Weiser River Total Phosphorus Allocations Addendum to the Snake River-Hells Canyon TMDL

Department of Environmental Quality

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DRAFT

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Executive Summary

The federal Clean Water Act requires that states and tribes restore and maintain the chemical, physical, and biological integrity of the nation's waters. States and tribes, pursuant to Section 303 of the Clean Water Act, are to adopt water quality standards necessary to protect fish, shellfish, and wildlife while providing for recreation in and on the waters whenever possible. Section 303(d) of the Clean Water Act establishes requirements for states and tribes to identify and prioritize water bodies that are water quality limited (i.e., water bodies that do not meet water quality standards). States and tribes must periodically publish a priority list of impaired waters, currently every two years. For waters identified on this list, states and tribes must develop a total maximum daily load (TMDL) for the pollutants, set at a level to achieve water quality standards. This document addresses the water bodies in the Weiser River Watershed that have been placed on what is known as the "§303(d) list."

The Snake River – Hells Canyon is one of the water bodies on Idaho's current §303(d) list of water quality limited water bodies. The Weiser River is a tributary to the Snake River – Hells Canyon.

The Snake River – Hells Canyon TMDL has been developed to comply with Idaho's total maximum daily load schedule and was approved by the U.S. Environmental Protection Agency in July 2004. This addendum provides total phosphorus load allocations for nonpoint sources and wasteload allocations for point sources in the Weiser River Watershed needed to meet reductions in the Snake River – Hells Canyon TMDL.

Phosphorus is one of the nutrient types of pollutant. A discussion of the water quality criteria for nutrients can be found on pages 62 through 66 of the Weiser River Watershed Subbasin Assessment and Total Maximum Daily Load, which was approved by the U.S. Environmental Protection Agency in January 2007. The total phosphorus target throughout the watershed is 0.07 mg/L, to achieve Snake River – Hells Canyon TMDL goals even though no uses in the Weiser River are impaired by phosphorus.

The Summary of Assessment Outcomes for the Weiser River Watershed is presented in Table 1. The only point sources in the Weiser River Watershed are two wastewater treatment plants (WWTPs), one in the City of Cambridge and one in the City of Council, which are shown on the map in Figure 1.

Public Involvement

The Weiser Watershed Advisory Group held meetings on March 15 and April 19, 2007. In these meetings they reviewed the phosphorus allocations in this document and voted to send the document out for public comment after May 25, 2007, to allow time for the municipal dischargers in the watershed to provide input. No comments were received.

Table 1. Summary of Assessment Outcomes. Weiser River Watershed[a].

Water Body	Assess-ment Unit (HUC 17050124)	TMDLs/ Allocations Completed	Recommended Changes to §303(d) List	Recommended Schedule Changes	Justification
Weiser River, Upper (West Fork Weiser River to Little Weiser River)	SW007_05	Total Phosphorus	None	None	Wasteload allocations for Cambridge and Council only.
Weiser River, Middle (Little Weiser River to Galloway Dam)	SW001_05 SW007_05	Total Phosphorus	None	None	Load allocations for nonpoint sources.
Little Weiser River, (Indian Valley to Weiser River)	SW008_03 SW008_04	Total Phosphorus	None	None	Load allocations for nonpoint sources.
Weiser River, Lower (Galloway Dam to Snake River)	SW001_05	Total Phosphorus	None	None	Load allocations for nonpoint sources.
Mann Creek, (Mann Creek Reservoir to Weiser River)	SW030_03	Total Phosphorus	None	None	Load allocations for nonpoint sources.
Cove Creek, (Headwaters to Weiser River)	SW002_02	Total Phosphorus	None	None	Load allocations for nonpoint sources.
Crane Creek, (Crane Creek Reservoir to Weiser River)	SW003_05	Total Phosphorus	None	None	Load allocations for nonpoint sources.
Crane Creek Reservoir	SW004_04 SW004L_04L	Total Phosphorus (Allocation delayed)	None	Delay action until 2007	Additional study of reservoir water quality and assessment of designated uses

a Medium gray-shading indicates middle portion of the Weiser River; dark gray shading indicates lower portion.
b Total phosphorus allocations have been developed.

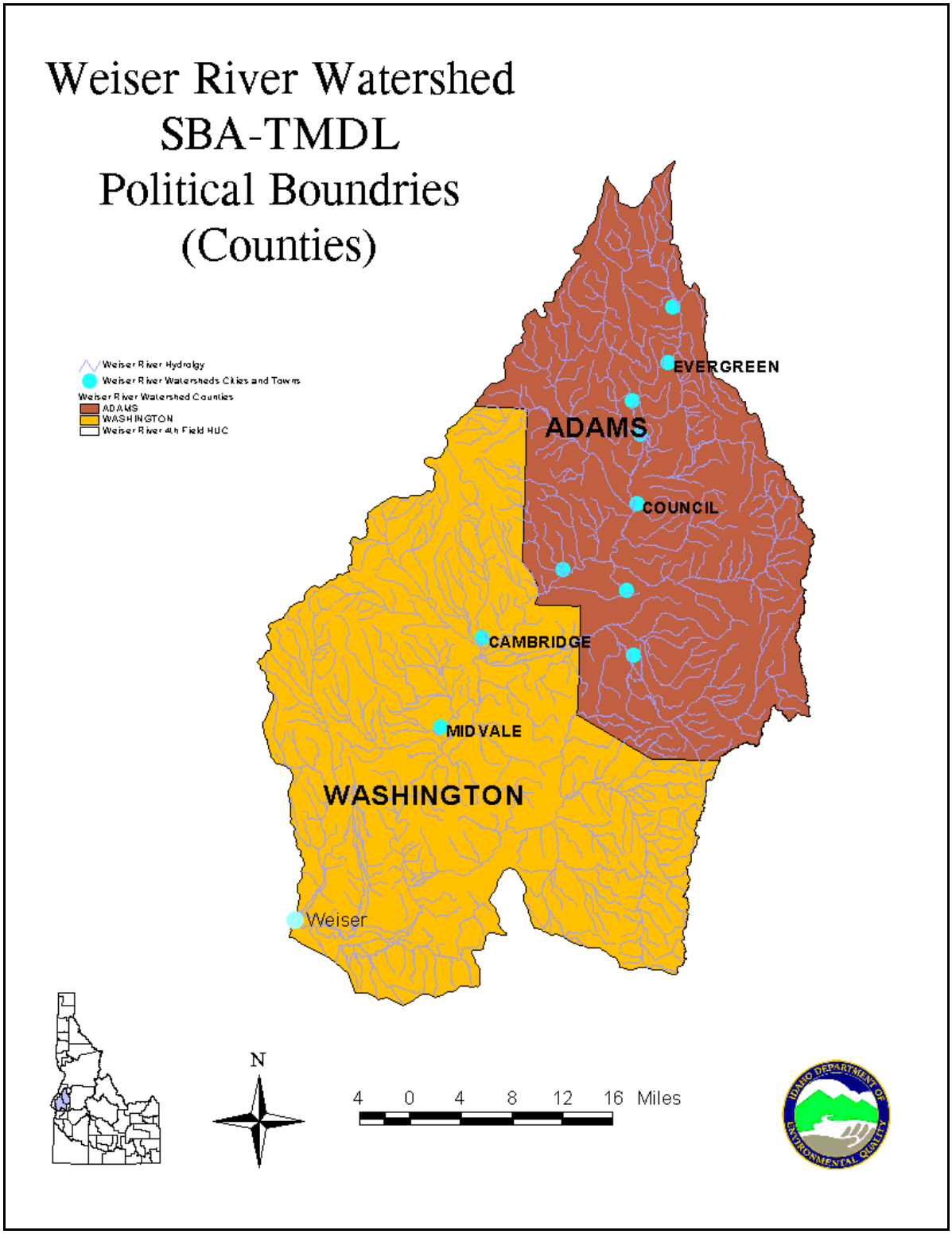

Figure 1. Counties and cities in the Weiser River Watershed.

