ORIGINAL

Fritz Wonderlich
Wonderlich & Wakefield
P.O. Box 1812
Twin Falls, ID 83303-1812
Telephone (208) 352-0811
Fax: (888) 789-0935
Attorneys for Petitioner
The City of Twin Falls, Idaho

BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.

In re:	)
City of Twin Falls, Idaho Permit No. ID-002127-0	)

LIST OF EXHIBITS

Exhibit 1. Notice of Issuance of NPDES Renewal Permit

Exhibit 2. Petitioner's Comments to the Draft NPDES Permit

Exhibit 3. Expired NPDES Permit

Exhibit 4. Pages 201 from "The Upper Snake Rock Watershed Management Plan"

Exhibit 5. Pages 215-216 from "The Upper Snake Rock Watershed Management Plan"

Exhibit 6. Page A-7 from TMDL Executive Summary

Exhibit 7. Pages 61-62 from the 5-Year TMDL Review

Exhibit 8. Page 1-1, EPA Water Quality Trading Evaluation Final Report

Exhibit 9. EPA Water Quality Trading Toolkit for Permit Writers

Exhibit 10. Page 41, EPA Water Quality Trading Toolkit for Permit Writers

Exhibit 11. Pp. 6-7, EPA Water Quality Trading Policy Statement

Exhibit 1

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

SEP 22 2009

OFFICE OF
WATER AND WATERSHEDS

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Ms. Jackie Fields
City Engineer
City of Twin Falls
P.O. Box 1907
Twin Falls, Idaho 83303-1907

RECEIVED
SEP 25 2009
BY:

Re: City of Twin Falls Wastewater Treatment Plant
NPDES Permit No. ID-0021270

Dear Ms. Fields:

We are reissuing the enclosed National Pollutant Discharge Elimination System permit for the City of Twin Falls Wastewater Treatment Plant, which authorizes the facility to discharge to the Snake River. We are also enclosing our response to the comments received on the draft permit during the public notice period. They are also available at http://yosemite.epa.gov/r10/water.nsf/NPDES+Permits/Current+ID1319

This letter serves as service of notice under 40 CFR §124.19(a). The service of notice date for this permit, in accordance with 40 CFR §124.19(a) and 40 CFR §124.20, is September 25, 2009. The permit will become effective on the date indicated in the permit unless a timely appeal meeting the requirements of 40 CFR §124.19 is received by the Environmental Appeals Board. Information about the administrative appeal process may be obtained on-line at http://www.epa.gov/eab or by contacting the Clerk of the Environmental Appeals Board at (202) 233-0122.

If you have technical questions regarding this permit, please contact Sharon Wilson at wilson.sharon@epa.gov or 206-553-0325.

Sincerely,

Michael A. Bussell, Director
Office of Water and Watersheds

Enclosures

cc: Mr. Bill Allred, Regional Administrator, IDEQ Twin Falls Regional Office
Mr. Balthasar Buhidar, IDEQ Twin Falls Regional Office (w/o enclosures)
Mr. Dave Anderson, IDEQ Twin Falls Regional Office (w/o enclosures)
Ms. Marti Bridges, IDEQ Boise
Mr. Jeff Foss, U.S. Fish & Wildlife, Idaho Fish & Wildlife Office (w/o enclosures)
Mr. Justin Hayes, Idaho Conservation League (w/o enclosures)

EXHIBIT 2

Detailed Comments from City of Twin Falls on Draft NPDES Permit ID-0021270

July 14, 2009

Introduction

This document presents detailed technical comments from the City of Twin Falls on the public comment draft NPDES permit to be issued to the City (permit number ID-0021270, public noticed on May 15, 2009 with public comments due July 15, 2009). The City provides herein detailed comments on the following issues of concern:

- New Limits for Total Suspended Solids
- Use of Incorrect River Design Flows
- New Limits for *E. coli*
- Ammonia Limits
- Residual Chlorine Limits and Associated Conditions
- Pretreatment Issues
- Fact Sheet Corrections Regarding Facility Description

Each of these concerns is individually discussed below.

New Total Suspended Solids Limits

Why the New TSS Limit is a Problem for Twin Falls

The Twin Falls Wastewater Treatment Plant (WWTP) currently meets the existing total suspended solids (TSS) limit of 30 mg/L. From 2001 through 2008 the WWTP averaged an effluent TSS level of 17.3 mg/L or 994 lbs/day. These values, however, will exceed the proposed average monthly TSS limit of 980 lbs/day. As a result, the treatment process at the facility will need to be modified to reliability meet the new permit limits. The treatment facility currently employs traditional secondary clarification prior to UV disinfection with no tertiary treatment. Traditional secondary clarification, designed to the current industry standards, can reliably meet an effluent TSS value of approximately 15 mg/L. Given the current design capacity of the WWTP of 8.6 mgd, this would result in an equivalent effluent TSS load of 1,076 lbs/day which exceeds the proposed limit. Optimized secondary clarification systems can get lower than 15 mg/L on a regular basis, but there will be times throughout the year that even the best systems will exceed this limit. During this compliance period the City and CH2M HILL-OMI, Inc. will work to optimize the performance of the existing secondary clarification system, but additional tertiary treatment would still be required in this compliance period to reliably meet the proposed limit. This will require additional capital investment, currently reserved for other needed improvements at the WWTP. Depending on the filtration technology utilized, the conceptual capital cost required is $2,000,000 to $6,000,000. As growth in the

City continues, the associated flow increase at the WWTP will result in an even more stringent limitation as the City holds to the 980 lbs/day. As an example, the next expansion phase at the WWTP will bring the plant capacity to 11 mgd. At this flow, the effluent TSS concentration must be less than 10 mg/L.

The most restrictive of the TSS targets for the Upper Snake Rock TMDL was 52 mg/L. Thus, even at the technology-based standard for secondary treatment (i.e., 30 mg/L) that served as the limit for TSS in the existing permit, the Twin Falls WWTP represents a dilution source for TSS in the Snake River relative to the target. As noted above, the City's WWTP has historically performed better than the existing permit limit. Thus, it seems inappropriate for the City to have to commit a substantial amount of its limited financial resources to install filtration to treat wastewater that is already of substantially higher quality than the instream target. The fact that municipal WWTPs are a dilution source relative to a similar TSS target was considered in the EPA-approved Lower Boise River sediment TMDL, and the wasteload allocations (WLAs) for these WWTPS were based on the secondary treatment standard plus an allowance for future growth. The City of Twin Falls understands that the permit limits must be consistent with the Upper Snake Rock TMDL, but believes EPA has sufficient flexibility to set the limits in a way that is both consistent with the TMDL, allows for TSS trading, and can be met by the City without the need for costly effluent filtration.

