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Current Year Addendum

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State of Idaho
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Date

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Idaho Department of Environmental Quality
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Table of Contents

List of Tables iv
List of Figures v
Abbreviations, Acronyms, and Symbols vi
Executive Summary ix
Subbasin at a Glance ix
Key Findings xi
Public Participation xi
Introduction 1
Regulatory Requirements 1
1 Subbasin Assessment—Subbasin Characterization 2
2 Subbasin Assessment—Water Quality Concerns and Status 2
2.1 Water Quality Limited Assessment Units Occurring in the Subbasin 2
2.1.1 Assessment Units 2
2.1.2 Listed Waters 3
2.2 Applicable Water Quality Standards and Beneficial Uses 3
2.2.1 Existing Uses 3
2.2.2 Designated Uses 4
2.2.3 Presumed Uses 4
2.2.4 Beneficial Uses in the Subbasin 4
2.2.5 Water Quality Criteria to Support Beneficial Uses 5
2.3 Summary and Analysis of Existing Water Quality Data 8
2.3.1 Status of Beneficial Uses 8
2.3.2 Assessment Unit Summary 9
3 Subbasin Assessment—Pollutant Source Inventory 9
3.1 Point Sources 10
3.2 Nonpoint Sources 10
3.3 Pollutant Transport 10
4 Subbasin Assessment—Summary of Past and Present Pollution Control Efforts 10
4.1 Water Quality Monitoring 10
5 Total Maximum Daily Load(s) 11
5.1 Instream Water Quality Targets 12
5.1.1 Design Conditions 12
5.1.2 Target Selection 12
5.1.3 Water Quality Monitoring Points 13
5.2 Load Capacity 13

5.3 Estimates of Existing Pollutant Loads 13
5.4 Load and Wasteload Allocation 14
5.4.1 Margin of Safety 16
5.4.2 Seasonal Variation 16
5.4.3 Reasonable Assurance 16
5.4.4 Natural Background 16
5.4.5 Construction Stormwater and TMDL Wasteload Allocations 16
5.4.6 Reserve for Growth 19
5.5 Implementation Strategies 19
5.5.1 Time Frame 19
5.5.2 Approach 19
5.5.3 Responsible Parties 19
5.5.4 Implementation Monitoring Strategy 19
5.5.5 Pollutant Trading 20
6 Conclusions 21
References Cited 22
GIS Coverages 22
Glossary 24
Appendix A. State and Site-Specific Water Quality Standards and Criteria 28
Appendix B. Data Sources 30
Appendix C. Public Participation and Public Comments 32
Appendix D. Distribution List 34

List of Tables

Table A. Water bodies and pollutants for which TMDLs were developed. xi
Table B. Summary of assessment outcomes for §303(d)-listed assessment units. xi
Table C. Summary of assessment outcomes for unlisted but impaired assessment units. xi
Table 1. Your subbasin name subbasin §303(d)-listed assessment units in the subbasin. 3
Table 2. your subbasin name subbasin beneficial uses of §303(d)-listed streams. 4
Table 3. your subbasin name subbasin beneficial uses of assessed but unlisted streams. 5
Table 4. Selected numeric criteria supportive of designated beneficial uses in Idaho water quality standards. 6
Table 5. Current wasteloads from point sources in your subbasin name subbasin. 14
Table 6. Current loads from nonpoint sources in your subbasin name subbasin. 14
Table 7. Point source wasteload allocations for your subbasin name subbasin. 15
Table 8. Nonpoint source load allocations for your subbasin name subbasin. 15
Table 9. Summary of assessment outcomes. 21

Table 10. Summary of assessment outcomes for unlisted but impaired assessment units. 21
Table B1. Data sources for your subbasin name subbasin assessment. 30

List of Figures

Figure A. Your subbasin name subbasin. x
Figure 1. Your subbasin name subbasin. 2
Figure 2. Determination steps and criteria for determining support status of beneficial uses in wadeable streams (Grafe et al. 2002). 8

Abbreviations, Acronyms, and Symbols

§303(d)	refers to section 303 subsection (d) of the Clean Water Act, or a list of impaired water bodies required by this section
µ	micro, one-one thousandth
§	section (usually a section of federal or state rules or statutes)
ADB	assessment database
AU	assessment unit
AWS	agricultural water supply
BAG	basin advisory group
BLM	United States Bureau of Land Management
BMP	best management practice
BOD	biochemical oxygen demand
BOR	United States Bureau of Reclamation
Btu	British thermal unit
BURP	Beneficial Use Reconnaissance Program
C	Celsius
CFR	Code of Federal Regulations (refers to citations in the federal administrative rules)
cfs	cubic feet per second
cm	centimeters
CWAL	cold water aquatic life
CWE	cumulative watershed effects
DEQ	Idaho Department of Environmental Quality
DO	dissolved oxygen
DOI	United States Department of the Interior
DWS	domestic water supply
EMAP	Environmental Monitoring and Assessment Program
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
F	Fahrenheit
FPA	Idaho Forest Practices Act
FWS	United States Fish and Wildlife Service
GIS	geographic information system
HUC	hydrologic unit code
IDAPA	Refers to citations of Idaho administrative rules
IDFG	Idaho Department of Fish and Game
IDL	Idaho Department of Lands
IDWR	Idaho Department of Water Resources
km	kilometer
LA	load allocation
LC	load capacity
m	meter

mi	mile
MBI	Macroinvertebrate Biotic Index
MDAT	maximum daily average temperature
MDMT	maximum daily maximum temperature
mgd	million gallons per day
mg/L	milligrams per liter
mL	milliliter
mm	millimeter
MOS	margin of safety
MWMT	maximum weekly maximum temperature
n/a	not applicable
NA	not assessed
NB	natural background
NFS	not fully supporting
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NTU	nephelometric turbidity unit
ORV	off-road vehicle
ORW	outstanding resource water
PCR	primary contact recreation
PFC	proper functioning condition
ppm	part(s) per million
QA	quality assurance
QC	quality control
RBP	rapid bioassessment protocol
RDI	DEQ's River Diatom Index
RFI	DEQ's River Fish Index
RHCA	riparian habitat conservation area
RMI	DEQ's River Macroinvertebrate Index
RPI	DEQ's River Physiochemical Index
SBA	subbasin assessment
SCR	secondary contact recreation
SFI	DEQ's Stream Fish Index
SHI	DEQ's Stream Habitat Index
SMI	DEQ's Stream Macroinvertebrate Index
SS	salmonid spawning
STATSGO	State Soil Geographic Database
TDG	total dissolved gas
TDS	total dissolved solids
T&E	threatened and/or endangered species
TIN	total inorganic nitrogen
TKN	total Kjeldahl nitrogen
TMDL	total maximum daily load
TP	total phosphorus
TS	total solids
TSS	total suspended solids
US	United States
USC	United States Code

USDA	United States Department of Agriculture
USDI	United States Department of the Interior
USFS	United States Forest Service
USGS	United States Geological Survey
WAG	watershed advisory group
WBAG	*Water Body Assessment Guidance*
WBID	water body identification number
WLA	wasteload allocation

Executive Summary

The federal Clean Water Act requires that states and tribes restore and maintain the chemical, physical, and biological integrity of the nation's waters. States and tribes, pursuant to Section 303 of the Clean Water Act, are to adopt water quality standards necessary to protect fish, shellfish, and wildlife while providing for recreation in and on the nation's waters whenever possible. Section 303(d) of the Clean Water Act establishes requirements for states and tribes to identify and prioritize water bodies that are water quality limited (i.e., water bodies that do not meet water quality standards).

