The Upper Snake Rock TMDL Modification

Upper Snake Rock Watershed Management Plan – Modification -
A Modification of Mid-Snake TMDL and Upper Snake Rock TMDL
To Account for the Aquaculture Wasteload Allocation
Of
Part 1 (Fish Production Facilities & Conservation Hatcheries),
Part 2 (Fish Processors), and
Part 3 (Billingsley Creek Facilities)

Prepared for

U. S. Environmental Protection Agency – Region 10
U. S. EPA Idaho Operations Office – Boise, Idaho
Idaho Department of Environmental Quality – State Office
Middle Snake River Watershed Advisory Group

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A Modification of Mid-Snake and Upper Snake Rock TMDLs To Account for the Aquaculture Wasteload Allocation

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1.0 INTRODUCTION

This document describes the modification of three total maximum daily loads (TMDLs) – the *Middle Snake River Watershed Management Plan* (or Mid-Snake TMDL), the *Upper Snake Rock Watershed Management Plan* (or Upper Snake Rock TMDL), and the Billingsley Creek TMDL. This modification is due to the final development of the aquaculture wasteload allocation for 81 fish hatcheries (Part 1, inclusive of conservation hatcheries), 4 fish processors (Part 2), and 12 Billingsley Creek fish farms (Part 3) and the effect that these wasteload allocations will have on their associated receiving tributaries and the Middle Snake River and their beneficial uses and water quality standards. Setting seasonal wasteload allocations is also being proposed for some of the fish hatcheries.

This document describes Part 2 in the modification of two total maximum daily loads (TMDLs) – the Mid-Snake TMDL and the Upper Snake Rock TMDL. Part 2 involves the fish processors, which comprises only four (4) facilities or operations that discharge. They are Rainbow Trout/Filer Fish Processor (GAP-028) and SeaPac of Idaho Fish Processor (GAP-046), which both discharge into the Cedar Draw drainage and are therefore a part of the Cedar Draw TMDL. It also includes the Clear Springs Fish Processor (GAP-125) and the Clear Lakes Trout Fish Processor (GAP-011), which both discharge into the Clear Lakes drainage and are therefore a part of the Clear Lakes TMDL. Both TMDLs are compartmentalized under Segment 3 of the Middle Snake River, which is the receiving stream segment along with Cedar Draw and Clear Lakes.

Finally, this comment document describes Part 3 in the modification of three total maximum daily loads (TMDLs) – the Mid-Snake TMDL, the Upper Snake Rock TMDL, and the *Billingsley Creek Watershed Management Plan* (or Billingsley Creek TMDL). The TMDL modification for Part 3 involves twelve (12) fish hatcheries that discharge into the Billingsley Creek drainage. As described in the main body of the document, the Billingsley Creek TMDL is compartmentalized under Segment 5 of the Middle Snake River, which is considered a receiving stream segment. The twelve (12) fish hatcheries to consider include the following:

FACILITY	SOURCE WATER	RECEIVING WATER
1. Rangens (GAP-015)	Curren Springs	Billingsley Creek
2. Lee Ponds (GAP-050)	Spring Creek	Spring Creek
3. Johnson Ponds (GAP-130)	Spring Creek	Spring Ck/Billingsley Ck
4. Jones FH (GAP-005)	Weatherby Springs	Billingsley Creek
5. McFadden (GAP-066)	Springs	Billingsley Creek
6. Tupper (GAP-131)	Tupper Springs	Billingsley Creek
7. U of I (GAP-001)	Tupper Springs	Billingsley Creek
8. Hidden Springs (GAP-048)	Hidden Springs	Billingsley Creek
9. Fisheries Development (GAP-017)	Springs/Billingsley Ck	Billingsley Creek

10. Boyer FH (GAP-049)	Billingsley Creek	Billingsley Creek
11. Talbot FH (GAP-083)	Billingsley Creek	Billingsley Creek
12. Emerald Valley Ranch (GAP-132)	Billingsley Creek	Billingsley Ck/Snake River

The base wasteload allocations used in the development of this document, except as noted, were developed by the Aquaculture Industry Wasteload Allocation Subcommittee for the Part 1 facilities. The Idaho Department of Environmental Quality (DEQ) has previously provided notice and an opportunity for comment on these wasteload allocations. Relative to the fish processors (or Part 2 facilities) and the Billingsley Creek facilities (or Part 3 facilities), they too had their own "subcommittees" that considered their respective wasteload allocations.

Based upon comments received from the public and further analysis, DEQ in this document has made certain changes to the base wasteload allocations of the Part 1 facilities. In the end, the wasteload allocations along with the proposed changes (for Parts 1, 2, and 3) will be submitted (as a whole) to the U.S. Environmental Protection Agency (EPA) for their final review and approval as a modification to the three TMDLs. This document summarizes the documents for Part 1, Part 2, and Part 3, and will hereinafter be referred to as *The Upper Snake Rock TMDL Modification – 2005*.

The pollutants of concern are total phosphorus (TP) and total suspended solids (TSS). Bacteria are not considered because aquaculture fish hatcheries are not known to discharge *Escherichia coli* from their facilities since the pollutant-generating species are cold-blooded fish. Appendix A provides a summary for calculations relative to TP and TSS wasteload allocations.

In July 2004, DEQ published an earlier version of this document. The DEQ accepted comments under a 30-day public comment period (August 1, 2004 – August 30, 2004). See Appendix C. Public comment regarding the proposed changes in the wasteload allocations was sought and received from the following:

- Aquaculture facilities and what consideration should be given for a seasonal wasteload allocation.
- Other point sources relative to their wasteload allocations.
- Nonpoint source industries relative to their load allocations.
- Public and any industry, organization, group, or agency on the overall nature of this multi-TMDL modification.

Based upon the information and comments received, DEQ modified the Part 1 document and again sought public comment (February 2, 2005 – March 7, 2005) regarding the modifications prior to submission to EPA. See Appendix D. In particular:

(1) DEQ provided seasonal wasteload allocations based upon the information received from certain facilities;

(2) DEQ clarified that pollutant trading is available for both seasonal and non-seasonal facilities;

(3) In response to complaints from Pristine Springs and SeaPac of Idaho, DEQ adjusted the TP concentration limit used to determine Pristine Springs' WLA so that it was consistent with the concentration limit used for other Tier I facilities. This resulted in DEQ increasing Pristine Springs' WLA to 55.46 lb/day, and decreasing the nonpoint source LA for Warm Creek to 1.36 lb/day;

(4) DEQ made adjustments to the wasteload allocations between facilities with the same owner; and

(5) DEQ corrected mistakes in the allocations, clarified language, and provided further explanations for its decisions with respect to the wasteload allocations.

Relative to the fish processors, the DEQ held a public comment period (from April 26, 2005 to June 3, 2005). See Appendix E. Comments received have been incorporated into this document. Relative to the Billingsley Creek facilities, the DEQ held a public comment period (from May 19, 2005 to June 17, 2005). See Appendix F. Comments received have been incorporated into this document.

After reviewing the public comments of all three parts and making the appropriate modifications, DEQ will submit the final TMDLs to EPA for review and approval. DEQ will also publish notice of its final decision in the Idaho Administrative Bulletin, which provides an opportunity to appeal DEQ's decision if filed with the Board of Environmental Quality with 35 calendar days of publication. DEQ will also provide written notice to members of the Mid-Snake Watershed Advisory Groups as well as the Upper Snake Basin Advisory Group of the TMDL submittal to EPA and the Idaho Administrative Bulletin notice.

1.1 COMPLIANCE WITH IDAHO CODE §39-3611(8)

The development of the modifications to the Mid-Snake and Upper Snake Rock TMDLs included extensive public participation and participation by the Mid-Snake Watershed Advisory Group (WAG). Proposed wasteload allocations (WLAs) were originally developed by the Aquaculture Subcommittee of the Mid-Snake WAG. DEQ worked with the Subcommittee to gather relevant information for the WLAs and to develop a database that reflects this information. The database and other relevant information was used by the Subcommittee to draft the proposed WLAs that were presented to DEQ in September 2002.

In December 2002, DEQ initiated a 30 day public comment period regarding the Subcommittee proposed WLAs and a second proposal for WLAs developed by Pristine Springs, Inc.

In August 2003 DEQ submitted to the Mid-Snake WAG members a Local Impacts Analysis, that evaluates the impacts of proposed WLAs on water quality of the tributaries and segments of the Snake River included within the Upper Snake Rock TMDL.

In August 1 – 30, 2004, DEQ provided notice and a 30 day public comment period for Part 1 of the Modification to the Mid-Snake and Upper Snake Rock TMDL.

In February 7 to March 7, 2005, DEQ provided notice and a 30 day public comment period for revisions to Part 1 that resulted from DEQ's review of the comments it received from the first public comment period.

On April 26 to June 3, 2005, DEQ initiated a 30 day public comment period for Part 2 (fish processors) of the Modification to the Mid-Snake and Upper Snake Rock TMDLs.

On May 19 to June 17, 2005, DEQ provided notice and a 30 day public comment period for Part 3 (Billingsley Creek facilities) of the Modification.

DEQ has complied with the WAG consultation requirements set forth in Idaho Code § 39-3611. DEQ has provided the WAG with all available information concerning applicable water quality

standards, water quality data, monitoring, assessments, reports, procedures and schedules. Indeed, DEQ worked closely with the WAG in collecting the information for the proposed WLAs and in developing the database that reflects the relevant data.

DEQ utilized the knowledge, expertise, experience and information of the WAG in developing this TMDL. DEQ also provided the WAG with an adequate opportunity to participate in drafting the TMDL and to suggest changes to the document. The WAG drafted the original proposed WLAs, and the proposed WLAs reflect the aquaculture industry's knowledge, expertise, experience and information. Subsequent to the development of the original proposed WLAs in 2002, the WAG has continued to provide DEQ with input, information and suggestions for changes through the several public comment periods that occurred from December of 2002 through June of 2005.

The original WLAs were developed by the Aquaculture Subcommittee of the WAG and were supported by the Subcommittee members. This final TMDL continues to have the support of the vast majority of the aquaculture members of the WAG. DEQ has received, however, negative comments from several of the owners of aquaculture facilities affected by the TMDL. Almost all of the negative comments have come from Pristine Springs. Pristine Springs' comments and DEQ's response to those comments are set forth in the appendixes to the TMDL as well as in the main body of the final document.

2.0 HISTORICAL PERSPECTIVE

Relative to the Mid-Snake TMDL and the Upper Snake Rock TMDL, the following is a historical perspective that encompasses the fish production hatcheries (inclusive of the conservation hatcheries), the fish processors, and the Billingsley Creek facilities. Part of that historical perspective is the understanding that the fish processors and the Billingsley Creek facilities have always been considered "outside of the 970.2 lb/day TP load." Therefore, their wasteload allocation will be "in addition to" the 970.2 lb/day TP load, which has been considered for the overall industry.

1981 – James E. Winner, IDWR, publishes Billingsley Creek Water Quality report. The objectives of the report are to: (1) determine the quality of the water, (2) determine the effects of water use on water quality, and (3) estimate the impacts of future development on water quality.

1986 – Water Quality Status Report, #64, Billingsley Creek, Gooding County, Idaho published by DEQ defining status of the beneficial uses as described in the 1988 publication.

1988 – Idaho Water Quality Status Report and Nonpoint Source Assessment by DEQ reports that Billingsley Creek is water quality limited and does not fully support beneficial uses. Partially supported uses include cold water aquatic life, salmonid spawning, and primary contact recreation. Threatened beneficial uses include domestic water supply and secondary contact recreation. Additionally, the stream is listed as special resource water and this is threatened as well.

1989 – Task force was formed by DEQ to recommend actions that would improve water quality in Billingsley Creek by implementing practices to control sediments and incorporate actions to stabilize the creek degraded riparian areas.

1990 – Task force developed the completions report Recommendations for Water Quality Improvement to the Billingsley Creek Agricultural Land Users. The individual operators could choose the recommendations to be implemented.

Recommendations were developed for 13 individual land owners/operators and only two implemented positive actions related to improving water quality. Other operators took little or no action.

December 1990 – A problem assessment and proposed TMDL completed by DEQ and EPA-Region 10.

December 10, 1991 – USFWS-Boise has reviewed the NPDES permit applications for the seven fish culture facilities along Billingsley Creek and has no objections to issuance of the permits with the following comments: (1) the TMDL process should assist in addressing the cumulative effects of fish hatchery discharges with other existing and future sources of nonpoint source pollution on water quality.

October 19, 1992 – Billingsley Creek TMDL submitted by DEQ to EPA for TP, TSS, and Settleable Solids as Problem Assessment – Billingsley Creek (October 14, 1992).

August 23, 1993 – Billingsley Creek TMDL approved by EPA as a gross concentration based limit with no wasteload allocations.

August 10, 1994 – EPA Fact Sheets and Permits for seven (7) Billingsley Creek facilities: Idaho Springs, Jones Hatchery, Rangen, Inc., Hidden Springs, Spring Creek, Fisheries Development, and Dale Boyer Farms.

August 30, 1994 – EPA-Region 10 finalizes the Biological Evaluation for Reissuance of NPDES Permits for Billingsley Creek, Idaho Aquaculture Facilities. The aquaculture facilities were estimated at being responsible for 75% of the Billingsley Creek's water quality impairment.

September 13, 1994 – USFWS-Boise responds to Biological Evaluation for Reissuance of NPDES Permits for Billingsley Creek, Idaho Aquaculture Facilities by stating that the BE failed to consider all potential effects, direct and indirect, to the listed species. Relative to the T & E mollusks: (1) The analysis of the effects of the action on the mollusk species and habitat did not include consideration of cumulative effects; and (2) to our knowledge, tests using hatchery effluent to determine effects to native mollusks have not been conducted. Relative to the T & E eagles: (1) extensive information from the literature about eagles was cited, but little site-specific information was presented; and (2) the BE only addressed threats to eagles in the Snake River Recovery Area, which were identified by the Recovery Plan. Other threats may exist relative to the eagle's primary food stocks and foraging areas in all areas influenced by the proposed activity.

February 10, 1995: *The Middle Snake River Nutrient Management Plan* goes out for a 60-day public comment period. The aquaculture component included an estimate of phosphorus concentration and an over-estimate of flow. Unknowns included off-line settling basins, fish processors, and 19 permit-pending facilities.

March 25, 1997: The *Middle Snake River Watershed Management Plan* (Mid-Snake TMDL) was prepared by the Idaho Department of Environmental Quality (DEQ) and submitted to the U. S. Environmental Protection Agency (EPA). Public comment occurred from October 23, 1996 to November 22, 1996.

April 1, 1997: The EPA and DEQ along with the aquaculture industry began deliberations relative to the development of a general NPDES permit for aquaculture. Through this permit, data collection from all aquaculture facilities became important in order to answer the large data gap in the Mid-Snake TMDL. Data collection commenced in year 2000 and proceeded into year 2002.

April 3, 1997: The Idaho TMDL schedule is developed as a result of a lawsuit filed in 1993. This schedule called for all Idaho TMDLs to be completed by DEQ in an 8-year time period ending in year 2005.
April 25, 1997: Mid-Snake TMDL approved by EPA.

September 10, 1999: The General Aquaculture NPDES Permit becomes effective. The permit requires data to be collected in 2000-2002 to establish an aquaculture database. The permit also requires that permittees achieve compliance with TMDL-based TP limitations on or before the day the permit expires. Consistent with the Mid-Snake TMDL, the TMDL-based TP limitations are to be re-evaluated by DEQ based upon the data collected during the term of the permit. Public comment on the permit occurred from April 21, 1998 to July 13, 1998.

December 20, 1999: *The Upper Snake Rock Watershed Management Plan* (or Upper Snake Rock TMDL) is submitted to EPA. Mid-Snake TMDL timeline is modified in conjunction with Upper Snake Rock TMDL and the general aquaculture permit to commence in year 2000. Public comment occurred twice: (1) June 17, 1998 – September 17, 1998, and (2) November 1, 1999 – December 1, 1999.

January 1 – December 31, 2000: Data collection by aquaculture industry inclusive of the fish processors and the Billingsley Creek facilities.

August 25, 2000: The Upper Snake Rock TMDL is approved by EPA.

January 1 – December 31, 2001: Data collection by aquaculture industry inclusive of the fish processors and the Billingsley Creek facilities.

November 20, 2001 – 1st Meeting in Hagerman Research Station (University of Idaho) with Billingsley Creek Committee (fish facilities) to discuss the Billingsley Creek TMDL.

December 18, 2001: DEQ-TFRO meets with the fish processors to discuss the TMDL specific to the fish processors.

January 1 – June 30, 2002: Data collection by aquaculture industry inclusive of the fish processors and the Billingsley Creek facilities.

April 12, 2002 – Billingsley Creek Committee submits a wasteload allocation proposal for their fish facilities.

June 2002: Version 13 aquaculture database was finalized.

June 27, 2002 – Meeting by IDWR on the Minimum Stream Flow Applications on Billingsley Creek.

July 15, 2002 – IDWR sends out *Amended Applications for Permit – 36-08596 and 36-08793 in the names of the Idaho Water Resource Board* on Billingsley Creek.

September 6, 2002: DEQ-TFRO Memo on Fish Processors Wasteload Allocation sent out to fish processors for review and comment based on the mean monthly maximum load.

September 30, 2002: Aquaculture Subcommittee presents to DEQ their wasteload allocation for review.

October 1, 2002 – Memo on DEQ's *Billingsley Creek Wasteload Allocation Proposal* sent to the Billingsley Creek Committee.

October 14, 2002 – Billingsley Creek Committee not satisfied with the memo of October 1, 2002 on the wasteload allocation. They feel that the proposal of April 12, 2002 was not given due consideration and that the wasteload allocation proposed by DEQ is neither adequate nor workable.

November 15, 2002: Aquaculture Subcommittee makes presentation of their proposed wasteload allocation to EPA at DEQ-State Office.

December 13, 2002 – January 13, 2003: Public comment period for the proposed aquaculture wasteload allocation.

July 30, 2003 – *Billingsley Creek Wasteload Allocations Logic Process Based on Billingsley Creek Q Model (version 2003)* finalized by Buhidar and Sharpnack to describe the low flow conditions of Billingsley Creek and its impacts on water quality.

August 4 – September 1, 2003 – Public comment period for *Billingsley Creek Total Maximum Daily Load and Localized Impacts Assessment (Draft – Public Comment Document)*. The document was prepared by DEQ.

September 8, 2003 – Representatives of the Billingsley Creek Committee met with DEQ to discuss the TMDL process on Billingsley Creek and EPA's lack of desire for a concentration-based wasteload allocation.

September 22, 2003 – Representatives of the Billingsley Creek Committee met with DEQ to discuss the Localized Impact Analysis document that had been out for public comment.

September 1-October 1, 2003 – Public comment period extended for an additional 30 days for review of *Billingsley Creek Total Maximum Daily Load and Localized Impacts Assessment (Draft – Public Comment Document)*.

October 3, 2003 – DEQ Memo on *Total Phosphorus on Billingsley Creek, 1972-2001* sent to the Billingsley Creek Committee.

August 1 –August 30, 2004: TMDL modification first public comment period.

September 10, 2004: The General Aquaculture NPDES Permit expires.

February 7 to March 7, 2005: TMDL modification second and final public comment period.

April 26 to June 3, 2005: 30-day public comment period for Part 2 (fish processors).

May 19 to June 17, 2005: 30-day public comment period for Part 3 (Billingsley Creek facilities).

December 31, 2005: Year 5 mid-course assessment year for ascertaining if reductions are heading in the proper direction for beneficial use attainment.

December 31, 2010: Year 10 critical assessment year for ascertaining if agreed-to reductions by the stakeholders have been achieved. Year 10 is also the year where beneficial uses attainment will be assessed for the Middle Snake River and all its tributaries.

Relative to the Part 1 facilities, eighty-one (81) aquaculture facilities are listed in the Mid-Snake TMDL. As a whole, the total wasteload allocation for aquaculture cannot exceed 970.2-lb/day total phosphorus and 12,209.9 ton/year TSS. On pages 58-63 of the Mid-Snake TMDL, the aquaculture industry's wasteload allocation was preliminarily divided into two groups. The first group consisted of thirteen (13) facilities and represented in general the larger flow facilities. This group had wasteload allocations defined that eventually would become a part of their NPDES permits. The second group consisted of 68 facilities and represented in general the smaller flow facilities. These facilities were given a wasteload allocation of TBD. According to Table 23 notes of the Mid-Snake TMDL (page 61), TBD means, and "To Be Determined at year 3 based on monitoring data from individual facilities." In addition, on September 10, 2004, the aquaculture general permit expired at midnight. This means that permittees must be in compliance with the wasteload allocation values found in the permit for the 13 listed facilities. This will continue until such time as the EPA approves of the wasteload allocations that are contained in this document and the NPDES permit is modified.

Relative to the fish processors and as previously noted, four (4) facilities are of concern as fish processors. These four facilities discharge to two drainages – Cedar Draw and Clear Lakes. There are other fish processors that exist but these additional processors do not discharge into streams that are listed as 303(d) streams. These other fish processors include Blue Lakes Trout Farm Fish Processor (which is no longer operational), Fish Breeders of Idaho Processing Plant (discharge into constructed wetland with no discharge to Snake River), Silver Creek (do not discharge to the Snake River but rather discharge into the City of Twin Falls and have a pre-treatment agreement), and Canyon Trout (have no discharge to Rock Creek due to self-containment). These facilities, along with the four that discharge, are listed in the Mid-Snake TMDL (Table 23, page 61) as numbers 68-75 (processors) with a TBD (To be Determined) later acronym in their wasteload allocation values. The Upper Snake Rock TMDL shows these same processors as "place holders" in the Executive Summary (2000), Tables 8a (Canyon Trout Processing), 8b (Rainbow Trout – Filer; SeaPac of Idaho), 8c (Clear Lakes Trout Processing; Clear Springs Foods Processing), 9b (City of Twin Falls (portion); Blue Lakes Processing), and 9g (Big Bend Trout, Inc.).

Relative to the fish hatcheries on Billingsley Creek and as previously noted, twelve (12) facilities are of concern. These twelve discharge to Billingsley Creek or to tributaries of Billingsley Creek. Those hatcheries that discharge directly to the Middle Snake River are included in the Part 1 listing of fish hatcheries under Segment 5 of the Snake River. As previously stated, Billingsley

Creek was subdivided into 12 segments that incorporate the 12 fish hatcheries of concern or those that discharge into Billingsley Creek or to a quantifiable spring. The tables beginning with Table 5-B (Section §10.5) define the wasteload allocations for each of the 12 segments. This approach of subdividing Billingsley Creek into 12 segments was done to compensate for the loss in flow throughout the stream. As previously noted in the *Billingsley Creek Total Maximum Daily Load and Localized Impacts Assessment* (2004) and in *Billingsley Creek Wasteload Allocations Logic Process* (2003), Billingsley Creek is suffering from severe water losses, which have impacted the production capabilities of the fish hatcheries substantially. Curren Springs lies at the headwaters of Billingsley Creek and serves as the "primer" for water intake into the creek and this too has decreased substantially in recent years.

3.0 VERSION 13 DATABASE AND ADJUDICATED FLOWS

In order to meet the timeline for data acquisition from the aquaculture industry, the DEQ developed an aquaculture database that summarized the flow, total phosphorus, and total suspended solids information from the discharge monitoring reports (DMRs) reported by the facilities under the EPA's NPDES program. A number of versions (e.g., 1 through 13) of the database were developed and submitted to the aquaculture industry for their review and comment. Part of the comments involved facilities visiting with DEQ and reviewing their records, to bring their records up-to-date and correct any mistakes. Version 13 was the final version of the aquaculture database. It included only the first 30 months of years 2000-2002. Version 13 is the basis of the wasteload allocation for flow, total phosphorus, and total suspended solids. As described in the Mid-Snake TMDL:

> "The monitoring data collected in years 1 through 3 will be used to give a wasteload allocation to individual facilities at the end of Year 3. A re-evaluation of the Mid-Snake TMDL [*and the Upper Snake Rock TMDL*] for all industries will occur after Year 10 to determine if water quality standards and the beneficial uses have been met, and, if necessary, wasteload allocations will be adjusted." (Mid-Snake TMDL, Table 23, p 58)

Since Version 13 database was used as the basis for developing the wasteload allocation for aquaculture, the industry was obligated by DEQ to use only Version 13 data. However, upon review of the final wasteload allocation table for TP that was submitted by the aquaculture industry subcommittee, it was discovered that two facilities (Rim View GAP-010 and Clear Springs Middle Hatchery GAP-007) used adjudicated water rights. When DEQ put the wasteload allocations out for public comment, DEQ received comments that these adjudicated flows were not part of the Version 13 database and consequently should not be included in the development of their individual wasteload allocations. DEQ agreed with these comments. Therefore, in this document the adjudicated flows were modified to reflect only Version 13 flows. Consequently, GAP-010 flow was modified from the adjudicated flow of 150.0 cfs to 140.4 cfs or a modification of 66.3 lb/day TP to 62.1 lb/day TP in its wasteload allocation. Likewise, GAP-007 flow was modified from the adjudicated flow of 200.0 cfs to 181.5 cfs or a modification of 86.2 lb/day TP to 80.2 lb/day TP in its wasteload allocation. The overall TP load by rolling back from the adjudicated flow is 4.2 lb/day and 6.0 lb/day or a total of 10.2 lb/day TP.

In addition, one of the facilities (GAP-133) was under a consent order with DEQ and was not part of the Mid-Snake facilities or their original Version 13 database. The Aquaculture Subcommittee in its deliberations chose to include this facility in the 970.2-lb/day total wasteload allocation. In order to maintain consistency in developing wasteload allocations for all the facilities, the data from the fish processors database was utilized to develop various wasteload allocation scenarios that spanned the same time period as that of the Version 13 Database for the Mid-Snake fish hatcheries. Roughly, this included material from 2000 through 2003 as the data was available

then. The database was provided to the fish processors for their use in developing their own proposal with the stipulation that there could be no phosphorus speculation.

Finally, one technical aspect of the tables that are in this Part 1 document deals with the Microsoft program, Excel. This program was used for all calculations. Truncation of repeating or ratio values was selected at the centidecimal (one hundredth) place (0.01 or two-decimal places to the right of the zero) and incorporated the Rule of Rounding before truncation. Therefore, although mathematically a rounded or truncated value may actually represent a range of numbers (such as 12.235-12.239 ≈ 12.24); the values found in the tables are the exact values at the centidecimal place (i.e., 12.24) without any "hanging" rounding or truncation residual. This was done to eliminate any rounding errors or mis-calculations within the tables. However, despite the incorporation of the Rule of Rounding before truncation, a global rounding error is still expressed between what is considered the exact real number and the nearest floating-point representation. These rounding "precision" errors are accumulative where multiple calculations are involved. In effect, the value 4.0 (as an example) is really a range of values from 3.95 to 4.04, which yields a classic approach as an absolute bound or a probabilistic estimate of the first-order approximate of the final rounding error with respect to the elementary rounding errors introduced by the computation of intermediate variables (Langlois 2000). This is demonstrated in the following example for Milner Dam and Pillar Falls relative to TP and TSS. The lower bound value is the lowest value that is equivalent (based on rounding) to the expected value as the instream concentration. Likewise, the upper bound value is the highest value that is equivalent (based on rounding) to the expected value as the instream concentration. The % Range equates to the percentage value of the actual range (Upper Bound – Lower Bound) against the expected value.

Compliance	Expected Value	Lower Bound	Upper Bound	% Range
Total Phosphorus: 0.075 mg/L TP				
Milner Dam	1,560.41 lb/day	1,550.01	1,570.80	1.33%
Pillar Falls	1,914.93 lb/day	1,902.17	1,927.69	1.33%
Total Suspended Solids: 52.0 mg/L TSS				
Milner Dam	197,443.25 ton/year	197,254.00	197,633.00	0.19%
Pillar Falls	196,172.04 ton/year	196,405.02	195,939.06	0.24%

Consequently, in this document the true or expected value is indeed a range of values that have lower and upper bound limits, but which round to the expected value. No correcting term was applied for this characteristic global rounding error (or linearization error) since it is characteristic of all data. Thus, the incorporation of standard mathematical operations from final accumulative solutions cannot be applied with the anticipation of obtaining the expected value. Therefore, a process was set by DEQ to minimize this potential error. That process followed the following procedure for determination of wasteload allocations within all of the TMDLs:

STEP 1. Calculate the Load Capacity for TP and TSS for each natural tributary using the following formulas:

TP, lb/day = cfs x 0.100-mg/L TP x 5.39 (tributaries)
TP, lb/day = cfs x 0.075-mg/L TP x 5.39 (Snake River)

TSS, ton/year = cfs x 52.0 mg/L TSS x 5.39 x 0.1825 (tributaries and Snake River)
TSS, ton/year = cfs x 25.0 mg/L TSS x 5.39 x 0.1825 (special resource waters)

STEP 2. Subtract the MOS from the Loading Capacity.

STEP 3. Subtract the Loss/Attenuation value from the remaining Loading Capacity. This is applicable on the Snake River and not the tributaries.

STEP 4. Subtract the Point Sources from the remaining Loading Capacity.

STEP 5. The remaining Loading Capacity is attributed to the Nonpoint Sources. Of this remaining Loading Capacity, 2% is temporarily attributed to Stormwater – Construction Activities. See §5.0 of this document on Stormwater. Therefore,

TP, lb/day = Loading Capacity, lb/day x 0.02
TSS, ton/year = Loading Capacity, ton/year x 0.02

For the nonpoint sources attributed to FERC facilities, land application sites, or confined feeding operations (all sizes), these will carry a load of zero. The remaining nonpoint source component, once the 2% Stormwater – Construction Activities is subtracted, is attributed to a combined nonpoint source load of agricultural activities, grazing lands, private ground, and within the 2-mile corridor of the stream. This is critical because the application of the corridor approach does not apply to those areas outside of the corridor.

3.1 Fish Processors – TSS Load

For the TSS load attributable to the fish processors, the wasteload allocation was based on the old NPDES permit (about 1976) based on the projected processing pounds. Only SeaPac of Idaho could not be shown what the older permit values were because they were not part of that particular NDPES permit at the time. However, using a linear regression analysis established from the other three processors, it was simple to establish its monthly average (lb/day TSS):

Fish Processor	lbs processed/year	Old TSS Limits, lb/day	Old TSS Limits, ton/year
Clear Springs	24,000,000	150.0 lb/day	27.38 ton/year
Idaho Trout	8,575,000	43.0 lb/day	7.85 ton/year
Rainbow Trout	6,125,000	32.0 lb/day	5.84 ton/year
SeaPac	10,000,000	52.0 lb/day	9.49 ton/year

The linear regression analysis indicates a strong significant correlation (r^2 = 0.9982), such that SeaPac's limit would be 52 lb/day (or 9.49 ton/year) TSS and represent the monthly average TSS. These values become the limits TSS for the fish processors and calculated into the overall TMDL for Cedar Draw and Clear Lakes as part of the TMDL process.

4.0 ADJUSMENTS TO WLAs AND LAs FOR WARM CREEK

Pristine Springs and SeaPac of Idaho have both complained on a number of occasions that DEQ has used a different concentration limit to determine Pristine Springs' wasteload allocation than DEQ used for the other Tier 1 facilities. On September 16, 2004 Pristine Springs filed a lawsuit in state district court alleging that DEQ's action in proposing the wasteload allocation for Pristine Springs was arbitrary and capricious, violated Pristine Springs' equal protection rights and would result in irreparable injury to Pristine Springs.

The wasteload allocations for the Tier 1 facilities were initially determined by the Aquaculture Industry Wasteload Allocation Subcommittee of the Mid-Snake WAG by multiplying the concentration limit of 0.086 mg/L by the Version 13 Database average flow for each facility and multiplying this figure by 5.39. When added to the wasteload allocations for the other Tier facilities, this resulted in the total industry allocation exceeding 970.2 lb/day. The initial Tier 1

wasteload allocations were then reduced by an additional 5%, which is equivalent to using a 0.082 mg/L concentration limit in the wasteload allocation calculation.

0.086 mg/L TP x 5% = 0.0043mg/L TP
0.086 mg/L TP – 0.0043 mg/L TP = 0.0817 mg/L TP = 0.082 mg/L TP

Clear Springs agreed to an additional reduction (or a total of 6.98% reduction) so that a concentration limit of 0.080 was applied to its wasteload allocation calculation.

0.086 mg/L TP x 6.98% = 0.006 mg/L TP
0.086 mg/L TP – 0.006 mg/L TP = 0.080 mg/L TP

Using this formula for Pristine Springs results in a wasteload allocation of 52.59 lb/day (0.082 mg/L TP x 119 cfs x 5.39= 52.59 lb/day TP). This number greatly exceeded the average TP levels Pristine Springs had historically discharged, and also far exceeded the wasteload allocation set forth in the then existing NPDES permit. In order to avoid phosphorus speculation or giving a facility more phosphorus than needed, and in order to stay within a reasonable range of the wasteload allocation in the NPDES permit, Pristine Springs' wasteload allocation was reduced by the Subcommittee to 26.8 lb/day, which is the same wasteload allocation in the NPDES permit. Using 26.8 lb/day and an average flow of 119 cfs results in a concentration limit of 0.042 mg/L, compared to 0.082 mg/L that was used for the other Tier 1 facilities.

While DEQ believes there was a legitimate reason for treating Pristine Springs differently, DEQ agrees that the concentration limit used for Pristine Springs was different than the concentration limit used for the majority of the other Tier 1 facilities and results in a much smaller wasteload allocation than the wasteload allocation that would result if the 0.082 concentration is used. In order to be as consistent as possible in the process used to make the final wasteload allocations, DEQ has determined to use the same formula, including the 0.082 concentration limit, for Pristine Springs' wasteload allocation that was used for other Tier 1 facilities. This means Pristine Springs' wasteload allocation would be increased to 52.59 lb/day.

Pristine Springs has also commented that it has a warm water fish component to its facility, and that DEQ's wasteload allocation does not take into consideration this aspect of the facility. The wasteload allocations for warm water fish facilities generally were calculated using a 0.200 mg/L TP concentration. DEQ agrees that Pristine Springs produces warm water fish, and that the wasteload allocation should reflect this fact. The wasteload allocations, however, are based on the information in the Version 13 database. Since Pristine Springs has only one combined discharge and does not report flow data separately for its warm water facility, there is little confirmed data for DEQ to use as the basis for a warm water allocation. Pristine Springs has a water right that allows for the use of 4.5 cfs from a geothermal well for fish propagation. Without any reliable data, it is reasonable to use this as the basis for a warm water allocation. Using the warm water concentration of 0.200 mg/L TP, the wasteload allocation for warm water would be 0.200 mg/L TP x 4.5 cfs x 5.39 = 4.85 lb/day TP.

The warm water flow, however, is part of the total flow number reported on the Pristine Springs DMRs. To avoid double counting the warm water flow, the 4.5 cfs, must be subtracted from the cold water allocation calculation. This results in 119.0 cfs – 4.5 cfs = 114.5 cfs. Therefore, 114.5 cfs x 0.082 mg/L TP x 5.39 = 50.61 lb/day TP, which is the cold water wasteload allocation. This, then, must be added to the warm water allocation to give Pristine Springs a total wasteload allocation of 50.61 lb/days TP (cold water) + 4.85 lb/day TP (warm water) = 55.46 lb/day (combined).

Pristine Springs discharges its wastewater to Warm Creek, which in turn discharges to the Snake River. The TMDL sets a load capacity for Warm Creek calculated by multiplying the mean flow by 0.100 mg/L TP and multiplying this number by 5.39. The load capacity for Warm Creek is 126.02 lb/day (233.8 cfs x 0.100 mg/L TP x 5.39 = 126.02). DEQ cannot increase the wasteload allocation for Pristine Springs and still meet the load capacity set for Warm Creek unless the allocation of TP for other sources is reduced. Nonpoint sources of phosphorus are also located on Warm Creek, and initially DEQ allocated 29.42 lb/day TP to these nonpoint sources. In order to meet the load capacity for Warm Creek and since Warm Creek resides on Pristine Springs as its private property, DEQ has determined to reduce the load allocation for these nonpoint sources from 29.42 lb/day to 1.33 lb/day.

Of course, DEQ must look at the TP allocations and the load capacity of both Warm Creek and the Snake River. By shifting the TP allocation to Pristine Springs' point source, the total aquaculture industry allocation will be more than 970.2 lbs/day but under the 10% allowable variance as discussed in Section 7.6.a of this document. While the aquaculture allocation has been slightly increased, DEQ has made a commensurate decrease in the total nonpoint source allocation. Therefore, the TMDL will still meet the load capacity for the Snake River and Warm Creek and thereby attain compliance with state water quality standards.

Shifting the TP allocation from the nonpoint sources to Pristine Springs' point source is reasonable and appropriate for several reasons:

- First, the nonpoint sources on Warm Creek are almost exclusively controlled by Pristine Springs, and therefore Pristine Springs is in a position to reduce the TP from these sources. This means that Pristine Springs will gain the benefit of the increased wasteload allocation, but the additional TP will not have to come from reductions from other aquaculture facilities.

- Second, DEQ believes there is a reasonable assurance that, through the application of appropriate and reasonable best management practices, the nonpoint sources on Warm Creek can meet the lower load allocation of 1.33 lb/day.

- Third, the shift still results in Warm Creek and the Snake River meeting their load capacity, and therefore, there will be no detriment to the environment from this decision. Essentially, no localized impacts to the environment will result in this shift of TP, either to Warm Creek or to the Snake River.

- Finally, shifting the allocation in this manner ensures the most consistent and defensible allocation for the aquaculture facilities.

Please also see DEQ's comments to Pristine Springs' comments in the Response to Comments, Appendices C & D.

5.0 EXCEPTIONS TO THE WASTELOAD ALLOCATION

As previously noted, two additional portions to the aquaculture wasteload allocation are not incorporated in the 970.2 lb/day TP target. First, the fish processors have a separate wasteload allocation that is not included in the 970.2-lb/day TP wasteload allocation. And, second, the Billingsley Creek facilities are on a separate TMDL (the Billingsley Creek TMDL). The Billingsley Creek facilities are also outside of the 970.2-lb/day TP wasteload allocation. Relative to the fish processors, their wasteload allocations are not included in Part 1 because these are outside of the 970.2-lb/day TP wasteload allocation. Their wasteload allocation constitutes Part 2 of the

TMDL submission process. The four- (4) fish processors include GAP-125, GAP-011, GAP-028, and GAP-046. In the Part 1 component, Table 3-B (Cedar Draw TMDL) and Table 3-D (Clear Lakes TMDL) identify the fish processors as additional point source inputs in the overall allocation. Within these TMDLs (Cedar Draw and Clear Lakes) the overall allocation for TP and TSS cannot exceed the waterbody's instream targets, which have been defined as surrogates for beneficial uses and water quality standards attainment. Relative to the Billingsley Creek facilities, their wasteload allocations are also not included in the Part 1 document. These constitute Part 3 of the submission. Under the present scenario, little discharge is occurring from Billingsley Creek into the Middle Snake River to affect the river's water quality. Billingsley Creek is also 303(d) listed and is defined as special resource water and drinking water supply with its own TMDL.

The intent of DEQ is to bring all of the fish hatcheries (from Part 1, Part 2, and Part 3) in the Upper Snake Rock subbasin under the jurisdiction of the Upper Snake Rock Watershed Management Plan or Upper Snake Rock TMDL. This allows for uniformity and simplicity in the process instead of dealing with separate TMDLs. Only TP, TSS, and *E. coli* are being considered. And *E. coli* is not considered a pollutant from fish hatcheries.

5.1 MARGIN OF SAFETY CONSIDERATIONS

As described in the Upper Snake Rock TMDL, the margin of safety (or MOS) is implicit in that it is incorporated through conservative assumptions in the analysis. Section 3.4, pages 195-197 of the Upper Snake Rock TMDL describes these implicit conservative assumptions. These assumptions are summarized in this sub section. Based on Figures 4 and 5 of the Executive Summary the apparent magnitude of the MOS for TSS and TP on the mainstem Middle Snake River and the individual TMDLs appears to vary throughout the subbasin. Insufficient data exists to account for more accurate values for the MOS for individual TMDLs. However, there is sufficient information to ascertain that each TMDL is derived from a unique set of circumstances in terms of land use and point source discharges. Thus, different combinations affect water quality in different ways. Also, "current" conditions vary across the subbasin, which indicates that different reductions and MOS's are needed for different TMDLs. Lastly, the MOS values for TSS on upper mainstem reaches are higher as a percentage to allow for the unaccounted TSS inputs observed in the lower reaches. For TP, the MOS value appears to be the reverse of TSS. That is, the MOS value on the lower reaches is higher as a percentage. This reversal in MOS values for TP is because algal growth problems are more pronounced due to the residence time in the impoundment reaches of the Middle Snake River and also as a result of cumulative effects from upstream sources.

The uncertainties in the TMDL include the following:

1. The degree of excess sediment to the mainstem mid-Snake is currently difficult to quantify or define. Instream indicators of sediment, such as substrate targets, are not used because of lack of site specific information for these parameters. Extrapolation of values from dissimilar areas may have limited relevance for the mid-Snake.

2. High flow sediment inputs from major tributaries, particularly Rock Creek, Cedar Draw, Mud Creek, Deep Creek, and the Malad River, may be underestimated.

3. Little or no data is available to define sediment targets for tributary streams.

The adjustments to account for these uncertainties include the following:

1. TSS targets are based on achieving annual average concentrations. Actual allocations to meet these targets have been derived from low flow conditions (similar scenario to a 7Q10 flow for dissolved oxygen / BOD). TSS target concentrations apply to all annual flow conditions (e.g. low, average, high). As more data is collected instream targets can be developed and adjustments made, if needed.

2. Allocations have been identified for unaccounted sediment inputs in mainstem reaches 3 and 6 that are over and above the margin of safety. As more data is collected and better analysis tools are developed, the TMDL may be revised as needed. In addition, several TMDLs have been targeted for development which will reduce sediment input from the Malad River. These TMDLs include the Big Wood River TMDL, the Lake Walcott TMDL, and the Salmon Falls Creek TMDL.

3. An initial target of 52 mg/L has been identified based on literature cited in the Upper Snake Rock TMDL. For tributaries below this value, the current condition is the target. As more data is collected, these targets will be assessed.

6.0 BENEFICIAL USE ATTAINMENT

Relative to compliance with water quality standards, the Upper Snake Rock TMDL (Buhidar 1999) defined tributaries as natural or manmade waterbodies that discharged into larger waterbodies. For example, a natural waterbody would be Cedar Draw discharging into the Middle Snake River. A manmade waterbody would be a canalway, drain, or coulee that drains into the Middle Snake River. A stream, on the other hand, means flowing water and includes creeks, rivers, and canals. Water quality standard limitations are set on tributaries and may be set throughout the entire length of the natural waterbody. Water quality standard limitations on canalways, however, are set at the point where the canalway discharges into a natural waterbody and not throughout the entire length of the canalway.

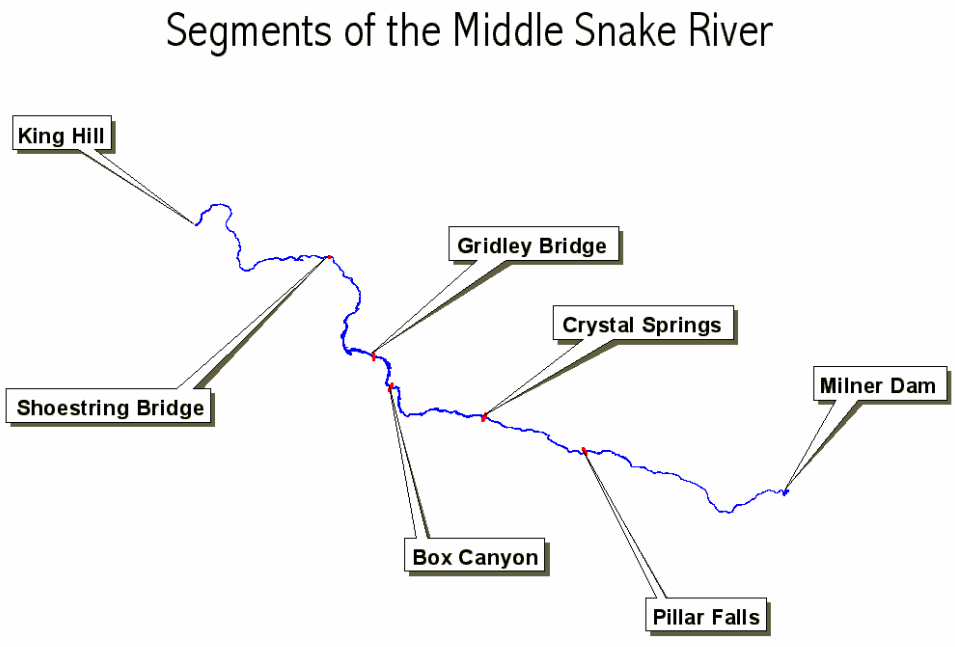
Relative to meeting beneficial uses, the Mid-Snake TMDL and the Upper Snake Rock TMDL identify nuisance aquatic plant growths as impairments to the beneficial uses of the Middle Snake River and of many tributaries. This nuisance macrophyte argument grew out of the original *The Middle Snake River Nutrient Management Plan* (DEQ-TFRO 1995 [p 68]) effort. The DEQ determined under the *Nutrient Management Plan* that a 30% reduction in the nuisance aquatic plant growths (or macrophytes) in the Middle Snake River (as an average value and specifically in the Crystal Springs reach) was needed in order to restore the beneficial uses and comply with the water quality standards. The water quality standards prohibit excess nutrients that result in nuisance aquatic growths that impair beneficial uses of the river (IDAPA 58.01.02.200.06). The surrogate for the 30% reduction and compliance with the water quality standards narrative criteria regarding excess nutrients was defined with TP as an instream target that must be met by year 2010. Consequently, the Mid-Snake TMDL defines beneficial use attainment at 0.075-mg/L TP for the Snake River and is a surrogate for a 30% reduction in nuisance plant growths in the river. Attainment of water quality standards in the Mid-Snake TMDL is based on a single-compliance point correlation at Gridley Bridge. The Upper Snake Rock TMDL expands on the Mid-Snake TMDL and defines beneficial use attainment at seven (7) compliance points with the following instream surrogate targets:

1. Tributaries

The TMDL TP target is 0.100-mg/L TP for tributaries (natural and manmade) whether they discharge directly or indirectly to the Middle Snake River. The TMDL TSS target is 52.0-mg/L for tributaries (natural and manmade) whether they discharge directly or indirectly to the Middle Snake River. The compliance point for all natural tributaries is throughout the length of their system. In the case of manmade systems, their compliance point is where their discharge occurs into natural systems. Manmade systems include canals, drains (surface and subsurface as defined in the Upper Snake Rock TMDL), septic systems, subdivisions, construction activities, etc. Relative to manmade systems with point source discharges, it is important to note that the point source discharger must meet water quality standards at the point where they discharge into the manmade system and not where the manmade system discharges into a natural waterbody. The water quality of the manmade system must be protected for the use for which it was intended. Thus, point source dischargers must comply with protection of that use in their discharges into the manmade system. Special resource waters coupled with domestic water supply as an additional beneficial use have been set at instream standards of 0.100 mg/L TP and 25.0 mg/L TSS. This describes systems like Billingsley Creek and Riley Creek.

2. Middle Snake River

The TMDL TP target is 0.075-mg/L TP for all six segments of the Middle Snake River. The 0.075-mg/L TP target is for the entire river from Milner Dam to King Hill. The TMDL TSS target is 52.0-mg/L TSS for the Middle Snake River. Figure 1 illustrates the six segments of the Middle Snake River with its accompanying compliance points (7).



A summary of projected target concentrations and loads based on proposed TMDL reductions that will aid in beneficial use attainment is summarized. Net Load for the Middle Snake is calculated as the difference between the King Hill "output" and the Milner Dam "input." The TMDL Modification was compared to the previous versions of the Upper Snake Rock TMDL (Buhidar 1999), the Mid-Snake TMDL (Buhidar 1997), and the Nutrient Management Plan (DEQ-TFRO 1995). For each parameter-of-concern (TSS and TP) the net value under the TMDL Modification is much less than those reported in the Upper Snake Rock TMDL or the Mid-Snake TMDL. This was done by recalculating the anticipated reductions against the expected loadings and projecting what the actual instream concentrations and loads would be under average conditions. Again, "average" conditions for the Snake River are based on water discharge at Milner Dam and these are traditionally in the low flow category a majority of the time versus a true average or high flow scenarios. As shown, targets in the river will be attained in all river segments.

Expected TP & TSS Concentration and Load
For TMDL Modification (Net)

	----------Instream Standards----------	
Compliance Location	TP, mg/L	TP, lb/day
Instream Target:	0.075	.
Milner Dam ("Input")	0.075	1,560.41
Pillar Falls	0.075	1,912.52
Crystal Springs	0.075	2,222.10
Box Canyon	0.075	2,914.77
Gridley Bridge	0.075	3,684.91
Shoestring Bridge	0.075	4,490.13
King Hill ("Output")	0.075	4,606.66
Net TP Load	4,606.66 – 1,560.41 = 3,046.25	

Comparison of Various TMDLs Involved

Name of TMDL	TP, mg/L	TP, lb/day
TMDL Modification (Net)	0.075	3,046.25 = 0.075 mg/L
Upper Snake Rock TMDL	0.075	3,480.00 = 0.075 mg/L
Mid-Snake TMDL	0.075	3,559.60 = 0.075 mg/L
Nutrient Management Plan	0.075	3,559.60 = 0.075 mg/L

	----------Instream Standards----------	
	TSS, mg/L	TSS, ton/year
Instream Target:	52.0	.
Milner Dam ("Input")	52.0	197,443.25
Pillar Falls	46.7	217,817.06
Crystal Springs	50.3	272,025.87
Box Canyon	48.9	346,693.52
Gridley Bridge	49.9	446,976.62
Shoestring Bridge	49.3	538,905.47
King Hill ("Output")	48.7	546,079.50
Net TSS Load	546,079.50 – 197,443.25 = 348,636.25	

Comparison of Various TMDLs Involved

Name of TMDL	TSS, mg/L	TSS, ton/year
TMDL Modification (Net)	52.0	348,636.25 = 49.4 mg/L
Upper Snake Rock TMDL	52.0	466,139.97 = 51.9 mg/L
Mid-Snake TMDL	54.8	474,491.00 = 54.8 mg/L
Nutrient Management Plan	54.8	474,491.00 = 54.8 mg/L

What is demonstrated in the TP and TSS summary of the various TMDLs involved is that the Nutrient Management Plan (DEQ-TFRO1995) and the Mid-Snake TMDL (Buhidar 1997) only took into account Gridley Bridge as a single compliance point. During the process of working the Upper Snake Rock TMDL (Buhidar 1999), it became obvious that not all inputs had been accounted for in the first TMDLs. Therefore, it became necessary to subdivide the Middle Snake River into decision units or segments and account for all nonpoint source inputs that included unnamed streams, all canalways, plus the entrained pollutants already existing in the Middle Snake River corridor. In so doing, it was also necessary to make the entire stretch of the Middle Snake River meet the 0.075 mg/L TP standard and the 52.0 mg/L TSS standard at seven (7) compliance points or six (6) stream segments. This required more significant monitoring of various existing tributaries, as well as the determination of flow for the various unaccounted for tributaries and streams. The outcome of this is that the Upper Snake Rock TMDL (Buhidar 1999) and the TMDL Modification (Buhidar 2000) loads for TP and TSS are substantially less than those cited in the first two TMDLs or plans. Instream targets for TP and TSS can be met, but these translate to reduced loads for both TP and TSS.

3. Springs and Seeps

The TMDL TP target is 0.020-mg/L TP for all groundwater sources that discharge as springs into natural systems and is the surrogate for achievement of beneficial uses relative to nuisance plant growth in the river and tributaries. Groundwater sources that exceed the 0.020-mg/L TP threshold are indicative of eutrophication. For TSS, a value of 1.3-mg/L is used as defined in the Upper Snake Rock TMDL. It is highly possible that this value is relatively high when compared to single springs or seeps that may have TSS values which are much less than 1.3 mg/L. Seeps, which have evolved as a consequence of irrigation, and which discharge into surface waterbodies, are defined in the Upper Snake Rock TMDL, along with tile drains and tunnel drains, as having instream targets of 0.100 mg/L TP and a 1.3 mg/L TSS.

Relative to Billingsley Creek, there is a reasonable assurance that water quality standards and beneficial uses will be met due to the following conditions:

1. Relative to the in-stream standard of 0.100 mg/L TP as a surrogate for beneficial use attainment, there is a high probability that it will be achieved because recent water quality monitoring of Billingsley Creek indicates that the TP concentrations are at or below the instream standard. Billingsley Creek water quality TP monitoring ranged from 0.056 mg/L to 0.090 mg/L TP with a mean value of 0.073 mg/L TP.

2. Relative to the net TP discharge from each facility, there is a high probability that individually and collectively the discharge concentration

will be substantially less than the in-stream 0.100 mg/L TP concentration based on the actual net discharge from each facility. The range of the TP concentration in the effluent is from 0.033 mg/L to 0.090 mg/L TP with a weighted mean of 0.055 mg/L TP.

3. Relative to the in-stream standard of 25.0 mg/L TSS as a surrogate for beneficial use attainment, there is a high probability that it will be achieved because recent water quality monitoring of Billingsley Creek indicates that the TSS concentrations are at or below the instream standard. Billingsley Creek water quality TSS monitoring was well below the 25.0 mg/L TSS in-stream standard.

4. Relative to the net TSS discharge from each facility, there is a high probability that individually and collectively the discharge concentration will be substantially less than the facility net 5.0 mg/L TSS concentration based on the actual net discharge from each facility. The TSS concentration in the effluent is substantially less than 5.0 mg/L TSS, which is also substantially less than 25.0 mg/L in-stream surrogate water quality standard for TSS.