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1 Subbasin Assessment – Watershed Characterization

The Weiser River and its major tributaries are shown in Figure 2. The upper portion includes the headwaters and West Fork, the middle portion begins where the Little Weiser River enters, and the lower portion begins at Galloway Dam, although the subwatershed boundary is shown on the map at the Crane Creek confluence. The only point sources in the watershed are two wastewater treatment plants (WWTPs), one in Cambridge and one in Council, both of which are in the upper portion.

Because of the extreme high and low discharges associated with the Weiser River, normalized discharge was used in load analysis.

Further characterization of the Weiser River watershed is included in the Weiser River Subbasin Assessment and Total Maximum Daily Load (Idaho DEQ 2007).

1.1 Pollutant Source Inventory and Analysis for Total Phosphorus

This addendum calls for wasteload allocations for the point sources and a load allocation for the nonpoint sources of phosphorus in the Weiser River watershed. This section identifies those sources.

1.1.1 Point Sources

The WWTPs in Cambridge and Council have been given wasteload allocations, which should be incorporated into their National Pollution Discharge Elimination System (NPDES) permits when re-issued. Currently, the facilities can meet the allocations. However, any future expansion could mean that the facilities must either reuse (land-apply) wastewater, upgrade to biological nutrient removal or integrate another phosphorus removal process, and/or engage in pollutant trading as part of expansion in order to meet their TMDL allocations.

As part of the implementation plan for this addendum, each wastewater treatment facility will be required to write a nutrient reduction plan. These allocations do not preclude these facilities from incorporating effluent trading into their nutrient management plans. The wasteload allocations and load allocations presented in this addendum may be adjusted under a state-approved effluent trading program as long as the loading capacity is not exceeded.

1.1.2 Nonpoint Sources

A total phosphorus load allocation is calculated using the target concentration of 0.07 mg/L and normalized discharge values. For further discussion of phosphorus load analysis for the Weiser River Watershed, see the Weiser River Watershed Subbasin Assessment and Total Maximum Daily Load (Weiser TMDL) (Idaho DEQ 2006), section 3, pages 185 through 214; for discussion of normalization of discharge, see pages192-193.

For information concerning storm water load allocations, see page 19 of this document.

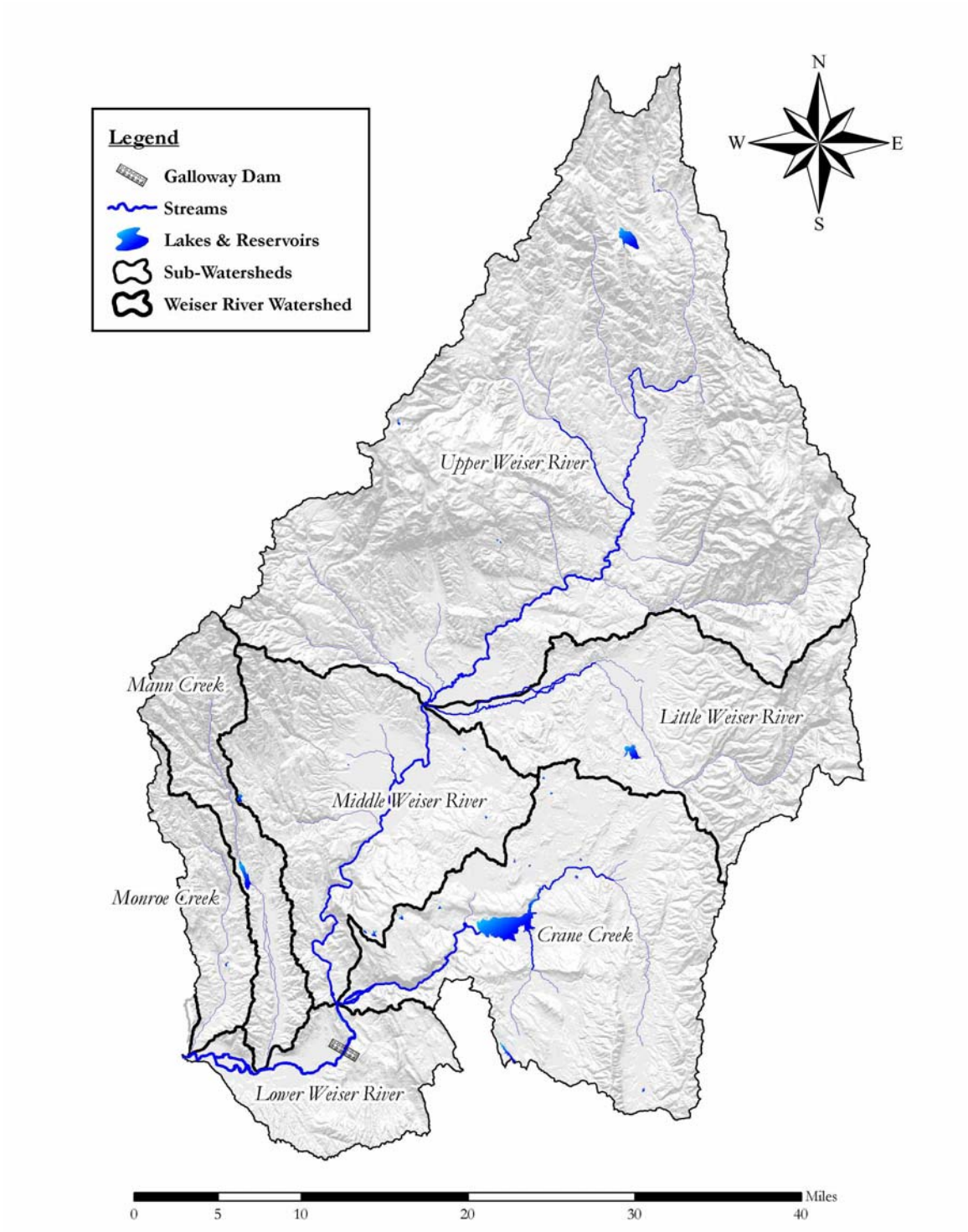

Figure 2. Map of Weiser River watershed upper, middle, and lower portions and tributaries.

2 Total Maximum Daily Loads

A TMDL prescribes an upper limit on discharge of a pollutant from all sources combined that will allow the water quality standard(s) for that pollutant to be attained. This upper limit is called a load capacity (LC). It further allocates this LC among the various sources of the pollutant. Pollutant sources fall into two broad classes: nonpoint sources, assigned a single load allocation (LA), and point sources, each of which is assigned a wasteload allocation (WLA). When present, natural background (NB) sources are considered part of the load allocation but are often considered separately because NB represents a part of the load not subject to control. Because of uncertainties regarding quantification of loads and the relation of specific loads to attainment of water quality standards, the rules regarding TMDLs (40 CFR § 130) require a margin of safety (MOS) be a part of the TMDL.

In effect, the MOS is a reduction in the load capacity that is available for allocation to pollutant sources. NB load is also effectively a reduction in the load capacity available for allocation to anthropogenic pollutant sources. This can be summarized symbolically as the equation:

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

The equation is written in this order because it represents the logical order in which a loading analysis is conducted. First, the LC is determined. Then, the LC is broken down into its components: the necessary MOS is determined and set aside; then NB, if relevant, is quantified and set aside; and then the remainder (LA and WLA) is allocated among pollutant sources. When the breakdown and allocation are completed, a TMDL, which must equal the LC, is established.

Another step in a loading analysis is the quantification of current pollutant loads by source. This allows the specification of load reductions as percentages from current conditions, considers equities in load reduction responsibility, and is necessary for pollutant trading. Also, a required part of the loading analysis is that the LC must be based on critical conditions, the conditions that exist when water quality standards are most likely to be violated. If a TMDL is protective under critical conditions, it must be more than protective under less extreme conditions. Because both LC and pollutant source loads vary independently, determination of critical conditions can be complicated.

2.1 Instream Water Quality Targets

The overall goal of a TMDL is to achieve the full support of designated or existing beneficial uses. These goals will be achieved by meeting pollutant target loads, and/or established numeric and narrative criteria described in Idaho Water Quality Standards and Wastewater Treatment Requirements (IDAPA 58.01.02).