States and tribes must periodically publish a priority list (a "§303(d) list") of impaired waters. Currently, this list is published every 2 years as the list of Category 5 water bodies in Idaho's Integrated Report. For waters identified on this list, states and tribes must develop a total maximum daily load (TMDL) for the pollutants, set at a level to achieve water quality standards. This document addresses number of water bodies (number of assessment units) in the your subbasin name subbasin that have been placed in Category 5 of Idaho's most recent federally approved Integrated Report (DEQ year IR was published).

This addendum describes the key physical and biological characteristics of the subbasin; water quality concerns and status; pollutant sources; and recent pollution control actions in the your subbasin name subbasin, located in general location (e.g., southeast) Idaho. For more detailed information about the subbasin and previous TMDLs, see the name of original SBA/TMDL as it appears on the cover (DEQ year TMDL was published).

The TMDL analysis establishes water quality targets and load capacities, estimates existing pollutant loads, and allocates responsibility for load reductions needed to return listed waters to a condition meeting water quality standards. It also identifies implementation strategies—including reasonable time frames, approach, responsible parties, and monitoring strategies—necessary to achieve load reductions and meet water quality standards.

Subbasin at a Glance

The your subbasin name subbasin is located in general description of area (Figure A).

Figure A. Your subbasin name subbasin.

Key Findings

Include the following in this section:

- Problem statement (1/2 page per segment). Why aren't we meeting our designated beneficial uses or what do we suspect is causing the problem? If you have multiple segments with the same issues, you may be able to combine these. If you have several segments with different issues, this may take three or four pages.
- Numeric targets we have established or that are the norm for relevant issues
- Load capacity, wasteload allocations, and load allocations in table form. Include margin of safety and seasonal variation as well. This will come from your actual TMDL in section 5. For temperature, summarize the main findings or include a summary table since the full tables are too large to bring forward into the executive summary.
- Time by which water quality standards will be met.
- Discuss the issues in Table A (streams and pollutants for which TMDLs were developed), Table B (summary of assessment outcomes for listed AUs), and Table C (if applicable, summary of assessment outcomes for nonlisted AUs) and **place the tables immediately after where the issues are discussed and tables are referenced**.

Table A. Water bodies and pollutants for which TMDLs were developed.

Water Body	Assessment Unit Number	Pollutant(s)
Upper Goose Creek and tributaries		Temperature

Table B. Summary of assessment outcomes for §303(d)-listed assessment units.

Table C. Summary of assessment outcomes for unlisted but impaired assessment units.

Public Participation

Briefly discuss public input/meetings.

Introduction

This document addresses number of water bodies in the your subbasin name subbasin that have been placed in Category 5 of Idaho's most recent federally approved Integrated Report (DEQ year IR was published). The purpose of this total maximum daily load (TMDL) addendum is to characterize and document pollutant loads within the your subbasin name subbasin. The first portion of this document presents key characteristics or updated information for the subbasin assessment, which is divided into four major sections: subbasin characterization (section 1), water quality concerns and status (section 2), pollutant source inventory (section 3), and a summary of past and present pollution control efforts (section 4). While the subbasin assessment is not a requirement of the TMDL, DEQ performs the assessment to ensure impairment listings are up-to-date and accurate.

The subbasin assessment is used to develop a TMDL for each pollutant of concern for the your subbasin name subbasin. The TMDL (section 5) is a plan to improve water quality by limiting pollutant loads. Specifically, 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). Consequently, a TMDL is water body- and pollutant-specific. The TMDL also allocates allowable discharges of individual pollutants among the various sources discharging the pollutant.

Regulatory Requirements

This document was prepared in compliance with both federal and state regulatory requirements. The federal government, through the United States Environmental Protection Agency (EPA), assumed the dominant role in defining and directing water pollution control programs across the country. The Idaho Department of Environmental Quality (DEQ) implements the Clean Water Act in Idaho, while EPA oversees Idaho and certifies the fulfillment of Clean Water Act requirements and responsibilities.

Congress passed the Federal Water Pollution Control Act, more commonly called the Clean Water Act, in 1972. The goal of this act was to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters" (33 USC §1251). The act and the programs it has generated have changed over the years as experience and perceptions of water quality have changed. The Clean Water Act has been amended 15 times, most significantly in 1977, 1981, and 1987. One of the goals of the 1977 amendment was protecting and managing waters to ensure "swimmable and fishable" conditions. These goals relate water quality to more than just chemistry.

The Clean Water Act requires that states and tribes restore and maintain the chemical, physical, and biological integrity of the nation's waters. States and tribes, pursuant to Section 303 of the Clean Water Act, are to adopt water quality standards necessary to protect fish, shellfish, and wildlife while providing for recreation in and on the nation's waters whenever possible. DEQ must review those standards every 3 years, and EPA must approve Idaho's water quality standards. Idaho adopts water quality standards to protect public health and welfare, enhance water quality, and protect biological integrity. A water quality standard defines the goals of a

water body by designating the use or uses for the water, setting criteria necessary to protect those uses, and preventing degradation of water quality through antidegradation provisions.

Section 303(d) of the Clean Water Act establishes requirements for states and tribes to identify and prioritize water bodies that are water quality limited (i.e., water bodies that do not meet water quality standards). States and tribes must periodically publish a priority list (a "§303(d) list") of impaired waters. Currently, this list is published every 2 years as the list of Category 5 waters in Idaho's Integrated Report. For waters identified on this list, states and tribes must develop a TMDL for the pollutants, set at a level to achieve water quality standards.

DEQ monitors waters, and for those not meeting water quality standards, DEQ must establish a TMDL for each pollutant impairing the waters. However, some conditions that impair water quality do not require TMDLs. EPA considers certain unnatural conditions—such as flow alteration, human-caused lack of flow, or habitat alteration—that are not the result of discharging a specific pollutant as "pollution." TMDLs are not required for water bodies impaired by pollution, rather than a specific pollutant. A TMDL is only required when a pollutant can be identified and in some way quantified.

1 Subbasin Assessment—Subbasin Characterization

Figure 1. Your subbasin name subbasin.

2 Subbasin Assessment—Water Quality Concerns and Status

2.1 Water Quality Limited Assessment Units Occurring in the Subbasin

Section 303(d) of the Clean Water Act states that waters that are unable to support their beneficial uses and do not meet water quality standards must be listed as water quality limited. Subsequently, these waters are required to have TMDLs developed to bring them into compliance with water quality standards.

2.1.1 Assessment Units

Assessment units (AUs) are groups of similar streams that have similar land use practices, ownership, or land management. However, stream order is the main basis for determining AUs—even if ownership and land use change significantly, the AU usually remains the same for the same stream order.

Using AUs to describe water bodies offers many benefits, primarily that all waters of the state are defined consistently. AUs are a subset of water body identification numbers, which allows them to relate directly to the water quality standards.

2.1.2 Listed Waters

Table 1 shows the pollutants listed and the basis for listing for each §303(d)-listed AU in the subbasin (i.e., AUs in Category 5 of the Integrated Report).

Table 1. Your subbasin name subbasin §303(d)-listed assessment units in the subbasin.

Assessment Unit Name	Assessment Unit Number	Listed Pollutants	Listing Basis
Lemhi River—Kenney Creek to mouth	ID17060204SL001_06	Temperature, total coliform	1998 §303(d) list—EPA addition

2.2 Applicable Water Quality Standards and Beneficial Uses

Idaho water quality standards (IDAPA 58.01.02) list beneficial uses and set water quality goals for waters of the state. Idaho water quality standards require that surface waters of the state be protected for beneficial uses, wherever attainable (IDAPA 58.01.02.050.02). These beneficial uses are interpreted as existing uses, designated uses, and presumed uses as described briefly in the following paragraphs. The *Water Body Assessment Guidance* (Grafe et al. 2002) provides a more detailed description of beneficial use identification for use assessment purposes.

