Jerome Cheese Company and Jerome City Wasteload Allocation Revisions

Modification to the Middle Snake River Watershed Management Plan and Upper Snake Rock TMDL

Draft

State of Idaho
Department of Environmental Quality

July 2014

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Abbreviations and Acronyms

§303(d)	refers to section 303 subsection d of the Clean Water Act, or a list of impaired water bodies required by this section
§	section (usually a section of federal or state rules or statutes)
µS	microsiemens
AU	assessment unit
C	Celsius
CFR	Code of Federal Regulations
CWA	Clean Water Act
DEQ	Idaho Department of Environmental Quality
DMR	discharge monitoring report
EPA	United States Environmental Protection Agency
FR	Federal Register
HQCW	high-quality condensate water
IDAPA	refers to citations of Idaho administrative rules
JCC	Jerome Cheese Company
LA	load allocation
lb	pound
LC	load capacity
mgd	million gallons per day
mg/L	milligrams per liter
MOS	margin of safety
n.a.	not applicable
NB	natural background
NPDES	National Pollutant Discharge Elimination System
NSCC	Northside Canal Company
NTU	nephelometric turbidity unit
PO^4	phosphate
TMDL	total maximum daily load
TP	total phosphorus
TSS	total suspended solids
WLA	wasteload allocation
WWTP	wastewater treatment plant

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Executive Summary

This total maximum daily load (TMDL) revision was developed to address the need for transferring a wasteload allocation (WLA) from the City of Jerome Wastewater Treatment Plant (Jerome City; National Pollutant Discharge Elimination System [NPDES] No. ID-002016-8) to Jerome Cheese Company (JCC; NPDES No. ID-002760-0), both in Jerome, Idaho. The discharge eventually reaches the Middle Snake River, which is part of the Upper Snake-Rock subbasin (hydrologic unit code 17040212). This subbasin assessment and TMDL provides updated information relevant to the proposed WLA transfer and NPDES permits.

Regulatory Requirements

This document has been prepared in accordance with federal and state regulations. The federal Clean Water Act (CWA) 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 CWA, are to adopt water quality standards necessary to protect fish, shellfish, and wildlife while providing for recreation in and on the nation's waters whenever possible. Section 303(d) of the CWA establishes requirements for states and tribes to identify and prioritize water bodies that are water quality limited (i.e., water bodies that do not meet water quality standards). States and tribes must periodically publish a priority list (a "§303(d) list") of impaired waters. This list must be published every 2 years and is included as part of Idaho's Integrated Report. For waters identified on this list, states and tribes must develop a TMDL for the pollutants, set at a level to achieve water quality standards.

This TMDL WLA revision for JCC and Jerome City presents information about the watershed, water quality concerns, pollutant sources, and water quality improvements. It also revises total phosphorus (TP) WLAs to achieve load reductions needed to meet water quality standards.

Key Findings

The following summarizes the Idaho Department of Environmental Quality's (DEQ's) key findings regarding the proposed TP WLA transfer from Jerome City to JCC. At the time of this TMDL revision, JCC's NPDES permit became effective October 1, 2001, and expired on October 2, 2006. JCC submitted a timely permit application on May 11, 2006. Later and pursuant to 40 CFR 122.6, the permit was administratively extended by EPA. An updated application was submitted to EPA on February 27, 2009.

- A review of the JCC historical data indicates that prior to September 2010, JCC discharged reverse osmosis water to Lateral 12 at the rate of 0.2 million gallons per day (mgd), with the remaining wastewater discharged to Jerome City. Thus, two discharges occur with a combined total of 0.756 mgd: one to Lateral 12 and the other to Jerome City. The NPDES application for the 2012 draft permit is requesting authorization to discharge 0.756 mgd to Lateral 12 as "non-contact cooling water." However, this description is not appropriate because the discharge is evaporator condensate that is more aligned with process water. The 1997 Mid-Snake TMDL identified the JCC discharge as non-contact cooling water based on information given by JCC (DEQ 1997). However, in the 1995–1997 JCC dataset, the data is defined as "cow water" or "high quality condensate water."