2.1.1 Design Conditions

The TMDL targets are designed to achieve the “full support of the designated or existing beneficial uses” (Idaho Code 39.3611, et.seq.) in the Weiser River Watershed. There are no indications that beneficial uses in the Weiser River watershed are impaired by phosphorus. The phosphorus targets (0.07 mg/L) established in this addendum are based

on an allocation set in the Snake River-Hells Canyon (SR-HC) TMDL for Snake River tributaries in order to achieve water quality standards in the Snake River.

2.1.2 Target Selection

In order to restore full support of designated beneficial uses, phosphorus concentration targets for the Weiser River watershed (Table A) are based on the target established in the Snake River-Hells Canyon TMDL. For all the water bodies in Table A, the phosphorus concentration target is 0.07 mg/L from May through September. As noted, the concentration in the upper Weiser River is already below 0.07 mg/L. Rationale for the selected target concentrations, with cited sources, are provided in Table B.

Table A. Phosphorus Concentration Targets for Specific Water Bodies. Weiser River Watershed.

Parameter	Targets for Selected Water Bodies
	Weiser River (Lower)
Phosphorus	0.07 mg/L[a] (May – September)
	Weiser River (Middle)
Phosphorus	0.07 mg/L (May – September)
	Weiser River (Upper)
Phosphorus*	0.07 mg/L (May – September)
	Mann Creek (below reservoir)
Phosphorus	0.07 mg/L (May – September)
	Cove Creek
Phosphorus	0.07 mg/L (May – September)
	Crane Creek (Crane Creek Reservoir to Weiser River)
Phosphorus	0.07 mg/L (May – September)
	Little Weiser River
Phosphorus	0.07 mg/L (May – September)

a milligrams per liter
** Current concentrations <0.07 mg/L*

Table B. Water Quality Target Rationale. Weiser River Watershed.

Parameter	Selected Target Rationale
Nutrients	• Recommended criteria for eutrophic water bodies (EPA 1972) • Established TMDLs for similar water bodies in region (e.g., Snake River – Hells Canyon)

2.1.3 Monitoring Points

Biological assessments should be conducted on a routine basis to determine the response of biological indicators to the targets set in the TMDL. Since much of the original assessment process is based on these indicators, regular monitoring will be essential to determine response. The biological assessment completed in the years 2000 and 2001 (Ingham 2000) will act as guidance to determine whether the goals and targets described in the TMDL are adequate for the full support of the designated or existing beneficial uses or modifications are required to re-address the targets or the attainability of the beneficial uses. Additional biological assessments should be conducted on the Little Weiser River at the established BURP monitoring site, along with an additional site that should be added directly upstream of the §303(d) listed segment (above Indian Valley).

Water column assessments should be focused on compliance areas described in the Weiser TMDL, specifically; the following locations should be monitored:

- Weiser River confluence with the Snake River.
- Weiser River at the USGS gage 13266000.
- Crane Creek near the confluence with the Weiser River.
- Weiser River at Midvale.
- Little Weiser River near Cambridge.

These assessments should occur during five year reviews beginning with the first review in 2011. Any monitoring prior to that time will depend on available personnel and operating funds.

2.2 Load Capacity

Load capacity is the maximum load that a water body can accommodate and still meet the water quality standards “with season variations and a margin of safety which takes into account any lack of knowledge...” (CWA § 303(d) (C)). Likely sources of uncertainty include lack of knowledge of assimilative capacity, uncertain relations of a selected target or targets to a beneficial use or uses, and variability in target measurement. Load capacity for the stream segments in this addendum was determined by using the target criteria to identify loads per day.

Most load capacities are based on water column concentrations, which can vary depending on the amount of water. By determining load as a function of discharge, it is hoped that this variation will be reduced. For most of the load capacities determined in the Weiser River Watershed, the load was determined as a function of discharge (normalized). Analysis of the phosphorus data showed that, in most cases, the normalized load data correlated well with the limited data for the actual load measured.

All loads were calculated based on target concentrations and normalized discharge for the critical period or for the period when an exceedance of criteria was occurring. All loads presented in Table C are estimated load capacities under normalized discharge conditions and at concentrations that will achieve water quality targets.

Table C. Load Capacity at low and normalized discharge. Lower Weiser River (at mouth).

Pollutant	Critical Period	Discharge	Load Capacity
Total Phosphorus	May-September (low)	46.9 cfs	8 kg/day
Total Phosphorus	May-September (normalized)	791 cfs	136 kg/day[1]

1 *Snake River – Hells Canyon TMDL*

2.3 Estimates of Existing Pollutant Loads

Load analyses were performed for tributaries for which adequate water quality data were available (see
Table P on page 18). Regulations allow that loadings "...may range from reasonably accurate estimates to gross allotments, depending on the availability of data and appropriate techniques for predicting the loading." (40 CFR § 130.2(g)).

2.3.1 Point Sources

The current wasteloads for the two WWTPs, based on monitoring data, are shown in Table D. Table D also shows the point source wasteload allocations, which are based on a discharge of 3.5 mg/L of TP (average discharge for unmonitored facilities as determined in the SR-HC TMDL) at design capacity. The current loads are lower than the allocated loads because both facilities are currently operating at levels well below design capacity. Table E contains the monthly effluent limits for each WWTP, established in their NPDES permits.

Table D. Total phosphorus current wasteload and allocated wasteload from point sources to the Weiser River.

Location	Current Wasteload (kg/day)	Wasteload Allocation (kg/day)	Design Capacity (kg/day)
Cambridge WWTP NPDES permit ID-002180-6	1 kg/day	4 kg/day	0.25 MGD (3.3 Kg/day)
Council WWTP NPDES permit ID-002008-7	4 kg/day	8 kg/day	0.4 MGD (5.3 Kg/day)

Table E. Monthly Effluent Limits [a] for the Cities of Cambridge and Council Wastewater Treatment Plants. Weiser River, West Fork Weiser River to Little Weiser River.

Facility	pH Max (su) [b]	BOD [c] (mg/L) [d]	Suspended Solids (mg/L)	E coli (No./100 ml) [d]	Total Chlorine Residual (mg/L)
Cambridge	9.0	30	45	126	0.5
Council	9.0	30	30	126	0.1

a limits established in NPDES permits
b standard units
c biochemical oxygen demand
d milligrams per liter
e number per 100 milliliters

The City of Council's WWTP is located upstream of the City of Cambridge's WWTP. The data indicate that neither facility increases total phosphorus concentrations above the recommended downstream target. It is recommended that Segment 2835, Weiser River (West Fork Weiser River to Little Weiser River), which receives both effluents, be removed from the 303 (d) list for nutrients.

2.3.2 Nonpoint Sources

Lower Weiser River

Total Phosphorus Load Allocations

Load allocations are assigned to upstream sources, including the Lower Weiser River, to achieve the allocation in the Snake River. A total phosphorus load allocation is calculated based on the target value and normalized discharge data. For the Lower Weiser River, the total phosphorus target of 0.07 mg/L is used. Table F presents the load allocations on a monthly basis. Table G presents total phosphorus current loading, load allocation, load reduction, and percent reduction required to meet the allocation target.

Table F. Discharge and Total Phosphorus Load Allocation and Concentrations to the Snake River from the Lower Weiser River. Weiser River, Galloway Dam to the Snake River.

Month/Source Allocation	Discharge (cfs)[a]	Total Phosphorus Load Allocation (kg/day)[b]	Total Phosphorus Concentration Target (mg/L)[c]
May			
Total Allocation	2,537	435	0.07
June			
Total Allocation	1,441	242	0.07
July			
Total Allocation	241	41.2	0.07
August			
Total Allocation	66.1	11.3	0.07
September			
Total Allocation	53.7	9.1	0.07

a cubic feet per second
b kilograms per day
c milligrams per liter

Table G. Discharge and Total Phosphorus Load Allocation, Concentrations, Load Reductions, and Load Reduction Percentage to the Snake River from the Lower Weiser River. Weiser River, Galloway Dam to the Snake River.

