

Upper Snake Rock Subbasin TMDL (2000 & 2005) City of Twin Falls TSS Revision



Final



Department of Environmental Quality

January 2011

Cover Photo: Auger Falls from the Perrine Bridge. Photo by Balthasar Buhidar, DEQ.

Upper Snake Rock Subbasin TMDL (2000 & 2005) City of Twin Falls TSS Revision

January 10, 2011

**Twin Falls Regional Office
State Office Technical Services
State Office Surface Water Program
Department of Environmental Quality
1445 North Orchard
Boise, Idaho 83709**

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Acknowledgments

DEQ would like to recognize the Mid Snake WAG for its assistance and review of the proposed revision. Darcy Sharp of DEQ Technical Services provided the STEPL model analysis to predict TSS reductions. Dennis Meier provided technical editing and layout assistance. Dr. Balthasar Buhidar, DEQ Twin Falls Regional Office developed the waste load allocation analysis. City of the Twin Falls provided details and specifics for BMP project implementation.

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Introduction

A TMDL prescribes an upper limit (or *load capacity*) on discharge of a pollutant from all sources to assure water quality standards are met. This load capacity (LC) can be represented by an equation:

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

Where:

Current load = the current concentration of the pollutant in the water body.

MOS = margin of safety. Because of uncertainties regarding quantification of loads and the relation of specific loads to attainment of water quality standards, 40 CFR Part 130 requires a margin of safety, which is effectively a reduction in the load capacity available for allocation to pollutant sources.

NB = natural background. When present, NB may be considered part of load allocation (LA), but it is often considered separately because it represents a part of the load not subject to control. NB is also effectively a reduction in the load capacity available for allocation to human-made pollutant sources.

LA = the load allocation for all nonpoint sources.

WLA = the wasteload allocation for all point sources.

A load is a quantity of a pollutant discharged over some period; numerically, it is the product of concentration and flow. Due to the diverse nature of various pollutants, and the difficulty of strictly dealing with loads, federal rules allow for “other appropriate measures” to be used when necessary. These “other measures” must still be quantifiable, and relate to water quality standards, but they allow flexibility to deal with pollutant loading in more practical and tangible ways. The rules also recognize the particular difficulty of quantifying nonpoint loads and allow “gross allotment” as a load allocation where available data or appropriate predictive techniques limit more accurate estimates. For certain pollutants whose effects are long term, such as sediment and nutrients, EPA allows for seasonal or annual loads.

The key approvable elements of a TMDL include the load capacity, wasteload allocation for point sources, load allocation for nonpoint sources, a margin of safety that may be implicit or explicit, seasonal variation, reasonable assurance that the load reductions called for can be achieved, and public participation and comment opportunities.

Purpose of Proposed Revision

The City of Twin Falls is seeking to change its total suspended solids (TSS) wasteload allocation in the 2000 EPA-approved Upper Snake Rock Subbasin TMDL from the existing wasteload allocation of 146.4 tons/yr to 390.9 tons/yr, which is an allocation that reflects the application of technology-based standards for discharges to the Snake River. The net balance of the overall TSS loading to the Snake River would remain the same.

The current City of Twin Falls National Pollution Discharge Elimination System (NPDES) permit includes the following interim TSS technology-based effluent limits (TBEL): average monthly limit of 30 mg/L and 2,142 lbs/day; average weekly limit of 45 mg/L and 3,213

lbs/day. The Twin Falls permit also includes a compliance schedule that requires the city to meet, by July 1, 2014, the following water quality-based effluent limits (WQBEL) based upon the wasteload allocation of 146.4 tons/yr: average monthly limit of 980 lbs/day; average weekly limit of 1,390 lbs/day.

The final WQBELs: (1) are more restrictive than the in-stream TSS target set in the Upper Snake Rock Subbasin TMDL; (2) are extremely cost-prohibitive to implement by the City and would create a financial burden that the City could not meet; (3) would require a major infrastructure change in the facility in order to meet the 2014 deadline; and (4) are not supported by the current water quality monitoring that indicates the Snake River throughout the entire TMDL reach (Figure 1) is meeting the TSS target of 52 mg/L 97% of the time. DEQ proposes to allocate a portion of the nonpoint source sediment load allocation (as TSS) to the City of Twin Falls as a wasteload allocation, thereby reducing the nonpoint source sediment allocation by the same amount. The City of Twin Falls discharges to the reach between Pillar Falls to Crystal Springs

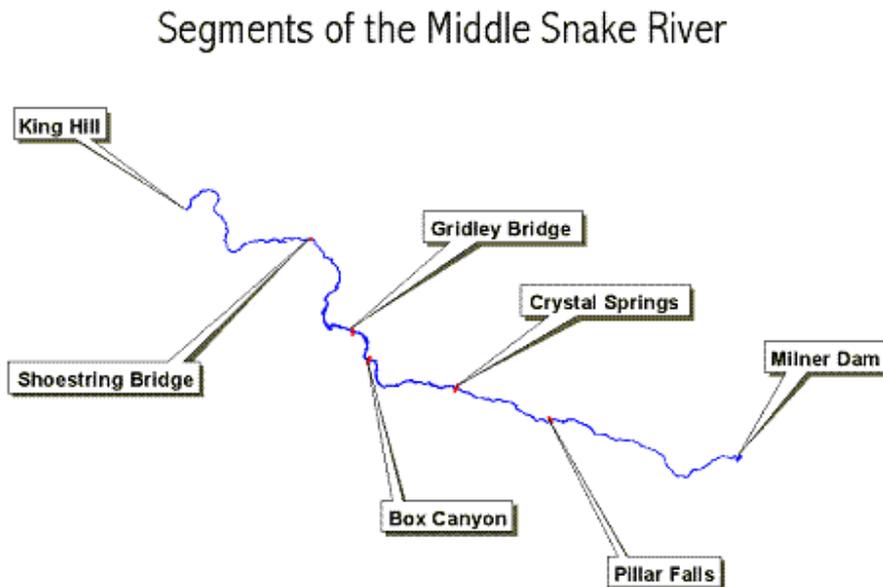


Figure 1. Snake River reach affected by proposed change in TSS allocation.

TMDL Water Quality Objectives

The proposed revision is consistent with Idaho's overall TMDL targets and loading capacity for the Middle Snake River. The overall TMDL targets and loading capacity of the Middle Snake River will be maintained. The revision involves a simple shift of the existing TSS pollutant loads from the nonpoint source Load Allocation (LA) to the point source Wasteload Allocation (WLA). Furthermore, there is a reasonable assurance that the nonpoint source reductions reflected by the change in the allocations will be achieved because the City of Twin Falls has agreed to implement nonpoint source reduction projects that might never have been

implemented, since nonpoint source reductions are done on a voluntary basis. Thus, there is a reasonable assurance that the proposed revision of the Upper Snake Rock Subbasin TMDL (2000) will not cause or contribute to an exceedance of water quality criteria or violation of water quality standards. This revision does not open up any other portions of the TMDL for revision for TSS or any other pollutants with existing LA's or WLA's for any sector. It should be noted that the City of Twin Falls design flow of 8.560 mgd (= 13.24 cfs) used in the NPDES permit (2009-2014) is not the flow used in the Upper Snake Rock TMDL (2000). Nor is the TSS concentration used in 2000 (23.7 mg/L) the same as the TBEL (30 mg/L). A comparison of the calculations used to derive wasteload allocations under both scenarios are as follows:

Upper Snake Rock TMDL (2000), page 358:

Design Flow: 6.28 cfs = 4.06 mgd

$6.28 \text{ cfs} \times 23.7 \text{ mg/L TSS} \times 5.39 = 802.2 \text{ lb/day TSS}$

$802.2 \text{ lb/day TSS} \times 0.1825 = 146.4 \text{ ton/year TSS}$

NPDES Permit (2009-2014):

Design Flow: 13.24 cfs = 8.56 mgd

$13.24 \text{ cfs} \times 30 \text{ mg/L TSS} \times 5.39 = 2142 \text{ lb/day TSS}$

$2142 \text{ lb/day TSS} \times 0.1825 = 390.9 \text{ ton/year TSS}$

Using the design flow and 30 mg/L TSS concentration to revise the WLA for the City of Twin Falls will make the WLA consistent with the TBEL the City is currently required to meet, and will remove the need to impose a more stringent WQBEL, particularly in light of the fact that the TBEL is more stringent than the target of 52 mg/L TSS prescribed in the EPA approved TMDL.