6.1 Stormwater Runoff and Construction Activities

Relative to nonpoint source stormwater runoff and construction activities that may potentially impact natural systems within the stream corridor, 2% of the nonpoint source load allocation was defined as a "reserve" for TSS and TP. As a reserve, it will revert to the nonpoint source category when stormwater runoff and construction activities are not occurring. These activities must comply with the limitations imposed by the TSS and TP reserve.

6.2 Future Growth Potential

Nonpoint source future growth potential such as subdivision development or similar ventures within the stream corridors must provide sufficient protection of nutrient (TP and nitrogen), sediment (TSS), and bacteria pollutants so that TMDL targets and goals are maintained. Subdivisions, although defined as a nonpoint source, have the tendency with septic systems to produce more TP than what would be allocated to straight agricultural lands. This assumes that the septic discharge enters the associated waterbody. Consequently, the TP loading limit for subsurface sewage disposal (IDAPA §58.01.03) or wastewater land application (IDAPA §58.01.17) is contained in the TMDL as part of the nonpoint source load allocation. Point source wasteload allocations are enforceable under NPDES permits. Nonpoint source load allocations are implemented by designated agencies under Idaho Code §39-3612 and IDAPA §58.01.02.350. In addition, DEQ policy relative to subdivision development within stream corridors should be reviewed in consultation with local planning and zoning restrictions for appropriate consideration.

Relative to the fish processors, their proposed wasteload allocations are included in this document. Their wasteload allocation constitutes Part 2 of the TMDL submission process. In determining the wasteload allocations for the fish processors, DEQ reviewed historic information in the DMRs, including TP discharged and lbs of fish processed, and the proposal for locations provided by the fish processors. The process for determining wasteload allocations for the fish hatcheries included assigning TP concentrations to each of the Tiers of facilities. According to the fish hatcheries, the concentration assigned reflects, in part, industry expectations for growth and environmental performance. A similar process was also applied to the fish processors by using a two-step process. The two-step process of configuring a wasteload allocation that considers future growth is summarized as follows:

STEP 1. Calibrating the market value to Idaho trout production (1991-2002) using a minimum value (37.4 M lb) and its associated maximum value (46.0 M lb). The maximum and minimum values represent the maximum and minimum amount of pounds of fish processed in a year during the 1991-2002 period. The growth ratio is estimated by the Min/Max ratio, or 37.4/46.0 = 0.813. The Idaho trout production data for the four fish processors comes from the DMRs from all fish processors in Idaho for the years 2000-2003. The Min/Max growth ratio is then applied to the monthly maximum amount of phosphorus discharged from Clear Springs Foods, which is the largest fish processor. The resulting number reflects a lb/day amount that takes into consideration future growth at the 0.813 growth ratio.

Fish Processor	2000-2003 Mon. Mean TP	Min/Max Market Factor Conversion	TP Load
Clear Springs Foods	16.4 lb/day	16.4/0.813 =	20.2 lb/day
Idaho Trout Processors	1.5 lb/day	1.5/0.813 =	1.8 lb/day
Rainbow Trout	2.5 lb/day	2.5/0.813 =	3.1 lb/day
SeaPac of Idaho	3.2 lb/day	3.2/0.813 =	3.9 lb/day
Total	15.3 lb/day	23.6 lb/day	29.0 lb/day

STEP 2. Determine allocations based upon a production comparison against the maximum future growth (20.2 lb/day TP) of the largest fish processor (Clear Springs Foods).

Fish Processor	Production Comparison	Comparison	TP WLA
Clear Springs Foods	97,900.0/97,900 = 1.0	20.2/1.0 =	20.2 lb/day
Idaho Trout Processors	97,900.0/16,108.1 = 6.1	20.2/6.1 =	3.3 lb/day
Rainbow Trout	97,900.0/11,933.8 = 8.2	20.2/8.2 =	2.5 lb/day
SeaPac of Idaho	97,900.0/22,648.5 = 4.3	20.2/4.3 =	4.7 lb/day
Total			30.7 lb/day

DEQ notes also that the four fish processing plants primarily process rainbow trout for sale. The market for these fish is subject to the same type of market fluctuations and trends that any type of agricultural commodity is subject to. That is, that there are periods of high demand and good sales price and then there are also periods of low demand and poorer price for consumable trout in the continental United States. DEQ recognizes that the Idaho trout industry has had difficulty in the past couple of years finding a market for their entire available product inventory at a profitable price. Many of the producers, such as Clear Springs Foods, Idaho Trout Processors, and ARK Fisheries have donated large numbers of rainbow trout to the Idaho Department of Fish and Game for stocking to public waters because they had more fish available than they could sell because of depressed market conditions. Because of the close association to market conditions by the fish processors, DEQ has developed a wasteload allocation based on the reported discharge loads for the processing industry. In so doing, DEQ believes that the wasteload allocations that are proposed would allow the industry to continue to operate at a time when market conditions become more favorable with some room for additional growth in the products grown locally should the industry be able to expand in the future above levels that they have operated at over the past decade. DEQ believes that the wasteload allocation proposed and based on their load data is conservative enough not to lend itself to phosphorus speculation or a phosphorus trading situation between the processing plants and some of the fish hatcheries. The fish processors industry have submitted 58 data points of phosphorus data to DEQ on their discharge monitoring reports from 2000-2003. Under the wasteload allocation proposed by DEQ, the fish processors would potentially have one exceedance in the proposed limits or a 1.7% chance (1/58) to violate the proposed limits. Should the fish market drastically change in the

future that the proposed wasteload allocation is unworkable; DEQ, EPA, and the fish processors will need to re-evaluate the wasteload allocation in favor of a more flexible approach. However, such an approach would still need to meet the demands of the loading capacity of the receiving stream in conjunction with other point source and nonpoint source stakeholders within the same drainages.

Table 3-B (Cedar Draw TMDL) and Table 3-D (Clear Lakes TMDL) identify the fish processors as additional point source components of the overall allocation. Within these TMDLs (Cedar Draw and Clear Lakes) the overall allocation for TP and TSS cannot exceed the waterbody's instream targets, which have been defined as surrogates for beneficial uses and water quality standards attainment.

Public comment for the fish processors raised the issue that the wasteload allocations, which were based on 2000-2003 data, are no longer valid because (1) several fish rearing facilities and one processor had changed ownership since the data was compiled, thus production being redistributed for each of the rearing facilities; and, (2) the wasteload allocations do not provide for future changes in production and processing capabilities, which will affect producers who regularly change contracts among processors based on market analysis. In effect, the argument raised is that the wasteload allocations need to be more flexible (or a higher level of phosphorus) to allow for changes in both production and processing. DEQ has considered these comments and has reviewed its approach in formulating the wasteload allocations for the fish processors. Unfortunately, the process of establishing a baseline that is constantly changing is not doable, and that is essentially what is being requested. At some point in the TMDL process a baseline must be established. That baseline for the fish processors was selected by DEQ using the 2000-2003 data. Thus changes in ownership within facilities will have to be considered at the next iteration or review of the TMDL.

6.3 IMPLEMENTATION PLANNING EFFORT(S)

As a consequence of the Mid-Snake TMDL and the Upper Snake Rock TMDL, an implementation plan is underway in the Upper Snake Rock subbasin. The Upper Snake Rock Implementation Plan has as its main purpose the attainment of beneficial uses or water quality standards on all 303(d) stream segments. A separate implementation document will be developed in 2006 as the 5-year milestone that summarizes the majority of water quality cleanup activities and projects in the subbasin.

7.0 AQUACULTURE SEASONALITY COMPONENT

The DEQ addresses a seasonality component for aquaculture in this document as part of the wasteload allocations. Seasonality is a characteristic of a time series that represents the variability in the data due to seasonal influences such that a repeating pattern occurs that is generally less than one year in duration. Therefore, a seasonal wasteload allocation implies periodicity or a cyclic reoccurrence of a repeating pattern of highs and lows during a one-year period. These periodic fluctuations (highs and lows) can be averaged within the one-year duration and are similar to a stationary time series that has no seasonal pattern. For example, seasonality could be applicable to the fall and winter months when more water is available to fish hatcheries versus the spring and summer months when less water is available. The fall and winter months might have a higher wasteload allocation while the spring and summer months would have lower wasteload allocations. The seasonal wasteload allocations presented in this document are based on the responses from 11 facilities during the August 2004 public comment period. These facilities complied with the following format:

1. The individual facility (as represented by the owner, operator, or legal representative) disclosed to DEQ in writing during the public comment period that it operates its facility seasonally and must provide the basis for the assertion of seasonality.

2. The individual facility (as represented by the owner, operator, or legal representative) requested of DEQ in writing during the public comment period that it receive a seasonal wasteload allocation.

3. The individual facility (as represented by the owner, operator, or legal representative) provided to DEQ in writing during the public comment period a proposed seasonal wasteload allocations.

The 11 facilities that requested seasonality include the following:

Name of Facility	NPDES No.	Seasonality Type	Waterbody
1. Hagerman National USFWS FH	GAP-004	Trimester	Riley Creek
2. Hagerman State IDFG FH	GAP-003	Semiannual	Riley Creek
3. Niagara Springs/IPC FH	GAP-013	Trimester	Niagara Springs
4. Magic Valley Steelhead FH	GAP-016	Trimester	Segment 3
5. FBI/Catfish FH	GAP-041	Semiannual	Segment 3
6. FBI/Smith FH	GAP-090	Quarterly	Segment 5
7. FBI/Gibbs-Baker FH	GAP-133	Quarterly	Deep Creek
8. Deep Creek FH	GAP-077	Semiannual	Deep Creek
9. Jack's Ponds FH	GAP-053	Quarterly	Deep Creek
10. CSI FH	GAP-124	Trimester	Rock Creek
11. White Water Ranch FH	GAP-026	Quarterly	Stoddard Springs

Two additional facilities were considered, but they preferred to go with the stationary base wasteload allocations. The two facilities were Blue Lakes Trout Farm (GAP-008) who discharges into Warm Creek and the John Fleming Fish Farm (GAP-119) who discharges into Segment 5. Of the 11 facilities that requested seasonality, the GAP-026 facility requested a base wasteload allocation that was equal to 6.1 lb/day TP or 1.8 lb/day TP **more** than the base wasteload allocation of 4.3 lb/day TP. The 4.3 lb/day TP base wasteload allocation was originally assigned by the aquaculture subcommittee based on Version 13 Database. DEQ cannot support a higher wasteload allocation that is not based on the Version 13 database.

Relative to seasonality the wasteload allocations must support the beneficial uses of the receiving stream as defined by their instream water quality standards for TP and TSS. If they do not, then seasonal wasteload allocations are unacceptable. Therefore, allowance for seasonality is dependent on demonstrating that (1) seasonality truly exists and (2) that it meets the beneficial use attainment for the receiving stream relative to TP and TSS. Seasonality allows these facilities to allocate their wasteload allocation according to their seasonal nature and distribute their wasteload allocations in a seasonal manner. The limitations to seasonality are strictly dependent on the individual TMDL of the receiving stream as defined by the instream TP and TSS targets and wasteload allocations. Those limitations are defined as follows:

1. Seasonality by Quarters. Seasonality may be defined by quarters unless otherwise specified (i.e., trimester, semiannual, etc). Conservation hatcheries, for example, rely on 4-month (trimester) and 6-month (semiannual) seasonality for their operations and don't normally follow a quarterly calendar. Seasonality based on the quarterly calendar is defined according to the following scenario:

Quarter	Specific Months	Seasonal Months	Traits
Qtr 1	December, January, February	Winter Months	Cold
Qtr 2	March, April, May	Spring Months	Cool
Qtr 3	June, July, August	Summer Months	Warm
Qtr 4	September, October, November	Fall Months	Cold

Note that in general for Quarter 1 (December, January, and February), irrigation is not necessarily occurring for irrigated agriculture. Therefore, the load allocations for certain drains during this quarter are not required, because they are not in operation during this time of year. The same is true for certain ephemeral streams that run only during fall and winter months and not during the spring and summer months.

2. Tributaries. All natural tributaries to the Middle Snake River, whether they discharge directly or not, shall meet an instream concentration target of 0.100-mg/L TP or less. The compliance point will be along their entire length, from their headwaters to their mouth. All manmade conveyances (canals, ditches, laterals, drains, etc.) shall comply with 0.100-mg/L TP target at the discharge of the conveyance into a natural waterbody.

3. Middle Snake River. The main stem of the Middle Snake River shall meet an instream concentration target of 0.075-mg/L TP or less at seven compliance points as defined in the Upper Snake Rock TMDL. The compliance point of 0.075-mg/L TP shall be along the entire length, from Milner Dam to King Hill.

4. Groundwater. All groundwater flows into any tributary of the Middle Snake River or the river itself shall meet an instream concentration of 0.020-mg/L TP or less. The compliance point is at the point where the groundwater becomes surface water. As defined in the Upper Snake Rock TMDL, irrigation seeps, coulees, tile drainage, and tunnel drains are subject to the 0.100-mg/L TP standard at the point of discharge into a natural or manmade water body.

5. Full Disclosure. Seasonality was considered on aquaculture facilities (as previously described) that fully disclosed to DEQ in writing (see Appendix A) during the public comment period:

   a. Their seasonal nature.
   b. A formal request for seasonality.
   c. The proposed wasteload allocations for their facility.

   In addition, seasonality is not selective for only one industry. It may also be considered for other industries or point sources. Relative to nonpoint sources, certain nonpoint source canalways (and depending on the drainage) are practicing seasonality based on the availability of water flow.

6. Limitations on Periodicity. Because seasonality implies periodicity, the periodicity must have its own limitations, otherwise the TMDL would not provide reasonable assurance that it would meet beneficial uses and water quality standards of the receiving stream as defined in the TMDL. Therefore,

a. Absolute Maximum Threshold. It is expected that the fall and winter months will have as a whole for each individual TMDL wasteload allocation values that are greater than those during the spring and summer months. A value 10% greater than the base wasteload allocation threshold will be applied such that 10% of the measurements are the absolute maximum above the numeric threshold for the industry. This does not mean or imply that the industry may exceed the threshold up to 10%. But in the event of an overage, the "absolute maximum threshold" is a value 10% greater than the base wasteload allocation.

b. Alignment to Specific TMDL. Each individual facility must be aligned to a specific TMDL within the Upper Snake Rock subbasin. Each TMDL is aligned to a specific waterbody that has defined load allocations and wasteload allocations that meet beneficial uses and water quality standards.

c. Applicable Industry TP Target. The aquaculture industry must meet the total industry TP target and the targets set for the individual stream segments.

d. Fish Processors: The fish processors are not included in the 970.2 lb/day TP instream target. They will have their own wasteload allocations, but they must meet the beneficial uses of the stream through which their discharges will be assimilated.

e. Billingsley Creek Facilities. The fish facilities on Billingsley Creek are not included in the 970.2 lb/day TP instream target. They will have their own wasteload allocations, but they must meet the beneficial uses of Billingsley Creek through which their discharges will be assimilated.

f. Seasonal Load Capacity. For each seasonal quarter, the total load for all sources will need to meet the load capacity. This implies that an adjustment in loads must occur for either the wasteload allocations or the load allocations. The stream TMDLs will account for that adjustment in the load allocations so that the load capacity is not exceeded seasonally.

7. Seasonal Wasteload Allocations. This document includes a wasteload allocation that has a seasonal component for those aquaculture facilities that requested it. DEQ believes these wasteload allocations, together with other point and nonpoint controls, will meet water quality standards to support beneficial uses during all seasons.

8.0 LOSS AND ATTENUATION

This component of the water quality assessment was the most difficult portion to determine. The DEQ has reviewed all data that was used to develop the various TMDL tables in this document. The river tables were especially reviewed for consistency and content along with public comment considerations. The Middle Snake River is a modified river system that is approximately 25.7% reservoir-like due to six major impoundments (Buhidar 1999A [p 20]). Within this system there is "loss" (downstream transport) and "attenuation" (localized placement) of sediment and total phosphorus. TP and TSS act differently within each of the river segments. From the standpoint of

a simple mass-balance model, a number of assumptions are necessary. These assumptions include:

1. Major Inputs and Major Outputs. The assumption is made that from a comparison standpoint, major inputs are only compared with major outputs. The output for TP is the percentage of TP exported from the segment downstream into the next segment. River monitoring data indicates that instream TP values at the compliance points do indeed transport downstream into the next segment, especially Segment 2. No distinction is made between organic phosphorus and inorganic phosphorus. The major inputs are point sources, spring sources, surface waterbodies (natural and manmade), and the Middle Snake River corridor within the segment.

2. Total Losses. The assumption is made that total losses to volatilization, soil adsorption, sedimentation, groundwater storage, and denitrification equal the difference between the total inputs and the output. Relative to TP in an aquatic system, volatilization and denitrification do not apply. Phosphorus is present in several forms in an aquatic system, and not all forms are readily available for uptake by phytoplankton (Thomann and Mueller 1987 [p 390]). On the other hand, sediment deposits may be organic–rich (Hauer and Lamberti 1996 [p 124]), thus being affected by volatilization and denitrification. Therefore, TP attenuation may be a combination of substrate sedimentation as well as plant uptake.

3. Processes Operate Equally. The assumption is made that processes operate equally on all sources and that the relative contribution of sources to watershed export is proportional to the inputs.

4. Applicable Instream Targets. The beneficial use instream targets must be applicable. The TMDL instream targets have been defined as surrogates for beneficial use attainment. Therefore, TSS is 52.0-mg/L for tributaries (natural and manmade) and the Middle Snake River. The TP is 0.075-mg/L for the Middle Snake River, 0.100-mg/L for tributaries, and 0.020-mg/L for groundwater sources linked to an aquifer.

5. Milner Pool. Upstream of Milner Dam is the Milner Pool, which functions as a sediment/phosphorus trap. Approximately 20% of the flow goes over Milner Dam into the Middle Snake River (Buhidar 1997 [p 64]) during the irrigation months. The remainder of the flow is diverted for irrigation to the north or south of the Milner Pool. In general, the Milner Pool is nitrogen limiting. The Middle Snake River becomes phosphorus limiting as you go from upstream to downstream (Buhidar 1999A and 1999B [pp 333-334]). Therefore, that component of water that goes into the Middle Snake River has a significant portion that is reduced in TSS and TP within the Milner Pool (Buhidar 1999A and 199B [pp 312-313]).

Relative to TP, the Middle Snake River has an organic component that averages 52.1% of the TP. This is based on N=259 samples collected with an average range from 39.9% to 72.7% as soluble reactive phosphate. This greater level of organic phosphorus implies that greater losses of TP are possible (as described in item 1 above) if the soluble component remains suspended in the instream column and it is transported downstream in the water column. Research in the Pacific Northwest indicates that the average range for % TP Export is 9.1 – 37.3% for all major sources based on quartile analysis of the data (Smith and Alexander 2000). The Middle Snake River has phosphorus export losses that range from 4.2 – 36.5% (Buhidar 1999A [Technical

Support Document, Section VII] based on instream column monitoring data at the various compliance points. This range supports the research of Smith and Alexander (2000). It is assumed that the export TP export loss includes some level of attenuation to substrate sediments. Both TP export (transport loss) and attenuation (localized placement) are highly dependent on the amount of concentration present in the water column, the stream slope, the organic component, and the modified hydrologic regime of the Snake River system relative to reservoir-like versus riverine conditions. Tributaries at present are defined without a loss or attenuation value, but there is no doubt that one exists.

In addition, data from the Idaho Power Company's trash racks appears to indicate that biomass (as aquatic plant growths) are being cleaned out of the river system. The amount of biomass being collected appears to follow a pattern similar to the loss/attenuation percentage being applied to TP. This data gap will need to be researched at a future date based on available resources. Therefore, the instream estimate TP export loss/attenuation values at the compliance points per segment are as follows:

	==========TP Loss/Attenuation=========		
Compliance Point	Sub Total	% Loss/Attenuation	Total
Milner Dam	-	-	0.075-mg/L
Pillar Falls	0.077-mg/L	2.8%	0.075-mg/L
Crystal Springs	0.111-mg/L	32.4%	0.075-mg/L
Box Canyon	0.084-mg/L	18.3%	0.075-mg/L
Gridley Bridge	0.090-mg/L	17.0%	0.075-mg/L
Shoestring Bridge	0.083-mg/L	9.8%	0.075-mg/L
King Hill	0.077-mg/L	2.0%	0.075-mg/L

Relative to TSS, the range of values for percentage TSS export loss was 0.2-48.0%. These values fall in the same category of ranges for large river systems that are modified due to impoundments. A conservative value of 10.0% was used since the Sub Total load at the downstream compliance point (per segment) was always less than 52.0-mg/L TSS. Again, this is a data gap that needs to be researched more fully at a future date based on available resources. Instream estimate TSS export loss/attenuation values at the compliance points per segment are as follows:

	==========TSS Loss/Attenuation=======		
Compliance Point	Sub Total	% Loss/Attenuation	Total
Milner Dam	-	-	52.0-mg/L
Pillar Falls	46.7-mg/L	10.0%	42.1-mg/L
Crystal Springs	50.3-mg/L	10.0%	45.3-mg/L
Box Canyon	48.9-mg/L	10.0%	44.0-mg/L
Gridley Bridge	49.9-mg/L	10.0%	44.9-mg/L
Shoestring Bridge	49.3-mg/L	10.0%	44.4-mg/L
King Hill	48.7-mg/L	10.0%	43.8-mg/L

Both TP and TSS export (loss) and attenuation (localized placement) needs to be studied more intimately within the Middle Snake River system to ascertain more directly the applicable coefficients for each segment. For the present, the TP and TSS export and attenuation models are the same as used in the Upper Snake Rock TMDL.

9.0 TOTAL PHOSPHORUS POLLUTANT TRADING

Total phosphorus pollutant trading is presently described under a trading guidance that was developed by EPA and DEQ. Pollutant trading is a contractual agreement to exchange pollutant

reductions between two partners. It is a voluntary way to help meet TMDLs. Trading is allowed on the Middle Snake River as described in the guidance. Trading into the tributaries will be allowed once DEQ establishes equivalency ratios. Any seasonal or non-seasonal facility is eligible to participate in pollutant trading.

Pollutant trading is a tool that can be used to help a point source meet its NPDES phosphorus limits. Typically, a discharger facing relatively high pollutant reduction costs compensates another party to achieve an equivalent, though less costly, pollutant reduction. Trading is voluntary, takes place through private contracts, and is regulated through compliance with NPDES permit requirements.

A point source may voluntarily reduce its phosphorus discharge below its NPDES permit limit by a particular amount for a particular time-period. This creates a credit that may be sold to another point source. The transfer of credits reduces the seller's permit limit by the amount of the credits. The buyer may increase its discharge limit by the amount of credits it purchases. Credits are characterized by an amount of a pollutant per unit of time. Each point source is responsible for meeting its individual permit limit for phosphorus, adjusted by traded credits. Credits must be generated and purchased during the same time-period. In other words, if a discharger exceeds a permit limit in January it must purchase credits generated in January.

As an example, if facility X has an NPDES permit allowing for the discharge of 100 lb/day of phosphorus and is able, through technology, to reduce its discharge to 75 lb/day, it has 25 credits to sell. If facility Y has an NPDES permit allowing for the discharge of 100 lb/day phosphorus, but is currently discharging 125 lb/day, it is exceeding its permit limit by 25 lb/day phosphorus. Facility Y may either find a way to reduce an additional 25 lb/day of phosphorus in order to meet its permit limit or it may purchase 25 lb/day of phosphorus credits from facility X. At this point, the same amount of phosphorus is discharged into the river, 200 lb/day, but through a different distribution between facilities X and Y. Each point source must reflect the actual discharge amount of phosphorus in their Discharge Monitoring Reports and also show the purchase of credits in a Trade Summary report in accordance with DEQ's trading guidance.

10.0 ALLOCATIONS ACCORDING TO RIVER SEGMENT AND TRIBUTARY

The Middle Snake River was divided into six (6) decision units or segments based on seven (7) compliance points, as defined in the Upper Snake Rock TMDL. The method of allocation took into account the allocations given in the Mid-Snake TMDL and the Upper Snake Rock TMDL. Because the receiving stream is the Middle Snake River, each river segment indirectly describes all tributaries. Consequently, all tributaries (natural and manmade), all direct point source dischargers, and all nonpoint sources are linked to the six river segments. These river segments with their natural tributaries are defined as follows:

Segment	Input Source	Output Discharge	Tributary with TMDL
1	Milner Dam	Pillar Falls	Vinyard Creek
			Devils Corral Springs
			Dry Creek + West Fork
2	Pillar Falls	Crystal Springs	Warm Creek
			Rock Creek
			Crystal Springs
			Alpheus Creek
			Ellison Springs
3	Crystal Springs	Box Canyon	Cedar Draw
			Niagara Springs
			Clear Lakes

			Mud Creek
			Deep Creek
			Briggs Creek
			Blind Canyon
			Banbury Springs
			Box Canyon
			Blue Heart Springs
			McMullen Creek
			Cottonwood Creek
4	Box Canyon	Gridley Bridge	Ritter Creek
			Riley Creek
			Sand Springs
			Salmon Falls Creek
5	Gridley Bridge	Shoestring Bridge	Billingsley Creek
			Birch Springs
			Stoddard Springs
			Decker Springs
			Malad River & Power Flume
6	Shoestring Bridge	King Hill	Clover Creek
			Pioneer Reservoir

All mean flows per river segment and per natural tributary were obtained from the EPA-approved Upper Snake Rock TMDL in order to maintain consistency between the TMDL and this TMDL modification.

As described by Buhidar and Sharpnack (2003), some of the Snake River segments and some of the tributaries have aquaculture facilities aligned with them. As part of an DEQ staff analysis (draft) on localized impacts, DEQ previously determined the loading capacity for each river segment and tributary (Buhidar and Sharpnack 2003). As part of that analysis, each aquaculture facility was assessed per tributary (or per river segment) to determine if localized impacts and accumulative impacts were present relative to TP, TSS, and *Escherichia coli*. A summary of this staff analysis follows:

1. Total Phosphorus (TP). The loading capacity for each tributary was based on 0.100 mg/L TP. The loading capacity for each segment of the Snake River was based on 0.075 mg/L TP. Spring sources where no development had occurred had loading capacities based on 0.020 mg/L TP.

   The wasteload allocation for each aquaculture facility was based on the industry's aquaculture subcommittee recommendation, which were accepted by DEQ after public comment was received.

2. Total Suspended Solids (TSS). The loading capacity for each tributary was based on 52.0 mg/L. Initially, the value of 50.0 mg/L was used incorrectly, but this was corrected in the present document to reflect 52.0 mg/L.

   The wasteload allocation for each aquaculture facility was based on their current 5.0 mg/L TSS concentration limit. The "beneficial uses and water quality standards of the receiving stream(s) is (are) fully protected at 5.0 mg/L TSS, and consequently are at significantly safe levels for protection of the resource" (Buhidar and Sharpnack 2003 [p 9]).

3. *Escherichia coli*. The loading capacity of each tributary was based on 235 cfu/100 mL for primary contact recreation/single sample. At all times a

geometric mean of 126-cfu/100 mL was used based on five samples taken every 3 to 5 days over a 30-day period.

The "*E. coli* criteria are not indigenous to cold water fish hatcheries or warm water fish hatcheries. Fish, whether raised in cold water or warm water are cold-blooded animals and do not generate *E. coli* in their intestines" (Buhidar and Sharpnack 2003 [pp11-12]). Therefore, each fish hatchery received a wasteload allocation of zero for a load of *E. coli*.

What follows in the following subsections is a summary of each river segment and tributary relative to its specific TMDL. An Input section and an Output section describe fully the load considerations for each river segment. Each tributary has its load capacities for TP and TSS fully described. Point and nonpoint sources are described within each table.

10.1 SEGMENT 1 – MIDDLE SNAKE RIVER - Milner Dam to Pillar Falls

The load allocations for Segment 1 of the Middle Snake River are defined as follows based on mean flows. These loads represent input loads to Segment 1 at Milner Dam. The equivalent pollutant concentrations are 0.075-mg/L TP and 52.0-mg/L TSS.

Milner Dam Load Considerations: Input to Segment 1
TP = 3,860.0 cfs x 0.0750002-mg/L TP x 5.39 = 1,560.41-lb/day
TSS = 3,860.0 cfs x 52.0000001-mg/L TSS x 5.39 x 0.1825 = 197,443.25-ton/year

The following export loads at Pillar Falls are output loads from Segment 1. Export loss/attenuation is estimated at indicated levels based on instream water-quality levels at the compliance points. The equivalent TP concentration shows an increase in TP to 0.077-mg/L TP with a reduction to 0.075-mg/L TP due to export loss/attenuation within Segment 1. Similarly, the TSS concentration shows a decrease to 46.7-mg/L TSS with a reduction to 42.1-mg/L TSS due to export loss/attenuation within Segment 1.

Pillar Falls Load Considerations: Output from Segment 1
TP = 4,737.0 cfs x 0.077-mg/L TP x 5.39 = 1,967.61-lb/day
TP Export Loss/Attenuation = 2.7998435% = -55.09-lb/day
TP = 4,737.0 cfs x 0.0749055-mg/L TP x 5.39 = 1,912.52-lb/day

TSS = 4,737.0 cfs x 46.7451839-mg/L TSS x 5.39 x 0.1825 = 217,817.06-ton/year
TSS Export Loss/Attenuation = 10.0000018% = -21,781.71-ton/year
TSS = 4,737.0 cfs x 42.0706647-mg/L TSS x 5.39 x 0.1825 = 196,035.35-ton/year

In the pollutant transport from Segment 1 to Segment 2, the TP load used for input into Segment 2 was 1,912.52-lb/day TP as 0.075-mg/L TP. The TSS load used for input into Segment 2 was 217,817.06-ton/year TSS as 46.7-mg/L TSS. Table 1-A summarizes the Segment 1 tributaries and the direct dischargers to the Middle Snake River and demonstrates that beneficial uses will be met if point source and nonpoint source allocations are met by Year 2010.

Table 1-A. Segment 1 Allocations for TP and TSS

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
Total Load at Milner Dam	1,560.41	1,560.41	1,560.41	1,560.41	1,560.41
NPS (Ag, Graze, Private, Corridor)	169.60	169.60	169.60	169.60	169.60
FERC, LAFs, CFOs	0.0	0.0	0.0	0.0	0.0
Stormwater – Construction Activities	3.46	3.46	3.46	3.46	3.46
Vinyard Creek TMDL	1.44	1.44	1.44	1.44	1.44
Devils Corral Spring TMDL	4.55	4.55	4.55	4.55	4.55
Dry Creek (Murtaugh Lake) TMDL	7.65	7.65	7.65	7.65	7.65
Northside A Drain	4.70	0.00	4.70	4.70	4.70
Southside A-10 Drain	2.60	0.00	2.60	2.60	2.60
Northside C-55 Drain	4.00	0.00	4.00	4.00	4.00
Southside Twin Falls Coulee	4.70	0.00	4.70	4.70	4.70
City of Hansen	3.30	3.30	3.30	3.30	3.30
Unaccounted Springs and Seeps	55.00	55.00	55.00	55.00	55.00
Unaccounted Surface Waters	146.20	146.20	146.20	146.20	146.20
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Sub Total Load at Pillar Falls	1,967.61	1,951.61	1,967.61	1,967.61	1,967.61
Sub Total Concentration at Pillar Falls	0.077	0.076	0.077	0.077	0.077
TP Export Loss + Attenuation	-55.09	-54.65	-55.09	-55.09	-55.09
Total Load at Pillar Falls	1,912.52	1,896.96	1,912.52	1,912.52	1,912.52
Total Load as mg/L TP	0.075	0.074	0.075	0.075	0.075
TSS SOURCES	**TSS ton/year**	**SEASONALITY LOADS, ton/year TSS**			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
Total Load at Milner Dam	197,443.25	197,443.25	197,443.25	197,443.25	197,443.25
NPS (Ag, Graze, Private, Corridor)	3,461.12	3,461.12	3,461.12	3,461.12	3,461.12
FERC, LAFs, CFOs	0.0	0.0	0.0	0.0	0.0
Stormwater – Construction Activities	70.64	70.64	70.64	70.64	70.64
Vinyard Creek TMDL	17.14	17.14	17.14	17.14	17.14
Devils Corral Spring TMDL	53.96	53.96	53.96	53.96	53.96
Dry Creek (Murtaugh Lake) TMDL	726.35	726.35	726.35	726.35	726.35
Northside A Drain	450.10	0.00	450.10	450.10	450.10
Southside A-10 Drain	245.50	0.00	245.50	245.50	245.50
Northside C-55 Drain	378.50	0.00	378.50	378.50	378.50
Southside Twin Falls Coulee	444.30	0.00	444.30	444.30	444.30
City of Hansen	1.30	1.30	1.30	1.30	1.30
Unaccounted Springs and Seeps	652.70	652.70	652.70	652.70	652.70
Unaccounted Surface Waters	13,872.20	13,872.20	13,872.20	13,872.20	13,872.20
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Sub Total Load at Pillar Falls	217,817.06	216,298.66	217,817.06	217,817.06	217,817.06
Sub Total Load as mg/L TSS	46.7	46.4	46.7	46.7	46.7
TSS Export Loss + Attenuation	-21,781.71	-21,629.87	-21,781.71	-21,781.71	-21,781.71
Total Load at Pillar Falls	196,035.35	194,668.79	196,035.35	196,035.35	196,035.35
Total Load Concentration at PF	42.1	41.8	42.1	42.1	42.1

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor. PF = Pillar Falls

10.1.1 VINYARD CREEK TMDL - Segment 1 – Middle Snake River

Vinyard Creek is a springfed system with nonpoint sources but no point sources. Vinyard Creek was delisted from the 1998 303(d) list in the Upper Snake Rock TMDL due to the change in drain flow from Vinyard Creek to the Snake River. Part of that delisting includes maintaining Vinyard Creek at existing water quality conditions in order to help achieve the targets for the Snake River. Existing conditions for Vinyard Creek if maintained will meet beneficial uses and/or water quality standards.

The load allocations for Vinyard Creek are defined as follows based on mean flows. The equivalent pollutant concentrations are 0.020-mg/L TP and 1.3-mg/L TSS.

Vinyard Creek: Load Capacities for TP and TSS
TP = 13.4 cfs x 0.020-mg/L TP x 5.39 = 1.44-lb/day
TSS = 13.4 cfs x 1.3-mg/L TSS x 5.39 x 0.1825 = 17.14-ton/year

Table 1-B summarizes the tributaries and the direct dischargers to Vinyard Creek. Table 1-B indicates that the beneficial uses for Vinyard Creek will be met if the point source and nonpoint source allocations are met by Year 2010.

Table 1-B. Vinyard Creek TMDL – Delisted

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	1.41	1.41	1.41	1.41	1.41
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	0.03	0.03	0.03	0.03	0.03
Point Sources	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.020 mg/L TP)	1.44	1.44	1.44	1.44	1.44
TSS SOURCES	TSS ton/year	SEASONALITY LOADS, ton/year TSS			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	16.80	16.80	16.80	16.80	16.80
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	0.34	0.34	0.34	0.34	0.34
Point Sources	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 1.3 mg/L TSS)	17.14	17.14	17.14	17.14	17.14

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor.

10.1.2 DEVILS CORRAL SPRING TMDL - Segment 1 – Middle Snake River

Devils Corral Spring is a springfed system with nonpoint sources and no point sources. Devils Corral Spring was not listed in the 1998 303(d) list but was assessed as part of the Upper Snake Rock TMDL assessment process. Part of that assessment demonstrated that Devils Corral Spring was meeting its beneficial uses and/or water quality standards. Consequently, Devils Corral Spring is maintained at existing water quality conditions in order to help achieve the targets for the Snake River. Existing conditions for Devils Corral Spring meet beneficial uses and/or water quality standards.

The load allocations for Devils Corral Spring are defined as follows based on mean flows. The equivalent pollutant concentrations are 0.020-mg/L TP and 1.3-mg/L TSS.

Devils Corral Spring: Load Capacities for TP and TSS
TP = 42.2 cfs x 0.020-mg/L TP x 5.39 = 4.55-lb/day
TSS = 42.2 cfs x 1.3-mg/L TSS x 5.39 x 0.1825 = 53.96-ton/year

Table 1-C summarizes the tributaries and the direct dischargers to Devils Corral Spring. Table 1-C indicates that the beneficial uses for Devils Corral Spring will be met if the point source and nonpoint source allocations are met by Year 2010.

Table 1-C. Devils Corral Spring TMDL

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	4.46	4.46	4.46	4.46	4.46
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	0.09	0.09	0.09	0.09	0.09
Point Sources	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.020 mg/L TP)	4.55	4.55	4.55	4.55	4.55
TSS SOURCES	TSS ton/year	SEASONALITY LOADS, ton/year TSS			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	52.88	52.88	52.88	52.88	52.88
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	1.08	1.08	1.08	1.08	1.08
Point Sources	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 1.3 mg/L TSS)	53.96	53.96	53.96	53.96	53.96

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor.

10.1.3 DRY CREEK TMDL - Segment 1 – Middle Snake River

Murtaugh Lake is a manmade reservoir constructed for water storage and delivery for the Twin Falls Canal Company system. The West Fork Dry Creek discharges into the main stem of Dry Creek. The main stem of Dry Creek discharges into Murtaugh Lake, which from the Murtaugh Lake spillway discharges into the main stem of Dry Creek, which in turn discharges into the Middle Snake River.

The load allocations for Dry Creek are defined as follows based on mean flows. The equivalent pollutant concentrations are 0.100-mg/L TP and 52.0-mg/L TSS.

Dry Creek: Load Capacities for TP and TSS
TP = 14.2 cfs x 0.100-mg/L TP x 5.39 = 7.65-lb/day
TSS = 14.2 cfs x 52.0-mg/L TSS x 5.39 x 0.1825 = 726.35-ton/year

Table 1-D summarizes the tributaries and the direct dischargers to Dry Creek and demonstrates that beneficial uses will be met if point source and nonpoint source allocations are met by Year 2010.

Table 1-D. Dry Creek TMDL

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	5.28	5.28	5.28	5.28	5.28
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	0.11	0.11	0.11	0.11	0.11
West Fork Dry Creek TMDL	2.26	2.26	2.26	2.26	2.26
Point Sources	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.100 mg/L TP)	7.65	7.65	7.65	7.65	7.65
TSS SOURCES	TSS ton/year	SEASONALITY LOADS, ton/year TSS			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	501.29	501.29	501.29	501.29	501.29
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	10.23	10.23	10.23	10.23	10.23
West Fork Dry Creek TMDL	214.83	214.83	214.83	214.83	214.83
Point Sources	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 52.0 mg/L TSS)	726.35	726.35	726.35	726.35	726.35

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor.

10.1.4 WEST FORK DRY CREEK TMDL - Segment 1 – Middle Snake River

As previously stated in the Dry Creek TMDL, the West Fork Dry Creek "discharges" into the main stem of Dry Creek prior to discharge into Murtaugh Lake. The load allocations for West Fork Dry Creek are defined as follows based on mean flows. The equivalent pollutant concentrations are 0.100-mg/L TP and 52.0-mg/L TSS.

West Fork Dry Creek: Load Capacities for TP and TSS
TP = 4.2 cfs x 0.100-mg/L TP x 5.39 = 2.26-lb/day
TSS = 4.2 cfs x 52.0-mg/L TSS x 5.39 x 0.1825 = 214.83-ton/year

Table 1-E summarizes the tributaries and the direct dischargers to Dry Creek and demonstrates that beneficial uses will be met if point source and nonpoint source allocations are met by Year 2010.

Table 1-E. West Fork Dry Creek TMDL

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	2.21	2.21	2.21	2.21	2.21
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	0.05	0.05	0.05	0.05	0.05
Point Sources	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.100 mg/L TP)	2.26	2.26	2.26	2.26	2.26

TSS SOURCES	TSS ton/year	SEASONALITY LOADS, ton/year TSS			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	210.53	210.53	210.53	210.53	210.53
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	4.30	4.30	4.30	4.30	4.30
Point Sources	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 52.0 mg/L TSS)	214.83	214.83	214.83	214.83	214.83

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. 4544solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor.

10.2 SEGMENT 2 – MIDDLE SNAKE RIVER - Pillar Falls to Crystal Springs

The load allocations for Segment 2 of the Middle Snake River are defined as follows based on mean flows. These loads represent input loads to Segment 2 at Pillar Falls. The equivalent pollutant concentrations are 0.075-mg/L TP and 46.7-mg/L TSS.

Pillar Falls Load Considerations: Input to Segment 2
TP = 4,737 cfs x 0.0749055-mg/L TP x 5.39 = 1,912.52-lb/day
TSS = 4,737 cfs x 46.7451839-mg/L TSS x 5.39 x 0.1825 = 217,817.06-ton/year

The following export loads at Crystal Springs are output loads from Segment 2. Export loss/attenuation is estimated at indicated levels based on instream water-quality levels at the compliance points. The equivalent TP concentration shows an increase in TP to 0.111-mg/L TP with a reduction to 0.075-mg/L TP due to export loss/attenuation within Segment 2. Similarly, the TSS concentration shows an increase to 50.3-mg/L TSS with a reduction to 45.3-mg/L TSS due to export loss/attenuation within Segment 2.

Crystal Springs Load Considerations: Output from Segment 2
TP = 5,498.0 cfs x 0.1109235-mg/L TP x 5.39 = 3,287.13-lb/day
TP Export Loss/Attenuation = 32.3999963% = -1,065.03-lb/day
TP = 5,498.0 cfs x 0.0749843-mg/L TP x 5.39 = 2,222.10-lb/day

TSS = 5,498.0 cfs x 50.2983616-mg/L TSS x 5.39 x 0.1825 = 272,025.87-ton/year
TSS Export Loss/Attenuation = 10.0000011% = -27,202.59-ton/year
TSS = 5,498.0 cfs x 45.2685249-mg/L TSS x 5.39 x 0.1825 = 244,823.28-ton/year

In the pollutant transport from Segment 1 to Segment 2, the TP load used for input into Segment 2 was 1,912.52-lb/day TP as 0.075-mg/L TP. The TSS load used for input into Segment 2 was 217,817.06-ton/year TSS as 46.7-mg/L TSS. Table 2-A summarizes the Segment 2 tributaries and the direct dischargers to the Middle Snake River and demonstrates that beneficial uses will be met if point source and nonpoint source allocations are met by Year 2010.

Table 2-A. Segment 2 Allocations for TP and TSS

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
Total Load at Pillar Falls	1,912.52	1,896.96	1,912.52	1,912.52	1,912.52
NPS (Ag, Graze, Private, Corridor)	86.13	86.13	86.13	86.13	86.13
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	1.76	1.76	1.76	1.76	1.76
Warm Creek TMDL (See bottom)	126.02	126.02	126.02	126.02	126.02
Rock Creek TMDL (See bottom)	118.53	118.53	118.53	118.53	118.53
Crystal Springs TMDL (See bottom)	197.92	197.92	197.92	197.92	197.92
Alpheus Creek TMDL	0.11	0.11	0.11	0.11	0.11
Ellison Springs TMDL	0.14	0.14	0.14	0.14	0.14
East Perrine Coulee	15.80	15.80	15.80	15.80	15.80
Main Perrine Coulee	5.90	5.90	5.90	5.90	5.90
West Perrine Coulee	1.40	0.00	1.40	1.40	1.40
43 Drain	0.20	0.00	0.20	0.20	0.20
Jerome Golf Course Drain	4.20	0.00	4.20	4.20	4.20
30 Drain	3.30	0.00	3.30	3.30	3.30
LQ/LS Drain	16.30	16.30	16.30	16.30	16.30
LS2/39A Drain	2.80	2.80	2.80	2.80	2.80
N42 Drain	4.80	0.00	4.80	4.80	4.80
N42 Drain (Rim)	5.40	0.00	5.40	5.40	5.40
39 Drain	2.60	0.00	2.60	2.60	2.60
GAP-104 Canyon Springs FH	12.10	12.10	12.10	12.10	12.10
City of Twin Falls POTW	710.00	710.00	710.00	710.00	710.00
Unaccounted Springs and Seeps	16.20	16.20	16.20	16.20	16.20
Unaccounted Surface Waters	43.00	43.00	43.00	43.00	43.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Sub Total Load at Crystal Springs	3,287.13	3,252.27	3,287.13	3,287.13	3,287.13
Sub Total Concentration at CS	0.111	0.110	0.111	0.111	0.111
TP Export Loss + Attenuation	-1,065.03	-1,053.74	-1,065.03	-1,065.03	-1,065.03
Total Load at Crystal Springs	2,222.10	2,198.54	2,222.10	2,222.10	2,222.10
Total Load as mg/L TP	0.075	0.074	0.075	0.075	0.075
TSS SOURCES	**TSS ton/year**	**SEASONALITY LOADS, ton/year TSS**			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
Total Load at Pillar Falls	217,817.06	216,298.66	217,817.06	217,817.06	217,817.06
NPS (Ag, Graze, Private, Corridor)	1,757.75	1,757.75	1,757.75	1,757.75	1,757.75
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	35.87	35.87	35.87	35.87	35.87
Warm Creek TMDL (See bottom)	11,959.13	11,959.13	11,959.13	11,959.13	11,959.13
Rock Creek TMDL (See bottom)	11,248.64	11,248.64	11,248.64	11,248.64	11,248.64
Crystal Springs TMDL (See bottom)	18,782.68	18,782.68	18,782.68	18,782.68	18,782.68
Alpheus Creek TMDL	1.28	1.28	1.28	1.28	1.28
Ellison Springs TMDL	1.66	1.66	1.66	1.66	1.66

TSS SOURCES	TSS ton/year	SEASONALITY LOADS, ton/year TSS			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
East Perrine Coulee	1,497.20	1,497.20	1,497.20	1,497.20	1,497.20
Main Perrine Coulee	560.10	560.10	560.10	560.10	560.10
West Perrine Coulee	129.40	0.00	129.40	129.40	129.40
43 Drain	16.40	0.00	16.40	16.40	16.40
Jerome Golf Course Drain	398.00	0.00	398.00	398.00	398.00
30 Drain	312.00	0.00	312.00	312.00	312.00
LQ/LS Drain	1,550.90	1,550.90	1,550.90	1,550.90	1,550.90
LS2/39A Drain	270.10	270.10	270.10	270.10	270.10
N42 Drain	452.20	0.00	452.20	452.20	452.20
N42 Drain (Rim)	518.70	0.00	518.70	518.70	518.70
39 Drain	244.00	244.00	244.00	244.00	244.00
GAP-104 Canyon Springs FH	58.00	58.00	58.00	58.00	58.00
City of Twin Falls POTW	146.40	146.40	146.40	146.40	146.40
Unaccounted Springs and Seeps	191.70	191.70	191.70	191.70	191.70
Unaccounted Surface Waters	4,076.70	4,076.70	4,076.70	4,076.70	4,076.70
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Sub Total Load at Crystal Springs	272,025.87	268,680.77	272,025.87	272,025.87	272,025.87
Sub Total Load as mg/L TSS	50.3	49.7	50.3	50.3	50.3
TSS Export Loss + Attenuation	-27,202.59	-26,868.08	-27,202.59	-27,202.59	-27,202.59
Total Load at Crystal Springs	244,823.28	241,812.69	244,823.28	244,823.28	244,823.28
Total Load as mg/L TSS	45.3	44.7	45.3	45.3	45.3

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor.

10.2.1 WARM CREEK TMDL - (Segment 2 of Middle Snake River)

Warm Creek is a springfed system with nonpoint sources and point sources. Warm Creek was not listed in the 1998 303(d) list but was assessed as part of the Upper Snake Rock TMDL assessment process. Part of that assessment demonstrated that Warm Creek was being fed from Warm Springs, Alpheus Creek, Sunnybrook Springs, Blue Lakes Springs, and groundwater wells. The load allocations for Warm Creek are defined as follows based on mean flows. The equivalent pollutant concentrations are 0.100-mg/L TP and 52.0-mg/L TSS.

Warm Creek: Load Capacities for TP and TSS
TP = 233.8 cfs x 0.100-mg/L TP x 5.39 = 126.02-lb/day
TSS = 233.8 cfs x 52.0-mg/L TSS x 5.39 x 0.1825 = 11,959.13-ton/year

Table 2-B summarizes the tributaries and the direct dischargers to Warm Creek. Table 2-B indicates that the beneficial uses for Warm Creek will be met if the point source and nonpoint source allocations are met by Year 2010. It is noted that in the Upper Snake Rock TMDL, the allocations described in Table 108 (pp 220-221) do not combine the various sources into one discharge, as they are presently constituted. This is due to modifications done on the facility over the last 5 years. See Section 4.0 in this document for a discussion on the adjustments made to the load allocations on the Warm Creek TMDL. Warm Creek resides strictly on Pristine Springs' property. Therefore, its nonpoint source component was adjusted between the point source and nonpoint source portions.

Table 2-B. Warm Creek TMDL

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	1.33	1.33	1.33	1.33	1.33
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	0.03	0.03	0.03	0.03	0.03
GAP-008 Blue Lakes FH	69.20	69.20	69.20	69.20	69.20
GAP-018 Pristine Springs FH (CW)	50.61	50.61	50.61	50.61	50.61
GAP-018 Pristine Springs FH (WW)	4.85	4.85	4.85	4.85	4.85
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.100 mg/L TP)	126.02	126.02	126.02	126.02	126.02
TSS SOURCES	**TSS ton/year**	**SEASONALITY LOADS, ton/year TSS**			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	10,391.07	10,391.07	10,391.07	10,391.07	10,391.07
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	212.06	212.06	212.06	212.06	212.06
GAP-008 Blue Lakes FH	770.70	770.70	770.70	770.70	770.70
GAP-018 Pristine Springs FH (Comb)	585.30	585.30	585.30	585.30	585.30
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 52.0 mg/L TSS)	11,959.13	11,959.13	11,959.13	11,959.13	11,959.13

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor. CW = Cold water. WW = Warm water. Comb = Combined.

10.2.2 ROCK CREEK TMDL - (Segment 2 of Middle Snake River)

Rock Creek is a natural tributary to the Snake River with nonpoint sources and point sources discharging to it. Part of the Upper Snake Rock TMDL assessment indicates that Rock Creek is fed from springs, seeps, tailwater runoff, and its own tributaries. During certain times of the year, normally August through September, the water in Rock Creek is completely diverted by irrigation water users by the time it reaches Rock Creek town behind the Rock Creek General Store. The load allocations for Rock Creek are defined as follows based on mean flows. The equivalent pollutant concentrations are 0.100-mg/L TP and 52.0-mg/L TSS.

Rock Creek: Load Capacities for TP and TSS
TP = 219.91 cfs x 0.100-mg/L TP x 5.39 = 118.53-lb/day
TSS = 219.91 cfs x 52.0-mg/L TSS x 5.39 x 0.1825 = 11,248.64-ton/year

Table 2-C summarizes the tributaries and the direct dischargers to Rock Creek and indicates that the beneficial uses for Rock Creek will be met if the point source and nonpoint source allocations are met by Year 2010. In the Upper Snake Rock TMDL, the allocations described in Table 108 (pp 220-221) indicate a reduction in TP from 184.9 lb/day as the 1990-1991 baseline years to 118.5 lb/day as the year 10 target. In the TMDL Executive Summary (Table 5a, p A-14), it incorrectly shows the Rock Creek TMDL as 169.8 lb/day TP. This is also incorrectly noted in Table 8a, p A-23.

Table 2-C. Rock Creek TMDL

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	99.89	99.89	100.29	100.29	99.49
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	2.04	2.04	2.04	2.04	2.04
GAP-036 Canyon Trout FH	4.70	4.70	4.70	4.70	4.70
GAP-036 Canyon Trout FP	0.00	0.00	0.00	0.00	0.00
GAP-084 Daydream Ranch FH	4.20	4.20	4.20	4.20	4.20
GAP-091 Deadman Gulch FH	2.20	2.20	2.20	2.20	2.20
GAP-124 CSI FH	2.20	2.20	1.80	1.80	**[2.60]**
GAP-097 C&M FH	3.30	3.30	3.30	3.30	3.30
Silver Creek FP (Non-permitted)	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.100 mg/L TP)	118.53	118.53	118.53	118.53	118.53
TSS SOURCES	**TSS ton/year**	**SEASONALITY LOADS, ton/year TSS**			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	10,795.23	10,795.23	10,798.23	10,798.23	10,792.13
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	220.31	220.31	220.31	220.31	220.31
GAP-036 Canyon Trout FH	44.80	44.80	44.80	44.80	44.80
GAP-036 Canyon Trout FP	0.00	0.00	0.00	0.00	0.00
GAP-084 Daydream Ranch FH	58.50	58.50	58.50	58.50	58.50
GAP-091 Deadman Gulch FH	46.20	46.20	46.20	46.20	46.20
GAP-124 CSI FH	15.20	15.20	12.20	12.20	**[18.20]**
GAP-097 C&M FH	68.40	68.40	68.40	68.40	68.40
Silver Creek FP (Non-permitted)	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 52.0 mg/L TSS)	11,248.64	11,248.64	11,248.64	11,248.64	11,248.64

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor. Relative to GAP-036, the owner claims that the facility does not discharge to Rock Creek. Relative to the Silver Creek FP, the facility discharges into the City of Twin Falls wastewater treatment plant and is under a pretreatment agreement with the City of Twin Falls. The CSI FH has a trimester seasonal wasteload allocation and is so indicated in the bold bracketed values.

10.2.3 CRYSTAL SPRINGS TMDL - Segment 2 – Middle Snake River

Crystal Springs is a natural springfed tributary to the Snake River with nonpoint sources and point sources discharging to it. Part of the Upper Snake Rock TMDL assessment indicates that Crystal Springs is fed from springs and seeps. The load allocations for Crystal Springs are defined as follows based on mean flows. The equivalent pollutant concentrations are 0.100-mg/L TP and 52.0-mg/L TSS.

Crystal Springs: Load Capacities for TP and TSS
TP = 367.2 cfs x 0.100-mg/L TP x 5.39 = 197.92-lb/day
TSS = 367.2 cfs x 52.0-mg/L TSS x 5.39 x 0.1825 = 18,782.68-ton/year

Table 2-D summarizes the tributaries and the direct dischargers to Crystal Springs and indicates that the beneficial uses for Crystal Springs will be met if the point source and nonpoint source allocations are met by Year 2010.

