissions to the Agency documentation to support decisions to rely or not rely on particular data and information and decisions to list or not list waters. Such documentation needs to include, at a minimum, the following information: (1) a description of the methodology used to develop the list; (2) a description of the data and information used to identify waters; and (3) any other reasonable information requested by the EPA Region X.

Priority ranking

Agency regulations also codify and interpret the requirement in Section 303(d)(1)(A) of the Act that States establish a priority ranking for listed waters. The regulations at 40 CFR 130.7(b)(4) require States to prioritize waters on their Section 303(d) lists for TMDL development, and also to identify those Water Quality Limited Segments (WQLS) targeted for TMDL development in the next two years. In prioritizing and targeting waters, States must, at a minimum, take into account the severity of the pollution and the uses to be made of such waters. *See* Section 303(d)(1)(A). States may consider other factors relevant to prioritizing waters for TMDL development, including immediate programmatic needs, vulnerability of particular waters as aquatic habitats, recreational, economic, and aesthetic importance of particular waters, degree of public interest and support, and State or national policies and priorities. *See* 57 FR 33040, 33045 (July 24, 1992), and the EPA 1991 Guidance.

Analysis of Idaho's Submission

I. Identification of waters, consideration of existing and readily available water quality related data and information and priority ranking

The EPA has reviewed the State's submission, and has concluded that the State developed its Section 303(d) list in compliance with Section 303(d) of the Act and 40 CFR 130.7. The Agency's review is based on its analysis of whether the State reasonably considered existing and readily available water quality related data and information and reasonably identified waters required to be listed.

A. Idaho's list development process

Idaho's 2008 303(d) list was used as a starting point for developing the 2010 303(d) list. The Idaho Department of Environmental Quality (IDEQ) actively sought data collected by federal agencies (including the U.S. Geological Society, U.S. Forest Service and the Bureau of Land Management), state agencies (including Idaho Department of Fish and Wildlife), tribes, local governments, watershed councils and private and public organizations and individuals. Idaho solicited public comment on its draft 303(d) list and Integrated Report.

IDEQ prepared a final list of impaired waters using data they collected and data received during the public processes. IDEQ categorized the data into three tiers of scientific rigor with more weight given to data with a higher level of scientific rigor. The scientific rigor is explained in the state's listing methodology, Water Body Assessment Guidance, Second Edition, Final January 2002 (WBAG II). IDEQ communicated its three tier collection methods with requirements to the

public in the draft and final list methodology, which were available in hard copy and on the internet.

IDEQ submitted their final 2010 303(d) list, including a response to public comment, a final list methodology, a priority ranking and an Integrated Report on the Status of Idaho's waters, to the EPA on August 10, 2011. The EPA received Idaho's 303(d) list on August 22, 2011. An online mapping database is also available online at:
http://global.deq.idaho.gov/Website/wq2010/viewer.htm

B. Listing methodology

The State's list submittal package references the listing methodology used by Idaho to develop the 2010 list. The State listing methodology contains a standardized approach for developing the State's Section 303(d) list and is found in the document entitled *Water Body Assessment Guidance II (WBAG II)* (Grafe et al. 2002).

The State used the assignment of assessment category decision factors identified in the methodology document as the basis for the listing decisions made on the data reviewed for the 2010 303(d) list. The EPA reviewed the various assessments and concludes the State's assessments are consistent with federal listing requirements and applicable water quality standards.

C. Analysis of waters not required to be listed

1. Waters not listed due to water quality standards attainment. Idaho removed a total of 149 water body pollutant combinations because information shows they were meeting applicable water quality standards. Twenty two of the water body pollutant combinations meet water quality standards because Idaho utilized a new assessment method and eighty four others meet standards because the original basis for the listing was incorrect. Five waters of the water body pollutant combinations meet water quality standards because of restoration activities. Thirteen of the water body pollutant combinations meet water quality standards due to a change in the water quality standard. An additional twenty two are attaining water quality standard with the reason for recovery unknown. Three water body pollutant combinations were listed as threatened and new information reveals they are no longer threatened; therefore they no longer need to be listed. The EPA has determined that Idaho's removal of these waters from the Section 303(d) list is consistent with the requirements of Section 303(d) of the Act and 40 CFR 130.7.

2. Waters not listed due to TMDL approved. For the 2010 303(d) list, Idaho removed 163 water body pollutant combinations from the 303(d) list based on Agency's approval of TMDLs for these waters. These assessment units were placed in Category 4A, TMDLs Approved, of the Integrated Report. Under Agency regulations at 40 CFR 130.7, the 303(d) list is an inventory of water bodies impaired by pollutants and requiring a TMDL. Thus, the EPA has determined that IDEQ's removal from the 303(d) list of the 914 assessment units with an EPA approved TMDL meet the requirements of CWA Section 303(d).

3. Waters not listed due to TMDL alternative pursuant to 40 CFR 130.7(b)(1)(iii). Idaho developed a 4B (TMDL alternative) plan for four water body pollutant combinations. The EPA's analysis of Idaho's 4B plan is attached in Appendix A. The EPA has determined that Idaho's removal of these waters from the Section 303(d) list is consistent with the requirements of Section 303(d) of the Clean Water Act and 40 CFR 130.7.

4. Waters Removed from the 303(d) list due to Flaws in the Original Analysis
Consistent with 40 CFR 130.7(b)(6)(iv),the Agency concluded that IDEQ provided "good cause" for the decisions to remove 39 water body pollutant combinations because the original basis for listing was incorrect. These removed waters are separate and distinct from the 84 waters discussed in Section C.1.

II Public participation

For the 2010 303(d) list, Idaho solicited data and comments during a 60–day call for data in July 2009, seeking technical information and data on the conditions of Idaho's surface waters. Data received during the "call for data" period and data collected by IDEQ were used to develop the draft Integrated Report (IR) and 303(d) lists. The draft 2010 IR 303(d) list and list methodology were released for public review from September to November 2010 to provide the public an opportunity to look at and comment on the IR, including the draft 303(d) list. The summary document includes an index of people and organizations who provided comments, a table of comments and IDEQ's specific response to each commenter. Idaho received 21 written comment letters from individuals and organizations.

A. Water body specific comments

1. Pend Oreille River (Assessment Units: ID17010214PN001_08, ID17010214PN002_08, ID17010214PN002_08)
Idaho received comments on behalf of the Lake Pend Oreille Waterkeeper (LPOW) concerning the proposed delisting of the Pend Oreille River for total phosphorus. The LPOW suggests that the Pend Oreille River should remain listed because 1) evidence suggests that total phosphorus levels are high in the River and 2) Idaho incorrectly applied a numeric standard instead of applying the narrative standards required by 40 CFR §130.7(b)(3).

To support their concerns, the LPOW laid out five points that highlight the claim that total phosphorus levels in the River are high including photographic evidence revealing visible slime, Idaho's monitoring that shows high levels of total phosphorus, LPOW monitoring that shows high levels of phosphorus, and the presence of Milfoil in the River. LPOW concludes that one summer's worth of data is insufficient to delist the River for total phosphorus. The LPOW also commented that Idaho incorrectly applied a numeric standard despite the fact that Idaho law requires compliance with a narrative standard and noted Idaho admitted that the numeric standard is inaccurate when measuring low level of total phosphorus.