Beneficial uses include the following:

- Aquatic life support—cold water, seasonal cold water, warm water, salmonid spawning, and modified
- Contact recreation—primary (swimming) or secondary (boating)
- Water supply—domestic, agricultural, and industrial
- Wildlife habitats
- Aesthetics

2.2.1 Existing Uses

Existing uses under the Clean Water Act are "those uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the water quality standards" (40 CFR 131.3). The existing instream water uses and the level of water quality necessary to protect the uses shall be maintained and protected (IDAPA 58.01.02.051.01). Existing uses need to be protected, whether or not the level of water quality to fully support the uses currently exists. A practical application of this concept would be to apply the existing use of salmonid spawning to a water that supported salmonid spawning since November 28, 1975, but does not now due to other factors, such as blockage of migration, channelization, sedimentation, or excess heat.

2.2.2 Designated Uses

Designated uses under the Clean Water Act are "those uses specified in water quality standards for each water body or segment, whether or not they are being attained" (40 CFR 131.3). Designated uses are simply uses officially recognized by the state. In Idaho, these include uses such as aquatic life support, recreation in and on the water, domestic water supply, and agricultural uses. Multiple uses often apply to the same water; in this case, water quality must be sufficiently maintained to meet the most sensitive use (designated or existing). Designated uses may be added or removed using specific procedures provided for in state law, but the effect must not be to preclude protection of an existing higher quality use such as cold water aquatic life or salmonid spawning. Designated uses are described in the Idaho water quality standards (IDAPA 58.01.02.100) and specifically listed by water body in sections 110–160.

2.2.3 Presumed Uses

In Idaho, due to a change in scale of cataloging waters in 2000, most water bodies listed in the tables of designated uses in the water quality standards do not yet have specific use designations. These undesignated waters ultimately need to be designated for appropriate uses. In the interim, and absent information on existing uses, DEQ presumes that most waters in the state will support cold water aquatic life and either primary or secondary contact recreation (IDAPA 58.01.02.101.01). To protect these so-called *presumed uses*, DEQ applies the numeric cold water criteria and primary or secondary contact recreation criteria to undesignated waters. If in addition to these presumed uses, an additional existing use (e.g., salmonid spawning) exists, then the additional numeric criteria for salmonid spawning would also apply (e.g., intergravel dissolved oxygen, temperature) because of the requirement to protect water quality for existing uses. However, if for example, cold water aquatic life is not found to be an existing use, a use designation (rulemaking) to that effect is needed before some other aquatic life criteria (such as seasonal cold) can be applied in lieu of cold water criteria (IDAPA 58.01.02.101.01).

2.2.4 Beneficial Uses in the Subbasin

Add one or more paragraphs here concerning uses in your subbasin and refer to the tables below.

Table 2. your subbasin name subbasin beneficial uses of §303(d)-listed streams.

Assessment Unit Name	Assessment Unit Number	Beneficial Uses[a]	Type of Use
McDevitt Creek—diversion to mouth	ID17060204SL007a_03	CW, SCR	Presumed

[a] Cold water (CW), salmonid spawning (SS), primary contact recreation (PCR), secondary contact recreation (SCR), agricultural water supply (AWS), domestic water supply (DWS)

Table 3. your subbasin name subbasin beneficial uses of assessed but unlisted streams.

Assessment Unit Name	Assessment Unit Number	Beneficial Uses[a]	Type of Use
Haynes Creek—source to mouth	ID17060204SL004_06	CW, SCR	Presumed

[a] Cold water (CW), salmonid spawning (SS), primary contact recreation (PCR), secondary contact recreation (SCR), agricultural water supply (AWS), domestic water supply (DWS)

2.2.5 Water Quality Criteria to Support Beneficial Uses

Beneficial uses are protected by a set of water quality criteria, which include *numeric* criteria for pollutants such as bacteria, dissolved oxygen, pH, ammonia, temperature, and turbidity, and *narrative* criteria for pollutants such as sediment and nutrients (IDAPA 58.01.02.250–251) (Table 4).

Table 4. Selected numeric criteria supportive of designated beneficial uses in Idaho water quality standards.

Parameter	Primary Contact Recreation	Secondary Contact Recreation	Cold Water Aquatic Life	Salmonid Spawning[a]
Water Quality Standards: IDAPA 58.01.02.250–251				
Bacteria				
• Geometric mean	<126 *E. coli*/100 mL[b]	<126 *E. coli*/100 mL	—	—
• Single sample	≤406 *E. coli*/100 mL	≤576 *E. coli*/100 mL	—	—
pH	—	—	Between 6.5 and 9.0	Between 6.5 and 9.5
Dissolved oxygen (DO)	—	—	DO exceeds 6.0 milligrams/liter (mg/L)	**Water Column DO**: DO exceeds 6.0 mg/L in water column or 90% saturation, whichever is greater **Intergravel DO**: DO exceeds 5.0 mg/L for a 1-day minimum and exceeds 6.0 mg/L for a 7-day average
Temperature[c]	—	—	22 °C or less daily maximum; 19 °C or less daily average **Seasonal Cold Water**: Between summer solstice and autumn equinox: 26 °C or less daily maximum; 23 °C or less daily average	13 °C or less daily maximum; 9 °C or less daily average **Bull Trout**: Not to exceed 13 °C maximum weekly maximum temperature over warmest 7-day period, June–August; not to exceed 9 °C daily average in September and October
Turbidity	—	—	Turbidity shall not exceed background by more than 50 nephelometric turbidity units (NTU) instantaneously or more than 25 NTU for more than 10 consecutive days.	—
Ammonia	—	—	Ammonia not to exceed calculated concentration based on pH and temperature.	—
EPA Bull Trout Temperature Criteria: Water Quality Standards for Idaho, 40 CFR Part 131				
Temperature	—	—	—	7-day moving average of 10 °C or less maximum daily temperature for June–September

[a] During spawning and incubation periods for inhabiting species
[b] *Escherichia coli* per 100 milliliters
[c] Temperature exemption: Exceeding the temperature criteria will not be considered a water quality standard violation when the air temperature exceeds the ninetieth percentile of the 7-day average daily maximum air temperature calculated in yearly series over the historic record measured at the nearest weather reporting station.

Narrative criteria for excess sediment are described in the water quality standards:

> Sediment shall not exceed quantities specified in Sections 250 and 252, or, in the absence of specific sediment criteria, quantities which impair designated 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)

Narrative criteria for excess nutrients are described in the water quality standards:

> Surface waters of the state shall be free from excess nutrients that can cause visible slime growths or other nuisance aquatic growths impairing designated beneficial uses. (IDAPA 58.01.02.200.06)

Narrative criteria for floating, suspended, or submerged matter are described in the water quality standards:

> Surface waters of the state shall be free from floating, suspended, or submerged matter of any kind in concentrations causing nuisance or objectionable conditions or that may impair designated beneficial uses. This matter does not include suspended sediment produced as a result of nonpoint source activities. (IDAPA 58.01.02.200.05)

DEQ's procedure to determine whether a water body fully supports designated and existing beneficial uses is outlined in IDAPA 58.01.02.050.02. The procedure relies heavily upon biological parameters and is presented in detail in the *Water Body Assessment Guidance* (Grafe et al. 2002). This guidance requires DEQ to use the most complete data available to make beneficial use support status determinations (Figure 2).