Justification and Environmental Benefits

The proposed revision to the Upper Snake Rock Subbasin TMDL (2000) is specific to TSS only for the City of Twin Falls. No other pollutant is being considered at this time. The justification and environmental benefit derived from this proposal is as follows:

1. TBEL versus WQBEL. The quality of the 30/45 mg/L TSS effluent is more stringent than the TMDL instream target of 52 mg/L TSS, thus providing an environmental benefit to the Middle Snake River. In addition, the TMDL revision will not remove or otherwise change the instream target of TSS (52 mg/L) in the Middle Snake River.
2. Nonpoint Source Implementation Project(s). The City of Twin Falls is currently meeting the TBELs, and so the revision to the City's WLA will simply reflect the level at which the City is currently discharging. The City has agreed to implement nonpoint source BMP projects that, given the voluntary nature of nonpoint source BMPs, might otherwise not be implemented. The implementation of nonpoint source BMP projects would provide additional reasonable assurance that TSS nonpoint source reductions will be achieved. The project(s) would be located in River Segment 1 (Milner Dam to Pillar Falls), which lies upstream of the City of Twin Falls POTW, or River Segment 2 (Pillar Falls to Crystal Springs), which is the same river segment to which the City of Twin Falls is located and discharges.
3. TSS Discharge Influence to Middle Snake River. In the Upper Snake Rock TMDL (2000, Executive Summary, Table 9b, page A-31; and Table 10, pages A-38), the influence of TSS from the City of Twin Falls into the Middle Snake River is 146.4 tons/year. This represents 0.27% of the Overall (Net) Total (prior to export loss and attenuation) after implementation of water quality reduction plans. By increasing the TSS load to 390.9 ton/year, the effect from this TSS increase would be 0.72% to the load capacity for Segment 2. DEQ concludes that this increase represents a *de minimus* increase (less than 1%) to the sediment load in the Middle Snake River at the point of discharge and, therefore, represents a minor contribution to the sediment load in the Middle Snake River. This increase in loading is entirely offset by increased nonpoint source load reductions. The margin of safety is implicit, incorporating conservative estimates of load capacity to achieve a narrative instream target of 52 mg/L TSS.
4. TSS Instream Target Achievement in Middle Snake River. The Upper Snake Rock Watershed Management Plan Five Year Review (2010) indicates that Segment 2 of the Middle Snake River has been achieving its instream TSS target (52 mg/L) 97% of the time (See Table 3.4.2a, Upper Snake Rock Watershed Management Plan Five Year Review).

Summary of TBEL and WQBEL Permit Limits

Table 1 compares TBEL and WQBEL limits.

The net difference in Table 2 (page 7) represents the amount the TSS wasteload allocation must be increased to reflect the TBEL in the City's permit.

Table 1. Comparison of TBEL and WQBEL for the City of Twin Falls TSS Proposal

TSS NPDES permit limit	monthly average limit LB/DAY (TON/YEAR)	weekly average limit LB/DAY (TON/YEAR)
TBEL (30/45 mg/L TSS)	2,142 (390.92)	3,213 (586.37)
WQBEL (13.5/20.2 mg/L TSS)	980 (178.85)	1,390 (253.68)
Upper Snake Rock TMDL (2000)	802.2 (146.4)	- (-)*
Net = TBEL – WQBEL	1,162 (212.07)	1,823 (332.70)

TSS = Total Suspended Solids. TBEL = Technology Based Effluent Limit. WQBEL = Water Quality Based Effluent Limit. TMDL = Total Maximum Daily Load. The TBEL of 30/45 mg/L TSS is currently the Interim TBEL Limits in the NPDES permit. The proposed revision would not be greater than the TBEL; and it would be more stringent than the 52 mg/L TSS instream target. *No weekly average limit in lb/day was calculated in the Upper Snake Rock TMDL (2000).

TMDL Reallocation of the TSS Load

The proposed revision to the TSS wasteload allocation is based on the 2000 EPA approved TMDL. However, in 2005 DEQ modified the TMDL, including TSS allocation revisions to point and nonpoint sources. EPA approved the 2005 revisions with the exception of the municipal POTW wasteload allocations. The result is that the 2000 TMDL TSS wasteload allocations for POTWs are in effect; and the 2005 TMDL TSS allocations for the remaining sources are also in effect. It is also noted that the City of Twin Falls POTW wasteload allocation (146.40 ton/year TSS) is the same in 2000 and in 2005 as referenced below:

1. Upper Snake Rock TMDL (1999): 146.40 ton/year, Table 101, p 205
2. Upper Snake Rock TMDL Executive Summary (2000): 146.40 ton/year, Table 9b, p A-31
3. Upper Snake Rock TMDL Modification (2005): 146.40 ton/year, Table 2-A, p 43

Based on the EPA approved Upper Snake Rock Subbasin TMDL (2000 and 2005), reallocation of the TSS load is shown in the Table 2. The third column in the table is intended to replace the allocations in Table 2-A in the 2005 TMDL Modification and replace the wasteload allocation for the Twin Falls POTW in the Table 9b in the 2000 TMDL Executive Summary.

The Point Sources category indicates an increase of +244.52 ton/year TSS to the City of Twin Falls wasteload allocation. The original 146.40 ton/year TSS is now shown as 390.92 ton/year TSS (or an increase by +244.52 ton/year TSS).

The Nonpoint Source section indicates a decrease of -244.52 ton/year TSS from the Unaccounted Surface Waters portion of the non point source allocation (or from 4,076.70 ton/year TSS to 3,832.18 ton/year TSS). This is where the reallocation will occur in the reduction of the load allocation for these nonpoint sources. This reallocation does not affect the Overall Nonpoint Sources Accounted category.

The Sub Total Load accounting at Crystal Springs is still 272,025.89 ton/year, which means that the loading is still the same. It is only the reallocation components between the nonpoint source (reduction by -244.52 ton/year TSS) and the point source (increase by +244.52 ton/year TSS) that are modified. The instream target of 52.0 mg/L TSS is still the same.

Table 2. Pillar Falls To Crystal Springs (Segment 2) Allocations for TSS with City of Twin Falls WLA Revision

TSS Sources	Current TSS-TMDL ton/year	TSS –Allocation Revision ton/year	Net difference between current and revision
Total Load at Pillar Falls	217,817.06	217,817.06	0.00
Overall Nonpoint Sources Accounted			
NPS (Ag, Graze, Private, Corridor)	1,757.75	1,757.75	0.00
FERC, LAFs, CFOs	0.00	0.00	0.00
Stormwater – Construction Activities	35.87	35.87	0.00
Warm Creek TMDL	11,959.13	11,959.13	0.00
Rock Creek TMDL	11,248.64	11,248.64	0.00
Crystal Springs TMDL	18,782.68	18,782.68	0.00
Alpheus Creek TMDL	1.28	1.28	0.00
Ellison Creek TMDL	1.66	1.66	0.00
East Perrine Coulee	1,497.20	1,497.20	0.00
Main Perrine Coulee	560.10	560.10	0.00
West Perrine Coulee	129.40	129.40	0.00
43 Drain	16.40	16.40	0.00
Jerome Golf Course Drain	398.00	398.00	0.00
30 Drain	312.00	312.00	0.00
LQ/LS Drain	1,550.90	1,550.90	0.00
LS2/39A Drain	270.12	270.12	0.00
N42 Drain	452.20	452.20	0.00
N42 Drain (Rim)	518.70	518.70	0.00
39 Drain	244.00	244.00	0.00
Sub Total – Accounted NPS’s	49,736.03	49,736.03	0.00
Overall Nonpoint Sources Unaccounted			
Unaccounted Springs and Seeps	191.70	191.70	0.00
Unaccounted Surface Waters	4,076.70	3,832.18	-244.52
Sub Total – Unaccounted NPS’s	4,268.40	4,023.88	-244.52
Point Sources			
GAP-104 Canyon Springs FH	58.00	58.00	0.00
City of Twin Falls POTW	146.40	390.92	+244.52
Sub Total – Point Sources	204.40	448.92	+244.52
Margin of Safety & Total Load Calculations			
Margin of Safety - Implicit	0.00	0.00	0.00
Sub Total Load at Crystal Springs	272,025.87	272,025.87	0.00
Sub Total Load as mg/L TSS	50.3	50.3	0.00
TSS Export Loss + Attenuation	-27,202.59	-27,202.59	0.00
Total Load at Crystal Springs	244,823.28	244,823.28	0.00
Total Load as mg/L TSS	45.3	45.3	0.00

TSS = Total Suspended Solids. NPS (Ag, Graze, Private, Corridor): NPS = Nonpoint Source, Ag = Agriculture, Graze = Grazing, Private = Private Property, Corridor = Stream Corridor, FERC = Federal Energy Regulatory Commission, LAFs = Land Application Facilities, CFOs = Confined Feeding Operations. TMDL = Total Maximum Daily Load. GAP = General Aquaculture Permit. POTW = Publicly Owned Treatment Works.