Table 2-D. Crystal Springs TMDL

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	113.11	113.11	113.11	113.11	113.11
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	2.31	2.31	2.31	2.31	2.31
GAP-006 Crystal Springs FH	82.50	82.50	82.50	82.50	82.50
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.100 mg/L TP)	197.92	197.92	197.92	197.92	197.92
TSS SOURCES	TSS ton/year	SEASONALITY LOADS, ton/year TSS			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	17,416.54	17,416.54	17,416.54	17,416.54	17,416.54
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	355.44	355.44	355.44	355.44	355.44
GAP-006 Crystal Springs FH	1,010.70	1,010.70	1,010.70	1,010.70	1,010.70
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 52.0 mg/L TSS)	18,782.68	18,782.68	18,782.68	18,782.68	18,782.68

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor.

10.2.4 ALPHEUS CREEK TMDL - Segment 2 – Middle Snake River

Alpheus Creek is a natural springfed tributary to the Snake River with nonpoint sources discharging to it. Adjacent to Alpheus Creek is the Blue Lakes Country Club, the Blue Lakes Road, and private ground that is under development. Part of the Upper Snake Rock TMDL assessment indicates that Alpheus Creek is fed from springs and seeps that are found in the Blue Lakes Springs complex and the Alpheus Springs. The load allocations for Alpheus Creek are defined as follows based on mean flows. The equivalent pollutant concentrations are 0.020-mg/L TP and 1.3-mg/L TSS.

Alpheus Creek: Load Capacities for TP and TSS
TP = 1.0 cfs x 0.020-mg/L TP x 5.39 = 0.110-lb/day
TSS = 1.0 cfs x 1.3-mg/L TSS x 5.39 x 0.1825 = 1.280-ton/year

Table 2-E summarizes the tributaries and the direct dischargers to Alpheus Creek and indicates that the beneficial uses for Alpheus Creek are being met and was thus delisted from the 1998 303(d) list. Part of that delisting is maintaining Alpheus Creek at existing water quality conditions in order to help achieve the targets for the Snake River. Existing conditions for Alpheus Creek meet beneficial uses and/or water quality standards. Regardless of the "headwaters" flow, Alpheus Creek discharges less than 1.0 cfs if any to the Middle Snake River. It is highly unlikely that Alpheus Creek discharges to the river anymore due to present diversions of the water.

Table 2-E. Alpheus Creek TMDL – Delisted

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	0.108	0.108	0.108	0.108	0.108
FERC, LAFs, CFOs	0.000	0.000	0.000	0.000	0.000
Stormwater – Construction Activities	0.002	0.002	0.002	0.002	0.002
Point Sources	0.000	0.000	0.000	0.000	0.000
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.020 mg/L TP)	0.110	0.110	0.110	0.110	0.110

TSS SOURCES	TSS ton/year	SEASONALITY LOADS, ton/year TSS			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	1.254	1.254	1.254	1.254	1.254
FERC, LAFs, CFOs	0.000	0.000	0.000	0.000	0.000
Stormwater – Construction Activities	0.026	0.026	0.026	0.026	0.026
Point Sources	0.000	0.000	0.000	0.000	0.000
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 1.3 mg/L TSS)	1.280	1.280	1.280	1.280	1.280

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor.

10.2.5 ELLISON CREEK TMDL - Segment 2 – Middle Snake River

Ellison Creek is a natural springfed tributary to the Snake River with nonpoint sources discharging to it. The load allocations for Ellison Creek are defined as follows based on mean flows. The equivalent pollutant concentrations are 0.020-mg/L TP and 1.3-mg/L TSS.

Ellison Creek: Load Capacities for TP and TSS
TP = 1.3 cfs x 0.020-mg/L TP x 5.39 = 0.140-lb/day
TSS = 1.3 cfs x 1.3-mg/L TSS x 5.39 x 0.1825 = 1.660-ton/year

Table 2-F summarizes the tributaries and the direct dischargers to Ellison Creek and indicates that the beneficial uses for Ellison Creek are being met and was thus delisted from the 1998 303(d) list. Part of that delisting is maintaining Ellison Creek at existing water quality conditions in order to help achieve the targets for the Snake River. Existing conditions for Ellison Creek meet beneficial uses and/or water quality standards.

Table 2-F. Ellison Springs TMDL – Delisted

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	0.137	0.137	0.137	0.137	0.137
FERC, LAFs, CFOs	0.000	0.000	0.000	0.000	0.000
Stormwater – Construction Activities	0.003	0.003	0.003	0.003	0.003
Point Sources	0.000	0.000	0.000	0.000	0.000
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.020 mg/L TP)	0.140	0.140	0.140	0.140	0.140
TSS SOURCES	TSS ton/year	SEASONALITY LOADS, ton/year TSS			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	1.627	1.627	1.627	1.627	1.627
FERC, LAFs, CFOs	0.000	0.000	0.000	0.000	0.000
Stormwater – Construction Activities	0.033	0.033	0.033	0.033	0.033
Point Sources	0.000	0.000	0.000	0.000	0.000
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 1.3 mg/L TSS)	1.660	1.660	1.660	1.660	1.660

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor.

10.3 SEGMENT 3 – MIDDLE SNAKE RIVER – Crystal Springs to Box Canyon

The load allocations for Segment 3 of the Middle Snake River are defined as follows based on mean flows. These loads represent input loads to Segment 3 at Crystal Springs. The equivalent pollutant concentrations are 0.075-mg/L TP and 50.3-mg/L TSS.

Crystal Springs Load Considerations: Input to Segment 3
TP = 5,498.0 cfs x 0.0749843-mg/L TP x 5.39 = 2,222.10-lb/day
TSS = 5,498.0 cfs x 45.2685254-mg/L TSS x 5.39 x 0.1825 = 244,823.28-ton/year

The following export loads at Box Canyon are output loads from Segment 3. Export loss/attenuation is estimated at indicated levels based on instream water-quality levels at the compliance points. The equivalent TP concentration shows an increase in TP to 0.092-mg/L TP with a reduction to 0.075-mg/L TP due to export loss/attenuation within Segment 3. Similarly, the TSS concentration shows a decrease to 48.8-mg/L TSS with a reduction to 44.0-mg/L TSS due to export loss/attenuation within Segment 3.

Box Canyon Load Considerations: Output from Segment 3
TP = 7,212.0 cfs x 0.0917778-mg/L TP x 5.39 = 3,567.65-lb/day
TP Export Loss/Attenuation = 18.3000014% = -652.88-lbday
TP = 7,212.0 cfs x 0.0749825-mg/L TP x 5.39 = 2,914.77-lb/day

TSS = 7,212.0 cfs x 45.0142014-mg/L TSS x 5.39 x 0.1825 = 319,342.63-ton/year
TSS Export Loss/Attenuation = 10.0000000% = -31,934.26-ton/year
TSS = 7,212.0 cfs x 40.5127813-mg/L TSS x 5.39 x 0.1825 = 287,408.37-ton/year

In the pollutant transport from Segment 2 to Segment 3, the TP load used for input into Segment 3 was 2,222.10-lb/day TP as 0.075-mg/L TP. The TSS load used for input into Segment 3 was 244,823.28-ton/year TSS as 45.3-mg/L TSS. Table 3-A summarizes the Segment 3 tributaries and the direct dischargers to the Middle Snake River and demonstrates that beneficial uses will be met if point source and nonpoint source allocations are met by Year 2010.

Table 3-A. Segment 3 Allocations for TP and TSS

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
Total Load at Crystal Springs	2,222.10	2,198.54	2,222.10	2,222.10	2,222.10
NPS (Ag, Graze, Private, Corridor)	100.04	100.04	100.04	100.04	100.04
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	2.04	2.04	2.04	2.04	2.04
Cedar Draw TMDL	77.77	77.77	77.77	77.77	77.77
Niagara Springs TMDL	60.37	60.37	60.37	60.37	60.37
Clear Lake TMDL	266.67	266.67	266.67	266.67	266.67
Mud Creek TMDL	52.42	52.42	52.42	52.42	52.42
Deep Creek TMDL	51.68	51.68	51.68	51.68	51.68
Briggs Creek TMDL	57.94	57.94	57.94	57.94	57.94
Blind Canyon TMDL	56.34	56.34	56.34	56.34	56.34
Banbury Springs TMDL	13.01	13.01	13.01	13.01	13.01
Box Canyon Springs TMDL	7.00	7.00	7.00	7.00	7.00
Blue Heart TMDL	6.47	6.47	6.47	6.47	6.47
McMullen Creek TMDL	2.16	2.16	2.16	2.16	2.16
Cottonwood Creek TMDL	1.24	1.24	1.24	1.24	1.24

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
I Drain	6.10	6.10	6.10	6.10	6.10
J8 Drain	4.90	0.00	4.90	4.90	4.90
N Drain	2.40	2.40	2.40	2.40	2.40
S29 Drain	1.40	0.00	1.40	1.40	1.40
S19/S Drain	28.60	28.60	28.60	28.60	28.60
GAP-016 Magic Valley Steelhead	15.20	21.70	7.70	16.20	**[15.20]**
GAP-100 Gary Wright FH	3.40	3.40	3.40	3.40	3.40
GAP-041 FBI/Catfish FH	16.30	19.60	13.00	13.00	19.60
GAP-054 Kaster FH	31.00	31.00	31.00	31.00	31.00
GAP-014 Box Canyon FH	141.00	141.00	141.00	141.00	141.00
GAP-010 Rim View FH	62.10	62.10	62.10	62.10	62.10
City of Jerome POTW	205.00	205.00	205.00	205.00	205.00
Unaccounted Springs and Seeps	20.00	20.00	20.00	20.00	20.00
Unaccounted Surface Waters	53.00	53.00	53.00	53.00	53.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Sub Total Load at Box Canyon	3,567.65	3,547.59	3,556.85	3,565.35	3,570.95
Sub Total Concentration at BC	0.092	0.091	0.091	0.092	0.092
TP Export Loss + Attenuation	-652.88	-649.21	-650.90	-652.46	-653.48
Total Load at Box Canyon	2,914.77	2,898.38	2,905.94	2,912.89	2,917.46
Total Load as mg/L TP	0.075	0.075	0.075	0.075	0.075
TSS SOURCES	TSS ton/year	SEASONALITY LOADS, ton/year TSS			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
Total Load at Crystal Springs	244,823.28	241,812.69	244,823.28	244,823.28	244,823.28
NPS (Ag, Graze, Private, Corridor)	2,041.59	2,041.59	2,041.59	2,041.59	2,041.59
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	41.67	41.67	41.67	41.67	41.67
Cedar Draw TMDL	7,380.59	7,380.59	7,380.59	7,380.59	7,380.59
Niagara Springs TMDL	5,728.92	5,728.92	5,728.92	5,728.92	5,728.92
Clear Lake TMDL	25,268.64	25,268.64	25,268.64	25,268.64	25,268.64
Mud Creek TMDL	4,974.96	4,974.96	4,974.96	4,974.96	4,974.96
Deep Creek TMDL	4,904.88	4,904.88	4,904.88	4,904.88	4,904.88
Briggs Creek TMDL	5,498.74	5,498.74	5,498.74	5,498.74	5,498.74
Blind Canyon TMDL	5,349.89	5,349.89	5,349.89	5,349.89	5,349.89
Banbury Springs TMDL	154.31	154.31	154.31	154.31	154.31
Box Canyon Springs TMDL	83.08	83.08	83.08	83.08	83.08
Blue Heart TMDL	76.73	76.73	76.73	76.73	76.73
McMullen Creek TMDL	204.60	204.60	204.60	204.60	204.60
Cottonwood Creek TMDL	117.65	117.65	117.65	117.65	117.65
I Drain	584.10	584.10	584.10	584.10	584.10
J8 Drain	461.90	0.00	461.90	461.90	461.90
N Drain	223.00	223.00	223.00	223.00	223.00
S29 Drain	135.00	0.00	135.00	135.00	135.00
S19/S Drain	2,710.50	2,710.50	2,710.50	2,710.50	2,710.50
GAP-016 Magic Valley Steelhead	495.00	495.00	175.60	369.50	**[495.00]**
GAP-100 Gary Wright FH	29.50	29.50	29.50	29.50	29.50
GAP-041 FBI/Catfish FH	55.60	61.10	61.10	50.00	50.00
GAP-054 Kaster FH	345.30	345.30	345.30	345.30	345.30
GAP-014 Box Canyon FH	1,471.10	1,471.10	1,471.10	1,471.10	1,471.10
GAP-010 Rim View FH	690.50	690.50	690.50	690.50	690.50
City of Jerome POTW	375.00	375.00	375.00	375.00	375.00

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
Unaccounted Springs and Seeps	236.70	236.70	236.70	236.70	236.70
Unaccounted Surface Waters	5,028.20	5,028.20	5,028.20	5,028.20	5,028.20
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Sub Total Load at Box Canyon	319,342.63	315,888.94	319,177.03	319,359.83	319,485.33
Sub Total Load as mg/L TSS	45.0	44.5	45.0	45.0	45.0
TSS Export Loss + Attenuation	-31,934.26	-31,588.89	-31,917.70	-31,935.98	-31,948.53
Total Load at Box Canyon	287,408.37	284,300.05	287,259.33	287,423.85	287.536.80
Total Concentration at Box Canyon	40.5	40.1	40.5	40.5	40.5

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor.

The wasteload allocation for GAP-016 is based on a 4-month grouping three times a year. Therefore, the number in brackets [ ] represents the general wasteload allocation value and not the true wasteload allocation, because GAP-016 requests a seasonal wasteload allocation based on 4-month intervals.

10.3.1 CEDAR DRAW TMDL - Segment 3 – Middle Snake River

Cedar Draw is a natural tributary to the Snake River with nonpoint sources and point sources discharging to it. The load allocations for Cedar Draw are defined as follows based on mean flows. The equivalent pollutant concentrations are 0.100-mg/L TP and 52.0-mg/L TSS.

Cedar Draw: Load Capacities for TP and TSS
TP = 144.29 cfs x 0.100-mg/L TP x 5.39 = 77.77-lb/day
TSS = 144.29 cfs x 52.0-mg/L TSS x 5.39 x 0.1825 = 7,380.59-ton/year

Table 3-B summarizes the tributaries and the direct dischargers to Cedar Draw and indicates that the beneficial uses for Cedar Draw will be met if the point source and nonpoint source allocations are met by Year 2010.

Table 3-B. Cedar Draw TMDL

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	30.94	30.94	30.94	30.94	30.94
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	0.63	0.63	0.63	0.63	0.63
GAP-028 Rainbow Trout/Filer FH	5.30	5.30	5.30	5.30	5.30
GAP-028 Rainbow Trout/Filer FP	2.50	2.50	2.50	2.50	2.50
GAP-059 Olson Ponds FH	1.20	1.20	1.20	1.20	1.20
GAP-046 SeaPac of Idaho/Yoder	3.70	3.70	3.70	3.70	3.70
GAP-046 SeaPac of Idaho FP	4.70	4.70	4.70	4.70	4.70
GAP-103 Stutzman Farm FH	0.60	0.60	0.60	0.60	0.60
GAP-019 Cedar Draw FH	5.70	5.70	5.70	5.70	5.70
GAP-115 Leo Martins FH	2.20	2.20	2.20	2.20	2.20
GAP-040 Tunnel Creek FH	3.30	3.30	3.30	3.30	3.30
City of Filer POTW	17.0	17.0	17.0	17.0	17.0
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.100 mg/L TP)	77.77	77.77	77.77	77.77	77.77

TSS SOURCES	TSS ton/year	SEASONALITY LOADS, ton/year TSS			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	6,830.07	6,830.07	6,830.07	6,830.07	6,830.07
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	139.39	139.39	139.39	139.39	139.39
GAP-028 Rainbow Trout/Filer FH	55.60	55.60	55.60	55.60	55.60
GAP-028 Rainbow Trout/Filer FP	5.84	5.84	5.84	5.84	5.84
GAP-059 Olson Ponds FH	16.70	16.70	16.70	16.70	16.70
GAP-046 SeaPac of Idaho/Yoder	33.40	33.40	33.40	33.40	33.40
GAP-046 SeaPac of Idaho FP	9.49	9.49	9.49	9.49	9.49
GAP-103 Stutzman Farm FH	8.40	8.40	8.40	8.40	8.40
GAP-019 Cedar Draw FH	132.30	132.30	132.30	132.30	132.30
GAP-115 Leo Martins FH	45.70	45.70	45.70	45.70	45.70
GAP-040 Tunnel Creek FH	45.70	45.70	45.70	45.70	45.70
City of Filer POTW	58.00	58.00	58.00	58.00	58.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 52.0 mg/L TSS)	7,380.59	7,380.59	7,380.59	7,380.59	7,380.6

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor. TBD = To Be Determined.

10.3.2 NIAGARA SPRINGS TMDL - Segment 3 – Middle Snake River

Niagara Springs is a natural springfed tributary to the Snake River with nonpoint sources and point sources discharging to it. The load allocations for Niagara Springs are defined as follows based on mean flows. The equivalent pollutant concentrations are 0.100-mg/L TP and 52.0-mg/L TSS.

Niagara Springs: Load Capacities for TP and TSS
TP = 112.0 cfs x 0.100-mg/L TP x 5.39 = 60.37-lb/day
TSS = 112.0 cfs x 52.0-mg/L TSS x 5.39 x 0.1825 = 5,728.92-ton/year

Table 3-C summarizes the tributaries and the direct dischargers to Niagara Springs and indicates that the beneficial uses for Niagara Springs will be met if the point source and nonpoint source allocations are met by Year 2010. It should be noted that total mean flow discharging to the Middle Snake River is 252.8 cfs if the two aquaculture facilities discharged through Niagara Springs "Creek". However, the 252.8 cfs is split between the Rim View Fish Hatchery (FH), which discharges 140.4 cfs directly to the Middle Snake River, and the Niagara Springs/IPC FH, which discharges 112.0 cfs in combination with Niagara Springs through Niagara Springs "Creek". Only the Niagara Springs/IPC FH discharges to Niagara Springs "Creek". The Rim View FH discharges to the Middle Snake River and is shown in Table 3-A as a discharger to the river.

Other reliable sources indicate that the source water (Niagara Springs) discharges 250.0 cfs. The sub committee agreed that the Rim View Fish Hatchery discharged 140.4 cfs (before adjudication) and that the Niagara Springs/IPC Fish Hatchery discharged 72.4 cfs. About 59.14 cfs of water discharges through the Niagara Springs "Creek" main channel and then to the Snake River. An additional component comes off from the Niagara Springs/IPC Fish Hatchery (between 72.4 cfs and 112.0 cfs) and joins with the discharge in the Niagara Springs channel. The remainder discharges directly to the Snake River. However, the Rim View Fish Hatchery discharges its full amount (between 59.14 cfs and 140.4 cfs) directly to the Snake River. This confusion of flows based on an agreement between Niagara Springs/IPC Fish Hatchery and Rim View Fish Hatchery will be investigated by DEQ-TFRO after the submission of the TMDL to EPA.

Table 3-C. Niagara Springs TMDL

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	45.05	37.45	53.15	44.55	45.05
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	0.92	0.92	0.92	0.92	0.92
GAP-013 Niagara Springs/IPC FH	14.40	22.00	6.30	14.90	**[14.40]**
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.100 mg/L TP)	60.37	60.37	60.37	60.37	60.37
TSS SOURCES	**TSS ton/year**	**SEASONALITY LOADS, ton/year TSS**			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	5,265.36	5,077.46	5,465.66	5,252.96	5,265.36
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	107.46	107.46	107.46	107.46	107.46
GAP-013 Niagara Springs/IPC FH	356.10	544.00	155.80	368.50	**[356.10]**
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 52.0 mg/L TSS)	5,728.92	5,728.92	5,728.92	5,728.92	5,728.92

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor.

The wasteload allocation for GAP-013 is based on a 4-month grouping three times a year. Therefore, the number in brackets [ ] represents the general wasteload allocation value and not the true wasteload allocation, because GAP-013 requests a seasonal wasteload allocation based on 4-month intervals.

10.3.3 CLEAR LAKES TMDL - Segment 3 – Middle Snake River

Clear Lakes is a natural springfed tributary to the Snake River with nonpoint sources and point sources discharging to it. The load allocations for Clear Lakes are defined as follows based on mean flows. The equivalent pollutant concentrations are 0.100-mg/L TP and 52.0-mg/L TSS.

Clear Lakes: Load Capacities for TP and TSS
TP = 494.0 cfs x 0.100-mg/L TP x 5.39 = 266.27-lb/day
TSS = 494.0 cfs x 52.0-mg/L TSS x 5.39 x 0.1825 = 25,268.64-ton/year

Table 3-D summarizes the tributaries and the direct dischargers to Clear Lakes and indicates that the beneficial uses for Clear Lakes will be met if the point source and nonpoint source allocations are met by Year 2010.

Table 3-D. Clear Lakes TMDL

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	48.87	48.87	48.87	48.87	48.87
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	1.00	1.00	1.00	1.00	1.00
GAP-007 Middle Hatchery	75.00	75.00	75.00	75.00	75.00
GAP-125 Clear Springs FP	20.20	20.20	20.20	20.20	20.20
GAP-011 Clear Lakes Trout FH	70.90	70.90	70.90	70.90	70.90
GAP-011 Clear Lakes Trout FP	3.30	3.30	3.30	3.30	3.30
GAP-002 Snake River FH	47.00	47.00	47.00	47.00	47.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.100 mg/L TP)	266.27	266.27	266.27	266.27	266.27

TSS SOURCES	TSS ton/year	SEASONALITY LOADS, ton/year TSS			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	22,529.82	22,529.82	22,529.82	22,529.82	22,529.82
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	459.79	459.79	459.79	459.79	459.79
GAP-007 Middle Hatchery	983.70	983.70	983.70	983.70	983.70
GAP-125 Clear Springs FP	27.38	27.38	27.38	27.38	27.38
GAP-011 Clear Lakes Trout FH	788.90	788.90	788.90	788.90	788.90
GAP-011 Clear Lakes Trout FP	7.85	7.85	7.85	7.85	7.85
GAP-002 Snake River FH	471.20	471.20	471.20	471.20	471.20
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 52.0 mg/L TSS)	25,268.64	25,268.64	25,268.64	25,268.64	25,268.64

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor. TBD = To Be Determined.

10.3.4 MUD CREEK TMDL - Segment 3 – Middle Snake River

Mud Creek is a natural tributary to the Snake River with nonpoint sources and point sources discharging to it. The load allocations for Mud Creek are defined as follows based on mean flows. The equivalent pollutant concentrations are 0.100-mg/L TP and 52.0-mg/L TSS.

Mud Creek: Load Capacities for TP and TSS
TP = 97.26 cfs x 0.100-mg/L TP x 5.39 = 52.42-lb/day
TSS = 97.26 cfs x 52.0-mg/L TSS x 5.39 x 0.1825 = 4,974.96-ton/year

Table 3-E summarizes the tributaries and the direct dischargers to Mud Creek and indicates that the beneficial uses for Mud Creek will be met if the point source and nonpoint source allocations are met by Year 2010.

Table 3-E. Mud Creek TMDL

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	12.56	12.56	12.56	12.56	12.56
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	0.26	0.26	0.26	0.26	0.26
GAP-102 Rocky Ridge Ranch FH	0.80	0.80	0.80	0.80	0.80
GAP-063 White's Trout FH	1.60	1.60	1.60	1.60	1.60
GAP-064 W&W Trout FH	4.80	4.80	4.80	4.80	4.80
GAP-116 First Ascent FH	7.20	7.20	7.20	7.20	7.20
GAP-079 Blau FH	1.30	1.30	1.30	1.30	1.30
GAP-029 Rainbow Trout/Buhl FH	3.80	3.80	3.80	3.80	3.80
GAP-070 Juker Ponds FH	1.30	1.30	1.30	1.30	1.30
GAP-109 RCP FH	1.40	1.40	1.40	1.40	1.40
City of Buhl POTW	17.40	17.40	17.40	17.40	17.40
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.100 mg/L TP)	52.42	52.42	52.42	52.42	52.42
TSS SOURCES	TSS ton/year	SEASONALITY LOADS, ton/year TSS			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	4,595.18	4,595.18	4,595.18	4,595.18	4,595.18
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.0
Stormwater – Construction Activities	93.78	93.78	93.78	93.78	93.78

TSS SOURCES	TSS ton/year	SEASONALITY LOADS, ton/year TSS			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
GAP-102 Rocky Ridge Ranch FH	8.40	8.40	8.40	8.40	8.40
GAP-063 White's Trout FH	16.20	16.20	16.20	16.20	16.20
GAP-064 W&W Trout FH	67.40	67.40	67.40	67.40	67.40
GAP-116 First Ascent FH	33.00	33.00	33.00	33.00	33.00
GAP-079 Blau FH	27.50	27.50	27.50	27.50	27.50
GAP-029 Rainbow Trout/Buhl FH	32.00	32.00	32.00	32.00	32.00
GAP-070 Juker Ponds FH	17.70	17.70	17.70	17.70	17.70
GAP-109 RCP FH	13.80	13.80	13.80	13.80	13.80
City of Buhl POTW	70.00	70.00	70.00	70.00	70.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 52.0 mg/L TSS)	4,974.96	4,974.96	4,974.96	4,975.0	4,975.0
NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor.					

10.3.5 DEEP CREEK TMDL - Segment 3 – Middle Snake River

Deep Creek is a natural tributary to the Snake River with nonpoint sources and point sources discharging to it. The load allocations for Deep Creek are defined as follows based on mean flows. The equivalent pollutant concentrations are 0.100-mg/L TP and 52.0-mg/L TSS.

Deep Creek: Load Capacities for TP and TSS
TP = 95.89 cfs x 0.100-mg/L TP x 5.39 = 51.68-lb/day
TSS = 95.89 cfs x 52.0-mg/L TSS x 5.39 x 0.1825 = 4,904.88-ton/year

Table 3-F summarizes the tributaries and the direct dischargers to Deep Creek and indicates that the beneficial uses for Deep Creek will be met if the point source and nonpoint source allocations are met by Year 2010.

Of note, Deep Creek has eight (8) aquaculture fish hatcheries discharging to it. Several of these hatcheries have seep tunnels and springs as their water source. Others use diversion water from Deep Creek. Still others use water that is coming from laterals and canalways. The High Line Canal acts as the "headwaters" into the lower Deep Creek segment. In addition, any excess flow from the Low Line Canal also discharges into Deep Creek. Thus, Deep Creek acts as an irrigation conveyance during the irrigation season, thus impacting the water quality of Deep Creek. The mean flow from Deep Creek into the Middle Snake River is 95.89 cfs. The overall total effluent water from the 8 fish hatcheries into Deep Creek is 118.60 cfs. The difference of 22.71 cfs between the mean flow of Deep Creek and the effluent fish hatchery water represents the diversion water that is used for irrigation and reused for aquaculture. This is estimated as 88.3% of the effluent water. A certain portion of the irrigation water is consumptive water and this is estimated as 19.15% or 22.71 cfs. Therefore, 118.60 cfs – 22.71 cfs = 95.89 cfs that is returned to Deep Creek for discharge into the Middle Snake River.

Table 3-F. Deep Creek TMDL

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	14.97	13.17	8.27	16.87	21.57
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	0.31	0.31	0.31	0.31	0.31
McMullen Creek TMDL (Table 3-L)	2.20	2.20	2.20	2.20	2.20
Cottonwood Creek TMDL (Tab. 3-L)	1.20	1.20	1.20	1.20	1.20

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
GAP-069 Dolana FH	1.80	1.80	1.80	1.80	1.80
GAP-047 Peter's FH	2.00	2.00	2.00	2.00	2.00
GAP-080 Buhl/Fulmer FH	3.50	3.50	3.50	3.50	3.50
GAP-077 Kippes FH	6.10	6.10	6.10	6.10	6.10
GAP-112 Howell FH	1.70	1.70	1.70	1.70	1.70
GAP-053 Jack's FH	6.70	4.20	9.30	9.00	4.30
GAP-057 Cox FH	6.60	6.60	6.60	6.60	6.60
GAP-133 FBI/Gibbs Baker Place	4.60	4.00	3.80	5.30	5.30
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.100 mg/L TP)	51.68	51.68	51.68	51.68	51.68
TSS SOURCES	**TSS ton/year**	**SEASONALITY LOADS, ton/year TSS**			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	3,919.20	3,923.50	3,928.40	3,910.00	3,914.90
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	79.98	79.98	79.98	79.98	79.98
McMullen Creek TMDL (Table 3-L)	204.60	204.60	204.60	204.60	204.60
Cottonwood Creek TMDL (Tab. 3-L)	117.70	117.70	117.70	117.70	117.70
GAP-069 Dolana FH	19.20	19.20	19.20	19.20	19.20
GAP-047 Peter's FH	36.40	36.40	36.40	36.40	36.40
GAP-080 Buhl/Fulmer FH	48.70	48.70	48.70	48.70	48.70
GAP-077 Kippes FH	123.00	123.00	123.00	123.00	123.00
GAP-112 Howell FH	24.10	24.10	24.10	24.10	24.10
GAP-053 Jack's FH	142.10	142.10	142.10	142.10	142.10
GAP-057 Cox FH	140.70	140.70	140.70	140.70	140.70
GAP-133 FBI/Gibbs Baker Place	49.20	44.90	40.00	58.40	53.50
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 52.0 mg/L TSS)	4,904.88	4,904.88	4,904.88	4,904.88	4,904.88

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor.

10.3.6 BRIGGS CREEK TMDL - Segment 3 – Middle Snake River

Briggs Creek is a natural tributary to the Snake River with nonpoint sources and point sources discharging to it. The load allocations for Briggs Creek are defined as follows based on mean flows. The equivalent pollutant concentrations are 0.100-mg/L TP and 52.0-mg/L TSS.

Briggs Creek: Load Capacities for TP and TSS
TP = 107.5 cfs x 0.100-mg/L TP x 5.39 = 57.94-lb/day
TSS = 107.5 cfs x 52.0-mg/L TSS x 5.39 x 0.1825 = 5,498.74-ton/year

Table 3-G summarizes the tributaries and the direct dischargers to Briggs Creek and indicates that the beneficial uses for Briggs Creek will be met if the point source and nonpoint source allocations are met by Year 2010.

Table 3-G. Briggs Creek TMDL

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	46.88	46.88	46.88	46.88	46.88
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	0.96	0.96	0.96	0.96	0.96
GAP-088 Briggs Creek FH	10.10	10.10	10.10	10.10	10.10
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.100 mg/L TP)	57.94	57.94	57.94	57.94	57.94
TSS SOURCES	**TSS ton/year**	**SEASONALITY LOADS, ton/year TSS**			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	5,278.91	5,278.91	5,278.91	5,278.91	5,278.91
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	107.73	107.73	107.73	107.73	107.73
GAP-088 Briggs Creek FH	112.10	112.10	112.10	112.10	112.10
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 52.0 mg/L TSS)	5,498.74	5,498.74	5,498.74	5,498.74	5,498.74

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor.

10.3.7 BLIND CANYON TMDL - Segment 3 – Middle Snake River

Blind Canyon is a natural tributary to the Snake River with nonpoint sources and point sources discharging to it. The load allocations for Blind Canyon are defined as follows based on mean flows. The equivalent pollutant concentrations are 0.100-mg/L TP and 52.0-mg/L TSS.

Blind Canyon: Load Capacities for TP and TSS
TP = 104.59 cfs x 0.100-mg/L TP x 5.39 = 56.34-lb/day
TSS = 104.59 cfs x 52.0-mg/L TSS x 5.39 x 0.1825 = 5,349.89-ton/year

Table 3-H summarizes the tributaries and the direct dischargers to Blind Canyon and indicates that the beneficial uses for Blind Canyon will be met if the point source and nonpoint source allocations are met by Year 2010.

Table 3-H. Blind Canyon TMDL

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	51.49	51.49	51.49	51.49	51.49
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	1.05	1.05	1.05	1.05	1.05
GAP-060 Blind Canyon FH	3.80	3.80	3.80	3.80	3.80
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.100 mg/L TP)	56.34	56.34	56.34	56.34	56.34
TSS SOURCES	**TSS ton/year**	**SEASONALITY LOADS, ton/year TSS**			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	5,203.89	5,203.89	5,203.89	5,203.89	5,203.89
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	106.20	106.20	106.20	106.20	106.20
GAP-060 Blind Canyon FH	39.80	39.80	39.80	39.80	39.80

TSS SOURCES	TSS ton/year	SEASONALITY LOADS, ton/year TSS			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 52.0 mg/L TSS)	5,349.89	5,349.89	5,349.89	5,349.89	5,349.89

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor.

10.3.8 BANBURY SPRINGS TMDL - Segment 3 – Middle Snake River

Banbury Springs is a natural springfed tributary to the Snake River with nonpoint sources discharging to it. The load allocations for Banbury Springs are defined as follows based on mean flows. The equivalent pollutant concentrations are 0.020-mg/L TP and 1.3-mg/L TSS. Banbury Springs "Creek" was not listed in the 1998 303(d) list but was assessed as part of the Upper Snake Rock TMDL assessment process. Part of that assessment demonstrated that Banbury Springs "Creek" was meetings its beneficial uses and/or water quality standards. Consequently, Banbury Springs "Creek" is maintained at existing water quality conditions in order to help achieve the goals for the Snake River. Existing water quality conditions for Banbury Springs "Creek" meet beneficial uses and/or water quality standards.

Banbury Springs: Load Capacities for TP and TSS
TP = 120.67 cfs x 0.020-mg/L TP x 5.39 = 13.01-lb/day
TSS = 120.67 cfs x 1.3-mg/L TSS x 5.39 x 0.1825 = 154.31-ton/year

Table 3-I summarizes the tributaries and the direct dischargers to Banbury Springs and indicates that the existing beneficial uses for Banbury Springs are being met. Point source and nonpoint source allocations are also shown as part of the existing beneficial uses.

Table 3-I. Banbury Springs TMDL

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	12.75	12.75	12.75	12.75	12.75
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	0.26	0.26	0.26	0.26	0.26
Point Sources	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.020 mg/L TP)	13.01	13.01	13.01	13.01	13.01
TSS SOURCES	**TSS ton/year**	**SEASONALITY LOADS, ton/year TSS**			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	151.22	151.22	151.22	151.22	151.22
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	3.09	3.09	3.09	3.09	3.09
Point Sources	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 1.3 mg/L TSS)	154.31	154.31	154.31	154.31	154.31

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor.

10.3.9 BOX CANYON TMDL - Segment 3 – Middle Snake River

Box Canyon is a natural springfed tributary to the Snake River with nonpoint sources discharging to it. The load allocations for Box Canyon are defined as follows based on mean flows. The

equivalent pollutant concentrations are 0.020-mg/L TP and 1.3-mg/L TSS. Box Canyon "Creek" was not listed in the 1998 303(d) list but was assessed as part of the Upper Snake Rock TMDL assessment process. Part of that assessment demonstrated that Box Canyon "Creek" was meetings its beneficial uses and/or water quality standards. Consequently, Box Canyon "Creek" is maintained at existing water quality conditions in order to help achieve the goals for the Snake River. Existing water quality conditions for Box Canyon "Creek" meet beneficial uses and/or water quality standards.

Box Canyon: Load Capacities for TP and TSS
TP = 64.97 cfs x 0.020-mg/L TP x 5.39 = 7.00-lb/day
TSS = 64.97 cfs x 1.3-mg/L TSS x 5.39 x 0.1825 = 83.08-ton/year

Table 3-J summarizes the tributaries and the direct dischargers to Box Canyon and indicates that the existing beneficial uses for Box Canyon are being met. Point source and nonpoint source allocations are also shown as part of the existing beneficial uses.

Table 3-J. Box Canyon TMDL

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	6.86	6.86	6.86	6.86	6.86
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	0.14	0.14	0.14	0.14	0.14
Point Sources	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.020 mg/L TP)	7.00	7.00	7.00	7.00	7.00
TSS SOURCES	TSS ton/year	SEASONALITY LOADS, ton/year TSS			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	81.42	81.42	81.42	81.42	81.42
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	1.66	1.66	1.66	1.66	1.66
Point Sources	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 1.3 mg/L TSS)	83.08	83.08	83.08	83.08	83.08

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor.

10.3.10 BLUE HEART SPRING TMDL - Segment 3 – Middle Snake River

Blue Heart Springs is a natural springfed tributary to the Snake River with nonpoint sources discharging to it. The load allocations for Blue Heart Springs are defined as follows based on mean flows. The equivalent pollutant concentrations are 0.020-mg/L TP and 1.3-mg/L TSS. Box Canyon "Creek" was not listed in the 1998 303(d) list but was assessed as part of the Upper Snake Rock TMDL assessment process. Part of that assessment demonstrated that Box Canyon "Creek" was meetings its beneficial uses and/or water quality standards. Consequently, Box Canyon "Creek" is maintained at existing water quality conditions in order to help achieve the goals for the Snake River. Existing water quality conditions for Box Canyon "Creek" meet beneficial uses and/or water quality standards. It is noted that Blue Heart Springs' flow comes as an underground outflow from the associated aquifer. The Blue Heart Springs' system is shaped as a horseshoe and has an outlet that feeds directly its spring water into the Middle Snake River. When the river's flow is high, backwater from the river can flow into the Blue Heart Springs area.

Blue Heart Springs: Load Capacities for TP and TSS
TP = 60.0 cfs x 0.020-mg/L TP x 5.39 = 6.47-lb/day
TSS = 60.0 cfs x 1.3-mg/L TSS x 5.39 x 0.1825 = 76.73-ton/year

Table 3-K summarizes the tributaries and the direct dischargers to Blue Heart Springs and indicates that the existing beneficial uses for Blue Heart Springs are being met. Point source and nonpoint source allocations are also shown as part of the existing beneficial uses.

Table 3-K. Blue Heart Springs TMDL

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	6.34	6.34	6.34	6.34	6.34
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	0.13	0.13	0.13	0.13	0.13
Point Sources	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.020 mg/L TP)	6.47	6.47	6.47	6.47	6.47
TSS SOURCES	TSS ton/year	SEASONALITY LOADS, ton/year TSS			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	75.20	75.20	75.20	75.20	75.20
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	1.53	1.53	1.53	1.53	1.53
Point Sources	0.0	0.0	0.0	0.0	0.0
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 1.3 mg/L TSS)	76.73	76.73	76.73	76.73	76.73

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor.

10.3.11 MCMULLEN CREEK TMDL and COTTONWOOD CREEK TMDL - Segment 3 – Middle Snake River - Discharge into Deep Creek

McMullen Creek and Cottonwood Creek are natural tributaries to the Rock Creek system with nonpoint sources discharging to it. The load allocations for McMullen Creek and Cottonwood Creek are defined as follows based on mean flows. The equivalent pollutant concentrations are 0.100-mg/L TP and 52.0-mg/L TSS. It is noted that the High Line Canal intercepts McMullen Creek and Cottonwood Creek except in those years when heavy snow creates high flow conditions. The High Line Canal eventually discharges to Deep Creek. Since there is a hydrologic connection between Deep Creek and these two creeks, the overall loading to Deep Creek includes these two creeks.

McMullen Creek: Load Capacities for TP and TSS
TP = 4.0 cfs x 0.100-mg/L TP x 5.39 = 2.16-lb/day
TSS = 4.0 cfs x 52.0-mg/L TSS x 5.39 x 0.1825 = 204.60-ton/year
Cottonwood Creek: Load Capacities for TP and TSS
TP = 2.3 cfs x 0.100-mg/L TP x 5.39 = 1.24-lb/day
TSS = 2.3 cfs x 52.0-mg/L TSS x 5.39 x 0.1825 = 117.65-ton/year

Table 3-L summarizes the tributaries and the direct dischargers to McMullen Creek and Cottonwood Creek and indicates that the beneficial uses for McMullen Creek and Cottonwood Creek will be met if the point source and nonpoint source allocations are met by Year 2010.

Table 3-L. McMullen Creek TMDL and Cottonwood Creek TMDL (Discharges into Deep Creek)

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
Deep Creek (Table 3-F)	48.28	48.28	48.28	48.28	48.28
McMullen Creek TMDL					
NPS (Ag, Graze, Private, Corridor)	2.12	2.12	2.12	2.12	2.12
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	0.04	0.04	0.04	0.04	0.04
Point Sources	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.100 mg/L TP)	2.16	2.16	2.16	2.16	2.16
Cottonwood Creek TMDL					
NPS (Ag, Graze, Private, Corridor)	1.22	1.22	1.22	1.22	1.22
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	0.02	0.02	0.02	0.02	0.02
Point Sources	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.100 mg/L TP)	1.24	1.24	1.24	1.24	1.24
Deep Creek + McMullen Creek + Cottonwood Creek					
Deep Creek + McMullen Creek + Cottonwood Creek Total Load	51.68	51.68	51.68	51.68	51.68

TSS SOURCES	TSS ton/year	SEASONALITY LOADS, ton/year TSS			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
Deep Creek (Table 3-F)	4,582.58	4,582.58	4,582.58	4,582.58	4,582.58
McMullen Creek					
NPS (Ag, Graze, Private, Corridor)	200.51	200.51	200.51	200.51	200.51
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	4.09	4.09	4.09	4.09	4.09
Point Sources	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 52.0 mg/L TSS)	204.60	204.60	204.60	204.60	204.60
Cottonwood Creek TMDL					
NPS (Ag, Graze, Private, Corridor)	115.30	115.30	115.30	115.30	115.30
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	2.35	2.35	2.35	2.35	2.35
Point Sources	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 52.0 mg/L TSS)	117.65	117.65	117.65	117.65	117.65
Deep Creek + McMullen Creek + Cottonwood Creek					
Deep Creek + McMullen Creek + Cottonwood Creek Total Load	4,904.83	4,904.83	4,904.83	4,904.83	4,904.83

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor.

10.4 SEGMENT 4 – MIDDLE SNAKE RIVER – Box Canyon to Gridley Bridge

The load allocations for Segment 4 of the Middle Snake River are defined as follows based on mean flows. These loads represent input loads to Segment 4 at Box Canyon. The equivalent pollutant concentrations are 0.075-mg/L TP and 48.9-mg/L TSS.

Box Canyon Load Considerations: Input to Segment 4
TP = 7,212.0 cfs x 0.0749825-mg/L TP x 5.39 = 2,914.77-lb/day
TSS = 7,212.0 cfs x 40.5127813-mg/L TSS x 5.39 x 0.1825 = 287,408.37-ton/year

The following export loads at Gridley Bridge are output loads from Segment 4. Export loss/attenuation is estimated at indicated levels based on instream water-quality levels at the compliance points. The equivalent TP concentration shows an increase in TP to 0.090-mg/L TP with a reduction to 0.075-mg/L TP due to export loss/attenuation within Segment 4. Similarly, the TSS concentration shows an increase to 43.2-mg/L TSS with a reduction to 38.9-mg/L TSS due to export loss/attenuation within Segment 4.

Gridley Bridge Load Considerations: Output from Segment 4
TP = 9,113.0 cfs x 0.0903855-mg/L TP x 5.39 = 4,439.65-lb/day
TP Export Loss/Attenuation = 16.9999887% = -754.74-lb/day
TP = 9,113.0 cfs x 0.0750199-mg/L TP x 5.39 = 3,684.91-lb/day

TSS = 9,113.0 cfs x 43.2486179-mg/L TSS x 5.39 x 0.1825 = 387,690.57-ton/year
TSS Export Loss/Attenuation = 10.0000000% = -38,769.06-ton/year
TSS = 9,113.0 cfs x 38.9237561-mg/L TSS x 5.39 x 0.1825 = 348,921.51-ton/year

In the pollutant transport from Segment 3 to Segment 4, the TP load used for input into Segment 4 was 2,914.77-lb/day TP as 0.075-mg/L TP. The TSS load used for input into Segment 4 was 287,408.37-ton/year TSS as 40.5-mg/L TSS. Table 4-A summarizes the Segment 4 tributaries and the direct dischargers to the Middle Snake River and demonstrates that beneficial uses will be met if point source and nonpoint source allocations are met by Year 2010.

Table 4-A. Segment 4 Allocations for TP and TSS

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
Total Load at Box Canyon	2,914.77	2,898.38	2,905.94	2,912.89	2,917.46
NPS (Ag, Graze, Private, Corridor)	447.38	447.38	447.38	447.38	447.38
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	9.13	9.13	9.13	9.13	9.13
Ritter Creek TMDL	736.76	736.76	736.76	736.76	736.76
Riley Creek TMDL	113.18	113.18	113.18	113.18	113.18
Sand Springs TMDL	49.40	49.40	49.40	49.40	49.40
Salmon Falls Creek TMDL	80.53	80.53	80.53	80.53	80.53
W-26 Drain	9.80	0.00	9.80	9.80	9.80
GAP-009 Pisces/Magic Springs	50.10	50.10	50.10	50.10	50.10
U of I Research Center Lab	0.00	0.00	0.00	0.00	0.00
Unaccounted Springs and Seeps	7.80	7.80	7.80	7.80	7.80
Unaccounted Surface Waters	20.80	20.80	20.80	20.80	20.80
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Sub Total Load at Gridley Bridge	4,439.65	4,413.46	4,430.82	4,437.77	4,442.34
Sub Total Concentration at GB	0.090	0.090	0.090	0.090	0.090
TP Export Loss + Attenuation	-754.74	-750.29	-753.24	-754.42	-755.20
Total Load at Gridley Bridge	3,684.91	3,663.17	3,677.58	3,683.35	3,687.15
Total Load as mg/L TP	0.075	0.075	0.075	0.075	0.075

TSS SOURCES	TSS ton/year	SEASONALITY LOADS, ton/year TSS			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
Total Load at Box Canyon	287,408.37	284,300.05	287,259.33	287,423.85	287,536.80
NPS (Ag, Graze, Private, Corridor)	9,130.26	9,130.26	9,130.26	9,130.26	9,130.26
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	186.33	186.33	186.33	186.33	186.33
Ritter Creek TMDL	69,918.44	69,918.44	69,918.44	69,918.44	69,918.44
Riley Creek TMDL	5,163.80	5,163.80	5,168.80	5,168.80	5,168.80
Sand Springs TMDL	4,688.00	4,688.00	4,688.00	4,688.00	4,688.00
Salmon Falls Creek TMDL	7,641.97	7,641.97	7,641.97	7,641.97	7,641.97
W-26 Drain	928.90	0.00	928.90	928.90	928.90
GAP-009 Pisces/Magic Springs	557.30	557.30	557.30	557.30	557.30
U of I Research Center Lab	0.00	0.00	0.00	0.00	0.00
Unaccounted Springs and Seeps	92.80	92.80	92.80	92.80	92.80
Unaccounted Surface Waters	1,974.40	1,974.40	1,974.40	1,974.40	1,974.40
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Sub Total Load at Gridley Bridge	387,690.57	383,653.35	387,541.53	387,706.05	387,819.00
Sub Total Load at mg/L TSS	43.2	42.8	43.2	43.3	43.3
TSS Export Loss + Attenuation	-38,769.06	-38,365.33	-38,754.15	-38,770.60	-38,781.90
Total Load at Gridley Bridge	348,921.51	345,288.01	348,787.38	348,935.44	349,037.10
Total Load Concentration at GB	38.9	38.5	38.9	38.9	38.9

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor.

10.4.1 RITTER CREEK TMDL (THOUSAND SPRINGS TMDL) - Segment 4 – Middle Snake River

Ritter Creek (or Thousand Springs "Creek") is a natural tributary to the Snake River with nonpoint sources and point sources discharging to it. The load allocations for Ritter Creek are defined as follows based on mean flows. The equivalent pollutant concentrations are 0.100-mg/L TP and 52.0-mg/L TSS.

Ritter Creek: Load Capacities for TP and TSS
TP = 1,366.9 cfs x 0.100-mg/L TP x 5.39 = 736.76-lb/day
TSS = 1,366.9 cfs x 52.0-mg/L TSS x 5.39 x 0.1825 = 69,918.44-ton/year

Table 4-B summarizes the tributaries and the direct dischargers to Ritter Creek and indicates that the beneficial uses for Ritter Creek will be met if the point source and nonpoint source allocations are met by Year 2010.

Table 4-B. Ritter Creek TMDL (Thousand Springs TMDL)

/TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	708.50	708.50	708.50	708.50	708.50
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	14.46	14.46	14.46	14.46	14.46
GAP-061 Ten Springs	13.80	13.80	13.80	13.80	13.80
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.100 mg/L TP)	736.76	736.76	736.76	736.76	736.76

TSS SOURCES	TSS ton/year	SEASONALITY LOADS, ton/year TSS			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	68,369.64	68,369.64	68,369.64	68,369.64	68,369.64
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	1,395.30	1,395.30	1,395.30	1,395.30	1,395.30
GAP-061 Ten Springs	153.50	153.50	153.50	153.50	153.50
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 52.0 mg/L TSS)	69,918.44	69,918.44	69,918.44	69,918.44	69,918.44

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor.

10.4.2 RILEY CREEK TMDL - Segment 4 – Middle Snake River

Riley Creek is a natural tributary to the Snake River with nonpoint sources and point sources discharging to it. The load allocations for Riley Creek are defined as follows based on mean flows. The equivalent pollutant concentrations are 0.100-mg/L TP and 25.0-mg/L TSS. The 25.0-mg/L TSS is because of the special resource water designation and beneficial use for domestic water supply.

Riley Creek: Load Capacities for TP and TSS
TP = 209.98 cfs x 0.100-mg/L TP x 5.39 = 113.18-lb/day
TSS = 209.98 cfs x 25.0-mg/L TSS x 5.39 x 0.1825 = 5,163.80-ton/year

Table 4-C summarizes the tributaries and the direct dischargers to Riley Creek and indicates that the beneficial uses for Riley Creek will be met if the point source and nonpoint source allocations are met by Year 2010.

Table 4-C. Riley Creek TMDL

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	82.10	70.60	82.40	87.40	88.00
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	1.68	1.68	1.68	1.68	1.68
GAP-004 USFWS FH (Federal)	12.20	17.80	6.00	12.80	**[12.20]**
GAP-003 IDFG FH (State)	17.20	23.10	23.10	11.30	11.30
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.100 mg/L TP)	113.18	113.18	113.18	113.18	113.18
TSS SOURCES	TSS ton/year	SEASONALITY LOADS, ton/year TSS			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	4,807.00	4,688.26	4,938.42	4,794.32	4,807.00
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	98.10	98.10	98.10	98.10	98.10
GAP-004 USFWS FH (Federal)	258.70	377.44	127.28	271.38	**[258.70]**
GAP-003 IDFG FH (State)	435.80	585.30	585.30	286.30	286.30

TSS SOURCES	TSS ton/year	SEASONALITY LOADS, ton/year TSS			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 25.0 mg/L TSS)	5,163.80	5,163.80	5,163.80	5,163.80	5,163.80

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor.

The wasteload allocation for GAP-004 is based on a 4-month grouping three times a year. Therefore, the number in brackets [ ] represents the general wasteload allocation value and not the true wasteload allocation., because GAP-004 requests a seasonal wasteload allocation based on 4-month intervals.

10.4.3 SAND SPRINGS CREEK TMDL – Segment 4 – Middle Snake River

Sand Springs "Creek" is a natural tributary to the Snake River with nonpoint sources discharging to it. The load allocations for Sand Springs are defined as follows based on mean flows. The equivalent pollutant concentrations are 0.100-mg/L TP and 52.0-mg/L TSS.

Sand Springs: Load Capacities for TP and TSS
TP = 91.65 cfs x 0.100-mg/L TP x 5.39 = 49.40-lb/day
TSS = 91.65 cfs x 52.0-mg/L TSS x 5.39 x 0.1825 = 4,688.00-ton/year

Table 4-D summarizes the tributaries and the direct dischargers to Sand Springs and indicates that the beneficial uses for Sand Springs will be met if the point source and nonpoint source allocations are met by Year 2010.

Table 4-D. Sand Springs TMDL

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	48.41	48.41	48.41	48.41	48.41
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	0.99	0.99	0.99	0.99	0.99
Point Sources	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.100 mg/L TP)	49.40	49.40	49.40	49.40	49.40
TSS SOURCES	**TSS ton/year**	**SEASONALITY LOADS, ton/year TSS**			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	4,594.24	4,594.24	4,594.24	4,594.24	4,594.24
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	93.76	93.76	93.76	93.76	93.76
Point Sources	0.0	0.0	0.0	0.0	0.0
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 52.0 mg/L TSS)	4,688.0	4,688.0	4,688.0	4,688.0	4,688.0

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor.

10.4.4 SALMON FALLS CREEK TMDL - Segment 4 – Middle Snake River

Salmon Falls Creek is a natural tributary to the Snake River with nonpoint sources discharging to it. The load allocations for Salmon Falls Creek are defined as follows based on mean flows. The equivalent pollutant concentrations are 0.100-mg/L TP and 52.0-mg/L TSS.

Salmon Falls Creek: Load Capacities for TP and TSS
TP = 149.4 cfs x 0.100-mg/L TP x 5.39 = 80.53-lb/day
TSS = 149.4 cfs x 52.0-mg/L TSS x 5.39 x 0.1825 = 7,641.97-ton/year

Table 4-E summarizes the tributaries and the direct dischargers to Salmon Falls Creek and indicates that the beneficial uses for Salmon Falls Creek will be met if the point source and nonpoint source allocations are met by Year 2010.

Table 4-E. Salmon Falls Creek TMDL

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	78.92	78.92	78.92	78.92	78.92
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	1.61	1.61	1.61	1.61	1.61
Point Sources	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.100 mg/L TP)	80.53	80.53	80.53	80.53	80.53
TSS SOURCES	**TSS ton/year**	**SEASONALITY LOADS, ton/year TSS**			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	7,489.13	7,489.13	7,489.13	7,489.13	7,489.13
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	152.84	152.84	152.84	152.84	152.84
Point Sources	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 52.0 mg/L TSS)	7,641.97	7,641.97	7,641.97	7,641.97	7,641.97

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor.

10.5 SEGMENT 5 – MIDDLE SNAKE RIVER – Gridley Bridge to Shoestring Bridge

The load allocations for Segment 5 of the Middle Snake River are defined as follows based on mean flows. These loads represent input loads to Segment 5 at Gridley Bridge. The equivalent pollutant concentrations are 0.075-mg/L TP and 49.9-mg/L TSS.