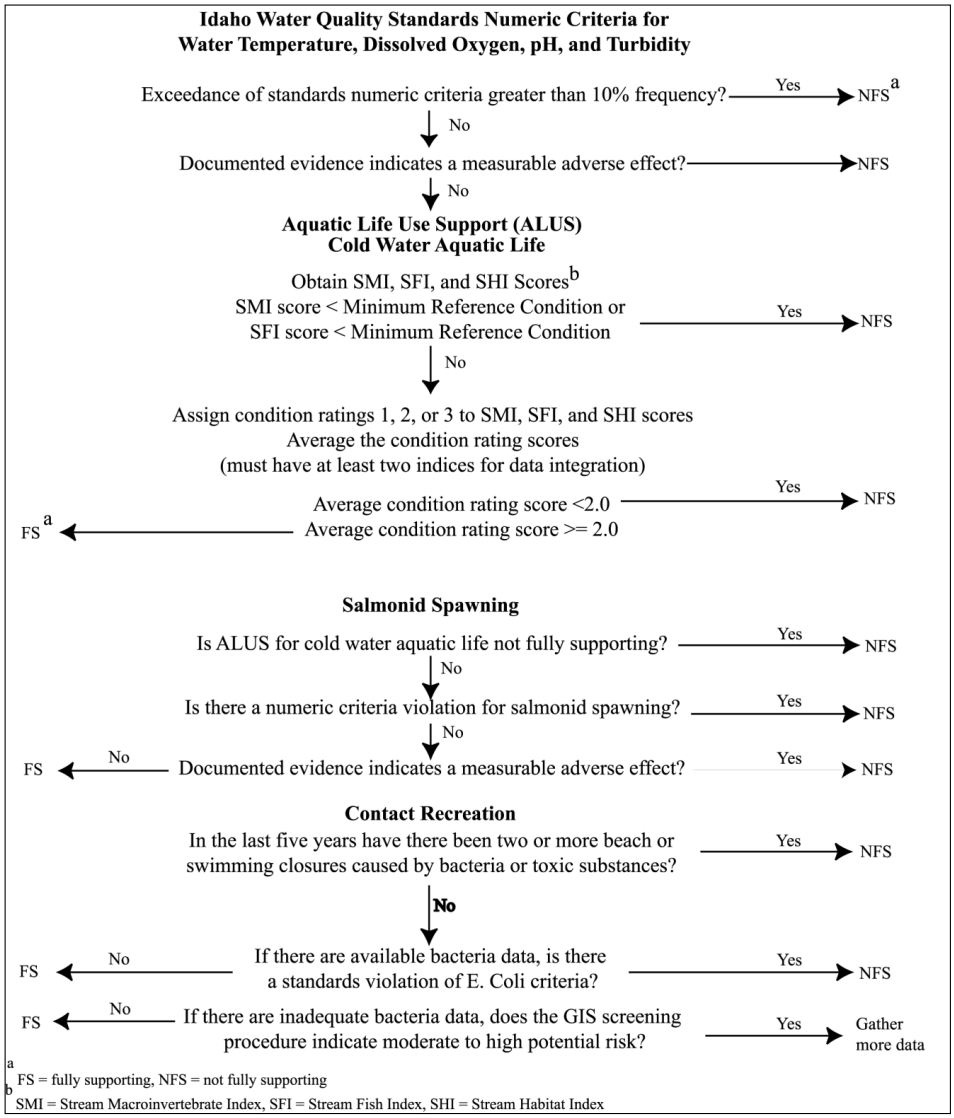

Figure 2. Determination steps and criteria for determining support status of beneficial uses in wadeable streams (Grafe et al. 2002).

2.3 Summary and Analysis of Existing Water Quality Data

Include an introduction to this section that speaks to new data or relevant older data.

2.3.1 Status of Beneficial Uses

Discuss the pollutant(s) impacting beneficial uses and applicable water quality criteria.

2.3.2 Assessment Unit Summary

A summary of the data analysis, literature review, and field investigations and a list of conclusions for AUs included in Category 5 of the Year Integrated Report follows. This section includes changes that will be documented in the next Integrated Report once the TMDLs in this document have been approved by EPA.

AU Number, AU Description

- Listed for listed pollutants.
- Summary of what the data show (e.g., shade conditions are met, reach is dewatered, no sources of nutrients present, etc.).
- List or delist recommendation.

AU Number, AU Description

- Listed for listed pollutants.
- Summary of what the data show (e.g., shade conditions are met, reach is dewatered, no sources of nutrients present, etc.).
- List or delist recommendation.

AU Number, AU Description

- Listed for listed pollutants.
- Summary of what the data show (e.g., shade conditions are met, reach is dewatered, no sources of nutrients present, etc.).
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- Summary of what the data show (e.g., shade conditions are met, reach is dewatered, no sources of nutrients present, etc.).
- List or delist recommendation.

AU Number, AU Description

- Listed for listed pollutants.
- Summary of what the data show (e.g., shade conditions are met, reach is dewatered, no sources of nutrients present, etc.).
- List or delist recommendation.

3 Subbasin Assessment—Pollutant Source Inventory

Pollution within the your subbasin name subbasin is primarily from list the pollutants. Load allocations and wasteload allocations, or delete if not applicable were established in the prior TMDL title approved by EPA in year approved (DEQ year published).

3.1 Point Sources

Discuss, including the following:

- Description of any Superfund or RCRA sites
- If applicable, include a table showing NPDES permitted point sources (source, permit number, expiration date, location, permit limits, discharge volume)
- If applicable, include a table showing point sources covered by a general permit (source, location, general permit requirements) and a description of general permit requirements
- List any unpermitted point sources and what is known about them, such as construction stormwater runoff or dredge mining.
- Include recreational dredge mining if it occurs. Discuss with the USFS and IDWR for more information on this source. Recreational dredge mining will need a WLA in the future in all TMDLs

  Multi-Sector General Permits should be discussed and listed by permit number and sector. Also identify if they are discharging any pollutant of concern to a listed water.
- Consider adding reserves for growth for any point source sector (e.g., GCP, MSGP, MS4, NPDES POTW [WWTP])

3.2 Nonpoint Sources

- Identify other sources such as roads, stream crossings, mining sites, stream shade, etc.
- Identify natural processes that contribute pollutant loads (e.g., mass wasting). Key off of subwatershed characteristics.

3.3 Pollutant Transport

Pollutant transport refers to the pathway by which pollutants move from the pollutant source to cause a problem or water quality violation in the receiving water body. Discuss pollutant transport applicable to your pollutants/subbasin.

4 Subbasin Assessment—Summary of Past and Present Pollution Control Efforts

Evaluate successes and failures in pollution control to date. For water quality limited segments, why have efforts to date been inadequate? Are there actions planned that are expected to achieve water quality standards within a reasonable time?

4.1 Water Quality Monitoring

5 Total Maximum Daily Load(s)

Start with the introduction in black below. In this section, discuss "[t]otal maximum daily loads [that] can be expressed in terms of either mass per unit time, toxicity, or other appropriate measures" (Water quality planning and management, 40 CFR § 130.2(I)). Loads may take nontraditional forms, such as miles of roads of a certain condition, and desired outcome may also take nontraditional forms, such as number of active redds, residual pool volume, percent fine, etc. If nontraditional pollutant and water quality measures are used, the relation of one to the other, and to existing water quality standards, must be clearly explained. Links between pollutants may be used but must be fully explained.