- JCC currently does not have a numeric WLA for TP in its 2001 NPDES permit. However, both the 1997 Mid-Snake TMDL and 2000 US Environmental Protection Agency (EPA) approved Upper Snake Rock TMDL recognize a TP discharge that was considered minimal but not quantified due to a lack of information at the time the TMDL was developed.
- On August 5, 2008, JCC entered into an agreement with Jerome City that transfers 10 pounds per day (lb/day) TP from Jerome City to JCC. Neither entity is currently approved to participate in water quality pollutant trading under their existing NPDES permits. Any outright WLA transfer would need concurrence and approval by DEQ and EPA Region 10 and is not considered a trade under DEQs *Water Quality Pollutant Trading Guidance* (DEQ 2010)
- DEQ analyzed the JCC TP levels discharged between September 1995 through November 1997 and determined the average TP discharged was 0.254 lb/day when the 1997 TMDL was written. DEQ provided this information to EPA to guide the agency in assigning a WLA to JCC pursuant to the original EPA-approved TMDLs of 1999 and 2005. EPA did not provide an allocation for TP in the draft NPDES permit issued for public comment. The public comment period was from March 29, 2010, through April 29, 2010.
- After reviewing the data provided by JCC, DEQ determined that it was insufficient. DEQ issued a request (on March 4, 2013) to JCC to provide additional discharge monitoring report (DMR) data from 2001 through 2009, which was missing from DEQ's files. JCC provided the data on April 12, 2013, which included flow, total suspended solids, and TP (in concentration and load) as shown in the DMRs. Together with existing data, this expanded data set covered the period from 2001 through 2012 (Appendix A). DEQ has determined that this DMR data set (2001–2012) is more reflective of the discharge into Lateral 12 (as the primary discharge that would eventually discharge into the Snake River). The second discharge is to Jerome City and is not being considered here for a WLA. The data is summarized in Table A.
- In a letter dated June 6, 2012, JCC requested DEQ modify the applicable TMDLs to reallocate 10 lb/day TP from Jerome City to JCC in accordance with the 2008 agreement between the City and JCC.
- In a subsequent letter to DEQ dated July 15, 2014 both the City of Jerome and Jerome Cheese Company again requested the DEQ grant and transfer from Jerome City to Jerome Cheese, a portion of the total phosphorus limit available under the City of Jerome's NPDES permit. The Mayor of Jerome, Dave Davis, and the COO of Jerome Cheese Co., Bill Riebesell, are signatories to the agreement/letter of request (Appendix D).
- Both Jerome City and JCC currently discharge to canalways owned and operated by the Northside Canal Company (NSCC). It is DEQ's understanding that the NSCC contacted both entities in 2012 and advised them that any farmland utilizing wastewater on edible crops would require written permission from those farmers for that use. High-quality water must be used on edible food crops that are under a US Department of Agriculture food crop contract. As such, both facilities are seeking alternative discharge locations and discharge methods that avoid discharging further upstream in the canalways.
- DEQ has determined that the full 10 lb/day TP WLA transfer to JCC is not necessary as the JCC average discharge is considerably less than 10 lb/day TP.

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- DEQ recommends that the appropriate WLA assigned to JCC should be 3.8 lb/day and that the remaining WLA of 6.2 lb/day be retired in perpetuity. The retired portion adds a water quality contribution by further reducing TP loading, provides an acceptable WLA for JCC to operate legally, and adds an additional explicit margin of safety.

Table A. Summary of Jerome Cheese Company discharge monitoring report data (2001–2012).

Parameter	Number of Samples (N)	Maximum (lb/day)	Mean (lb/day)	Minimum (lb/day)
Total phosphorus	128	3.76	0.72	0.00
Total suspended solids	129	10.30	0.66	0.00

Note: The analysis of the DMR data is based on the average monthly quantity or loading. It also includes a maximum daily quantity or loading.

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Introduction

In 1997, the Idaho Department of Environmental Quality (DEQ) issued the *Middle Snake River Watershed Management Plan* (Mid-Snake total maximum daily load [TMDL]) (DEQ 1997), which included total phosphorus (TP) wasteload allocations (WLAs) necessary for waters of the subbasin to meet Idaho water quality standards. The Mid-Snake TMDL was then revised and expanded with the *Upper Snake Rock Watershed Management Plan*, approved by the US Environmental Protection Agency (EPA) in 2000 (Upper Snake-Rock TMDL) (DEQ 1999, 2000).[1] This TMDL divided the Middle Snake River into segments, further refined the TP allocation, and included total suspended solid (TSS) allocations to help determine compliance with water quality standards. In 2005, DEQ issued the *Upper Snake Rock TMDL Modification* (DEQ 2005). The main objective of the modification was to set TP allocations for many aquaculture facilities located in the Snake River watershed. The 2005 modification was not intended to adjust the TP allocations for other industries or sources.

This document presents a proposed WLA revision to the *Upper Snake Rock Watershed Management Plan* (or TMDL) (DEQ 1999, 2000, 2005) and addresses the transfer of a portion of a WLA originally granted to the City of Jerome Wastewater Treatment Plant (WWTP) (hereafter referred to as simply Jerome City) to the Jerome Cheese Company (JCC), both in Jerome, Idaho. The Upper Snake-Rock subbasin (hydrologic unit code 17040212) is a complex watershed in southern Idaho that contains numerous point source dischargers including, but not limited to, municipalities, aquaculture facilities, and food processors. The watershed is one of the earliest tracts of land to be serviced by private irrigation canal companies, including the Northside Canal Company (NSCC).

For more information about the watershed, see the following documents:

- Upper Snake Rock 1999 TMDL: *http://www.deq.idaho.gov/media/452941-snake_rock_upper_watershed_mgmt_plan_1299.pdf*
- Upper Snake Rock 2000 TMDL summary: *http://www.deq.idaho.gov/media/983647-tmdl_exec_sum_upper_snake_rock_subbasin_0700.pdf*
- Upper Snake Rock 2005 TMDL modification: *http://www.deq.idaho.gov/media/453119-aquaculture_wasteload_allocations_modification.pdf*

Purpose of the Wasteload Allocation Revision

JCC currently does not have a numeric WLA for TP in its 2001 National Pollutant Discharge Elimination System (NPDES) permit for the high-quality condensate water (HQCW). The currently allowed TP discharge is zero, though both the 1997 and 2000 EPA-approved TMDLs recognize a discharge that was considered minimal. This discharge was not quantified due to lack of information at the time the TMDLs were developed.