Idaho responded to the LPOW concerns by summarizing how it interpreted the narrative nutrient criteria in its assessment of the Pend Oreille River. Idaho reviewed in–stream concentrations of total phosphorus and compared them to the TMDL targets established for the nearshore water Pend Oreille Lake TMDL Since the listing of the Pend Oreille River in 2008, Idaho has

evaluated the correlation between total phosphorus concentration and beneficial use impairment. This effort included an evaluation of the relevance of the Pend Oreille Lake nearshore nutrient TMDL total phosphorus target to total phosphorus concentrations in the Pend Oreille River, as well as analysis of historical dissolved oxygen concentrations in the river, an analysis of recent data on native/invasive plant communities in the river, and a correlation of quantities of visible slime growth with total phosphorus concentrations in the River. Idaho's evaluation included review of data and information collected by the Tri–State Water Quality Council in 2003–2004, 2009 data collected by Idaho, an aquatic plant study conducted in 2007 by Mississippi State University in the Pend Oreille River and data collected by Washington Department of Ecology downstream of the Idaho/Washington border. Based on their evaluation, Idaho concluded that the Pend Oreille River system beneficial uses are not impaired due to total phosphorus.

The EPA has reviewed the LPOW comments and Idaho's response as laid out in Appendix Q–Response to Comments in the 2010 Integrated Report (Comment #41, pages 31-40) as well as Idaho's supporting information regarding Pend Oreille River Assessment Units (Attachment A, 2010 Integrated Report). The EPA has concluded that as required by 130.7(b)(6)(iv), Idaho has provided good cause for not including the Pend Oreille River on the 303(d) list for nutrients for the following reasons. The Agency has reviewed the data analyzed by Idaho including dissolved oxygen levels, phosphorus concentration data and aquatic plant information and agrees with Idaho's analysis of the data, which show no impairment of the narrative nutrient criteria. Particularly, the data show a declining trend in phosphorus levels, attainment of the dissolved oxygen criteria and no nuisance aquatic growth problem over the course of the assessment unit. The EPA believes Idaho has evaluated the data for the Pend Oreille as recommended by the Agency's 2006 Integrated Report Guidance. As documented in the EPA's 2006 Integrated Report Guidance, a state must evaluate all existing and readily available data and information to establish how it should be used in attempting to make a water quality standards attainment status determination, applying reasonable and scientifically sound data evaluation procedures. Such evaluation protocol should strike a balance between: 1) employing only the very highest quality data, and 2) employing as much useful information about the condition of as many segments as possible. The 2006 Guidance also notes that states should consider data representativeness as they attempt to characterize conditions in a given segment.

2. Teton River (Assessment Units: ID17040204DK032_02, ID17040204DK028_03, ID17040204DK026_04, ID17040204DK020_04, ID17040204DK017_04)
Idaho received comments from the Friends of the Teton River (FTR), Idaho Conservation League, Valley Advocates for Responsible Development, Teton County Commissioner and Givens Pursley regarding three segments of the Teton River–Headwaters to Trail Creek, Trail Creek to Highway 33, and Highway 33 to Bitch Creek. These entities believe that the above three waters should be added to Idaho's 2010 303(d) list based on dissolved nitrogen concentrations observed through monitoring conducted by FTR, an exceedance of TMDL targets associated with a downstream TMDL, and concentrations of nitrogen that are above the EPA eco-regional nutrient criteria recommendations.

Idaho responded to the concerns by explaining how the State interprets its narrative criteria to determine if there is a violation of the water quality standard that would mandate listing a waterbody on the 303(d) list. Idaho explained that evaluation of a narrative criterion requires a

site–specific analysis to determine if the level of nutrients present can cause visible slime growth or other nuisance aquatic growth that would impair the beneficial use of the water. IDEQ further explained that all lines of evidence including relevant guidance documents and literature, nitrogen and phosphorus levels, other physical and chemical factors such as pH, temperature, stream gradient, flow and incident light radiation are all reviewed when making an impairment determination for nutrients. As laid out in Idaho's *Water Body Assessment Guidance* (Grafe et al. 2002) when determining if a violation of the water quality standard has occurred IDEQ staff will consider if there is a source of pollution, a pathway and a measurable adverse effect on the beneficial use.

When IDEQ developed the Total Maximum Daily Load (TMDL) for the Teton River Subbasin they reviewed nutrient data and bioassessment work completed by IDEQ. The total phosphorus data was below the EPA Gold Book value of 0.1 mg/L and the bioassessment concluded that the ecological conditions of the site studied were good. In addition, the TMDL did not identify the upper reaches of the Teton River (Headwaters to Trail Creek, Trail Creek to Highway 33) as impaired.

IDEQ reviewed the data FTR collected, a 1999 study completed by Idaho State University (Thomas, et al 1999) and several other reports and found that the data and findings appear to be contradictory and inconclusive as to whether there is a nutrient impairment in the upper reaches of the Teton River. IDEQ's work on the Teton River Subbasin Assessment and TMDL (IDEQ, 2003), as well as bioassessment work (IDEQ, 2002), showed that the ecological condition of the sites studied was good and that the upper reaches of the Teton River were not impaired by excess nutrients or contributing to the excess nutrients in the lower reach of the river. Work completed by Idaho State University in 1999 showed that elevated levels of nitrate are impacting the ecological integrity of the river. Based on the differing conclusions and the lack of more recent data and information, IDEQ is committing to develop a monitoring plan with the collaboration of FTR to collect more water quality data to fill in the data gaps and further evaluate if nutrients are impairing the beneficial uses in the upper Teton River.

The EPA has reviewed the comments of FTR and others regarding the Teton River and Idaho's response as laid out in Appendix Q–Response to Comments in the 2010 Integrated Report (Comment #26, pages 12-19) and concluded that as required by 130.7(b)(6)(iv), Idaho has provided good cause for not including the upper reaches of the Teton River on the 303(d) list for nutrients. The Agency reviewed Idaho's assessment methodology as included in the *Water Body Assessment Guidance*, Section 5–Criteria Evaluation and Exceedance Policy (Grafe, et al. 2002) which defines how Idaho will evaluate narrative criteria, and found that Idaho evaluated the data for the upper reaches of the Teton River in a manner that is consistent with this guidance.

In addition, although the data discussed in the Teton River TMDL do not indicate a nutrient impairment in the upper reaches of the Teton River, nutrient reduction projects in the upper Teton watershed are currently being implemented as part of the lower Teton TMDL. This activity does not relate directly to whether the upper river is impaired or not, but it shows that nutrient issues in the headwaters are being actively addressed. As documented in the EPA's 2006 Integrated Report Guidance, a state must evaluate all existing and readily available data and information to establish how it should be used in attempting to make a water quality standards

attainment status determination, applying reasonable and scientifically sound data evaluation procedures. Such evaluation protocol should strike a balance between: 1) employing only the very highest quality data, and 2) employing as much useful information about the condition of as many segments as possible. The 2006 Guidance also notes that states should consider data representativeness as they attempt to characterize conditions in a given segment.

III. Priority ranking and scheduling

The EPA also reviewed the State's priority ranking of listed waters for TMDL development as per 40 CFR 130.7(b)(4), which requires that states "shall include a priority ranking for all listed water quality limited segments still requiring TMDLs," and concludes that the State properly took into account the severity of pollution and the uses to be made of such waters. The EPA reviewed the State's identification of WQLSs targeted for TMDL development in the next two years, and concluded that the targeted waters are appropriate for TMDL development in this time frame. In prioritizing and targeting waters, States must, at a minimum, take into account the severity of the pollution and the uses to be made of such waters. See Section 303(d)(1)(A). As long as these factors are taken into account, the Act provides that States establish the priorities.