Where you have water bodies impaired by habitat alteration or lack of flow, use the following text: "(Name your water body) is impaired due to a lack of flow; however, EPA does not believe that flow (or lack of flow) is a pollutant as defined by CWA Section 502(6). Since TMDLs are not required to be established for water bodies impaired by pollution but not pollutants, a TMDL has not been established for (name your water body) for flow." OR "(Name your water body) is impaired due to habitat alteration. While degraded habitat is evidence of impairment, EPA does not consider a water body to be polluted if the pollution is not a result of the introduction or presence of a pollutant. Since TMDLs are not required to be established for water bodies impaired by pollution but not pollutants, a TMDL has not been established for (name your water body) for habitat alteration."

A TMDL prescribes an upper limit (i.e., load capacity) on discharge of a pollutant from all sources to ensure water quality standards are met. It further allocates this load capacity among the various sources of the pollutant. Pollutant sources fall into two broad classes: point sources, each of which receives a wasteload allocation, and nonpoint sources, each of which receives a load allocation. Natural background contributions, when present, are considered part of the load allocation but are often treated separately because they represent a part of the load not subject to control. Because of uncertainties about quantifying loads and the relation of specific loads to attaining water quality standards, the rules regarding TMDLs (40 CFR Part 130) require a margin of safety be included in the TMDL. Practically, the margin of safety and natural background are both reductions in the load capacity available for allocation to pollutant sources.

Load capacity can be summarized by the following equation:

$$LC = MOS + NB + LA + WLA = TMDL$$

Where:

LC = load capacity
MOS = margin of safety
NB = natural background
LA = load allocation
WLA = wasteload allocation

The equation is written in this order because it represents the logical order in which a load analysis is conducted. First, the load capacity is determined. Then the load capacity is broken down into its components. After the necessary margin of safety and natural background, if relevant, are quantified, the remainder is allocated among pollutant sources (i.e., the load

allocation and wasteload allocation). When the breakdown and allocation are complete, the result is a TMDL, which must equal the load capacity.

The load capacity must be based on critical conditions—the conditions when water quality standards are most likely to be violated. If protective under critical conditions, a TMDL will be more than protective under other conditions. Because both load capacity and pollutant source loads vary, and not necessarily in concert, determining critical conditions can be more complicated than it may initially appear.

Another step in a load analysis is quantifying current pollutant loads by source. This step allows for the specification of load reductions as percentages from current conditions, considers equities in load reduction responsibility, and is necessary for pollutant trading to occur. A load is fundamentally a quantity of pollutant discharged over some period of time and is the product of concentration and flow. Due to the diverse nature of various pollutants, and the difficulty of strictly dealing with loads, the federal rules allow for "other appropriate measures" to be used when necessary (40 CFR 130.2). These other measures must still be quantifiable and relate to water quality standards, but they allow flexibility to deal with pollutant loading in more practical and tangible ways. The rules also recognize the particular difficulty of quantifying nonpoint loads and allow "gross allotment" as a load allocation where available data or appropriate predictive techniques limit more accurate estimates. For certain pollutants whose effects are long term, such as sediment and nutrients, EPA allows for seasonal or annual loads.

5.1 Instream Water Quality Targets

Write a short introductory paragraph here. The goal is to restore "full support of designated beneficial uses" (Idaho Code 39-3611, 39-3615). Select the measurable target(s) for instream water quality and the loading analysis. This may involve translation of narrative water quality standards to measurable water quality targets. Be specific about beneficial uses protected, locations (water bodies) where targets apply, and the time frame for reaching your goals. If the recovery time will be long, it is best to specify interim goals such as reducing total phosphorus to address dissolved oxygen (the relationship backed up by data or modeling).

5.1.1 Design Conditions

Discuss—pay attention to critical time periods and reaches for impaired beneficial uses.

5.1.2 Target Selection

Discuss, including the following:

- Where numeric criteria exist, these criteria must be met unless site-specific criteria are considered.
- With narrative criteria, it will be necessary to look to literature and apply local knowledge to come up with appropriate numeric surrogates; start with key indicator(s) identified in the SBA.
- Identify possible targets for key indicators (e.g., if percent bed fines is a key indicator, what value is appropriate?)
- Describe the relation of considered targets to beneficial uses.

- Look for a suitable reference stream and its value for the key indicator.
- Consider surrogates for pollutants, taking into account cost and ease of monitoring and any relations between parameters documented in the SBA.
- Clearly document rationale for target selection.
- In setting dates for target milestones, do your best to account for lags in recovery and response to load reductions.

5.1.3 Water Quality Monitoring Points

Discuss, including the following:

- Identify monitoring point(s) (typically at downstream end of a listed segment, but may be a critical reach further upstream).
- Identify the parameters to be monitored and the methods to be used.
- Keep in mind that a detailed monitoring plan and feedback loop will follow from this in the implementation plan.

5.2 Load Capacity

Write a short introductory paragraph for this section. Determine the maximum load each water body can accommodate and still meet the water quality standard for load capacity. This must be a level to meet "...water quality standards with seasonal variations and a margin of safety which takes into account any lack of knowledge..." (Clean Water Act § 303(d)(C)). Likely sources of uncertainty include lack of knowledge of assimilative capacity, uncertain relation of selected target(s) to beneficial use(s), and variability in target measurement. The time period for which loading is calculated needs to be appropriate to the nature of the pollutant and use impairment (e.g., for the episodic discharge of sediment from nonpoint sources filling pools, an annual average load is more appropriate than a daily load).

- Summarize and/or reference method(s) of estimation. Put details in an appendix. Be sure to reference the appendix.
- Describe all assumptions made.
- Describe any load capacity changes with season (based on critical time periods for beneficial uses and flow regime described in the SBA).
- Present load capacity for each parameter or related parameters with season and location of application.

5.3 Estimates of Existing Pollutant Loads

Start with the boilerplate sentence below. Then an estimate must be made for each point source. Nonpoint sources are typically estimated based on the type of sources (land use) and area (such as a subwatershed), but may be aggregated by type of source or area. To the extent possible, background loads should be distinguished from human-caused increases in nonpoint loads.

- Summarize or reference method(s) of estimation. Put details in an appendix. Be sure to reference the appendix.

- Describe the data used and all assumptions made.
- Discuss sources and degree of uncertainty in estimates.
- Be sure to consider seasonal variation in loads characteristic of each source type.
- Present loading rates for each parameter.
  - What is background load and the extent to which it is purely background or aggregated with other nonpoint loads? Remember "background" load is a load that is not reducible.
  - Wasteloads from point sources (if there are any). Summarize these in a table by source (location, type, load [annual range, if known], NPDES permit number, etc.) (Table 5).
  - Loads from nonpoint sources. Summarize these in a table by subbasin and/or land use (location, type, load [annual range if possible], estimation method) (Table 6).

Regulations allow that loadings "...may range from reasonably accurate estimates to gross allotments, depending on the availability of data and appropriate techniques for predicting the loading" (40 CFR 130.2(g)).

Table 5. Current wasteloads from point sources in your subbasin name subbasin.

Facility/Source	NPDES[a] Permit Number	Wasteload (lb/day)	Wasteload Allocation (lb/day)
City of Lava Hot Springs wastewater treatment plant	ID-002182-2	TP = 1.2 TSS = 1.0	TP = 1.2 TSS = 86.0

[a] National Pollutant Discharge Elimination System

Table 6. Current loads from nonpoint sources in your subbasin name subbasin.