[1] The Upper Snake-Rock TMDL is fully captured by two documents: the 1999 TMDL supplemented by the 2000 summary. Both documents are available at *http://www.deq.idaho.gov/water-quality/surface-water/tmdls/table-of-sbas-tmdls/snake-river-middle-upper-snake-rock-subbasin.aspx*.

On August 5, 2008, JCC entered into an agreement with Jerome City that transferred 10 pounds per day (lb/day) TP WLA from Jerome City to JCC. Neither entity is currently approved to participate in water quality pollutant trading under their existing NPDES permits. Any outright WLA transfer would need concurrence and approval by DEQ and EPA Region 10 and is not considered a trade under DEQs *Water Quality Pollutant Trading Guidance* (DEQ 2010).

In a letter dated June 6, 2012, JCC requested DEQ modify the applicable TMDLs and reallocate 10 lb/day TP from Jerome City to JCC in accordance with the 2008 agreement.

In a subsequent letter to DEQ dated July 15, 2014 both the City of Jerome and Jerome Cheese Company again requested the DEQ grant and transfer from Jerome City to Jerome Cheese, a portion of the total phosphorus limit available under the City of Jerome's NPDES permit. The Mayor of Jerome, Dave Davis, and the COO of Jerome Cheese Co., Bill Riebesell, are signatories to the agreement/letter of request (Appendix D).

Both Jerome City and JCC currently discharge to the canalways owned and operated by the NSCC. The NSCC contacted both entities in 2012 telling them they may no longer discharge directly to NSCC canalways. As such, both facilities are seeking alternative discharge locations and discharge methods in the future that avoid discharging further upstream in the canalways. DEQ is not conducting an evaluation of proposed discharge locations until such time as both facilities fully explore their options. At this time, DEQ is presenting information regarding the JCC and Jerome City WLA transfer and revisions based on available data. Should the facilities move their points of discharge, an additional analysis will be completed then.

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1 Subbasin Assessment—Watershed Characterization

This section provides a short summary of the watershed characteristics in the Upper Snake-Rock subbasin, specific to the area affected by this revision (Figure 1).