Month/Source Allocation	Discharge (cfs)[a]	Total Phosphorus Load Current (kg/day)[b]	Total Phosphorus Load Allocation (kg/day)	Total Phosphorus Load Reduction (kg/day)	Percent Reduction Required (%)
May					
Total Allocation	2,537	587	435	152	25.9%
June					
Total Allocation	1,441	361	242	119	33.0%
July					
Total Allocation	241	84.5	41.2	43.3	51.2%

August					
Total Allocation	66.1	30.8	11.3	19.5	63.3%
September					
Total Allocation	53.7	29.7	9.1	20.6	69.4%

a cubic feet per second
b kilograms per day

Middle Weiser River

Total Phosphorus Load Allocations

The total phosphorus load allocation is calculated based on the target value and normalized discharge data. For the Middle Weiser River, the total phosphorus target value is 0.07 mg/L. Table H presents the load allocations and the reductions required on a monthly basis. Load allocations are assigned to upstream sources and Crane Creek to achieve the allocation in the middle Weiser River at Galloway Dam.

Table H. Discharge and Total Phosphorus Load Allocation, Concentrations, and Percent Reduction for the Lower Weiser River. Weiser River, Galloway Dam to the Snake River.

Month/Source Allocation	Discharge (cfs)[a]	Total Phosphorus Load Current (kg/day)[b]	Total Phosphorus Load Allocation (kg/day)	Total Phosphorus Load Reduction (kg/day)	Percent Reduction Required (%)
May					
Total Allocation	2,340	541	401	140	26%
Crane Creek		21.6	6.4	15.2	70%
Removed by Diversions[d]		47.8	35.4	12.4	26%
Upstream Sources		570	430	137	24%
June					
Total Allocation	1,328	333	228	106	32%
Crane Creek		14.0	3.8	10.2	73%
Removed by Diversions		57.0	38.0	19.0	33%
Upstream Sources		376	262	115	30%

Month/Source Allocation	Discharge (cfs)[a]	Total Phosphorus Load Current (kg/day)[b]	Total Phosphorus Load Allocation (kg/day)	Total Phosphorus Load Reduction (kg/day)	Percent Reduction Required (%)
July					
Total Allocation	171	54.1	29.3	24.8	46%
Crane Creek		49.3	17.0	32.3	66%
Removed by Diversions		72.1	37.2	34.9	48%
Upstream Sources		76.9	49.5	27.4	36%
August					
Total Allocation	28.0	10.2	4.8	5.4	53%
Crane Creek		66.6	23.9	42.7	64%
Removed by Diversions		72.2	34.1	38.1	53%
Upstream Sources		15.8	15.0	0.8	5%
September					
Total Allocation	29.0	10.9	3.8	7.1	65%
Crane Creek		38.1	12.5	25.6	67%
Removed by Diversions		57.5	27.1	30.4	53%
Upstream Sources		30.3	18.5	11.8	39%

a cubic feet per second
b kilograms per day
c Allocations based on 0.07 mg/L target
d diversion allocation will be met with reductions upstream

Upper Weiser River

Total Phosphorus Point Sources

Wasteload allocations for the cities of Cambridge and Council are located in Table D on page 6.

Mann Creek

Total Phosphorus Load Allocations

The total phosphorus load allocation is calculated based on the target value and normalized discharge data. For the Upper Weiser River, the target value is 0.07 mg/L. Table I presents the load allocations on a monthly basis. Load allocations are assigned to Mann Creek at the mouth to achieve the allocation at the lower Weiser River. Table J shows the reductions required to meet the allocations.

Table I. Discharge and Total Phosphorus Load Allocation and Concentrations Mann Creek at Confluence with Weiser River.

Month/Source Allocation	Discharge (cfs)[a]	Total Phosphorus Load Allocation (kg/day)[b]	Total Phosphorus Concentration Target (mg/L)[c]
May			
Total Allocation	61.9	10.6	0.070
June			
Total Allocation	18.6	3.2	0.070
July			
Total Allocation	12.8	2.2	0.070
August			
Total Allocation	13.1	2.2	0.070
September			
Total Allocation	5.5	0.8	0.070

a cubic feet per second
b kilograms per day
c milligrams per liter

Table J. Discharge and Total Phosphorus Load Allocation, Concentrations, and Percent Reduction for Mann Creek.

Month/Source Allocation	Discharge (cfs)[a]	Total Phosphorus Load Current (kg/day)[b]	Total Phosphorus Load Allocation (kg/day)	Total Phosphorus Load Reduction (kg/day)	Percent Reduction Required (%)
May					
Total Allocation	61.9	26.9	10.6	16.3	60.6%
June					
Total Allocation	18.6	9.5	3.2	6.3	66.3%
July					

Total Allocation	12.8	10.7	2.2	8.5	79.4%
August					
Total Allocation	13.1	6.6	2.2	4.4	66.7%
September					
Total Allocation	5.5	2.7	0.8	1.9	70.4%

a cubic feet per second
b kilograms per day

Other Tributaries to the Lower Weiser River

Total Phosphorus Load Allocations

The total phosphorus load allocation is calculated based on the target value and normalized discharge data. For the Lower Weiser River, the target is 0.07 mg/L. Table K presents the load allocations on a monthly basis. Load allocations are assigned to tributaries at the mouth to achieve the allocation in the lower Weiser River. Table L shows current the current total phosphorus load, the allocated load, the load reduction required to meet the allocations, and the percent load reduction required.

Table K. Discharge and Total Phosphorus Load Allocation and Concentrations, Tributaries to Lower Weiser River. Weiser River, Galloway Dam to Snake River.

Month	Discharge (cfs)[a]	Total Phosphorus Load (kg/day)[b]	Total Phosphorus Concentration (mg/L)[c]
Monroe Creek			
MAY	43.0	7.4	0.07
JUN	25.0	4.3	0.07
JUL	26.0	4.5	0.07
AUG	8.3	1.4	0.07
SEP	9.0	1.5	0.07
Lower Payette Drain			
MAY	25.0	4.3	0.07
JUN	22.5	3.9	0.07
JUL	10.0	1.7	0.07
AUG	6.7	1.1	0.07
SEP	6.0	1.0	0.07

Month	Discharge (cfs)[a]	Total Phosphorus Load (kg/day)[b]	Total Phosphorus Concentration (mg/L)[c]
Smith Drain			
MAY	6.0	1.0	0.07
JUN	7.6	1.3	0.07
JUL	2.7	0.5	0.07
AUG	6.1	1.0	0.07
SEP	3.0	0.5	0.07
Unity Drain			
MAY	4.8	0.8	0.07
JUN	6.4	1.1	0.07
JUL	6.7	1.2	0.07
AUG	4.2	0.7	0.07
SEP	3.7	0.6	0.07
Frazier Drain			
MAY	1.6	0.3	0.07
JUN	1.0	0.2	0.07
JUL	1.7	0.3	0.07
AUG	1.4	0.2	0.07
SEP	1.1	0.2	0.07
Sunnyside Ditch			
MAY	3.0	0.5	0.07
JUN	1.6	0.3	0.07
JUL	3.5	0.6	0.07
AUG	3.4	0.6	0.07
SEP	1.7	0.3	0.07
Cove Creek			
MAY	0.8	0.1	0.07
JUN	0.5	0.1	0.07
JUL	0.4	0.1	0.07
AUG	0.6	0.1	0.07
SEP	0.9	0.2	0.07

a cubic feet per second
b kilograms per day

c milligrams per liter

Table L. Discharge, Current Total Phosphorus Load, Load Allocation, Reduction Required, and Percent Reduction Required, Tributaries to Lower Weiser River. Weiser River, Galloway Dam to Snake River.