Appendix A

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
IDAHO OPERATIONS OFFICE
1435 N. Orchard St.
Boise, Idaho 83706

September 29, 2011

MEMORANDUM

SUBJECT: Bear Valley 4b Plan; Idaho 2010 Integrated Report

FROM: Leigh Woodruff
Watershed Unit

TO: Administrative File
2010 Idaho Integrated Report

The Idaho Department of Environmental Quality (IDEQ) and US Forest Service (USFS) submitted the final Bear Valley Creek 4b Justification (IDEQ and USFS, 2011) as a basis for including four waterbody-pollutant combinations in the Bear Valley Watershed in Category 4b of the 2010 Idaho Integrated Report. These waterbodies were previously included in Category 5 (303(d) list) of Idaho's 2008 Integrated Report for sediment.

The following is a review of the 4b justification to establish whether the plan is adequate to support the decision to not include these impaired waters in the State's 2010 303(d) list. This review is structured consistent with recommendations made to States regarding 4b demonstrations as part of the 2008 IR list cycle (USEPA, 2008). Page references to sections of the Bear Valley 4b Justification (BV-4b) are included as appropriate. Our review has concluded that it is appropriate to include these four waterbody-pollutant combinations in Category 4b of the 2010 Idaho Integrated Report.

Background

The Bear Valley Creek watershed (BVW) is a fifth order stream which joins Marsh Creek to form the Middle Fork of the Salmon River. It is an extremely important watershed to the entire Salmon River because of its historic spawning and rearing habitat for Endangered Species Act listed spring/summer Chinook salmon, steelhead and bull trout, as well as native west slope cutthroat trout. Historically, 49% of all Chinook spawning beds (redds) in the Salmon River drainage were located in the Bear Valley watershed.

The entire Bear Valley creek watershed (192 square miles; 123,000 acres) is public land managed by the U.S. Forest Service (USFS). Most of the land lies within the Boise National Forest and is administered by the Lowman Ranger District, although some road segments are administered by the Salmon-Challis National Forest.

The Frank Church – River of No Return Wilderness area comprises 31% of the watershed area, and all or portions of seven roadless areas comprise another 24% of the watershed. Consequently, much of the watershed is remote and undeveloped. Current human activity in the remainder of the watershed is light, and largely recreational. Road density is low averaging 0.9 mi/mi2. There are no point sources within the Bear Valley watershed.

The Bear Valley watershed lies entirely within the Idaho Batholith, a highly erosive granitic geology. The majority of the broad valley bottom stream types, where sediment impairment occurs, are low gradient Rosgen C channel type, with moderate to high sinuosity. Overall, 41% of the stream miles in the watershed are response reaches, which are areas where sediment is naturally deposited.

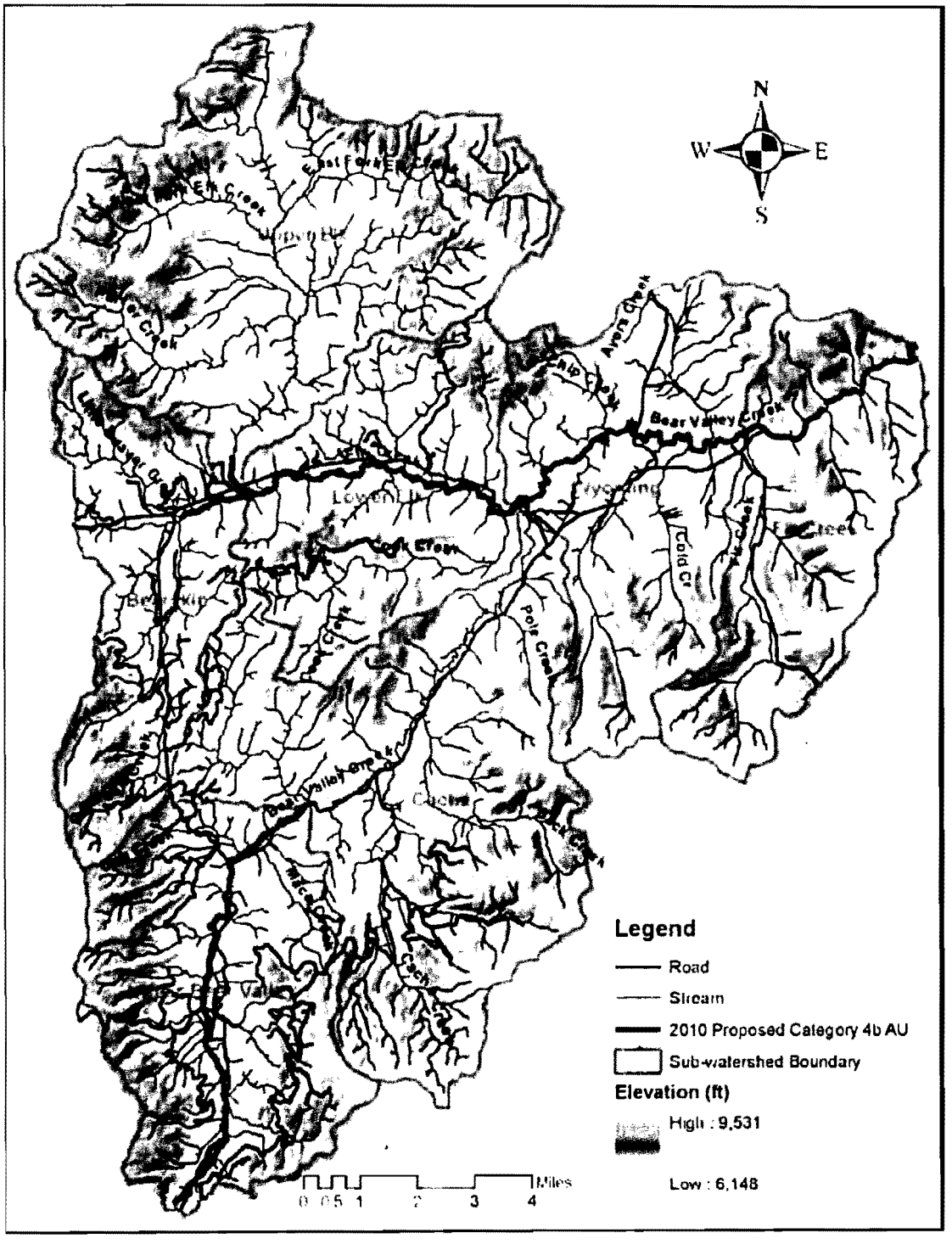
1. **Identification of segment and statement of problem causing the impairment.**

The Idaho Department of Environmental Quality has identified four assessment units in the BVW which were identified as impaired for sediment based on the most recent monitoring. Some of these have been included on the Idaho 303(d) list in the past, and one assessment unit in Elk Creek has not previously been listed. All of these assessment units are included Category 4b of the 2010 Integrated Report (Table 1; Figure 1). These assessment units are located within the Bear Valley sub-basin, including assessment units on Bear Valley Creek proper, and units on Elk Creek and Bearskin Creek which are tributaries to Bear Valley Creek, as follows:

Table 1. IDEQ proposed Category 4b Assessment Units in the Bear Valley watershed

Assessment Unit	Stream Name	Pollutant	Stream length (miles)	Date of original 303(d) listing
17060205SL012_02a	Upper Bear Valley Creek and tribs – 1st and 2nd order	Sediment	28.9	1994
17060205SL012_05	Bear Valley Creek – 5th order	Sediment	11.24	1994
17060205SL013_03	Bearskin Creek – 5th order	Sediment	1.83	1994
17060205SL013_04	Elk Creek – 4th order	Sediment	8.94	Not previously listed

Figure 1. IDEQ proposed Category 4b Assessment Units in the Bear Valley watershed.