The New Limit Should Be Expressed Only as an Annual Limit to Facilitate Trading

The City of Twin Falls objects to the new TSS effluent limits as written. We believe that the limits should stay the same as in the existing permit, with the addition of an annual limit of 146.4 tons per year being added as a limit. Using the 30 mg/L average monthly limit, 45 mg/L average weekly limit, and 146.4 tons average yearly limit, the city feels this meets the water quality-based WLA in the Mid-Snake TMDL. It also allows for pollution trading possibilities with other stakeholders within the watershed. It should also be noted that the 146.4 tons per year is an annual average number and not a maximum load limit. It is also our understanding that other regions allow the annual limits for TMDLs and pollution trading and it is based on the judgment of the permit writer and if it reaches the water quality goals faster and/or more cost-effectively for the impaired water body. Examples include the Long Island Sound nitrogen TMDL and trading program implemented by the State of Connecticut and the phosphorus TMDLs and trading programs for the Neuse and Tar-Pamlico basins in North Carolina.

Pollutant Trading and Compliance Schedule for TSS

The City of Twin Falls is concerned with the TSS compliance schedule as written and requests that it be adjusted by one year to provide sufficient time for implementing a TSS trading program, as described further below. To meet this compliance schedule and the associated effluents limits has the potential to cost the city up to 6 million dollars in plant improvements, with less than a 1 percent improvement in water quality to the Snake River. The Mid-Snake TMDL states that the TSS load for the combined point sources within the watershed is less than 2 percent of the total TSS load for the river.

The City of Twin Falls requests TSS pollution trading compliance schedule. Since Middle Snake River has a TMLD for TSS, this makes it a candidate for pollution trading and pollution trading is one of the preferred methods by EPA to reach the target water

quality limits in water bodies that are impaired. On January 13th 2003 EPA released the Final Water Quality Trading Policy and in August of 2007 EPA published Water Quality Trading Toolkit for Permit Writers. If the City is allowed the work with EPA, the Idaho Department of Environmental Quality (DEQ), and the Mid-Snake WAG to develop a pollution trading program, the city believes that it would be more cost effective for all the stakeholders and there would be greater environmental benefits to the Snake River. Since pollution trading is not new to DEQ or EPA it should not take to much effort to develop a policy.

At the June 16, 2009 Watershed Advisory Group (WAG) meeting the WAG approved TSS trading and will begin writing the guideline for trading (see Appendix A for the WAG letter to DEQ). The City has been working with the Twin Falls Canal Company to develop a partnership for TSS trading. Appendix B includes a recent letter from the canal company to the City that demonstrates their willingness to participate. The City has concluded based on discussions with the canal company that they will be able to generate more than sufficient TSS credits to meet the City's trading needs. Further, it is likely that the company would not have the resources to complete these TSS control projects on their own or in a timely way. Thus, the trading program will clearly meet EPA trading criteria in that water quality improvement will be secured in a more timely and cost-effective manner. The City requests that the permit include language that authorizes TSS trading with the provision that the TSS trading program is approved by both DEQ and EPA. This could be accomplished preferably with relatively minor language changes to the Pollutant Trading Appendix A to the permit, or at a minimum including specific permit reopener language in the schedule of compliance to allow for this relatively minor permit modification at the time when DEQ and EPA have approved the TSS trading program.

If a traditional design-bid-build delivery is planned to incorporate tertiary filtration into the WWTP, the process would have to be initiated by the end of 2009 to meet the proposed compliance schedule. The City's preferred method for meeting this is to utilize a TSS trading program as outlined above. Even though the design and installation of a filtration can be completed within the compliance schedule (i.e., by July 2014), this could present a challenge in coordinating with the associated trading program. The City believes that it should be able to facilitate the development of a trading program within one year of issuance of the permit. This is because the City has already identified a trading partner (Twin Falls Canal Company) that can generate sufficient trading credits for TSS to meet the trading City's needs. A more complicated basin-wide trading program would be more challenging but is not necessary for the City's needs. The City understands that both EPA and DEQ have constrained staff resources and cannot lead the program development. It is our opinion, however, that limited resources and lack of funding is not sufficient reason to impose millions of dollars of expenses on the City of Twin Falls' citizens. To avoid this outcome, the City is committed to providing the resources to develop this more limited trading program needed by the City.

Ultimately, the City understands that DEQ and EPA will have to approve the trading program, and thus some aspects of the trading program process are beyond the City's control. In the event that unforeseen obstacles arise in relation to trading, the City will then need sufficient time to complete the effluent filtration project if that is the only way

compliance can be achieved. As a result, the City requests that the final compliance date be set at July 1, 2015.

Summary of City Requests Regarding New TSS Limits

Based on the discussion above, the City makes the following specific requests regarding the new TSS limits and schedule of compliance:

- The TMDL WLA should be incorporated in the NPDES only as an annual limit of 146.4 tons per year.
- Appendix A, Pollutant Trading in the Upper Snake Rock Subbasin, should be modified to include authorization for TSS trading pending approval of the TSS trading program by DEQ and EPA. If that is not possible, then, as a minimum, the permit should provide specific reopener language, in the TSS schedule of compliance or elsewhere, so the permit can be reopened and modified at the time when a TSS trading program is developed and approved by DEQ and EPA.
- The TSS schedule of compliance should be modified to provide an additional year upfront at the beginning of the schedule to allow for development of the TSS trading program. All subsequent compliance dates in the existing schedule in the draft permit should then be moved back one year, with final compliance due on July 1, 2015.

Use of Incorrect River Design Flows

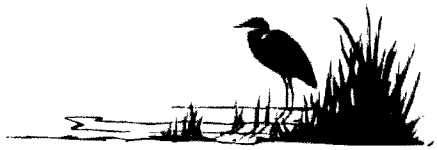
EPA used design river flow statistics derived from the flow record at the USGS gage near Kimberly. This gage provides a poor record of flows at the Twin Falls WWTP site because of substantial inflow of water from 70 springs and 3 coulees in the intervening 9 miles of river. The City believes that a single stream design flow of 1,302 cfs is the appropriate and defensible stream flow value to use for this permit cycle (see the more detailed rationale and recommendation in Appendix C).