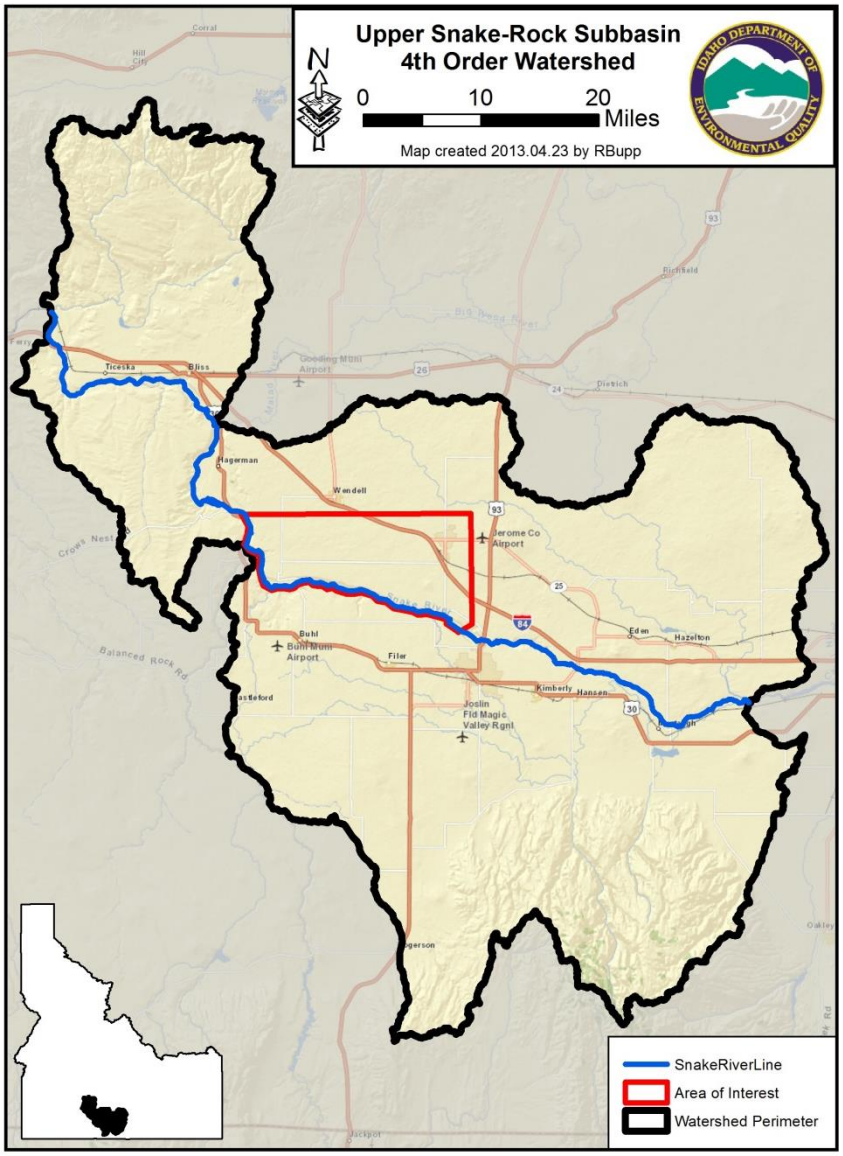

Figure 1. Upper Snake-Rock subbasin.

1.1 Physical and Biological Characteristics

Jerome City and JCC are both located within the Jerome city limits in Jerome County, Idaho. The county's ecosystem is classified in the Intermountain Semidesert Province of the Temperate Desert Division (USFS 1995). The average annual precipitation is 10.8 inches (US Climate Data 2012).

With the exception of the Snake River on its southern border, Jerome County is entirely devoid of perennial streams. Jerome City and JCC discharge to NSCC system features (canals or laterals) that mix with existing canal flows.

1.1.1 Discharging Facilities

Jerome City—The Jerome WWTP (Jerome City) is a municipal WWTP serving the city of Jerome, Idaho. The WWTP is located at latitude 50°N longitude 100°W, approximately one mile northwest of the city square. The plant outfall is located on the southwest corner of the facility property and discharges into NSCC's J Canal at 42° 43' 45" north latitude and 114° 32' 10" west longitude (Figure 2, outfall A).

Jerome Cheese Company—The JCC is a processing plant operated by Davisco Foods. Founded in 1943, Davisco Foods is an international cheese and food ingredient company headquartered in Le Sueur, Minnesota. Davisco owns cheese and ingredient companies in Le Sueur and Nicollet, Minnesota; Lake Norden, South Dakota; and Jerome, Idaho. The sales offices are located in Minneapolis, Geneva, and Shanghai, with worldwide strategic partners in the Middle East, Japan, and Africa. Davisco produces 370 million pounds of cheese annually and is one of the largest suppliers to Kraft Foods (Davisco Foods 2012).

Davisco's processing plant in Jerome is locally known as the JCC. It is located at 164 Bridon Way. HQCW effluent from the NPDES-permitted facility is discharged into NSCC's Lateral 12 at 42° 42' 37" north latitude and 114° 31' 37" west longitude (Figure 2, outfall B). Lateral 12 empties into the N Canal 2,200 feet downstream from outfall B.

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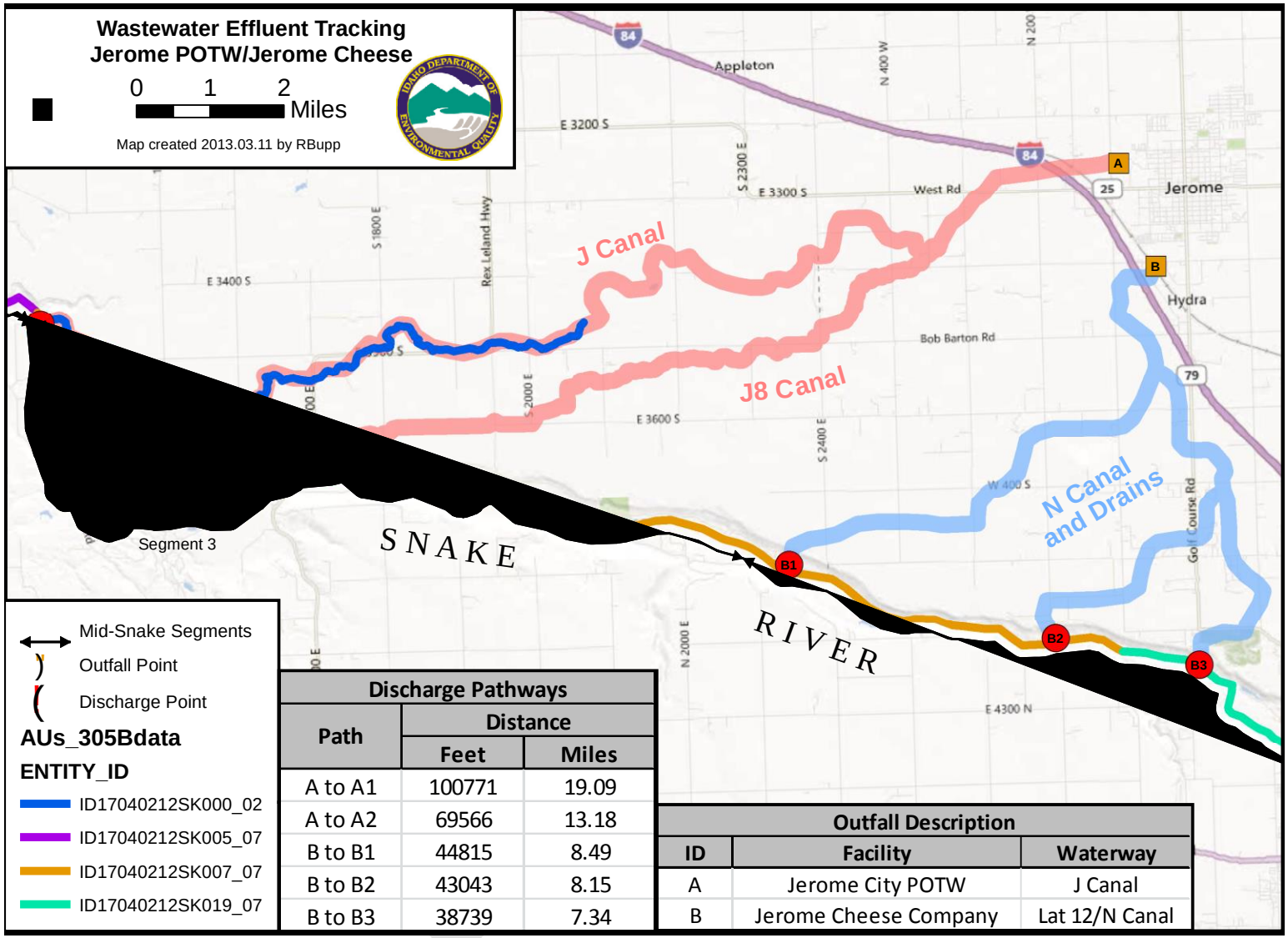