Month/Source Allocation	Discharge (cfs)[a]	Total Phosphorus Load Current (kg/day)[b]	Total Phosphorus Load Allocation (kg/day)	Total Phosphorus Load Reduction (kg/day)	Percent Reduction Required (%)
MAY	43.0	21.6	7.4	14.2	65.9%
JUN	25.0	8.0	4.3	3.7	46.2%
JUL	26.0	12.1	4.5	7.6	63.2%
AUG	8.3	3.6	1.4	2.2	60.2%
SEP	9.0	4.2	1.5	2.6	63.2%
				0.0	
MAY	25.0	6.1	4.3	1.8	30.0%
JUN	22.5	5.5	3.9	1.7	30.0%
JUL	10.0	2.4	1.7	0.7	30.0%
AUG	6.7	1.6	1.1	0.5	30.0%
SEP	6.0	1.5	1.0	0.4	30.0%
Smith Drain					
MAY	6.0	1.6	1.0	0.6	37.0%
JUN	7.6	6.9	1.3	5.6	81.2%
JUL	2.7	0.9	0.5	0.5	49.2%
AUG	6.1	2.8	1.0	1.8	62.7%
SEP	3.0	0.7	0.5	0.2	28.0%
Unity Drain					
MAY	4.8	3.2	0.8	2.4	74.3%
JUN	6.4	3.4	1.1	2.3	67.9%
JUL	6.7	3.5	1.2	2.4	67.4%
AUG	4.2	2.1	0.7	1.4	65.8%
SEP	3.7	1.4	0.6	0.8	56.3%
Frazier Drain					
MAY	1.6	2.5	0.3	2.2	88.7%
JUN	1.0	0.9	0.2	0.8	81.9%
JUL	1.7	1.2	0.3	0.9	76.1%
AUG	1.4	2.2	0.2	2.0	89.3%
SEP	1.1	1.5	0.2	1.3	87.3%
Sunnyside Ditch					
MAY	3.0	1.6	0.5	1.1	68.2%
JUN	1.6	0.8	0.3	0.6	68.3%
JUL	3.5	1.2	0.6	0.6	48.2%
AUG	3.4	2.2	0.6	1.6	74.1%
SEP	1.7	1.1	0.3	0.8	73.7%
Cove Creek					
MAY	0.8	0.6	0.1	0.4	77.7%
JUN	0.5	0.4	0.1	0.3	77.7%
JUL	0.4	0.3	0.1	0.2	76.6%
AUG	0.6	0.4	0.1	0.3	75.6%
SEP	0.9	0.7	0.2	0.5	77.4%

a cubic feet per second
b kilograms per day

Crane Creek

The current total phosphorus load from Crane Creek is shown in Table H on page 9. Load allocations, reductions required, and percent reductions required are also shown in Table H.

Little Weiser River

Total Phosphorus Load Allocations

The total phosphorus load allocation is calculated based on target value and normalized discharge data. For the Little Weiser River, the target concentration is 0.07 mg/L. Table M presents the load allocations on a monthly basis. Load allocations are assigned to the Little Weiser River at the mouth to achieve the allocation in the middle Weiser River. Table N shows the reductions required to meet the allocations. The current load is shown in Table O.

Table M. Discharge, and Phosphorus Total Load Allocations and Concentration Targets, Little Weiser River at Confluence with Weiser River. Little Weiser River, Indian Valley to Weiser River.

Month/Source Allocation	Discharge (cfs)[a]	Total Phosphorus Load Allocation (kg/day)[b]	Total Phosphorus Concentration Target (mg/L)[c]
May			
Total Allocation	392.8	67.3	0.070
June			
Total Allocation	234.0	40.1	0.070
July			
Total Allocation	34.9	6.0	0.070
August			
Total Allocation	3.7	0.6	0.070
September			
Total Allocation	2.8	0.5	0.070

a cubic feet per second
b kilograms per day
c milligrams per liter

Table N. Discharge, Current Phosphorus Total Load, Total Load Allocation, Load Reduction, and Percent Reduction. Little Weiser River at Confluence with Weiser River. Little Weiser River, Indian Valley to Weiser River.

Month/Source Allocation	Discharge (cfs)[a]	Total Phosphorus Load Current (kg/day)[b]	Total Phosphorus Load Allocation (kg/day)	Total Phosphorus Load Reduction (kg/day)	Percent Reduction Required (%)
May					
Total Allocation	392.8	40.3	67.3	NRR[c]	NRR
June					
Total Allocation	234.0	28.9	40.1	NRR	NRR
July					
Total Allocation	34.9	8.5	6	2.5	29.4%
August					
Total Allocation	3.7	2.2	0.6	1.6	72.7%
September					
Total Allocation	2.8	1.7	0.5	1.2	70.6%

a cubic feet per second
b kilograms per day
c no reduction required

Table O. Existing Phosphorus Load, Lower Weiser River.

Pollutant	Existing Load[1]
Total Phosphorus	225 kg/day

1 Based on an average flow of 863 cfs (May-September) and a concentration of 0.15 mg/L

2.4 Load Allocation

Using the existing data in concert with target concentrations, load allocations were determined. Although the best available techniques and information are applied, uncertainty arises in the selection of water quality targets, load capacity, and estimates of existing loads. The total allocation includes a margin of safety to account for uncertainty.

2.4.1 Margin of Safety

The margin of safety is a reduction in load capacity that is identified prior to allocation to any sources that introduce uncertainty. Several areas of uncertainty are addressed by applying a margin of safety. In this TMDL addendum, storm events may not be captured in the existing data set since the data consist of biweekly and monthly measurements. Pollutant loads vary from year to year, and this variability may not be adequately assessed with only two years of monitoring data.

The margin of safety varies by pollutant. Some margin of safety parameters are based on the statistical analysis of existing data and are compared to water quality modeling results.

A 13% margin of safety has been applied to total phosphorus load allocations and capacity for this TMDL addendum as determined by the accuracy and representativeness of sampling techniques and analytical methods. This margin of safety has been incorporated into the 0.07 mg/L total phosphorus target. Other areas of uncertainty such as system uptake, assimilative capacity, and relative impairment to different use categories were addressed to the extent possible through the use of conservative assumptions in the identification of the nutrient target, sensitive designated uses, and critical period.

2.4.2 Background

In addition to the margin of safety, the natural and background loads represent further reductions in load capacity available for allocation. Natural sources are those that originate from non-anthropogenic sources and, as such, require no reductions. Background sources are those that originate upstream from a segment of a water body and may or may not require reductions.
Table P describes the background levels for selected water bodies and provides a rationale for each.

2.4.3 Wasteload Allocations

Water quality data collected in the year 2003 identified the point sources within the Weiser River Watershed. The wastewater treatment plants in the cities of Cambridge and Council are having negligible influence on water quality. The data indicated that their discharges to the river had little to no effect on total phosphorus loads. These facilities' wasteload allocations are shown in Table D on page 6.

2.4.4 Load Allocations

Load allocations are assigned to nonpoint sources. Those sources should be the focus of any reductions required to meet allocations.

Modifications to Load Allocations

In coordination with the Weiser River WAG, DEQ intends to review and modify, if necessary, the load allocations to the water quality segments provided in this TMDL addendum as additional data and information become available during implementation. Successful implementation depends upon the cooperation of and resources available to the stakeholders in the watershed. It is recognized that the load allocations may require modification as stakeholders and designated agencies determine the best pollution control strategies to achieve water quality targets. For example, during implementation, it may be discovered that water quality targets can best be achieved by reducing sources in one area rather than another. The load allocations should be modified to reflect these implementation considerations.

Table P. Background Allocations and Rationale, Selected Water Bodies. Weiser River Watershed.

Water Body/Pollutant	Background	Rationale
Lower Weiser River		
Phosphorus	20% of Load Capacity	Water quality data from upper Weiser River
Middle Weiser River		
Phosphorus	21% of Load Capacity	Water quality data from upper Weiser River
Crane Creek		
Phosphorus	20% of Load Capacity	Allowance for natural occurrence
Little Weiser River		
Phosphorus	20% of Load Capacity	Allowance for natural occurrence

Further refinement of natural and background sources will be ongoing as more data is collected. Since the TMDL process is dynamic, the document will be updated as appropriate.