Idaho's water quality standard for sediment is narrative as described on p. 74:

> *Sediment shall not exceed quantities specified in Sections 250 and 252 or, in the absence of specific sediment criteria, quantities which impair beneficial uses. Determinations of impairment shall be based on water quality monitoring and surveillance and the information utilized as described in Subsection 350.*
> IDAPA 58.01.02.200.08

Sections 250 and 252 in Idaho water quality standards referred to above establish turbidity criteria to protect coldwater aquatic life (250.02.e) and small public water supplies identified in Section 252.01.b. This portion of the narrative criteria is not relevant to the sediment impairment issues in the Bear Valley watershed because turbidity levels are not known to exceed criteria established in Section 250.02.e, and there are no designated public water supplies in the watershed. However, biological and other monitoring has shown that sediment is impairing beneficial uses in the four assessment units identified in the 4b Justification.

Beneficial uses for the four assessment units have not been specifically designated, but are presumed to be coldwater biota (BV-4b; Table 2); salmonid spawning is also a documented existing use.

To assess beneficial use support, Idaho utilizes Beneficial Use Reconnaissance Protocol (BURP) monitoring (IDEQ, 2007), and a scoring and assessment methodology described in their Waterbody Assessment Guidance (IDEQ, 2002). BURP monitoring consists of standardized protocols to collect macroinvertebrate, fish and habitat information, and interpret this information using multimetric indices, and a scoring and decision framework described in WBAG. The most recent BURP monitoring in 2008 indicated that coldwater aquatic life beneficial uses in the four assessment units in question are not fully supported, i.e. impaired (BV-4b; Table 2.2; p. 46). The BURP monitoring results also indicated that substrate fine sediment levels are the cause of impairment. USFS Pacfish Infish Biological Opinion (PIBO) monitoring supports this conclusion. Levels of fine sediment in the Bear Valley watershed documented by this monitoring were elevated as compared to reference conditions, especially in areas of the watershed which have been managed (BV-4b; p. 54, Figure 2.3).

Sediment sources.

In the 1950s, dredge mining for uranium and other rare earth elements effected 1.4 miles of the headwaters of Bear Valley Creek, in the Big Meadows area. Over 17,000,000 ft^3 of fine sediment entered the stream since the mining activities began. Approximately 180 acres of land were dredged, and 17,000 lineal feet of the original Bear Valley Creek channel were obliterated. This mining is largest historic source of sediment in the BVW.

Elk Creek and other tributaries within the BVW were unaffected by mining. In these areas, historic grazing which began pre-1930s and existing roads are the main

anthropogenic contributors of sediment to streams. Historic livestock grazing resulted in unstable banks, causing streambank erosion and subsequent excess sediment delivery to streams. As discussed further below, grazing in the watershed ceased in 2001, and streambanks are now in the process of stabilizing.

Roads are currently the only uncontrolled anthropogenic sediment source in the BVW, and are the main focus of further restoration activities. Detailed analysis of road sediment sources and locations of road sediment delivery to streams is included in the plan (BV-4b; p. 67). While roads are the only current human-caused threat of sediment delivery in the watershed, their contribution to stream sediment levels is considered to be low compared to natural sediment levels, estimated at 17% above natural sediment yield levels across the watershed (Fly, et. al., 2010).

EPA Review: IDEQ/USFS have clearly 1) identified which waterbodies (assessment units) are the subject of this 4b plan; 2) the applicable water quality standard which is not being met; 3) which pollutant is causing the impairment (sediment), and; 4) the sediment sources and their locations.

2. Description of pollution controls and how they will achieve water quality standards.

Controls that will Achieve WQS and Water Quality Target

a. Historical and completed

i. Mining restoration

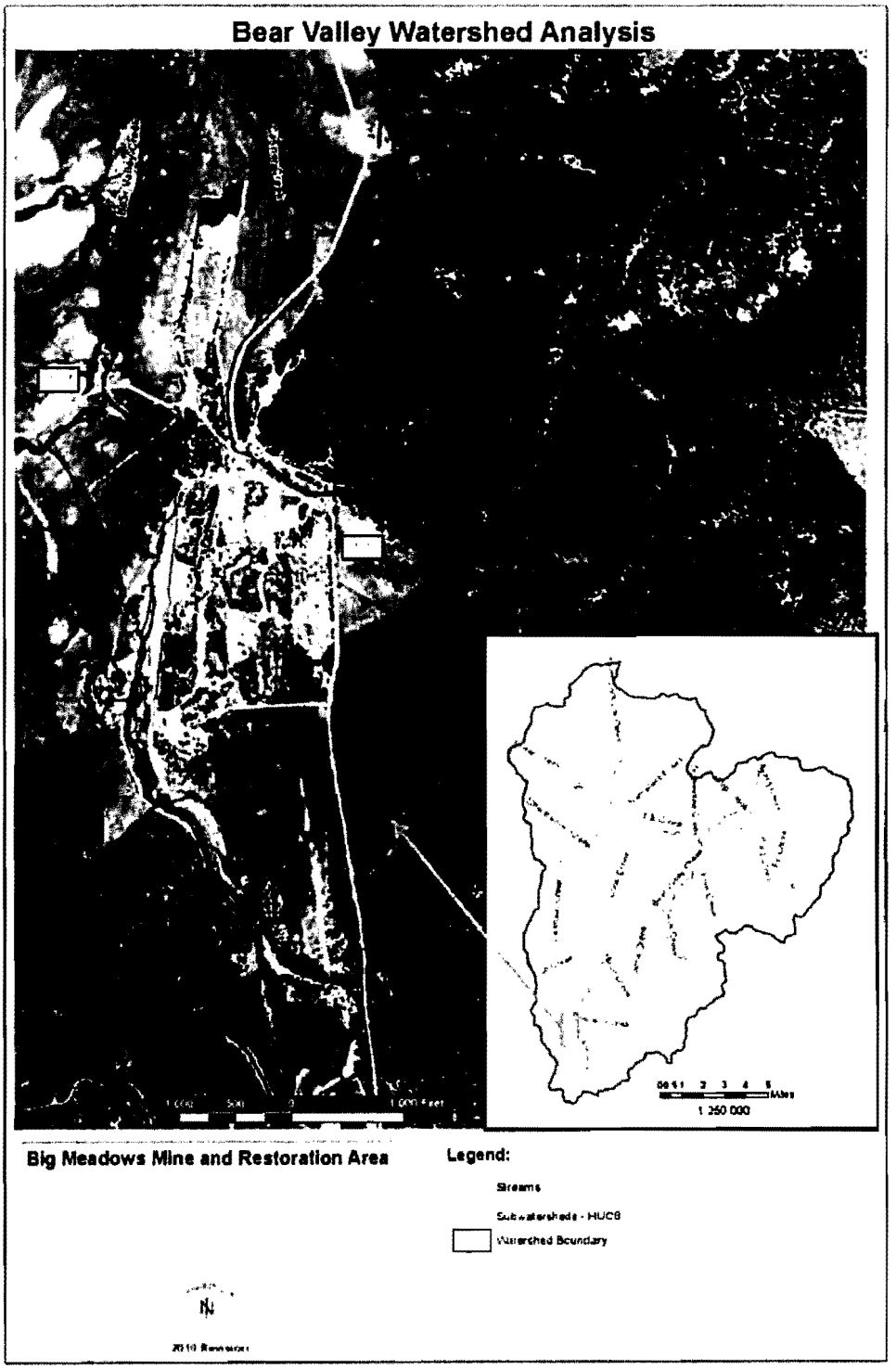
As discussed above, in the 1950s massive quantities of sediment were introduced into upper Bear Valley Creek from dredging and placer mining. A restoration effort was attempted but failed in the 1960s. Between 1985 and 1989 the Shoshone-Bannock Tribes initiated a restoration effort of the mined area. Using $2.8 million of Bonneville Power Administration funds, high cut banks were recontoured and revegetated to create a new floodplain, and 250,000 – 500,000 cubic yards of overburden were protected from entering the creek (Figure 2). In 1989 the owners of the mineral resources sold the land to the US government, and no dredge or placer mining is currently allowed in much of this management area, as stipulated under the Frank Church River of No Return Act.