Load Type	Assessment Unit	Current Load (tons/year)	Estimation Method	TMDL Required?
Annual sediment loading rate	ID17060202SL002_02 Pahsimeroi River—Meadow Creek to Patterson Creek (tributaries)—Trail Creek	747	Observed erosion rate calculated on target of 80% streambank stability	Yes

5.4 Load and Wasteload Allocation

Write a short introductory paragraph. The total allocations must include a margin of safety to take into account seasonal variability and uncertainty. Uncertainty arises in selection of water quality targets, load capacity, and estimates of existing loads, and may be attributed to incomplete knowledge or understanding of the system, such as assimilation not well known,

sketchy data, or variability in data. The margin of safety is effectively a reduction in loading capacity that "comes off the top" (i.e., before any allocation to sources). Second in line is the background load, a further reduction in loading capacity available for allocation. It is also prudent to allow for growth by reserving a portion of the remaining available load for future sources.

Apportion load capacity among existing and future pollutant sources. Allocations may take into account equitable cost, cost effectiveness, and credit for prior efforts, but all within the ceiling of remaining available load. These allocations may take the form of percent reductions rather than actual loads. Each point source must receive an allocation. Nonpoint sources may be allocated by subwatershed, land use, responsibility for actions, or a combination. It is not necessary to allocate a reduction in load for all nonpoint sources so long as water quality targets can be met with the reductions that are specified. Keep the following points in mind:

- Each point source must receive a wasteload allocation.
- Nonpoint sources can be allocated by subwatershed, land use category, responsibility for actions, or a combination (a.k.a. load allocation).
- Not all nonpoint sources need to be allocated a reduction so long as water quality targets can be met by the aggregate reductions of those sources that are prescribed a reduction in load.
- Allocations are best summarized in a table or tables.
- A time must be specified by which each (or all) allocations will be met.

Table 7. Point source wasteload allocations for your subbasin name subbasin.

Facility/ Source	NPDES[a] Number	Pollutant	Allocation			Time Frame for Meeting Allocations
			Daily	Monthly	Yearly	
						(1 permit cycle, 2 permit cycles, etc.)

[a] National Pollutant Discharge Elimination System (NPDES)

Table 8. Nonpoint source load allocations for your subbasin name subbasin.

Source	Land Use	Pollutant	Allocation			Time Frame for Meeting Allocations
			Daily	Monthly	Yearly	

5.4.1 Margin of Safety

- Summarize factors creating uncertainty discussed in previous two sections; quantify if possible.
- Describe any conservative assumptions in target selection or load estimation and use of critical design conditions that contribute to an implicit margin of safety.
- Present any explicit margin of safety used.

5.4.2 Seasonal Variation

TMDLs must be established with consideration of seasonal variation. If your load isn't seasonal, as is often the case with sediment, explain why. Also explain seasonal influences such as flow or air temperature, as appropriate.

5.4.3 Reasonable Assurance

Identify the agencies and entities who are DMAs who will help with implementation, opportunities DEQ and the WAG are committed to following up on, financial resources from 319 or USDA programs, and any other financial commitments in the watershed. Provide enough detail about how nonpoint sources and point sources will achieve the reductions called for. If there are no point sources, you can be much more brief.

If the WLA relies on the LA, you need to describe how or why the nonpoint sources will comply with their load reductions.

5.4.4 Natural Background

The natural background is going to be what you'd expect from reference sites in BURP, usually only applied in cases of sediment, such as TSS, or specific nutrients. Often times the natural background load will be unknown because there really isn't a suitable reference point. By and large, natural background is typically only relevant to our narrative criteria of sediment and nutrients.

Discuss, including the following:

- Carry forward existing background load from section 5.3.
- Note inclusion of any unallocated nonpoint sources.

5.4.5 Construction Stormwater and TMDL Wasteload Allocations

Stormwater runoff is water from rain or snowmelt that does not immediately infiltrate into the ground and flows over or through natural or man-made storage or conveyance systems. When undeveloped areas are converted to land uses with impervious surfaces—such as buildings, parking lots, and roads—the natural hydrology of the land is altered and can result in increased surface runoff rates, volumes, and pollutant loads. Certain types of stormwater runoff are considered point source discharges for Clean Water Act purposes, including stormwater that is associated with municipal separate storm sewer systems (MS4s), industrial stormwater covered under the Multi-Sector General Permit (MSGP), and construction stormwater covered under the Construction General Permit (CGP).

5.4.5.1 Municipal Separate Storm Sewer Systems

Polluted stormwater runoff is commonly transported through MS4s, from which it is often discharged untreated into local water bodies. An MS4, according to (40 CFR 122.26(b)(8)), is a conveyance or system of conveyances that meets the following criteria:

- Owned by a state, city, town, village, or other public entity that discharges to waters of the U.S.
- Designed or used to collect or convey stormwater (including storm drains, pipes, ditches, etc.)
- Not a combined sewer
- Not part of a publicly owned treatment works (sewage treatment plant)

To prevent harmful pollutants from being washed or dumped into an MS4, operators must obtain an NPDES permit from EPA, implement a comprehensive municipal stormwater management program (SWMP), and use best management practices (BMPs) to control pollutants in stormwater discharges to the maximum extent practicable.

5.4.5.2 Industrial Stormwater Requirements

Stormwater runoff picks up industrial pollutants and typically discharges them into nearby water bodies directly or indirectly via storm sewer systems. When facility practices allow exposure of industrial materials to stormwater, runoff from industrial areas can contain toxic pollutants (e.g., heavy metals and organic chemicals) and other pollutants such as trash, debris, and oil and grease. This increased flow and pollutant load can impair water bodies, degrade biological habitats, pollute drinking water sources, and cause flooding and hydrologic changes, such as channel erosion, to the receiving water body.

Multi-Sector General Permit and Stormwater Pollution Prevention Plans

In Idaho, if an industrial facility discharges industrial stormwater into waters of the U.S., the facility must be permitted under EPA's most recent MSGP. To obtain an MSGP, the facility must prepare a stormwater pollution prevention plan (SWPPP) before submitting a notice of intent for permit coverage. The SWPPP must document the site description, design, and installation of control measures; describe monitoring procedures; and summarize potential pollutant sources. A copy of the SWPPP must be kept on site in a format that is accessible to workers and inspectors and be updated to reflect changes in site conditions, personnel, and stormwater infrastructure.

Industrial Facilities Discharging to Impaired Water Bodies

Any facility that discharges to an impaired water body must monitor all pollutants for which the water body is impaired and for which a standard analytical method exists (see 40 CFR Part 136).

Also, because different industrial activities have sector-specific types of material that may be exposed to stormwater, EPA grouped the different regulated industries into 29 sectors, based on their typical activities. Part 8 of EPA's MSGP details the stormwater management practices and monitoring that are required for the different industrial sectors. EPA anticipates issuing a new MSGP in December 2013. DEQ anticipates including specific requirements for impaired waters

as a condition of the 401 certification. The new MSGP will detail the specific monitoring requirements.

TMDL Industrial Stormwater Requirements

When a stream is on Idaho's §303(d) list and has a TMDL developed, DEQ may incorporate a wasteload allocation for industrial stormwater activities under the MSGP. However, most load analyses developed in the past have not identified sector-specific numeric wasteload allocations for industrial stormwater activities. Industrial stormwater activities are considered in compliance with provisions of the TMDL if operators obtain an MSGP under the NPDES program and implement the appropriate BMPs. Typically, operators must also follow specific requirements to be consistent with any local pollutant allocations. The next MSGP will have specific monitoring requirements that must be followed.