The City understands that it is EPA's preference that the City establish a flow gage near its WWTP and develop a flow record specific to the site. From EPA's perspective, this flow record could then be used for future permits. In fact, based on earlier discussions with EPA, the City has already contracted with USGS to install and operate the gage (see Appendix D for a copy of the cooperative agreement recently signed with USGS). The gaging station has already been installed and became operational on July 10, 2009. Thus, the City has proactively moved to put this gage in place even before it would be required by the permit. As a result, we feel the compliance schedule is not necessary and should be removed from the permit.

Nonetheless, the City remains concerned with using the Kimberly gage for river design flows for this permit cycle for two main reasons:

Appendix A

June 19, 2009 Letter from Middle Snake River WAG to DEQ Regarding TSS Trading



MIDDLE SNAKE RIVER WATERSHED ADVISORY GROUP

1363 Fillmore St
Twin Falls ID 83301
Phone: (208) 736-2190
Fax: (208) 736-2194

June 19, 2009

To: Mr. Bill Allred
Regional Director
Idaho Department of Environmental Quality
Twin Falls Regional Office
1363 Fillmore Street
Twin Falls, ID 83301

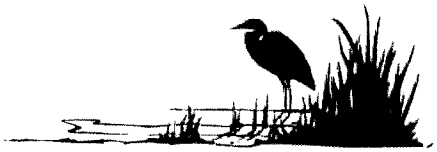
From: The Middle Snake River Watershed Advisory Group
Mike J Trabert P.E., Chairman
P.O. Box 1907
Twin Falls, Id 83303-1907

REF: Approval to Allow Total Suspended Solids (TSS) Pollution Trading within the Mid-Snake Watershed and to Develop a Watershed-Based Trading Policy for the Mid-Snake Watershed.

Dear: Mr. Allred

The Middle Snake Watershed Advisory Group (Mid-Snake WAG) is considering the creation of a technical advisory subcommittee (TAC) to investigate the current status of pollutant trading in Idaho and develop pollutant trading recommendations for TMDL pollutants within the Mid-Snake region. The initial focus of the subcommittee will be on Total Suspended Solids but it will eventually expand its examination to other TMDL pollutants.

IDAPA 58.01.02.054.06, entitled *Pollutant Trading* provides: *Development of TMDLs or equivalent processes or interim changes under these rules may include pollutant trading with the goal of restoring water quality limited water bodies to compliance with water quality standards.* We understand that the only pollutant presently contemplated for trading within the Mid-Snake Watershed is total phosphorus, but the Mid-Snake WAG believes the development of a water quality based trading program that would allow trading of all pollutants for which a TMDL has been developed, including temperature, phosphorus and total suspended solids, would be helpful in achieving water quality goals. We have reviewed the material on pollutant trading available on IDEQ's website, including the November 2003 draft *Pollutant Trading Guidance*, and are somewhat confused as to the status of the regulatory structure in Idaho with regard to pollutant trading. We understand that pollutant trading is voluntary and dependent on private contracts between pollutant buyers and sellers, but the state's role and involvement remains unclear from the draft guidance documents available. We would therefore appreciate your assistance and advice with regard to the (TAC). We could like to form the TAC as soon as possible.



The Mid-Snake WAG considers pollutant trading to be an important management tool for achieving water quality goals in the middle Snake and appreciates your attention to this important issue. Please let me know how you would like to proceed.

Sincerely,

Mike J. Trabert P.E.
Mid-Snake WAG Chairman

Appendix B

July 10, 2009 Letter from Twin Falls Canal Company to City of Twin Falls Regarding TSS Trading

TWIN FALLS CANAL COMPANY

357 6TH AVE WEST
POST OFFICE BOX 326
TWIN FALLS, IDAHO 83303-0326

July 10, 2009

Mike Trabert
Staff Engineer
City of Twin Falls

RE: Pollution trading partnership

Dear Mike,

Twin Falls Canal Company has been actively engaged in Total Maximum Daily Load (TMDL) implementation to meet Clean Water Act mandates for the Mid-Snake River for many years. We fully support the practice of Pollution Trading as an essential tool for the various industries, including agriculture, in meeting their load targets. More particularly, we are very interested in entering into a partnership with the City of Twin Falls to help both of us reach our Total Suspended Solids (TDS) load requirements. We feel that a pollution trading agreement between the canal company and the city will be more efficient, more economical for the taxpayer, and ultimately will remove more pollutants from the Snake River.

Again, we request that Pollution Trading Agreements be approved and implemented in the Mid-Snake TMDL. Please call me at 208-733-6731 if you have questions, or need more information from Twin Falls Canal Company.

Sincerely,

Brian Olmstead

Brian Olmstead
General Manager

Phone (208) 733-6731 Fax (208) 733-1958 www.tfcanal.com

EXHIBIT 3

Permit No.: ID-002127-0
Application No.: ID-002127-0

United States Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, Washington 98101

AUTHORIZATION TO DISCHARGE UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, 33 U.S.C. §1251 et seq., as amended by the Water Quality Act of 1987, P.L. 100-4, the "Act,"

CITY OF TWIN FALLS

is authorized to discharge from a municipal wastewater treatment facility located in Twin Falls (Twin Falls County), Idaho,

to receiving waters named Snake River, at approximate river mile 608.5 in accordance with discharge point(s), effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective May 1, 2000

This permit and the authorization to discharge shall expire at midnight, May 1, 2005

Signed this 28th day of March 2000.

Randall F. Smith
Director, Office of Water, Region 10
U.S. Environmental Protection Agency

I. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

A. Effluent Limitations.

During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge from Outfall 001 subject to the following conditions:

1. The pH of the effluent shall not be less than 6.0 nor greater than 9.0.

2. There shall be no discharge of floating solids, visible foam in other than trace amounts, or oily wastes which produce a sheen on the surface of the receiving water.