Gridley Bridge Load Considerations: Input to Segment 5
TP = 9,113.0 cfs x 0.0750199-mg/L TP x 5.39 = 3,684.91-lb/day
TSS = 9,113.0 cfs x 38.9237561-mg/L TSS x 5.39 x 0.1825 = 348,921.51-ton/year

The following export loads at Shoestring Bridge are output loads from Segment 5. Export loss/attenuation is estimated at indicated levels based on instream water-quality levels at the compliance points. The equivalent TP concentration shows an increase in TP to 0.083-mg/L TP with a reduction to 0.075-mg/L TP due to export loss/attenuation within Segment 5. Similarly, the TSS concentration shows a decrease to 40.2-mg/L TSS with a reduction to 36.2-mg/L TSS due to export loss/attenuation within Segment 5.

Shoestring Bridge Load Considerations: Output from Segment 5
TP = 11,108.0 cfs x 0.0829072-mg/L TP x 5.39 = 4,963.83-lb/day
TP Export Loss/Attenuation = 9.8001209% = -486.46
TP = 11,108.0 cfs x 0.0747823-mg/L TP x 5.39 = 4,477.37-lb/day

TSS = 11,108.0 cfs x 40.2301102-mg/L TSS x 5.39 x 0.1825 = 348,921.51-ton/year
TSS Export Loss/Attenuation = 10.0000000% = -44,395.81 ton/year
TSS = 11,108.0 cfs x 36.2070992-mg/L TSS x 5.39 x 0.1825 = 395,622.73-ton/year

In the pollutant transport from Segment 4 to Segment 5, the TP load used for input into Segment 5 was 3,684.91-lb/day TP as 0.075-mg/L TP. The TSS load used for input into Segment 5 was 446,975.72-ton/year TSS as 49.9-mg/L TSS. Table 5-A summarizes the Segment 5 tributaries and the direct dischargers to the Middle Snake River and demonstrates that beneficial uses will be met if point source and nonpoint source allocations are met by Year 2010.

Table 5-A. Segment 5 Allocations for TP and TSS

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
Total Load at Gridley Bridge	3,684.91	3,663.17	3,677.58	3,683.35	3,687.15
NPS (Ag, Graze, Private, Corridor)	95.24	95.24	95.24	95.24	95.24
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	1.94	1.94	1.94	1.94	1.94
Billingsley Creek TMDL (Average)	325.66	325.66	325.66	325.66	325.66
Birch Creek TMDL	10.08	10.08	10.08	10.08	10.08
Stoddard Creek TMDL	9.16	9.16	9.16	9.16	9.16
Decker Springs Creek TMDL	6.41	6.41	6.41	6.41	6.41
Malad River TMDL	97.02	97.02	97.02	97.02	97.02
Malad River Power Flume TMDL	610.15	610.15	610.15	610.15	610.15
GAP-111 FBI/Hensley FH	2.90	2.90	2.90	2.90	2.90
GAP-065 Buckeye Ranch FH	7.50	7.50	7.50	7.50	7.50
GAP-056 Big Bend Trout FH	13.60	13.60	13.60	13.60	13.60
GAP-082 Billingsley Bay FH	11.00	11.00	11.00	11.00	11.00
GAP-098 Lyn Clif Farms FH	3.80	3.80	3.80	3.80	3.80
GAP-020 White Springs FH	13.50	13.50	13.50	13.50	13.50
GAP-090 Smith FH	6.20	7.80	5.00	5.00	7.00
GAP-118 Slane FH	1.90	1.90	1.90	1.90	1.90
GAP-119 John Fleming FH	2.70	2.70	2.70	2.70	2.70
GAP-120 Stevenson FH	2.40	2.40	2.40	2.40	2.40
GAP-076 Lemmon Ponds	1.90	1.90	1.90	1.90	1.90
City of Hagerman POTW	5.70	5.70	5.70	5.70	5.70
Unaccounted Springs and Seeps	17.60	17.60	17.60	17.60	17.60
Unaccounted Surface Waters	46.70	46.70	46.70	46.70	46.70
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Sub Total Load at Shoestring	4,963.83	4,943.69	4,955.30	4.961.07	4,966.87
Sub Total Concentration at SB	0.083	0.083	0.083	0.083	0.083
TP Export Loss/Attenuation	-486.46	-484.48	-485.62	-486.18	-486.75
Total Load at Shoestring Bridge	4,477.37	4,459.21	4,469.68	4,474.88	4,480.11
Total Load as mg/L TP	0.075	0.075	0.075	0.075	0.075

TSS SOURCES	TSS ton/year	SEASONALITY LOADS, ton/year TSS			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
Total Load at Gridley Bridge	348,921.51	345,288.01	348,787.38	348,935.44	349,037.10
NPS (Ag, Graze, Private, Corridor)	1,943.64	1,943.64	1,943.64	1,943.64	1,943.64
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	39.67	39.67	39.67	39.67	39.67
Billingsley Creek TMDL (Average)	14,855.95	14,855.95	14,855.95	14,855.95	14,855.95
Birch Creek TMDL	956.53	956.53	956.53	956.53	956.53
Stoddard Creek TMDL	869.57	869.57	869.57	869.57	869.57
Decker Springs Creek TMDL	608.70	608.70	608.70	608.70	608.70
Malad River TMDL	9,207.20	9,207.20	9,207.20	9,207.20	9,207.20
Malad River Power Flume TMDL	57,803.04	57,803.04	57,803.04	57,803.04	57,803.04
GAP-111 FBI/Hensley FH	40.30	40.30	40.30	40.30	40.30
GAP-065 Buckeye Ranch FH	127.90	127.90	127.90	127.90	127.90
GAP-056 Big Bend Trout FH	190.80	190.80	190.80	190.80	190.80
GAP-082 Billingsley Bay FH	233.10	233.10	233.10	233.10	233.10
GAP-098 Lyn Clif Farms FH	53.60	53.60	53.60	53.60	53.60
GAP-020 White Springs FH	150.00	150.00	150.00	150.00	150.00
GAP-090 Smith FH	66.40	82.90	82.90	50.00	50.00
GAP-118 Slane FH	20.20	20.20	20.20	20.20	20.20
GAP-119 John Fleming FH	27.50	27.50	27.50	27.50	27.50
GAP-120 Stevenson FH	25.10	25.10	25.10	25.10	25.10
GAP-076 Lemmon Ponds	20.20	20.20	20.20	20.20	20.20
City of Hagerman POTW	18.60	18.60	18.60	18.60	18.60
Unaccounted Springs and Seeps	208.70	208.70	208.70	208.70	208.70
Unaccounted Surface Waters	4,434.80	4,434.80	4,434.80	4,434.80	4,434.80
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Sub Total Load at Shoestring	439,580.81	435,963.81	439,463.18	439,578.34	439,680.00
Sub Total Load as mg/L TSS	40.2	39.9	40.2	40.2	40.2
TSS Export Loss/Attenuation	-43,958.08	-43,596.38	-43,946.32	-43,957.83	-43,968.00
Total Load at Shoestring Bridge	395,622.73	392,367.43	395,516.86	395,620.51	395,712.00
Total Load as mg/L TSS at SB	36.2	35.9	36.2	36.2	36.2

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor. SB = Shoestring Bridge.

10.5.1 BILLINGSLEY CREEK TMDL - Segment 5 – Middle Snake River

The Billingsley Creek stream is a springfed system that is utilized for aquaculture fish hatcheries, agriculture, domestic water supply, and recreation. This stream has been suffering from reductions in water volume as a consequence of diversions and upstream groundwater users who pump directly from the aquifer. Because of these water volume reductions, it is difficult to ascertain the amount of water that discharges to the Middle Snake River on an annual basis from year-to-year. The evidence indicates that water flows to the Middle Snake River have been decreasing for over 15 years. Presently (2004), the discharge is less than 20 cfs.

Within the Billingsley Creek drainage in Hagerman Valley, Idaho, there are fifteen (15) fish hatcheries that discharge either to the Snake River, Billingsley Creek, or to quantifiable springs. The wasteload allocations that comprise Part 3 of the Upper Snake Rock TMDL Modification pertain specifically to those fish hatcheries that discharge to Billingsley Creek or to quantifiable springs. Those that discharge to the Snake River are represented in the Part 1 component. The Part 3 component includes the twelve (12) facilities previously listed and thus incorporates 12

segments of Billingsley Creek. The creek throughout its 7 mile stretch is seriously depressed in flow due to a number of water management decisions. There is no evidence to indicate that this low flow condition will improve over the next 5-10 years, although an effort has been launched to pipe irrigation water to the creek so as to establish a minimum flow of sorts.

Presently, the Billingsley Creek TMDL is subdivided into 12 TMDLs based on segmentation of Billingsley Creek. Some portions of Billingsley Creek allow for diversion to occur from the creek itself to aquaculture facilities. Table 5-B describes the overall Billingsley Creek TMDL and provisionally demonstrates that beneficial uses are met under average conditions. However, the total flow utilized is 604.20 cfs, which is an over estimate, is the result of summing up all of the flows in the 12 reaches being considered on Billingsley Creek. There is probably doubling up of some of the flows, thus making it appear as if the flows are larger when in fact they are not.

For purposes of these wasteload allocations, Curren Springs flows that are less than 25.00 cfs will be considered as a low flow scenario. DEQ expects that EPA will accept this low flow scenario for wasteload allocations as protective of the resource. DEQ also expects that should water flows increase significantly in the Curren Springs above 25.00 cfs, that EPA would adjust the wasteload allocations according to the increased level of flow. DEQ expects that the adjustment in the wasteload allocations will occur at the most opportune time that matches with the timeframe for reissuance of the NPDES permit. In addition, DEQ proposes to provide a wasteload allocation to each fish facility on the Billingsley Creek drainage by taking into account the influent and effluent nature of the phosphorus in question. This will insure that the water quality of Billingsley Creek will not be degraded beyond the 0.100 mg/L TP under the worst case scenario of low flow conditions. For total suspended solids (TSS), the 5.0 mg/L NPDES permit limit will be used for the fish facilities. The instream load capacity will be based on 25.0 mg/L TSS to allow protection of the special resource water designation and drinking water supply.

Table 5-B. Billingsley Creek TMDL – Segmentation of Creek Under Average Conditions

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	229.67	229.67	229.67	229.67	229.67
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	4.69	4.69	4.69	4.69	4.69
1. Curren Springs TMDL	7.90	7.90	7.90	7.90	7.90
2. Spring Creek TMDL	1.70	1.70	1.70	1.70	1.70
3. Weatherby Springs TMDL	18.30	18.30	18.30	18.30	18.30
4. Potter Springs TMDL	2.30	2.30	2.30	2.30	2.30
5. Tupper Springs TMDL	0.30	0.30	0.30	0.30	0.30
6. Fisher Lake TMDL	19.90	19.90	19.90	19.90	19.90
7. Hidden Springs TMDL	3.20	3.20	3.20	3.20	3.20
8. Ruby Springs TMDL	32.70	32.70	32.70	32.70	32.70
9. Florence Springs TMDL	0.90	0.90	0.90	0.90	0.90
10. Billingsley Creek TMDL	2.50	2.50	2.50	2.50	2.50
11. South Lateral BC TMDL	1.60	1.60	1.60	1.60	1.60
Point Sources	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.100 mg/L TP)	325.66	325.66	325.66	325.66	325.66

TSS SOURCES	TSS ton/year	SEASONALITY LOADS, ton/year TSS			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	13,141.26	13,141.26	13,141.26	13,141.26	13,141.26
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	268.19	268.19	268.19	268.19	268.19
1. Curren Springs TMDL	101.00	101.00	101.00	101.00	101.00
2. Spring Creek TMDL	30.60	30.60	30.60	30.60	30.60
3. Weatherby Springs TMDL	186.30	186.30	186.30	186.30	186.30
4. Potter Springs TMDL	35.00	35.00	35.00	35.00	35.00
5. Tupper Springs TMDL	6.40	6.40	6.40	6.40	6.40
6. Fisher Lake TMDL	473.50	473.50	473.50	473.50	473.50
7. Hidden Springs TMDL	48.80	48.80	48.80	48.80	48.80
8. Ruby Springs TMDL	459.30	459.30	459.30	459.30	459.30
9. Florence Springs TMDL	18.20	18.20	18.20	18.20	18.20
10. Billingsley Creek TMDL	52.70	52.70	52.70	52.70	52.70
11. South Lateral BC TMDL	34.70	34.70	34.70	34.70	34.70
Point Sources	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 25.0 mg/L TSS)	14,855.95	14,855.95	14,855.95	14,855.95	14,855.95

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor. BC = Billingsley Creek.

10.5.1.1 CURREN SPRINGS TO SPRING CREEK

Average flow conditions in this stretch of Billingsley Creek were 20.50 cfs or more in recent history. But since 1993, the flows have dropped below 20.50 cfs. In 2002 the flows were at 6.35 cfs. Only one point source exists on this segment of Billingsley Creek – Rangens, Inc. Fish Hatchery. Based on consumptive diversions the average availability of water from the stream channel to the facility under low flow conditions is 88.3%. Table 5-B-1 provides the point source (Rangens, Inc. GAP-015) and nonpoint source components for the headwaters of Billingsley Creek (from Curren Springs to Spring Creek) as part of the loading capacity for the stream segment. No other point sources exist. Nonpoint sources are defined as in Part 1 and Part 2 – agriculture, grazing, private land ownership, and in-stream corridor erosion factors.

Table 5-B-1 Rangens, Inc. (GAP-015)

Margin of Safety = Implicit

STREAM Q cfs	TP TARGET mg/l	LOADING CAPACITY	FACILITY Q cfs	NET mg/L	FACILITY LOAD	NPS	STORM WATER	NET NPS
TOTAL PHOSPHORUS, lb/day								
10.0	0.100	5.39	8.83	0.072	3.43	1.96	0.04	1.92
20.0	0.100	10.78	17.66	0.072	6.85	3.93	0.08	3.85
30.0	0.100	16.17	26.49	0.072	10.28	5.89	0.12	5.77
40.0	0.100	21.56	35.32	0.072	13.71	7.85	0.16	7.70
50.0	0.100	26.95	44.15	0.072	17.13	9.82	0.20	9.62
60.0	0.100	32.34	52.98	0.072	20.56	11.78	0.24	11.54
70.0	0.100	37.73	61.81	0.072	23.99	13.74	0.27	13.47
80.0	0.100	43.12	70.64	0.072	27.41	15.71	0.31	15.39
90.0	0.100	48.51	79.47	0.072	30.84	17.67	0.35	17.32
100.0	0.100	53.90	88.30	0.072	34.27	19.63	0.39	19.24

TOTAL SUSPENDED SOLIDS, ton/year								
10.0	25.0	245.92	8.83	5.0	43.43	202.49	4.05	198.44
20.0	25.0	491.84	17.66	5.0	86.86	404.98	8.10	396.88
30.0	25.0	737.76	26.49	5.0	130.29	607.47	12.15	595.32
40.0	25.0	983.68	35.32	5.0	173.72	809.96	16.20	793.76
50.0	25.0	1229.59	44.15	5.0	217.15	1012.45	20.25	992.20
60.0	25.0	1475.51	52.98	5.0	260.58	1214.94	24.30	1190.64
70.0	25.0	1721.43	61.81	5.0	304.00	1417.43	28.35	1389.08
80.0	25.0	1967.35	70.64	5.0	347.43	1619.92	32.40	1587.52
90.0	25.0	2213.27	79.47	5.0	390.86	1822.41	36.45	1785.96
100.0	25.0	2459.19	88.30	5.0	434.29	2024.89	40.50	1984.40
GAP = General Aquaculture Permit. Q = Flow. TP = Total Phosphorus. NPS = Nonpoint source = agriculture, grazing, private land ownership, and in-stream corridor erosion factors.								

Existing mean low flow conditions indicate a stream channel flow of 23.22 cfs with a facility flow of 20.50 cfs. Under these conditions the loading capacity, facility load, and nonpoint source components would be summarized as follows:

TP Loading Capacity = 23.22 cfs x 0.100 mg/L TP x 5.39 = 12.51 lb/day TP
TP Facility Capacity = 20.50 cfs x 0.072 mg/L TP x 5.39 = 7.96 lb/day TP
TP Total Nonpoint Source = 12.51 lb/day – 7.96 lb/day = 4.56 lb/day TP
TP 2% Storm Water Load = 4.56 lb/day TP x 2% = 0.09 lb/day TP
TP Net Nonpoint Source Load = 4.56 lb/day – 0.09 lb/day = 4.47 lb/day TP

TSS Loading Capacity = 23.22 cfs x 25.0 mg/L TSS x 5.39 x 0.1825 = 570.93 ton/year TSS
TSS Facility Capacity = 20.50 cfs x 5.0 mg/L TSS x 5.39 x 0.1825 = 100.83 ton/year TSS
TSS Total Nonpoint Source = 570.93 ton/year – 100.83 ton/year = 470.11 ton/year TSS
TSS 2% Storm Water Load = 470.11 ton/year TSS x 2% = 9.40 ton/year TSS
TSS Net Nonpoint Source Load = 470.11 ton/year – 9.40 ton/year = 460.70 ton/year TSS

Table 5-B-1 shows that irrespective of stream flow, but with a facility net concentration of 0.072 mg/L TP or 5.0 mg/L TSS, and an in-stream target of 0.100 mg/L TP, there is sufficient reasonable assurance that the loading capacity of the stream will not be exacerbated above the in-stream concentration target for TP or TSS.

10.5.1.2 SPRING CREEK

Spring Creek is a tributary of Billingsley Creek with average flow conditions of about 5.0 cfs. Two point sources exist on Spring Creek – Lee Fish Hatchery and Johnson Fish Hatchery. Based on consumptive diversions the average availability of water from the stream channel to the facility under low flow conditions is 94.8% at the Lee Fish Hatchery and 83.3% at the Johnson Fish Hatchery. Table 5-B-2 provides the point sources (Lee's Fish Hatchery [GAP-050] and Johnson's Fish Hatchery [GAP-130]) and nonpoint source components for the headwaters of Billingsley Creek (from Curren Springs to Spring Creek) as part of the loading capacity for the stream segment. No other point sources exist. Nonpoint sources are defined as in Part 1 and Part 2 – agriculture, grazing, private land ownership, and in-stream corridor erosion factors.

Table 5-B-2 Lee's and Johnson's Fish Hatcheries (GAP-050 and GAP-130)

Margin of Safety = Implicit

STREAM Q cfs	TP TARGET mg/L	LOADING CAPACITY	FACILITY Q cfs	NET mg/L	FACILITY LOAD	TOTAL NPS	STORM WATER	NET NPS
LEE'S FISH HATCHERY (GAP-050)								
Lee's Fish Hatchery: TP, lb/day								
5.0	0.100	2.70	4.74	0.058	1.48	1.21	0.02	1.19
10.0	0.100	5.39	9.48	0.058	2.96	2.43	0.05	2.38
Lee's Fish Hatchery: TSS, ton/year								
5.0	25.0	122.96	4.74	5.0	23.31	99.65	1.99	97.65
10.0	25.0	245.92	9.48	5.0	46.63	199.29	3.99	195.31
JOHNSON'S FISH HATCHERY (GAP-130)								
Johnson's Fish Hatchery: TP, lb/day								
5.0	0.100	2.70	4.17	0.043	0.97	1.73	0.03	1.70
10.0	0.100	5.39	8.33	0.043	1.93	3.46	0.07	3.39
Johnson's Fish Hatchery: TSS, ton/year								
5.0	25.0	122.96	4.17	5.0	20.49	102.47	2.05	102.47
10.0	25.0	245.92	8.33	5.0	40.97	204.95	4.10	200.85
GAP = General Aquaculture Permit. Q = Flow. TP = Total Phosphorus. NPS = Nonpoint source = agriculture, grazing, private land ownership, and in-stream corridor erosion factors.								

Existing mean low flow conditions for the Lee Fish Hatchery indicate a stream channel flow of 3.48 cfs with a facility flow of 3.30 cfs. For the Johnson Fish Hatchery the stream channel flow is 3.48 cfs with facility flow of 2.90 cfs. Under these conditions the loading capacity, facility load, and nonpoint source components would be summarized as follows:

Lee Fish Hatchery (GAP-050)

TP Loading Capacity = 3.48 cfs x 0.100 mg/L TP x 5.39 = 1.88 lb/day TP
TP Facility Capacity = 3.30 cfs x 0.058 mg/L TP x 5.39 = 1.03 lb/day TP
TP Total Nonpoint Source = 1.88 lb/day – 1.03 lb/day = 0.84 lb/day TP
TP 2% Storm Water Load = 0.84 lb/day TP x 2% = 0.02 lb/day TP
TP Net Nonpoint Source Load = 0.84 lb/day – 0.02 lb/day = 0.83 lb/day TP

TSS Loading Capacity = 3.48 cfs x 25.0 mg/L TSS x 5.39 x 0.1825 = 85.60 ton/year TSS
TSS Facility Capacity = 3.30 cfs x 5.0 mg/L TSS x 5.39 x 0.1825 = 16.23 ton/year TSS
TSS Total Nonpoint Source = 85.60 ton/year – 16.23 ton/year = 69.37 ton/year TSS
TSS 2% Storm Water Load = 69.37 ton/year TSS x 2% = 1.39 ton/year TSS
TSS Net Nonpoint Source Load = 69.37 ton/year – 1.39 ton/year = 67.99 ton/year TSS

Johnson Fish Hatchery (GAP-130)

TP Loading Capacity = 3.48 cfs x 0.100 mg/L TP x 5.39 = 1.88 lb/day TP
TP Facility Capacity = 2.90 cfs x 0.043 mg/L TP x 5.39 = 0.67 lb/day TP
TP Total Nonpoint Source = 1.88 lb/day – 0.67 lb/day = 1.20 lb/day TP
TP 2% Storm Water Load = 1.20 lb/day TP x 2% = 0.02 lb/day TP
TP Net Nonpoint Source Load = 1.20 lb/day – 0.02 lb/day = 1.18 lb/day TP

TSS Loading Capacity = 3.48 cfs x 25.0 mg/L TSS x 5.39 x 0.1825 = 85.61 ton/year TSS

TSS Facility Capacity = 2.90 cfs x 5.0 mg/L TSS x 5.39 x 0.1825 = 14.26 ton/year TSS
TSS Total Nonpoint Source = 85.61 ton/year – 14.26 ton/year = 71.35 ton/year TSS
TSS 2% Storm Water Load = 71.35 ton/year TSS x 2% = 1.43 ton/year TSS
TSS Net Nonpoint Source Load = 71.35 ton/year – 1.43 ton/year = 69.92 ton/year TSS

Table 5-B-2 shows that irrespective of stream flow, but with a facility net concentration of 0.058 mg/L TP or 5.0 mg/L TSS, for Lee's Fish Hatchery; or, a facility net concentration of 0.043 mg/L TP or 5.0 mg/L TSS, for Johnson's Fish Hatchery, and an in-stream target of 0.100 mg/L TP or 25.0 mg/L TSS, there is sufficient reasonable assurance that the loading capacity of the stream will not be exacerbated above the in-stream concentration target for TP or TSS.

10.5.1.3 WEATHERBY SPRINGS COMPLEX

The Weatherby Springs Complex for the Jones Fish Hatchery is a combination of the Hoagland Tunnel and Weatherby Springs. Based on consumptive diversions the average availability of water from the stream channel to the facility under low flow conditions at the Jones Fish Hatchery is 88.5%. Only one point source (Jones Fish Hatchery) utilizes the water from the Weatherby Springs Complex but discharges to Billingsley Creek. Table 5-B-3 provides the point source (Jones Fish Hatchery, GAP-005) and nonpoint source components for this segment of Billingsley Creek (from Spring Creek to Weatherby Springs) as part of the loading capacity for the stream segment. No other point sources exist. Nonpoint sources are defined as in Part 1 and Part 2 – agriculture, grazing, private land ownership, and in-stream corridor erosion factors.

Table 5-B-3 Jones Fish Hatchery (GAP-005)

Margin of Safety = Implicit

STREAM Q cfs	TP TARGET mg/l	LOADING CAPACITY	FACILITY Q cfs	NET mg/L	FACILITY LOAD	TOTAL NPS	STORM WATER	NET NPS
TOTAL PHOSPHORUS, lb/day								
10.0	0.100	5.39	8.83	0.090	4.28	1.11	0.02	1.08
20.0	0.100	10.78	17.66	0.090	8.57	2.21	0.04	2.17
30.0	0.100	16.17	26.49	0.090	12.85	3.32	0.07	3.25
40.0	0.100	21.56	35.32	0.090	17.13	4.43	0.09	4.34
50.0	0.100	26.95	44.15	0.090	21.42	5.53	0.11	5.42
60.0	0.100	32.34	52.98	0.090	25.70	6.64	0.13	6.51
70.0	0.100	37.73	61.81	0.090	29.98	7.75	0.15	7.59
80.0	0.100	43.12	70.64	0.090	34.27	8.85	0.18	8.68
TOTAL SUSPENDED SOLIDS, ton/year								
10.0	25.0	245.92	8.83	5.0	43.43	202.49	4.05	198.44
20.0	25.0	491.84	17.66	5.0	86.86	404.98	8.10	396.88
30.0	25.0	737.76	26.49	5.0	130.29	607.47	12.15	595.32
40.0	25.0	983.68	35.32	5.0	173.72	809.96	16.20	793.76
50.0	25.0	1229.59	44.15	5.0	217.15	1012.45	20.25	992.20
60.0	25.0	1475.51	52.98	5.0	260.58	1214.94	24.30	1190.64
70.0	25.0	1721.43	61.81	5.0	304.00	1417.43	28.35	1389.08
80.0	25.0	1967.35	70.64	5.0	347.43	1619.92	32.40	1587.52

GAP = General Aquaculture Permit. Q = Flow. TP = Total Phosphorus. NPS = Nonpoint source = agriculture, grazing, private land ownership, and in-stream corridor erosion factors.

Existing mean low flow conditions indicate a stream channel flow of 42.71 cfs with a facility flow of 37.80 cfs. Under these conditions the loading capacity, facility load, and nonpoint source components would be summarized as follows:

TP Loading Capacity = 42.71 cfs x 0.100 mg/L TP x 5.39 = 23.02 lb/day TP
TP Facility Capacity = 37.80 cfs x 0.090 mg/L TP x 5.39 = 18.34 lb/day TP
TP Total Nonpoint Source = 23.02 lb/day – 18.34 lb/day = 4.68 lb/day TP
TP 2% Storm Water Load = 4.68 lb/day TP x 2% = 0.09 lb/day TP
TP Net Nonpoint Source Load = 4.68 lb/day – 0.09 lb/day = 4.59 lb/day TP

TSS Loading Capacity = 42.71 cfs x 25.0 mg/L TSS x 5.39 x 0.1825 = 1050.36 ton/year TSS
TSS Facility Capacity = 37.80 cfs x 5.0 mg/L TSS x 5.39 x 0.1825 = 185.91 ton/year TSS
TSS Total Nonpoint Source = 1050.36 ton/year – 185.91 ton/year = 864.45 ton/year TSS
TSS 2% Storm Water Load = 864.45 ton/year TSS x 2% = 17.29 ton/year TSS
TSS Net Nonpoint Source Load = 864.45 ton/year – 17.29 ton/year = 847.16 ton/year TSS

Table 5-B-3 shows that irrespective of stream flow, but with a facility net concentration of 0.090 mg/L TP or 5.0 mg/L TSS, for Jones Fish Hatchery; and an in-stream target of 0.100 mg/L TP or 25.0 mg/L TSS, there is sufficient reasonable assurance that the loading capacity of the stream will not be exacerbated above the in-stream concentration target for TP or TSS.

10.5.1.4 POTTER SPRINGS COMPLEX

The Potter Springs Complex for the Billingsley Creek Ranch (GAP-066) is a combination of Potter Springs, Hewitt Springs (which is now dry), Big Springs, and Three Springs. Based on consumptive diversions the average availability of water from the stream channel to the facility under low flow conditions is 97.0% at the Billingsley Creek Ranch.

Table 5-B-4 Billingsley Creek Ranch (GAP-066)

Margin of Safety = Implicit

STREAM Q cfs	STREAM TARGET mg/L	LOADING CAPACITY	FACILITY Q cfs	NET mg/L	FACILITY LOAD	TOTAL NPS	STORM WATER	NET NPS
TOTAL PHOSPHORUS, lb/day								
5.0	0.100	2.70	4.85	0.060	1.57	1.13	0.02	1.11
10.0	0.100	5.39	9.70	0.060	3.14	2.25	0.05	2.21
TOTAL SUSPENDED SOLIDS, ton/year								
5.0	25.0	122.96	4.85	5.0	23.85	99.11	1.98	97.12
10.0	25.0	245.92	9.70	5.0	47.71	198.21	3.96	194.21
GAP = General Aquaculture Permit. Q = Flow. TP = Total Phosphorus. NPS = Nonpoint source = agriculture, grazing, private land ownership, and in-stream corridor erosion factors.								

Existing mean low flow conditions indicate a stream channel flow of 7.32 cfs with a facility flow of 7.10 cfs. Under these conditions the loading capacity, facility load, and nonpoint source components would be summarized as follows:

TP Loading Capacity = 7.32 cfs x 0.100 mg/L TP x 5.39 = 3.95 lb/day TP
TP Facility Capacity = 7.10 cfs x 0.060 mg/L TP x 5.39 = 2.30 lb/day TP
TP Total Nonpoint Source = 3.95 lb/day – 2.30 lb/day = 1.65 lb/day TP
TP 2% Storm Water Load = 1.65 lb/day TP x 2% = 0.03 lb/day TP
TP Net Nonpoint Source Load = 1.65 lb/day – 0.03 lb/day = 1.62 lb/day TP

TSS Loading Capacity = 7.32 cfs x 25.0 mg/L TSS x 5.39 x 0.1825 = 180.00 ton/year TSS
TSS Facility Capacity = 7.10 cfs x 5.0 mg/L TSS x 5.39 x 0.1825 = 34.92 ton/year TSS
TSS Total Nonpoint Source = 180.00 ton/year – 34.92 ton/year = 145.08 ton/year TSS
TSS 2% Storm Water Load = 145.08 ton/year TSS x 2% = 2.90 ton/year TSS
TSS Net Nonpoint Source Load = 145.08 ton/year – 2.90 ton/year = 142.18 ton/year TSS

Table 5-B-4 shows that irrespective of stream flow, but with a facility net concentration of 0.060 mg/L TP or 5.0 mg/L TSS, for Billingsley Creek Ranch; and an in-stream target of 0.100 mg/L TP or 25.0 mg/L TSS, there is sufficient reasonable assurance that the loading capacity of the stream will not be exacerbated above the in-stream concentration target for TP or TSS.

10.5.1.5 UNIVERSITY OF IDAHO #1 AND #2

The University of Idaho (GAP-001; formerly Idaho Springs) is divided into two components – (1) The first component is from the Billingsley Creek side; and, (2) The second component is from the Big Springs complex via Fisher Lake. Based on the consumptive diversions of the first component, the average availability of water from the stream channel to the facility is 93.4% on the Billingsley Creek side. The second component, which is made up of Tupper Springs, Fisher Lake, and Big Springs; and based on the consumptive diversions of the second component, has an average availability from the stream channel to the facility of 92.3% on the spring complex side. Thus, the average water availability from #1 and #2 is 92.85%. Table 5-B-5 provides the point source (University of Idaho, GAP-001) and nonpoint source components for this segment of Billingsley Creek as part of the loading capacity for the stream segment. No other point sources exist. Nonpoint sources are defined as in Part 1 and Part 2 – agriculture, grazing, private land ownership, and in-stream corridor erosion factors.

Table 5-B-5 University of Idaho #1 and #2 (GAP-001)

Margin of Safety = Implicit

STREAM Q cfs	TP TARGET mg/L	LOADING CAPACITY	FACILITY Q cfs	NET mg/L	FACILITY LOAD	TOTAL NPS	STORM WATER	NET NPS
TOTAL PHOSPHORUS, lb/day								
10.0	0.100	5.39	9.29	0.050	2.50	2.89	0.06	2.83
25.0	0.100	13.48	23.21	0.050	6.26	7.22	0.14	7.07
50.0	0.100	26.95	46.43	0.050	12.51	14.44	0.29	14.15
75.0	0.100	40.43	69.64	0.050	18.77	21.66	0.43	21.22
100.0	0.100	53.90	92.85	0.050	25.02	28.88	0.58	28.30
125.0	0.100	67.38	116.06	0.050	31.28	36.10	0.72	35.37
150.0	0.100	80.85	139.28	0.050	37.53	43.32	0.87	42.45
175.0	0.100	94.33	162.49	0.050	43.79	50.53	1.01	49.52
TOTAL SUSPENDED SOLIDS, ton/year								
10.0	25.0	245.92	9.29	5.0	45.67	200.25	4.01	196.25
25.0	25.0	614.80	23.21	5.0	114.17	500.63	10.01	490.62
50.0	25.0	1229.59	46.43	5.0	228.34	1001.26	20.03	981.23
75.0	25.0	1844.39	69.64	5.0	342.50	1501.89	30.04	1471.85
100.0	25.0	2459.19	92.85	5.0	456.67	2002.52	40.05	1962.47

125.0	25.0	3073.98	116.06	5.0	570.84	2503.15	50.06	2453.08
150.0	25.0	3688.78	139.28	5.0	685.01	3003.77	60.08	2943.70
175.0	25.0	4303.58	162.49	5.0	799.17	3504.40	70.09	3434.32
GAP = General Aquaculture Permit. Q = Flow. TP = Total Phosphorus. NPS = Nonpoint source = agriculture, grazing, private land ownership, and in-stream corridor erosion factors.								

Existing mean low flow conditions indicate a stream channel flow of 116.32 cfs with a facility flow of 108.00 cfs. Under these conditions the loading capacity, facility load, and nonpoint source components would be summarized as follows:

TP Loading Capacity = 116.32 cfs x 0.100 mg/L TP x 5.39 = 62.69 lb/day TP
TP Facility Capacity = 108.00 cfs x 0.050 mg/L TP x 5.39 = 29.11 lb/day TP
TP Total Nonpoint Source = 62.69 lb/day – 29.11 lb/day = 33.58 lb/day TP
TP 2% Storm Water Load = 33.58 lb/day TP x 2% = 0.67 lb/day TP
TP Net Nonpoint Source Load = 33.58 lb/day – 0.67 lb/day = 32.91 lb/day TP

TSS Loading Capacity = 116.32 cfs x 25.0 mg/L TSS x 5.39 x 0.1825 = 2860.44 ton/year TSS
TSS Facility Capacity = 108.00 cfs x 5.0 mg/L TSS x 5.39 x 0.1825 = 531.18 ton/year TSS
TSS Total Nonpoint Source = 2860.44 ton/year – 531.18 ton/year = 2329.26 ton/year TSS
TSS 2% Storm Water Load = 2329.26 ton/year TSS x 2% = 46.59 ton/year TSS
TSS Net Nonpoint Source Load = 2329.26 ton/year – 46.59 ton/year = 2282.67 ton/year TSS

Table 5-B-5 shows that irrespective of stream flow, but with a facility net concentration of 0.033 mg/L TP or 5.0 mg/L TSS, for the University of Idaho Fish Hatchery; and an in-stream target of 0.100 mg/L TP or 25.0 mg/L TSS, there is sufficient reasonable assurance that the loading capacity of the stream will not be exacerbated above the in-stream concentration target for TP or TSS.

10.5.1.6 TUPPER SPRINGS COMPLEX

The Tupper Springs component for the Tupper Springs Fish Hatchery is strictly for Tupper Springs. Based on consumptive diversions the average availability of water from the stream channel to the facility under low flow conditions is 66.7%.

Table 5-B-6 Tupper Springs Fish Hatchery (GAP-131)

Margin of Safety = Implicit

STREAM Q cfs	STREAM TARGET mg/L	LOADING CAPACITY	FACILITY Q cfs	NET mg/L	FACILITY LOAD	TOTAL NPS	STORM WATER	NET NPS
TOTAL PHOSPHORUS, lb/day								
5.0	0.100	2.70	3.34	0.045	0.81	1.89	0.04	1.85
10.0	0.100	5.39	6.67	0.045	1.62	3.77	0.08	3.70
TOTAL SUSPENDED SOLIDS, ton/year								
5.0	25.0	122.96	3.34	5.0	16.40	106.56	2.13	104.43
10.0	25.0	245.92	6.67	5.0	32.81	213.11	4.26	208.85
GAP = General Aquaculture Permit. Q = Flow. TP = Total Phosphorus. NPS = Nonpoint source = agriculture, grazing, private land ownership, and in-stream corridor erosion factors.								

Existing mean low flow conditions indicate a stream channel flow of 1.95 cfs with a facility flow of 1.30 cfs. Under these conditions the loading capacity, facility load, and nonpoint source components would be summarized as follows:

TP Loading Capacity = 1.95 cfs x 0.100 mg/L TP x 5.39 = 1.05 lb/day TP
TP Facility Capacity = 1.30 cfs x 0.045 mg/L TP x 5.39 = 0.32 lb/day TP
TP Total Nonpoint Source = 1.05 lb/day – 0.32 lb/day = 0.74 lb/day TP
TP 2% Storm Water Load = 0.74 lb/day TP x 2% = 0.01 lb/day TP
TP Net Nonpoint Source Load = 0.74 lb/day – 0.01 lb/day = 0.72 lb/day TP

TSS Loading Capacity = 1.95 cfs x 25.0 mg/L TSS x 5.39 x 0.1825 = 47.93 ton/year TSS
TSS Facility Capacity = 1.30 cfs x 5.0 mg/L TSS x 5.39 x 0.1825 = 6.39 ton/year TSS
TSS Total Nonpoint Source = 47.93 ton/year – 6.39 ton/year = 41.54 ton/year TSS
TSS 2% Storm Water Load = 41.54 ton/year TSS x 2% = 0.83 ton/year TSS
TSS Net Nonpoint Source Load = 41.54 ton/year – 0.83 ton/year = 40.71 ton/year TSS

Table 5-B-6 shows that irrespective of stream flow, but with a facility net concentration of 0.045 mg/L TP or 5.0 mg/L TSS, for Tupper Springs Fish Hatchery; and an in-stream target of 0.100 mg/L TP or 25.0 mg/L TSS, there is sufficient reasonable assurance that the loading capacity of the stream will not be exacerbated above the in-stream concentration target for TP or TSS.

10.5.1.7 HIDDEN SPRINGS

The Hidden Springs component for the Hidden Springs Fish Hatchery is strictly for Hidden Springs. Based on consumptive diversions the average availability of water from the stream channel to the facility under low flow conditions is 93.7%.

Table 5-B-7 Hidden Springs Fish Hatchery (GAP-048)

Margin of Safety = Implicit

STREAM Q cfs	STREAM TARGET mg/L	LOADING CAPACITY	FACILITY Q cfs	NET mg/L	FACILITY LOAD	TOTAL NPS	STORM WATER	NET NPS
TOTAL PHOSPHORUS, lb/day								
5.0	0.100	2.70	4.69	0.060	1.52	1.18	0.02	1.16
10.0	0.100	5.39	9.37	0.060	3.03	2.36	0.05	2.31
20.0	0.100	10.78	18.74	0.060	6.06	4.72	0.09	4.63
30.0	0.100	16.17	28.11	0.060	9.09	7.08	0.14	6.94
TOTAL SUSPENDED SOLIDS, ton/year								
5.0	25.0	122.96	4.69	5.0	23.04	99.92	2.00	97.92
10.0	25.0	245.92	9.37	5.0	46.09	199.83	4.00	195.84
20.0	25.0	491.84	18.74	5.0	92.17	399.67	7.99	391.67
30.0	25.0	737.76	28.11	5.0	138.26	599.50	11.99	587.51
GAP = General Aquaculture Permit. Q = Flow. TP = Total Phosphorus. NPS = Nonpoint source = agriculture, grazing, private land ownership, and in-stream corridor erosion factors.								

Existing mean low flow conditions indicate a stream channel flow of 10.57 cfs with a facility flow of 9.90 cfs. Under these conditions the loading capacity, facility load, and nonpoint source components would be summarized as follows:

TP Loading Capacity = 10.57 cfs x 0.100 mg/L TP x 5.39 = 5.69 lb/day TP
TP Facility Capacity = 9.90 cfs x 0.060 mg/L TP x 5.39 = 3.20 lb/day TP
TP Total Nonpoint Source = 5.69 lb/day – 3.20 lb/day = 2.49 lb/day TP
TP 2% Storm Water Load = 2.49 lb/day TP x 2% = 0.05 lb/day TP
TP Net Nonpoint Source Load = 2.49 lb/day – 0.05 lb/day = 2.44 lb/day TP

TSS Loading Capacity = 10.57 cfs x 25.0 mg/L TSS x 5.39 x 0.1825 = 259.83 ton/year TSS
TSS Facility Capacity = 9.90 cfs x 5.0 mg/L TSS x 5.39 x 0.1825 = 48.69 ton/year TSS
TSS Total Nonpoint Source = 259.83 ton/year – 48.69 ton/year = 211.14 ton/year TSS
TSS 2% Storm Water Load = 211.14 ton/year TSS x 2% = 4.22 ton/year TSS
TSS Net Nonpoint Source Load = 211.14 ton/year – 4.22 ton/year = 206.91 ton/year TSS

Table 5-B-7 shows that irrespective of stream flow, but with a facility net concentration of 0.060 mg/L TP or 5.0 mg/L TSS, for Hidden Springs Fish Hatchery; and an in-stream target of 0.100 mg/L TP or 25.0 mg/L TSS, there is sufficient reasonable assurance that the loading capacity of the stream will not be exacerbated above the in-stream concentration target for TP or TSS.

10.5.1.8 FISHERIES DEVELOPMENT – CREEK SIDE AND SPRING SIDE

The Fisheries Development is divided into two components – (1) the first component is from the Billingsley Creek side; and, (2) The second component is from the Ruby Springs side. Based on the consumptive diversions of the first component, the average availability of water from the stream channel to the facility is 64.7% on the Billingsley Creek side. The second component, which is made up of Ruby Springs alone, and based on the consumptive diversions of the second component, has an average availability from the stream channel to the facility of 97.9% on the spring complex side. A weighted mean value of the average water availability would be 70.9%.

Table 5-B-8 Fisheries Development #1 and #2 (GAP-017)

Margin of Safety = Implicit

STREAM Q cfs	TP TARGET mg/L	LOADING CAPACITY	FACILITY Q cfs	NET mg/L	FACILITY LOAD	TOTAL NPS	STORM WATER	NET NPS
TOTAL PHOSPHORUS, lb/day								
10.0	0.100	5.39	7.09	0.065	2.48	2.91	0.06	2.85
25.0	0.100	13.48	17.73	0.065	6.21	7.27	0.15	7.12
50.0	0.100	26.95	35.45	0.065	12.42	14.53	0.29	14.24
75.0	0.100	40.43	53.18	0.065	18.63	21.80	0.44	21.36
100.0	0.100	53.90	70.90	0.065	24.84	29.06	0.58	28.48
125.0	0.100	67.38	88.63	0.065	31.05	36.33	0.73	35.60
150.0	0.100	80.85	106.35	0.065	37.26	43.59	0.87	42.72
TOTAL SUSPENDED SOLIDS, ton/year								
10.0	25.0	245.92	7.09	5.0	34.87	211.05	4.22	206.83
25.0	25.0	614.80	17.73	5.0	87.18	527.62	10.55	517.07
50.0	25.0	1229.59	35.45	5.0	174.36	1055.24	21.10	1034.13
75.0	25.0	1844.39	53.18	5.0	261.53	1582.86	31.66	1551.20
100.0	25.0	2459.19	70.90	5.0	348.71	2110.47	42.21	2068.27
125.0	25.0	3073.98	88.63	5.0	435.89	2638.09	52.76	2585.33
150.0	25.0	3688.78	106.35	5.0	523.07	3165.71	63.31	3102.40

GAP = General Aquaculture Permit. Q = Flow. TP = Total Phosphorus. NPS = Nonpoint source = agriculture, grazing, private land ownership, and in-stream corridor erosion factors.

Existing mean low flow conditions indicate a stream channel flow of 94.89 cfs with a facility flow of 92.90 cfs. Under these conditions the loading capacity, facility load, and nonpoint source components would be summarized as follows:

TP Loading Capacity = 94.89 cfs x 0.100 mg/L TP x 5.39 = 51.15 lb/day TP
TP Facility Capacity = 92.90 cfs x 0.065 mg/L TP x 5.39 = 32.55 lb/day TP
TP Total Nonpoint Source = 51.15 lb/day – 32.55 lb/day = 18.60 lb/day TP
TP 2% Storm Water Load = 18.60 lb/day TP x 2% = 0.37 lb/day TP
TP Net Nonpoint Source Load = 18.60 lb/day – 0.37 lb/day = 18.23 lb/day TP

TSS Loading Capacity = 94.89 cfs x 25.0 mg/L TSS x 5.39 x 0.1825 = 2333.59 ton/year TSS
TSS Facility Capacity = 92.90 cfs x 5.0 mg/L TSS x 5.39 x 0.1825 = 456.92 ton/year TSS
TSS Total Nonpoint Source = 2333.59 ton/year – 456.92 ton/year = 1876.67 ton/year TSS
TSS 2% Storm Water Load = 1876.67 ton/year TSS x 2% = 37.53 ton/year TSS
TSS Net Nonpoint Source Load = 1856.67 ton/year – 37.53 ton/year = 1839.14 ton/year TSS

Table 5-B-8 shows that irrespective of stream flow, but with a facility net concentration of 0.065 mg/L TP or 5.0 mg/L TSS, for the Fisheries Development Fish Hatchery; and an in-stream target of 0.100 mg/L TP or 25.0 mg/L TSS, there is sufficient reasonable assurance that the loading capacity of the stream will not be exacerbated above the in-stream concentration target for TP or TSS.

10.5.1.9 FLORENCE LIVESTOCK SPRINGS

The Florence Livestock Springs component for the Emerald Valley Ranch Fish Hatchery (or Idaho State Park) is strictly for the Florence Livestock Springs. Based on consumptive diversions the average availability of water from the stream channel to the facility under low flow conditions is 97.4%%.

Table 5-B-9 Emerald Valley Ranch Fish Hatchery (GAP-132)

Margin of Safety = Implicit

STREAM Q cfs	STREAM TARGET mg/L	LOADING CAPACITY	FACILITY Q cfs	NET mg/L	FACILITY LOAD	TOTAL NPS	STORM WATER	NET NPS
TOTAL PHOSPHORUS, lb/day								
5.0	0.100	2.70	4.87	0.043	1.13	1.57	0.03	1.54
10.0	0.100	5.39	9.74	0.043	2.26	3.13	0.06	3.07
TOTAL SUSPENDED SOLIDS, ton/year								
5.0	25.0	122.96	4.87	5.0	23.95	99.01	1.98	97.03
10.0	25.0	245.92	9.74	5.0	47.93	198.01	3.96	194.05
GAP = General Aquaculture Permit. Q = Flow. TP = Total Phosphorus. NPS = Nonpoint source = agriculture, grazing, private land ownership, and in-stream corridor erosion factors.								

Existing mean low flow conditions indicate a stream channel flow of 3.80 cfs with a facility flow of 3.70 cfs. Under these conditions the loading capacity, facility load, and nonpoint source components would be summarized as follows:

TP Loading Capacity = 3.80 cfs x 0.100 mg/L TP x 5.39 = 2.05 lb/day TP
TP Facility Capacity = 3.70 cfs x 0.043 mg/L TP x 5.39 = 0.86 lb/day TP
TP Total Nonpoint Source = 2.05 lb/day – 0.86 lb/day = 1.19 lb/day TP

TP 2% Storm Water Load = 1.19 lb/day TP x 2% = 0.02 lb/day TP
TP Net Nonpoint Source Load = 1.19 lb/day – 0.02 lb/day = 1.17 lb/day TP

TSS Loading Capacity = 3.80 cfs x 25.0 mg/L TSS x 5.39 x 0.1825 = 93.42 ton/year TSS
TSS Facility Capacity = 3.70 cfs x 5.0 mg/L TSS x 5.39 x 0.1825 = 18.20 ton/year TSS
TSS Total Nonpoint Source = 93.42 ton/year – 18.20 ton/year = 75.22 ton/year TSS
TSS 2% Storm Water Load = 75.22 ton/year TSS x 2% = 1.50 ton/year TSS
TSS Net Nonpoint Source Load = 75.22 ton/year – 1.50 ton/year = 73.72 ton/year TSS

Table 5-B-9 shows that irrespective of stream flow, but with a facility net concentration of 0.043 mg/L TP or 5.0 mg/L TSS, for the Emerald Valley Ranch Fish Hatchery; and an in-stream target of 0.100 mg/L TP or 25.0 mg/L TSS, there is sufficient reasonable assurance that the loading capacity of the stream will not be exacerbated above the in-stream concentration target for TP or TSS.

10.5.1.10 TALBOTT'S FISH HATCHERY

The Billingsley Creek portion has a component for the Talbott Fish Hatchery that is strictly from the Billingsley Creek side. Its component is the average availability of water from the stream channel to the facility under low flow conditions and is 20.6%.

Table 5-B-10 Talbott's Fish Hatchery (GAP-083)

Margin of Safety = Implicit

STREAM Q cfs	STREAM TARGET mg/L	LOADING CAPACITY	FACILITY Q cfs	NET mg/L	FACILITY LOAD	TOTAL NPS	STORM WATER	NET NPS
TOTAL PHOSPHORUS, lb/day								
25.0	0.100	13.48	5.15	0.043	1.19	12.28	0.25	12.04
50.0	0.100	26.95	10.30	0.043	2.39	24.56	0.49	24.07
75.0	0.100	40.43	15.45	0.043	3.58	36.84	0.74	36.11
100.0	0.100	53.90	20.60	0.043	4.77	49.13	0.98	48.14
TOTAL SUSPENDED SOLIDS, ton/year								
25.0	25.0	614.80	5.15	5.0	25.33	589.47	11.79	577.68
50.0	25.0	1229.59	10.30	5.0	50.66	1178.93	23.58	1155.36
75.0	25.0	1844.39	15.45	5.0	75.99	1768.40	35.37	1733.03
100.0	25.0	2459.19	20.60	5.0	101.32	2357.87	47.16	2310.71
GAP = General Aquaculture Permit. Q = Flow. TP = Total Phosphorus. NPS = Nonpoint source = agriculture, grazing, private land ownership, and in-stream corridor erosion factors.								

Existing mean low flow conditions indicate a stream channel flow of 51.94 cfs with a facility flow of 10.70 cfs. Under these conditions the loading capacity, facility load, and nonpoint source components would be summarized as follows:

TP Loading Capacity = 51.94 cfs x 0.100 mg/L TP x 5.39 = 28.00 lb/day TP
TP Facility Capacity = 10.70 cfs x 0.043 mg/L TP x 5.39 = 2.48 lb/day TP
TP Total Nonpoint Source = 28.00 lb/day – 2.48 lb/day = 25.52 lb/day TP
TP 2% Storm Water Load = 25.52 lb/day TP x 2% = 0.51 lb/day TP
TP Net Nonpoint Source Load = 25.52 lb/day – 0.51 lb/day = 25.01 lb/day TP

TSS Loading Capacity = 51.94 cfs x 25.0 mg/L TSS x 5.39 x 0.1825 = 1277.34 ton/year TSS
TSS Facility Capacity = 10.70 cfs x 5.0 mg/L TSS x 5.39 x 0.1825 = 52.63 ton/year TSS
TSS Total Nonpoint Source = 1277.34 ton/year – 52.63 ton/year = 1224.72 ton/year TSS
TSS 2% Storm Water Load = 1224.72 ton/year TSS x 2% = 24.49 ton/year TSS
TSS Net Nonpoint Source Load = 1224.72 ton/year – 24.49 ton/year = 1200.22 ton/year TSS

Table 5-B-10 shows that irrespective of stream flow, but with a facility net concentration of 0.043 mg/L TP or 5.0 mg/L TSS, for Talbott's Fish Hatchery; and an in-stream target of 0.100 mg/L TP or 25.0 mg/L TSS, there is sufficient reasonable assurance that the loading capacity of the stream will not be exacerbated above the in-stream concentration target for TP or TSS.

10.5.1.11 BOYER'S FISH HATCHERY

The South Lateral Billingsley Creek portion has a component for the Boyer Fish Hatchery that is strictly from the South Lateral Billingsley Creek side. Its component is the average availability of water from the stream channel to the facility under low flow conditions and is 57.5%.

Table 5-B-11 Boyer's Fish Hatchery (GAP-096)

Margin of Safety = Implicit

STREAM Q cfs	STREAM TARGET mg/L	LOADING CAPACITY	FACILITY Q cfs	NET mg/L	FACILITY LOAD	TOTAL NPS	STORM WATER	NET NPS
TOTAL PHOSPHORUS, lb/day								
5.0	0.100	2.70	2.88	0.043	0.67	2.03	0.04	1.99
10.0	0.100	5.39	5.75	0.043	1.33	4.06	0.08	3.98
15.0	0.100	8.09	8.63	0.043	2.00	6.09	0.12	5.96
TOTAL SUSPENDED SOLIDS, ton/year								
5.0	25.0	122.96	2.88	5.0	14.14	108.82	2.18	106.64
10.0	25.0	245.92	5.75	5.0	28.28	217.64	4.35	213.29
15.0	25.0	368.88	8.63	5.0	42.42	326.46	6.53	319.93
GAP = General Aquaculture Permit. Q = Flow. TP = Total Phosphorus. NPS = Nonpoint source = agriculture, grazing, private land ownership, and in-stream corridor erosion factors.								