5.4.5.3 Construction Stormwater

The CWA requires operators of construction sites to obtain permit coverage to discharge stormwater to a water body or municipal storm sewer. In Idaho, EPA has issued a general permit for stormwater discharges from construction sites.

Construction General Permit and Stormwater Pollution Prevention Plans

If a construction project disturbs more than 1 acre of land (or is part of a larger common development that will disturb more than 1 acre), the operator is required to apply for a CGP from EPA after developing a site-specific SWPPP. The SWPPP must provide for the erosion, sediment, and pollution controls they intend to use; inspection of the controls periodically; and maintenance of BMPs throughout the life of the project. Operators are required to keep a current copy of their SWPPP on site or at an easily accessible location.

TMDL Construction Stormwater Requirements

When a stream is on Idaho's §303(d) list and has a TMDL developed, DEQ may incorporate a gross wasteload allocation for anticipated construction stormwater activities. Most loads developed in the past did not have a numeric wasteload allocation for construction stormwater activities. Construction stormwater activities are considered in compliance with provisions of the TMDL if operators obtain a CGP under the NPDES program and implement the appropriate BMPs. Typically, operators must also follow specific requirements to be consistent with any local pollutant allocations. The CGP has monitoring requirements that must be followed.

Postconstruction Stormwater Management

Many communities throughout Idaho are currently developing rules for postconstruction stormwater management. Sediment is usually the main pollutant of concern in construction site stormwater. DEQ's *Catalog of Stormwater Best Management Practices for Idaho Cities and Counties* (DEQ 2005) should be used to select the proper suite of BMPs for the specific site, soils, climate, and project phasing in order to sufficiently meet the standards and requirements of the CGP to protect water quality. Where local ordinances have more stringent and site-specific standards, those are applicable.

5.4.6 Reserve for Growth

Discuss, including any allowance made for future growth (e.g., new or expanded point sources or expansion of nonpoint source activities). Apportion remaining available load (future loading targets) to the extent possible taking into account both spatial (location) and temporal (seasonal) distribution of sources. It will be rare that you'll have a reserve for growth, as few WAGs want to cut back enough from the LA and WLA to provide for one. That's why we have pollutant trading as an option for some watersheds.

5.5 Implementation Strategies

Write a short introductory paragraph. In this section, the writer should describe in considerable detail what kinds of implementation measures are expected in order to ensure that the point source numeric WLAs in concert with the NPS LAs are going to achieve the WQS. Include the following text:

DEQ recognizes that implementation strategies for TMDLs may need to be modified if monitoring shows that TMDL goals are not being met or significant progress is not being made toward achieving the goals. Reasonable assurance (addressed in section 5.4.3) for the TMDL to meet water quality standards is based on the implementation strategy.

5.5.1 Time Frame

The expected time frame for meeting water quality standards and/or beneficial uses. This should include number of permit cycles for point sources, typically one or two depending on previous permit and the need for specific monitoring data from a facility.

5.5.2 Approach

The approaches to be used to meet load and wasteload allocations. Discuss the kinds of BMPs expected, if pollutant trading is being considered for the watershed as a tool to implement point source reductions, and expand more if there are point sources as EPA will be looking here for the crux of reasonable assurance. You may want to include financial resources and actual projects identified.

5.5.3 Responsible Parties

Identify the federal, state, and local governments; individuals; or entities that will be involved in or responsible for implementing the TMDL.

5.5.4 Implementation Monitoring Strategy

Discuss your monitoring strategy to measure implementation activities and achievement of water quality standards. This should include both BMP effectiveness monitoring and ambient water quality monitoring. Make sure to include compliance points, who will gather data, how often, etc.—particularly if there are point sources.

5.5.5 Pollutant Trading

Pollutant trading (also known as water quality trading) is a contractual agreement to exchange pollution reductions between two parties. Pollutant trading is a business-like way of helping to solve water quality problems by focusing on cost-effective, local solutions to problems caused by pollutant discharges to surface waters. Pollutant trading is one of the tools available to meet reductions called for in a TMDL where point and nonpoint sources both exist in a watershed.

The appeal of trading emerges when pollutant sources face substantially different pollutant reduction costs. Typically, a party facing relatively high pollutant reduction costs compensates another party to achieve an equivalent, though less costly, pollutant reduction.

Pollutant trading is voluntary. Parties trade only if both are better off because of the trade, and trading allows parties to decide how to best reduce pollutant loadings within the limits of certain requirements.

Pollutant trading is recognized in Idaho's water quality standards at IDAPA 58.01.02.055.06. DEQ allows for pollutant trading as a means to meet TMDLs, thus restoring water quality limited water bodies to compliance with water quality standards. DEQ's *Water Quality Pollutant Trading Guidance* sets forth the procedures to be followed for pollutant trading (DEQ 2010).

5.5.5.1 Trading Components

The major components of pollutant trading are trading parties (buyers and sellers) and credits (the commodity being bought and sold). Ratios are used to ensure environmental equivalency of trades on water bodies covered by a TMDL. All trading activity must be recorded in the trading database by DEQ or its designated party.

Both point and nonpoint sources may create marketable credits, which are a reduction of a pollutant beyond a level set by a TMDL:

- Point sources create credits by reducing pollutant discharges below NPDES effluent limits set initially by the wasteload allocation.
- Nonpoint sources create credits by implementing approved BMPs that reduce the amount of pollutant runoff. Nonpoint sources must follow specific design, maintenance, and monitoring requirements for that BMP; apply discounts to credits generated, if required; and provide a water quality contribution to ensure a net environmental benefit. The water quality contribution also ensures the reduction (the marketable credit) is surplus to the reductions the TMDL assumes the nonpoint source is achieving to meet the water quality goals of the TMDL.

5.5.5.2 Watershed-Specific Environmental Protection

Trades must be implemented so that the overall water quality of the water bodies covered by the TMDL are protected. To do this, hydrologically based ratios are developed to ensure trades between sources distributed throughout TMDL water bodies result in environmentally equivalent or better outcomes at the point of environmental concern. Moreover, localized adverse impacts to water quality are not allowed.

5.5.5.3 Trading Framework

For pollutant trading to be authorized, it must be specifically mentioned within a TMDL document. After adoption of an EPA-approved TMDL, DEQ, in concert with the WAG, must develop a pollutant trading framework document. The framework would mesh with the implementation plan for the watershed that is the subject of the TMDL. The elements of a trading document are described in DEQ's pollutant trading guidance (DEQ 2010).

6 Conclusions

Write a brief summary/conclusion to the entire document. **Make sure to reference your summary table(s) in your narrative**.

Table 9. Summary of assessment outcomes.

Assessment Unit Name	Assessment Unit Number	Pollutant	TMDL(s) Completed	Recommended Changes to Next Integrated Report	Justification
Lemhi River—Kenney Creek to mouth	ID17060204SL001_06	Temperature, total coliform	Yes	List in Category 4a for temperature; Delist from Category 5 for total coliform	Temperature TMDL completed based on PNV; EPA-approved TMDLs for *E. coli* and fecal coliform in 2000

Table 10. Summary of assessment outcomes for unlisted but impaired assessment units.

Assessment Unit Name	Assessment Unit Number	Pollutant	TMDL(s) Completed	Recommended Changes to Next Integrated Report	Justification
Lemhi River—Kenney Creek to mouth	ID17060204SL001_06	Temperature, total coliform	Yes	Move to Category 4a for temperature; Delist from Category 5 for total coliform	Temperature TMDL completed based on PNV; EPA-approved TMDLs for E. coli and fecal coliform in 2000

This document was prepared with input from the public, as described in Appendix C. Following the public comment period, comments and DEQ responses will also be included in this appendix, and a distribution list will be included in Appendix D.