2.4.5 Reserve

The identified sources and land uses are predominantly agricultural, with some minor influence from roadways. With the identified trend of conversion from agricultural land uses to urban/suburban and rural development land uses, agricultural sources of pollutants are likely to remain stable or decrease within the implementation lifetime of this TMDL addendum. For this reason, no future pollutant source load allocations (reserve capacity) were calculated. The wasteload allocations for the point sources include reserves to allow for growth, since the plants' wasteloads at design capacity would be more than the current wasteloads.

2.4.6 Seasonal Variation

TMDLs must consider seasonal variation. In the Weiser River and its tributaries, there are seasonal influences on total phosphorus. The summer growing season is typically when concentrations of nutrients are the highest.

Seasonal variation as it relates to development of TMDLs in this addendum is addressed simply by ensuring that the loads are reduced during the *critical period* (when beneficial uses are impaired and loads are controllable). Thus, the effects of seasonal variation are built into the load allocations. The critical period for this phosphorus TMDL addendum is based on the time of year when beneficial uses must be protected and when pollutant loads exceed the assimilative capacity. The critical period for phosphorus in the Weiser River watershed is May through September.

2.4.7 Reasonable Assurance

The state has responsibility under Sections 401, 402, and 404 of the CWA to provide water quality certification. Under this authority, the state reviews dredge and fill, stream channel alteration, and NPDES permits to ensure the proposed actions will meet Idaho water quality standards (WQS).

Under Section 319 of the CWA, each state is required to develop and submit a nonpoint source management plan (NSMP). Idaho's NSMP has been submitted to EPA and has been approved (Idaho DEQ 1999*d*). The NSMP identifies programs for implementation of best management practices (BMPs), identifies available funding sources, and includes a schedule for program milestones. It is certified by the Idaho Attorney General to ensure that adequate authorities exist to implement the NSMP.

Idaho's NSMP describes many of the voluntary and regulatory approaches the state will take to abate nonpoint source pollution. Section 39-3601, et seq., of the CWA includes provisions for public involvement, such as the formation of Basin Advisory Groups and Watershed Advisory Groups (WAGs) (IDAPA 58.01.02.052). The WAGs are established in high priority watersheds to assist DEQ and other state agencies in formulating specific actions needed to control point and nonpoint sources of pollution affecting water quality limited segments. The Weiser River WAG was formed to assist with this TMDL and its implementation plan. This WAG will continue to be the main stakeholder contact for the Weiser River TMDL and its implementation plan. The implementation plan must be completed within 18 months after approval of the TMDL.

Idaho uses a voluntary approach to control agricultural nonpoint sources. However, regulatory authority can be found in the WQS (IDAPA 58.01.02.350.01 through 58.01.02.350.03). IDAPA 58.01.02.054.07 refers to the Idaho Agricultural Pollution Abatement Plan (Ag Plan), which provides direction to the agricultural community for approved BMPs (IDA-SCC 1993). A portion of the Ag Plan outlines elected groups or responsible agencies (e.g., Soil Conservation Districts [SCDs]) who will take the lead if nonpoint source pollution problems need to be addressed. For agriculture, the Ag Plan assigns the local SCDs to assist the land owner/operator with developing and implementing BMPs to abate nonpoint source pollution associated with the land use. If a voluntary approach does not succeed in abating the pollutant problem, the state may seek injunctive relief for those situations that are determined to be an imminent and substantial danger to public health or environment (IDAPA 58.01.02.350.02(a)).

If water quality monitoring indicates WQS are not being met, even with the use of BMPs or knowledgeable and reasonable practices, the state may request the designated agency to evaluate and/or modify the BMPs to protect beneficial uses.

2.4.8 Construction Storm Water and TMDL Wasteload Allocations

Construction Storm Water

The Clean Water Act requires operators of construction sites to obtain permit coverage to discharge storm water to a water body or to a municipal storm sewer. In Idaho, EPA has issued a general permit for storm water discharges from construction sites. In the past, storm water was treated as a nonpoint source of pollutants. However, because storm water can be managed on site through management practices or when discharged through

a discrete conveyance such as a storm sewer, it now requires a National Pollution Discharge Elimination System (NPDES) permit.

The Construction General Permit (CGP)

If a construction project disturbs more than one acre of land (or is part of a larger common development) that will disturb more than one acre), the operator is required to apply for permit coverage from EPA after developing a site-specific Storm Water Pollution Prevention Plan.

Storm Water Pollution Prevention Plan (SWPPP)

In order to obtain the Construction General Permit, operators must develop a site-specific Storm Water Pollution Prevention Plan. The operator must document the erosion, sediment, and pollution controls they intend to use, inspect the controls periodically and maintain the BMPs through the life of the project

Requirements

When a stream is on Idaho's § 303(d) list and has a TMDL developed, DEQ may incorporate a gross wasteload allocation (WLA) for anticipated construction storm water activities if one can be quantified. TMDLs developed in the past that did not have a WLA for construction storm water activities and current TMDLs unable to accurately quantify a WLA for construction storm water will also be considered in compliance with provisions of the TMDL if they obtain a CGP under the NPDES program and implement the appropriate BMPs.

Typically, specific requirements must be followed to be consistent with any local pollutant allocations. Many communities throughout Idaho are currently developing rules for post-construction storm water management. Sediment is usually the main pollutant of concern in storm water from construction sites. The application of specific best management practices from *Idaho's Catalog of Storm Water Best Management Practices for Idaho Cities and Counties* is generally sufficient to meet the standards and requirements of the General Construction Permit, unless local ordinances have more stringent and site specific standards that are applicable.

2.5 Implementation Strategies

DEQ recognizes that implementation strategies for TMDLs may need to be modified if monitoring shows that the TMDL goals are not being met or significant progress is not being made toward achieving the goals.

The purpose of this implementation strategy is to outline the pathway by which a larger, more comprehensive, implementation plan will be developed within 18 months after TMDL approval. The comprehensive implementation plan will provide details of the actions needed to achieve load reductions (set forth in a TMDL), provide a schedule of those actions, and specify monitoring needed to document actions and progress toward meeting state water quality standards. In the meantime, a cursory implementation strategy is developed to identify issues such as responsible parties, a time line, and a monitoring

strategy for determining progress toward meeting the TMDL goals outlined in this document.

2.5.1 Time Frame

The implementation plan must include a long-term strategy for implementation and maintenance of the plan. The plan's timeline should be as specific as possible and should include a BMP implementation and/or evaluation schedule, monitoring schedules, reporting dates, and milestones for evaluating progress. There may be disparity in timelines for different subwatersheds. This is acceptable only if reasonable assurance is provided that milestones will be achieved.

The implementation plan will be designed to reduce pollutant loads from sources to meet TMDLs and WQS. Where implementation involves significant restoration, DEQ recognizes that WQS may not be met for quite some time. In addition, DEQ recognizes that technology for controlling nonpoint source pollution is, in some cases, in the developmental stages and that one or more iterations will likely be required to develop effective techniques.

A definitive timeline for implementing the TMDLs and the associated allocations will be developed as part of the implementation plan. This timeline will be developed in consultation with the WAG, the designated agencies, and other interested publics.

2.5.2 Approach

The goal of the CWA, including its associated administrative rules for Idaho, is that WQS shall be met or that all feasible steps will be taken towards achieving the highest quality water attainable. This is a long-term goal in this watershed, particularly because nonpoint sources are the primary concern. To achieve this goal, implementation must commence as soon as possible.

The TMDLs are numerical load values that set pollutant levels such that instream WQS are met and designated beneficial uses are supported. DEQ recognizes that the TMDLs are calculated from mathematical models and other analytical techniques designed to simulate and/or predict very complex physical, chemical, and biological processes. Models and other analytical techniques are simplifications of these complex processes, and, while they are useful in interpreting data and in predicting trends in water quality, they are unlikely to produce an exact prediction of how streams and other water bodies will respond to the application of various management measures. It is for this reason that the TMDLs include a margin of safety.