Discharge Pathways		
Path	Distance	
	Feet	Miles
A to A1	100771	19.09
A to A2	69566	13.18
B to B1	44815	8.49
B to B2	43043	8.15
B to B3	38739	7.34

Outfall Description		
ID	Facility	Waterway
A	Jerome City POTW	J Canal
B	Jerome Cheese Company	Lat 12/N Canal

Figure 2. Two canal drainages and discharge locations.

1.1.2 Receiving Conveyances

The NSCC diverts water at Milner Dam on the Snake River in southern Idaho into one large North Main Canal. The water is then distributed through a series of smaller canals to irrigate approximately 156,500 acres. Irrigation water is usually diverted into the canal system beginning in April and ending in October or November, depending on climatic conditions (Brown et al. 1981).

The numerous canals and laterals of the NSCC are water conveyance infrastructure components used for delivering irrigation and livestock water. Some system components also accept return agriculture flows, stormwater runoff, and municipal and industrial effluent discharges, ultimately discharging a portion of these flows to the Middle Snake River. During the irrigation season, additional received flows from runoff or effluent are combined with irrigation water and may be redistributed and reapplied downstream through normal irrigation practices. Outside of the irrigation season, canal flows are not diverted and flow is uninhibited through the system. Any proportion of these discharges that are not redistributed are discharged to the Middle Snake River at the identified locations.

The following NSCC components are associated with Jerome City and JCC:

J Canal: The J Canal flows westerly from the Jerome area into Gooding County through irrigated agriculture lands and discharges to the Snake River at the mouth of Cedar Draw Creek's Blind Canyon at 42° 42' 13" north latitude and 114° 49' 24" west longitude—an approximate distance of 19.09 miles (Figure 2, pathway A–A1). At 2.9 miles downstream of outfall A, 25% of the J Canal is diverted into the J-8 Canal. The J-8 Canal flows in a west-southwesterly direction for 10.2 miles, then discharges into the Snake River at 42° 40' 31" north latitude and 114° 44' 39" west longitude (Figure 2, pathway A–A2). Jerome City discharges are associated with the J Canal.

N Canal*:* The N Canal flows in a southerly direction diverging into the N-23, N-30, and N-33 Canals. Approximately 80% of the flow in the N Canal enters N-30, and the remaining flow enters N-23 and N-33 (15% and 5% respectively) (EPA 2009). The N-23 and N-30 Canals flow directly into the Snake River (Figure 2, discharges B1 and B2, respectively). Waters of the N-33 Canal arrive at the Snake River via the K Canal (Figure 2, discharge B3).

1.2 Cultural Characteristics

The J and N Canal systems influence irrigated agricultural lands and light-residential areas in Jerome and Gooding Counties. This property is held primarily by private landowners; however, a few small parcels of state and federal property exist. Some irrigation water in this area is pumped from ground water wells.

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The J Canal system is primarily a receiving conveyance immediately west of the Jerome WWTP (Figure 2, outfall A). Delivery of water to agricultural land from the J Canal system reoccurs downstream of the J-8 diversion and predominately between the J and J-8 canals in southern Gooding County. Approximately 9,400 acres are influenced by conveyed water in this area of the J Canal system. The ownership of these acres is 97.1% private, 2.1% Bureau of Land Management, and 0.8% State of Idaho.

The N Canal system delivers irrigation supply and receives and re-diverts tail water within the area downstream of the JCC (Figure 2, outfall B). The approximate influence area is 17,640 acres occurring in both Gooding and Jerome Counties. The ownership of these acres is 93.3% private, 1.4% Bureau of Land Management, and 5.4% State of Idaho.