References Cited

CFR (Code of Federal Regulation). 1977. "Guidelines Establishing Test Procedures for the Analysis of Pollutants." 40 CFR 136.

CFR (Code of Federal Regulation). 1983. "EPA Administered Permit Programs: The National Pollutant Discharge Elimination System." 40 CFR 122.

CFR (Code of Federal Regulation). 1983. "Water Quality Standards." 40 CFR 131.

CFR (Code of Federal Regulation). 1995. "Water Quality Planning and Management." 40 CFR 130.

DEQ (Idaho Department of Environmental Quality). 2005. *Catalog of Stormwater Best Management Practices for Idaho Cities and Counties*. Boise, ID: DEQ. Available at: *http://www.deq.idaho.gov/water-quality/wastewater/stormwater.aspx*.

DEQ (Idaho Department of Environmental Quality). 2010. *Water Quality Pollutant Trading Guidance.* Boise, ID: DEQ. Available at: *http://www.deq.idaho.gov/water-quality/surface-water/pollutant-trading.aspx*.

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Grafe, C.S., C.A. Mebane, M.J. McIntyre, D.A. Essig, D.H. Brandt, and D.T. Mosier. 2002. *Water Body Assessment Guidance.* 2nd ed. Final. Boise, ID: Department of Environmental Quality. 114 p.

Idaho Code. 2012. "Creation of Watershed Advisory Groups." Idaho Code 39-3615.

Idaho Code. 2012. "Development and Implementation of Total Maximum Daily Load or Equivalent Processes." Idaho Code 39-3611.

IDAPA. 2012. "Idaho Water Quality Standards." Idaho Administrative Code. IDAPA 58.01.02.

Strahler, A.N. 1957. "Quantitative Analysis of Watershed Geomorphology." *Transactions American Geophysical Union* 38:913–920.

US Congress. 1972. Clean Water Act (Federal Water Pollution Control Act). 33 USC §1251–1387.

GIS Coverages

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errors. The Department of Environmental Quality may update, modify, or revise the data used at any time, without notice.

Add list of GIS coverages to end of references (see guidance). If you have maps, you used GIS and should list that information here. If you don't have any, delete this section.

Glossary

§303(d)

Refers to section 303 subsection "d" of the Clean Water Act. Section 303(d) requires states to develop a list of water bodies that do not meet water quality standards. This section also requires total maximum daily loads (TMDLs) be prepared for listed waters. Both the list and the TMDLs are subject to United States Environmental Protection Agency approval.

Assessment Unit (AU)

A group of similar streams that have similar land use practices, ownership, or land management. However, stream order is the main basis for determining AUs. All the waters of the state are defined using AUs, and because AUs are a subset of water body identification numbers, they tie directly to the water quality standards so that beneficial uses defined in the water quality standards are clearly tied to streams on the landscape.

Beneficial Use

Any of the various uses of water that are recognized in water quality standards, including, but not limited to, aquatic life, recreation, water supply, wildlife habitat, and aesthetics.

Beneficial Use Reconnaissance Program (BURP)

A program for conducting systematic biological and physical habitat surveys of water bodies in Idaho. BURP protocols address lakes, reservoirs, and wadeable streams and rivers.

Exceedance

A violation (according to DEQ policy) of the pollutant levels permitted by water quality criteria.

Fully Supporting

In compliance with water quality standards and within the range of biological reference conditions for all designated and existing beneficial uses as determined through the *Water Body Assessment Guidance* (Grafe et al. 2002).

Load Allocation (LA)

A portion of a water body's load capacity for a given pollutant that is given to a particular nonpoint source (by class, type, or geographic area).

Load(ing)

The quantity of a substance entering a receiving stream, usually expressed in pounds or kilograms per day or tons per year. Loading is the product of flow (discharge) and concentration.

Load Capacity (LC)	How much pollutant a water body can receive over a given period without causing violations of state water quality standards. Upon allocation to various sources, a margin of safety, and natural background contributions, it becomes a total maximum daily load.
Margin of Safety (MOS)	An implicit or explicit portion of a water body's load capacity set aside to allow for uncertainly about the relationship between the pollutant loads and the quality of the receiving water body. The margin of safety is a required component of a total maximum daily load (TMDL) and is often incorporated into conservative assumptions used to develop the TMDL (generally within the calculations and/or models). The margin of safety is not allocated to any sources of pollution.
Nonpoint Source	A dispersed source of pollutants generated from a geographical area when pollutants are dissolved or suspended in runoff and then delivered into waters of the state. Nonpoint sources are without a discernable point or origin. They include, but are not limited to, irrigated and nonirrigated lands used for grazing, crop production, and silviculture; rural roads; construction and mining sites; log storage or rafting; and recreation sites.
Not Assessed (NA)	A concept and an assessment category describing water bodies that have been studied but are missing critical information needed to complete an assessment.
Not Fully Supporting	Not in compliance with water quality standards or not within the range of biological reference conditions for any beneficial use as determined through the *Water Body Assessment Guidance* (Grafe et al. 2002).
Point Source	A source of pollutants characterized by having a discrete conveyance, such as a pipe, ditch, or other identifiable "point" of discharge into a receiving water. Common point sources of pollution are industrial and municipal wastewater plants.
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 very broad concept that encompasses human-caused changes in the environment that alter the functioning of natural processes and

	produce undesirable environmental and health effects. Pollution includes human-induced alteration of the physical, biological, chemical, and radiological integrity of water and other media.
Stream Order	Hierarchical ordering of streams based on the degree of branching. A 1st-order stream is an unforked or unbranched stream. Under Strahler's (1957) system, higher-order streams result from the joining of two streams of the same order.
Total Maximum Daily Load (TMDL)	A TMDL is a water body's load capacity after it has been allocated among pollutant sources. It can be expressed on a time basis other than daily if appropriate. Sediment loads, for example, are often calculated on an annual basis. A TMDL is equal to the load capacity, such that load capacity = margin of safety + natural background + load allocation + wasteload allocation = TMDL. In common usage, a TMDL also refers to the written document that contains the statement of loads and supporting analyses, often incorporating TMDLs for several water bodies and/or pollutants within a given watershed.
Wasteload Allocation (WLA)	The portion of receiving water's load capacity that is allocated to one of its existing or future point sources of pollution. Wasteload allocations specify how much pollutant each point source may release to a water body.
Water Body	A stream, river, lake, estuary, coastline, or other water feature, or portion thereof.
Water Quality Criteria	Levels of water quality expected to render a body of water suitable for its designated uses. Criteria are based on specific levels of pollutants that would make the water harmful if used for drinking, swimming, farming, aquatic habitat, or industrial processes.
Water Quality Standards	State-adopted and United States Environmental Protection Agency-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.

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Appendix A. State and Site-Specific Water Quality Standards and Criteria

Include salmonid spawning or other site-specific information in this appendix.

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Appendix B. Data Sources

Table B1. Data sources for your subbasin name subbasin assessment.

Water Body	Data Source	Type of Data	Collection Date
Little Bear Creek	John Adams, IDFG Nampa Field Office	Flow	July 1995

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Appendix C. Public Participation and Public Comments

This TMDL addendum was developed with participation from identify the WAG/BAG and include dates of public meetings, public comment, etc.

[Public comments and DEQ responses to be inserted following public comment period.]

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Appendix D. Distribution List

[To be inserted following public comment period.]

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