Existing mean low flow conditions indicate a stream channel flow of 9.41 cfs with a facility flow of 5.41 cfs. Under these conditions the loading capacity, facility load, and nonpoint source components would be summarized as follows:

TP Loading Capacity = 9.41 cfs x 0.100 mg/L TP x 5.39 = 5.07 lb/day TP
TP Facility Capacity = 5.41 cfs x 0.043 mg/L TP x 5.39 = 1.25 lb/day TP
TP Total Nonpoint Source = 5.07 lb/day – 1.25 lb/day = 3.82 lb/day TP
TP 2% Storm Water Load = 3.82 lb/day TP x 2% = 0.08 lb/day TP
TP Net Nonpoint Source Load = 3.82 lb/day – 0.08 lb/day = 3.74 lb/day TP

TSS Loading Capacity = 9.41 cfs x 25.0 mg/L TSS x 5.39 x 0.1825 = 231.38 ton/year TSS
TSS Facility Capacity = 5.41 cfs x 5.0 mg/L TSS x 5.39 x 0.1825 = 26.61 ton/year TSS
TSS Total Nonpoint Source = 231.38 ton/year – 26.61 ton/year = 204.77 ton/year TSS
TSS 2% Storm Water Load = 204.77 ton/year TSS x 2% = 4.1 ton/year TSS
TSS Net Nonpoint Source Load = 204.77 ton/year – 4.1 ton/year = 200.67 ton/year TSS

Table 5-B-11 shows that irrespective of stream flow, but with a facility net concentration of 0.043 mg/L TP or 5.0 mg/L TSS, for Hidden Springs Fish Hatchery; and an in-stream target of 0.100 mg/L TP or 25.0 mg/L TSS, there is sufficient reasonable assurance that the loading capacity of the stream will not be exacerbated above the in-stream concentration target for TP or TSS.

10.5.1.12 SUMMARY OF EXISTING CONDITIONS

Table 5-B-12 summarizes the existing low flow conditions and what the wasteload allocations would ultimately end up being assuming conditions remained "as is". If water volume increases due to more favorable aquifer conditions, then the existing conditions would need to be modified accordingly and thus reflect such changes in their NPDES permit. There is no guarantee that former water conditions will return even if existing conditions change for the better. Under existing conditions with Curren Springs discharging 25.0 cfs or less into Billingsley Creek, the discharge of water from Billingsley Creek into the Snake River is less than 12.0 cfs. Bear in mind that present "average" conditions as presently existing represent a very low flow scenario.

Table 5-B-12 Summary of Existing Conditions on Billingsley Creek and in the Facilities

Margin of Safety = Implicit

GAP NO.	STREAM FLOW cfs	LOADING CAPACITY	FACILITY FLOW cfs	NET mg/L	FACILITY LOAD	TOTAL NPS LOAD	STORM WATER LOAD	NET NPS LOAD
TOTAL PHOSPHORUS, lb/day								
GAP-015	23.22	12.51	20.50	0.072	7.96	4.56	0.09	4.47
GAP-050	3.48	1.88	3.30	0.058	1.03	0.84	0.02	0.83
GAP-130	3.48	1.88	2.90	0.043	0.67	1.20	0.02	1.18
GAP-005	42.71	23.02	37.80	0.090	18.34	4.68	0.09	4.59
GAP-066	7.32	3.95	7.10	0.060	2.30	1.65	0.03	1.62
GAP-001	116.32	62.69	108.00	0.050	29.11	33.58	0.67	32.91
GAP-131	1.95	1.05	1.30	0.045	0.32	0.74	0.01	0.72
GAP-048	10.57	5.69	9.90	0.060	3.20	2.49	0.05	2.44
GAP-017	94.89	51.15	92.90	0.065	32.55	18.60	0.37	18.23
GAP-132	3.80	2.05	3.70	0.043	0.86	1.19	0.02	1.17
GAP-083	51.94	28.00	10.70	0.043	2.48	25.52	0.51	25.01
GAP-096	9.41	5.07	5.41	0.043	1.25	3.82	0.08	3.74
TOTAL	369.08	198.94	303.51	0.061[A]	100.07	98.87	1.96	96.91
TP mg/L	-	0.100	-	-	0.061	0.039	0.001	0.038
TOTAL SUSPENDED SOLIDS, ton/year								
GAP-015	23.22	570.93	20.50	5.0	100.83	470.11	9.40	460.70
GAP-050	3.48	85.60	3.30	5.0	16.23	69.37	1.39	67.99
GAP-130	3.48	85.61	2.90	5.0	14.26	71.35	1.43	69.92
GAP-005	42.71	1050.36	37.80	5.0	185.91	864.45	17.29	847.16
GAP-066	7.32	180.00	7.10	5.0	34.92	145.08	2.90	142.18
GAP-001	116.32	2860.44	108.00	5.0	531.18	2329.26	46.59	2282.67
GAP-131	1.95	47.93	1.30	5.0	6.39	41.54	0.83	40.71
GAP-048	10.57	259.83	9.90	5.0	48.69	211.14	4.22	206.91
GAP-017	94.89	2333.59	92.90	5.0	456.92	1876.67	37.53	1839.14
GAP-132	3.80	93.42	3.70	5.0	18.20	75.22	1.50	73.72
GAP-083	51.94	1277.34	10.70	5.0	52.63	1224.72	24.49	1200.22
GAP-096	9.41	231.38	5.41	5.0	26.61	204.77	4.1	200.67

TOTAL SUSPENDED SOLIDS, ton/year								
TOTAL	369.08	9076.45	303.51	5.0[A]	1492.78	7583.68	151.67	7432.00
TSS mg/L	-	25.0	-	-	5.0	20.0	0.4	19.6
GAP = General Aquaculture Permit. [A] The Net mg/L represents a weighted mean value.								

10.5.2 BIRCH SPRINGS "CREEK" TMDL - Segment 5 – Middle Snake River

Birch Springs "Creek" is a natural springfed tributary to the Snake River with nonpoint sources and point sources discharging to it. The load allocations for Birch Springs "Creek" are defined as follows based on mean flows. The equivalent pollutant concentrations are 0.100-mg/L TP and 52.0-mg/L TSS.

Birch Springs "Creek": Load Capacities for TP and TSS
TP = 18.7 cfs x 0.100-mg/L TP x 5.39 = 10.08-lb/day
TSS = 18.7 cfs x 52.0-mg/L TSS x 5.39 x 0.1825 = 956.53-ton/year

It is noted that the full flow of Birch Springs "Creek" is captured and utilized for the aquaculture fish hatcheries and agriculture. A number of input seeps and smaller springs discharge into the "creek". Because reuse of the effluent is occurring through the facilities, and because some of the effluent is used as irrigation, double counting of the flow is possible. This TMDL modification will need to be assessed more fully prior to the 5-year milestone (2005) to determine a more accurate flow value. Table 5-C summarizes the tributaries and the direct dischargers to Birch Springs "Creek" and indicates that the beneficial uses for Birch Springs "Creek" will be met if the point source and nonpoint source allocations are met by Year 2010.

Table 5-C. Birch Springs "Creek" TMDL

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	1.55	1.55	1.55	1.55	1.55
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	0.03	0.03	0.03	0.03	0.03
GAP-087 C. J. Simms FH	2.90	2.90	2.90	2.90	2.90
GAP-105 Mike Fleming FH	1.30	1.30	1.30	1.30	1.30
GAP-062 Birch Creek FH	4.30	4.30	4.30	4.30	4.30
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.100 mg/L TP)	10.08	10.08	10.08	10.08	10.08
TSS SOURCES	**TSS ton/year**	**SEASONALITY LOADS, ton/year TSS**			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	837.05	837.05	837.05	837.05	837.05
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	17.08	17.08	17.08	17.08	17.08
GAP-087 C. J. Simms FH	31.50	31.50	31.50	31.50	31.50
GAP-105 Mike Fleming FH	26.60	26.60	26.60	26.60	26.60
GAP-062 Birch Creek FH	44.30	44.30	44.30	44.30	44.30
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 52.0 mg/L TSS)	956.53	956.53	956.53	956.53	956.53

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor.

10.5.3 STODDARD SPRINGS "CREEK" TMDL - Segment 5 – Middle Snake River

Stoddard Springs "Creek" is a natural springfed tributary to the Snake River with nonpoint sources and point sources discharging to it. The load allocations for Stoddard Springs "Creek" are defined as follows based on mean flows. The equivalent pollutant concentrations are 0.100-mg/L TP and 52.0-mg/L TSS.

Stoddard Springs "Creek": Load Capacities for TP and TSS
TP = 17.0 cfs x 0.100-mg/L TP x 5.39 = 9.16-lb/day
TSS = 17.0 cfs x 52.0-mg/L TSS x 5.39 x 0.1825 = 869.57-ton/year

It is noted that the full flow of Stoddard Springs "Creek" is captured and utilized for the aquaculture fish hatcheries and agriculture. A number of input seeps and smaller springs discharge into the "creek". Because reuse of the effluent is occurring through the facilities, double counting of the flow is possible. This TMDL will need to be assessed more fully prior to the 5-year milestone (2005) to determine a more accurate flow value. Table 5-D summarizes the tributaries and the direct dischargers to Stoddard Springs "Creek" and indicates that the beneficial uses for Stoddard Springs "Creek" will be met if the point source and nonpoint source allocations are met by Year 2010.

Table 5-D. Stoddard Springs "Creek" TMDL

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	1.92	1.92	1.92	1.92	1.92
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	0.04	0.04	0.04	0.04	0.04
GAP-049 Bell Ponds FH	1.20	1.20	1.20	1.20	1.20
GAP-117 Standal Ponds FH	1.70	1.70	1.70	1.70	1.70
GAP-026 White Water Ranch FH	4.30	4.30	4.30	4.30	4.30
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.100 mg/L TP)	9.16	9.16	9.16	9.16	9.16
TSS SOURCES	**TSS ton/year**	**SEASONALITY LOADS, ton/year TSS**			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	768.39	768.39	768.39	768.39	768.39
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	15.68	15.68	15.68	15.68	15.68
GAP-049 Bell Ponds FH	16.70	16.70	16.70	16.70	16.70
GAP-117 Standal Ponds FH	23.60	23.60	23.60	23.60	23.60
GAP-026 White Water Ranch FH	45.20	45.20	45.20	45.20	45.20
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 52.0 mg/L TSS)	869.57	869.57	869.57	869.57	869.57

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor.

10.5.4 DECKER SPRINGS "CREEK" TMDL - Segment 5 – Middle Snake River

Decker Springs "Creek" is a natural springfed tributary to the Snake River with nonpoint sources and point sources discharging to it. The load allocations for Decker Springs "Creek" are defined

as follows based on mean flows. The equivalent pollutant concentrations are 0.100-mg/L TP and 52.0-mg/L TSS.

Decker Springs "Creek": Load Capacities for TP and TSS
TP = 11.9 cfs x 0.100-mg/L TP x 5.39 6.41-lb/day
TSS = 11.9 cfs x 52.0-mg/L TSS x 5.39 x 0.1825 = 608.70-ton/year

It is noted that the full flow of Decker Springs "Creek" is captured and utilized for the aquaculture fish hatcheries. Table 5-E summarizes the tributaries and the direct dischargers to Decker Springs "Creek" and indicates that the beneficial uses for Decker Springs "Creek" will be met if the point source and nonpoint source allocations are met by Year 2010.

Table 5-E. Decker Springs "Creek" TMDL

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	0.40	0.40	0.40	0.40	0.40
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	0.01	0.01	0.01	0.01	0.01
GAP-107 Decker FH	2.50	2.50	2.50	2.50	2.50
GAP-106 Woods FH	3.50	3.50	3.50	3.50	3.50
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.100 mg/L TP)	6.41	6.41	6.41	6.41	6.41
TSS SOURCES	**TSS ton/year**	**SEASONALITY LOADS, ton/year TSS**			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	497.25	497.25	497.25	497.25	497.25
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	10.15	10.15	10.15	10.15	10.15
GAP-107 Decker FH	52.10	52.10	52.10	52.10	52.10
GAP-106 Woods FH	49.20	49.20	49.20	49.20	49.20
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 52.0 mg/L TSS)	608.70	608.70	608.70	608.70	608.70

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor.

10.5.5 MALAD RIVER and POWER FLUME TMDL - Segment 5 – Middle Snake River - Discharges into Middle Snake River

The Malad River is formed from the combination of the Little Wood River discharging into the Big Wood River. At the confluence of these two river systems, the Malad River is formed, and it eventually discharges into the Middle Snake River. The water quality of the Malad River is influenced from the Little Wood River and the Big Wood River systems, as well as from the Malad River springs complex. Consequently, the Malad River is a combination of a natural tributary with the addition of the Malad River spring complex water.

Two miles upstream of the Malad River's confluence with the Middle Snake River, is found the Malad Hydroelectric Project (FERC No. 2726-012 Idaho). The hydroelectric project is divided into two components – an upper development site and a lower development site. The maximum hydraulic capacity of the upper site is 950 cfs, whereas the maximum hydraulic capacity of the lower site is 1400 cfs. Both sites contain concrete diversion dams. Flows through the Power Flume average 1,132.0 cfs, and flows through the Malad River average 180.0 cfs, or a total of 1,312.00 cfs.

The Malad River has nonpoint sources discharging to it. The load allocations for the Malad River are defined as follows based on mean flows. The equivalent pollutant concentrations are 0.100-mg/L TP and 52.0-mg/L TSS.

Malad River: Load Capacities for TP and TSS
Total TP = 1,312.0 cfs x 0.100 mg/L TP x 5.39 = 707.17 lb/day
Malad River T7P = 180.0 cfs x 0.100-mg/L TP x 5.39 = 97.02-lb/day
Storm Water TP = 707.17 lb/day x 0.02 = 14.14 lb/day
Power Flume TP = 707.17 lb/day – (97.02 lb/day + 14.14 lb/day) = 596.01 lb/day

Total TSS = 1,312.0 cfs x 52.0 mg/L x 5.39 x 0.1825 = 67,110.24 ton/year
Malad River TSS = 180.0 cfs x 52.0-mg/L TSS x 5.39 x 0.1825 = 9,207.20-ton/year
Storm Water TP = 67,110.24 ton/year x 0.02 = 1,342.20 ton/year
Power Flume TSS = 67,110.24 ton/year – (9,207.20 + 1,342.20) = 56,560.84 ton/year

It is noted that the full flow of Malad River and the Power Flume is captured and utilized for nonpoint sources. No point sources are known to exist. Table 5-F summarizes the tributaries and the direct dischargers to Malad River system (inclusive of the Power Flume). Table 5-F indicates that the beneficial uses for the Malad River system will be met if the point source and nonpoint source allocations are met by Year 2010.

Table 5-F. Malad River and Power Flume TMDL

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor):					
Malad River TMDL	97.02	97.02	97.02	97.02	97.02
Power Flume TMDL	596.01	596.01	596.01	596.01	596.01
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	14.14	14.14	14.14	14.14	14.14
Point Sources	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.100 mg/L TP)	707.17	707.17	707.17	707.17	707.17
TSS SOURCES	**TSS ton/year**	**SEASONALITY LOADS, ton/year TSS**			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor):					
Malad River TMDL	9,207.20	9,207.20	9,207.20	9,207.20	9,207.20
Power Flume TMDL	56,560.84	56,560.84	56,560.84	56,560.84	56,560.84
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	1,342.20	1,342.20	1,342.20	1,342.20	1,342.20
Point Sources	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 52.0 mg/L TSS)	67,110.24	67,110.24	67,110.24	67,110.24	67,110.24

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor.

10.6 SEGMENT 6 – MIDDLE SNAKE RIVER – Shoestring Bridge to King Hill Bridge

The load allocations for Segment 6 of the Middle Snake River are defined as follows based on mean flows. These loads represent input loads to Segment 6 at Shoestring Bridge. The equivalent pollutant concentrations are 0.075-mg/L TP and 36.2-mg/L TSS.

Shoestring Bridge Load Considerations: Input to Segment 6
TP = 11,108.0 cfs x 0.0747823-mg/L TP x 5.39 = 4,477.38-lb/day
TSS = 11,108.0 cfs x 36.2070992-mg/L TSS x 5.39 x 0.1825 = 395,622.73-ton/year

The following export loads at King Hill Bridge are output loads from Segment 6. Export loss/attenuation is estimated at indicated levels based on instream water-quality levels at the compliance points. The equivalent TP concentration shows an increase in TP to 0.076-mg/L TP with a reduction to 0.075-mg/L TP due to export loss/attenuation within Segment 6. Similarly, the TSS concentration shows a decrease to 35.9-mg/L TSS with a reduction to 32.3-mg/L TSS due to export loss/attenuation within Segment 6.

King Hill Bridge Load Considerations: Output from Segment 6
TP = 11,398.0 cfs x 0.0763068-mg/L TP x 5.39 = 4,687.92-lb/day
TP Export Loss/Attenuation = 2.0% = -93.76 lb/day
TP = 11,398.0 cfs x 0.0747806-mg/L TP x 5.39 = 4,594.16-lb/day

TSS = 11,398.0 cfs x 35.9282564-mg/L TSS x 5.39 x 0.1825 = 402,825.01-ton/year
TSS Export Loss/Attenuation = 10.0% = -40,282.50-ton/year
TSS = 11,398.0 cfs x 32.3354308-mg/L TSS x 5.39 x 0.1825 = 362,542.51-ton/year

In the pollutant transport from Segment 5 to Segment 6, the TP load used for input into Segment 6 was 4,477.38-lb/day TP as 0.075-mg/L TP. The TSS load used for input into Segment 6 was 395,622.73-ton/year TSS as 36.2-mg/L TSS. Table 6-A summarizes the Segment 6 tributaries and the direct dischargers to the Middle Snake River and demonstrates that beneficial uses will be met if point source and nonpoint source allocations are met by Year 2010.

Table 6-A. Segment 6 Allocations for TP and TSS

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
Total Load at Shoestring Bridge	4,477.37	4,459.21	4,469.68	4,474.88	4,480.11
NPS (Ag, Graze, Private, Corridor)	103.22	103.22	103.22	103.22	103.22
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	0.44	0.44	0.44	0.44	0.44
Clover Creek TMDL	21.96	21.96	21.96	21.96	21.96
Pioneer Reservoir TMDL	21.96	21.96	21.96	21.96	21.96
Black Mesa Pump – Diversion	-28.10	-28.10	-28.10	-28.10	-28.10
Wiley Pumps - Diversion	-8.50	-8.50	-8.50	-8.50	-8.50
Unaccounted Springs and Seeps	26.80	26.80	26.80	26.80	26.80
Unaccounted Surface Waters	71.10	71.10	71.10	71.10	71.10
Point Sources	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Sub Total Load at King Hill	4,687.92	4,669.76	4,680.23	4,685.43	4,690.66
Sub Total Concentration at KH	0.076	0.076	0.076	0.076	0.076
TP Export Loss	-93.76	-93.40	-93.60	-93.71	-93.81
Total Load at King Hill	4,594.16	4,576.36	4,586.63	4,591.73	4,596.85

Total Load as mg/L TP	0.075	0.075	0.075	0.075	0.075
TSS SOURCES	TSS ton/year	SEASONALITY LOADS, ton/year TSS			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
Total Load at Shoestring Bridge	395,622.73	392,367.43	395,516.86	395,620.51	395,712.00
NPS (Ag, Graze, Private, Corridor)	2,277.38	2,277.38	2,277.38	2,277.38	2,277.38
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	46.48	46.48	46.48	46.48	46.48
Clover Creek TMDL	2,084.41	2,084.41	2,084.41	2,084.41	2,084.41
Pioneer Reservoir TMDL	2,084.41	2,084.41	2,084.41	2,084.41	2,084.41
Black Mesa Pump – Diversion	-3,252.70	-3,252.70	-3,252.70	-3,252.70	-3,252.70
Wiley Pumps - Diversion	-987.20	-987.20	-987.20	-987.20	-987.20
Unaccounted Springs and Seeps	317.50	317.50	317.50	317.50	317.50
Unaccounted Surface Waters	4,632.00	4,632.00	4,632.00	4,632.00	4,632.00
Point Sources	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Sub Total Load at King Hill	402,825.01	399,569.71	402,719.14	402,822.79	402,914.28
Sub Total Load as mg/L TSS	35.9	35.6	35.9	35.9	35.9
TSS Export Loss	-40,282.50	-39,956.97	-40,271.91	-40,282.28	-40,291.43
Total Load at King Hill	362,542.51	359,612.74	362,447.23	362,540.51	362,622.85
Total Load as Concentration at KH	32.3	32.1	32.3	32.3	32.3

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor.

10.6.1 CLOVER CREEK TMDL - Segment 6 – Middle Snake River

Clover Creek is a natural tributary to the Snake River with nonpoint sources and point sources discharging to it. The load allocations for Clover Creek are defined as follows based on mean flows. The equivalent pollutant concentrations are 0.100-mg/L TP and 52.0-mg/L TSS.

Clover Creek: Load Capacities for TP and TSS
TP = 40.75 cfs x 0.100-mg/L TP x 5.39 = 21.96-lb/day
TSS = 40.75 cfs x 52.0-mg/L TSS x 5.39 x 0.1825 = 2,084.41-ton/year

It is noted that the full flow of Clover Creek is captured and utilized for nonpoint sources. No point sources are known to exist. Table 6-B summarizes the tributaries and the direct dischargers to Clover Creek and indicates that the beneficial uses for Clover Creek will be met if the point source and nonpoint source allocations are met by Year 2010.

Table 6-B. Clover Creek TMDL

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	21.52	21.52	21.52	21.52	21.52
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	0.44	0.44	0.44	0.44	0.44
Point Sources	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.100 mg/L TP)	21.96	21.96	21.96	21.96	21.96

TSS SOURCES	TSS ton/year	SEASONALITY LOADS, ton/year TSS			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	2,042.72	2,042.72	2,042.72	2,042.72	2,042.72
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	41.69	41.69	41.69	41.69	41.69
Point Sources	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 52.0 mg/L TSS)	2,084.41	2,084.41	2,084.41	2,084.41	2,084.41

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor.

10.6.2 PIONEER RESERVOIR TMDL - Segment 6 – Middle Snake River

Pioneer Reservoir is a manmade reservoir on the Clover Creek drainage with nonpoint sources discharging to it. The load allocations for Pioneer Reservoir are defined as follows based on mean flows. The equivalent pollutant concentrations are 0.100-mg/L TP and 52.0-mg/L TSS. It is noted that in the Upper Snake Rock TMDL, the allocations described in Table 105 (p 214) indicate a reduction TSS target of 388.8 ton/year as the year 10 target. This is calculated incorrectly because it is based on the mean TSS value and not the 52.0 mg/L TSS target. In the TMDL Executive Summary (Table 4a, p A-12), it also shows incorrectly the Pioneer Reservoir TMDL as 388.0 ton/year TSS. This is also incorrectly noted in Table 8f, p A-29.

Pioneer Reservoir: Load Capacities for TP and TSS
TP = 40.75 cfs x 0.100-mg/L TP x 5.39 = 21.96-lb/day
TSS = 40.75 cfs x 52.0-mg/L TSS x 5.39 x 0.1825 = 2,084.41-ton/year

Table 6-C summarizes the tributaries and the direct dischargers to Pioneer Reservoir and indicates that the beneficial uses for Pioneer Reservoir will be met if the point source and nonpoint source allocations are met by Year 2010.

Table 6-C. Pioneer Reservoir TMDL

TP SOURCES	TP lb/day	SEASONALITY LOADS, lb/day TP			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	21.52	21.52	21.52	21.52	21.52
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	0.44	0.44	0.44	0.44	0.44
Point Sources	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 0.100 mg/L TP)	21.96	21.96	21.96	21.96	21.96
TSS SOURCES	TSS ton/year	SEASONALITY LOADS, ton/year TSS			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4
NPS (Ag, Graze, Private, Corridor)	2,042.72	2,042.72	2,042.72	2,042.72	2,042.72
FERC, LAFs, CFOs	0.00	0.00	0.00	0.00	0.00
Stormwater – Construction Activities	41.69	41.69	41.69	41.69	41.69
Point Sources	0.00	0.00	0.00	0.00	0.00
Margin of Safety	Implicit	Implicit	Implicit	Implicit	Implicit
Total Load (at 52.0 mg/L TSS)	2,084.41	2,084.41	2,084.41	2,084.41	2,084.41

NPS = Nonpoint sources for agriculture, grazing, and private ground. TP = Total phosphorus. TSS = Total suspended solids. Qtr = Quarter. FERC = Hydropower facilities. LAFs = Land application facilities. CFOs = Confined feeding operations. FH = Fish hatchery. FP = Fish processor.

11.0 REASONABLE ASSURANCE IN BENEFICIAL USE ATTAINMENT

This section will summarize in succinct fashion how the DEQ will reasonably assure that beneficial use attainment will be achieved in the Middle Snake River and on the various tributaries with the inputs from the aquaculture wasteload allocations. All reasonable assurance discussions are specifically linked to the various TMDLs that are defined within the Upper Snake Rock TMDL.

11.1 MIDDLE SNAKE RIVER BENEFICIAL USE ATTAINMENT

This section provides a general summary of the Middle Snake River segments for TP and TSS. All tributaries, whether direct or indirect, are set specifically to assist in meeting the targets in the Middle Snake River as well as in the tributary itself. The net flow for the entire river is the difference between the flow at King Hill (11,398.0 cfs) and the flow at Milner Dam (3,860.0 cfs), which is 7,538.0 cfs. As described in the Upper Snake Rock TMDL (1999) and the Executive Summary (2000), this net flow is translated as average flow.

	----------TP Load, lb/day----------		
Segment	Output Load	Input Load	Net Load
1	1,912.52	1,560.41	352.11
2	2,222.10	1,912.52	309.58
3	2,914.77	2,222.10	692.67
4	3,684.91	2,914.77	770.14
5	4,477.37	3,684.91	792.46
6	4,594.16	4,477.37	116.79
Total Net	2,681.64 (Net)	2,916.96 (Net)	3,033.75 lb/day TP = 0.075 mg/L TP (Summation)

	----------TSS Load, ton/year----------		
Segment	Output Load	Input Load	Net Load
1	196,035.35	197,443.25	-1,407.90
2	244,823.28	217,817.06	27,006.22
3	287,408.37	244,823.28	42,585.09
4	348,921.51	287,408.37	61,513.14
5	395,622.73	348,921.51	46,701.22
6	362,542.51	395,622.73	-33,080.22
Total Net	166,507.16 (Net)	198,179.48 (Net)	143,317.55 ton/year TSS = 19.3 mg/L TSS (Summation)

Bear in mind that within the Middle Snake River, six segments have been designated under the Upper Snake Rock TMDL (1999) to meet water quality standards (0.075 mg/L TP and 52.0 mg/L TSS) as surrogates for beneficial use attainment by Year 2010. That means that seven (7) compliance locations (or six segments) have to meet the water quality surrogate targets. Under the Mid-Snake TMDL (1997) only one compliance point was designated at the Gridley Bridge station. No consideration was given for any of the other compliance location under the Mid-Snake TMDL (1997).

11.2 REASONABLE ASSURANCE IN BENEFICIAL USE ATTAINMENT

Reasonable assurance is a component of TMDL development that applies specifically to point sources that have requested a modification in their NPDES permit limits based on promised load allocation components and reductions from the nonpoint source community. Therefore,

1. Point Source Reasonable Assurance. There is a reasonable assurance that point sources will meet their wasteload allocations because the Clean Water Act requires NPDES permits contain limits consistent with approved wasteload allocations. Each TMDL that has a point source has the point source wasteload allocation intended to achieve, in conjunction with reductions from nonpoint sources, compliance with Water Quality Standards and beneficial use attainment. Within the body of the Upper Snake Rock TMDL Modification, there exist 22 streams or stream segments that contain point sources – 5 Middle Snake River segments and 17 tributaries that are specifically structured to meet the surrogate water quality targets for beneficial use attainment.

2. Nonpoint Source Reasonable Assurance. There is a reasonable assurance that nonpoint sources will meet their wasteload allocations and thereby help achieve compliance with Water Quality Standards. Nonpoint source load allocations will be implemented by designated agencies pursuant to Idaho Code §39-3612 and the Water Quality Standards. Within the body of the Upper Snake Rock TMDL Modification, there exist 17 streams or stream segments that contain nonpoint sources – 1 Middle Snake River comprised of six (6) segments and 16 tributaries that are specifically structured to meet the surrogate water quality targets for beneficial use attainment. Presently, there are implementation projects ongoing in several of these nonpoint source streams.

3. Tributaries' Load Capacity. The load capacity of all tributaries is subject to instream water quality targets of 0.100 mg/L TP and 52.0 mg/L TSS or 25.0 mg/L TSS. The water quality targets of 0.100 mg/L TP and 52.0 mg/L TSS are based on free-flowing streams discharging into other free-flowing streams. In streams where the designation is special resource water or drinking water supply, a 25.0 mg/L TSS water quality target has been used with a 0.100 mg/L TP target. All point sources and nonpoint sources have been assigned wasteload and load allocations to meet the water quality targets for beneficial use attainment. No aquaculture facility caused any tributary to exceed the TMDL instream targets. We can thus assume that if these targets are indeed met by the Year 2010, the beneficial uses of the tributaries will be met.

4. Middle Snake River Load Capacity. The Middle Snake River is subject to instream water quality targets of 0.075 mg/L TP and 52.0 mg/L TSS. All point sources and nonpoint sources have been assigned wasteload and load allocations to meet the water quality targets for beneficial use attainment. No aquaculture facility caused any segment of the Middle Snake River to exceed the TMDL instream targets. We can thus assume that if these targets are indeed met by the Year 2010, the beneficial uses of the tributaries will be met in the Middle Snake River.

5. Groundwater Load Capacity. All springs that are discharging into the river or an associated tributary have been set to an instream water quality target surrogate of 0.020 mg/L TP and 1.3 mg/L TSS. In the event that the water quality for TP or TSS elevates statistically to a significant level, then DEQ with the Mid-Snake WAG will re-evaluate the entire TMDL for additional reduction goals. The main premise of the present Upper Snake Rock TMDL is

based on groundwater water quality not elevating to significant levels above 0.020 mg/L TP or 1.3 mg/L TSS.

6. Stationary and Seasonal TP Pollutant Concentrations: Relative to the stationary wasteload allocations for TP of the aquaculture facilities, the overall TP total (as wasteload allocations) is 985.66 lb/day TP. That translates to 1.6% above the 970.2 lb/day, which falls within the 10% maximum threshold as described in Section 7.0, subsection 6a. From a concentration perspective, the TP (in mg/L) is the equivalent of 0.075 mg/L TP, which falls within the instream water quality target of 0.075 mg/L TP, thus meeting the instream water quality standard for TP in the Middle Snake River.

   Relative to the seasonal wasteload allocations for TP of the aquaculture facilities, the following list summarizes the seasonal responses:

Season	Wasteload Allocation	% of 970.2	Concentration
Winter	1,017.96 lb/day TP	4.7% above	0.077 mg/L TP
Spring	971.56 lb/day TP	0.1% below	0.074 mg/L TP
Summer	975.06 lb/day TP	0.5% above	0.074 mg/L TP
Fall	977.66 lb/day TP	0.8% above	0.074 mg/L TP

   The highest overage of TP occurred during the winter quarter, followed by fall and summer. As in all cases the overage falls within the 10% maximum threshold as described in Section 7.0, subsection 6a. From a concentration perspective, the TP (in mg/L) is the equivalent of 0.077, 0.074, 0.074, and 0.074 mg/L TP. Only the winter quarter showed the higher increase in TP, and this was during the coldest months of the year when macrophyte growth is not critical as in the summer. However, the spring, summer, and fall months indicate that the TP concentration is well below the concentration for the instream water quality surrogate target.

7. Stationary and Seasonal TSS Pollutant Concentrations: Relative to the stationary wasteload allocations for TSS of the aquaculture facilities, the overall TSS total (as wasteload allocations) is 12,044.1 ton/year TSS. That translates to 1.4% below the 12,209.9 ton/year, which falls within the 10% maximum threshold as described in Section 7.0, subsection 6a. From a concentration perspective, the TSS (in mg/L) is the equivalent of 5.0 mg/L TP, which falls within the instream water quality target of 5.0 mg/L TSS, thus meeting the instream water quality standard for TSS for aquaculture facilities in the Middle Snake River.

   Relative to the seasonal wasteload allocations for TSS of the aquaculture facilities, the following list summarizes the seasonal responses:

Season	Wasteload Allocation	% of 12,209.9	Concentration
Winter	12,638.7 ton/year TSS	3.4% above	5.2 mg/L TSS
Spring	11,732.3 ton/year TSS	4.1% below	4.9 mg/L TSS
Summer	11,922.5 ton/year TSS	2.4% below	4.9 mg/L TSS
Fall	12,028.3 ton/year TSS	1.5% below	5.0 mg/L TSS

   The highest overage of TP occurred during the winter months followed by spring, spring, and summer. The overage falls within the 10% maximum

threshold as described in Section 7.0, subsection 6a. From a concentration perspective, the TSS (in mg/L) is the equivalent of 5.2, 4.9, 4.9, and 5.0 mg/L TSS. Only the winter quarter showed the higher increase in TSS, and this was during the coldest months of the year when macrophyte growth is not critical as in the summer. However, the spring, summer, and fall months indicate that the TP concentration was well below the concentration for the instream water quality surrogate target.

Based on the foregoing, there is a reasonable assurance that water quality standards and beneficial use support will be reached for TP and TSS as a consequence of the wasteload allocations for the various aquaculture facilities and load allocations for nonpoint sources. In those instances where overages of TP or TSS occurred, such overages occurred during the winter months of the year or at those times when critical flow was not important. A preliminary mid-course assessment is scheduled for Year 2005 with a final assessment in the Year 2010.

Relative to the fish processors, there is a reasonable assurance that beneficial use attainment will be reached in the Cedar Draw and Clear Lakes tributaries, since the instream targets are defined expressly to meet their beneficial uses. Consequently, we may conclude that if the loading capacities of these tributaries are met, the loading capacity of the Middle Snake River will be met, and thus beneficial uses will be attained in the river and in the tributaries.

12.0 REFERENCES

The following references are cited within this TMDL modification document.

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Appendix A
Disclosure and Request for Seasonal Wasteload Allocations

The Idaho Department of Environmental Quality requires the individual seasonal quarterly wasteload allocations for each facility that operates seasonally. The seasonal wasteload allocations will be assigned to their respective NPDES permit. Seasonal facilities that do not submit this information to DEQ during the public comment period will not be eligible to receive a seasonal wasteload allocation but will receive the standard wasteload allocation for the entire year. Seasonal wasteload allocations must be determined individually for each facility for total phosphorus and total suspended solids. DEQ has the option to deny or modify the seasonal wasteload allocations if they do not meet beneficial uses and/or water quality standards.

Quarter	Months	Characteristics
Qtr 1	December, January, February	Winter Months
Qtr 2	March, April, May	Spring Months
Qtr 3	June, July, August	Summer Months
Qtr 4	September, October, November	Fall Months

Facility Name: _____
NPDES No.: _____

Check One: ☐ We desire a seasonal wasteload allocation.
☐ We do not desire a seasonal wasteload allocation.

Present Wasteload Allocations: See the appropriate tributary or river segment in the body of the public comment document.

TOTAL PHOSPHORUS: _____ **LB/DAY = A**
TOTAL SUSPENDED SOLIDS: _____ **TON/YEAR = B**

	QTR 1 lb/day	QTR 2 lb/day	QTR 3 lb/day	QTR 4 lb/day	Sum of 4 QTRs
A =___lb/day					
Sum of 4 QTRs divided by 4 = _____ = A (lb/day TP) = TP Base Wasteload Allocation					

	QTR 1 ton/year	QTR 2 ton/year	QTR 3 ton/year	QTR 4 ton/year	Sum of 4 QTRs
B =___ton/yr					
Sum of 4 QTRs divided by 4 = _____ = B (ton/year TSS) = TSS Base Wasteload Allocation					

Signature_____
Date_____
Owner, Operator or Legal Representative

Appendix B
Table of Aquaculture Facilities and Their Wasteload Allocations

Appendix B-1 summarizes the aquaculture facilities and their wasteload allocations.

Table Appendix B-1. Stationary Wasteload Allocations for TP and TSS

GENERAL AQUACULTURE PERMIT	NAME OF FACILITY	VERSION 13 CLASS	SUBCOMMITTEE TIER LEVEL	SUBCOMMITTEE FLOW, cfs	TP lb/day	TSS ton/year
CLASSIFICATION 1 FACILITIES						
002	Snake River Hatchery	1	1	95.8	47.00	471.2
006	Crystal Springs Trout Farm	1	1	205.5	82.50	1,010.7
007	Clear Springs/ Middle Hatchery	1	1	181.5	75.00	892.7
008	Blue Lakes Trout Farm	1	1	156.7	69.20	770.7
009	Magic Springs Hatchery	1	1	113.3	50.10	557.3
010	Rim View Trout Co.	1	1	140.4	62.10	690.5
011	Clear Lakes/ Middle Hatchery	1	1	160.4	70.90	788.9
014	Box Canyon Trout Farm	1	1	299.1	141.00	1,471.1
018	Pristine Springs FH – Cold Water	1	1	114.5	50.61	585.3
018	Pristine Springs FH – Warm Water	1	1	4.5	4.85	
Sub Total		-	-	1,471.7	653.26	7,238.4
% of Total		-	-	60.1%	66.3%	60.1%
CLASSIFICATION 2 FACILITIES						
020	White Springs Trout Farm	2	1	30.5	13.50	150.0
041	FBI/ Catfish Farm	2	W	11.3	16.30	55.6
054	Kaster Trout Farm/ Briggs West	2	1	70.2	31.00	345.3
061	Blind Canyon Aqua Ranch/ Ten	2	1	31.2	13.80	153.5
088	Briggs Creek Fisheries	2	1	22.8	10.10	112.1
Sub Total		-	-	166.0	84.70	816.5
% of Total		-	-	6.8%	8.6%	6.8%
CLASSIFICATION 3 FACILITIES						
003	Hagerman IDFG	3	3	88.6	17.20	435.8
004	Hagerman USFWS	3	3	52.6	12.20	258.7
013	Niagara Springs Hatchery	3	3	72.4	14.40	356.1
016	Magic Valley Steelhead Hatchery	3	3	70.5	15.20	346.7
019	Cedar Draw Hatchery	3	3	26.9	5.70	132.3
026	White Water Ranch	3	1	9.2	4.30	45.2
028	Rainbow Trout Farm/ Filer	3	1	11.3	5.30	55.6
029	Rainbow Trout Farm/ Buhl	3	1	6.5	3.80	32.0
036	Canyon Trout Farm	3	1	9.1	4.70	44.8
040	Tunnel Creek Hatchery	3	2	9.3	3.30	45.7
046	Yoder Farm Ponds/ SeaPac	3	2	6.8	3.70	33.4
047	Peter's Farm Pond	3	3	7.4	2.00	36.4
053	Deep Creek Trout Farm	3	3	28.9	6.70	142.1

056	Big Bend Trout Farm	3	2	38.8	13.60	190.8
057	Cox Farm Ponds	3	3	28.6	6.60	140.7
059	Olson Ponds	3	2	3.4	1.20	16.7
060	Blind Canyon Hatchery	3	1	8.1	3.80	39.8
062	Birch Creek Trout	3	2	9.0	4.30	44.3
064	W & W Trout Farm	3	2	13.7	4.80	67.4
065	Buckeye Ranch	3	3	26.0	7.50	127.9
070	Juker Ponds	3	2	3.6	1.30	17.7
077	Boswell Trout Farm	3	3	25.0	6.10	123.0
082	Billingsley Bay/ Eckles Fish Farm	3	3	47.4	11.00	233.1
084	Daydream Ranch Facility	3	2	11.9	4.20	58.5
090	Smith Farm Ponds	3	1	13.5	6.20	66.4
097	C & M Fish Farm	3	3	13.9	3.30	68.4
104	Canyon Springs	3	W	11.8	12.10	58.0
106	Woods	3	2	10.0	3.50	49.2
107	Decker Springs	3	3	10.6	2.50	52.1
109	RCP	3	3	2.8	1.40	13.8
116	First Ascent/ Don Campbell	3	W	6.7	7.20	33.0
119	John Fleming Ponds	3	1	5.6	2.70	27.5
120	Stevenson Ponds	3	1	5.1	2.40	25.1
133	FBI, Baker Place	3	1	10.0	4.60	49.2
Sub Total		-	-	705.0	208.80	3,467.4
% of Total		-	-	28.8%	21.2%	28.8%
CLASSIFICATION 4 FACILITIES						
027	Greene's Trout FH	4	2	0.0	0.00	0.0
049	Bell Fish Pond FH	4	2	3.4	1.20	16.7
063	White's Trout Farm FH	4	2	3.3	1.60	16.2
069	Dolana Farm Ponds FH	4	1	3.9	1.80	19.2
076	Lemmon Ponds FH	4	1	4.1	1.90	20.2
079	Blau Farm Pond FH	4	3	5.6	1.30	27.5
080	Buhl Trout Rearing Facility	4	3	9.9	3.50	48.7
087	C. J. Simms Farm Ponds FH	4	1	6.4	2.90	31.5
091	Deadman Hatchery	4	3	9.4	2.20	46.2
098	Lyn Cliff Fish Farm	4	2	10.9	3.80	53.6
100	Gary Wright Farm Ponds	4	2	6.0	3.40	29.5
102	Rock Ridge Ranch FH	4	1	1.7	0.80	8.4
103	Stutzman Farm Ponds	4	3	1.7	0.60	8.4
105	Mike Fleming FH	4	3	5.4	1.30	26.6
111	Fish Breeders of Idaho / Henslee	4	2	8.2	2.90	40.3
112	Howell Farm Ponds	4	2	4.9	1.70	24.1
115	Leo Martins FH	4	3	9.3	2.20	45.7
117	Standal Ponds FH	4	2	4.8	1.70	23.6
118	Slane Ponds FH	4	2	4.1	1.90	20.2
124	CSI Fish Hatchery	4	1	3.1	2.20	15.2
Sub Total		-	-	106.1	38.90	521.8
% of Total		-	-	4.3%	3.9%	4.3%
Overall Total		-	-	2,448.8	985.66	12,044.1
Overall %		-	-	100.0%	100.0%	100.0%

Table **Appendix B-2**. Seasonality Wasteload Allocations for TP

GENERAL AQUACULTURE PERMIT	NAME OF FACILITY	TP STATIONARY WLA, lb/day	TP SEASONAL WLA, lb/day			
			QTR1 Winter Dec-Feb	QTR2 Spring Mar-May	QTR3 Summer Jun-Aug	QTR4 Fall Sep-Nov
CLASSIFICATION 1 FACILITIES						
002	Snake River Hatchery	47.00	47.00	47.00	47.00	47.00
006	Crystal Springs Trout Farm	82.50	82.50	82.50	82.50	82.50
007	Clear Springs/ Middle Hatchery	75.00	75.00	75.00	75.00	75.00
008	Blue Lakes Trout Farm	69.20	69.20	69.20	69.20	69.20
009	Magic Springs Hatchery	50.10	50.10	50.10	50.10	50.10
010	Rim View Trout Co.	62.10	62.10	62.10	62.10	62.10
011	Clear Lakes/ Middle Hatchery	70.90	70.90	70.90	70.90	70.90
014	Box Canyon Trout Farm	141.00	141.00	141.00	141.00	141.00
018	Pristine Springs FH – Cold Water	50.61	50.61	50.61	50.61	50.61
018	Pristine Springs FH –Warm Water	4.85	4.85	4.85	4.85	4.85
Sub Total		653.26	653.26	653.26	653.26	653.26
% of Total		66.3%	64.2%	67.2%	67.0%	66.8%
CLASSIFICATION 2 FACILITIES						
020	White Springs Trout Farm	13.50	13.50	13.50	13.50	13.50
041	FBI/ Catfish Farm	16.30	19.60	13.00	13.00	19.60
054	Kaster Trout Farm/ Briggs West	31.00	31.00	31.00	31.00	31.00
061	Blind Canyon Aqua Ranch/ Ten	13.80	13.80	13.80	13.80	13.80
088	Briggs Creek Fisheries	10.10	10.10	10.10	10.10	10.10
Sub Total		84.70	88.00	81.40	81.40	88.00
% of Total		8.6%	8.6%	8.4%	8.3%	9.0%
CLASSIFICATION 3 FACILITIES						
003	Hagerman IDFG	17.20	23.10	23.10	11.30	11.30
004	Hagerman USFWS	12.20	17.80	6.00	12.80	(12.20)
013	Niagara Springs Hatchery	14.40	22.00	6.30	14.90	(14.40)
016	Magic Valley Steelhead Hatchery	15.20	21.70	7.70	16.20	(15.20)
019	Cedar Draw Hatchery	5.70	5.70	5.70	5.70	5.70
026	White Water Ranch	4.30	4.30	4.30	4.30	4.30
028	Rainbow Trout Farm/ Filer	5.30	5.30	5.30	5.30	5.30
029	Rainbow Trout Farm/ Buhl	3.80	3.80	3.80	3.80	3.80
036	Canyon Trout Farm	4.70	4.70	4.70	4.70	4.70
040	Tunnel Creek Hatchery	3.30	3.30	3.30	3.30	3.30
046	Yoder Farm Ponds/ SeaPac	3.70	3.70	3.70	3.70	3.70
047	Peter's Farm Pond	2.00	2.00	2.00	2.00	2.00
053	Deep Creek Trout Farm	6.70	4.20	9.30	9.00	4.30
056	Big Bend Trout Farm	13.60	13.60	13.60	13.60	13.60
057	Cox Farm Ponds	6.60	6.60	6.60	6.60	6.60
059	Olson Ponds	1.20	1.20	1.20	1.20	1.20
060	Blind Canyon Hatchery	3.80	3.80	3.80	3.80	3.80
062	Birch Creek Trout	4.30	4.30	4.30	4.30	4.30

GENERAL AQUACULTURE PERMIT	NAME OF FACILITY	TP STATIONARY WLA, lb/day	TP SEASONAL WLA, lb/day			
			QTR1 Winter Dec-Feb	QTR2 Spring Mar-May	QTR3 Summer Jun-Aug	QTR4 Fall Sep-Nov
064	W & W Trout Farm	4.80	4.80	4.80	4.80	4.80
065	Buckeye Ranch	7.50	7.50	7.50	7.50	7.50
070	Juker Ponds	1.30	1.30	1.30	1.30	1.30
077	Boswell Trout Farm	6.10	11.00	11.00	1.20	1.20
082	Billingsley Bay/ Eckles Fish Farm	11.00	11.00	11.00	11.00	11.00
084	Daydream Ranch Facility	4.20	4.20	4.20	4.20	4.20
090	Smith Farm Ponds	6.20	7.80	5.00	5.00	7.00
097	C & M Fish Farm	3.30	3.30	3.30	3.30	3.30
104	Canyon Springs	12.10	12.10	12.10	12.10	12.10
106	Woods	3.50	3.50	3.50	3.50	3.50
107	Decker Springs	2.50	2.50	2.50	2.50	2.50
109	RCP	1.40	1.40	1.40	1.40	1.40
116	First Ascent/ Don Campbell	7.20	7.20	7.20	7.20	7.20
119	John Fleming Ponds	2.70	2.70	2.70	2.70	2.70
120	Stevenson Ponds	2.40	2.40	2.40	2.40	2.40
133	FBI, Baker Place	4.60	4.00	3.80	5.30	5.30
Sub Total		208.80	237.80	198.40	201.90	197.10
% of Total		21.2%	23.4%	20.4%	20.7%	20.2%
CLASSIFICATION 4 FACILITIES						
027	Greene's Trout FH	0.00	0.00	0.00	0.00	0.00
049	Bell Fish Pond FH	1.20	1.20	1.20	1.20	1.20
063	White's Trout Farm FH	1.60	1.60	1.60	1.60	1.60
069	Dolana Farm Ponds FH	1.80	1.80	1.80	1.80	1.80
076	Lemmon Ponds FH	1.90	1.90	1.90	1.90	1.90
079	Blau Farm Pond FH	1.30	1.30	1.30	1.30	1.30
080	Buhl Trout Rearing Facility	3.50	3.50	3.50	3.50	3.50
087	C. J. Simms Farm Ponds FH	2.90	2.90	2.90	2.90	2.90
091	Deadman Hatchery	2.20	2.20	2.20	2.20	2.20
098	Lyn Cliff Fish Farm	3.80	3.80	3.80	3.80	3.80
100	Gary Wright Farm Ponds	3.40	3.40	3.40	3.40	3.40
102	Rock Ridge Ranch FH	0.80	0.80	0.80	0.80	0.80
103	Stutzman Farm Ponds	0.60	0.60	0.60	0.60	0.60
105	Mike Fleming FH	1.30	1.30	1.30	1.30	1.30
111	Fish Breeders of Idaho / Henslee	2.90	2.90	2.90	2.90	2.90
112	Howell Farm Ponds	1.70	1.70	1.70	1.70	1.70
115	Leo Martins FH	2.20	2.20	2.20	2.20	2.20
117	Standal Ponds FH	1.70	1.70	1.70	1.70	1.70
118	Slane Ponds FH	1.90	1.90	1.90	1.90	1.90
124	CSI Fish Hatchery	2.20	2.20	1.80	1.80	2.60
Sub Total		38.90	38.90	38.50	38.50	39.30
% of Total		3.9%	3.8%	4.0%	3.9%	4.0%

GENERAL AQUACULTURE PERMIT	NAME OF FACILITY	TP STATIONARY WLA, lb/day	TP SEASONAL WLA, lb/day			
			QTR1 Winter Dec-Feb	QTR2 Spring Mar-May	QTR3 Summer Jun-Aug	QTR4 Fall Sep-Nov
Overall Total		985.66	1,017.96	971.56	975.06	977.66
Overall %		100.0%	100.0%	100.0%	100.0%	100.0%

Table Appendix B-2 indicates that seasonality was requested for TP for the following facilities: GAP-041, 003, 004, 013, 016, 053, 077, 090, 133, and 124.

Table **Appendix B-3**. Seasonality Wasteload Allocations for TSS

GENERAL AQUACULTURE PERMIT	NAME OF FACILITY	TSS STATIONARY WLA, ton/year	TSS SEASONAL WLA, ton/year			
			QTR1 Winter Dec-Feb	QTR2 Spring Mar-May	QTR3 Summer Jun-Aug	QTR4 Fall Sep-Nov
CLASSIFICATION 1 FACILITIES						
002	Snake River Hatchery	471.20	471.20	471.20	471.20	471.20
006	Crystal Springs Trout Farm	1,010.70	1,010.70	1,010.70	1,010.70	1,010.70
007	Clear Springs/ Middle Hatchery	892.70	892.70	892.70	892.70	892.70
008	Blue Lakes Trout Farm	770.70	770.70	770.70	770.70	770.70
009	Magic Springs Hatchery	557.30	557.30	557.30	557.30	557.30
010	Rim View Trout Co.	690.50	690.50	690.50	690.50	690.50
011	Clear Lakes/ Middle Hatchery	788.90	788.90	788.90	788.90	788.90
014	Box Canyon Trout Farm	1,471.10	1,471.10	1,471.10	1,471.10	1,471.10
018	Pristine Springs Fish Hatchery	585.30	585.30	585.30	585.30	585.30
Sub Total		7,238.40	7,238.40	7,238.40	7,238.40	7,238.40
% of Total		60.1%	57.1%	61.9%	60.7%	60.2%
CLASSIFICATION 2 FACILITIES						
020	White Springs Trout Farm	150.00	150.00	150.00	150.00	150.00
041	FBI/ Catfish Farm	55.60	61.10	61.10	50.00	50.00
054	Kaster Trout Farm/ Briggs West	345.30	345.30	345.30	345.30	345.30
061	Blind Canyon Aqua Ranch/ Ten	153.50	153.50	153.50	153.50	153.50
088	Briggs Creek Fisheries	112.10	112.10	112.10	112.10	112.10
Sub Total		816.50	822.00	822.00	810.90	810.90
% of Total		6.8%	6.5%	7.0%	6.8%	6.7%
CLASSIFICATION 3 FACILITIES						
003	Hagerman IDFG	435.80	585.30	585.30	286.30	286.30
004	Hagerman USFWS	258.70	349.90	159.00	267.20	(258.70)

GENERAL AQUACULTURE PERMIT	NAME OF FACILITY	TSS STATIONARY WLA, ton/year	TSS SEASONAL WLA, ton/year			
			QTR1 Winter Dec-Feb	QTR2 Spring Mar-May	QTR3 Summer Jun-Aug	QTR4 Fall Sep-Nov
013	Niagara Springs Hatchery	356.10	544.00	155.80	368.50	(356.10)
016	Magic Valley Steelhead Hatchery	346.70	495.00	175.60	369.50	(495.00)
019	Cedar Draw Hatchery	132.30	132.30	132.30	132.30	132.30
026	White Water Ranch	45.20	45.20	45.20	45.20	45.20
028	Rainbow Trout Farm/ Filer	55.60	55.60	55.60	55.60	55.60
029	Rainbow Trout Farm/ Buhl	32.00	32.00	32.00	32.00	32.00
036	Canyon Trout Farm	44.80	44.80	44.80	44.80	44.80
040	Tunnel Creek Hatchery	45.70	45.70	45.70	45.70	45.70
046	Yoder Farm Ponds/ SeaPac	33.40	33.40	33.40	33.40	33.40
047	Peter's Farm Pond	36.40	36.40	36.40	36.40	36.40
053	Deep Creek Trout Farm	142.10	142.10	142.10	142.10	142.10
056	Big Bend Trout Farm	190.80	190.80	190.80	190.80	190.80
057	Cox Farm Ponds	140.70	140.70	140.70	140.70	140.70
059	Olson Ponds	16.70	16.70	16.70	16.70	16.70
060	Blind Canyon Hatchery	39.80	39.80	39.80	39.80	39.80
062	Birch Creek Trout	44.30	44.30	44.30	44.30	44.30
064	W & W Trout Farm	67.40	67.40	67.40	67.40	67.40
065	Buckeye Ranch	127.90	127.90	127.90	127.90	127.90
070	Juker Ponds	17.70	17.70	17.70	17.70	17.70
077	Boswell Trout Farm	123.00	123.00	123.00	123.00	123.00
082	Billingsley Bay/ Eckles Fish Farm	233.10	233.10	233.10	233.10	233.10
084	Daydream Ranch Facility	58.50	58.50	58.50	58.50	58.50
090	Smith Farm Ponds	66.40	82.90	82.90	50.00	50.00
097	C & M Fish Farm	68.40	68.40	68.40	68.40	68.40
104	Canyon Springs	58.00	58.00	58.00	58.00	58.00
106	Woods	49.20	49.20	49.20	49.20	49.20
107	Decker Springs	52.10	52.10	52.10	52.10	52.10
109	RCP	13.80	13.80	13.80	13.80	13.80
116	First Ascent/ Don Campbell	33.00	33.00	33.00	33.00	33.00
119	John Fleming Ponds	27.50	27.50	27.50	27.50	27.50
120	Stevenson Ponds	25.10	25.10	25.10	25.10	25.10
133	FBI, Baker Place	49.20	44.90	40.00	58.40	53.50
Sub Total		3,467.40	4,084.04	3,121.38	3,358.58	3,454.10
% of Total		28.8%	32.2%	26.7%	28.2%	28.7%
CLASSIFICATION 4 FACILITIES						
027	Greene's Trout FH	0.00	0.00	0.00	0.00	0.00
049	Bell Fish Pond FH	16.70	16.70	16.70	16.70	16.70
063	White's Trout Farm FH	16.20	16.20	16.20	16.20	16.20
069	Dolana Farm Ponds FH	19.20	19.20	19.20	19.20	19.20
076	Lemmon Ponds FH	20.20	20.20	20.20	20.20	20.20
079	Blau Farm Pond FH	27.50	27.50	27.50	27.50	27.50

GENERAL AQUACULTURE PERMIT	NAME OF FACILITY	TSS STATIONARY WLA, ton/year	TSS SEASONAL WLA, ton/year			
			QTR1 Winter Dec-Feb	QTR2 Spring Mar-May	QTR3 Summer Jun-Aug	QTR4 Fall Sep-Nov
080	Buhl Trout Rearing Facility	48.70	48.70	48.70	48.70	48.70
087	C. J. Simms Farm Ponds FH	31.50	31.50	31.50	31.50	31.50
091	Deadman Hatchery	46.20	46.20	46.20	46.20	46.20
098	Lyn Cliff Fish Farm	53.60	53.60	53.60	53.60	53.60
100	Gary Wright Farm Ponds	29.50	29.50	29.50	29.50	29.50
102	Rock Ridge Ranch FH	8.40	8.40	8.40	8.40	8.40
103	Stutzman Farm Ponds	8.40	8.40	8.40	8.40	8.40
105	Mike Fleming FH	26.60	26.60	26.60	26.60	26.60
111	Fish Breeders of Idaho / Henslee	40.30	40.30	40.30	40.30	40.30
112	Howell Farm Ponds	24.10	24.10	24.10	24.10	24.10
115	Leo Martins FH	45.70	45.70	45.70	45.70	45.70
117	Standal Ponds FH	23.60	23.60	23.60	23.60	23.60
118	Slane Ponds FH	20.20	20.20	20.20	20.20	20.20
124	CSI Fish Hatchery	15.20	15.20	12.20	12.20	18.30
Sub Total		521.80	521.80	518.80	518.80	524.90
% of Total		4.3%	4.1%	4.4%	4.4%	4.4%
Overall Total		12,044.10	12,666.24	11,700.58	11,926.68	12,028.30
Overall %		100.0%	100.0%	100.0%	100.0%	100.0%

Table Appendix B-3 indicates that seasonality was requested for TSS with the following facilities: GAP-041, 003, 004, 013, 016, 090, 133, and 124. Seasonality was not requested for TSS for the following facilities: GAP-053 and 077.