ii. Grazing control

Grazing has historically been an important use of the BVW, and was divided into three allotments, as depicted in Figure 1.9 of the Bear Valley 4b Justification. By 1930, over-grazing was already reported. In 1975, conflicts between anadromous fish use and grazing were discussed in the Land Use Plan for the Bear Valley Planning Unit. During the 1990s numerous livestock barriers and other grazing restrictions were imposed. During this time biological opinions were issued for Chinook salmon and steelhead under the Endangered Species Act, leading to tighter grazing

restrictions. Subsequently, the Bonneville Power Administration funded the purchase of all grazing privileges in order to protect ESA listed salmon, and the Boise Forest

Figure 2. Big Meadows Dredge Mining Restoration Area, 2008.



Supervisor closed all three allotments to further grazing. No grazing has occurred in the BVW since 2001 (BV-4b; p. 79).

iii. Stream and other habitat restoration projects

The BVW has a long history of other water quality improvement projects, primarily initiated during the 1980s and 1990s (detailed in BV-4b; Appendix 1). Many of these projects were aimed at improving stream bank stability, to keep excess fine sediment from entering the streams, as well as to minimize stream channel movement, which would allow bank vegetation to re-establish.

A 2001 review by the USFS of 1990s era projects concluded that projects involving in-stream structures (barbs, revetments) were causing more damage than improvement. A move towards more passive means of restoration of channel problems was made after these findings. Based on the current improving trend in fine sediment, IDEQ and USFS concluded that passive restoration (e.g. riparian planting) of streambank problems is effective and, in combination with road improvements discussed further below, will result in attainment of water quality standards.

b. Additional planned restoration activities

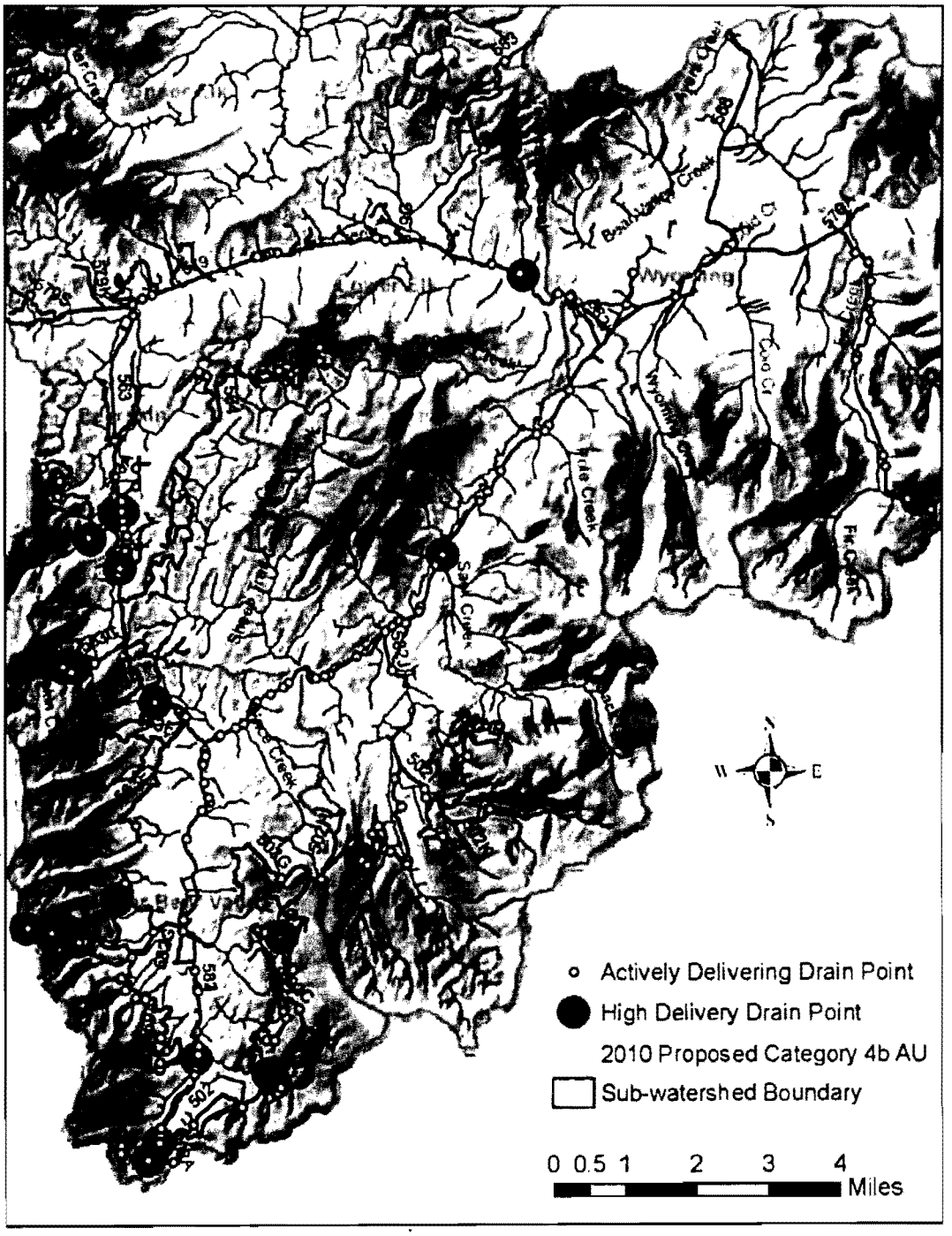
i. Analysis of current road network and sediment sources

The Bear Valley watershed contains 167 miles of roads, including 131 miles of National Forest System roads, and 36 miles of unauthorized roads. A portion of these contribute sediment to streams. Road related sediment problems are the only current source of anthropogenic sediment loading to streams in the watershed. In 2009 EPA provided funds to the USFS to conduct a road sediment inventory for the Bear Valley Creek watershed. The inventory utilized the Geomorphic Road Analysis and Inventory Package (GRAIP; Prasad et. al. 2007), and specifically quantified the extent and location of sediment contributions of roads to streams. The GRAIP process assesses a number of features and impacts including; hydrologic connection to streams, road sediment production, drain point condition, stream crossing failure risk, gully initiation risk, and shallow landslide risk. A separate report of the complete GRAIP analysis results has been published (Fly et al., 2010).

During 2009 146 miles of roads were inventoried, including all 131 miles of National Forest System roads. Due to time and resource constraints, 21 miles of unauthorized roads could not be surveyed. Of the roads surveyed, 12.5% were found to be hydrologically connected streams, and about 10% of the sediment generated from roads in the watershed is delivered to streams. This represents about a 17% increase above natural reference sediment erosion rates, as modeled by BOISED (Fly, et al., 2010).