Reasonable Assurance

The City of Twin Falls has identified two specific nonpoint source projects it intends to implement to offset their expanded discharge of TSS and enhance nonpoint source reductions. The two projects identified are the Police Gun Range Constructed Wetlands (Lateral 26 Spill) and Auger Falls Sediment Ponds and Constructed Wetlands (Lateral 30-A).

Load reductions were calculated by DEQ for both projects based on an irrigation season typical of the Twin Falls area from March 15 through October 15. Expected reductions from the Lateral 26 Spill project are 375 tons/yr TSS; and for the Lateral 30-A project are 463 tons/yr TSS. The Appendices contain a more detailed analysis DEQ conducted using STEPL, a spreadsheet model tool developed by TetraTech (2003) for EPA for use in determining expected loads and reductions from various non point source projects. Appendix A describes the projects. The City of Twin Falls initial analysis of their effectiveness was premised upon >90% effectiveness that would have resulted in up to a 1,242 ton/year reduction. However, DEQ's analysis was more conservative using 64% effectiveness resulting in an estimated 838 tons/year reduction, thereby providing greater assurance and an additional margin of safety. The City agreed to utilize DEQ's estimates in their project proposal.

The City of Twin Falls is to entering into a contract with the DEQ that outlines the roles and responsibilities of the City to ensure compliance with the intent and requirements to achieve the prescribed reductions based on this TMDL revision. Under the terms of that contractual agreement the City must implement projects to reduce TSS from nonpoint sources in an amount equal to at least 733 tons/year, approximately a 3:1 ratio of the load increase of 244.52 tons/year TSS that this revision allows in discharge to the Snake River by the City of Twin Falls. The City must conduct BMP effectiveness monitoring at the inflows and outflows of the projects and submit an annual report to DEQ. The City must have an EPA compliant QAPP that addresses their monitoring. The City must identify the projects it will complete, time frame for achieving the intended nonpoint source reductions, and the funding commitment by the City to ensure implementation and maintenance of the projects. The contract is enforceable under state law should the City fail to meet the terms and conditions prescribed.

Public Participation

The pre public draft TMDL revision was presented to the Mid Snake Watershed Advisory Group on October 13, 2010. The WAG supported the proposed Revision and recommended to DEQ that the document go to public comment.

DEQ conducted a 30 day public comment period that ended November 26, 2010. The agency received three public comments that have been addressed in this final TMDL document. Response to Comments are included in the Appendices.

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Appendix A: City of Twin Falls Proposal

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P.O. Box 1907

324 Hansen Street East Twin Falls, Idaho 83303-1907
Fax: (208) 736-2293

ENGINEERING

208-735-7265

December 28, 2010

Project Title: Auger Falls Sediment Ponds and Constructed Wetlands (Lateral 30A)

Project Field Officer: Mike J Trabert P.E.

Phone: 208-735-7323

Fax: 208-736-2293

Email: mtrabert@tfid.org

Project Location

Primary County: Twin Falls

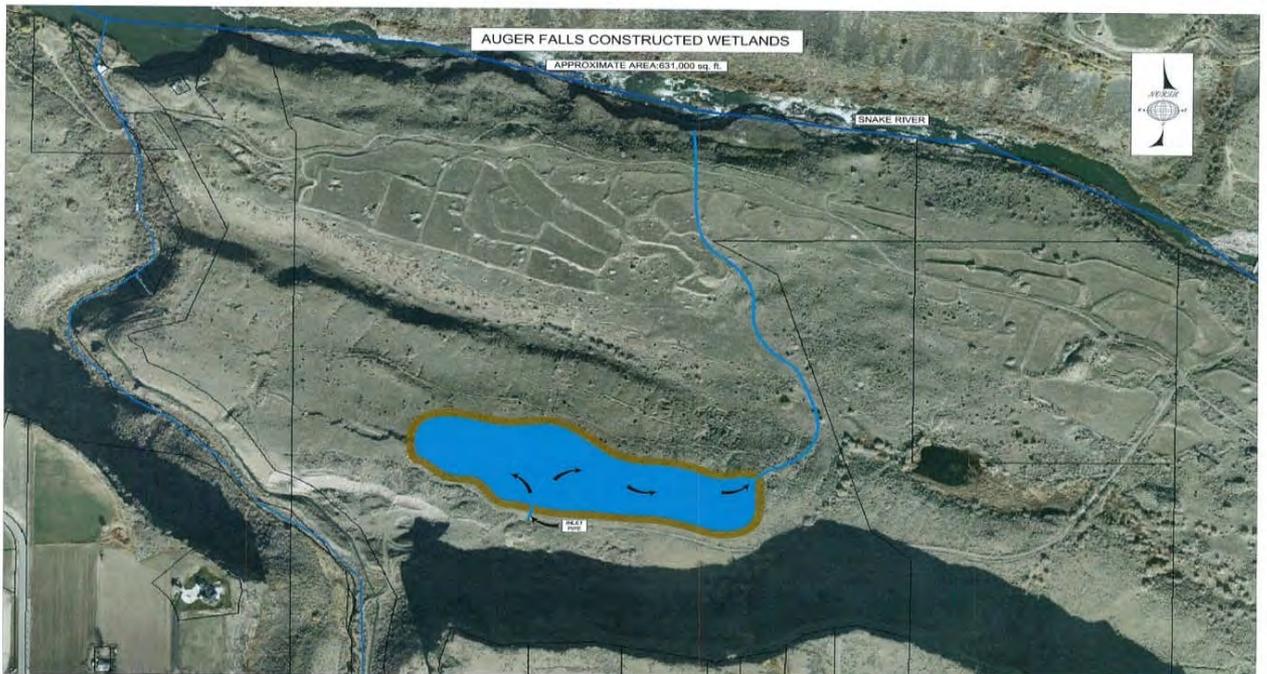
HUC: 17040212

Latitude: 42° 37 '34"

Longitude: 114° 31 '41"

Project Location: The proposed project is located ½ mile South of Auger Falls and North of Rock Creek on City of Twin Falls Snake River property. The project is located on the Twin Fall Canal Company lateral 30A spill.





TMDL Name/Description

This project is located within the Upper Snake Rock Subbasin, and falls within the Middle Snake River (Upper Snake Rock) TMDL. The Middle Snake River is a §303(d) listed stream for sediment, pathogens (*Escherichia coli*), and phosphorus. This project will improve the water quality in lateral 30A spill, which directly discharges into Rock Creek approximately ½ mile south of the confluence with Snake River. There has been no water quality monitoring on this drain, but the Twin Falls Canal Company (TFCC) believes that average TSS load is 150 mg/l throughout the irrigation season. By improving the water quality of lateral 30A, the amount of nutrients, sediments, and bacteria being discharged into Rock Creek and the Middle Snake River will be greatly decreased.

Expected Project Outcomes and Benefits

This project will consist of constructing a diversion structure on the rim and diverting the irrigation waste water into an existing 12 inch pipe with discharge to a series of sediment basins and wetlands on City owned Auger Falls property. Being an agricultural return drain, the flow rates are quite variable; The TFCC estimates the average flow at 8 cfs in the summer and little to no flow during the winter. These sediment ponds and wetlands will filter suspended sediment, phosphorus, nitrogen, and bacteria out of the lateral 30A spill, thus improving water quality in Rock Creek and the Snake River to which the lateral discharges to. This project will construct approximately 10 acres of wetlands, and is located northeast of Rock Creek and south of the Snake River at Auger Falls. This project will construct both deep and shallow sediment

ponds and a series of wetland areas which will further filter out suspended sediment, nutrients, and bacteria. After construction of these sediment ponds and wetland areas has been complete, it is estimated that there could be 92-96% reduction in total suspended solids. (Constructed Wetlands for Water Quality Improvement, Edited by Gerald A. Moshir, 1993- Chapter 37 pg 359-366 Controlling Agricultural Runoff by use of Constructed Wetlands). Idaho Department of Environmental Quality used the modeling program called STEPL for estimating pollutant loads, which estimates the pollutant removal at 64%.

How is the project tied into overall water quality management efforts or planning process?

The Middle Snake River and Rock Creek are §3030(d) listed streams for sediments, pathogens (Escherichia coli), and phosphorus. This project will improve the water quality in the Middle Snake River and Rock Creek, to which lateral 30A discharges into. Improving the water quality of lateral 30A will help meet the requirements of the City of Twin Falls NPDES permits requirements for sediment removal and the TMDL requirements for the Middle Snake River (Upper Snake Rock) TMDL. The average pollutant loads that lateral 30A discharges into the Rock Creek and the Snake River are based on water quality monitoring supplied by the Twin Falls Canal Company. The TFCC estimated the mean flow rate of lateral 30A at 8 cfs, and the average TSS at 150 mg/l, which translates into 706 tons annually.

Tracking Project Results

What parameters would be monitored to evaluate project results?