Appendix B-4

The wasteload allocation for the seasonal facilities is summarized in Table Appendix B-4. An explanation follows on those facilities where seasonality was not applied.

Table **Appendix B-4**. Seasonal Facilities with Appropriate Wasteload Allocations

GENERAL AQUACULTURE PERMIT	TP, lb/day				TSS, ton/year			
SEMI-ANNUAL SEASONALITY								
GAP – 003	23.1 Ja-Ju		11.3 Jy-D		585.3 Ja-Ju		286.3 Jy-D	
GAP – 041	13.0 M-A		19.6 S-F		61.2 M-A		50.0 S-F	
GAP - 077	11.0 D-My		1.2 Ju-N		123.0		123.0	
TRIMESTER SEASONALITY								
GAP – 004	17.8 Ja-A	6.0 My-A	12.8 S-D		377.44 Ja-A	127.28 My-A	271.38 S-D	
GAP – 013	22.0 Ja-A	6.3 My-A	14.9 S-D		544.0 Ja-A	155.8 My-A	368.5 S-D	
GAP – 016	21.7 Ja-A	7.7 My-A	16.2 S-D		495.0 Ja-A	175.6 My-A	369.5 S-D	
GAP – 124	1.8 M-Ju	2.6 Jy-O	2.2 N-F		12.2 M-Ju	18.2 Jy-O	15.2 N-F	
QUARTERLY SEASONALITY								
GAP – 090	5.0 M-My	5.0 Ju-A	7.0 S-N	7.8 D-F	82.9 M-My	50.0 Ju-A	50.0 S-N	82.9 D-F
GAP – 133	3.8 M-My	5.3 Ju-A	5.3 S-N	4.0 D-F	40.0 M-My	58.4 Ju-A	53.5 S-N	44.9 D-F
GAP – 053	9.3 M-My	9.0 Ju-A	4.3 S-N	4.2 D-F	142.1	142.1	142.1	142.1
GAP - 026	4.3	4.3	4.3	4.3	45.20	45.20	45.20	45.20

Correlate this table with Section 7.0 (pp 28-29). Ja-A = January to April. My-A = May to August. S-D = September to December. Ja-Ju = January to June. Jy-D = July to December. M-A = March to August. S-F = September to February. M-My = March to May. Ju-A = June to August. S-N = September to November. D-F = December to February. D-My = December to May. Ju-N = June to November. M-Ju = March to June. Jy-O = July to October.

As described in the main body of the document, GAP-026 requested a higher wasteload allocation (6.1 lb/day). DEQ determined localized impacts on the receiving waterbody and consequently was denied the request for a greater wasteload allocation. Thus, no seasonality was applied.

Relative to the conservation hatcheries (GAP-004, 013, 016, and 003), are prepared to discuss with EPA and DEQ an alternate seasonal approach should EPA deny the proposed seasonal wasteload allocations.

The following facilities did not request seasonality for their TSS wasteload allocations: GAP-077 and 053.

Appendix B-5

The wasteload allocations for Billingsley Creek are based on a variable flow mechanism that is linked to their water rights. Present "average" conditions are defined as the worst case scenario since the "average" conditions are really low flow conditions. Billingsley Creek is suffering from losses in water volume due to a number of alleged water management practices. In the event that current low flow conditions are changed to average or high flow conditions, then it will be necessary to re-visit the wasteload allocations for each facility based on the modified flows. The actual wasteload allocations are contained in the document and are referenced in the column entitled Location in Document. The allocations are for the variable facility flow, the net TP or net TSS, and the variable facility load.

Table Appendix B-5. Billingsley Creek Wasteload Allocations based on Variable Flow

GENERAL AQUACULTURE PERMIT	VARIABLE FACILITY Q cfs	NUMBER OF FLOW LEVELS	NET mg/L	VARIABLE FACILITY LOAD	LOCATION IN DOCUMENT
TOTAL PHOSPHORUS, lb/day LOAD					
GAP - 015	0.0 to 88.30	10 Levels	0.072	0.00 to 34.27	Table 5-B-1
GAP – 050	0.0 to 9.48	2 Levels	0.058	0.00 to 2.96	Table 5-B-2
GAP - 130	0.0 to 8.33	2 Levels	0.043	0.00 to 1.93	Table 5-B-2
GAP - 005	0.0 to 70.64	8 Levels	0.090	0.00 to 34.27	Table 5-B-3
GAP - 066	0.0 to 9.70	2 Levels	0.060	0.00 to 3.14	Table 5-B-4
GAP - 001	0.0 to 162.49	8 Levels	0.050	0.00 to 43.79	Table 5-B-5
GAP - 131	0.0 to 6.67	2 Levels	0.045	0.00 to 1.62	Table 5-B-6
GAP - 048	0.0 to 28.11	4 Levels	0.060	0.00 to 9.09	Table 5-B-7
GAP - 017	0.0 to 106.35	7 Levels	0.065	0.00 to 37.26	Table 5-B-8
GAP - 132	0.0 to 9.74	2 Levels	0.043	0.00 to 2.26	Table 5-B-9
GAP - 083	0.0 to 20.60	4 Levels	0.043	0.00 to 4.77	Table 5-B-10
GAP - 096	0.0 to 8.63	3 Levels	0.043	0.00 to 2.00	Table 5-B-11
TOTAL SUSPENDED SOLIDS, ton/year LOAD					
GAP - 015	0.0 to 88.30	10 Levels	5.0	0.00 to 434.29	Table 5-B-1
GAP – 050	0.0 to 9.48	2 Levels	5.0	0.00 to 46.63	Table 5-B-2
GAP - 130	0.0 to 8.33	2 Levels	5.0	0.00 to 40.97	Table 5-B-2
GAP - 005	0.0 to 70.64	8 Levels	5.0	0.00 to 347.43	Table 5-B-3
GAP - 066	0.0 to 9.70	2 Levels	5.0	0.00 to 47.71	Table 5-B-4
GAP - 001	0.0 to 162.49	8 Levels	5.0	0.00 to 799.17	Table 5-B-5
GAP - 131	0.0 to 6.67	2 Levels	5.0	0.00 to 32.81	Table 5-B-6
GAP - 048	0.0 to 28.11	4 Levels	5.0	0.00 to 138.26	Table 5-B-7
GAP - 017	0.0 to 106.35	7 Levels	5.0	0.00 to 523.07	Table 5-B-8
GAP - 132	0.0 to 9.74	2 Levels	5.0	0.00 to 47.93	Table 5-B-9
GAP - 083	0.0 to 20.60	4 Levels	5.0	0.00 to 101.32	Table 5-B-10
GAP - 096	0.0 to 8.63	3 Levels	5.0	0.00 to 42.42	Table 5-B-11
GAP = General Aquaculture Permit. Q = Flow. NET = Effluent Concentration – Influent Concentration.					

Final Document

Appendix C
DEQ Public Comment Responses
Aquaculture Wasteload Allocations
Public Comment Period: August 1-30, 2004

Compiled By
Rob Sharpnack, Regional Aquaculture Coordinator
Idaho Department of Environmental Quality – Twin Falls Regional Office

The official public comment period for the aquaculture wasteload allocation was from August 1, 2004 through August 30, 2004. Comment provided by the public are summarized in the following table with associated responses from DEQ-TFRO. Comments are divided into two general areas: (1) Comments relative to the aquaculture wasteload allocation; and (2) Notices and newspaper articles. Acronyms used in this appendix include the following:

TP	Total Phosphorus	WLA	Wasteload Allocation(s)
TSS	Total Suspended Solids	NOI	Notice of Intent
TMDL	Total Maximum Daily Load	GAP	General Aquaculture Permit
NPDES	National Pollutant Discharge Elimination System	FH	Fish Hatchery
		IPC	Idaho Power Company
DMR	Discharge Monitoring Report	IAA	Idaho Aquaculture Association

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION	
Telephone Contact	
Bryan Kenworthy USFWS, GAP (004) (August 4, 2004) A	Public Comment: Desired clarification for the National Hatchery Allocation pgs. 30-31. Appeared to him that the National Hatchery had received additional allocation beyond what was agreed on by the aquaculture industry sub-committee. DEQ Response: Hagerman National had submitted an allocation based on trimesters rather than the quarterly system of seasonal allocations shown in the public comment document. Fitting the trimester allocation into the quarterly allocation system in the public comment document made it appear that the hatchery had more pounds of total phosphorus than before. This is not the case, DEQ intends on submitting a trimester allocation to EPA for the Hagerman National facility as previously agreed.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION	
Telephone Contact	
Tom Frew IDFG – Boise (August 4, 2004) B	Public Comment: Tom Frew called DEQ to ascertain whether not IDFG needed to do anything in addition to there previous submission of information for seasonal allocations for the Niagara Springs, Magic Valley Steelhead, and the Hagerman State Fish Hatcheries prior to the public comment period. DEQ Response: DEQ was in error when we initially told Mr. Frew that nothing else was needed. We apologized for the mistake. IDFG needs to submit their desired seasonal wasteload allocation for the three hatcheries with the seasonal allocation cycles that they initially proposed for both TP and TSS. DEQ recognizes that there are various approaches to seasonality. However, the reality of seasonality is based on EPA's acceptance of the approach dependent on how this will impact to their resources in issuing the permits. Therefore, if a facility believes that their facility is best managed under a specific seasonal approach, DEQ will submit the approach to EPA. So long as the seasonal approach conforms to the TMDL targets of the receiving waterbody and there is reasonable assurance that beneficial uses will be met, DEQ will follow through on the submission to EPA. However, DEQ cannot guarantee that EPA will accept the seasonal approach even if they chose to review such an approach. Therefore, DEQ has suggested that IDFG provide a "back-up" seasonal allocation plan should the preferred plan be disallowed by EPA.
Telephone Contact	

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION	
Gary Fornshell U of I, County Extension (August 2, 2004) C	Public Comment: Gary Fornshell telephoned DEQ and asked the following questions: 1. Are the base WLAs in the document the same as the WLAs provided by aquaculture industry WLA sub-committee? 2. What is the source for the Load Allocations for the Non-Point Sources in the document? 3. Section 6, page 7. What does this 10% threshold mean? 4. How where the total suspended solids (TSS) numbers derived? 5. Page 9, Segment 1. The flow number used for river segment 1 was 3860 cfs. Is this a mean annual flow? 6. What was EPA's reason for not allowing seasonal aquaculture facilities to pollution trade? DEQ Response: The DEQ responses to the six questions are as follows: 1. Yes. Except where noted in the document and in a couple of instances where companies elected to transfer phosphorus loadings amongst their own facilities. 2. In the document a total stream or river segment load was determined and the point source loads were removed first and the remainder was given as a load allocation to nonpoint sources in this exercise. 3. In the winter quarters the 970.2 lbs/day total for the industry can be exceeded up to 10% higher to allow for seasonality in the aquaculture industry WLA as long as there is a corresponding decrease in the summer months. 4. The TSS loads are based on the "net" 5.0-mg/L TSS discharge loads developed by the aquaculture industry WLA sub-committee. 5. Yes. 6. Pollutant trading may be available to all facilities including those that have seasonal allocations.
Telephone Contact	
Leo E. Ray Fish Breeders of Idaho (Multiple GAP) (August 9, 2004) D	Public Comment: Leo Ray telephoned DEQ and asked the following questions: 1. Why did the EPA disallow pollutant trading for fish farms interested in using seasonality? 2. Would DEQ again allow companies to move phosphorus allocations around to their farms again since trading wasn't allowed? 3. What affect will the National Standards for Aquaculture being developed by USEPA have on the TMDL WLA for aquaculture and the next NPDES permit? DEQ Response: DEQ responded to the three questions as follows: 1. Pollutant trading is not disallowed for facilities with seasonal allocations. 2. Pollutant trading will be allowed for seasonal facilities. 3. The National Standards for Aquaculture will not have an effect on the TMDL or WLA, but may require the insertion of additional items into the next NPDES permit. We don't know what form the final National Standard for Aquaculture will yet be.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION	
Telephone Contact	
Brian Hoelscher Idaho Power Company Boise, Idaho (August 10, 2004) E	Public Comment: 1. How does seasonality work with a 970.2-lbs/day cap? 2. Base WLA and meeting beneficial uses 3. Loss and Attenuation and meeting beneficial uses DEQ Response: 1. Streams or river segments must meet beneficial uses set at 0.1 mg/L or 0.075-mg/L concentration of TP. 2. Base wasteload allocations are set to meet beneficial uses at 970.2 lbs/day TP. 3. The loss and attenuation of TP is a data gap that needs to be looked at for monitoring by DEQ and EPA in the Mid-Snake system. The present WLA has the loss and attenuation specific to the Snake River based on the water quality values at the compliance points. This does not include the tributaries.
Telephone Contact	
Lynn Babington ARK Fisheries (Multiple GAP) (August 10, 2004) F	Public Comment: Lynn Babington telephoned DEQ and asked: 1. Is pollution trading for seasonal facilities disallowed? 2. Will the monitoring frequency be increased? 3. How often can a facility modify its seasonal WLA? 4. Is the NDPES permit issued to the owner or the operator on leased facilities? 5. If the lease on a fish farm expired during a permit cycle, would a new lessor be allowed to change the seasonality limits? 6. By when does a final decision on seasonality need to occur? 7. What happens if you don't make a decision about seasonality? 8. There are two missing facilities: Greene's and Lemmons. 9. Has DEQ given the Class 1 facilities 1.94-lbs/day more TP than the WLA sub-committee assigned them? DEQ Response: 1. Seasonal facilities may trade. 2. EPA remains uncertain about the monitoring frequency for the next NPDES permit. However, seasonal facilities may have to monitor more frequently. 3. Every five years or one permit cycle. 4. Operator. Contact Chris Cora, EPA-Seattle for details. 5. DEQ suggests that you pose this question to EPA. 6. By the end of the public comment period, August 30, 2004. 7. The facility will receive the base WLA as a stationary WLA. 8. Greene's Trout Farm has closed out its NDPES permit this spring and won't be operating any more. Lemmon Ponds will be added to correct this mistake. 9. We don't believe so.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION	
Meeting with Pete Turner	
Pete Tuner Greene's Tout Farm (GAP 027) (August 12, 2004) G	Public Comment: Pete Turner met with DEQ for an NDPES inspection of Greene's Trout Farm. Mr. Turner said that Ron Kasel had sold the property and was no longer raising fish at the Greene's Trout Farm. As part of the sale, the existing hatchery and raceways were to be removed. Turner said that Carla Fromm, USEPA-IOO had been contacted sometime in the spring of 2004 and was asked to discontinue the permit for Greene's Trout Farm. DEQ Response: Greene's Trout Farm is no longer on the list of facilities that will receive a WLA in the TMDL.
Darlene Nemnich Public Comments	
Darlene Nemnich Standal Ponds (GAP 117) August 12, 2004 H	Public Comment: Received a NOI from Darlene Nemnich for the Standal Ponds facility. The facility is now named White Water Falls. DEQ Response: DEQ will change the name used in the TMDL WLA from Standal Ponds to White Water Falls for GAP 117.
Blue Rock Farms Public Comments	
Claudia Snyder Snyder Ponds (GAP 102) (August 17, 2004) I	Public Comment: Received a NOI from Claudia Snyder for the Rocky Ridge Ranch facility. The facility is now called Snyder Blue Rock Farms. DEQ Response: We will change the name used in the TMDL WLA from Rocky Ridge Ranch to Snyder Blue Rock Farms for GAP 102.
Telephone Contact	
Bill Stewart USEPA-IOO (August 17, 2004) J	Public Comment: Bill Stewart called and said the statement in the public comment document (pg. 8) about seasonal facilities not being able to pollutant trade was not accurate. Seasonal facilities would be allowed to pollutant trade. DEQ Response: DEQ will amend the public document to reflect this.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION	
Debbie Bross Public Comments	
Debbie Bross Unknown Physical Address (August 18, 2004) K	Public Comment: I live on Clover Creek, which is a 303(d)-listed creek on the Lower Snake Rock. I feel allowing ranchers/farmers to deviate during a specific part of the year just gives them the right to do whatever any time of the year. My experience with Ag persons has been very negative. Since compliance with most of Idaho's environmental regulations is voluntary, I think people who care will continue to ensure that quality of life for all is maintained and those out for money will take what they can and when the area is ruined, move on. I oppose allowing anyone to have seasonal changes. Who monitors the users? Are they monitored on a weekly basis? Perhaps we could just allow them to monitor their own use and perhaps report the usage every five or ten years?? I am very disappointed in the environmental concerns of the State of Idaho. We tout recreational activities for tourism … who wants to float on a river full of cow droppings? DEQ Response: There are a number of issues with this public comment: (1) Relative to seasonality, see DEQ Response to Annette Hinds' item AJ.1. (2) Relative to the experience with agriculture, DEQ is presently involved with the Mid-Snake Watershed Advisory Group. Within this group are representatives of the irrigated ag community who are proactively involved with the TMDL process. The agricultural community has led on many water quality projects to clean up tributaries and the Snake River. DEQ invites you to participate with this group and express your concerns about Clover Creek so that cleanup projects can be targeted here also. (3) Relative to compliance and monitoring, the EPA has primacy on the NDPES permits. At this time, EPA has made no determination on the level of monitoring applicable to seasonal permits. This question and others still need to be considered prior to final issuance of the permit. (4) Relative to the recreational need for a cleaner river; again, DEQ believes that implementation of the TMDL will lead to a cleaner river that supports recreational uses.
Boswell Trout Farms Public Comments	
Rod Griffith Boswell Trout Farms (Mulitple GAP) (August 18, 2004) L - 1	Public Comment: Mr. Griffith called with the following comments. 1. He intends to submit written comments for the facilities he is responsible for. 2. pg. 24 GAP 047 the Peter's Fish Hatchery should be changed to the Floyd Kaufman Fish Hatchery and the Buhl/Fullmer Fish Hatchery should be changed to the Tech Sierra Fish Hatchery. DEQ Response: We will make the appropriate changes in the TMDL WLA.
Rod Griffith Boswell Trout Farms (Multiple GAP) (August 19, 2004) L - 2	Public Comment: Asked for a seasonal WLA for Deep Creek (GAP 077) and for Jack's Ponds (GAP 053) for phosphorus. DEQ Response: The seasonal WLAs are shown in Table 3-F of the public comment document.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION **Idaho Department of Fish and Game Public Comments**	
Tom Frew IDFG (Multiple GAP) (August 19, 2004) M – 1	Public Comment: 1. Mr. Frew on behalf of the Hagerman State, Magic Valley Steelhead, and Niagara Springs Hatcheries requests seasonal wasteload allocations for TP and TSS and has provided their desired wasteload allocations and seasonal schedule. If in fact EPA will not accept a season schedule other than the one defined in the public comment document an alternate quarterly wasteload allocation was provided. DEQ Response: See response in M-2.
Tom Frew IDFG (Multiple GAP) (August 19, 2004) M - 2	Public Comment: 2. With respect to effluent reporting to EPA and DEQ through the NDPES permit reporting process, it is our understanding that this requirement would match an individual hatchery's specific seasonality. In other words Niagara Springs Fish Hatchery and Magic Valley Steelhead Fish Hatchery would be required to sample their effluent and report TP and TSS data to EPA and DEQ, a minimum of once each trimester. Similarly, Hagerman State Fish Hatchery would sample biannually and report its findings biannually. It is also understood that water flows, temperature and TSS would be reported at the same time as the TP on the DMRs. DEQ Response: 1 and 2. The NPDES permit is presently under EPA primacy. Certainly, DEQ can make suggestions and provide some level of technical assistance on monitoring. Since this is an EPA decision, DEQ can give no guarantee that in choosing to employ seasonality, the level of monitoring will be reduced, left the same, or increased.
Tom Frew IDFG (Multiple GAP) (August 19, 2004) M - 3	Public Comment: 3. Further, it is our understanding that the additional effluent monitoring currently being done by Idaho Power Company as part of a consent order with DEQ would be eliminated upon acceptance of a seasonal waste load allocation in the new NDPES permit. Our support for the proposed seasonal approach to waste load allocation for the conservation hatcheries is predicated on these understandings. DEQ Response: 3. Once the wasteload allocation is implemented in a new/next NPDES permit, DEQ will review the status of all current aquaculture consent orders for relevance. Generally, DEQ's intent is to terminate such consent orders.
Tom Frew IDFG (Multiple GAP) (August 19, 2004) M - 4	Public Comment: 4. Additionally, if EPA or DEQ should impose other monitoring requirements not previously discussed, it may be necessary to revisit the proposed TP and TSS waste load allocations. DEQ Response: 4. See response to #2 above.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION	
E-mail to Mid-Snake Aquaculture Industry from U of I	
Gary Fornshell U of I, County Extension (August 20, 2004) AA	Public Comment: After conversations with DEQ and EPA Gary Fornshell sent out an email to various local members of the IAA, IDFG, and Clear Springs Foods to notify them that there was an error in the Public Comment Document with respect to Pollutant Trading not being allowed for seasonal aquaculture facilities. Mr. Fornshell urged the recipients of the email to make comment in their responses that this error needed to be changed in the document. DEQ Response: After consulting with EPA, DEQ will make the necessary changes to the public comment document.
David Hinds Public Comments	
David Hinds 555-D River Road Bliss, ID 83314 (August 22&27, 2004) AB-1	Public Comment: I oppose allowing hatcheries to measure discharges into the Snake River on other than a monthly basis. In fact, I would push for decreasing the maximum limits that the hatcheries are allowed to dump into the river. DEQ Response: Seasonal limits are acceptable to DEQ and EPA assuming a number of components are in place: (1) The beneficial uses and/or water quality standards of the receiving waterbody are being met. (2) Localized impacts are not occurring. (3) The seasonal limits are translatable into an NPDES permit. (4) Compliance of the seasonal limitations can be determined through some level of monitoring. The seasonal components that will be proposed will fit into these four components. With these four components in place, DEQ believes seasonal limits are protective of water quality and the environment.
David Hinds 555-D River Road Bliss, ID 83314 (August 22&27, 2004) AB-2	Public Comment: I am [a] home owner [living] very close to the Snake River and a frequent multiple user of the river (fishing, rafting, swimming). I am very concerned about keeping its pollution to a minimum. DEQ Response: DEQ along with other designated agencies and the watershed advisory group is working towards attainment of beneficial uses and/or water quality standards through the TMDL process in the Upper Snake Rock subbasin. This subbasin includes the Bliss area where you live. DEQ invites you to participate with the Mid-Snake Watershed Advisory Group and provide input. DEQ believes that implementation of the TMDLs will achieve compliance with water quality standards and will support beneficial uses of the river.
David Hinds 555-D River Road Bliss, ID 83314 (August 22&27, 2004) AB-3	Public Comment: I also live on a stream [with an] existing hatchery, and am frequently reminded by its odor of the hatcheries contribution to the river's pollution. DEQ Response: See response AB-2.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION	
Telephone Contact	
Paul Howell Howell Farm Ponds (GAP 112) (August 23, 2004) AD	Public Comment: DEQ telephoned Paul Howell 1. Mr. Howell said that he hadn't reviewed the document completely yet. Mr. Howell doubted that he would ask for a seasonal waste load allocation, because he did not feel that he had enough information to set up a seasonal waste load allocation. 2. Mr. Howell said that there appeared to be a new facility list in the allocation on Deep Creek. DEQ Response:1. No response required. 2. Yes that is true. The aquaculture industry sub-committee added a facility (GAP 133 Gibbs Farm) to the Mid-Snake Aquaculture list that was not listed by DEQ to receive a waste load allocation.
Meeting with Representatives from Clear Springs Foods Inc.	
Dr. John R. MacMillan Andy Morton Clear Springs Foods Inc. (Multiple GAP) (August 23, 2004) AE	Public Comment: Dr. John R. MacMillan and Andy Morton visited the DEQ office to review the public comment document prior to submitting formal written comments. 1. The phosphorus waste load allocations appear to be incorrect for some Class 1 aquaculture facilities. 2. When will pollutant trading occur? At the 10 year milepost for the TMDL? Or when beneficial uses are met for the river segments and streams? 3. Are there extra pounds of phosphorus unallocated with the reduction to Rim View and CSF Main Hatchery? DEQ Response: 1. DEQ has reviewed the allocations used in the public comment document and where appropriate DEQ will make the necessary changes to the document. See Comment AN. 2. When NPDES permits are issued. 3. Initially, Yes. However, these "extra pounds" were placed in the same 970.2 lb/day "pool" and utilized in accordance with the 970.2 lb/day provisions. Unfortunately, there are presently no "extra pounds" to consider.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION	
Fish Breeders of Idaho Inc.	
Leo E. Ray Fish Breeders of Idaho (Multiple GAP) (August 24, 2004) AF	Public Comment: 1. The elimination of phosphorus trading for those farms accepting a seasonal allocation is unacceptable. As I understand both EPA and DEQ have agreed that the phosphorus-trading program will be available to those who select seasonal allocation. I make the election of seasonal allocation based on that assumption. 2. Request seasonal allocations for GAP 41 FBI/Catfish FH, the Gibbs Farms GAP 133, and the Smith Farm GAP 90. DEQ Response: 1. DEQ has corrected the public comment document to read that fish farms opting for seasonal waste load allocations may pollutant trade. 2. No comment required.
Meeting with Canal Company Representatives	
Larry Pennington North Side Canal Company Brian Olmstead Twin Falls Canal Company August 27, 2004 AG	Public Comment: Mr. Olmstead and Mr. Pennington visited the DEQ office to review the discharge of the canal system drains into the Snake River for the 1st Quarter: Table 1a: Leave at Zero Table 2a: West Perrine Coulee = 0.0; LS2/39a = 2.8; 39 Drain = 2.6 Everything else is fine. Table3a: I Drain =6.1, N Drain = 2.4; S19/S Drain = 28.6; Everything else is fine. Table4a: Leave at zero. Table5a: No Effect Table 6a: No Effect DEQ Response: These will be changed in the public comment document to reflect the 1st Quarter information provided.
Twin Falls Canal Company Public Comments	
Brian Olmstead Twin Falls Canal Company (August 27, 2004) AH	Public Comment: Mr. Olmstead hand delivered an e-mail that he had been unable to send successfully due to some unknown computer problem. 1. Generally the document looks good. 2. We need to somehow address the 60+ lbs. of phosphorus that returns from the various hatcheries on Cedar Draw, Deep Creek, and Mud Creek into our distribution system. We understand that it comes to us, and we can distribute it over lots of acres of farm ground, but we will need to get some credit for it somewhere in our allocation. DEQ Response: 1. Thank you. 2. This is something that the WAG/BAGs need to be looking at over the next few years as part of the TMDL process for the Upper Snake/Rock TMDL.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION Pristine Springs, Inc. Fritz X. Haemmerle Public Comments	
Fritz X. Haemmerle C/o Pristine Springs Inc. (August 28, 2004) AI-1	Public Comment: The failure to cure the figures applied to Pristine Springs will guarantee a lawsuit by Pristine Springs … Various agents of Pristine Springs have set forth the correct variables that should be applied to Pristine Springs in the ultimate determination of its share of the wasteload allocations. To date, our comments have fallen on deaf ears … If you fail to correct these figures, then Pristine Springs will be compelled to file a lawsuit … Pristine Springs truly regrets having to take this action. However, it believes that it has no other choice because if these recommendations are allowed, Pristine Springs will be in immediate violation on the day the wasteload rules take effect. DEQ Response: Please see the explanation for DEQ's approach to PSI and Warm Creek set out in the body of this document.
Fritz X. Haemmerle C/o Pristine Springs Inc. (August 28, 2004) AI-2	Public Comment: The report failed to recognize the "realized or potential production" of Pristine Springs. DEQ Response: Please see the explanation for DEQ's approach to PSI and Warm Creek set out in the body of this document.
Fritz X. Haemmerle C/o Pristine Springs Inc. (August 28, 2004) AI-3	Public Comment: The total flow of 207 cfs was not used (instead, the arbitrary figure of 119 cfs was applied). DEQ Response: Please see the explanation for DEQ's approach to PSI and Warm Creek set out in the body of this document.
Fritz X. Haemmerle C/o Pristine Springs Inc. (August 28, 2004) AI-4	Public Comment: The total phosphorus ("TP") of 0.086mg/L or higher was applied to all tier one facilities, except for Pristine Springs, which was arbitrarily allocated 0.042 mg/L. DEQ Response: Please see the explanation for DEQ's approach to PSI and Warm Creek set out in the body of this document.
Fritz X. Haemmerle C/o Pristine Springs Inc. (August 28, 2004) AI-5	Public Comment: The report failed to allocate 20 cfs of warm water to Pristine Springs, unlike all other warm water users who were allocated twice the amount as allocated per cfs for cold water. DEQ Response: Please see the explanation for DEQ's approach to PSI and Warm Creek set out in the body of this document.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION	
Annette and David Hinds Public Comments	
Annette Hinds 555-D River Road Bliss, ID 83314 (August 27, 2004) AJ-1	Public Comment: Per the request for public comment, I write to urge you NOT to approve seasonal pollution limits for fish farms from Twin Falls to Hagerman. This seasonal limit has exactly the same disadvantages as the previously rejected annual rolling averages. There could still be many days that exceed the EPA standards for daily and monthly limits, which excess can severely compromise the health of the Snake River. DEQ Response: Seasonal limits are acceptable to DEQ and EPA assuming a number of components are in place: (1) The beneficial uses and/or water quality standards of the receiving waterbody are being met. (2) Localized impacts are not occurring. (3) The seasonal limits are translatable into an NPDES permit. (4) Compliance of the seasonal limitations can be determined through some level of monitoring. DEQ believes the seasonal limits proposed meet these four components and will not compromise the health of the river. To the contrary, DEQ believes implementation of the TMDLs with the WLAs will attain compliance with water quality standards and support uses of the river.
Annette Hinds 555-D River Road Bliss, ID 83314 (August 27, 2004) AJ-2	Public Comment: My husband and I have watched with dismay as the water quality of the Snake River has been declining over our 25 years of living on the Snake north of Hagerman. The greatest good of the local community as well as of all those downstream would be served by reducing pollution in the Snake River. Seasonal limits do not accomplish this goal. DEQ Response: See DEQ Response in AJ-1.
David Hinds (August 27, 2004) AJ-3	Public Comment: Duplicate of e-mail received from Mr. Hinds on August 22, 2004. DEQ Response: See DEQ Responses AB-1, AB-2, and AB-3.
EPA Public Comments	
EPA – William C. Stewart August 27, 2004 AK-1	Public Comment: On page 4, second paragraph the last sentence should be changed to read "The Aquaculture Subcommittee chose to include this facility in the 970.2-lb/day total wasteload allocation." DEQ Response: DEQ has made the suggested change in the document.
EPA – William C. Stewart August 27, 2004 AK-2	Public Comment: The fish processors may not have been included in the original 970.2-lb/day WLA but it is not proper to consider them part of the NPS allocation. The processors are point sources and will need WLAs. DEQ Response: DEQ has removed the fish processors from the NPS allocation in Tables 3B and 3D and has left them as To Be Determined (TBD) in the point sources.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION	
EPA – William C. Stewart August 27, 2004 AK-3	Public Comment: On page 4, section 5, it is stated that the beneficial use attainment for the Snake River is set at 0.075-mg/L TP. Is it the State's intention for the river to meet this concentration at all times or is some type of averaging proposed? This needs to be made clear in this section of the document. The same question is asked for the 0.100-mg/L TP for the tributaries and 0.020-mg/L TP for all groundwater sources. DEQ Response: Technically, beneficial use attainment can only be reached when 30% of the nuisance aquatic plant growths in the Snake River are reduced, thus making the river "fishable and swimmable." DEQ has determined that a 30% reduction will result in the river meeting Idaho's narrative water quality standard that prohibits excess nutrients that result in nuisance aquatic growth. The instream targets of 0.075-mg/L TP for the river, 0.100-mg/L TP for the tributaries, and 0.020 mg/L TP for the spring discharges are surrogate values for interpreting the narrative standard. No averaging has ever been proposed or suggested by these instream targets. The river and the tributaries must meet their respective instream targets at all sections of their reaches in order to acknowledge that beneficial uses have been attained. DEQ has made the necessary change in the document to make this clear
EPA – William C. Stewart August 27, 2004 AK-4	Public Comment: On page 5, section 5, part 2, the TSS target is given as 52.0-mg/L and in the following table it is stated at 50.0 mg/L. Which is correct? DEQ Response: The correct value is 52.0-mg/L. DEQ has corrected this in the document.
EPA – William C. Stewart August 27, 2004 AK-5	Public Comment: The first full paragraph on page 5 states that 2% of the nonpoint source load allocation for TSS is defined as a "reserve." The paragraph goes on to state that the load allocation for TP for stormwater runoff and construction activities is zero. We do not believe that you can have TSS runoff from stormwater or construction sites with zero TP. Any organic matter will have some measurable concentrations of total phosphorus. It would seem unlikely that the sediment in stormwater would not have a TP load. DEQ Response: DEQ has made a change in all tables to reflect a 2% allocation as a reserve for TP similar to TSS.
EPA – William C. Stewart August 27, 2004 AK-6	Public Comment: On page 5, section 6, there should be a short explanation of what is meant by a seasonal wasteload allocation versus a fixed or stationary wasteload allocation. DEQ Response: DEQ has added the suggested change to the document.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION	
EPA – William C. Stewart August 27, 2004 AK-7	Public Comment: On page 7, section 6, part 6, sub-part a., the paragraph seems to announce that the WLA will be exceeded during the fall and winter months. It is not clear what you mean by this and it doesn't seem appropriate in the document. The assigned wasteload allocations are limits that are expected to be met by the industry. DEQ Response: The comment on page 7, section 6a, is applicable to seasonality and not to stationary wasteload allocations. The wasteload allocation will not be exceeded, but instead changes by seasosn. This means that at certain times of the year, the wasteloads will be above the base wasteloads. At other times of the year, the wasteload will be below the base wasteloads. In the Mid-Snake system, it is preferable to have the higher wasteloads during the cold months when nuisance aquatic plant growths are not a problem. In order to provide a control to the higher wasteloads, DEQ selected a 10% threshold above the base wasteloads during the cold months with a comparable load reduction during the spring and summer months. This seems reasonable when you consider four quarters, with four separate wasteloads. Yet, within each tributary and river TMDL, the total wasteload allocations with the nonpoint source component must meet the instream targets (0.100 or 0.075 mg/L TP, respectively).
EPA – William C. Stewart August 27, 2004 AK-8	Public Comment: On page 8, section 7, part 2, the assumptions concerning total losses of TP to the system contain some errors. Total phosphorus is not lost from aquatic systems to volatilization and we do not understand how denitrification affects phosphorus concentrations. If the loss of TP from the system was arrived at by looking at monitoring data collected at compliance points on the river, the document needs to state that. If "loss and attenuation" of phosphorus was somehow empirically determined, please explain the process used. DEQ Response: EPA appears to misunderstand the point of DEQ's discussion relative to Total Loss in the Mid-Snake system altogether or in any large river system. The document does not suggest or imply that TP is lost from the aquatic system because of volatilization or that denitrification affects TP concentrations. What the document states is that Total Losses = Volatilization + Soil Adsorption + Sedimentation + Groundwater Storage + Denitrification. This is the standard textbook equation for setting up a simple mass-balance model to describe losses in a large river system. In the case of volatilization and denitrification for TP, the values would be zero because TP is not lost to volatilization or to denitrification. It would not be zero for soil adsorption, sedimentation, or groundwater storage. To avoid confusion about the statement, DEQ has added clarification to item 2 of the discussion in the document. Therefore, the assumption being made is that the Total Losses = Total Inputs. The other assumption that is being made (item 1) is that no distinction is made between organic phosphorus and inorganic phosphorus. This additional assumption could very easily be added to the Total Losses equation as an additional component. This discussion is further amplified in the paragraph following item 4 of the document.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION	
EPA – William C. Stewart August 27, 2004 AK-9	Public Comment: Page 8, Section 8, The discussion on Total Phosphorus Pollutant Trading is not correct. In the perspective of EPA-Region 10, any aquaculture facility that is meeting its assigned wasteload allocation/permit limit may engage in an approved water quality trading program regardless of whether the limit is seasonal or not. All water quality-trading needs to be done within the bounds of a formal trading framework to ensure the trades are well documented. DEQ Response: DEQ has made the appropriate change in the document.
EPA – William C. Stewart August 27, 2004 AK-10	Public Comment: Pages 9 through 39, all tables. The tables in many cases give Stormwater and Construction Activities a zero load allocation for TP and a substantial load for TSS. This doesn't seem to fit. Please see the comment from page 5. DEQ Response: As previously described, DEQ has made a change in all tables to reflect a 2% allocation as a reserve for TP similar to TSS.
EPA – William C. Stewart August 27, 2004 AK-11	Public Comment: On page 9, Table 1-A, the irrigation drains are given load allocations of zero for TP and TSS for the first quarter under seasonality loads. This is true only if there is no flow in the drains making it to the Snake River during this time. DEQ Response: DEQ has reviewed with the Twin Falls Canal Company and the North Side Canal Company personnel if indeed these drains are active or inactive during the first quarter. What is described in Tables 1-A, 2-A, 3-A, 4-A, 5-A, and 6-A is accurate based on their review of the tables and the overall document.
EPA – William C. Stewart August 27, 2004 AK-12	Public Comment: Pages 9 through 39, all tables. Please explain the implicit Margin of Safety that is used on each of the tables. DEQ Response: The implicit MOS is an EPA-approved MOS under the Upper Snake Rock TMDL and its Executive Summary document. As described on page A-17 of the Executive Summary, "the MOS is implicit in that it is incorporated through conservative assumptions in the analysis. Section 3.4, pages 195-197 of the Upper Snake Rock TMDL describes these implicit conservative assumptions." These assumptions are summarized in Table 7 of the Executive Summary (page A-18). Figures 4 and 5 in the Executive Summary (page A-19) illustrate the apparent magnitude of the MOS of TSS and TP on the mainstem Middle Snake River in the subbasin.
EPA – William C. Stewart August 27, 2004 AK-13	Public Comment: Pages 9 through 39, all tables. The flows used to calculate the wasteload and load allocations in all of the tables appear to be average flows from the data collected for the Localized Impact Assessment document. Please explain how the 0.075-mg/L target for the Snake River will be met during the periods of low flow in the river using these wasteload and load allocations. DEQ Response: The flows used in the document for the Snake River are the same flows that were used in the EPA-approved Executive Summary, which come from the EPA-approved Upper Snake Rock TMDL, Appendix D, Section IX, p 369. These have always been defined as average or mean flow conditions for the Snake River. The flow in the tributaries is likewise average flow conditions and was EPA-approved in the Upper Snake Rock TMDL and the Executive Summary.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION	
EPA – William C. Stewart August 27, 2004 AK-14	Public Comment: On page 15, Table 2-C, the allocation is the same for TP for GAP-091 and GAP-124 but is substantially different for TSS. Is this an error? DEQ Response: This is not an error but reflects the aquaculture subcommittee's proposed wasteload allocation values for TP and TSS.
University of Idaho Extension Public Comments	
U of I Extension Gary Fornshell August 30, 2004 AL-1	Public Comment: The document … has a statement in it that may affect whether a facility opts in or opts out for seasonality. Page 8, section 8 (total phosphorus pollutant trading) states – "According to EPA Region 10, any seasonal facility that incorporates a seasonal wasteload allocation cannot participate in pollutant trading scenarios." … There is no rationale to prohibit facilities with a seasonal wasteload allocation from participating in pollutant trading; therefore DEQ should allow facilities with a seasonal wasteload allocation to participate in pollutant trading. DEQ Response: DEQ has made the appropriate change in the document to reflect that pollutant trading will be allowed for facilities that have a seasonal wasteload allocation along with those that do not have a seasonal wasteload allocation.
U of I Extension Gary Fornshell August 30, 2004 AL-2	Public Comment: If instream targets are met, flexibility in defining seasonality should be allowed in specific instances where warranted, such as the conservation hatcheries that rely on 4-month and 6-month seasonality. There may be commercial facilities that also do not follow a seasonal quarterly calendar. DEQ Response: DEQ recognizes that there are various approaches to seasonality that can be used in addition to the quarterly, trimester, and 6-month seasonal approach. If a commercial facility feels so inclined that their facility is best managed under a trimester or 6-month versus a quarterly seasonal approach, DEQ will provide the information to EPA so long as the approach falls within the instream targets of the particular waterbody and there is a reasonable assurance that beneficial uses will be met. DEQ cannot guarantee that EPA will accept the seasonal approach.
U of I Extension Gary Fornshell August 30, 2004 AL-3	Public Comment: There is a typo on page 41, Appendix A that may cause confusion. The second table used to calculate the TSS wasteload allocation should read: B = ___ ton/yr, not lb/day. DEQ Response: DEQ has made the suggested change in the document.
Memorandum from Rob Sharpnack - DEQ on WLA Loads	
Rob Sharpnack DEQ-TF (August 30, 2004) AN	Public Comment: Investigated comments made by Lynn Babington (Ark Fisheries Inc.) and Dr. John R. MacMillan (Clear Springs Foods Inc.) about possible errors in the base wasteload allocation loads for several facilities. DEQ Response: DEQ will make the necessary changes.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION	
Idaho Trout Company Public Comments	
Harold L. Johnson Idaho Trout Processors (August 30, 2004) AO-1	Public Comment: We believe the Adjudicated Flow of 150.0 cfs pertaining to Rim View (GAP-010) is the appropriate flow to be used in conjunction with the version 13 flows. DEQ Response: It was determined that the Version 13 database would be used for the development of wasteload allocations. The three components that were housed in the database were flow, phosphorus, and total suspended solids. DEQ determined during the public comment period that two facilities had used adjudicated flows instead of Version 13 flows. In order to maintain consistency and as promised to the aquaculture industry, these flows were adjusted by DEQ to reflect only Version 13 flows.
Harold L. Johnson Idaho Trout Processors (August 30, 2004) AO-2	Public Comment: The statement that "According to EPA-Region 10, any seasonal facility that incorporates a seasonal wasteload allocation cannot participate in pollutant trading scenarios." This statement is inappropriate! All non-seasonal and seasonal facilities should be able to participate in all pollutant trading scenarios. DEQ Response: See DEQ Response to EPA Public Comments item AK.8. Therefore, DEQ has made the appropriate change in the document.
White Water Ranch Public Comments	
Stan Standal White Water Ranch (Multiple GAP) (August 30, 2004) AP	Public Comment: DEQ telephoned Mr. Standal 1. Can you re-align the seasonality quarters to a more favorable alignment? 2. Did not see allocations for the Stevenson, Slane, and Fleming facilities. DEQ Response: 1. DEQ recognizes that there are various approaches to seasonality that can be used in addition to the quarterly, trimester, and 6-month seasonal approach. If a commercial facility feels so inclined that their facility is best managed under a trimester or 6-month versus a quarterly seasonal approach, DEQ will provide the information to EPA so long as the approach falls within the instream targets of the particular waterbody and there is a reasonable assurance that beneficial uses will be met. DEQ cannot guarantee that EPA will accept the seasonal approach. 2. In Section 10.5 of the final document
IdaSea – SeaPac of Idaho Public Comments	
SeaPac of Idaho Gary Marquardt August 30, 2004 AQ-1	Public Comment: It is noted from review of the subject document that the phosphorus allocation for one NPDES permit Class 1 facility is based on unique criteria and is being allocated at a level substantially below that of all others in the same NDPES classification. DEQ Response: Please see the explanation for DEQ's approach to PSI and Warm Creek in the body of this document. DEQ has adjusted the wasteload allocation so that it is based upon the same criteria and database used for all other Class 1 facilities.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION	
SeaPac of Idaho Gary Marquardt August 30, 2004 AQ-2	Public Comment: Part of this oversight may be due to use of the DEQ-TFRO's Version 13 Database, which does not accurately reflect the current water flows for the Pristine Springs FH. DEQ Response: Version 13 database may not reflect current water flows. DEQ recognizes that flow used by a facility may change from one year to the next. However, at some point DEQ had to set the wasteload allocations based on flow data and chose the Version 13 database. The same database was used for all facilities.
SeaPac of Idaho Gary Marquardt August 30, 2004 AQ-3	Public Comment: In addition, the Pristine Springs FH is the only facility where a substantially reduced concentration level was used in the calculations for determining phosphorus allocation. The concentration level used corresponds to a facility with a production potential of less than 7,500 lb fish/cfs/yr. To be consistent with all other NPDES Class 1 facilities and to be realistic as to the production potential, the correct concentration level used should be 0.082 mg/L, not 0.042 mg/L. DEQ Response: Please see the explanation for DEQ's approach to PSI and Warm Creek set out in the body of this document. DEQ has set PSI's wasteload allocation using the 0.082 mg/L concentration.
SeaPac of Idaho Gary Marquardt August 30, 2004 AQ-4	Public Comment: Review of related documents shows that DEQ noted in minutes of a September 30, 2002 meeting, that Pristine Springs Inc. had a requested a change to their phosphorus allocation. In November 2002 and again in January 2003, additional input was given to DEQ concerning the need for allotment adjustments and the lawful increased flows occurring at the Pristine Springs facility. DEQ Response: Please see the explanation for DEQ's approach to PSI and Warm Creek set out in the body of this document. DEQ has considered PSI's comments and requests for DEQ to increase the PSI wasteload allocation based upon an increased water flow. To be consistent, however, DEQ has used the same Version 13 database for all facilities, and therefore, cannot use different flow data just for PSI. If DEQ were to use more recent flow data for PSI, DEQ would have to use more recent data for all facilities. At some point, a set of data for all facilities must be chosen. DEQ did this with Version 13 of the database. DEQ's decision to use the Version 13 database was made with the input of the aquaculture industry.
SeaPac of Idaho Gary Marquardt August 30, 2004 AQ-5	Public Comment: The allocation suggested by the subcommittee and used in the subject document adversely impacts the operator and owners of Pristine Springs FH. DEQ Response: Please see the explanation for DEQ's approach to PSI and Warm Creek set out in the body of this document. DEQ believes the wasteload allocations, based upon the same formula and dataset for all facilities, is fair and objective.
SeaPac of Idaho Gary Marquardt August 30, 2004 AQ-6	Public Comment: As DEQ can see from the DMRs they receive monthly, the proposed allocations would place the Pristine Springs facility in violation a major part of the time since January 2002. DEQ Response: Please see the explanation for DEQ's approach to PSI and Warm Creek set out in the body of this document. DEQ has increased PSI's wasteload allocation and believes this is achievable.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION	
SeaPac of Idaho Gary Marquardt August 30, 2004 AQ-7	Public Comment: I believe it is the responsibility of DEQ and subsequently EPA to review the proposal and insure that recommended allocations are fair and appropriate. DEQ Response: Please see the explanation for DEQ's approach to PSI and Warm Creek set out in the body of this document. DEQ has increased PSI's wasteload allocation and believes this is achievable.
SeaPac of Idaho Gary Marquardt August 30, 2004 AQ-8	Public Comment: The Pristine Springs FH allocation is an obvious example where additional adjustment is required to achieve equitable remedy. DEQ Response: Please see the explanation for DEQ's approach to PSI and Warm Creek set out in the body of this document. DEQ believes it has adopted an approach that is fair and equitable. To the maximum extent possible, the approach subjects each facility to the same limitations, and still achieves the targets set to support beneficial uses of the river.
SeaPac of Idaho Gary Marquardt August 30, 2004 AQ-9	Public Comment: To place Pristine Springs FH on equal standing with all other NPDES permit Class 1 facilities, the following two corrections are needed in the calculations: (1) Pristine Springs allocation should be based on the flows achieved since completion of the water diversion project and (2) the same discharge phosphorus concentration used for all other NPDES Class 1 facilities should be applied. This would allow the Pristine Springs facility the same opportunity to operate within compliance as all other Class 1 facilities have the opportunity to do. DEQ Response: Please see prior responses to comments. DEQ is using the same concentration and the same database for PSI that it is using for all other Class 1 facilities.
SeaPac of Idaho Gary Marquardt August 30, 2004 AQ-9	Public Comment: It should be noted that no allowance was made for the culture of warm water fish on the Pristine Springs facility. Phosphorus was allocated for warm water culture at other facilities and to be consistent should be allocated to the Pristine Springs facility as well. DEQ Response: DEQ has provided a wasteload allocation for warm water fish propagation.
SeaPac of Idaho Gary Marquardt August 30, 2004 AQ-10	Public Comment: I would support the position that all facilities, whether opting for seasonal wasteload or not, be allowed to participate in pollutant trading. DEQ Response: See DEQ Response AL.1 in University of Idaho Extension Public Comments.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION	
Clear Springs Foods Inc. Public Comments	
John R. MacMillan, Ph.D. Clear Springs Foods, Inc. (August 24, 2004) AR-1	Public Comment: DEQ proposes to reduce the water flow used to compute wasteload allocations at Clear Springs Foods, Inc. … This dispute was fully adjudicated in favor of Clear Springs Foods, Ind. Nevertheless, Clear Springs Foods, Inc. will agree to rely on the DEQ version 13 database for the purposes of wasteload allocation. However, no party should construe the acceptance of the reduced water flow that Clear Springs Foods, Inc. has agreed to use for the purposes of this wasteload allocation as agreement to subordinate its water right nor has Clear Springs Foods, Inc. in any way agreed to accept a reduced water flow at this facility. DEQ Response: DEQ agrees with this assessment of the adjudicated flows. In reducing the adjudicated flow in favor of the Version 13 flow, Clear Springs is only agreeing to decrease the TP wasteload allocation by 6 lb/day at the Middle Hatchery (GAP-007) to 80.2 lb/day based on a net concentration of 0.082 mg/L TP. By Clear Springs accepting the Version 13 flow, DEQ is not making the statement that Clear Springs is subordinating its water right. Nor is DEQ stipulating that Clear Springs accept a reduced water flow at this facility.
John R. MacMillan, Ph.D. Clear Springs Foods, Inc. (August 24, 2004) AR-2	Public Comment: The DEQ reduction in TP wasteload allocation at Clear Springs Foods, Inc. Middle Hatchery (GAP-007) means the following Aquaculture Industry Subcommittee wasteload allocations should be: • Box Canyon (GAP-014) = 132.2 lb/day TP • Middle Hatchery (GAP-007) = 80.2 lb/day TP • Snake River Farm (GAP-002) = 42.3 lb/day TP • Crystal Springs Farm (GAP-006) = 90.8 lb/day TP DEQ Response: DEQ concurs. These numbers (or a total of 345.5-lb/day TP) represent the actual values provided by the Aquaculture Industry Subcommittee prior to adjustment by a common owner for multiple facilities. The adjustment was agreed to by DEQ as part of the formal public-comment package that was submitted to the overall aquaculture industry for review in 2003.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION	
John R. MacMillan, Ph.D. Clear Springs Foods, Inc. (August 24, 2004) AR-3	Public Comment: The reduction in TP wasteload allocation at … Middle Hatchery … decreases the combined TP wasteload allocation to Clear Springs … four farm facilities by 6.0 lb/day. The combined … TP wasteload allocation is now 345.5 lb/day. This reduction necessitates … ["tweaking"] … of the internal reallocation of TP Clear Springs … had previously requested DEQ. Clear Springs … proposes to reallocate the 345.5 lb/day TP amongst its four farm facilities as follows: • Box Canyon (GAP-014) = 141 lb/day TP • Middle Hatchery (GAP-007) = 75 lb/day TP • Snake River Farm (GAP-002) = 47 lb/day TP • Crystal Springs Farm (GAP-006) = 82.5 lb/day TP DEQ Response: DEQ agrees with this approach for common owner with multiple facilities. DEQ still needs to evaluate the attainment of instream targets for these facilities, and assuming the target goals are met for the receiving waterbodies, the proposed adjustments will be incorporated into the TMDL.
John R. MacMillan, Ph.D. Clear Springs Foods, Inc. (August 24, 2004) AR-4	Public Comment: Clear Springs … supports the potential for facilities to utilize the flexibility provided by seasonal wasteload allocations. However, facilities proposing to utilize seasonal adjustments in their wasteload allocations must be required to more intensively monitor discharges. The monitoring will demonstrate compliance with the seasonal allocations, ensure compliance with the total industry 970.2-lb/day TP wasteload allocation and ensure compliance with targets set for specific TMDL within the Upper Snake Rock subbasin. DEQ Response: DEQ concurs that additional monitoring might be a consideration for seasonal facilities for the exact reasons cited.
John R. MacMillan, Ph.D. Clear Springs Foods, Inc. (August 24, 2004) AR-5	Public Comment: DEQ states that pollutant trading cannot occur until beneficial uses of the Middle Snake River are attained. We believe that this statement should be clarified to state that the TMDL is designed to ensure designated beneficial uses are maintained. Pollutant trading can commence as currently envisioned by the State … Provision for pollutant trading will be incorporated in the new aquaculture industry NPDES permit to be issued sometime after Sept. 10, 2004. DEQ Response: See Appendix B of the document for a fuller response.
John R. MacMillan, Ph.D. Clear Springs Foods, Inc. (August 24, 2004) AR-6	Public Comment: Clear Springs … is agreeable to wasteload allocation modifications proposed by DEQ provided 24 hour sampling of effluent discharges is allowed in the new NPDES permit as stipulated in the Aquaculture Industry Subcommittee wasteload allocation proposal. DEQ Response: DEQ concurs with the 24 hour sampling option under the new NPDES permit.
John R. MacMillan, Ph.D. Clear Springs Foods, Inc. (August 24, 2004) AR-7	Public Comment: The wasteload allocation modifications by DEQ based solely on DEQ Version 13 database water flows at Middle Hatchery … and Rim View … means there is 10.2 lb/day TP of unallocated TP. … Clear Springs … proposes that these unallocated TP wasteload pounds, and any additional TP wasteload found to be unallocated, be equally portioned to all NDPES Class 1 facilities on the basis of mean water flow as reflected in DEQ Version 13 database. DEQ Response: DEQ will consider this, but for now, any unallocated TP wasteload will be held in reserve and in control of DEQ.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION	
John R. MacMillan, Ph.D. Clear Springs Foods, Inc. (August 24, 2004) AR-8	Public Comment: …it appears DEQ has allocated an extra 0.8 lb/day TP to Pristine Springs … and 1.1 lb/day TP to Blue Lakes Hatchery … compared to their respective allocations in the Aquaculture Industry Wasteload Allocation Subcommittee proposal. The reason for this extra allocation was not explained in the current DEQ proposal subject to public comment and we assume this extra allocation is in error. DEQ Response: DEQ concurs that both Pristine Springs and Blue Lakes Hatchery received erroneous wasteload allocations in Table 2-B of the public comment document. This has been modified to reflect the base wasteload allocations submitted by the Aquaculture Industry Wasteload Allocation Subcommittee.
John R. MacMillan, Ph.D. Clear Springs Foods, Inc. (August 24, 2004) AR-9	Public Comment: Greene's Trout Farm … and Lemmon Ponds … received wasteload allocations in the Aquaculture Industry Wasteload Allocation Subcommittee proposal yet these two facilities were not included in the current DEQ proposal, which means there is an additional 4.9 lb/day TP … of unallocated TP. Again, the reason for their exclusion is not explained in the DEQ proposal. … Clear Springs … proposes that these unallocated TP wasteload pounds, and any additional TP wasteload found to be unallocated, be equally portioned to all NDPES Class 1 facilities on the basis of mean water flow as reflected in DEQ Version 13 database. DEQ Response: See DEQ Response AR-7 above. However, Greene's Trout Farm is no longer operational. And Lemmon Ponds has been added to the Mid-Snake group of aquaculture facilities that discharge directly to the Middle Snake River in Segment 5.
Ark Fisheries, Inc. Public Comments	
Lynn Babington Ark Fisheries, Inc. (August 30, 2004) AS-1	Public Comment: We support the seasonality component of the wasteload allocations for aquaculture facilities. DEQ Response: No response is necessary.
Lynn Babington Ark Fisheries, Inc. (August 30, 2004) AS-2	Public Comment: We support the option for aquaculture facilities to choose whether they want to use the seasonality component of the wasteload allocation. DEQ Response: No response is necessary.
Lynn Babington Ark Fisheries, Inc. (August 30, 2004) AS-3	Public Comment: There is no information available on the increase, if any, for monitoring if the seasonal option is selected. For this reason the owner, operator, or legal representative of the individual facility should be allowed to exercise this option after EPA and DEQ has advised the Aquaculture industry of the monitoring requirements. DEQ Response: The NPDES permit is presently under EPA primacy. Consequently, there is no guarantee that in choosing to employ seasonality, the level of monitoring would be reduced, left the same, or increased.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION	
Lynn Babington Ark Fisheries, Inc. (August 30, 2004) AS-4	Public Comment: The seasonality component option should be able to be exercised or changed each time the permit is issued, administratively extended, or transferred. Ark is not comfortable making the decision for seasonality and seasonal amount distributions when the owner or next operator may have different management goals. EPA and/or DEQ need to inform the aquaculture industry of their intentions regarding these situations. DEQ Response: Ark raises some excellent points. DEQ supports the option that at permit reissuance, the seasonality component option should be reviewed, assessed, and modified (if necessary) to accommodate changes in facility management or facility design. DEQ is uncertain at this time whether adjustments to the seasonal wasteload allocations can be made when a permit is transferred to a new owner. DEQ will continue to work with industry and EPA regarding these issues.
Lynn Babington Ark Fisheries, Inc. (August 30, 2004) AS-5	Public Comment: Ark's present understanding is that page 8, item 8.0 total phosphorus pollutant trading is in error and that facilities incorporating a seasonal wasteload allocation can participate in pollutant trading scenarios. The intent of the aquaculture wasteload subcommittee was never to restrict any facility from the opportunity to trade phosphorus. DEQ Response: See DEQ Response to EPA Public Comments item I. DEQ has made the appropriate change in the document.
Lynn Babington Ark Fisheries, Inc. (August 30, 2004) AS-6	Public Comment: Due to items 3 (item C above), 4 (item D above), and 5 (item E above) Ark Fisheries wishes to reserve this seasonality option for the various facilities it operates until it has all information necessary to make an informed business decision. DEQ Response: DEQ respects Ark's decision to reserve judgment on the seasonality component until it has better information. DEQ, however, must submit to EPA either a wasteload allocation that uses a seasonal or a stationary component. Since Ark is unable to submit a seasonal wasteload allocation because of insufficient information, DEQ has no recourse but to submit a wasteload allocation that has a stationary component. See item 7 on page 7 of Section 6.0 in the public comment document.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION	
Lynn Babington Ark Fisheries, Inc. (August 30, 2004) AS-7	Public Comment: Lynn Babington is a member of the wasteload allocation subcommittee and Ark Fisheries as an operator submitting 15 individual NOI applications gave support to the individual wasteload allocations presented to DEQ and EPA September 30, 2002. DEQ's public comment document dated July 26, 2004 has altered (9) nine of the individual permits TP allocations as presented by the subcommittee. We can only support DEQ's proposed allocations if the (9) nine individuals are in agreement with the proposed changes. If they are not in agreement we are forced to withdraw all our support to the wasteload allocation submitted by the subcommittee September 30, 2002 as is provided for in the wasteload allocation process and proposal. The nine facilities are: IDG 130002, 006, 007, 008, 010, 014, 018, 027, and 076. DEQ Response: DEQ has reviewed the nine facilities described, and the nature of their changes is explained as follows: GAP-130002 = Final adjustments by the owner. GAP-130006 = Final adjustments by the owner. GAP-130007 = Modification due to use of adjudicated flows. GAP-130008 = This has been corrected to reflect the correct wasteload. GAP-130010 = Modification due to use of adjudicated flows. GAP-130014 = Final adjustments by the owner. GAP-130018 = This has been corrected to reflect the correct WLA. GAP-130027 = Green's FH has been discontinued from operation. GAP-130076 = This has been corrected to include the facility in Segment 5. Final adjustments by the owners was promised and applied in the final version of the subcommittee's WLA with the stipulation that beneficial uses for the receiving stream had to be met. The adjudicated flows for GAP-007 and GAP-010 compromised the consistency intended through Version 13; therefore these were modified to their Version 13 mean flows.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION	
College of Southern Idaho Public Comments	
Terry Patterson College of Southern Idaho Fish Hatchery (GAP 124) (August 30, 2004) AT	Public Comment: 1. Submitted request for a seasonal wasteload allocation for the CSI Fish Hatchery. 2. Proposed to "break the year into three trimesters or periods. The first period would include the months of March through June. The second trimester would begin in July and end in October. The third period would begin in November and end in February. … I feel this would be the best fit for CSI." 3. Will it be possible to modify the seasons once the wasteload allocation is approved? For example, will I be able to shift my periods if in reality the fit proves to be better? 4. I am also interested in possible phosphorus pollutant trading in conjunction with seasonal wasteload allocation. I have heard that an error exists in the Public Comment Document on page 8 indicating this is not possible. DEQ Response: 1. No response necessary. 2. DEQ recognizes that there are various approaches to seasonality that can be used in addition to the quarterly, trimester, and 6-month seasonal approach. If a commercial facility feels so inclined that their facility is best managed under a trimester or 6-month versus a quarterly seasonal approach, DEQ will provide the information to EPA so long as the approach falls within the instream targets of the particular waterbody and there is a reasonable assurance that beneficial uses will be met. DEQ cannot guarantee that EPA will accept the seasonal approach. 3. DEQ certainly supports the option that at permit re-issuance, the seasonality component option should be reviewed, assessed, and modified (if necessary) to accommodate changes in facility management or facility design. However, EPA has final jurisdiction on this since they hold primacy to the NPDES permit in Idaho. 4. Based on subsequent comments from EPA the document will be changed accordingly.
Blue Lakes Trout Farm Public Comments	
P.J. Greene Blue Lakes Trout Farm (GAP 008) (August 30, 2004) AU	Public Comment: Submitted Appendix A from the Public Comment Document indicating that Blue Lakes Trout Farm did not desire a seasonal wasteload allocation. DEQ Response: No response required.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION	
White Water Ranch Public Comments	
Stan Standal White Water Ranch (Multiple GAP) (August 30, 2004) AV	Public Comment: 1. The White Water Ranch facility was reconstructed in staged manner from 1996 to 2002 in accordance with a plan approved by DEQ 2/6/1996. Reduced water flows were reported in DMRs in 200 reflecting the reconstruction. These reduced flows were used in the version 13 database. Version 13 data was used to develop a proposed WLA. This allocation was and still is unacceptable for the White Water Ranch facility. These concerns were addressed in a January 14, 2003 letter to DEQ. Data submitted on 2002 and 2003 DMRs closer reflect the facilities traditional water flows. Based on the above described conditions, the waster rights associated with the facility and the data submitted, I am proposing a Seasonal WLA for the White Water Ranch …. Averaging 6.1 lbs/day. 2. I also request that this facility be allowed to participate in pollutant trading. 3. Mr. Standal did not desire a seasonal allocation for the John Fleming Ponds GAP 119. DEQ Response: 1. DEQ has used the Version 13 database for all facilities and does not intend to adjust wasteload allocations to reflect more recent data. 2. DEQ is amending the public comment document to show that seasonal facilities will be allowed to pollutant trade. 3. A stationary base WLA will be applied to GAP-119
Idaho Power Company Public Comments	
Brian Hoelscher Idaho Power Co. – Boise August 30, 2004 AW-1	Public Comment: While the concept of seasonality has merit, its application must be fairly applied to all pollutant sources and based on sound technically defensible information. It appears that solicitation of comments prior to the facilities request for seasonal consideration is premature. DEQ Response: DEQ has spent months working with the aquaculture industry (at their request) and EPA in consideration of seasonal wasteload allocations. DEQ agrees that the public should be allowed to comment on the seasonal wasteload allocations. Therefore, DEQ has provided for an additional public comment period regarding the seasonal wasteload allocations.
Brian Hoelscher Idaho Power Co. – Boise August 30, 2004 AW-2	Public Comment: The Company believes the concept of seasonality has merit, however, does not believe that only the aquaculture industry deserves special consideration. Consideration should be offered to any industry upon request and accompanied with supporting information. DEQ Response: DEQ concurs that this view has long-term implications and should be applied universally where seasonality can be demonstrated. Indeed, with aquaculture you have a large industry (over 68 facilities) that is part of a general aquaculture permit. The concept of seasonality, although universally appealing, has limitations when applied to the NPDES permitting process. Those limitations center on the definition of a general permit and the extent to which seasonality can be applied under a general permit verses individual permits. Should seasonality be acceptable and approved by EPA, then it is highly probable that other industries would be willing to consider the option. However, the main limitation in seasonality is that within each seasonal flux (quarter, trimester, 6-months, etc.), the beneficial uses of the receiving water body must still be attained.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION	
Brian Hoelscher Idaho Power Co. – Boise August 30, 2004 AW-3	Public Comment: Our Company believes it is premature to comment on the modified WLAs … IPC suggests the modified WLAs be developed after the facilities have the opportunity to comply with [DEQ] requirements … Our analysis of the data presented indicates that while the annual total phosphorus load for the aquaculture industry is not exceeded, the total maximum daily load of 970.2 lb/day is during both the first and fourth quarters. We believe the seasonal WLAs need clarification.
	DEQ Response: (1) DEQ agrees the public should be afforded the opportunity to comment on the seasonal wasteload allocations based on information provided by facility owners. Therefore, DEQ has provided an additional opportunity for comment regarding the seasonal wasteload allocations. (2) Seasonality implies periodicity. Therefore, some quarters will be higher than other quarters. As long as the receiving water body meets its beneficial uses (and we have used the instream TP and TSS targets as surrogate values for beneficial use attainment), seasonality should be a consideration if the facility operates as a seasonal facility. Consequently, it is highly probable that the 970.2-lb/day may be exceeded in certain quarters (but not more than 10% of the overall goal). It is preferable that those quarters be during the colder months when nuisance aquatic plant growth is not an issue.
Brian Hoelscher Idaho Power Co. – Boise August 30, 2004 AW-4	Public Comment: However, IPC believes the total phosphorus load characterized, as "export loss and attenuation" is not accurate.
	DEQ Response: DEQ disagrees based on the present level of water quality information that it has on the Snake River. DEQ also disagrees that IPC's interpretation of what happens in the C. J. Strike system is remotely similar to what happens in the Middle Snake system, inclusive of King Hill. Yet, factual evidence that looks specifically at substrate attenuation is missing from the overall understanding of this river system. In light of the lack of corroborative evidence, DEQ solicits IPC in a joint venture for a formal study of the Mid-Snake system that expressly studies the localized substrate attenuation or placement of TP and TSS as well as the nutrient transport from one segment of the river to the other. Such a study would provide a better interpretation of export loss and attenuation in the six segments of the river.
White Water Ranch Public Comments	
Stan Standal White Water Ranch (Multiple GAP) (September 1, 2004) AX	Public Comment: Formal written copy of faxed comments received on August 30, 2004. DEQ Response: See AV