3. The following effluent limits shall apply:

EFFLUENT CHARACTERISTIC	UNIT OF MEASURE	AVERAGE MONTHLY	AVERAGE WEEKLY	MAXIMUM DAILY
Biochemical Oxygen Demand 5-day (BOD_5)	mg/l lb/day	30 1952	45 2928	--- ---
Total Suspended Solids (TSS)	mg/l lb/day	30 1952	45 2928	--- ---
Fecal Coliform Bacteria	#/100 ml	100	200	---
Total Residual Chlorine*	mg/l	0.012	---	0.033
Total Phosphorus**	lbs/day	710	1400	---
Total Ammonia as N May 1 - September 30	mg/l lb/day	3.8 247	--- ---	5.4 351
Total Ammonia as N October 1 - April 30	mg/l lb/day	5.2 338	--- ---	7.5 488

*Applies only when the chlorine disinfection system is in use. EPA has set forth reporting thresholds to measure the highest acceptable quantification levels for total residual chlorine. The reporting thresholds do not authorize discharge in excess of the effluent limits. For more information, see special conditions on the last page of this permit. The value reported may be designated as the detection limit for chlorine (0.05 mg/l), based upon the DPD or amperometric method described by Standard Methods, 17th edition, Section 4500-Cl G.

**The total phosphorus limitation is effective beginning on August 30, 2004, consistent with Section I.E.

4. Percent removal requirements for BOD_5 and TSS are as follows: For any month, the monthly average effluent concentration shall not exceed 15 percent of the

EXHIBIT 4

As will be demonstrated in §3.5.7, spring sources provide a small amount of TSS to a number of segments on the Middle Snake River and to a number of tributaries. Their contribution to TSS pollution is based on known TSS data from USGS, IDEQ-TFRO, and ERI; this information was tabulated and averaged to arrive at a mean value of 1.3 mg/L TSS for spring sources. It is recognized that the value of 1.3 mg/L may represent a high TSS value particularly since the values reported as < MDL were divided by 2 to arrive at an estimate value for the individual facility or waterbody. Additionally, the spring sources may be coupled with fish hatchery effluent and dependent on the particular waterbody may have the effluent combined with the overall TSS estimate for the particular spring source. Each section is self-contained and has its own explanation as to how the derivation of the TSS load was achieved. As a whole, known spring sources were included in the calculation for derivation of unknown spring sources. No reductions are proposed for spring sources at this time. Their TSS contributions are considered a part of natural background.

2. POINT SOURCES

As will be demonstrated in §3.5.7, point sources provide a small amount of TSS (as a whole) to any of the segments on the Middle Snake River. Tributaries vary widely in their point source TSS pollution to their associated waterbodies. However, in general, most tributaries provide a small fraction of TSS pollution from point sources. Yet, some tributaries provide a major portion of their TSS pollution from point sources. These are addressed according to individual streams and defined as such in the load analysis. No additional reductions are proposed for any of the point sources discharging directly or indirectly to the Middle Snake River at this time since these have undergone a permit change this year which addresses TSS. As more TSS information is provided by the point sources over the next 3-5 years a re-evaluation of TSS loads may be necessary if exceedences occur beyond the current level of practice. Food processors that impact the Middle Snake River are located above Milner Dam as described in §3.2.2 and are considered a component of the background entering Segment 1 along with water from the Milner Pool area. Other food processors within the boundaries of the Upper Snake Rock sub basin discharge to municipalities or land apply. Muncipalities as described in §3.2.3 discharge into the Milner Pool and are considered background like food processors; or, they discharge to tributaries or directly to the Middle Snake River and are accounted in the table of allocations in §3.5. Aquaculture is described fully in the table of allocations as either discharging directly to the Middle Snake River or discharging to a tributary or spring.

3. NONPOINT SOURCES

The Upper Snake Rock TMDL will follow the same definition of water user nonpoint source industry as described in the Mid-Snake TMDL: CFOs and/or CAFOs, irrigated agriculture, grazing, hydroelectric power, urban runoff, construction, land disposal, silviculture, bank erosion, and recreation. The hydroelectric industry does not contribute nutrients to the Middle Snake River and so carries a zero load. USEPA considers CFOs point sources only if an NPDES permit has been applied for and issued. For CFOs (and/or CAFOs), all processed waste must be contained and discharges are allowed only for runoff exceeding a 25-year, 24-hour storm event or in 1 in 5-year winter precipitation on permitted facilities. All other CFOs (and/or CAFOs) are not allowed to discharge. Penalty for discharge for dairy CFOs is revocation of their milk permit by the IDA who currently inspects the operations under the Idaho Dairy Memorandum of Understanding.

4. SURFACE WATERBODIES

As will be demonstrated in §3.5.7, surface waterbodies (natural tributaries and irrigation return drains) provide a major portion of the TSS pollution. Based on known data, TSS reductions to < 52.0 mg/L are described on a per waterbody basis. Based on this data, an average TSS value for these waterbodies was derived and

Prepared by IDEQ-TFRO. REDUCT = Reduction. TOTAL = Summation of all Sub Totals in the Table. See Appendix D*(Section VII, Segment 6)* for details of derivation and calculations. TSS reductions are 0.0% for point sources, 0.0% for spring sources, 25.8% for surface waterbodies, 33.3% for the instream portion of the Middle Snake River, or an overall 32.8% TSS reduction.
1. CFOs and/or CAFOs also includes smaller dairies, all feedlots, and smaller confined feeding operations that do not have and NPDES stormwater permit.

3.5.2.7 TSS LOADING ANALYSIS SUMMARY AND ASSESSMENT

Table 106 summarizes the loading analysis per segment input into the Middle Snake River system. The summary is based on gross totals for the specific input sources defined. All surface waterbodies shall reduce to reach the instream target of < 52.0 mg/L TSS (or 51.9 mg/L). Other water user industries (CFOs and/or CAFOs, hydroelectric power, and land application facilities) have a load of zero and are not listed in Table 106.