This project will be evaluated for effectiveness by performing water quality monitoring on lateral 30A at a monitoring site above and below the sediments basins and wetlands. The parameters being monitored will be temperature, total suspended solids (TSS), and flow. Once the wetlands have been constructed, the City in conjunction with DEQ will determine the sampling locations. The site maps will be updated with the GPS coordinates.

Project Details

Water body Type: River/stream

Project Type: Agriculture
Hydrologic-habitat modification

Primary Pollutant(s) To Be Addressed:

Sediment

Secondary Pollutant(s) To Be Addressed:

Bacteria
Nitrogen
Phosphorous

Beneficial Uses Affected by Project:

Aesthetics
Aquatic Life
Other – Primary and secondary contact recreation
Recreation

Water supply
Wildlife habitat

Primary BMP(s) to be Implemented: (Best Management Practices)

Constructed wetlands
Sediment basin
Structure for water control
Wetland creation
Wetland wildlife habitat management

Estimated Annual Load Reduction

Once the sediment basins and wetlands are installed on lateral 30A spill, there will be significant reductions in total suspended solids (TSS), total phosphorus (TP), and E. coli bacteria. The Twin Fall Canal Company estimated the mean flow to be 8 cfs. The average TSS load is estimated 706 ton/year. Based on the literature it is reasonable to assume a 91 percent removal and using STEPL the model estimated the removal at 64% of the total TSS. This will reduce the pollutant loads of lateral 30A by an amount ranging between 452 tons to 643 tons/year, depending on removal effectiveness.

Monitoring Plan

Monitoring on the effectiveness of lateral 30A wetland system will be performed on a biweekly basis during the irrigation season. It is expected that the biweekly sampling will be conducted for the first 2 or 3 years until a trend is developed. Once a trend is developed the monitoring may be reduced after consultation with DEQ. In order to determine compliance with the DEQ-City contract the City will monitor TSS and flow on a biweekly basis through the sediment basins and over the course of the vegetative development within the wetlands. The City of Twin Falls will use an Optical Suspended Solids sensor (Insight model 3150). The sensor accuracy is within +/- 2 mg/l after calibration, which will be calibrated before every field visit. The City will also collect monthly water samples to verify the sensor accuracy and repeatability. If it is determined that the sampling methodology has limitations affecting the sample results DEQ will work with the City to develop an improved sampling approach. The QAPP will have more details addressing monitoring methods and lab methods. The monitoring plan and lab analysis is subject to change upon review and concurrence with DEQ.

Project Funding

The City of Twin Falls will Fund this project through the wastewater collection fund on an annual basis.

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ENGINEERING
7265

208-735-

December 28, 2010

Project Title: Police Gun Range Constructed Wetlands (Lateral 26 Spill)

Project Field Officer: Mike J Trabert P.E.

Phone: 208-735-7323

Fax: 208-736-2293

Email: mtrabert@tfid.org

Project Location

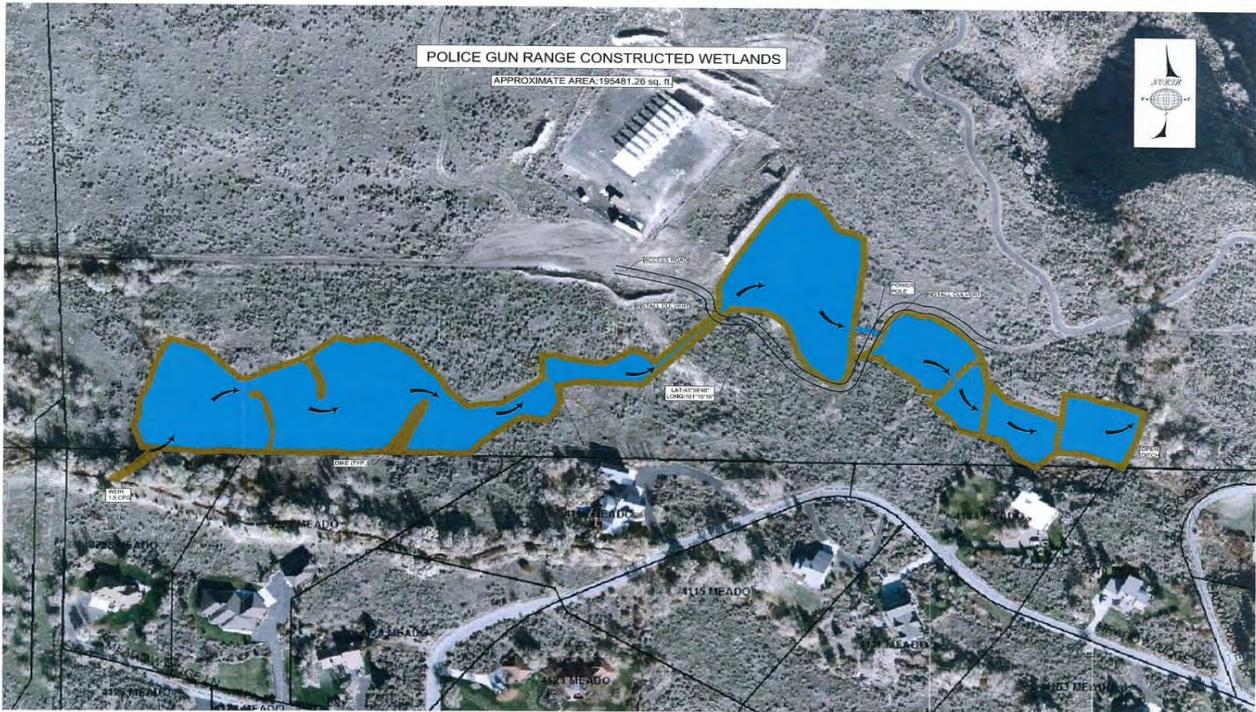
Primary County: Twin Falls

HUC: 17040212

Latitude: 43° 58' 48"

Longitude: 101° 10' 16"

Project Location: The proposed project is located ½ mile west of Shoshone Falls on property owned by City of Twin Falls. The project is located adjacent to the Twin Falls Canal Company lateral 26 spill.



TMDL Name/Description

This project is located within the Upper Snake Rock Subbasin, and falls within the Middle Snake River (Upper Snake Rock) TMDL. The Middle Snake River is a §303(d) listed stream for sediment, pathogens (*Escherichia coli*), and phosphorus. This project will improve the water quality in lateral 26 spill, which directly discharges into the Middle Snake River approximately ½ mile west of Shoshone Falls. There has been no water quality quality monitoring on this drain, but the TFCC believes that average TSS load is 200 mg/l throughout the irrigation season. By improving the water quality of lateral 26, the amount of nutrients, sediments, and bacteria being discharged into the Middle Snake River will be greatly decreased.

Expected Project Outcomes and Benefits

This project will consist of the construction of a series of sediment basins and wetlands on lateral 26 waste water return spill, which is used as an agricultural spill to the Snake River. Being an agricultural return drain, the flow rates are quite variable. The TFCC estimates the average flow at 5 cfs in the summer and little to no flow during the winter. These wetlands will filter suspended sediment, phosphorus, nitrogen, and bacteria out of the lateral 26 spill, thus improving water quality in the Snake River to which the lateral discharges. This project will construct approximately 6 acres of wetlands, and is located south of the Twin Falls Police Gun Range. This project will construct both deep and shallow sediment ponds and a series of wetland areas which will further filter out suspended sediment, nutrients, and bacteria. After construction of these sediment ponds and wetland areas has been complete, it is estimated that there will be 92-96% reduction in total suspended solids. (Constructed Wetlands for Water Quality Improvement, Edited by Gerald A. Moshir, 1993- Chapter 37 pg 359-366 Controlling Agricultural Runoff by use of Constructed Wetlands). Idaho Department of Environmental Quality uses the modeling program called STEPL for estimating pollutant loads, which estimates the pollutant removal at 64%.

How is the project tied into overall water quality management efforts or planning process?

The Middle Snake River is a §303(d) listed stream for sediments, pathogens (*Escherichia coli*), and phosphorus. This project discharges into the Middle Snake River and will improve water quality in the river. Improving the water quality of lateral 26 will help meet the requirements of the City of Twin Falls NPDES permits requirements for sediment removal and the TMDL requirements for the Middle Snake River (Upper Snake Rock) TMDL. The average pollutant loads that lateral 26 discharges into the Snake River are based on water quality monitoring supplied by the Twin Falls Canal Company. The TFCC estimated the mean flow rate of lateral 26 at 5 cfs, and the average TSS at 200 mg/l, which translates into 589 tons annually.

Tracking Project Results

What parameters would be monitored to evaluate project results?

This project will be evaluated for effectiveness by performing water quality monitoring on lateral 26 at a monitoring site above and below the sediments basins and wetlands. The parameters being monitored will be temperature, total suspended solids (TSS) and flow. Once

the wetlands have been constructed, the City in conjunction with DEQ will determine the sampling locations. The site maps will be updated with the GPS coordinates.