One significant benefit of GRAIP analysis is that the sediment contribution from specific road segments and drain points can be mapped and quantified. Only a limited number of drain points scattered throughout the watershed were found to deliver high amounts of sediment (see Figure 3, below). Another significant benefit

Figure 3. GRAIP Drain points actively delivering sediment (Fly et al 2011)



of GRAIP is that the nature of the road sediment sources associated with high delivery drain points is documented as part of the routine field work, which allows road improvement projects to be specifically targeted where the need is greatest.

ii. Derivation of sediment target to protect beneficial uses

Idaho has a narrative sediment criteria (IDAPA 58.01.02.200.08) making it necessary to derive a site specific numeric interpretation. Bear Valley is unique because of its high natural sediment yield, low relief and broad valleys which lead to a stream network which transports and processes sediment more slowly than neighboring basins. As such, it was difficult to find appropriate in-stream undisturbed reference sites from which to establish sediment and bank stability targets that would protect beneficial uses.

In lieu of such an approach, a target based on sediment delivery from roads was derived. The USFS BOISED (USFS, 1991) model was used to estimate a natural sediment delivery rate for the watershed. The BOISED model is commonly used to compare sediment production and delivery of different forest management activities, and was developed in similar granitic geologies. While it may be a good modeling tool for this circumstance, an important caveat is that estimates of sediment production and delivery it generates are considered to be order of magnitude estimates (USFS, 1991).

From the GRAIP analysis, sediment which was generated from roads and delivered to streams was accumulated by assessment unit. Accumulated sediment from roads was compared to accumulated natural sediment production, from BOISED, to calculate a percent over reference value for assessment units which are currently meeting beneficial uses (BV-4b; Table 2.9). Road sediment delivery ranged from 0 – 14% over background by assessment unit, and averaged 6% across all unimpaired assessment units. This average value and range was chosen as the surrogate sediment target to which road improvement project benefits could be compared. Percent over natural sediment yields in the four impaired assessment units ranged from 3% to 16%, and averaged 9%.

While this sediment target will be used as a goal for road sediment reduction projects, the 4b Justification indicates that BURP biological monitoring data will ultimately be used to determine when restoration activities have fully restored beneficial uses, and water quality standards have been met (BV-4b; p. 87).

EPA comment: Derivation of a protective sediment target in this unique geoclimatic setting is difficult due to the lack of appropriate reference conditions, and the past severe degradation. Consequently the choice was made to link road sediment delivery predictions with beneficial use support status, by assessment unit. A concern with the road sediment target is that sediment from legacy sources (mining, grazing) may still be slowly moving out of the watershed, and it may still be impairing beneficial uses. This may confound the ability to compare impaired vs. unimpaired assessment units, and ascertain whether current road sediment amounts are

responsible for the impairment, as the impairment could be the result of legacy sediment slowly moving out of the system. For example, the range of road sediment delivery rates in impaired and un-impaired watersheds overlaps; 3-16% vs. 0-14%. Road sediment delivery is higher on average in impaired watersheds; 6% vs. 9%, but this distinction is likely beyond the precision of the BOISED and GRAIP analysis tools. Despite these limitations in the sediment surrogate, the choice of an average 6% not to exceed 14% above background road sediment delivery target appears reasonable, given 1) that the biological monitoring data generally demonstrates that watersheds with this level of current road sediment delivery support beneficial uses, 2) other approaches were determined to be infeasible, 3) this target drives implementation of road improvement projects in the impaired assessment units, and 4) BURP biological monitoring and WBAG interpretation of beneficial use support status will ultimately be relied upon to determine when sediment levels have been sufficiently reduced, and these decision tools have previously been accepted for making 303(d) listing decisions.

iii. Identification of remaining road improvement needs using GRAIP

The GRAIP analysis identified National Forest System road 569 as having the highest sediment delivery point, but roads 502, 582, 563 and 579 also had frequent actively delivering sediment drain points (Figure 2). Sediment reduction projects will be targeted at these roads segments delivering the most sediment to Bear Valley Creek and tributaries. Treatments are expected to include more frequent road drainage features, culvert replacement, and re-surfacing with less erosive surface material.

iv. Quantitative estimate of sediment reductions from road projects, and achieving sediment target.

The BOISED modeling by the USFS assumes a modest 40% effectiveness of road improvement projects in reducing sediment loading. Based on this modeling assumption, it is expected that road sediment levels will be reduced to 2% - 10% above background in impaired assessment units within the next five years as described in Table 2.12 (reproduced below), although it may take decades for beneficial uses to be fully restored (BV-4b; p. 42). These levels are consistent with the target of 6% above natural sediment load averaged across all four assessment units, with individual assessment units not to exceed 14%.

Table 2.12 (from BV-4b). Predicted Change in Percent Accumulated Road Sediment over Natural Reference Sediment as a result of Road Improvement Actions for the 4b Assessment Units.

IDEQ Assessment Unit	Stream name	Subwatershed(s) Draining to Assessment Unit	Total Accumulated Road Sediment Yield (tons/yr)*		Percent Accumulated Road Sediment over Natural Reference Sediment Yield		Predicted Reduction (%) of Total Accumulated Road Sediment Yield after Road Improvements
			Before	After	Before	After	
012_02a	Upper Bear Valley Creek–1st and 2nd order	Upper Bear Valley	131	79	16%	10%	40%
012_05	Bear Valley Creek –5th order	Fir Creek Wyoming, Cache Upper Bear Valley, Lower Elk Upper Elk, Bearskin	230	104	5%	3%	40%
013_03	Bearskin Creek – 3rd order	Bearskin	53	32	11%	7%	40%
013_04	Elk Creek – 4th order	Lower Elk Bearskin	67	40	3%	2%	40%

* The values in this table represent predicted model values and not absolutes.

Additional road improvement projects are scheduled in the nine assessment units which currently meet water quality standards in the BVW. These will result in reductions of road related sediment ranging up to 54% by assessment unit. These projects are expected to help in achieving water quality standards in the BVW as a whole, especially in downstream areas subject to cumulative loading from the entire watershed, e.g. AU 012_05, a fifth order segment of Bear Valley Creek.

c. USFS land management direction

As indicated, the USFS manages the entire BVW. A number of documents and policies spell out the general intent of the USFS in managing these lands, and the policies generally favor protecting natural land and aquatic processes to support key aquatic species, and to restore areas of the watershed which have been impacted by past sediment sources, primarily from roads.

The Boise Forest Plan (USFS, 2003) identifies management areas and prescriptions for the BVW. As a result of the this Plan, all areas previously identified as suitable for timber harvest were changed to "not suited" for timber harvest. Consequently, future anthropogenic sediment delivery from timber harvest will be prevented. The 4b Justification goes on to describe four management areas in the BVW in the Boise Forest Plan:

- Recommended Wilderness (MPC 1.2). These are areas which have wilderness attributes, but they do not fall under the Wilderness Act until Congress decides to designate them as Wilderness. They are managed to maintain wilderness attributes, and to generally allow ecological processes to prevail.

- Eligible Wild and Scenic Rivers and Their Corridors (MPC 2.1). These are areas which are eligible or have been congressionally designated as Wild, Scenic, or Recreational Rivers. Portions of Bear Valley Creek and Elk Creek are considered in this category. These areas are managed to protect their free-flowing waters, outstanding remarkable values, and retain their classification status.