Table 106 TSS loading analysis summary for the Middle Snake River system

Segment	Point Sources (A)	Spring Sources (B)	Surface Waterbodies (C)	Snake River Segment (D)	TOTAL (A+B+C+D)
WY1990-1991 BASELINE MEAN LOAD, tons/year					
1: MD to PF	1.3	723.8	15,395.0	7,945.4	24,065.5
2: PF to CS	2,428.2	39.0	30,159.8	7,623.7	40,250.7
3: CS to BC	3,596.5	1,375.3	26,245.6	48,372.7	79,590.1
4: BC to GB	111.2	2,715.3	5,704.4	31,839.1	40,369.9
5: GB to SB	822.0	371.2	31,078.3	10,977.2	43,248.8
6: SB to KH	0.0	317.5	5,020.8	88,186.6	93,524.9
Total	6,959.2	5,542.1	113,603.9	194,944.7	321,049.9
WY2004 & WY2009 MEAN LOAD ALLOCATION, tons/year					
1: MD to PF	1.3	723.8	8,744.4	5,299.6	14,769.0
2: PF to CS	2,428.2	39.0	14,929.1	5,085.0	22,481.3
3: CS to BC	3,596.5	1,375.3	21,127.7	32,264.6	58,364.1
4: BC to GB	111.2	2,715.3	4,432.3	21,236.7	28,495.4
5: GB to SB	822.0	371.2	27,877.2	7,321.8	36,392.3
6: SB to KH	0.0	317.5	3,725.4	58,820.5	62,863.4
Total	6,959.2	5,542.1	80,836.1	130,028.1	223,365.5
% Reduction	0.0%	0.0%	28.8%	33.3%	30.4%

Prepared by IDEQ-TFRO. TSS source contributions may be categorized as follows: Before Reduction—2.2% point sources, 1.7% spring sources, 35.4% surface waterbodies, and 60.7% Middle Snake River instream segment; After Reduction—3.1% point sources, 2.5% spring sources, 36.2% surface waterbodies, and 58.2% Middle Snake River instream segment. The overall categorization of each segment in the Middle Snake River for TSS is: Before Reduction—7.5% MD to PF, 12.5% PF to CS, 24.8% CS to BC, 12.6% BC to GB, 13.5% GB to SB, 29.1% SB to KH; After Reduction—6.6% MD to PF, 10.1% PF to CS, 26.1% CS to BC, 12.8% BC to GB, 16.3% GB to SB, and 28.1% SB to KH.

The Upper Snake Rock Watershed Management Plan's TSS loading analysis accounts for point sources, spring sources, surface waterbodies (tributaries and irrigation return flows), and the Middle Snake River segment that receives these various inputs. Point sources (which account for 2.2% before reduction and 3.1% after reduction of the total mean load) already have imposed NPDES permit limits which will be reviewed at the end of Year 5 of plan implementation. Spring sources (which account for 1.7% before reduction and 2.5% after reduction of the total mean load) are probably at the highest level of TSS based on the mean value taken for various known springs (or 1.3 mg/L TSS) for estimated TSS values. The values are probably less than what is indicated because a greater portion of the values were much less than 1.3 mg/L TSS. Surface waterbodies (which account for 35.4% before reduction and 36.2% after reduction of the total mean load) include tributaries and irrigation return flows and will reduce to instream target values < 52.0 mg/L TSS. These reductions will meet beneficial uses and State water quality standards for sediment. The Middle Snake River segments (which account for 60.7% before reduction and 58.2% after reduction of the total mean load) will also have reductions based on land use estimation from the stream corridor approach model for nonpoint sources. These reductions will meet beneficial uses and State water quality standards for sediment.

An assessment of Table 106 indicates that the overall TSS from the various sources ranks as follows:

	TSS Reductions		
Waterbody	Before	After	Mean
Snake River Segment	60.7%	58.2%	59.4%
Surface Waterbodies	35.4%	36.2%	35.8%
Point Sources	2.2%	3.1%	2.7%
Spring Sources	1.7%	2.5%	2.1%

Point Sources = Fish Hatcheries and Municipalities
Spring Sources may include some fish hatcheries not directly discharging to the river.

For each segment within the Middle Snake River, the categorization and ranking of TSS is as follows:

Segment	TSS % of Total		
Rank Order	Before	After	Mean
SB to KH	29.1%	28.1%	28.6%
CS to BC	24.8%	26.1%	25.5%
GB to SB	13.5%	16.3%	14.9%
BC to GB	12.6%	12.8%	12.7%
PF to CS	12.5%	10.1%	11.3%
MD to PF	7.5%	6.6%	7.1%

CS to BC is known to have the greatest macrophyte nuisance vegetation growing under low flow conditions. SB to KH is known to have the greatest level of TSS under high flow conditions. The greatest impact from TSS to the Middle Snake River appears to come from the Middle Snake River corridor, followed by surface waterbodies. Point sources and spring sources appear to be the lowest impactor to the system. This does not necessarily hold true for smaller waterbodies when comparing point versus nonpoint sources as is described as follows:

	TSS Impact Estimates	
Waterbody	Point Sources	Nonpoint Sources
Rock Creek	1.3%	98.7%
Clear Springs and Lake	83.4%	16.6%

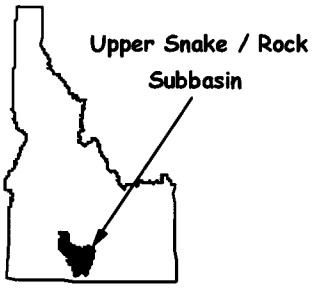
TMDL Executive Summary

Upper Snake / Rock Subbasin TMDL

July 2000

TMDL AT A GLANCE:

Subbasin:	***Upper Snake / Rock***
Key Resource:	***Cold Water Biota***
Uses Affected:	***Salmonid Spawning***
	Primary / Secondary Contact Recreation
Pollutants:	***Sediment***
	Phosphorus
	Fecal Coliform Bacteria
Sources Considered:	***PS - Aquaculture, Municipal, Industrial***
	NPS - Agriculture, Forestry, Grazing, Construction, Urban, Animal Feeding Operations



Index

Fecal Coliform: Idaho's water quality standards identify numeric criteria for fecal coliform bacteria to protect both primary and secondary contact recreation [IDAPA §16.01.02.100.03 and §16.01.02.250.01]. For primary contact recreation, the numeric criteria is not to exceed 500 colonies / 100 mL at any time, 200 colonies / 100 mL in more than ten percent of the total samples taken over a 30-day period, and a geometric mean of 50 colonies / 100 mL based on a minimum of five samples taken over a 30-day period. For secondary contact recreation, the numeric criteria is not to exceed 800 colonies / 100 mL at any time, 400 colonies / 100 mL in more than ten percent of the total samples taken over a 30-day period, and a geometric mean of 200 colonies / 100 mL based on a minimum of five samples taken over a 30-day period. Instream water quality targets for fecal coliform are discussed in the USRWMP *(see Section 3.1.3, pages 170-173)* and are set at 400 colonites / 100 mL. As of April 5, 2000 Idaho has adopted E. coli criteria to replace the fecal coliform criteria, as recommended by EPA in 1986. A revised TMDL will be developed at a later date taking these new criteria into account. In the meantime implemetation to address fecal coliform loading is expected to also reduce E. coli loading.