Project Details

Water body Type: River/stream

Project Type: Agriculture
Hydrologic-habitat modification

Primary Pollutant(s) To Be Addressed:

Sediment

Secondary Pollutant(s) To Be Addressed:

Bacteria
Nitrogen
Phosphorous

Beneficial Uses Affected by Project:

Aesthetics
Aquatic life
Other – Primary and secondary contact recreation
Recreation
Water supply
Wildlife habitat

Primary BMP(s) to be Implemented: (Best Management Practices)

Constructed wetlands
Sediment basin
Structure for water control
Wetland creation
Wetland wildlife habitat management

Estimated Annual Load Reduction

Once the sediment basins and wetlands are installed on lateral 26 spill, there will be significant reductions in total suspended solids (TSS), total phosphorus (TP), and E. coli bacteria. The Twin Fall Canal Company estimated the mean flow to be 5 cfs. The average TSS load is estimated at 589 tons/year. Based on the literature it is reasonable to assume a 91 percent removal. The STEPL the model estimates TSS removal at 64% of the total TSS. This will reduce the pollutant loads of lateral 26 between 374 tons/year to 536 tons/ year depending upon removal effectiveness.

Monitoring Plan

Monitoring the TSS removal effectiveness for the lateral 26 wetland system will be performed on a biweekly basis. It is expected that the biweekly sampling will be conducted during the irrigation season for a two to three years until a trend is developed. Once a trend is developed the monitoring may be reduced after consultation with DEQ. In order to determine compliance

with the DEQ-City contract the City will monitor TSS and flow on a biweekly basis through the sediment basins and over the course of the vegetative development within the wetlands. The City of Twin Falls will use an Optical Suspended Solids sensor (Insight model 3150). The sensor accuracy is within +/- 2 mg/l after calibration, which will be calibrated before every field visit. The City will also collect monthly water samples to verify the sensor accuracy and repeatability. If it is determined that the sampling methodology has limitations affecting the sample results DEQ will work with the City to develop an improved sampling approach. The QAPP will have more details addressing the monitoring methods and lab methods. The monitoring plan and lab analysis is subject to change upon review and concurrence with IDEQ.

Project Funding

The City of Twin Falls will Fund this project through the wastewater collection fund on an annual basis.

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P.O. Box 1907 321 Second Avenue East Twin Falls, Idaho 83303-1907 Fax: (208) 736-2296
Office of the City Manager 208-735-7271

December 29, 2010

Ms. Marti L. Bridges
TMDL Program Manager
Idaho Department of Environmental Quality
1410 N. Hilton
Boise, ID 83706

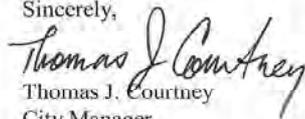
RE: Reasonable assurance and financially support for the necessary offset BMP projects to reduce non-point source TSS/Sediment loading to the Snake River in lieu of the increase that the city will receive in the TMDL

Dear Marti:

The City of Twin Falls would like to take this opportunity to comment on the proposed non-point source projects in lieu of the reductions that would be required at the waste water treatment plant. We have funds available in the waste water fund to support the construction, maintenance, and monitoring of these projects. Once the contract between the City and IDEQ has been finalized the City Council will approve a budget amendment to fund the wetland projects.

If you need further information please do not hesitate to contact me.

Sincerely,


Thomas J. Courtney
City Manager

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Appendix B: TMDL Revision Wetlands Analysis

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City of Twin Falls Wetlands Load Reduction Estimations

The City of Twin Falls is implementing two projects to improve the water quality of canals confluent with the Snake River. One is the Police Gun Range Constructed Wetlands to improve water quality from the Lateral 26 Spill and the other project is the Auger Falls Sediment Ponds and Constructed Wetlands to improve water quality from Lateral 30A. Figure 1 shows the vicinity of the projects. Once the wetlands and sediment basins are built and become fully functioning, they will potentially remove a significant load of total suspended solids (TSS), total phosphorus (TP) and total nitrogen (TN) from the canals.

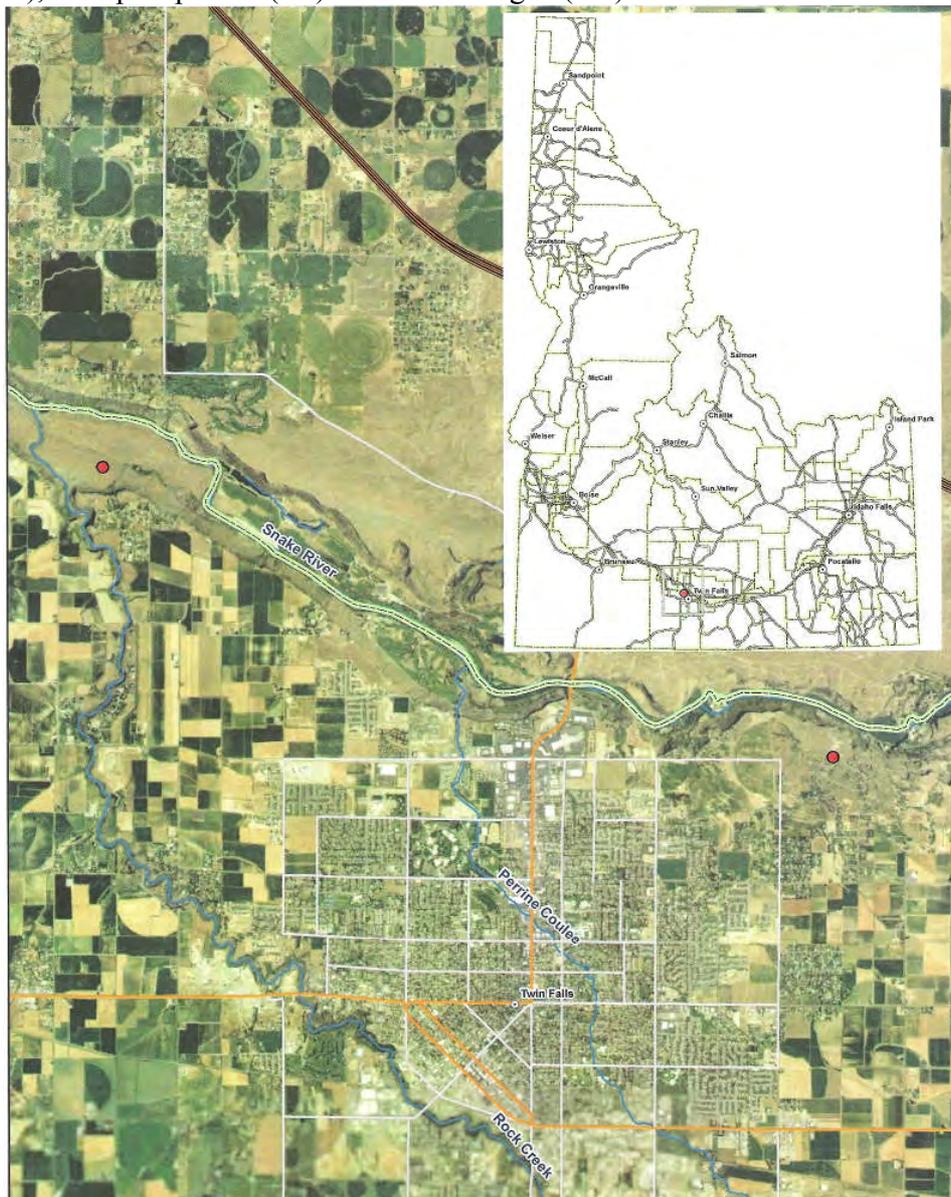


Figure 1. Vicinity map of City of Twin Falls Constructed Wetlands Projects.

The project near Auger Falls will consist of a diversion from Coulee Q2 of the Lateral 30A spill, which drains about two square miles, into a series of sediment basins and wetlands

extending over ten acres. The Twin Falls Canal Company estimates 8 cfs discharge in this canal during irrigation season, and Total Suspended Solids (TSS) averaging 150 mg/L. The constructed wetlands at the police gun range will consist of diverting the waste water return spill from Lateral 26, which drains about three square miles, into 6 acres of deep and shallow sediment ponds and wetland areas.

TetraTech (2003) designed a model called STEPL, the “Spreadsheet tool for estimating pollutant load” for the Grants Reporting and Tracking System of the Environmental Protection Agency. Using inputs such as land use, soil type, precipitation, and Best Management Practice type, STEPL computes surface runoff, nutrient loads and sediment delivery.

For the Twin Falls watershed improvement projects, STEPL inputs included:

- Average annual precipitation of 9.26 inches (Western Regional Climate Center 2010)
- Soil texture of rocky silt loam and loamy fine sand was from the Soil Data Viewer (NRCS 2006) and the Soil Survey Geographic (SSURGO 2006) Database.