The private land in these two regions is predominately used for crop production, dairy farming, and livestock grazing. Residential parcels are dispersed throughout the areas, with a few small subdivisions and a golf course directly south of Jerome. The region's transportation features include Interstate 84 and numerous paved two-lane roads on the 1-mile cadastral grid.

2 Subbasin Assessment—Water Quality Concerns and Status

This section addresses the water quality concerns and status of water bodies within the Upper Snake-Rock subbasin. In this revision, the concerns are principally directed at the hydrologic linkage between the canal system and the Middle Snake River. The Middle Snake River is the receiving water body of *most* of the canal system associated with JCC and Jerome City, because some water may be lost to ground water (or recharge) due to leaks within the canal system. The extent of the Middle Snake River is specifically defined in the approved TMDLs as the Snake River from Milner Dam to King Hill, Idaho.

2.1 Water Quality Limited Assessment Units Occurring in the Subbasin

Jerome City and JCC currently discharge effluent to canals. These canals are under management by the NSCC, which is one of two of the largest mutual irrigation companies in south-central Idaho and serves some 165,000 acres of farmland along an 80-mile stretch of the Middle Snake River. The J Canal and the N Canal both receive the effluent discharges from Jerome City and JCC, respectively, and have done so for over 20 years. These canals undulate through miles of canalways and laterals before discharging to the Middle Snake River.

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J Canal System. The J Canal system receives Jerome City's effluent discharge, which then discharges to the Middle Snake River. Two discharge locations into the Middle Snake River are noted in Figure 2. The first is the main J Canal (A to A1) and is approximately 19.09 miles from the outfall to the river. The second involves the J-8 Canal (A to A2) and is approximately 13.18 miles from the outfall to the river. There is no assessment unit (AU) associated with this J-8 Canal, which carries approximately 25% of flow from the J Canal. Both canals would be seasonal, except that the Jerome City effluent discharge is year-round (Diehl 2012). Therefore, the J Canal tends to run year-round. The J Canal system discharges to Segment 3 (Crystal Springs to Box Canyon) of the Middle Snake River.

N Canal System. The N Canal system receives JCC HQCW effluent discharge. Three locations are noted in Figure 2, indicating the discharge into the Middle Snake River. The first is the N-23 Canal (B to B1), which is approximately 8.49 miles from the outfall to the river and represents 15% of the flow in the N Canal. The second is the N-30 Canal (B to B2), which is approximately 8.15 miles from the outfall to the river and represents 80% of the flow in the N Canal. The third is the N-33 Canal (B to B3), which is approximately 7.34 miles from the outfall to the river and represents 5% of the flow in the N Canal. No assessment unit (AU) is associated with the N Canal system. The N Canal system discharges to Segment 2 (Pillar Falls to Crystal Springs) of the Middle Snake River.

Alternative Discharge Locations. A direct pipeline has been proposed for Jerome City's effluent outfall to the Middle Snake River to discharge at one of two locations (or both). The first location (A to L2) would be approximately 7.05 miles. The second location (A to L1) would be approximately 7.60 miles. The proposed alternative discharges under consideration by Jerome City would move the existing NPDES discharge from Segment 3 into Segment 2 of the Middle Snake River. The pipeline would take the effluent directly to two possible discharge locations (L1 and L2 in Figure 2). Discharge L1 would be directly down-canal of the Jerome Golf Course (Yingst Road). Discharge L2 would be through a canal-based hydropower facility (200 West Road). JCC may quit discharging to the N Canal and consider connecting to the new proposed pipeline of Jerome City.

Middle Snake River. The Middle Snake River is the receiving water body of the J Canal system and the N Canal system. It will also be the receiving water of the alternative discharges that are proposed by Jerome City. As previously stated, the proposed alternative discharges under consideration by Jerome City would move the existing NDPES discharge into the J Canal, which discharges into Segment 3, over to Segment 2, which is a direct discharge to the Middle Snake River. Two AUs are associated with the Middle Snake River that receive discharges from the J Canal system, the N Canal system, and the alternative discharge locations:

- ID17040212SK019_07 (Snake River—Twin Falls to Rock Creek)
- ID17040212SK007_07 (Snake River—Rock Creek to Box Canyon Creek)

For purposes of clarification, the Middle Snake River segments based on the Upper Snake Rock TMDL with associated AUs and their IDAPA segment designations are shown in Table 1.

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Table 1. Middle Snake River segments and their associated IDAPA segment designations and assessment units.

Middle Snake River Segments	IDAPA Segment Designations[a]	Assessment Unit(s)
Segment 1: Milner Dam to Pillar Falls	US-19, US-20	ID17040212SK019_07 ID17040212SK020_07
Segment 2: Pillar Falls to Crystal Springs	US-7, US-19	ID17040212SK007_07 ID17040212SK019_07
Segment 3: Crystal Springs to Box Canyon	US-7	ID17040212SK007_07
Segment 4: Box Canyon to Gridley Bridge	US-5	ID17040212SK005_07
Segment 5: Gridley Bridge to Shoestring Bridge	US-5, US-1	ID17040212SK005_07 ID17040212SK001_07
Segment 6: Shoestring Bridge to King Hill	US-5, US-1	ID17040212SK001_07 ID17040212SK005_07 ID17050101SW005_07[b]

[a] IDAPA = refers to Idaho Administrative Procedures Act. Segment designations are found at IDAPA 58.01.02.150.14 (Upper Snake Rock).