4. LOADING CAPACITY

Loading capacities for TSS and total phosphorus in the Upper Snake / Rock Subbasin TMDL are calculated as an annual average load (tons/year). Determination of the loading capacity is a function of streamflow and target concentrations. While total phosphorus(TP) loading capacity was calculated as an annual load, allocations of TP are expressed as lbs/day to facilitate NPDES permiting and comparison to the Mid-Snake TP TMDL approved in 1997. Its reductions in annual loading of TP that are expected to be effective in meeting water quality criteria. The relationship of these parameters to identification of the loading capacity and subsequent development of the TMDL is discussed below.

Streamflow: The U.S. Geological Survey (USGS) has five long term stations on the mainstem Mid Snake in the subbasin. Because a significant volume of water is diverted at Milner Dam (e.g. the head of the Upper Snake / Rock Subbasin), a sixth long term gage on the mainstem Snake River gives a useful perspective. These USGS streamflow gages are identified in Table 2 and provide information which was considered in the review of the Upper Snake / Rock TMDL. The effect of water withdrawals from the Snake River below Minidoka is shown in Figure 1 using the USGS data. Figure 1 also illustrates how the Mid-Snake gains water through the US/R subbasin from spring sources and irrigation return flow. In general, the flow design of the TMDL was based on an annual low flow. This accounted for the worst case scenario for pollution concerns.

EXHIBIT 7

Upper Snake Rock Watershed Management Plan

(Including the Upper Snake Rock TMDL Modification (2005), Upper Snake Rock Watershed Management Plan (2000) and Middle Snake River Watershed Management Plan (1997))

5-Year TMDL Review (1997-2008)

Draft

Department of Environmental Quality

March 2009

8. The water quality data was entered into a database; and statistical analysis of the data was conducted and determined by DEQ based on meeting beneficial use attainment provisions and TMDL water quality standards.

9. In order to provide a measure of accountability and potential credit, the year 2000 (or the year that the Upper Snake Rock TMDL was approved) will be used as the baseline year to draw comparisons for post-TMDL applications.

5.2 Changes in Subbasin

DEQ is currently researching elevated nitrogen levels from spring sources within the Upper Snake Rock Watershed. (Times News 11/18/08)

- Changes to land use, WQS, sources, allocations, etc.
- Statistical or other significance of those changes to the TMDL

5.3 TMDL Analysis

With some exceptions, the overall TMDL assumptions are still valid. However, when considering wasteload allocations for fish processors in the Upper Snake Rock Modification a baseline was established using data from 2000-2003 EPA Discharge Monitoring Reports. The next iteration or review of the TMDL will take into consideration changes in ownership within facilities.

For the Billingsley Creek TMDL, Weatherby Springs Creek a tributary to Billingsley Creek had one point source identified, Jones Fish Hatchery, within the Upper Snake Rock Modification. Based on the current NPDES, the TMDL identified one discharge from Jones Fish Hatcher to Weatherby Springs Creek. If connectivity to the Snake River can be confirmed, a revision may need to be considered reflecting the Jones Fish Hatchery having two (2) discharges; one to Weatherby Springs Creek and a second to the Bar S Ditch (which may or may not discharge to the Snake River).

The original analysis were appropriate for the development of the TMDL. However, current data also confirms in most instances that the original analysis was appropriate.

Wasteload Allocations and Load Allocations are appropriate for beneficial uses on the Snake River and tributaries. No changes to the allocations are proposed.

5.4 Review of Beneficial Uses

The original beneficial uses are appropriate and no changes are recommended at this time. In general, the sediment and *E. coli* components meet beneficial uses for the Snake River. Total Phosphorus fails to meet beneficial uses for the Snake River.

5.5 Water Quality Criteria

This section summarizes the water quality criteria used, how these have been changed (if changed), the appropriateness of those changes, the implementation of the TMDL and its effects on the water quality, and any warranted changes based on the data collected.

- <u>What criteria have changed that affects the TMDL?</u>

  With the exception of E.coli criterion, no other criteria have changed that affects the TMDL. This includes the IDAPA numeric criteria as well as the TMDL numeric criteria for excess sediment and

excess nutrients. The E.coli criterion was changed from the fecal coliform surrogate standard by the Idaho Legislature in 2000 to conform to the EPA recommended criterion.

- Is the change in criteria appropriate?

  The change in the E.coli criterion from the fecal coliform surrogate is appropriate and is presently being applied in NPDES point source permits and in nonpoint source streams.

- Has the TMDL been implemented?

  The Upper Snake Rock TMDL was approved in 1997 with supplemental documents following in 2000 and 2005. The Upper Snake Rock TMDL has been under implementation planning since 1997. As shown in the water quality monitoring of the Snake River:

  1) E. coli data was not collected prior to the Upper Snake Rock TMDL, fecal coliform was collected as the bacteria indicator within the water quality standards. After the TMDL was approved, the Snake River is at full support.
  2) TP data indicates that the Snake River was not at full support before the Upper Snake Rock TMDL. After the TMDL was approved, the Snake River was not at full support.
  3) TSS data indicates that the Snake River was at full support before the Upper Snake Rock TMDL. After the TMDL was approved, the Snake River was still at full support.

- What changes in criteria may be warranted based on the data?

  No changes in the criteria are warranted or suggested at this time based on the water quality data.

5.6 Watershed Advisory Group Consultation

In addition, the Upper Snake BAG was also involved with providing consultation to DEQ on the Upper Snake Rock 5-Year Review immediately after the Upper Snake Rock TMDL was completed and approved by EPA. A summary of the official Upper Snake BAG meetings is summarized in Table X.