The STEPL model calculates the estimated load reduction for surface runoff pollutants, but the Twin Falls Canal Company has also provided estimates of potential instream load reduction. Lateral 30A averages 8 cfs discharge with 150 mg/L TSS concentration and Lateral 26 averages 5 cfs discharge with 200 mg/L TSS concentration. The loads are calculated for the average water year from March 15th to October 15th. The fraction of nutrients adsorbed to sediment particles is 1.3 pounds of phosphorus per ton of sediment (Ferguson 1999) and 1.6 pounds of nitrogen per ton of sediment (Michigan DEQ 1999)

Load reduction estimations for these projects are summarized in Table 1. These are annual estimates of the load reductions once the wetlands and sediment ponds have become fully functional and considering appropriate operations and maintenance concerns are implemented. Once monitoring data of canal discharge and pollutant concentrations are compiled, the data will provide the actual load reductions achieved.

Table 1. Total Sediment and nutrient load reduction estimations for City of Twin Falls proposed projects.

Project Name, Location and Parameters	Calculation/Estimation Method	Load Reduction
Auger Falls Sediment Ponds and Constructed Wetlands (Lateral 30A) N 42.626115 W -114.52806 10 acres sediment basins and wetlands	Runoff: STEPL modeling Instream: calculations from Twin Falls Canal Company estimates	Sediment = 463 tons Nitrogen = 1046 lbs Phosphorus= 600 lbs
Police Gun Range Constructed Wetlands (Lateral 26 Spill) N 42.592253 W -114.412697 6 acres sediment basins and wetlands	Runoff: STEPL modeling Instream: calculations from Twin Falls Canal Company estimates	Sediment = 375 tons Nitrogen = 922 lbs Phosphorus= 525 lbs

Table 2. Calculation details.

	Runoff Load Reduction			Instream Load Reduction			Total Estimated Load Reduction		
	TSS t/yr	TP lb/yr	TN lb/yr	TSS t/yr	TP lb/yr	TN lb/yr	TSS t/yr	TP lb/yr	TN lb/yr
Auger Falls Sediment Ponds and Constructed Wetlands (Lateral 30)	18	57	127	445	543	919	463	600	1046
Police Gun Range Constructed Wetlands (Lateral 26 Spill)	4	73	156	371	452	766	375	525	922

References

- Ferguson, D.F. 1999. Typical southern Idaho irrigated cropland soil and phosphorus loss conditions and relationships and a sediment basin's effectiveness on the filtration of these pollutants. Soil Conservation Commission. Boise, ID: 5 p.
- Michigan DEQ. 1999. Section 319 watersheds training manual. Surface water quality division. Nonpoint source unit. Lansing, MI: 59 p.
- National Resources Conservation Service. 2006. Soil Data Viewer. Soil Survey Division. 60 p.
- SSURGO. 2006. Soil Survey Geographic for Idaho. U.S. Department of Agriculture, Natural Resources Conservation Service. Forth Worth, TX. GIS layer.
- Tetra Tech, Inc. 2003. Spreadsheet tool for the estimation of pollutant load (STEPL) User's guide. For US Environmental Protection Agency. Fairfax, VA. 41 p.
- USDA. 2004. Digital ortho image [compressed county mosaic] of Custer County, Idaho from imagery acquired in the National Agriculture Imagery Program (NAIP). United States Department of Agriculture Farm Service Agency Aerial Photography Field Office, Salt Lake City, UT.
- Western Regional Climate Center. 2010. Desert Research Institute. Website for climate station <<http://www.wrcc.dri.edu/>> accessed December 2010.

Appendix C: Response to Public Comment

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U.S. Environmental Protection Agency



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

November 23, 2010

Marti Bridges
DEQ State Office
Water Quality Division
1410 N. Hilton
Boise, ID 83706

Re: Upper Snake-Rock TMDL TSS Revision

Dear Marti:

We have reviewed the October 27, 2010 proposed TSS allocation revisions in the Upper Snake-Rock TSS TMDL. These allocation adjustments are generally consistent with TMDL regulations with one exception, and we support the proposed revisions.

Our main concern is that more detail is needed to provide reasonable assurance that the increased nonpoint source TSS reductions will occur. Our detailed comments are listed below.

p. 1. Purpose of Proposed Revision. Suggested wording change to clarify application of TBELs:

"... which is an allocation that reflects the application of technology-based standards for discharges to the in-the Snake River..."

p. 4. TSS Discharge Influence to Middle Snake River.

"DEQ concludes that the 0.72% increase represents a de minimus increase (less than 1%) to the sediment load ..."

After this statement it may be worth pointing out that this increase in loading is entirely offset by increased nonpoint source load reductions.

p. 5. Table 2. The TBEL value for Weekly Average Limit in lb/day is missing.

p. 5. TMDL Reallocation of the TSS Load. 2000 vs. 2005 TMDL.

The revision refers to the TSS wasteload allocation in the 2000 EPA approved TMDL. In 2005 DEQ subsequently modified the TMDL, including TSS allocation revisions to point and nonpoint sources. EPA approved these revisions, with the exception of the municipal

POTW allocations. The result is that 2000 TMDL TSS allocations for POTWs are in effect, and 2005 TMDL TSS allocations for remaining sources are in effect. Fortunately, the allocation for Twin Falls POTW is the same in 2000 and 2005.

The citation for Table 2-A mentioned in this section should be the 2005 rather than the 2000 TMDL.

It is our understanding that the third column of Table 3 in the Revision is intended to replace allocations in Table 2A in the 2005 TMDL and replace the allocation for the Twin Falls POTW in the 2000 TMDL, Table 101. It would be helpful if the Revision specifically included this clarification.

Reasonable Assurance

The Revision is predicated on greater reductions from nonpoint sources in order to allow greater TSS discharge by Twin Falls. As such, reasonable assurance of these increased nonpoint source reductions must be included in the Revision. It is our understanding from past conversations that the nonpoint source reduction measures will be completed by the City of Twin Falls. The Revision should include documentation of their commitment, and analysis showing that the work will achieve the necessary reductions. Suggested elements of reasonable assurance to include in the Revision are:

- Identification of specific projects/BMPs which will achieve the enhanced NPS reductions,
- Quantification of load reductions expected from these projects, and how they will achieve the increased load reductions called for,
- Written commitment by the City, identification of funding committed to these projects, or other similar assurance that the projects/BMPs will be completed,
- Identification of timeframe for project/BMP completion, and
- Plans to monitor the effectiveness of BMPs.

Thank you for the opportunity to comment on these proposed revisions. If you have any questions about these comments, please contact me at 208-378-5774, or woodruff.leigh@epa.gov.

Sincerely,



Leigh Woodruff
Watershed Unit

cc: Bill Allred, IDEQ Twin Falls
Sonny Buhidar, IDEQ Twin Falls

Idaho Conservation League



Marti Bridges
Idaho Department of Environmental Quality
Water Quality Division
1410 Hilton
Boise, ID 83706

11/24/10

RE: Idaho Conservation League comments on DEQ proposed revision to TSS wasteload allocations to city of Twin Falls.

Dear Ms. Bridges;

Thank you for the opportunity to provide comments on DEQ's proposed revision to TSS wasteload allocations to city of Twin Falls. The Idaho Conservation League has a long history of involvement with water quality issues. As Idaho's largest state-based conservation organization we represent over 9,800 members, many of whom have a deep personal interest in protecting Idaho's water quality and the health of all Idahoans from the harmful effects of pollution.

The Idaho Conservation League has been substantively engaged in reviewing aspects of water quality in the Mid-Snake mainstem for several years. This includes, but is not limited to reviewing the various TMDLs in effect in this area, reviewing and participating in NPDES permitting for dischargers to the Snake and pollutant trading.

The City of Twin Falls POTW has long sought access to TSS trading as a means of complying with their TSS effluent limits. However, a TSS trading program has never been allowed in the Mid-Snake (or anywhere else in Idaho) because neither the State nor EPA has developed acceptable mechanisms and trading ratios upon which a credible trading program could be built. After reviewing DEQ's proposal to revise TSS wasteload allocations, we are struck that this effort appears to be a means of accomplishing the outcomes of pollutant trading without actually developing and implementing an acceptable pollutant trading program. In essence, DEQ is proposing a 'work around' to get Twin Falls access to increased discharge of TSS so that Twin Falls does not have to comply with the TSS effluent limits in its current NPDES permit.

We conclude that bypassing the mechanisms and environmental benefits that would be created via a trading program and simply reallocating TSS wasteloads is a bad idea and we ask that DEQ not do so.

Idaho Conservation League comments on DEQ proposed revision to TSS wasteload allocations to city of Twin Falls.