Table prepared by DEQ-TFRO.

Appendix D.
DEQ Public Comment Responses
Aquaculture Wasteload Allocations
Public Comment Period: February 7 – March 7, 2005

Compiled By
Dr. Balthasar B. Buhidar, Ph.D., Regional Manager – Water Quality Protection

Appendix D constitutes the second public comment period of the Upper Snake Rock TMDL Modification – Part 1.

SOURCE OF PUBLIC COMMENT	PUBLIC COMMENT AND DEQ RESPONSES
Debbie Bross 7081 North Bross Lane King Hill, ID 83633 Debbie.bross@mthome.med.osd.mil February 3, 2005	Public Comment: I live on Clover Creek, which is a 303(d)-listed creek on the Lower Snake River. I have been listed since 1997. Some of the IDWR people did not know that my creek was listed. I was told that the creek would be considered in 2004. Since no one seems to have a handle on water issues and pollution, I feel allowing ranchers/ farmers to deviate during a specific part of the year just gives them the right to do whatever any time of the year. My experience with Ag persons has been very negative. Give an inch and they'll continue to take until everything is ruined. Since compliance with most of Idaho's environmental regulations is voluntary, I think people who care will continue to ensure that quality of life for all is maintained and those out for money will take what they can and when the area is ruined, move on. I oppose allowing anyone to have seasonal changes. Who monitors the users? Are they monitored on a weekly basis? Perhaps we could just allow them to monitor their own use and perhaps report the usage every five or ten years? I am very disappointed in the environmental concerns of the State of Idaho. We tout recreational activities for tourism who want to float on a river full of cow droppings? DEQ Response**:** Clover Creek is listed on the federal 303(d)-list from Pioneer Reservoir to its discharge into the Snake River due to excess nutrients, excess sediments, bacteria, and flow alteration. Much of the creek on this reach is private ground and thus will required involvement from private farmers and landowners for application of appropriate beneficial uses to obtain water quality standards. The designated management agency for private agricultural ground is the Idaho Soil Conservation Commission (ISCC). The ISCC, in conjunction with the Gooding Soil Conservation Commission, is working with private land owners to comply with the agricultural component of the Upper Snake Rock TMDL to achieve beneficial uses on Clover Creek. Monitoring is being corroborated through the ISCC and DEQ on 319 grant projects. A 5 and 10 year milestones have been selected to review Clover Creek and to determine that status of its beneficial uses.

SOURCE OF PUBLIC COMMENT	PUBLIC COMMENT AND DEQ RESPONSES
Bryan Kenworthy Fisheries Manager USFWS Hagerman National Hatchery Hagerman, Idaho February 9, 2005	Public Comment: Had requested a trimester allocation but received a quarterly allocation in the TMDL. Also, that there was an error in the accounting of the University of Idaho Hagerman Research Lab discharges. Presently, it discharges to both the Snake River (as listed in the TMDL) and to Riley Creek with their trout and sturgeon raceways. DEQ Response**:** As written in the TMDL, the allocation is written as a quarterly allocation but DEQ intends to submit the allocation as a trimester allocation. A correction will be made in the allocation for the University of Idaho Hagerman Research Lab to include the discharge to Riley Creek.
Allen Merritt, Manager Idaho Department of Water Resources 1341 Fillmore St. Suite 200 Twin Falls, Idaho 83301-3380 Allen.merritt@idwr.idaho.gov February 9, 2005	Public Comment: I glanced over the draft and question the reference to aquaculture using full flow for the Malad River and Clover Creek (pp 56 and 59). You might want to look at those again. DEQ Response**:** DEQ will make the necessary corrections in the document to reflect that the Malad River and Clover Creek do not have aquaculture facilities.
Ted Talbott, Talbott Ponds 917 Justice Grade Hagerman, Idaho 83332 February 10, 2005	Public Comment: Ted was uncertain about the scope of the document. He had not seen his facility (GAP-083) listed in the document and was concerned about his allocation. DEQ Response: Since his facility was discharging into Billingsley Creek those facilities were covered under a separate WLA and TMDL developed for them in 1993 than those of the Mid-Snake and Upper Snake Rock TMDLs. Billingsley Creek was handled separately. The fish farms on Billingsley Creek would be receiving their own WLAs once the Upper Snake Rock TMDL process was completed and approved by EPA. DEQ would notify him once it started working with the Billingsley Creek fish farmers on their WLAs.
Clear Springs Foods, Inc. – Andy Morton	
Andy Morton Clear Springs Foods Research Center Buhl, Idaho February 11, 2005	Public Comment: He was unable to replicate exactly the numbers calculations in the various tables in the document. The numbers do not calculate as shown, such as page 22 with Pillar Falls. When doing the calculations for TP and TSS, the numbers as presented in the document do not calculate as shown. DEQ Response**:** The "real" calculations were done in an Excel spreadsheet and then transferred to the Word document. This is explained on page 8 of the document, but this explanation will be amplified. It is possible that some of the numbers (like the concentration) may have been truncated in the process. This may explain why the numbers were generally close but not exact as presented in the document.

SOURCE OF PUBLIC COMMENT	PUBLIC COMMENT AND DEQ RESPONSES
Elaine Boyer/Boyer Ponds P.O. Box 232 Hagerman, Idaho 83332 February 15, 2005	Public Comment: Elaine questioned why her facility was not listed in the document. DEQ Response**:** It was explained to her that her fish farm was one of those covered under the Billingsley Creek TMDL because it did not discharge directly to the Snake River. DEQ will be getting back to all the fish farmers on Billingsley Creek once we had completed the WLA for the Upper Snake Rock facilities and the fish processors.
Andy Morton - 1 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 3 Tables and Figures. Figures 2 and 3 have the same title and I could not find either in the document or a reference to them. DEQ Response**:** This has been corrected in the document since these have been removed.
Andy Morton - 2 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 11, Section 6.0, paragraph 1, line 5. There appears to be one extra 'on the' in the sentence. DEQ Response**:** This has been corrected in the document.
Andy Morton - 3 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 16, Section 7.0, subsection 1. Under the heading 'Quarter' the third line has '7Qtr 3', I believe the '7' needs to be eliminated. DEQ Response**:** This has been corrected in the document.
Andy Morton - 4 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 21, Section 10.0, subsection 1, second paragraph, line 2. The word subcommittee has been previously spelled as one word 'subcommittee' when referring to the aquaculture industry. DEQ Response**:** This has been corrected in the document so that it is now one word.

SOURCE OF PUBLIC COMMENT	PUBLIC COMMENT AND DEQ RESPONSES
Andy Morton - 6 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: All comments relative to the tables within the document indicate that the calculations do not tally as described. DEQ Response: DEQ's general response to all these comments is that the following format was used to derive all of the calculations in the tables: (1) STEP 1, Calculate the Load Capacity for TP and TSS for each tributary or river using the following formulas: TP, lb/day = cfs x 0.100 mg/L TP x 5.39 (tribs); TP, lb/day = cfs x 0.075 mg/L TP x 5.39 (Snake River). TSS, ton/year = cfs x 52.0 mg/L TSS x 5.39 x 0.1825 (tribs and Snake River); TSS, ton/year = cfs x 25.0 mg/L TSS x 5.39 x 0.1825 (special resource waters). (2) STEP 2, Subtract the MOS from the Loading Capacity. (3) STEP 3, Subtract the Loss/Attenuation value where appropriate from the remaining Loading Capacity. This will apply only to the river component. (4) STEP 4, Subtract the Point Sources from the remaining Loading Capacity. (5) STEP 5, The remaining Loading Capacity is attributed to the Nonpoint Sources. Of this remaining Loading Capacity, 2% is temporarily attributed to Stormwater – Construction Activities. For the Nonpoint Sources attributed to FERC facilities, Land Application sites, or Confined Feeding Operations (all sizes), these will carry a load of zero. The remaining Nonpoint Source component is attributed to a combined Nonpoint Source load of agricultural activities, grazing lands, private ground, and within the 2-mile corridor of the stream.
Andy Morton - 7 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 22, Section 10.1. Pillar Falls Load Considerations TP and TSS. Using the numbers given and doing the indicated calculations the answers given are not derived. DEQ Response: The calculations should be set up as described in the Andy Morton - 6 responses. In addition, in order to have a total load of 1560.41 lb/day TP at Milner Dam, the TP concentration must be set to equal 0.0750002 mg/L TP. In order to have a total load of 1967.61 lb/day TP at Pillar Falls, the TP concentration must be set to equal to 0.0770632 mg/L TP. Finally, in order to have a total load of 1912.52 lb/day TP at Pillar Falls, the TP concentration must be set to equal to 0.0749055 mg/L TP. In addition, Table 1-A has the Loss/Attenuation value added for clarification in the TP portion.
Andy Morton -8 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 23, Section 10.1; Table 1-A, TSS Sources and Seasonal Loads. Need to increase the column width so that the complete numbers are shown in the 'Total Load at Milner Dam' line. DEQ Response**:** For TSS, the calculations at Milner Dam are 52.000006 mg/L TSS with a total load of 197,443.25 ton/year TSS. At Pillar Falls, the calculations include 46.745184 mg/L TSS or 217,817.06 prior to Loss/Attenuation; and 42.070665 mg/L TSS or 196,035.35 ton/year TSS after Loss/Attenuation. In addition, Table 1-A has the Loss/Attenuation value added for clarification in the TSS portion.

SOURCE OF PUBLIC COMMENT	PUBLIC COMMENT AND DEQ RESPONSES
Andy Morton -9 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 27, Section 10.2 Segment 2. Pillar Falls Load Considerations and Crystal Springs Load Considerations. Using the numbers given and doing the indicated calculations the answers given are not derived. DEQ Response**:** The calculations in Table 2-A (Segment 2) are correct if you use the following values: For TP – At Pillar Falls, TP = 0.0749055 mg/L. At Crystal Springs before Loss/Attenuation, TP = 0.1109235 mg/L. At Crystal Springs after Loss/Attenuation, TP = 0.0749843 mg/L. For TSS – At Pillar Falls, TSS = 46.745184 mg/L. At Crystal Springs before Loss/Attenuation, TSS = 50.298362 mg/L. At Crystal Springs after Loss/Attenuation, TSS = 45.268525 mg/L.
Andy Morton - 10 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 29, Section 10.2 Segment 2, Table 2-B. GAP-018 Pristine Springs FH (CW) TP value listed in Qtr 4 is 52.59. The other values listed are 50.61 and I believe that quarter 4 should be the same since they did not request a seasonal allocation. Additionally, if the 52.59 values is used the 'Total Load' line value does not add up to 126.02. DEQ Response**:** Table 2-B has been corrected to show a value of 50.61 lb/day TP in all quarters.
Andy Morton - 11 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 30, Section 10.2 Segment 2, Table 2-C. GAP-124 CSI FH TP load is given as 2.20 lb/day. This facility requested a trimester seasonal load allocation and the four-quarter loads do not equal four times the base load. Additionally, with other trimester seasonal allocations the fourth quarter has been bolded and bracketed with a footnote to the table. DEQ Response: Table 2-C has been corrected to indicate the bracketed trimester seasonality in the TP wasteload allocation.
Andy Morton - 12 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 30, Section 10.2 Segment 2, Table 2-C. GAP-124 CSI FH TSS load is given as 15.20 tons/year. This facility requested a trimester seasonal load allocation and the four-quarter loads do not equal four times the base load. Additionally, with other trimester seasonal allocations the fourth quarter has been bolded and bracketed with a footnote to the table. DEQ Response: Table 2-C has been corrected to indicate the bracketed trimester seasonality in the TSS wasteload allocation.
Andy Morton - 13 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 31, Section 10.2 Segment 2, Table 2-D. The NPS and Storm water TP values listed are NPS=113.20 lb/day and Storm water=2.22 lb/day. Using the 2% storm water scenario, reference page 14, the values I came up with are NPS = 113.11 lb/day and Storm water = 2.31 lb/day. DEQ Response: Table 2-D has been modified to reflect the corrected changes. The NPS is now 113.11 lb/day TP and Storm Water is 2.31 lb/day TP.

SOURCE OF PUBLIC COMMENT	PUBLIC COMMENT AND DEQ RESPONSES
Andy Morton - 14 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 31, Section 10.2 Segment 2, Alpheus Creek TMDL, paragraph 1, lines 6 and 7. The equivalent pollutant concentrations are listed as 0.100 mg/L TP and 52.0 mg/L TSS but different concentration values are used in the calculations of the load capacities below. Which values are correct? The calculated values are used in Tables 2-A and 2-E. DEQ Response: The values have been corrected from 0.100 mg/L TP and 52.0 mg/L TSS to 0.020 mg/L TP and 1.3 mg/L TSS, respectively.
Andy Morton - 15 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 32, Section 10.2 Segment 2, Table 2-E. TSS Sources. The values listed have three decimal places. Other table and truncation scenario indicated two decimal places for TSS values. DEQ Response: Correct. This is necessary to allow for rounding errors to be minimized in the additions and subtractions involved.
Andy Morton - 16 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 32, Section 10.2 Segment 2, Ellison Creek TMDL, paragraph 1, line 2. 'Alpheus Creek' should be replaced with 'Ellison Creek'. DEQ Response: This has been corrected in the document.
Andy Morton - 17 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 32, Section 10.2 Segment 2, Ellison Creek TMDL, paragraph 1, line 3. The equivalent pollutant concentrations are listed as 0.100 mg/L TP and 52.0 mg/L TSS but different concentration values are used in the calculations of the load capacities below. Which values are correct? The calculated values are used in Tables 2-A and 2-F. DEQ Response: The values have been corrected from 0.100 mg/L TP and 52.0 mg/L TSS to 0.020 mg/L TP and 1.3 mg/L TSS, respectively.
Andy Morton - 18 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 33, Section 10.2 Segment 2, Table 2-F. TSS Sources. The values listed have three decimal places. Other table and truncation scenario indicated two decimal places for TSS values. DEQ Response: Correct. This is necessary to allow for rounding errors to be minimized in the additions and subtractions involved.
Andy Morton - 19 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 33, Section 10.3 Segment 3, Crystal Springs Load Considerations and Box Canyon Load Considerations. Using the numbers given and doing the indicated calculations the answers given are not derived. DEQ Response**:** The calculations in Table 3-A are correct if you use the following: For TP – At Crystal Springs, TP = 0.0749843 mg/L. At Box Canyon before Loss/Attenuation, TP = 0.0917778 mg/L. The Loss/Attenuation ratio is 18.3000014%, which was rounded to 18.3%. At Box Canyon after Loss/Attenuation, TP = 0.0749825 mg/L. For TSS – At Crystal Springs, TSS = 50.2983616 mg/L. At Box Canyon before Loss/Attenuation, TSS = 48.8486494 mg/L. The TSS Loss/Attenuation Ratio = 9.99999942 mg/L. At Box Canyon after Loss/Attenuation, TSS = 43.9637848 mg/L.

SOURCE OF PUBLIC COMMENT	PUBLIC COMMENT AND DEQ RESPONSES
Andy Morton - 20 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 35, Section 10.3 Segment 3, Table 3-A. Incorrect GAP number listed in last footnote after the word 'because'. Listed as GAP-004 and should be GAP-016. DEQ Response: This has been corrected in Table 3-A to reflect GAP-016.
Andy Morton - 21 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 36, Section 10.3 Segment 3, Niagara Springs TMDL, second paragraph. Total mean flow discharging to the Middle Snake River is 252.8 cfs. Rim View FH discharges 140.4 cfs directly to Middle Snake River. Math question is the following 252.8 minus 140.4 equals 112.4. However, 112.0 cfs is used to calculate the Niagara Springs Load Capacities for TP and TSS. Why isn't 112.4 cfs used? DEQ Response: An additional explanatory paragraph has been added along with DEQ-TFRO's intent to investigate the water flows fully for both Rim View Fish Hatchery and Niagara Springs/IPC Fish Hatchery.
Andy Morton - 22 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 37, Section 10.3 Segment 3, Table 3-C footnote. Incorrect GAP number listed in last footnote after the word 'because'. Listed as GAP-004 and should be GAP-013. DEQ Response: This has been corrected in the document to indicate GAP-013.
Andy Morton - 23 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 37, Section 10.3 Segment 3, Table 3-D, TP Sources. The NPS and Storm water TP values listed are NPS=71.92 lb/day and Storm water=1.45 lb/day. Using the 2% storm water scenario, reference page 14, the values I came up with are NPS = 71.90 lb/day and Storm water = 1.47 lb/day. DEQ Response: We have recalculated Table 3-D for both the NPS on TP and TSS and have made the necessary corrections as follows: TP – 71.90 lb/day NPS, 0.00 lb/day FERC, 1.47 lb/day Stormwater. TSS – 22,653.52 ton/year NPS, 0.00 ton/year FERC, and 462.32 ton/year Stormwater.
Andy Morton - 24 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 40, Section 10.3 Segment 3, Table 3-F, TSS Sources. The NPS and Storm water TSS values listed are NPS=3901.82 tons/year and Storm water=97.36 tons/year. Using the 2% storm water scenario, reference page 14, the values I came up with for TSS column are NPS = 3919.20 tons/year and Storm water = 79.98 tons/year. Additionally, Deep Creek TMDL has seasonal allocations changing the NPS in each quarter. The values for each quarter using the corrected storm water value are, Qtr 1 = 3923.50 tons/year, Qtr 2 = 3928.40 tons/year, Qtr 3 = 3910.00 tons/year and Qtr 4 = 3914.90 tons/year. DEQ Response: Table 3-F was recalculated and corrected to indicate that the corrected values for TSS. This includes 3,919.20 ton/year for the stationary load followed by the following quarterly loads: 3,923.50, 3,928.40, 3910.00, and 3,914.90 ton/year TSS. The values for TP were also recalculated and these were found to be fine.

SOURCE OF PUBLIC COMMENT	PUBLIC COMMENT AND DEQ RESPONSES
Andy Morton - 25 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 41, Section 10.3 Segment 3, Blind Canyon TMDL, Blind Canyon Load Considerations. Using the numbers given and doing the indicated calculations the answers given are not derived. DEQ Response: Table 3-H has been recalculated and corrected.
Andy Morton - 26 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 41, Section 10.3 Segment 3, Table 3-H, TP Sources. The NPS and Storm water TP values listed are NPS=51.70 lb/day and Storm water=0.84 lb/day. Using the 2% storm water scenario, reference page 14, the values I came up with for TP column are NPS = 51.49 lb/day and Storm water = 1.05 lb/day. DEQ Response: Table 3-H has been recalculated and corrected.
Andy Morton - 27 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 42, Section 10.3 Segment 3, Table 3-H, TSS Sources. The NPS and Storm water TSS values listed are NPS=5205.37 tons/year and Storm water=104.72 tons/year. Using the 2% storm water scenario, reference page 14, the values I came up with for TSS column are NPS = 5203.89 tons/year and Storm water = 106.20 tons/year. DEQ Response: Table 3-H has been recalculated and corrected.
Andy Morton - 28 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 45, Section 10.3 Segment 3, Table 3-L, TSS Sources. In the line 'Deep Creek (Table 3-F)' the TSS value listed is 4904.88 tons/year. This TSS value from table 3-F includes McMullen and Cottonwood Creeks. Since table 3-L is the combination of Deep Creek, McMullen Creek and Cottonwood Creek I do not believe that the initial TSS value in table 3-L should include McMullen and Cottonwood Creeks. The TSS value for Deep Creek from Table 3-F should be 4582.58 tons/year. Then the final TSS value from Table 3-L will equal the final TSS value from Table 3-F. DEQ Response: Unfortunately, it is explicitly necessary to provide a complete TMDL for each sub-TMDL for EPA with all point sources and nonpoint sources defined. In this example, Table 3-L requires knowledge of the impacts from the High Line Canal and the Low Line Canal, which explicitly discharge into the Deep Creek drainage. Therefore, as shown in Table 3-L, the requirement is met for EPA's review.
Andy Morton - 29 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 46, Section 10.4 Segment 4, Box Canyon Load Considerations and Gridley Bridge Load Considerations. Using the numbers given and doing the indicated calculations the answers given are not derived. DEQ Response**:** The calculations used in Table 4-A are correct if the following concentrations are used. For TP – At Box Canyon, TP = 0.0749825 mg/L. At Gridley Bridge before Loss/Attenuation, TP = 0.0903855 mg/L. The TP Loss/Attenuation Ratio = 16.9999887mg/L. At Gridley Bridge after Loss/Attenuation, TP = 0.0750199 mg/L. For TSS – At Box Canyon, TSS = 49.8621417 mg/L. At Gridley Bridge before Loss/Attenuation, TSS = 49.8621417 mg/L. The TSS Loss/Attenuation Ratio is 9.9999996% which is rounded to 10.0%. At Gridley Bridge after Loss/Attenuation, TSS = 44.8759277 mg/L.

SOURCE OF PUBLIC COMMENT	PUBLIC COMMENT AND DEQ RESPONSES
Andy Morton - 30 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 46, Section 10.4 Segment 4, Gridley Bridge Load Considerations: Output from Segment 4, line 7 (TSS calculation). The TSS concentration value listed after export loss/attenuation is 44.0 mg/L TSS. The values given on page 19 indicate that the correct TSS concentration value should be 44.9 mg/L TSS. Additionally, a 10% reduction of the 49.9 mg/L TSS concentration also is 44.9 mg./L TSS. DEQ Response: Table 4-A has been recalculated and corrected.
Andy Morton - 31 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 48, Section 10.4 Segment 4, Table 4-C TP Sources. The NPS and Storm water TP values listed are NPS=98.96 lb/day and Storm water=2.02 lb/day. Using the 2% storm water scenario, reference page 14, the values I came up with for TP column are NPS = 82.10 lb/day and Storm water = 1.68 lb/day. Additionally, Riley Creek TMDL has seasonal allocations changing the NPS in each quarter. The values for each quarter using the corrected storm water value are, Qtr 1 = 70.60 lb/day, Qtr 2 = 82.14 lb/day, Qtr 3 = 87.40 lb/day and Qtr 4 = 88.00 lb/day. DEQ Response: Table 4-C has been recalculated and the recheck of the data indicates that the base allocation is 82.10 lb/day with quarterly values of 70.60, 82.40, 87.40, and 88.00 lb/day TP.
Andy Morton - 32 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 48, Section 10.4 Segment 4, Table 4-C TSS Sources. The NPS and Storm water TSS values listed are NPS=4807.00 tons/year and Storm water=98.10 tons/year. Using the 2% storm water scenario, reference page 14, the values I came up with for TSS column are NPS = 4379.91 tons/year and Storm water = 89.39 tons/year. Additionally, Riley Creek TMDL has seasonal allocations changing the NPS in each quarter. The values for each quarter using the corrected storm water value are, Qtr 1 = 4139.21 tons/year, Qtr 2 = 4330.11 tons/year, Qtr 3 = 4520.91 tons/year and Qtr 4 = 4529.41 tons/year, respectively. DEQ Response: Table 4-C has been recalculated and the recheck of the data indicates that the base allocation is 4,807.00 ton/year with quarterly values of 4,715.80, 4,906.70, 4,798.50, and 4,807.00 ton/year, respectively.
Andy Morton - 33 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 49, Section 10.4 Segment 4, Table 4-D, TSS Sources. The values listed have one decimal place. Other tables and truncation scenario indicated two decimal places for TSS values. DEQ Response: Table 4-D has been restructured to include the two decimal places for the TSS values.

SOURCE OF PUBLIC COMMENT	PUBLIC COMMENT AND DEQ RESPONSES
Andy Morton - 34 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 50, Section 10.5 Segment 5, Gridley Bridge Load Considerations. Using the numbers given and doing the indicated calculations the answers given are not derived. DEQ Response**:** The calculations in Table 5-A (Segment 5) are correct if you use the following values. For TP – At Gridley Bridge, TP = 0.0750199 mg/L. At Shoestring Bridge before Loss/Attenuation, TP = 0.0831524 mg/L. The Loss/Attenuation Ratio is 9.8001209% which rounds off to 9.8%. At Shoestring Bridge after Loss/Attenuation, TP = 0.0750034 mg/L. For TSS - At Gridley Bridge, TSS = 49.8621417 mg/L. At Shoestring Bridge before Loss/Attenuation, TSS = 49.3202293 mg/L. The Loss/Attenuation value is 10.0000006%, which is rounded to 10.0%. At Shoestring Bridge after Loss/Attenuation, TSS = 44.3882061 mg/L.
Andy Morton - 35 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 50, Section 10.5 Segment 5, Gridley Bridge Load Considerations, TSS. The numbers and calculations listed are the same as on page 46 and the final answer derived is different. Page 46 TSS = 446976.62 tons/year and Page 50 TSS = 446975.72 tons/year. DEQ Response: Table 5-A has been recalculated to reflect the changes.
Andy Morton - 36 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 51, Section 10.5 Segment 5, Shoestring Bridge Load Considerations. Using the numbers given and doing the indicated calculations the answers given are not derived. DEQ Response: Table 5-A has been recalculated to reflect the changes.
Andy Morton - 37 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 51, Section 10.5 Segment 5, Table 5-A, TP Sources. Billingsley Creek TMDL TP value is listed as 325.66 lb/day. The value given in the Billingsley Creek TMDL on page 53 is 326.20 lb/day TP. DEQ Response: Table 5-B has been recalculated to reflect the changes.
Andy Morton - 38 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 51, Section 10.5 Segment 5, Table 5-A, TP Sources. Sub Total Load at Shoestring and Total Load at Shoestring Bridge lines do not have the same TP load totals as listed in the calculations at the top of the page under 'Shoestring Bridge Load Considerations'. DEQ Response: Table 5-A has been recalculated to reflect the changes.
Andy Morton - 39 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 51 & 52, Section 10.5 Segment 5; Table 5-A, TP and TSS Sources. Line title for TP Export Loss and TSS Export Loss do not have the word 'Attenuation' after them as previous tables do. DEQ Response: The word has been added as in previous tables.
Andy Morton - 40 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 51, Section 10.5 Segment 5, Table 5-A TSS Sources. Total load at Gridley Bridge TSS values are different in table 5-A than in table 4-A page 47. Previous tables (table 2-A, 3-A and 4-A) had the corresponding values match from one table to the next. DEQ Response: Table 5-A has been recalculated to reflect the necessary changes.

SOURCE OF PUBLIC COMMENT	PUBLIC COMMENT AND DEQ RESPONSES
Andy Morton - 41 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 52, Section 10.5 Segment 5, Table 5-A, TSS Sources. Billingsley Creek TMDL TSS value is listed as 14855.95 tons/year. The value given in the Billingsley Creek TMDL on page 53 is 14884.20 tons/year TSS. DEQ Response: Table 5-A has been recalculated to reflect the necessary changes.
Andy Morton - 42 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 52, Section 10.5 Segment 5, Table 5-A, TSS Sources. GAP-090 requested a quarterly seasonal waste load allocation, reference page 15, and the values listed for the four quarters do not equal the base load times four. The base load is 66.40 tons/year and this times four equals 265.60 tons/year. The four quarterly loads equal 265.80 tons/year. DEQ Response: DEQ will review all seasonal loadings prior to matriculating the final wasteload allocations with EPA and correct any calculation problems.
Andy Morton - 43 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 52, Section 10.5 Segment 5, Table 5-A, TSS Sources. Sub Total Load at Shoestring and Total Load at Shoestring Bridge lines do not have the same TSS load totals as listed in the calculations at the top of the page under 'Shoestring Bridge Load Considerations'. DEQ Response: This has been corrected in the document.
Andy Morton - 44 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 53, Section 10.5 Segment 5, Table 5-B, TSS Sources. The value listed in the Total Load (at 25 mg/L TSS) line is 14884.00 tons/year. When values in column are added up the value comes to 14884.00 tons/year. DEQ Response: Table 5-B has been rechecked and corrected.
Andy Morton - 45 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 56, Section 10.5 Segment 5, last paragraph, last line. It is indicated that the total flow of the Malad River and Power Flume is used by 'aquaculture fish hatcheries'. There are no point sources listed in table 5-F, page 57, and no aquaculture facilities either. This statement needs to be clarified. DEQ Response: This has been corrected in the document.
Andy Morton - 46 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 57, Section 10.5 Segment 5, Table 5-F, TSS Sources, Power Flume TMDL. The NPS and Storm water TSS values listed are NPS=57784.98 tons/year and Storm water=118.06 tons/year. Using the 2% storm water scenario, reference page 14, the values I came up with for TSS column are NPS = 56744.98 tons/year and Storm water = 1158.06 tons/year. DEQ Response: Table 5-F has been rechecked and corrected.

SOURCE OF PUBLIC COMMENT	PUBLIC COMMENT AND DEQ RESPONSES
Andy Morton - 47 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 57 & 58, Section 10.6 Segment 6, Shoestring Bridge Load Considerations and King Hill Load Considerations. Using the numbers given and doing the indicated calculations the answers given are not derived. DEQ Response: The calculations used in Table 6-A are correct if the following values are used. For TP – At Shoestring Bridge, TP = 0.0749953 mg/L. At King Hill Bridge before Loss/Attenuation, TP = 0.0765144 mg/L. The Loss/Attenuation Ratio is 2.0001362%, which rounds to 2.0%. At King Hill Bridge after Loss/Attenuation, TP = 0.0749840 mg/L. For TSS – At Shoestring Bridge, TSS = 49.3202293 mg/L. At King Hill Bridge before Loss/Attenuation, TSS = 48.7077483 mg/L. The Loss/Attenuation Ratio is 9.9999954%, which rounds to 10.0%. At King Hill Bridge after Loss/Attenuation, TSS = 43.8369739 mg/L.
Andy Morton - 48 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 57, Section 10.6 Segment 6, Shoestring Bridge Load Considerations TSS. The numbers and calculations listed are the same as on page 51 and the final answer derived is different. Page 51 TSS = 538878.12 tons/year and Page 57 TSS = 538877.22 tons/year. DEQ Response: Table 6-A has been rechecked and updated.
Andy Morton - 49 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 58, Section 10.6 Segment 6, Table 6-A TP Sources. Total load at Shoestring Bridge TP values are different in table 6-A than in table 5-A page 51 for TP Source column and Qtr 1, Qtr 2 and Qtr 3. Previous tables (table 2-A, 3-A and 4-A) had the corresponding values match from one table to the next. DEQ Response: Tables 6-A and 5-A have been rechecked and updated to correlative.
Andy Morton - 50 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 59, Section 10.6 Segment 6, first paragraph, line 1. It is indicated Clover Creek has point sources discharging in to it however; there are no allocations for point sources. Should 'point sources' be eliminated from the sentence? DEQ Response: This section has been reworked and modified accordingly.
Andy Morton - 51 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 60, Section 11.0, Middle Snake River Beneficial Use Attainment, TP Load. The TP Load table under the 'Input Load' column has segment 6 value listed as 4490.13 lb/day and it should be 4490.61 lb/day. This change will correspondingly change the value in the 'Net Load' column for segment 6 to 116.05 lb/day and the summation of the 'Net Load' column to 3046.25 lb/day. DEQ Response: This has been updated in the document.
Andy Morton - 52 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 62, Section 11.0, Reasonable Assurance in Beneficial Use Attainment, subsection 6. The table listing seasonal TP allocations has in the column '% of 970.2' for the winter season a value of 4.7% above. I believe it should be 4.9% above. In the same column the spring value is 0.1% below. The WLA given for the spring season is 971.56 lb/day TP that is a larger value than 970.2 lb/day so I believe the spring value should be 0.1% 'above'. DEQ Response: These values have been rechecked and no mistakes were found in the calculations.

SOURCE OF PUBLIC COMMENT	PUBLIC COMMENT AND DEQ RESPONSES
Andy Morton - 53 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 62, Section 11.0, Reasonable Assurance in Beneficial Use Attainment, subsection 6, last paragraph, first sentence. Since all seasons are above the base allocation then this first sentence needs to include the spring season. DEQ Response: The paragraph includes the spring season as noted.
Andy Morton - 54 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 63, Section 11.0, Reasonable Assurance in Beneficial Use Attainment, subsection 7. The table listing seasonal TSS allocations has a column labeled '% 970.2'. I believe this is a typo and it should be the value related to TSS, 12209.9 tons/year. DEQ Response: This has been corrected in the document.
Andy Morton - 55 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comment: Page 63, Section 11.0, Reasonable Assurance in Beneficial Use Attainment, subsection 7, third paragraph. This subsection is related to TSS and the third paragraph deals with TP overages in the first sentence. Then in the third sentence it switches to TSS discussion followed by a TP related discussion in sentence 4. Seems confusing. DEQ Response: DEQ chose to leave it "as is" for the time being.
Andy Morton - 56 Clear Springs Foods Research Center Buhl, Idaho February 7, 2005	Public Comment: On page 15 facilities requesting seasonality are listed along with their general permit numbers. #8. Deep Creek FH is listed as GAP-077. On page 67, Appendix B, GAP-077 is listed as Boswell Trout Farm. DEQ Response: This is common to the aquaculture industry – the official name versus historical names of facilities. DEQ will endeavor to minimize these differences as much as possible.
Andy Morton - 57 Clear Springs Foods Research Center Buhl, Idaho February 7, 2005	Public Comment: On page 15, #9 is Jack's Ponds FH and as GAP-053. On page 66, Appendix B, GAP-053 is listed as Deep Creek Trout Farm. DEQ Response: Similar to comment 56. DEQ chose to leave it "as is" for the time being.
Andy Morton – 58 Clear Springs Foods Research Center Buhl, Idaho February 7, 2005	Public Comment: Referencing DEQ's memorandum dated July 29, 2002 Section D where the aquaculture facilities are listed along with their NPDES permit numbers. IDG130053 is Deep Creek Trout Farm and IDG130077 is Boswell Trout Farm. There is no reference to 'Jack's Ponds FH' in this document and none in the industry submitted wasteload allocation. DEQ Response: Nonetheless, GAP-053 is Jack's Ponds or Deep Creek Trout Farm. However, Deep Creek Trout Farm is a common name used for Boswell Trout Farm as well as for other farms sites.
Andy Morton - 59 Clear Springs Foods Research Center Buhl, Idaho February 7, 2005	Public Comment: You may want to correct the GAP number for Deep Creek and to lessen the confusion use the same facility name in the text and the Appendix. DEQ Response: Advice well taken and DEQ will certainly make this effort in future iterations of the TMDL.

SOURCE OF PUBLIC COMMENT	PUBLIC COMMENT AND DEQ RESPONSES
Andy Morton - 60 Clear Springs Foods Research Center Buhl, Idaho February 16, 2005	Public Comments: The name confusion continues when in Table 3-F, Deep Creek TMDL. GAP-077 is called Kippes FH and GAP-053 is still call Jack's FH. The good thing is that the base TP loads are correct for the corresponding GAP numbers. DEQ Response: The names used to describe these facilities are correct.
Andy Morton - 61 Clear Springs Foods Research Center Buhl, Idaho February 7, 2005	Public Comments: I also found it interesting that some seasonal facilities have different TSS loads corresponding I assume to the variation in flow and/or fish densities that cause the seasonality and some do not but they all have differences in TP loads. For example I would reference Table 3-F Deep Creek TMDL where GAP-133 has seasonal TP and TSS loads and GAP-053 has seasonal TP loads and static TSS loads. Then GAP-077 listed as a seasonal facility on page 15 is given a static TP load on Table 3-F but a seasonal load on page 69 in Appendix B. The TSS load for GAP-077 is static in Table 3-F and Appendix B, page 71. DEQ Response: The fish operator/owner must request a seasonal load for TSS just like he would for TP. If he doesn't, DEQ can only conclude that a seasonal load is NOT requested for TSS.
Andy Morton - 62 Clear Springs Foods Research Center Buhl, Idaho February 8, 2005	Public Comments: The other typos or questions related to the facilities requesting seasonality are again related to GAP-077 and GAP-053. Both facilities requested seasonality and in Appendix B both received seasonal loads for TP. However, GAP-077 was not given a seasonal TP load corresponding to Appendix B in Table 3-F. Both facilities also received a static load for TSS which is different than all other facilities who requested and received seasonality. DEQ Response: This was answered in 61.
Andy Morton - 63 Clear Springs Foods Research Center Buhl, Idaho February 8, 2005	Public Comments: GAP-016 requested and received seasonal loads for both TP and TSS. In the Table 3-A, Segment 3 Allocations for TP and TSS, the base TSS load assigned to GAP-016 is 495.00 ton/year. In Appendix B the base TSS load assigned to GAP-016 is 346.70 ton/year. Based on the formula used to calculate TSS loads, the 346.70 ton/year value is correct. Therefore, the value in Table 3-A may need to be corrected. The seasonal loads recorded in both Appendix B and Table 3-A have 495.00 ton/year listed in Quarter 4 and bracketed. In order for the seasonal values to equal four times the base load the value in Quarter 4 needs to be 346.7 ton/year along with corresponding to the footnote in Table 3-A. DEQ Response: The actual values as written in Table 3-A are correct as written with the understanding that the seasonality implied is trimester – 495.0, 175.6, and 369.5 ton/year TSS.

SOURCE OF PUBLIC COMMENT	PUBLIC COMMENT AND DEQ RESPONSES
Idaho Department of Fish and Game – Thomas S. Frew	
Thomas S. Frew Resident Hatcheries Supervisor Idaho Department of Fish & Game P. O. Box 25 Boise, Idaho 83707-0025 February 14, 2005	Public Comment: Data collected by hatchery operators from January 2000 to June 2002 and compiled by DEQ in its version 13 database supports the assertion of seasonal operation of these hatcheries. The steelhead hatcheries consisting of Niagara Springs Fish Hatchery, Hagerman National Hatchery, and Magic Valley Fish Hatchery, are best represented by a three-season or trimester schedule (January through April, May through August, and September through December) while the annual fish production schedule for Hagerman State Fish Hatchery is most accurately represented by two seasons: January through June and July through December. DEQ Response: DEQ has reviewed the data collected by the conservation hatcheries and concurs with the seasonal operation of these hatcheries and as stated by Mr. Frew.