Table X. Summary of the Mid Snake WAG Meetings since 2000

Date	Location	Attendance		Date	Location	Attendance
2000 – January 19	Twin Falls	20		2004 – July 21	Twin Falls	18
2000 – March 15	Twin Falls	19		2004 – November 17	Twin Falls	13
2000 – May 17	Twin Falls	21		2004 – September 15	Twin Falls	18
2000 – July 19	Twin Falls	16		2005 – February 16	Twin Falls	21
2000 – September 20	Twin Falls	23		2005 – May 18	Twin Falls	22
2000 – November 15	Twin Falls	19		2005 – August 17	Twin Falls	17
2001 -				2005 – November 16	Twin Falls	12
2002 – January 16	Twin Falls	17		2006 – February 15	Twin Falls	20
2002 – March 20	Twin Falls	21		2006 – May 17	Twin Falls	12
2002 - July 17	Twin Falls	23		2006 – September 20	Twin Falls	Agenda
2002 – September 18	Twin Falls	Agenda		2007 – January 24	Twin Falls	15
2002 – November 20	Twin Falls	12		2007 – April 18	Twin Falls	18

EXHIBIT 8

October 2008

EPA Water Quality Trading Evaluation

Final Report

Promoting Environmental Results Through Evaluation

CHAPTER 1 | INTRODUCTION

Water quality trading (WQT) offers a promising approach to controlling pollutants from multiple sources that collectively impact water quality conditions. Traditionally under the Clean Water Act, controls were mostly focused on pollutants with local impact from particular point sources, such as wastewater plants. As the focus of efforts to protect water quality has shifted to include pollutants whose collective impact is felt downstream, it is not always necessary or cost-effective to control pollutants at specific locations. Alternatively, some pollutants can be controlled across multiple sources within a watershed; nitrogen, phosphorus, and sediment are the three pollutants EPA most commonly recognizes as having such potential.

The primary potential benefit of WQT that attracts consideration by policy makers is the potential ability to control pollutants at an overall lower cost to society. In its most simple form of point-to-point trading, water quality trading allows one point source to over control for a pollutant at a low cost, selling the over control as "credits" to another point source that is not able to reduce pollutants as cost-effectively. Through the trade, the second point source can achieve its share of responsibility at a lower cost, the first point source can recoup part of its costs, local water quality is not negatively impacted, and downstream water quality is improved. Other potential benefits of greater flexibility include the ability to better plan capital intensive upgrades, and better time such upgrades within existing financial options (such as retirement of previous debt obligations prior to incurring new debt obligations).

A less tangible but no less real benefit of water quality trading is the increased incentive for innovation. Even if a point source purchases "credits," the water quality trading program creates incentives for the point source to find low-cost ways to reduce pollutants, to reduce the need to purchase credits. At the same time, a point source selling such credits has added incentive to maintain the performance of their pollutant controls since doing so translates into more credits for sale. Both incentives work in balance to achieve the needed reduction of a pollutant at the overall lowest cost to society, and for all parties involved.

Finally, pollutant sources not traditionally regulated, most notably non-point pollutants from agriculture, are the primary source of water quality impairment in many watersheds. WQT provides a framework wherein pollutants can be voluntarily reduced by farmers for the purpose of selling credits. As such, WQT is one of few current tools that EPA has to address unregulated discharges.

EXHIBIT 9

Water Quality Trading

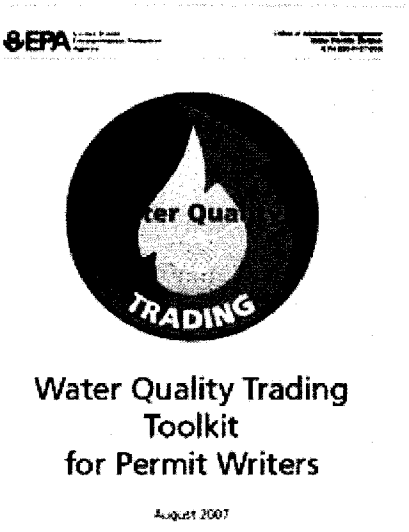
Water Quality Trading Toolkit for Permit Writers

Aug. 2007, EPA-833-R-07-004

You will need Adobe Reader to view some of the files on this page. See EPA's PDF page to learn more.

The *Water Quality Trading Toolkit for Permit Writers* is EPA's first "how-to" manual on designing and implementing water quality trading programs. The Toolkit helps National Pollutant Discharge Elimination System (NPDES) permitting authorities incorporate trading provisions into permits. It will help improve the quality and consistency of all trading programs across the nation.

- Factsheet
- Questions and Answers



Water Quality Trading Toolkit for Permit Writers

- Fundamentals of Water Quality Trading (PDF) (55 pp, 1.7MB, About PDF)
- Water Quality Trading Scenarios
  - Single Point Source – Single Point Source Trading Scenario (PDF) (22 pp, 449K)
  - Multiple Facility Point Source Trading Scenario (PDF) (22 pp, 685K)
  - Point Source Credit Exchange Trading Scenario (PDF) (24 pp, 496K)
  - Point Source – Nonpoint Source Trading Scenario (PDF) (34 pp, 1.2MB)
  - Nonpoint Source Credit Exchange Trading Scenario (PDF) (38 pp, 868K)
- Keys to Success Poster (PDF) (1 pp, 89K)
- Glossary (PDF) (6 pp, 97K)
- References (PDF) (2 pp, 72K)

- Appendices:
  - Appendix A: Water Quality Trading Program Fact Sheets (PDF) (120 pp, 1.1MB)

    This appendix includes 12 detailed case studies of existing trading programs. In particular it focuses on data and methodologies used to develop the basis for the program and includes actual permit language detailing trading provisions.

  - Appendix B: EPA's 2003 National Water Quality Trading Policy (PDF) (14 pp, 3.1MB)
  - Appendix C: Water Quality Trading Forms (PDF) (20 pp, 3.6MB)
  - Appendix D: Use of EPA Cost Share (PDF) (6 pp, 93K)
  - Appendix E: Permit Writers' Checklists (PDF) (14 pp, 138K)

- Download the entire document (508-compliant version):
  - Part 1: Fundamentals and Scenarios (PDF), (203 pp, 4.8MB)
  - Part 2: Appendices (PDF), (174 pp, 7.8MB)

How to use this document

Developing NPDES Permits for Specific Trading Scenarios

Once a NPDES permit writer has a clear understanding of the fundamentals of water quality trading in general and how the specific characteristics of the trading program involving regulated point sources will affect development of the NPDES permit, he or she should then begin to develop a NPDES permit that incorporates trading. To do this, the permit writer should determine the appropriate type of permit for the trading scenario and decide how the trading scenario can be incorporated into a NPDES permit.