Page 1 of 3

Proposal will not improve water quality

DEQ asserts that Twin Falls POTW will implement heretofore voluntary TSS control projects at non-point sources. These will result in reductions of non-point TSS discharges by 244.52 tons/year – thus decreasing the need the non-points to have their current WLA. DEQ will revise upward Twin Falls' TSS WLA by 244.52 tons/year and Twin Falls will increase its TSS discharge accordingly. At best this maneuver will result in total TSS discharges to the river remaining the same.

The scheme to transfer a portion of the non-point WLA to Twin Falls does not reduce total system wide TSS discharges, it merely moves them around to different dischargers. Thus, this proposal will not result in a net reduction of TSS to this stretch of the Snake River and thus will not result in any appreciable water quality benefits.

If DEQ wanted to, it could choose to require Twin Falls to implement non-point source controls that would result on reductions at a greater than 1 to 1 ratio. Reductions in TSS beyond those assigned to Twin Falls could then be 'retired' and the total TSS loading to the Snake could be reduced in the TMDL. This would be a positive outcome and would likely result in Segment 2 of the Middle Snake River achieving its instream flow TSS target 100% of the time, rather than the current 97% of the time.

Where DEQ to utilize a 'pollutant trading' approach rather than the proposed WLA reallocation approach, these sorts of environmental benefits would likely be realized.

Scant detail provided regarding non-point reductions

DEQ has not provided sufficient detail regarding the means by which Twin Falls will reduce non-point source TSS discharges. Indeed, aside from noting that the TSS control project(s) will occur in either River Segment 1 or 2, there is no information provided about the nature of the projects.

Any projects that do go forward pursuant to this proposal would need to be implemented in advance of transferring TSS WLA to Twin Falls. And, credible monitoring data would need to be provided to demonstrate the efficacy of the projects and document TSS reductions.

Maintaining non-point TSS controls

DEQ has not discussed how it will ensure that Twin Falls POTW maintains the non-point TSS controls through time to ensure that water quality is not harmed.

DEQ needs to demonstrate that Twin Falls POTW has a funded mechanism to perform any necessary operations and maintenance to ensure that the benefits of any TSS controls are not lost over time. Consistent with this, Twin Falls POTW will need to carry out some form of long term monitoring to demonstrate the continued efficacy of their projects. DEQ needs to integrate these necessary actions into an enforceable management plan.

What if non-point controls fail at some later date?

There is always the potential that the non-point TSS controls that Twin Falls POTW implement will fail or for some other reason no longer be implemented. If this happens, how will DEQ (or EPA) deduct the TSS from Twin Falls POTW's WLA?

Need to revisit flow assumptions in TMDL

Recent events have demonstrated that the Upper Snake Rock Subbasin TMDL is predicated on faulty assumptions regarding flow. We believe that DEQ should correct these errors prior to revising TSS WLAs. Failure to correct these flow assumptions will result in continued non-compliance with various water quality standards and goals.

Need to comply with anti-deg

It may be the case that increasing the TSS WLA for Twin Falls will result in lowering water quality at the point of discharge. DEQ needs to conduct whatever anti-deg review is necessitated by this proposed action.

We question the legality of the next step of increasing Twin Falls' TSS limits

This entire exercise is being undertaken in an effort provide the Twin Falls POTW a means of increasing its TSS discharges. Thus, the next step here is for EPA to issue the Twin Falls POTW a modified NPDES permit.

While the Clean Water Act does provide some limited situations where 'backsliding' is allowed to occur, we believe that increasing Twin Falls TSS discharge limits would not necessarily qualify for one of these exemptions. As such, we are likely to be actively engaged in this matter should the Twin Falls' NPDES permit be so modified.

In closing, let me again state that we do not support DEQ's effort to revise TSS WLAs as proposed. If, however, DEQ (or Twin Falls) was to propose a means of reducing non-point TSS discharges by a ratio greater than 1 to 1, say 3 to 1 for instance, we would be very interested in engaging in that potential.

Thank you for your consideration of our comments. Please do not hesitate to contact me at jhayes@idahoconservation.org or 208-345-6933 ext 24 if you have any questions.

Sincerely,



Justin Hayes
Program Director

Doug Conde, DEQ AG
Leigh Woodruff, EPA BOI office

Clear Springs Foods

Nov. 25, 2010

Ms. Marti Bridges
Idaho Department of Environmental Quality, State Office
Water Quality Division
1410 N. Hilton
Boise, ID 83706

RE: Upper Snake Rock Sub-basin TMDL (2000) TSS Revision Proposal

Dear Ms. Bridges:

Clear Springs Foods offers the following comments relative to the proposed change in the City of Twin Falls TSS waste load allocation. Clear Springs Foods is an employee owned, vertically integrated food company subject to TSS waste load allocations identified in the Upper Snake Rock Sub-basin TMDL.

The IDEQ proposal to use a permanent reduction of TSS from a non-point source to offset an increased TSS discharge by the City of Twin Falls (CTF) point source appears to be a reasonable approach that fosters long-term environmental improvement while limiting cost. Such an approach warrants expansion to other public and private NPDES permittees because the environmental and financial benefits may be significant. Doing so requires state-wide guidance to help ensure equal opportunity, uniform compliance, and that environmental improvement is measured.

Clear Springs Foods suggests that such guidance include the following:

- Pollutant off-sets should be pollutant-specific. For example, TSS for TSS or total phosphorous for total phosphorous. In IDEQs proposal, an increase above projected TSS limits (WQBEL) would be off-set by the same decrease in an upstream non-point source. What is not specified in this case is the actual amount of TSS currently discharged from the non-point source. In fact, the load proposed for off-set comes from "Unaccounted Surface Waters" indicative of the lack of data. Presumably in this case the State and EPA will require rigorous monitoring by the CTF to ensure the non-point source load is diminished appropriately. Such monitoring requirements should be included in State guidance.
- While Clear Springs Foods suggests pollutant off-sets be pollutant specific, we believe sufficient science exists, or soon will, to warrant inclusion of non-pollutant-specific off-sets. For example, the occurrence of nuisance aquatic plant growth (e.g. rooted macrophytes) is influenced predominately by the presence of nutrient laden sediments rather than dissolved nutrients in the water column. Justification exists for off-setting nutrient discharges from a point source by reducing sediment discharge from non-point sources. Guidance should provide for flexibility dependent upon sound scientific presentation.
- Future off-sets, perhaps even the CTF off-set in this case, should require a greater amount of reduction from the non-point source. Instead of a 1:1 off-set, we

suggest a 1:1.5. This has merit given the difficulty in quantifying loads discharged from non-point sources. The environmental consequence, good or bad, of taking a load allocation from a seasonal source to a year round source is not explored. TSS measurement methodology includes settleable solids. It is probable that the settleable solids component of TSS from the CTF discharge is less than from the non-point source. We believe removing more settleable solids, i.e. soil, from discharges will have a greater positive environmental impact than general reduction in TSS. Off-sets should be required to be greater than a 1:1 and guidance should require adequate analysis of the likely benefits of particular off-sets.

- IDEQ indicates in their proposal that “the net balance of TSS overall would remain the same”. As part of the approval of this TSS load exchange we suggest that the CTF be required in the consent order to conduct increased ambient monitoring at the TMDL approved compliance monitoring site to support the claim and substantiate the environmental benefit of this exchange. Guidance should identify the expectation that ambient monitoring occur.
- The proposed off-set appears to be the first in Idaho. Even if not, the terms and conditions establish precedent. Clear Springs Foods is concerned a public entity is receiving preferential treatment. In oral discussion during the public presentation of the proposal to Middle Snake Watershed Advisory Group, IDEQ stated they would not necessarily exclude private entities from participating in an off-set program. We suggest guidance clearly establish that both private and public entities are able to participate in an off-set program.

Clear Springs Foods appreciates the opportunity to provide comment on the proposed transfer or off-set of TSS loads from a non-point source to a point-source. We are generally supportive of this transfer and recommend that IDEQ institute development of guidance to foster development of other off-sets throughout Idaho watersheds. Clear Springs Foods believes such a program could provide significant environmental benefit while helping to reduce the cost of environmental stewardship.

Sincerely,

CLEAR SPRINGS FOODS, INC.