- US-1: Snake River – Lower Salmon Falls to Clover Creek
- US-5: Snake River – Box Canyon Creek to Lower Salmon Falls
- US-7: Snake River – Rock Creek to Box Canyon Creek
- US-19: Snake River – Twin Falls to Rock Creek
- US-20: Snake River – Milner Dam to Twin Falls

[b] ID17050101SW005_07 represents the Snake River AU from Clover Creek to Browns Creek. The original designation in 1997 included King Hill, Idaho. King Hill Creek, west of King Hill, Idaho, represented the west boundary of HUC 17040212. Sometime in 2002 as part of the Integrated Report Assessment Process the subbasin designation (most probably because of the drainage pattern across the landscape) excluded the Clover Creek to King Hill, Idaho reach, which was incorporated into the SW AU (and not the SK AU).

2.2 Applicable TMDLs

This section describes both NPDES facilities—JCC and Jerome City—and their applicability in the approved Upper Snake Rock TMDL (DEQ 1999).

2.2.1 Jerome Cheese Company—NPDES ID-002760-0

JCC owns, operates, and maintains this cheese manufacturing and whey drying facility (Standard Industrial Codes 2022 and 2023) in Jerome County in south-central Idaho.

2.2.1.1 Facility Description

The revised NPDES permit application (dated February 17, 2000) indicates that approximately 3,800,000 pounds of raw milk are processed at the facility per day as part of the cheese manufacturing. Both the raw milk and whey, a byproduct of cheese manufacturing, are processed using an evaporator system. According to the EPA fact sheet, “the condensate from the milk and whey evaporators is tested using conductivity sensors and diverted to either the City of Jerome publicly owned treatment works (POTW) if the conductivity is greater than 175 microsiemens (175 µS) or to the ‘cow water tanks’ for in house needs and subsequent discharge to Lateral 12 if the conductivity is <175 µS” (JCC 2010–2015). Effluent from the JCC dairy processing facility

is discharged from outfall 001 to Lateral 12, which flows west to the N Canal (both of which are owned and operated by the NSCC).

2.2.1.2 Historical Perspective

In 1997, DEQ issued the *Middle Snake River Watershed Management Plan* (Mid-Snake TMDL) (DEQ 1997). This TMDL set TP allocations for point and nonpoint sources in order to meet state water quality standards. The Mid-Snake TMDL was then revised and expanded with the *Upper Snake Rock Watershed Management Plan*, approved by EPA in 2000 (Upper Snake-Rock TMDL) (DEQ 1999). This TMDL divided the Middle Snake River into segments (Table 1), further refined the TP allocation, and included TSS allocations to help determine compliance with water quality standards. In 2005, DEQ issued the *Upper Snake Rock TMDL Modification* (DEQ 2005). The main objective of the modification was to set TP allocations for many aquaculture facilities located in the Snake River watershed. The 2005 TMDL modification was only intended to set the TP WLAs for the aquaculture industry.

The Mid-Snake TMDL and Upper Snake-Rock TMDL recognized that JCC is discharging "non-contact" cooling water. Table 25 and its related footnotes in the Mid-Snake TMDL state that JCC has a discharge of "non-contact cooling water" and that such discharge has TP levels that, although unknown, are relatively small (DEQ 1997, pp. 64–65). The Upper Snake-Rock TMDL treats the JCC discharge in a similar fashion by recognizing that the discharge was continuing and contributing to what was thought to be a small load of TP to the Snake River watershed. The Upper Snake-Rock TMDL states the following with respect to JCC and similar discharges: "Any loads coming from these NPDES-type facilities are extremely low and therefore negligible to the TMDL process at this time. Therefore, the current proposed load allocation to these facilities is zero" (DEQ 1999, p. 189)

The Mid-Snake and Upper Snake-Rock TMDLs' recognition of a JCC discharge is consistent with other information indicating that JCC was discharging to the N Canal at the time these TMDLs were issued. In 1995, JCC applied for an NPDES permit for its discharge. EPA informed JCC that due to a lack of resources, it could not issue a permit at that time and that until a permit was issued, JCC should comply with any limits determined by DEQ to be necessary to meet state water quality standards. In March 1995, DEQ provided JCC a letter outlining requirements in order to meet those standards. The letter did not suggest TP limits but instead required, among other things, that JCC monitor its flow and TP levels to ascertain the TP load discharging from the facility. DEQ has reviewed the monitoring data collected from September 1995 through November 1997. Monitoring data collected by JCC shows that by 1997, JCC was discharging an average flow of 0.260 million gallons per day (mgd), with an average TP concentration of 0.117 milligrams per liter (mg/L), which equals an average of 0.254 lb/day TP. DEQ continued to monitor the JCC situation and in 1999 sent a letter to JCC reminding it of its obligation to monitor and meet certain effluent limitations pursuant to DEQ's 1995 "authorization" to discharge.