SOURCE OF PUBLIC COMMENT	PUBLIC COMMENT AND DEQ RESPONSES
Thomas S. Frew Resident Hatcheries Supervisor Idaho Department of Fish & Game P. O. Box 25 Boise, Idaho 83707-0025 February 14, 2005	Public Comment: (1) With respect to effluent reporting to EPA and DEQ through the NPDES permit reporting process it is our understanding that this requirement would match an individual hatchery's specific seasonality. In other words Niagara Springs Fish Hatchery, Hagerman National Hatchery and Magic Valley Fish Hatchery would be required to sample their effluent and report TP and TSS data to EPA and DEQ, a minimum of once each trimester. Similarly, Hagerman State Fish Hatchery would sample biannually and reports its findings biannually. (2) It is also understood that water flows and temperature would be reported at the same time as the TP and TSS on the DMR. (3) Further, it is our understanding that the additional effluent monitoring currently being done by Idaho Power Company as part of a consent order with DEQ would be eliminated upon acceptance of a seasonal wasteload allocation in the new NPDES permit. Support by IDDACORP for the proposed seasonal approach to wasteload allocation for the Idaho Power owned hatchery, Niagara Springs (GAP-013), is predicated on this understanding. (4) Additionally, if EPA or DEQ should impose other monitoring requirements not previously discussed, it may be necessary to revisit the proposed TP and TSS wasteload allocations. DEQ Response: As shown, four responses are required on monitoring: (1) DEQ has discussed with EPA the necessity to match an individual hatchery's specific seasonality with their wasteload allocation for TP and TSS. That is the reason for the seasonality approach to the wasteload allocation process. (2) Water flows and temperature data would indeed be reported at the same time as the TP and TSS are reported on their respective DMRs. However, on temperature monitoring, DEQ's position would be for facilities to remove themselves from instantaneous monitoring and focus on diel monitoring. (3) IPC/Niagara Springs is under a consent order at the present. DEQ's intent is to remove the consent order once the wasteload allocations are in place for this facility. That has always been the plan and the intent. (4) Imposing other monitoring requirements not previously discussed will be up to EPA and not DEQ, since primacy is held by EPA.

SOURCE OF PUBLIC COMMENT	PUBLIC COMMENT AND DEQ RESPONSES
Fred Kippes Route 2, 3951 North 1100 East Buhl, ID 83316 February 24, 2005	Public Comment: (1) Mr. Kippes was unhappy with the condition in which the property (Gibbs/Baker) was left in after construction was finished/stopped. (2) Mr. Kippes was concerned about the quantity and quality of the water in Deep Creek. He stated that his cows will not drink water from the creek and that they will seek out other sources of water for themselves to drink. Mr. Kippes was also concerned with the lack of water in the creek at this time. There was only 6 cfs in the stream by his place was concerned about the water running out if the canals didn't start soon. (3) Mr. Kippes felt that Part 1 of the Wasteload Allocation for Fish Farmers was a difficult document to understand. DEQ Response: (1) This is beyond the scope of DEQ's plan and spec approval process. If an agreement was made between Leo Ray and IDWR as part o his water right agreement to restore or maintain the site of the fish farm in a particular manner after construction, it would be up to IDWR to follow up on that particular issue. (2) DEQ will visit Mr. Kippes' farm site and assess the condition of the water quality in Deep Creek and see if it meets agricultural water supply. (3) The document was explained to Mr. Kippes relative to its structure and how the models in the document were designed to allow DEQ/EPA to provide reasonable assurance that the water quality targets of the TMDL would be met with the WLAs developed for the Upper Snake Rock TMDL.
Tim Duffner P.O. Box 149 Gooding, ID 83330 March 1, 2005 Rex Keenan P.O. Box 1000 Angels Camp, CA 95222 March 4, 2005	Public Comment: Mr. Duffner was seeking information on GAP-064 relative to purchasing the fish farm and the status of the farm relative to NPDES permitting. Mr. Keenan was interested in purchasing the same property with the same fish farm. Both are unrelated to each other. DEQ Response: Mr. Duffner was provided an electronic copy of the current NPDES permit. He also has received an application for coverage under the new permits and these he will fill out and mail to EPA and DEQ. We provided him with a copy of the most current NOI as well as a copy of the Part 1 public comment document on the wasteload allocation for GAP-064. The same was provided to Mr. Keenan.
Terry Patterson College of Southern Idaho P. O Box 1238 Twin Falls, ID 83301 March 1, 2005	Public Comment: Mr. Patterson requested a wasteload allocation on a trimester basis for the CSI hatchery. This is on page 15 of the document. Yet, on page 30 of the document, DEQ mistakenly listed the hatchery in a quarterly format. DEQ Response: DEQ recognizes the mistake and will make the appropriate changes to the document to describe a trimester wasteload allocation.

SOURCE OF PUBLIC COMMENT	PUBLIC COMMENT AND DEQ RESPONSES
UNIVERSITY OF IDAHO EXTENSION – GARY FORNSHELL	
Gary Fornshell Extension Aquaculture Educator University of Idaho Extension Twin Falls County Extension Office 246 Third Avenue East Twin Falls, ID 83301 March 4, 2005	Public Comment: On page 15 of the Public Comment Document are listed 11 facilities that requested seasonality. In reviewing the TMDL for individual stream segments and tributaries I found errors for 3 of the 11 listed facilities: 1. GAP-124 CSI FH (Table 2-C. Rock Creek TMDL, page 30). This facility requested seasonality based on a trimester; however, the wasteload allocation is listed on a quarterly basis in table 2-C. Three other facilities had requested seasonality based on a trimester, which is indicated in tables 3-A. Segment 3, page 34, 3-C. Niagara Springs TMDL, page 37, and 4-C. Riley Creek TMDL, page 48 with a bold font, brackets and explanation that those facilities WLAs are based on a 4-month grouping three times a year. 2. GAP – 077 Kippes FH (Table 3-F. Deep Creek TMDL, page 40). This facility requested a semiannual WLA; however, the WLA listed is the same throughout the entire year; there is no seasonality. 3. GAP – 026 White Water Ranch FH (Table 5-D. Stoddard Springs "Creek" TMDL, page 55). This facility requested a quarterly WLA and it too has a WLA listed that is the same throughout the year; there is no seasonality. These errors need to be corrected to accurately indicate the seasonal WLAs these facilities requested and for accuracy of the TMDL for those water bodies. DEQ Response: Relative to seasonality: (1) GAP-124 will be modified to reflect a trimester seasonal approach. This was a mistake on DEQ's part in compiling the information prior to public comment. (2) Niagara Springs and Riley Springs facilities will be submitted as trimester seasonal facilities. (3) GAP-077 can be formatted as a seasonal facility on a semiannual basis. DEQ will communicate with the operator to determine what exactly is needed to establish seasonality. (4) GAP-026 was previously notified in person that increasing the wasteload allocation from 4.3 lb/day TP to 6.1 lb/day TP is not feasible because it would unbalance the loading capacity of Stoddard Springs Creek for the other two facilities that are part of this TMDL. Therefore, increasing the wasteload allocation is not doable. DEQ cannot comply with this request without "breaking" the TMDL for Stoddard Springs Creek.
Gary Fornshell Extension Aquaculture Educator University of Idaho Extension Twin Falls County Extension Office 246 Third Avenue East Twin Falls, ID 83301 March 4, 2005	Public Comment: The second point relates to the definition of seasonality. DEQ is to be commended for defining seasonality (page 16) to include periods other than quarters, such as trimesters and semiannually. Operations vary widely due to differences in management practices, production goals, and water flow fluctuations. As such it is essential to provide as much flexibility as possible while protecting beneficial uses. DEQ Response: DEQ appreciates the support.

SOURCE OF PUBLIC COMMENT	PUBLIC COMMENT AND DEQ RESPONSES
STAN AND LORETTA STANDAL	
Stan and Loretta Standal - 1 609 River Road Bliss, ID 83314 March 3, 2005	Public Comment: On page 8 of the February 2, 2004 Draft WLA, an adjustment in water flows for aquaculture facilities GAP-010 and GAP-007 resulted in a reduction of TP allocation of 10.2 lb/day TP for the two facilities. DEQ proposes to hold the 10.2 lb/day TP as "Growth Component for Future use." I feel very strongly that DEQ should first adequately and fairly allocate phosphorus to existing facilities (such as mine that has operated virtually continuously for over 35 years) before allocating unused phosphorus to "Future Growth." DEQ Response: Unfortunately there is no unused TP for future growth as DEQ suggested. All unused TP was used to allocate for all the facilities, meaning that the TP was provided to all of the fish farms. The dispersion of that unused TP came when Pristine Springs was allocated their additional TP from their own nonpoint source component, but which affected the overall 970.2 lb/day TP target that EPA initially established.
Stan and Loretta Standal - 2 609 River Road Bliss, ID 83314 March 3, 2005	Public Comment: The concerns and grievances I have repeatedly expressed with the proposed wasteload allocations would be satisfied if DEQ could allocate White Water Ranch an additional 1.8 lb/day TP from the unallocated "Growth Component" to the proposed 4.3 lb/day TP and allow the facility to operate with a seasonal wasteload allocation. DEQ Response: Seasonal or stationary wasteload allocation MUST NOT EXCEED the loading capacity of the stream in all quarters of a year; therefore, the requested increase cannot be provided.
Stan and Loretta Standal - 3 609 River Road Bliss, ID 83314 March 3, 2005	Public Comment: How can White Water Ranch operate under a seasonal TP allocation? DEQ Response: It cannot under the proposed seasonal allocation because it would be out of compliance 50% of the time.
Stan and Loretta Standal - 4 609 River Road Bliss, ID 83314 March 3, 2005	Public Comment: When will DEQ allocate a fair and equitable wasteload allocation for White Water Ranch based on non-reconstruction period water flows as proposed? DEQ Response: The issue goes to the loading capacity of the stream and not to how large a facility you can operate. If the loading capacity is exceeded regardless of the size of the facility, the pollutant load would need to be reduced substantially in order to meet Clean Water Act requirements.

SOURCE OF PUBLIC COMMENT	PUBLIC COMMENT AND DEQ RESPONSES
CLEAR SPRINGS FOODS, INC. – DR. JOHN R. MACMILLAN, Ph.D.	
Dr. John R. MacMillan, Ph.D. - 1 Research & Environmental Affairs Clear Springs Foods, Inc. P. O. Box 712 Buhl, ID 83316 March 4, 2005	Public Comment: Unfortunately, the modified draft wasteload allocation (February 4, 2005) [*of Warm Creek*] is not consistent with all [*the following*] conditions [*on Pristine Springs*]: (1) maintain environmental protection, (2) is fair and equitable, (3) consistent with the 970.2 lb/day TP industry allocation, (4) dependent on real data, and (5) was not conducive to phosphorus speculation. DEQ Response: (1) The modification of the Warm Creek TMDL maintains environmental protection by staying within the loading capacity of Warm Creek. Table 2-B describes the loading capacity for TP and TSS and demonstrates the wasteload allocation is within the boundaries of both limitations. (2) The wasteload allocation for Pristine Springs was derived using the same formula used for all similarly sized facilities. DEQ believes the wasteload allocation is fair and equitable. (3) The modified wasteload allocation results in the TP loading slightly exceeding the 970.2 lb/day TP target. However, when combined with the other wasteload allocations and load allocations for all sources the TMDL is still within the loading capacity of both Warm Creek and the Snake River and is therefore consistent with beneficial use attainment and attainment of water quality standards. (4) To the maximum extent possible, the wasteload allocation was based upon the same Version 13 database used for similarly sized facilities. (5) The wasteload allocation is consistent with the Version 13 database and the load capacity for Warm Creek. DEQ does not believe the wasteload allocation will result in phosphorus speculation.
Dr. John R. MacMillan, Ph.D. - 2 Research & Environmental Affairs Clear Springs Foods, Inc. P. O. Box 712 Buhl, ID 83316 March 4, 2005	Public Comment: Clear Springs Foods appreciates the dilemma DEQ has faced regarding [*the*] determination of what is fair and equitable. For example, Clear Springs Foods agreed to accept a 40% reduction (as required by EPA and DEQ) from its 1990-91 TP baseload. The baseload was determined through data collection required as part of the previous (to 1999) NPDES permit. Following determination of the baseload, Clear Springs Foods expended heavily to develop methods to reduce its TP discharge. Clear Springs Foods was successful in this effort. We believe the TP wasteload allocation currently in effect for our facilities under the current General Aquaculture Permit (effective September 10, 1999) does reflect the appropriate 40% reduction and must be applied to Clear Springs Foods facilities if the proposed industry allocation is subsequently rejected by regulatory agencies or the courts. DEQ Response: DEQ appreciates Clear Springs Foods proactive approach in its 40% reduction from its 1990-91 TP baseload.

SOURCE OF PUBLIC COMMENT	PUBLIC COMMENT AND DEQ RESPONSES
Dr. John R. MacMillan, Ph.D. - 3 Research & Environmental Affairs Clear Springs Foods, Inc. P. O. Box 712 Buhl, ID 83316 March 4, 2005	Public Comment: Clear Springs Foods also complied with the current NPDES permit conducting the required BMP studies. Unfortunately few other industry members complied with the previous NPDES permit monitoring requirements to provide appropriate baseline data, nor does it appear many complied with the BMP study requirements in the current NPDES permit. This does not appear fair and equitable to Clear Springs Foods, Inc. The failure of the bulk of the industry to comply with the data collection requirement of the previous NPDES permit caused DEQ and US EPA to require additional sampling as described in the currently operating NPDES permit. This of course occurred several years after the initial data collection requirements to establish a baseload and after many of Clear Springs Foods operational changes had been made to reduce TP discharge. Nevertheless, it is this data that resulted in the Version 13 database. DEQ Response: DEQ recognizes the proactive nature of Clear Springs Foods to participate and address the environmental issues raised by EPA and DEQ relative to TP discharges.
Dr. John R. MacMillan, Ph.D. - 4 Research & Environmental Affairs Clear Springs Foods, Inc. P. O. Box 712 Buhl, ID 83316 March 4, 2005	Public Comment: The Version 13 database was constructed directly from facility specific discharge monitoring reports (DMR). It is important to point out that the information provided in DMR's is legally binding and the Aquaculture Subcommittee of the Mid-Snake WAG relied on this fact in assessing the reasonableness of their proposed wasteload allocations. To DEQ's credit, opportunity was provided for facilities to ensure the Version 13 database was correct. Unfortunately, some facilities still had no data and some had incomplete data submissions over the time frame covered in the Version 13 database. DEQ Response: It is correct that the Version 13 database was constructed directly from facility specific discharge monitoring reports (DMR). DEQ also relied on the fact that the DMR information is legally binding on the various operators. DEQ provided all of the aquaculture facilities with the opportunity to review their own facility database to ensure that the information DEQ had gleaned from the DMRs was indeed correct. Some facilities refused to provide additional data and therefore had incomplete data submissions over the 2000-2002 timeframe covered in Version 13 database.
Dr. John R. MacMillan, Ph.D. - 5 Research & Environmental Affairs Clear Springs Foods, Inc. P. O. Box 712 Buhl, ID 83316 March 4, 2005	Public Comment: The Aquaculture Subcommittee of the Mid-Snake WAG wrestled with how to fairly and consistently allocate phosphorus under these circumstances [*of little information for some facilities*]. In the case of Pristine Springs, their data showed a negative average total phosphorus discharge load. Pristine Springs, given their negative average phosphorus discharge, was allocated a TP load by the Aquaculture Subcommittee of the Mid-Snake WAG in accordance with the net TP wasteload allocation limits in Appendix A of the currently enforced general NPDES permit. The subcommittee believed this was fair under the conditions imposed by DEQ to prevent phosphorus speculation. DEQ Response: DEQ has modified the wasteload allocation to ensure it is based on the same formula used for other similarly sized facilities. In this way, DEQ has developed wasteload allocations that are consistent and protective of the environment.

SOURCE OF PUBLIC COMMENT	PUBLIC COMMENT AND DEQ RESPONSES
Dr. John R. MacMillan, Ph.D. - 6 Research & Environmental Affairs Clear Springs Foods, Inc. P. O. Box 712 Buhl, ID 83316 March 4, 2005	Public Comment: DEQ is proposing modification of the wasteload allocations to Pristine Springs, Clear Springs Foods, and Rim View Trout Farm. The argument presented to justify changes to Clear Springs and Rim View is that these facilities allocations had relied on recently adjudicated water flows rather than water flows present in the Version 13 database. Clear Springs Foods has supported this decision. However, in justifying adjustment to Pristine Springs' wasteload allocation, DEQ has relied on a water right rather than actual water flows reported by Pristine Springs. These three facilities are not being treated consistently according to the Version 13 database. To remedy this inconsistency DEQ could rely solely on the Version 13 database water flows adjusting the Pristine Springs TP allocation to 52.59 lb/day TP and maintaining reduced allocations to Clear Springs and Rim View. DEQ Response: In the case of Pristine Springs, there was no data in the Version 13 database concerning the warm water flows because Pristine Springs is not required to separately report the warm water flows in the DMRs. Therefore, DEQ used the water right that allows for use of 4.5 cfs from a geothermal well for fish propagation. Under these circumstances, it was not inconsistent for DEQ to use information not contained in the Version 13 database.
Dr. John R. MacMillan, Ph.D. - 7 Research & Environmental Affairs Clear Springs Foods, Inc. P. O. Box 712 Buhl, ID 83316 March 4, 2005	Public Comment: As a second alternative, DEQ could maintain the proposed increased allocation to Pristine Springs and redistribute the 10.2 lb/day TP being held by DEQ for future growth back to Clear Springs and Rim View Trout Farm. Clear Springs favors redistributing the TP back to its facility. DEQ Response: DEQ has reconsidered this approach, but has decided to maintain its present position on this.
Dr. John R. MacMillan, Ph.D. - 8 Research & Environmental Affairs Clear Springs Foods, Inc. P. O. Box 712 Buhl, ID 83316 March 4, 2005	Public Comment: A third alternative is that DEQ, while maintaining the proposed increased allocation to Pristine Springs, could take the TP being held for future growth (10.2 lb/day TP) and the industry allocated TP to Greene's Trout Farm (3.0 lb/day TP) that is no longer operational and distribute this TP to Clear Springs Foods, Rim View, and White Water Ranch. White Water Ranch had also requested an increase in its TP wasteload allocation. DEQ Response: See Stan and Loretta Standal, Comments 1 and 2. Relative to White Water Ranch and their request for an increase in TP, see Stan and Loretta Standal, Comments 3 and 4.

SOURCE OF PUBLIC COMMENT	PUBLIC COMMENT AND DEQ RESPONSES
Dr. John R. MacMillan, Ph.D. - 9 Research & Environmental Affairs Clear Springs Foods, Inc. P. O. Box 712 Buhl, ID 83316 March 4, 2005	Public Comment: DEQ required the facility specific TP wasteload allocations not be speculative. This was important because of the difficulty the industry had experienced distributing a limited resource (TP) amongst themselves. The proposed facility specific TP allocation to Pristine Springs based on Version 13 data still appears speculative. DEQ has proposed transferring part of a nonpoint source TP load allocation to a point source (Pristine Springs) wasteload allocation following adoption of best management practices for the nonpoint source. While what DEQ is proposing is not a pollutant trade, it seems consistent with pollutant trading guidance developed by DEQ and EPA. DEQ Response: DEQ does not believe the WLA for Pristine Springs is speculative, Instead, it is based upon the same formula used for other Tier 1 facilities. DEQ agrees that it is not implementing a pollutant trade, but rather is decreasing the nonpoint source allocation in order to ensure that the loading capacity for Warm Creek is not exceeded. DEQ believes there is reasonable assurance that the application of BMPs will achieve the nonpoint source allocation. In the original Upper Snake Rock TMDL and the Mid-Snake TMDL DEQ explained the basis for determining there is a reasonable assurance that the nonpoint source allocations will be achieved. The same authorities and assumptions apply with respect to the nonpoint sources on Warm Creek.
Dr. John R. MacMillan, Ph.D. - 10 Research & Environmental Affairs Clear Springs Foods, Inc. P. O. Box 712 Buhl, ID 83316 March 4, 2005	Public Comment: What is not explained is how DEQ will ensure Pristine Springs complies with BMP development for their nonpoint source. DEQ Response: See Dr. John R. MacMillan, Ph.D., Comment 9.
IDAHO POWER COMPANY – BRIAN HOELSCHER	
Brian Hoelscher - 1 Idaho Power Company P. O. Box 70 Boise, ID 83707 March 4, 2005	Public Comment: As previously commented IPC believes the concept of seasonality has merit, however, its application must be fairly applied to all pollutant sources and based on sound technically-defensible information. DEQ Response: DEQ concurs and appreciates your perspective.
Brian Hoelscher - 2 Idaho Power Company P. O. Box 70 Boise, ID 83707 March 4, 2005	Public Comment: Additionally, IPC acknowledges the recognition of "Future Growth Potential" and the need for reserves however is unsure whether the plan outlined in this modification provides the structure needed to encourage reserves for growth. DEQ Response: DEQ proposes no new structure for growth reserves.

SOURCE OF PUBLIC COMMENT	PUBLIC COMMENT AND DEQ RESPONSES
Brian Hoelscher - 3 Idaho Power Company P. O. Box 70 Boise, ID 83707 March 4, 2005	Public Comment: The Idaho Department of Environmental Quality (DEQ) forwards a new term to water quality management. This term is "Absolute Maximum Threshold." IPC is unclear as to the definition of this term and is unsure if application of this term provides reasonable assurance numeric thresholds can be met. The DEQ forwards a new water quality management term and policy. The term is Absolute Maximum Threshold (page 17). By definition, it allows seasonal allocations to be exceeded by as much as ten percent (10%). DEQ Response: The term "Absolute Maximum Threshold" is a general mathematical term that says any new values above a certain threshold are unacceptable. DEQ is not allowing seasonal allocations to be exceeded. Instead, DEQ is setting the seasonal WLAs so that there is no more than a 10% variance over the base allocation. The load capacity for the tributaries and the Snake river are still met because the LAs are reduced to reflect any increases on a seasonal basis to the WLAs.
Brian Hoelscher - 4 Idaho Power Company P. O. Box 70 Boise, ID 83707 March 4, 2005	Public Comment: The Company [*IPC*] believes the concept of seasonality has merit, however does not believe that only the aquaculture industry deserves special consideration (page 14). Consideration should be offered to any pollutant source upon request and accompanied with supporting information that standards will be met and beneficial uses protected in the receiving waters. DEQ Response: See Section 7.0, itemized paragraph 5, which stipulates that seasonality is available to all qualified industries.
Brian Hoelscher - 5 Idaho Power Company P. O. Box 70 Boise, ID 83707 March 4, 2005	Public Comment: Snake River TP targets were developed based on the assimilative capacity of the river not to exceed nuisance aquatic plant growths based on an average value, specifically in the Crystal Springs reach (page 11). It would then follow that an averaging period, representative of the recurrence of highs and lows, may be incorporated into the concept of seasonality. DEQ Response: The seasonal approach must meet Clean Water Act standards based on the loading capacity of the receiving stream for TP and TSS.
Brian Hoelscher - 6 Idaho Power Company P. O. Box 70 Boise, ID 83707 March 4, 2005	Public Comment: The DEQ proposes a reserve as one method to compensate for the effect growth may have on water quality. This reserve is defined as two percent (2%) of the nonpoint source load allocation (page 14) and as any unused allocation (page 8). This reserve is held by the DEQ yet the DEQ has not made any decisions or attempted to act on how to use this unused load, other than it will be held for future growth. DEQ Response: The 2% is for stormwater concerns what might arise from any construction activity. When the activity ends the 2% is reverted back into the nonpoint source sector for the nonpoint sources. Therefore, future growth does not enter into this provision.

SOURCE OF PUBLIC COMMENT	PUBLIC COMMENT AND DEQ RESPONSES
EPA – WILLIAM C. STEWART	
William C. Stewart U. S. EPA – Region 10 Idaho Operations Office 1435 North Orchard Street Boise, ID 83706 March 7, 2005	Public Comment: There do not seem to be any dates given for the wasteload allocations that are based on trimesters. In order for the seasonal WLAs to be included in the NPDES permits, the seasonal dates are needed. Please add the dates that will be used for each trimester to the document. DEQ Response: These will be provided to the EPA in the submission package.
William C. Stewart U. S. EPA – Region 10 Idaho Operations Office 1435 North Orchard Street Boise, ID 83706 March 7, 2005	Public Comment: [*Relative to Warm Creek*], what documentation will be done of the practices installed on the agricultural land to show that the BMPs are actually being installed and are effectively reducing the NPS load of TP? There must be assurances that the NPS load reductions needed to meet the 0.100 mg/L TP target for Warm Creek are actually occurring. DEQ Response: DEQ believes that there is a reasonable assurance that BMPs will be applied by the owner on Warm Creek. DEQ is requiring the same documentation and will be acting pursuant to the same authority that is applicable to other nonpoint sources in the Upper Snake Rock watershed. The DEQ authorities are described in the Clean Water Act, the Idaho Water Quality Standards,IDAPA 58.01.02 and Idaho Code 39-3601 *et seq*. For agricultural nonpoint sources, DEQ relies upon voluntary programs and various funding sources to ensure compliance with BMPs. As part of the implementation planning process, the designated agency (ISCC) would be called upon to provide technical assistance.
William C. Stewart U. S. EPA – Region 10 Idaho Operations Office 1435 North Orchard Street Boise, ID 83706 March 7, 2005	Public Comment: I think you would agree that the process of developing the wasteload allocation for the aquaculture industry has been a long and complicated one. We are now far past due on getting the new NPDES permits issued for these producers. The main thing that is holding up the process is the lack of approved wasteload allocations. It is imperative that the wasteload allocations for the Upper Snake Rock, Billingsley Creek, and the fish processors be submitted to this office as soon as possible. DEQ Response: DEQ is committed to providing the EPA with the necessary documentation as approvable wasteload allocations for the Upper Snake Rock facilities, the Billingsley Creek facilities, and the fish processors.

SOURCE OF PUBLIC COMMENT	PUBLIC COMMENT AND DEQ RESPONSES
PRISTINE SPRINGS, INC. – FRITZ X. HAEMMERLE	
Fritz X. Haemmerle C/o Pristine Springs Inc. (March 7, 2005) PSI - 1	Public Comment: Pristine Springs (PSI) commented DEQ cannot assign WLAs and determine a load capacity for Warm Creek because it is not a water quality limited segment on the Idaho 303 (d) list. DEQ Response: PSI is correct that Warm Creek is not on the Idaho 303(d) list and therefore, DEQ is not required to create a TMDL for Warm Creek alone. DEQ's determination of a load capacity and assignment of LAs and WLAs to sources on Warm Creek, however, was done in order to achieve compliance with WQS in the Snake River. The Snake River, to which Warm Creek is a tributary, is on the 303(d) list. Analyzing and assigning loads to sources within a watershed affecting a waterbody on the 303(d) list, including those sources on tributaries to the listed waterbody, is a part of the subbasin assessment and TMDL process expressly authorized by the Idaho Water Quality Act. Idaho Code § 39-3611 provides in pertinent part as follows: "Subbasin assessments and total maximum daily load processes developed pursuant to this section shall include, but not be limited to: (a) Identification of pollutant(s) impacting the water body; (b) An inventory of all point and nonpoint sources of the identified pollutant(s), if practical, or an analysis of the land types, land uses and geographical features within the watershed that may be contributing identified pollutants to the water body…. (c) No instream target for a pollutant shall be set as part of a TMDL process unless the data and analysis in the subbasin assessment demonstrate that the pollutant is causing or contributing to a violation of the water quality standard in the stream for which the TMDL is being developed. If a pollutant load is allocated to a tributary inflow as part of a downstream TMDL, the director shall develop a plan to meet such allocation in consultation with the tributary watershed advisory group as provided in subsection (8) of this section." Thus, Idaho Code specifically directs DEQ to look to all point and nonpoint sources of the pollutants impacting the listed water body within the watershed. Idaho Code also specifically acknowledges that the sources may be on tributaries to the listed water body within the watershed and that loads may be assigned to the sources on those tributaries. Therefore, PSI is incorrect when it asserts that DEQ can not determine a load capacity or assign loads to sources on tributaries to 303(d) listed water bodies. (…continued in PSI - 2)

SOURCE OF PUBLIC COMMENT	PUBLIC COMMENT AND DEQ RESPONSES
Fritz X. Haemmerle C/o Pristine Springs Inc. (March 7, 2005) PSI - 2	(Continued…from PSI - 1) As directed by the Idaho Code, the Upper Snake Rock SBA and TMDL look at sources on a watershed basis. The TMDL includes a subbasin with 38 watersheds, approximately 93 miles of the Snake River and 28 named tributaries to the Snake River. The TMDL assigns a water quality target for TP of 0.075 mg/l in the Snake River. This target was developed to meet the requirements of state WQS and the CWA. In order to meet this target, the TMDL also assigns a target to each of the tributaries as they flow into and thus affect the water quality of the Snake River. The tributaries, including Warm Creek, are assigned a target of 0.100 mg/l TP. In order to meet this tributary target, and thus meet the WQS in the Snake River, DEQ determined the amount of TP each tributary could handle and still meet the target (this is called the "load capacity") and assigned allocations to each point and nonpoint source of TP on the tributary. DEQ's approach to the tributaries has already been approved by EPA in its approval of the original Mid-Snake and Upper Snake Rock TMDLs. The approach is one that is authorized by Idaho Code. Moreover, given the number of tributaries and sources of pollutants on the tributaries, it is impossible to conceive of a plan to meet WQS on the Snake River that does not address the water quality and sources on tributaries. In short, DEQ's approach of developing a target, load capacity and load allocations to tributaries is authorized by Idaho law and the CWA, and is a rational and reasonable approach to the TMDL.
Fritz X. Haemmerle C/o Pristine Springs Inc. (March 7, 2005) PSI - 3	Public Comment: PSI commented that DEQ is unfair, arbitrary and capricious in reducing the LA for the nonpoint sources on Warm Creek when it raised the point source WLA for PSI because: (a) DEQ should not have developed a load capacity for Warm Creek, and therefore, did not need to reduce the nonpoint source LA to meet a load capacity; and (b) DEQ allegedly treated PSI and Warm Creek differently than other like sources on other tributaries. DEQ Response: As noted above, DEQ's development of a load capacity and allocations for sources for Warm Creek in order to meet WQS in the Snake River is authorized by the CWA and Idaho law. The load capacity sets the limit for the amount of TP the tributary can handle and meet the water quality target set by DEQ in order to meet the WQS for the Snake River. PSI is incorrect in its assertion that DEQ can not set a load capacity and allocations on tributaries to the Snake River. Second, PSI is incorrect that DEQ has not reduced the allocation to nonpoint sources on other tributaries in order to increase allocations for point sources and still stay within the load capacity for the tributary. In order to accommodate seasonal WLAs and still meet the load capacity of tributaries, DEQ adjusted the nonpoint source allocations on a number of tributaries. In addition, when DEQ assigned allocations to the fish processors on the tributaries, it reduced the nonpoint source allocations in order to stay within the load capacity. Thus, PSI is incorrect in its assertion that DEQ treated PSI and Warm Creek differently from other sources and other tributaries.

SOURCE OF PUBLIC COMMENT	PUBLIC COMMENT AND DEQ RESPONSES
Fritz X. Haemmerle C/o Pristine Springs Inc. (March 7, 2005) PSI - 4	PSI's WLA, but instead should have used the flow authorized by PSI's legal water right. In the alternative, PSI argues it should get the same WLA as Blue Lakes because the vast majority of the water used by PSI comes from Blue Lakes. DEQ Response: With respect to earlier versions of this TMDL, PSI argued that it must be treated the same as other facilities of the same size. DEQ responded to PSI's argument by adjusting PSI's WLA so that it is now based on the same Version 13 database and the same formula used for all the Tier 1 facilities. In short, PSI is now being treated just like all the other like sized facilities. Nevertheless, PSI now argues that it should be treated differently than any other facility and be provided a WLA based upon its legal water right or based upon its current flow rate, rather than the Version 13 database. DEQ can not, however, recalculate PSI's allocation based upon its water right or current flow and still be consistent with its approach for all the other Tier 1 facilities. Moreover, the load capacity for Warm Creek can not support providing allocations to PSI and Blue Lakes based on water rights or current water flows. As such, PSI's requested allocation is not allowed by the CWA. PSI also argues that it should get the same WLA as Blue Lakes. It is impossible to give PSI the same WLA as Blue Lakes because, again, this would exceed the amount of TP Warm Creek can handle and still meet the water quality target set by the TMDL. There would be no rational, supportable reason for allowing the water quality target for Warm Creek to be exceeded, yet limit all other tributaries to the water quality target. Moreover, such an approach would jeopardize the attainment of the water quality target and state WQS for the Snake River, which is required by the CWA. (Continued…with AI-8 b)

SOURCE OF PUBLIC COMMENT	PUBLIC COMMENT AND DEQ RESPONSES
Fritz X. Haemmerle C/o Pristine Springs Inc. (March 7, 2005) PSI - 5	(Continued…from AI-8 a) Two other points should be considered in response to PSI's complaint that it is being treated unfairly in comparison to other Tier 1 facilities. First, a comparison of the WLAs for the Tier 1 facilities in the current NPDES permit and the WLAs assigned under DEQ's modification to the TMDLs demonstrates that PSI's allocation has increased more than any other facility. Of the 13 largest facilities, the allocation for 9 facilities was reduced, while the allocation for 4 facilities was increased. Rim View gained 2.4 pounds/day; Big Bend gained 10.3; Blind Canyon gained 1.6; and PSI gained 26.86. Thus, while the allocations for most facilities were reduced, PSI's allocation actually increased and increased far more than any other Tier 1 facility. Second, PSI asserts that DEQ approved of PSI's plans to expand its facility, and therefore, must now provide an allocation based upon the increased water usage. DEQ, however, made it clear when it approved plans in 2001 that reductions in waste load allocations could result from the development of TMDLs for the aquaculture industry. In its letter dated April 3, 2001 to PSI approving plans, DEQ includes the following warning: "Please be aware that additional wasteload reductions from the facility may be required as TMDLs are developed and wasteloads are allocated under the Middle Snake River Watershed Management Plan: Phase I and II TMDLs." PSI was fully aware that the allocations ultimately developed by DEQ could result in reductions being required of PSI and other facilities.

SOURCE OF PUBLIC COMMENT	PUBLIC COMMENT AND DEQ RESPONSES
Fritz X. Haemmerle C/o Pristine Springs Inc. (March 7, 2005) PSI - 6	Public Comment: PSI commented that DEQ should have calculated PSI's warm water allocation based upon a flow of 12.5 cfs and that DEQ is wrong when it asserts there is little confirmed data for DEQ to use as the basis for a warm water allocation. DEQ Response: The allocations are based upon the Version 13 database. Other facilities receiving a warm water allocation only raise warm water fish, so the Version 13 database reflects the flow used for warm water fish propagation. PSI, on the other hand, raises both warm and cold water fish, but only has one combined discharge. Therefore, the Version 13 database does not indicate how much of the flow is used for warm vs. cold water fish. It is for this reason that DEQ indicated it has little confirmed data to base a warm water allocation, and therefore, has resorted to using the PSI's warm water right as a basis for the allocation. Under these circumstances, with no Version 13 data, DEQ believes it is reasonable to base the warm water allocation on the warm water flow allowed under its water right. PSI asserts that it should get a warm water allocation based upon a combined cold and warm water flow of 4.5 cfs warm mixed with 8 cfs cold water. PSI has provided, however, no flow measurements to support this assertion. In the past, PSI has asserted varying other flows for its warm water production. On October 25, 2002, PSI asserted, in a letter from Jason Miciak on behalf of PSI, that it used 6 cfs from a "hot well" for fish production. In a February 3, 2003 letter from Fritz Haemmerle on behalf of PSI, PSI asserted it uses 7 cfs of hot water. In letters from Fritz Haemmerle dated August 14 and 28, 2003, PSI argues it needs a warm water allocation based upon 20 cfs of warm water. Given the lack of any Version 13 information, and the contradictory information provided from PSI regarding its use of warm water, it is reasonable for DEQ to rely upon the water right of 4.5 cfs for the warm water allocation.

Appendix E - DEQ Public Comment Responses

Aquaculture Wasteload Allocation
Public Comment Period: April 26 – June 3, 2005

Compiled By

Rob Sharpnack, Regional Aquaculture Coordinator
Idaho Department of Environmental Quality – Twin Falls Regional Office

The official public comment period for the aquaculture wasteload allocation was from April 29, 2005 through June 3, 2005. Comment provided by the public are summarized in the following table with associated responses from DEQ-TFRO.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION: PART 2 – THE FISH PROCESSORS	
Idaho Trout Company – Harold Johnson	
Harold Johnson Idaho Trout Company (March 31, 2005)	Mr. Johnson submitted comments about the aquaculture WLA for processing plants prior to the beginning of the public comment period for the most recent WLA proposal from DEQ. We did not receive comments from Mr. Johnson after the release of the April 26th document. The following is our responses to Mr. Johnson's March comments.
Harold Johnson Idaho Trout Company (March 31, 2005) A	Public Comment: Does not agree with DEQ response that the requested allocation presented by part of the processing industry would enable phosphorus speculation. He states that since 2002 there has been significant amount of reassignment of fish production to the various processing plants and anticipates more changes in the future. He further states that DEQ's assertion that 65% of the fish processing is clearly Clear Springs is flawed because of these changes. DEQ Response: DEQ allowed for a small portion of the wasteload allocations to be used for future growth with a reasonable assurance that the receiving waters would not of themselves cause an exceedance of the community generated water quality goals. The 65% assertion of fish processing to Clear Springs is based on the annual production numbers defined by the four major fish processors for the time period 2000-2002.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION: PART 2 – THE FISH PROCESSORS	
Harold Johnson Idaho Trout Company (March 31, 2005) B	Public Comment: All three parties do not define production the same way. Suggests that a standard definition of what is "production" be developed and to allocate phosphorus according to 10,000 lbs of live fish processed for a monthly average and instantaneous maximum limits. An industry maximum could be set at 50 to 52 million pounds for phosphorus to account for future growth. DEQ Response: DEQ does not hold primacy on the NPDES permitting process in Idaho and therefore follows the 40 CFR 122.24 Appendix C to Part 122 definition of a concentrated aquatic animal production facility for purposes of § 122.24 if it contains, grows, or holds aquatic animals which produce less than 9,090 harvest weight kilograms (approximately 20,000 pounds) of aquatic animals per year; and which feed less than 2,272 kilograms (approximately 5,000 pounds) of food during the calendar month of maximum feeding. DEQ appreciates your suggestion of future growth.
Harold Johnson Idaho Trout Company (March 31, 2005) C	Public Comment: Mr. Johnson believes that industry production by percentage would give Clear Springs closer to 55% of the total production in the area. And he suggests an allocation using proportion of Clear Springs having 55% of the industry processing and an allocation of 20.2 lbs/day to use as basis for allocating phosphorus for the group for a total of 36.73 lbs/day or if increasing the WLA past 30.7 lbs/day TP is unacceptable, redo that allocation based on his perception of the proper proportion of the fish presently being processed by the four processing plants. DEQ Response: DEQ believes that its approach is reasonable and conservative but not excessive.
Clear Springs Foods, Inc. – Andy Morton	
Andy Morton Clear Springs Foods, Inc. (April 28, 2005) 1st email	Public Comment: pg 6 - The lower and upper bound example values for Milner Dam for TP and TSS for Pillar Falls are reversed. DEQ Response: DEQ will make the appropriate correction.
Andy Morton Clear Springs Foods, Inc. (April 28, 2005) 2nd email	Public Comment: pg 9 – In STEP 2 in the "Production Comparison" column the numerator needs to be changed to the 97,900 value for the division to come up with the answer listed for the Idaho Trout Processors, Rainbow Trout, and SeaPac of Idaho. DEQ Response: DEQ will make the appropriate correction.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION: PART 2 – THE FISH PROCESSORS	
Clear Springs Foods, Inc. – Dr. John R. MacMillan, Ph.D.	
John R. MacMillan, Ph.D. Clear Springs Foods, Inc. (May 23, 2005) A	Public Comment: The phosphorus allocation of 20.2 lbs/day for Clear Springs' Processing Plant and holding ponds appears appropriate. DEQ Response: No comment from DEQ.
John R. MacMillan, Ph.D. Clear Springs Foods, Inc. (May 23, 2005) B	Public Comment: Clear Springs will accept the TSS allocation (150 lbs/day TSS) on the following conditions. 1) The daily discharge allocated includes weekends (i.e. averaging to include days or weekends of no discharge do to plant inactivity). 2) DEQ communicates the time requirement during NPDES permit revision. DEQ Response: It is DEQ's present understanding that Clear Springs is not alone in operating a point source discharging processing plant that has some of its effluent discharged intermittently (as opposed to discharging 24 hrs/day seven days a week year-round such as a municipality might). The comment is appropriate and DEQ will address the issue with the USEPA.
John R. MacMillan, Ph.D. Clear Springs Foods, Inc. (May 23, 2005) C	Public Comment: Tables 3-B and 3D have incorrect values listed for the processing plants. The values in the tables are listed in lbs/day and not in tons/year as the table suggests. Corrected tables are provided. DEQ Response: DEQ will make the appropriate correction.
EPA – William C. Stewart	
William C. Stewart USEPA Region 10 Idaho Operations Office (May 31, 2005) A	Public Comment: There are significant differences in the allocation for certain facilities in both the Cedar Draw and Clear Lakes from the Part 1 document dated February 2, 2004 and another version July 26, 2004 to the Part 2 document dated April 29, 2005. DEQ Response: Development of the WLA and the loads themselves has been influenced by the numerous public comment periods and the input we have received during those public comments the WLAs have been changed accordingly.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION: PART 2 – THE FISH PROCESSORS	
William C. Stewart USEPA Region 10 Idaho Operations Office (May 31, 2005) B	Public Comment: The number of drafts and the differences in the allocations make it difficult to determine what the allocations are supposed to be. It would be better if the final submission was made in a single document to avoid confusion. DEQ Response: DEQ intends to submit one document that has the wasteload allocations for the Mid-Snake fish hatcheries, the fish processors, and the Billingsley Creek fish farms.
William C. Stewart USEPA Region 10 Idaho Operations Office (May 31, 2005) C	Public Comment: Stating the fact that DEQ has stated all along that the fish processors were included in the NPS load allocation, I believe it is very important for the other NPS contributors, such as the Agriculture, be made aware how much the NPS load allocations have been reduced. DEQ Response: DEQ has met with the Twin Falls Canal Company and the North Side Canal Company representatives and reviewed the loss of phosphorus due to point source wasteload allocations for the various tributaries within their jurisdictional boundaries.
William C. Stewart USEPA Region 10 Idaho Operations Office (May 31, 2005) D	Public Comment: About a year and a half ago, there was a meeting with Dave Mabe, Toni Hardesty, Christine Psyk, Doug Howard, Sonny Buhidar, and myself where it was stated that there wasn't enough TP to plan for future growth potential on the Mid-Snake River. Why is future growth potential for fish processors included in this document? Was future growth potential used in calculating allocations of the fish hatcheries or communities in the watershed? DEQ Response: Future growth was included in the allocation DEQ received from the Mid-Snake fish farms according to the aquaculture subcommittee. Future growth was also included in the allocation for the fish processors and the Billingsley Creek facilities.
William C. Stewart USEPA Region 10 Idaho Operations Office (May 31, 2005) E	Public Comment: The margin of safety is stated as implicit in all cases. Could you please explain how this was determined? DEQ Response: As described in the Upper Snake Rock TMDL, the MOS is implicit in that it is incorporated through conservative assumptions in the analysis. By reference, we refer you to section 3.4, pages 195-197 of the TMDL for a description of these implicit conservative assumptions. These are also described in Table 7 of the Executive Summary document (page A-18). Also, a section (§5.1) on the MOS has been included in the TMDL document.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION: PART 2 – THE FISH PROCESSORS	
SeaPac of Idaho – Gary Marguardt	
Gary Marguardt SeaPac of Idaho (June 3, 2005) A	Public Comment: The DEQ proposed processor allocation is in part based on 2002 and prior production data. This data does not reflect current conditions and results in the following observation: 1) Several significant changes have occurred since 2002 in the form of shifting production to the affected processors; DEQ Response: The first paragraph on page 10 of the public comment talks of the review DEQ did of more recent discharge data from the discharge monitoring reports (DMRs) provided by the processors. Prior to release of this document DEQ examined the DMR reports and data provided by all the processors from 2000-2004 (all the data available at that time). DEQ found that out of the 75 points of phosphorus data submitted there would have been only one exceedance of these proposed limits.
Gary Marguardt SeaPac of Idaho (June 3, 2005) B	Public Comment: 2) Some provision for transfer of TP as production shifts between processors needs to be included in the allocation process to allow for future changes. DEQ Response: Pollutant Trading is available to all point and non-point industries in the subbasin including the point source processors, provided no localized impacts to the receiving stream occur. Another option would be for the industry to improve the management of existing waste treatment systems or upgrade them where necessary.
Gary Marguardt SeaPac of Idaho (June 3, 2005) C	Public Comment: To assist with changing production directional flows between processors the ability to transfer TP from one facility to the next should be addressed. Suggested options to deal with this could include: Allowing transfer of TP by agreement of processing companies to allow for custom or contract processing between the processors; Allowing the purchase and transfer of TP from other sources; Pollutant credits that are attached to processed production blocks such that regardless of which processor processes a block of poundage, a given a amount of TP credits will come with that block of production. DEQ Response: See response to Marquardt – B.
University of Idaho Extension – Gary Fornshell	
Gary Fornshell University of Idaho Twin Falls County Extension Office (June 3, 2005) A	Public Comment: Pg 9 It is not clear where the maximum TP discharged lb/day comes from. Do the values 16.4, 1.5, 2.5, and 3.2 represent the actual maximum amount discharged on a daily basis from the 75 data points submitted? This section could use some additional clarity. DEQ Response: DEQ will make the appropriate changes in the document for better clarity.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION: PART 2 – THE FISH PROCESSORS	
Gary Fornshell University of Idaho Twin Falls County Extension Office (June 3, 2005) B	Public Comment: In step 2, specifically 'production comparison' the first number for the entire column should be 97,900. DEQ Response: DEQ will make the appropriate correction.
Gary Fornshell University of Idaho Twin Falls County Extension Office (June 3, 2005) C	Public Comment: It is commendable that DEQ considered future growth. Another consideration along the same line is the issue of flexibility regarding changes within the industry where fish once processed by company X are now processed by company Z. It makes sense for the phosphorus to follow the fish. With only 4 fish processors involved with the WLA this should be relatively easy to adjust for as changes occur. DEQ Response: See response to Marquardt – B.
Idaho Aquaculture Association – Mark Daily	
Mark Daily Idaho Aquaculture Association (June 3, 2005) A	Public Comment: The proposed allocation is based on 2002 data from Version 13, which is no longer valid. Several fish rearing facilities and one processor have changed ownership since that data was compiled, and production from each of those rearing facilities has been redistributed among the various processors. Thus, the proposed waste load allocation scheme is not valid for the processors as they operate today. DEQ Response: See response to Marquardt – A.
Mark Daily Idaho Aquaculture Association (June 3, 2005) B	Public Comment: The proposed allocation scheme does not provide for future changes in production and processing capabilities. This lack of planning for the future will affect not only the processors whose future processing goals will be limited by a rigid and immediately out dated allocation scheme, but it also will affect producers who regularly change contracts among processors based on Markey analysis. The proposed allocation scheme must be more flexible to allow for changes in both production and processing. DEQ Response: See response to Marquardt – B.
Table prepared by DEQ-TFRO.	

Appendix F - DEQ Public Comment Responses

Aquaculture Wasteload Allocation for Billingsley Creek Facilities
Public Comment Period: May 19 – June 17, 2005

Compiled By

Rob Sharpnack, Regional Aquaculture Coordinator
Idaho Department of Environmental Quality – Twin Falls Regional Office

The official public comment period for the aquaculture wasteload allocation was from April 29, 2005 through June 3, 2005. Comment provided by the public are summarized in the following table with associated responses from DEQ-TFRO.

SOURCE	PUBLIC COMMENT / RESPONSE
PUBLIC COMMENTS RELATIVE TO THE AQUACULTURE WASTELOAD ALLOCATION: PART 3 – THE BILLINGSLEY CREEK FISH HATCHERIES	
Doug Ramsey Rangen Research Center (June 1, 2005)	Public Comment: Mr. Ramsey called with a question on the proposed allocation scheme in the document. He asked would there be just one allocation number or a range of numbers depending on the flow the facility was receiving. DEQ Response: The allocations DEQ developed would cover a range of possible flow values for each facility up to the facilities maximum water right. The flow values are set up in tiers and in each tier there would be a load assigned for compliance for TP and TSS.
Gary Fornshell University of Idaho County Extension Service (June 6, 2005)	Public Comment: Mr. Fornshell was concerned that the Idaho Springs now operates will not be able to expand up to its full potential with the allocation for TP listed in the public comment document. The fish farm is a recent acquisition for the University of Idaho and they have not been able to operate it to its fullest potential yet and are concerned that an allocation based on their recent performance would be restricting them from using the facility to its proposed potential. DEQ Response: DEQ believes it has developed a workable TMDL that accommodates all the facilities and that will enable the creek to meet its' designated beneficial uses.
Bill Stewart USEPA-IOO (June 2, 2005) A	Public Comment: After careful review, I believe these wasteload allocations for the aquaculture facilities on Billingsley Creek appear to be workable. It seems to be a fair compromise for the issue of variable flows from year to year. DEQ Response: DEQ appreciates the comment.

SOURCE	PUBLIC COMMENT / RESPONSE
Bill Stewart USEPA-IOO (June 2, 2005) B	Public Comment: Compliance with these flow based limits will be a challenge to document and will call for a very structured schedule of both flow measurements and sampling for each facility. I would be interested in hearing your input on monitoring requirements for these facilities. DEQ Response: We look forward to working with EPA and the industry in developing the monitoring requirements for these facilities.
Bill Stewart USEPA-IOO (June 2, 2005) C	Public Comment: This is a good piece of work. DEQ Response: DEQ appreciates the comment.
Ronald W. Hardy Ph.D. University of Idaho, Aquaculture Research Institute (June 10, 2005)	Public Comment: The University of Idaho formally requests that the proposed phosphorus allocation for the Idaho Springs Trout Research Farm (GAP 001) be increased from 0.033 mg/L to 0.050 mg/L, and that the higher level be included in the final version of the Billingsley Creek Waste Load Allocation document being developed by the Idaho Department of Environmental Quality. DEQ Response: DEQ has assessed the request and determined that localized impacts to the receiving waterbody will not occur. Therefore, DEQ will make the appropriate change in the wasteload allocation.
Doug Ramsey and Leon Klimes Rangen Research Center and Fish Hatchery (June 17, 2005)	Public Comment: Mr. Ramsey and Mr. Klimes came and had a meeting with Rob Sharpnack and Sonny Buhidar about Rangen's WLA and how to interrupt the material presented in the public comment document. They were concerned about maintaining compliance at their facility as flows changed from month to month. They were concerned about seasonal shifts in water availability and facility inventory. DEQ Response: DEQ provided technical assistance regarding the proposed Billingsley Creek wasteload allocation.
Gary Fornshell University of Idaho County Extension Service (June 17, 2005) A	Public Comment: The University of Idaho, Idaho Springs Trout Research Farm (GAP 001) Waste Load Allocation for total phosphorus of 0.033 mg/L in the draft document reflects current and past fish loading rates; however, future fish loading rates will increase with the development and operation of a rainbow trout broodstock research facility that is currently in the design phase of construction. A major portion of the mission of the research facility will focus on improving effluent water quality through the development of improved low-pollution grain-based fish feeds and improved rainbow trout strains that more efficiently utilize fish feeds, thereby producing less metabolic waste. For this endeavor to succeed the facility operation cannot be compromised by a WLA based on historical phosphorus discharge due to extremely limited fish culture operations. A limit of 0.050 mg/L net total phosphorus discharge is both protective of Billingsley Creek water quality and allows the fulfillment of the research mission, which advances the goal of Idaho's citizens for improved water quality. DEQ Response: See DEQ Response in Ronald W. Hardy Ph.D.

SOURCE	PUBLIC COMMENT / RESPONSE
Gary Fornshell University of Idaho County Extension Service (June 17, 2005) B	Public Comment: As previously stated in comments to DEQ on November 3, 2003 the Draft allocates phosphorus to non-point sources (diversions for irrigation water) that seem much higher than warranted due to the fact that the water diverted never returns back to the creek. DEQ has stated previously in memorandums, proposed WLAs for Billingsley Creek, and in sub-basin assessments that aquaculture contributes from 75 to 90 % of the phosphorus entering the creek. The Draft assesses a greater proportion of phosphorus to non-point sources than seems justified by actual conditions within the watershed. DEQ Response: See response to comment for November 2003 public comments.
Mark E. Daily John W. Jones Jones Fish Hatchery (June 16, 2005) A	Public Comment: You are to be commended on the excellent job you have done in putting together a workable wasteload allocation for the facilities on Billingsley Creek. DEQ Response: DEQ appreciates the comment.
Mark E. Daily John W. Jones Jones Fish Hatchery (June 16, 2005) B	Public Comment: In our October 2003 comments on the Draft Billingsley Creek TMDL, we noted that using the Accumulative TP Concentration Assessment Appendix C of that document and the corrections that we proposed, we could get a very close agreement between the predicted TP concentrations and the actual measured values. In this analysis only the TP from the fish hatcheries was considered as input for the Assessment. No TP from any other source (point or nonpoint) was considered. In light of the close agreement between the predicted and measured values it is reasonable to assume that there is very little TP from nonpoint sources. It appears to us that you have over allocated TP to the nonpoint sources in this May 2005 WLA. This is not a problem as long as each facility has a WLA they can work with. If a facility believes they will not be able to meet the limits in this WLA there is room for their allocation to be adjusted and not exceed the target water quality standards. DEQ Response: See DEQ Response to comment Fornshell B (June 17, 2005).
Table prepared by DEQ-TFRO.	

(END)