For the purpose of this TMDL addendum, a general implementation strategy is included. Following this submission, in accordance with approved state schedules and protocols, a specific detailed implementation plan will be prepared.

For nonpoint sources, DEQ also expects implementation plans to be implemented as soon as practicable. However, DEQ recognizes that it may take some period of time, from several years to several decades, to fully implement the appropriate management practices. DEQ also recognizes that it may take additional time after implementation has been accomplished before the management practices identified in the implementation plans become fully effective in reducing and controlling pollution. It is possible that after application of all reasonable BMPs, some TMDLs or their associated targets and

surrogates cannot be achieved as originally established. Nevertheless, it is DEQ's expectation that land managers will make good faith efforts to achieve their load allocations in the shortest practicable time.

DEQ recognizes that expedited implementation of TMDLs will be socially and economically challenging. Further, there is a desire to minimize negative economic impacts as much as possible when consistent with protecting water quality and beneficial uses. DEQ further recognizes that, despite the best and most sincere efforts, natural events beyond the control of humans may interfere with or delay attainment of the TMDL and/or its associated targets and surrogates. Such events could be, but are not limited to, flood, fire, insect infestation, and drought.

DEQ intends to regularly review progress of the implementation plan. If it appears that the implementation plan has been fully implemented, that all feasible management practices have reached maximum expected effectiveness, but that a TMDL or its interim targets have not been achieved, DEQ shall reopen the TMDL and adjust it or its interim targets and the associated WQS as necessary.

The implementation of TMDLs and the associated plans is enforceable under the applicable provisions of the WQS for point and nonpoint sources by DEQ, other state agencies, and local governments in Idaho. However, it is envisioned that sufficient initiative exists on the part of local stakeholders to achieve water quality goals with minimal enforcement. Should the need for additional effort emerge, it is expected that the responsible agency will work with land managers to overcome impediments to progress through education, technical support, or enforcement. Enforcement may be necessary in instances of insufficient action towards progress. This could occur first through direct intervention from state or local land management agencies and second through DEQ. The latter may be based on departmental orders to implement management goals leading to WQS attainment.

In employing an adaptive management approach to the TMDL and the implementation plan, DEQ has the following expectations and intentions:

- DEQ intends to review the progress of the TMDL and the implementation plans on a 5-year basis, subject to available resources.
- DEQ expects that designated agencies will also monitor and document their progress in implementing the provisions of the implementation plans for those pollutant sources for which they are responsible. This information will be provided to DEQ for use in reviewing the TMDL.
- DEQ expects that designated agencies will identify benchmarks for the attainment of TMDL targets as part of the specific implementation plans being developed. These benchmarks will be used to measure progress toward the goals outlined in the TMDL.
- DEQ expects designated agencies to revise the components of their implementation plans to address deficiencies where implementation of the specific management techniques are found to be inadequate.
- If DEQ, in consultation with the designated agencies, concludes that all feasible steps have been taken to meet a TMDL and its associated targets, and that the TMDL or the

associated targets and surrogates are not practicable, the TMDL may be reopened and revised as appropriate. DEQ would also consider reopening the TMDL should new information become available indicating that the TMDL or its associated targets should be modified.

2.5.3 Responsible Parties

Development of the final implementation plan for the Weiser River TMDL will proceed under the existing practice established for Idaho. The plan will be cooperatively developed by DEQ, the Weiser River WAG, and other designated agencies with input from the public through an established process. The WAG will act as the integral part of the implementation planning process to identify appropriate implementation measures. Other individuals, with additional areas of expertise identified as beneficial to the process, may also be identified to assist in the development of the site-specific implementation plans. Together, these entities will recommend specific control actions and then, with the Basin Advisory Group, will review the specific implementation plan before submitting it to DEQ. DEQ will act as a repository for approved implementation plans.

Designated state agencies are responsible for assisting with preparation of specific implementation plans, particularly for those sources for which they have regulatory authority or programmatic responsibilities. Idaho's designated state management agencies are listed in Table Q.

To the maximum extent possible, the implementation plan will be developed with the participation of federal partners and land management agencies (e.g., National Resource Conservation Service, U.S. Forest Service, Bureau of Land Management, and Bureau of Reclamation). In Idaho, these agencies and their federal and state partners are charged by the CWA to lend available technical assistance and other appropriate support to local efforts/projects for water quality improvements.

Table Q. Regulatory Authority for Nonpoint Pollution Sources. Weiser River Watershed.

Nonpoint Source Best Management Practices	Primary Responsible Agency or Agencies	Code/Regulation or Authority Involved
Idaho Forest Practice Rules	Idaho Department of Lands, Board of Land Commissioners	Idaho Code § 39-3602, IDAPA 58.01.02.003.62, IDAPA 58.01.02.350.03
Rules Governing Solid Waste Management	Department of Environmental Quality and the Idaho District Health Departments	IDAPA 58.01.02.350.03(b)
Rules Governing Subsurface and Individual Sewage Disposal Systems	Department of Environmental Quality and the Health Districts	Idaho Code § 39-3602, IDAPA 58.01.02.350.03(c), IDAPA 58.01.15

Nonpoint Source Best Management Practices	Primary Responsible Agency or Agencies	Code/Regulation or Authority Involved
Rules and Standards for Stream-Channel Alteration	Idaho Department of Water Resources, Water Resources Board	IDAPA 58.01.02.350.03(d)
Rules Governing Exploration and Surface Mining Operations in Idaho	Idaho Department of Lands, Board of Land Commissioners	Idaho Code § 39-3602, IDAPA 58.01.02.350.03(e), IDAPA 58.01.02.003.62
Rules Governing Placer and Dredge Mining in Idaho	Idaho Department of Lands, Board of Land Commissioners	IDAPA 58.01.02.350.03(f)
Rules Governing Dairy Waste	Idaho Department of Agriculture	IDAPA 58.01.02.350.03.(g) and IDAPA 58.01.02.04.14

All stakeholders in the Weiser River Watershed Subbasin have a responsibility for implementing the TMDLs. DEQ and the designated agencies in Idaho have primary responsibility for overseeing implementation in cooperation with landowners and managers. Their general responsibilities are outlined below.

- **DEQ** will oversee and track overall progress on the specific implementation plans and monitor the watershed response. DEQ will also work with local governments on urban/suburban issues.
- **Idaho Department of Lands** will maintain and update the list of approved BMPs for forest practices and mining. The Idaho Department of Lands is responsible for ensuring use of appropriate BMPs on state and private lands.
- **Idaho Soil Conservation Commission**, working in cooperation with local Soil and Water Conservation Districts, the Idaho Department of Agriculture, and NRCS, will provide technical assistance to agricultural landowners. These agencies will help landowners design BMP systems appropriate for their properties and identify and seek appropriate cost-share funds. They also will perform periodic project reviews to ensure BMPs are working effectively.

The designated agencies, the Weiser River WAG, and other appropriate public participants are expected to:

- Develop BMPs to achieve load allocations.
- Observe management measures to determine whether they will meet load allocations.
- Adhere to measurable milestones for progress.
- Develop an implementation timeline that references costs and funding.

- Develop a monitoring plan to determine if BMPs are being implemented, individual BMPs are effective, load allocations are being met, and water quality standards are being met.

The public will be provided with opportunities to be involved in developing the implementation plan to the maximum extent practical through the WAG process and other equivalent processes. Public participation will significantly affect public acceptance of the document and the proposed control actions. Stakeholders (landowners, local governing authorities, taxpayers, industries, and land managers) are the most knowledgeable regarding the pollutant sources and will be responsible for implementing the control actions identified in the plan. Experience has shown that the best and most effective implementation plans are those that are developed with substantial public cooperation and involvement.

2.5.4 Monitoring Strategy

The objectives of monitoring are to better understand natural variability, track implementation of projects and BMPs, and track effectiveness of TMDL implementation. The monitoring and feedback mechanism is a major component of the "reasonable assurance of implementation" for the TMDL implementation plan.