- Passive Restoration and Maintenance of Aquatic, Terrestrial and Hydrologic Resources (MPC 3.1). Passive restoration is defined by the USFS as circumstances when only adjustments to existing management are required to allow aquatic habitat, water quality or other subwatershed functions to restore at their natural rate of recovery. The purpose of this objective is to keep management-related impacts from degrading existing conditions for threatened, endangered, proposed/petitioned, candidate species of fish, wildlife, and botanical species, or 303(d) impaired waterbodies. Low levels of management activities occur in these areas, but these activities are expected to have minimal and temporary degrading effects to soils, water quality, riparian areas, and aquatic and terrestrial habitat. Activities such as salvage timber harvest may occur, provided they do not retard attainment of short and long term objectives for aquatic and terrestrial habitat, or soil/hydrologic resources. Management restrictions associated with these activities are designed to maintain existing conditions, primarily through ecological processes.

  All or portions of seven roadless areas totaling 29,174 acres are within the BVW, and management prescription 3.1 described above, applies to these areas.

- Active Restoration and Maintenance of Aquatic, Terrestrial, and Hydrologic Resources (MPC 3.2). The USFS defines active restoration as circumstances where funding and ground disturbing activities are needed to improve degraded habitat or conditions. The objective of this prescription is to actively restore or maintain conditions for TEPCS fish, wildlife, and botanical species, or 303(d) impaired waters through a combination of management activities and natural processes. Management activities include watershed restoration, amongst others, focused on ecosystem components that are not functioning properly.

A fifth management area is also described in the Boise National Forest Plan, but is not articulated in the 4b Justification:

- Frank Church River of No Return Wilderness Area (MPC 1.1). The Bear Valley watershed contains 37,576 acres of the southernmost portion of the FCRONR. This portion of the wilderness comprises 31% of the BVW, and is managed by the Salmon-Challis National Forest. In general the area is managed to maintain its wilderness qualities. In addition, timber harvest is prohibited, dredge and placer mining are prohibited, and road construction or

reconstruction is only allowed to serve existing access rights or to respond to existing statute or treaty.

The Boise Forest Plan also establishes a long term strategy to ensure restoration of watershed and aquatic resources forest-wide, the Aquatic Conservation Strategy (ACS). The ACS consists of eight components, and included within these is direction to identify priority watersheds for recovery of ESA listed species, and de-listing of impaired waterbodies. All watersheds within the BVW watershed have been designated as high priority for restoration and/or high priority aquatic conservation watersheds (BV-4b; Figure 2).

In summary, the USFS management direction for the BVW is primarily focused on protecting and restoring existing sensitive aquatic resources, including active watershed restoration in areas of 303(d) impaired waters. This direction and management designations clearly support the objective of restoring water quality to eliminate aquatic impairments due to fine sediment.

Assurances that Controls will be Implemented

Regarding assurances that the controls needed to meet the applicable standard will be implemented and maintained, EPA considers a number of factors, including:

- Authority under which the controls are required and implemented
- Existing commitments made by the sources to implement the controls (including an analysis of the amount of actual implementation that has already occurred);
- Availability of dedicated funding for the implementation of the controls; and
- Other relevant factors on case-specific circumstances.

As described in the Category 4b proposal, The BNF and other partners have already demonstrated a significant commitment to restoring (i.e., meeting the applicable water quality standard) the impaired segments. Most of the active (i.e., mine restoration, grazing control, stream and other habitat restoration projects) and passive (i.e., BNF Forest Plan management directions) controls needed to meet the applicable water quality standard have already been implemented and will not likely be removed. For the remaining needed controls (i.e., active road improvements and natural/passive hydrologic events to flush accumulated sediment from the watershed) only the active road improvements necessitate an evaluation of assurances. BNF has demonstrated the following assurances that the road improvement projects will be implemented: (a) necessary NEPA analysis and documentation has been completed[1] [thus making the projects eligible for funding when funds are available], (b) BNF has allocated a portion of the funds needed to complete the needed road improvement projects, and (c) BNF has identified BVW as a high priority watershed for future restoration funds. In addition, not only is funding to complete the needed road improvement projects dependent on the USFS alone (as opposed to multiple

[1] Personal communication; Kari Grover-Wier, USFS, Lowman Ranger District. 9/29/11.

landowners), the county is supporting the 4b plan by voluntarily funding and completing road improvement projects in the watershed[2].

EPA Review: IDEQ/USFS have; 1) adequately identified a sediment target which will achieve Idaho water quality standards; 2) reasonably demonstrated that over a period of time these projects will achieve the sediment target needed to meet water quality standards; 3) described current USFS management direction, and both past and current sediment reduction projects needed to achieve this target; and 4) identified sufficient assurances that the remaining controls needed to achieve the applicable water quality standard will be implemented and maintained.

3. An estimate or projection of the time when water quality standards will be met.

It is the stated intent of the USFS to take all practical management actions possible to achieve water quality standards within a 10 year time frame. USFS and IDEQ believe that a 10 year time period is a reasonable period of time within which to evaluate trends towards achieving the sediment target achievement of water quality standards.

Reductions in sediment delivery to streams should occur within one year of when projects are completed. However, it may take up to 20 years to be able to measure subsequent reductions in stream sediment via BURP monitoring. Large streamflow events could accelerate the attainment of water quality standards by increasing the rate of transport of fines that are already in the system (i.e. legacy sediment load) out of the affected reach. However, future hydrologic cycles and the exact relationship between the magnitude of flow and amount of sediment transported are unknown, making more specific predictions difficult.

EPA Review: Sediment problems in the BVW have likely existed since the 1930s, and may have peaked with mining activities in the 1950s. Significant effort has gone into controlling these sources, but the geomorphology is such that sediment is slowly transported out of the watershed. Roads are the only remaining uncontrolled human source, and their current contribution to the overall sediment load, is low. Given these factors, completing the remaining road restoration projects and achieving water quality standards within 10, or even 20 years, is reasonable, especially given the near 80+ years of anthropogenic sediment loading the watershed has endured.

4. Schedule for implementing pollution controls.

a. Controls already in place

The IDEQ and USFS assert that the major anthropogenic sources of excess sediment delivery have been removed with the 1980s rehabilitation of the dredge mine site in the upper Bear Valley Creek (BV-4b; Figure 1.10), and the 2001 cessation of livestock grazing throughout the BVW. A progression of other stream improvement

[2] Personal communication; Kari Grover-Wier, USFS, Lowman Ranger District. 9/29/11.

projects has also occurred over the last 20 years (BV-4b; Table 2.11, Appendix 1). Forest service management direction has also changed, and now emphasizes restoration and maintenance of aquatic, terrestrial and watershed resources, and timber harvest is no longer an objective of the USFS management of the BVW. Specific management directives outlined in the Boise National Forest plan to ensure that road, recreation, and vegetation management activities do not adversely affect fisheries, as well as the USFS directive to attain water quality standards are included in Appendix 3 of the Bear Valley 4b Justification. From this Appendix, examples of specific objectives under the Soil, Water, Riparian, and Aquatic Resource category which relate to restoration needs and sediment control, and which apply to the entire BVW, are listed in Table 2.

Table 2. USFS Management objectives regarding restoration and sediment control.