What Type of Permit Best Suits the Trading Scenario?

The rest of this toolkit is arranged by type of trading scenario. There are some trading scenarios that are more conducive to watershed or general permits and some scenarios where individual permits are the best mechanism. For more on permitting, see EPA's series of guides on watershed-based permitting including the *Watershed-based National Pollutant Discharge Elimination System (NPDES) Permitting Implementation Guidance* (USEPA 2003b). Before a permitting authority can begin including water quality trading requirements in a NPDES permit, it should first determine the type of permit that is most appropriate for the parties involved in the trade or trades and the manner in which trading is conducted. There are two basic types of permits—a permit that covers a single point source and a permit that covers a group of point sources. A single point source permit is a permit specifically tailored to an individual facility and is commonly referred to as an individual NPDES permit. The permittee applies for a permit, and the permitting authority develops a permit for that particular facility on the basis of information contained in the permit application and other data submitted by the permittee or assembled from other sources. A permit also may be issued to a group of point sources. Some permitting authorities have issued permits that cover multiple sources but address only the particular pollutant or pollutants for which credits may be traded. This type of permit is issued in addition to the existing permits for the facilities involved and, hence, often is referred to as an *overlay* permit.

How Can the Trading Scenario Be Incorporated Into a NPDES Permit?

Trading may be incorporated into NPDES permits in a number of ways depending on the specifics of the trade. In some situations, the trade provisions may be reflected in the permit limits or other permit conditions imposed on the trading partners through the permit. Regardless of how water quality trades are included in NPDES permits, it is imperative that NPDES permitting authorities ensure the trades meet specific criteria such as enforceability, accountability, transparency, and consistency with water quality standards.

The permit should clarify what constitutes compliance with permit conditions, explain the measurement and timing of compliance, address compliance issues related to meeting permit limits using water quality trading, and address compliance schedules. Most state water

EPA does not support any trading activity that would delay implementation of a TMDL approved or established by EPA or that would cause the combined point source and nonpoint source loadings to exceed the cap established by a TMDL.

4. Technology-Based Trading. EPA does not support trading to comply with existing technology-based effluent limitations except as expressly authorized by federal regulations. Existing technology-based effluent guidelines for the iron and steel industry allow intraplant trading of conventional, nonconventional and toxic pollutants between outfalls under certain circumstances (40 CFR 420.03).

EPA will consider including provisions for trading in the development of new and revised technology-based effluent guidelines and other regulations to achieve technology-based requirements, reduce implementation costs and increase environmental benefits.

5. Pretreatment Trading. EPA supports a municipality or regional sewerage authority developing and implementing trading programs among industrial users that are consistent with the pretreatment regulatory requirements at 40 CFR Part 403 and the municipality's or authority's NPDES permit.

6. Intra-Plant Trading. EPA supports intra-plant trading that involves the generation and use of credits between multiple outfalls that discharge to the same receiving water from a single facility that has been issued an NPDES permit.

F. Alignment With The CWA. Provisions for water quality trading should be aligned with and incorporated into core water quality programs. EPA believes this may be done by including provisions for trading in water quality management plans, the continuing planning process, watershed plans, water quality standards, including antidegradation policy and, by incorporating provisions for trading into TMDLs and NPDES permits.

When developing water quality trades and trading programs, states and tribes should, at a minimum, take into account the following provisions of the CWA and implementing regulations:

1. Requirements to Obtain Permits. Sources and activities that are required to obtain a federal permit pursuant to Sections 402 or 404 of the CWA must do so to participate in a trade or trading program.

2. Incorporating Provisions For Trading Into Permits. In some cases, specific trades may be identified in NPDES permits, including requirements related to the control of nonpoint sources where appropriate. EPA also supports several flexible approaches for incorporating provisions for trading into NPDES permits: i) general conditions in a permit that authorize trading and describe appropriate conditions and restrictions for trading to occur, ii) the use of variable permit limits that may be adjusted up or down based on the quantity of credits generated or

used; and/or, iii) the use of alternate permit limits or conditions that establish restrictions on the amount of a point source's pollution reduction obligation that may be achieved by the use of credits if trading occurs. EPA also encourages the use of watershed general permits, where appropriate, to establish pollutant-specific limitations for a group of sources in the same or similar categories to achieve net pollutant reductions or water quality goals through trading. Watershed permits issued to point sources should include facility specific effluent limitations or other conditions that would apply in the event the pollutant cap established by the watershed permit is exceeded.

3. Public Notice, Comment and Opportunity For Hearing. Notice, comment and opportunity for hearing must be provided for all NPDES permits (40 CFR 124). NPDES permits and fact sheets should describe how baselines and conditions or limits for trading have been established and how they are consistent with water quality standards. EPA does not expect that an NPDES permit would need to be modified to incorporate an individual trade if that permit contains authorization and provisions for trading to occur and the public was given notice and an opportunity to comment and/or attend a public hearing at the time the permit was issued.

4. Consistency With Standard Methods. Where methods and procedures (e.g., sampling protocols, monitoring frequencies) are specified by federal regulations or in NPDES permits, they should continue to be used where applicable for measuring compliance for point sources that engage in trading. EPA believes this is necessary to provide clear and consistent standards for measuring compliance and to ensure that appropriate enforcement action can be taken.

5. Protecting Designated Uses. EPA does not support any use of credits or trading activity that would cause an impairment of existing or designated uses, adversely affect water quality at an intake for drinking water supply or that would exceed a cap established under a TMDL.

6. Antibacksliding. EPA believes that the antibacksliding provisions of Section 303(d)(4) of the CWA will generally be satisfied where a point source increases its discharge through the use of credits in accordance with alternate or variable water quality based effluent limitations contained in an NPDES permit, in a manner consistent with provisions for trading under a TMDL, or consistent with the provisions for pre-TMDL trading included in a watershed plan.

These antibacksliding provisions will also generally be satisfied where a point source generates pollution reduction credits by reducing its discharge below a water quality based effluent limitation (WQBEL) that implements a TMDL or is otherwise established to meet water quality standards and it later decides to discontinue generating credits, provided that the total pollutant load to the