The implementation plan will be tracked by accounting for the numbers, types, and locations of projects, BMPs, educational activities, and other actions taken to improve or protect water quality. The mechanism for tracking specific implementation efforts will be annual reports submitted by the WAG to DEQ.

The "monitoring and evaluation" component has two basic categories:

- Tracking the implementation progress of specific implementation plans, and
- Tracking the progress of improving water quality through monitoring physical, chemical, and biological parameters.

Monitoring will provide information on progress being made toward achieving TMDL allocations and achieving WQS and will help in the interim evaluation of progress as described under the adaptive management approach. (Snake River-Hells Canyon TMDL, DEQ 2004)

Implementation plan monitoring has two major components:

- Watershed monitoring, and
- BMP monitoring.

While DEQ has primary responsibility for watershed monitoring, other agencies and entities have shown an interest in such monitoring. In these instances, data sharing is encouraged. The designated agencies listed in Table Q have primary responsibility for BMP monitoring.

Watershed monitoring measures the success of the implementation measures in accomplishing the overall TMDL goals and includes in-stream monitoring. Monitoring of BMPs measures the success of individual pollutant reduction projects. Information

gained through implementation plan monitoring will supplement the watershed information available during development of associated TMDLs and fill data gaps.

Watershed Monitoring

In the Weiser River Watershed TMDL, watershed monitoring has the following objectives:

- Evaluate watershed pollutant sources,
- Refine knowledge of baseline conditions and pollutant loading,
- Evaluate trends in water quality data,
- Evaluate the collective effectiveness of implementation actions in reducing pollutant loading to the mainstem streams and/or tributaries, and
- Gather information and fill data gaps to more accurately determine pollutant loading.

Monitoring To Fill Data Gaps

Constituents and practices:

- Chlorophyll *a* and turbidity in Crane Creek Reservoir, including an assessment of attainable water quality conditions.
- Bioassessment of the Little Weiser River.
- Substrate, Crane Creek below Crane Creek Reservoir.
- Sediment and bacteria in the Little Weiser River above Indian Valley.

Schedule:

- Final evaluations are to be completed within the first phase of implementation.

Routine Progress Monitoring

Constituents:

- Bacteria, phosphorus, sediment, temperature (potential natural vegetation), and river bioassessment protocols.

Locations:

- Monitoring points located upstream and downstream in the defined TMDL segments, namely the middle and lower Weiser River and the Little Weiser River segments.
- Monitoring of major tributaries at their inflow to the middle and lower Weiser River TMDL reaches.

Schedule:

- Routine monitoring frequency is projected as monthly or (at minimum) seasonally, as water quality needs require.

- Monitoring of major tributaries at their inflow to the middle and lower Weiser River TMDL reaches on a monthly or (at minimum) a seasonal basis to determine loading trends.

Implementing the Weiser River monitoring plan will be a joint effort on the part of many government and private participants. Specific responsibilities will be identified as the implementation planning process proceeds.

BMP/Project Effectiveness Monitoring

Site- or BMP-specific monitoring may be included as part of specific treatment projects if determined appropriate and justified and will be the responsibility of the designated project manager or grant recipient. The objective of an individual project monitoring plan is to verify that BMPs are properly implemented and maintained and are working as designed. Monitoring for pollutant reductions at individual projects typically consists of spot checks, annual reviews, and evaluations of advancement toward reduction goals. The results of these reviews can be used to recommend or discourage similar projects in the future and to identify specific watersheds or reaches that are particularly ripe for improvement.

Evaluation of Efforts Over Time

Annual reports on progress toward TMDL implementation will be prepared to provide the basis for assessment of progress. Documentation of TMDL implementation activities, actual pollutant reduction effectiveness, and projected load reductions for planned actions will be included. If water quality goals are being met, or if trend analyses show that implementation activities are resulting in benefits that indicate that water quality objectives will be met in a reasonable period of time, then implementation of the plan will continue. If monitoring or analyses show that water quality goals are not being met, the TMDL implementation plan will be revised to include modified objectives and a new strategy for implementation activities.

A definitive timeline for implementing the TMDL and the associated allocations will be developed as part of the implementation plan. This timeline will be developed in consultation with the WAG, the designated agencies, and other interested publics.

2.5.5 Pollutant Trading

Pollutant trading (aka water quality trading) is a contractual agreement to exchange pollution reductions between two parties. Pollutant trading is a business-like way of helping to solve water quality problems by focusing on cost effective, local solutions to problems caused by pollutant discharges to surface waters. Pollutant trading is voluntary. Parties trade only if both are better off as a result of the trade. Trading allows parties to decide how to best reduce pollutant loadings within the limits of certain requirements. The appeal of trading emerges when pollutant sources face substantially different pollutant reduction costs. Typically, a party facing relatively high pollutant reduction costs compensates another party to achieve an equivalent, though less costly, pollutant reduction.

Pollutant trading is recognized in Idaho's Water Quality Standards at IDAPA 58.01.02.054.06. Currently, the Department of Environmental Quality's policy is to

allow for pollutant trading as a means to meet total maximum daily loads (TMDLs), thus restoring water quality limited water bodies to compliance with water quality standards. The Pollutant Trading Guidance document sets forth the procedures to be followed for pollutant trading.

Trading Components

The major components of pollutant trading are trading parties (buyers and sellers) and credits (the commodity being bought and sold). Additionally, ratios are used to ensure environmental equivalency of trades on water bodies covered by a TMDL. All trading activity must be recorded in the trading database through the Idaho Clean Water Cooperative, Inc.

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

Watershed Specific Environmental Protection

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

Trading Framework

In order for pollutant trading to be authorized it must be specifically mentioned within a TMDL document. After adoption of an EPA approved TMDL, DEQ in concert with the Watershed Advisory Group (WAG) must develop a pollutant trading framework document as part of an implementation plan for the watershed that is the subject of the TMDL. The elements of a trading document are described in DEQ's Pollutant Trading Guidance (currently November 2003 Draft) available on the DEQ website at http://www.deq.idaho.gov/water/prog_issues/waste_water/pollutant_trading/pollutant_trading_guidance_entire.pdf. As of this writing the only two watersheds that have yet developed a pollutant trading framework are the Lower Boise River watershed and the Upper Snake Rock/Mid Snake TMDL watershed. DEQ believes pollutant trading may be a viable option and tool for implementation of the Weiser River TMDL. Should DEQ and the Weiser River WAG determine that trading is indeed a viable tool for implementing necessary load reductions to achieve the goals of the TMDL; the entities can move forward to develop the necessary pollutant trading framework.

2.6 Conclusions

There were no indications that nutrients were impairing beneficial uses in the Weiser River. However, total phosphorus load allocations have been developed to address goals and targets for the *Snake River-Hells Canyon SBA-TMDL* (Idaho DEQ and Oregon DEQ 2004). To meet Snake River targets, there must be a significant reduction in total phosphorus from the Weiser River Watershed during the months of May through September.

The pollutant reductions called for in this addendum, if implemented, will ensure that the total phosphorus allocations are met in the Snake River. Continued monitoring of water column parameters and biological indicators will be critical to ensure that the BMPs implemented are appropriate and to determine which of them are most effective. The TMDL monitoring process also ensures that refinements and adjustment to targets can be made as needed. DEQ recognizes that implementation strategies may be modified if monitoring indicates the goals and targets determined in this document are not being met. DEQ also recognizes that, as additional information is collected, the attainability of some uses may be challenged in the future.

References

Idaho DEQ 2006. Weiser River Watershed Subbasin Assessment and Total Maximum Daily Load http://www.deq.idaho.gov/water/data_reports/surface_water/tmdls/weiser_river/weiser_river.cfm#SBA

Idaho DEQ and Oregon DEQ 2004. Snake River-Hells Canyon Subbasin Assessment and Total Maximum Daily Loads. http://www.deq.idaho.gov/water/data_reports/surface_water/tmdls/snake_river_hells_canyon/snake_river_hells_canyon.cfm

Ingham, M. J. 2000. Weiser river monitoring plan. State of Idaho, Department of Environmental Quality, Boise, Idaho.

Appendix A. Public Comments