John R. MacMillan, Ph.D.
Vice President

Summary of Responses

Environmental Protection Agency, Region 10 Comment:	Response:
p. 1. <u>Purpose of Proposed Revision</u> . Suggested wording change to clarify application of TBELs:	DEQ has made the suggested change to wording
p. 4. <u>TSS Discharge Influence to Middle Snake River</u> . EPA suggests a statement that points out that the increase in loading is entirely offset by increased non point source load reductions.	DEQ has added additional language to clarify this point.
p. 5. <u>Table 2</u> . The TBEL value for Weekly Average Limit in lb/day is missing.	DEQ has added the missing value.
p. 5. <u>TMDL Reallocation of the TSS Load, 2000 vs 2005 TMDL</u> .	DEQ has better clarified the differences between the 2000 TMDL TSS allocations for POTWs that are in effect, vs TSS allocations for remaining sources in the 2005 TMDL dealing primarily with aquaculture. The citation in Table 2-A has been corrected. Other Clarifications have been made to Table 3 in the Revision where allocations were replaced in the Table 2a of the 2005 TMDL. We agree there is some confusion in the TSS draft document.
Reasonable Assurance	
Identification of specific projects/BMPs which will achieve the enhanced NPS reductions	Language has been added to address specific projects/BMPs
Quantification of load reductions expected from these projects, and how they will achieve the increased load reduction called for	Language has been added to address expected load reductions and how they will not only balance but achieve greater reductions than would have occurred otherwise
Written commitment by the City, identification of funding committed to these projects, or other similar assurance that the projects/BMPS will be completed	The City is entering into a contract with DEQ that is legally binding and outlines their role, responsibility for performance, expected reductions and BMPs that will be installed.
Identification of timeframe for project/ BMP completion	Anticipated time frames have been added to the TSS Revision
Plans to monitor effectiveness of BMPS.	The City is developing a monitoring plan and EPA compliant QAPP as part of their contract with DEQ. The contract/plan will monitor BMPs to determine performance and modifications will be made or additional projects implemented as identified in the Contract.

Idaho Conservation League Comment:	Response:
ICL is concerned that by revising the WLA for TSS and allowing a minimal increase in discharge that DEQ may be bypassing mechanisms and environmental benefits created by a pollutant trading program.	Offsets are an accepted option in TMDL programs at DEQ and EPA . Offsets are a different mechanism to achieve pollutant reductions. The TSS increase being sought will be offset at a level in excess of what the City will discharge by removing non point source TSS inputs that otherwise were unlikely to occur. In addition, the City of Twin Falls is already discharging TSS at levels below the target for the Mid Snake River of 52 mg/L. TSS. The City of Twin Falls discharge is fully compliant already with TBEL requirements of 30 and 45 mg/L TSS and will remain so.
ICL notes that the City of Twin Falls has sought a TSS pollutant trading program and that the state nor EPA have built such a program.	The City of Twin Falls sought a TSS trading program. However, DEQ does not have the staff or financial resources to undertake development of a full blown TSS trading program at this time. The reductions already undertaken in the Mid Snake to reduce TSS as sediment have been substantial and the river is at the TMDL target of 52 mg/L TSS 97% of the time. Point source discharges of TSS are very small. Offsets to address the City of Twin Falls minimal TSS increase are more cost effective in terms of cost of effort and will achieve the same levels of improvement to water quality.
ICL asserts the proposal will not improve water quality	The City of Twin Falls will be implementing BMPs that reduce non point source TSS inputs to the river at approximately a 3 to 1 ratio. This more than assures not only equivalency, but also ensures additional reductions of TSS that likely would not have occurred, since they are voluntary for non point sources. Thus water quality will be improved beyond what is required of the TMDL.

<p>ICL states that scant detail was provided regarding non point reductions from projects</p>	<p>DEQ has added more descriptions regarding projects proposed for implementation by the City of Twin Falls. DEQ and the City of Twin Falls are entering into a legally binding contract that outlines responsibilities and remedies for non compliance with the terms of the contract.</p> <p>The offsets implemented as nonpoint source reductions will be at a higher ratio than is needed to achieve water quality benefits and in this case will cost less than could be achieved through a TSS pollutant trading program. DEQ does not believe a TSS pollutant trading program is warranted since all point source dischargers will be meeting TBELs or slightly more stringent than more than meet or exceed the reductions needed to achieve a 52 mg/L TSS target.</p>
<p>ICL is concerned about maintaining non point TSS controls.</p>	<p>Non point TSS controls implemented by the City of Twin Falls must be maintained potentially in perpetuity until such time as the TSS limits for the Assessment Unit of the river are being fully achieved. Additional projects and BMPs will be instituted if needed to ensure that adequate reductions are occurring to meet the intent of the offset requirements. The contract with DEQ covers several parameters including funding mechanisms, maintenance of BMPs, monitoring and O & M.</p>
<p>What if non point controls fail at some later date?</p>	<p>DEQ will have a legally binding contract with the City of Twin Falls and may seek specific performance of the obligations for non point source reductions.</p>
<p>Need to revisit flow assumptions in TMDL</p>	<p>TSS is not the pollutant of concern with regard to flow assumptions. Total phosphorus is. DEQ agrees that it may be prudent to revisit flow assumptions used in the TMDL at a future date. However, it should be noted that the original TMDL was developed with a very large data set for flow records. Adding an additional ten years of flow data may not make for very substantive changes. DEQ did not make "errors" in the original TMDL. To the contrary, the TMDL was written with the best available data and EPA completed the modeling that provided much of the basis for the overall TMDL with regard to nutrients as well as TSS. When funding and resources become available DEQ will revisit the assumptions of the nutrient TMDL. We are working to complete remaining TMDL Settlement Agreement work before revisiting existing TMDLs.</p>

<p>Need to comply with anti-deg, antibacksliding concerns with an increase in TSS "limits"</p>	<p>DEQ believes it is complying with anti-deg requirements. There is already a TMDL which is in fact the basis of anti deg and ensures reductions occur. Water quality is in fact better. The City of Twin Falls has already reduced their own loads substantially to the Mid Snake and are fully compliant with their TBEL WLA's. We do not believe the City of Twin Falls is backsliding as the same WBEL limits that are currently in place still apply and the City is in fact discharging at levels less than the 52 mg/L TMDL TSS target.</p>
<p>ICL would support DEQ's efforts if the non point source TSS discharges would be reduced by a ratio greater than 1:1, say 3 :1.</p>	<p>DEQ appreciates ICLs vote of support by using a greater ratio of 3:1. This was DEQ and the City of Twin Falls intent all along. We believe the revision as proposed, along with the implemented BMPs will provide the water quality improvements we are all seeking.</p>

Clear Springs Foods Comment:	Response:
Clear Springs Foods supports using non-point source off-sets as an approach that fosters long-term environmental improvement while limiting cost.	DEQ agrees that in limited circumstances, the use of off-sets may be a viable alternative that limits costs yet accrues long term environmental improvement. Thank you for your comment.
Clear Springs Food suggests that DEQ develop a state-wide guidance for the use of off-sets to help ensure equal opportunity, uniform compliance, and to measure environmental improvements.	DEQ appreciates Clear Springs Foods suggestion, but DEQ does not envision developing a state-wide guidance for off-sets. The application and use of off-sets in the context of a TMDL is limited and the off-set for the City of Twin Falls is a site specific situation. In most cases DEQ recommends WAGs pursue pollutant trading frameworks for specific watersheds and specific pollutants. A trading framework exists in the Upper Snake Rock HUC currently for TP, where a viable market for trading has been identified.
Pollutant off-sets should be pollutant specific.	DEQ agrees with this statement.
The pollutant off-set comes from “unaccounted waters” indicative of a lack of data. Presumably the state and EPA will require rigorous monitoring to ensure the City of Twin Falls appropriately diminishes the non point source load.	DEQ used the best information in the development of the TMDL. The City of Twin Falls will be implementing BMPs that reduce the non point source load at approximately a 3:1 ratio. An EPA compliant monitoring plan and QAPP are required by DEQ in a contract that DEQ and the City are entering into. Monitoring will be completed bi-weekly during the irrigation season at inflows and outflows of the projects.
Clear Springs Foods recommends that DEQ require the City of Twin Falls conduct increased ambient monitoring.	DEQ already conducts ambient monitoring at six compliance points on the Snake River. However, the City of Twin Falls will be required as a condition of their contract with DEQ to conduct BMP effectiveness monitoring at inflow and outflow locations mutually agreed upon and report the results in a yearly report to both DEQ and EPA. The City of Twin Falls also will continue to meet its monitoring requirements pursuant to DMRs for EPA.

Clear Springs Foods notes that this appears to be the first off-set in Idaho. Clear Springs Foods suggests guidance clearly establish that both private and public entities are able to participate in an off-set program.

This is the first off-set of this kind where a WLA has been revised based on an off-set. DEQ does not differentiate between public and private entities with regard to off-sets or pollutant trading. DEQ will evaluate the need for an off-set on a case by case basis as warranted. DEQ envisions the use of off-sets in very limited situations. Pollutant trading frameworks developed using DEQ's Water Quality Trading Guidance is the mechanism DEQ has chosen as a tool to implement reductions and to meet water quality standards in watersheds with TMDLs. We appreciate Clear Springs Foods thoughtful comments and suggestions.