Direction	Number	Management Direction
Objective	1222	De-list Bear Valley Creek and Elk Creek from the State of Idaho's impaired water bodies list by applying appropriate vegetation manipulation, road management, and active watershed restoration to reduce sediment, which is the identified pollutant source.
Objective	1224	Reconstruct or relocate Forest Road 582 in Upper Bear Valley Creek subwatershed to reduce impacts to fish.
Objective	1225	Restore and maintain riparian function and allow stream channels to return to their natural condition. Prioritize restoration where impacts to Chinook salmon, steelhead trout, and bull trout spawning/rearing habitats can be quickly reduced, and benefits to water quality and fish species can be maximized.
Objective	1229	Reduce sediment by improving road alignment, drainage, and surface materials.

b. Additional planned sediment controls.

During 2011, the Boise National Forest scheduled road improvement projects covering approximately 3 miles of road (distributed among many road segments), in assessment units which do not support beneficial uses, including all the high delivery drain points identified on Figure 2. Prior to beginning each project, additional field work will be completed to verify conditions at each location, in order to prescribe the most effective treatment. Treatments are expected to include more frequent road drains, re-surfacing roads with crushed rock aggregate, and culvert replacement. Also

in 2011, streambank improvements along Casner Creek (AU 012_02a) are scheduled in order to correct past stream channelization.

Approximately $125,000 were secured through the USFS Legacy Roads program for road improvements in Bear Valley[3] in 2011. Valley County has also contributed resources in 2011 towards targeted road improvements, including re-location of the NFS 582 road, and the Tennessee Creek culvert replacement[4].

Further road improvement projects to address road sediment sources identified by GRAIP analysis will be scheduled during 2012 – 2016 (BV-4b; Table 2.14). The USFS intends to apply annually for funds needed to complete these projects (BV-4b; p. 85).

EPA Review: The USFS has clearly established a schedule to complete all remaining road restoration work, as identified by the GRAIP analysis, within 5 years. Projects to address the highest sediment delivery points are scheduled for 2011.

5. Monitoring plan to track effectiveness of pollution controls.

Although sediment levels are generally improving, due to the slow transport and processing of sediment in the watershed, and the legacy of high sediment loading, the watershed is expected to be slow to fully recover. Trends in fine sediment levels in the four assessment units will be tracked using BURP and PIBO protocols. Both procedures include habitat measurements which include in-channel measurement of fine sediment.

BURP monitoring by IDEQ is proposed for at least two times in the 10 year monitoring timeframe, and will be used to determine whether beneficial uses are supported, and water quality standards have been met.

PIBO data has been collected annually in Bearskin creek, and will continue on an annual basis. Additional sites were added in 2010 and 2011, in part to enhance the ability to utilize the PIBO habitat condition score to monitor stream habitat. Additional sites will be co-located with BURP sites where possible, and will be tied to the four assessment units addressed by the 4b plan. PIBO monitoring is used in part to evaluate trends in habitat condition.

USFS riparian monitoring will also continue, and is also used primarily to evaluate trends in habitat condition.

IDEQ and USFS monitoring commitments are included in Table 2.16, p. 91, and are summarized below:

- BURP survey: every 5 years (starting in 2008).

[3] Only approximately $50,000 were ultimately secured during 2011. The remaining $75,000 is expected to be available during the 2012 construction season, and possibly additional funds. Personal communication; Kari Grover-Wier, USFS, Lowman Ranger District. 9/26/11.

[4] Personal communication; Kari Grover-Wier, USFS, Lowman Ranger District. 9/28/11.

- PIBO survey: sentinel (Bearskin) site, every 2 years, other sites every 5 years.
- GRAIP survey: redo in 2019 (10 years following the 2009 survey)
- Bear Valley Riparian Monitoring: 4 sites every 3 years.
- 4b Plan: update every 2 years, based on any changed conditions or monitoring completed.

Other existing monitoring efforts in the watershed will also continue. For example, annual Chinook salmon redd monitoring is conducted by the Idaho Department of Fish and Game, USFS, and the Shoshone-Bannock Tribes. Stream restoration projects such as culvert replacements and bank stabilization are monitored by the USFS at the time of construction, and subsequently to evaluate their effectiveness, and to determine the need to make changes as necessary. In part this allows the land managers to determine whether additional remedial actions need to be taken.

EPA Review: IDEQ and the USFS have developed a comprehensive monitoring program to evaluate progress in reducing fine sediment levels, assess the effectiveness of restoration actions, and make changes in the 4b plan and restoration activities accordingly.

6. Commitment to revise pollution controls, as necessary.

Currently the BVW is showing an upward (improving) trend in sediment levels with pollution controls currently in place. For example, Figure 2.2 in the Bear Valley report shows steadily declining surface fine sediment levels from 1992 – 2007. As indicated previously, in 2011 additional road improvement projects are being completed, and to address remaining road segments in with improvement needs are scheduled for 2012 – 2016, based on GRAIP analysis. The USFS indicates they will continue to request funds on an annual basis for this work, as needed (BV-4b; p. 85).

In the Bear Valley 4b Justification IDEQ and the USFS commit to revisiting the pollution controls, as necessary, if progress (improving surface fine sediment levels and BURP scores) toward meeting water quality standards is static, or declines within 10 years (BV-4b; p. 85). Regular updates to the 4b plan regarding implementation progress and water quality improvement are scheduled for each Integrated Report cycle between 2012 and 2020 (BV-4b; Table 2.16[5]).

If the BURP indices are not moving toward target levels and there is an increase in percent fine sediment, IDEQ indicates they may choose to develop a TMDL.

EPA Review:

The USFS and other entities have been actively remediating sediment sources in the BVW since at least the 1960s. By far the largest sediment sources, historic dredge mining and grazing, were addressed by active restoration and termination of grazing, and impacted areas are now recovering. In 2003, the USFS laid out land management direction for the BVW which clearly prioritized reduction in sediment levels to

[5] A revised Table 2.16 with corrected 4b update frequency was provided by the USFS on 9/26/11 (attached).

address 303(d) listed segments, and protect the sensitive ESA listed species in the watershed. These actions have demonstrated a strong historic commitment by the USFS to address sediment impairments in the BVW.

In addition, the USFS has identified specific road segments contributing the relatively small amount of anthropogenic sediment currently being delivered to these streams, and committed to address these few remaining problem areas within 5 years. A comprehensive monitoring and tracking plan has been described which will both track trends in sediment levels and beneficial use support status and compliance with water quality standards. The USFS and IDEQ have further committed to review this data, provide status reports in each Integrated Report, and make adjustments to the plan if improvement is static or declines. EPA appreciates IDEQ willingness to develop a TMDL, should the restoration activities not show improving sediment conditions.

Regarding progress reports as part of the bi-annual Integrated Report cycle, the 4b Justification relies on past control activities, and several ongoing management constraints and actions, including:

- USFS management direction under the Boise National Forest Plan,
- Prohibition of livestock grazing,
- Identifying the timber base as not suited for harvest,
- Dredge mining does not occur, and is largely prohibited,
- Road improvements are scheduled for completion within 5 years.

Because of the importance of these elements in the Justification, it is recommended that 4b plan updates during the biannual Integrated Report cycle specifically discuss any change to these elements, and how those changes are consistent with the continued inclusion of these four waterbody-pollutant combinations in Category 4b.

The USFS and IDEQ have clearly demonstrated a commitment to institute sediment control measures and revise these controls as necessary, satisfying this element of the 4b guidance.

Recommendation:

The Bear Valley 4b Justification has adequately addressed all six elements of EPA's guidance for 4b demonstrations; therefore it is recommended that EPA approve the inclusion of the four assessment units identified in Table 1 (above) in Category 4b of the Idaho 2010 Integrated Report.

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