While the TMDLs appear to recognize the JCC discharge of TP, the TMDLs do not provide any specific allocation to JCC. Table 25 in the Mid Snake TMDL provides a "0" (zero) allocation for JCC (DEQ 1997, p. 64). However, the allocation is accompanied by a footnote that indicates that JCC is discharging a low level of TP. In addition, the allocations are set forth as changes from baseline conditions, and a zero baseline is set for JCC. In the Mid-Snake TMDL, DEQ explains

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that there is a question as to whether the baseline loads for facilities such as JCC represents zero: "For NPDES/Land Application facilities, more information is required to determine if discharges are actually occurring on a seasonal basis. These determinations will be conducted within three years of plan implementation. Therefore, the baseline loads for these facilities may not represent a zero discharge as defined in Table 25" (DEQ 1997, p. 56).

The 1999 Upper Snake-Rock TMDL also recognized that JCC was continuing to discharge. However, the TMDL indicates that a zero allocation was appropriate because the discharge is "negligible to the TMDL process at this time" (DEQ 1999, p. 189).

The Mid-Snake and Upper Snake-Rock TMDLs appear to accommodate the JCC discharge without providing a specific allocation because the discharge was negligible to the TMDL process. This decision is consistent with the information DEQ had at the time the TMDLs were developed. DEQ was well aware of the discharge, and in fact provided JCC with a letter indicating the parameters JCC should meet to comply with water quality standards. Therefore, any interpretation that the TMDLs did not provide JCC any allocation for its discharge is inconsistent with DEQ's authorization to allow the discharge in its 1995 letter, which was reiterated in its 1999 letter.

The information collected by JCC is consistent with DEQ's statement in the Upper/Snake Rock TMDL that the JCC discharge is negligible. The information indicates JCC was discharging an average of 0.1720 lb/day TP to the NSCC system. It is uncertain what the TP load is into the Jerome City system, because JCC did not provide information on their discharge into the Jerome City system. The canal to which the discharge occurs (Lateral 12 into the N Canal system) splits into three discharges to the Snake River: the N-23 Canal, the N-30 Canal, and the N-33 Canal through the K Canal. All three discharges are in the Pillar Falls to Crystal Springs reach (identified as Segment 2 in the TMDLs) of the Snake River. The distance from the point of discharge to the Snake River through the J Canal System is at least 19 miles; a considerable distance where the effluent may get diverted to various agricultural farms.

More recent water quality data compiled by DEQ based on JCC's discharge monitoring reports (DMRs) to EPA from 2006 to 2010 indicate that the average TP discharge has increased to 1.08 lb/day with a maximum of 3.8 lb/day TP.

JCC had originally intended to land apply any waste stream generated from the facility and there was not a pressing need for a numeric WLA. JCC had applied to the county for permission to land apply but was denied. The denial was unexpected; by that time, the TMDL load allocations and WLAs were already established for JCC's effluent, ultimately resulting in zero discharge in their permit.

The most current NPDES permit for JCC (issued 2001; expired 2006) indicates a TP WLA of zero. This permit was administratively extended in 2006 and is still administratively extended pending the development of a WLA for the facility.

2.2.2 Jerome City—NPDES ID-002016-8

The City owns and operates a facility that treats wastewater from domestic, industrial, and commercial sources.

2.2.2.1 Facility Description

The facility's collection system consists only of separate sanitary sewers. Flow is normally routed through two 3 millimeter (mm) perforated plate screen Rotamats. Rags and other debris larger than 3 mm are removed. The flow then enters two grit chambers that slow the flow to allow the grit to settle. Wastewater enters a bio-tower (packed with plastic media used for secondary treatment) wet well, and a percentage of wastewater is pumped over the bio-tower, which removes 65–70% of the soluble biological oxygen demand. Secondary treatment removes the organic matter in wastewater by using biological treatment processes.

Some bio-tower effluent is returned to the bio-tower wet well for recycle flow back to the bio-tower to maintain a constant wetting rate, with the remainder of the flow mixed with influent and sent to the aeration basins. Recycled flow from the membrane basins is mixed with the flow from the bio-tower in the aeration basins where dissolved oxygen is added, resulting in an aeration basin mixed liquor. The aeration basin mixed liquor is then pumped from the recycle pump building to the membrane bioreactors.

The membrane bioreactor upgrade went online in January 2008. This upgrade included the biological nutrient removal process, or BNR. The process consists of alum flocculation and coagulation. The facility provides secondary treatment for an estimated service total population of 9,300.

The facility receives industrial wastewater from three significant industrial users that are also categorical industrial users under 40 CFR 405:

- JCC, a division of Davisco, discharges 0.76 mgd intermittently to the plant.
- Idaho Milk Products, which manufactures protein powder and dry milk from whole milk, discharges 0.4 mgd intermittently to the plant.
- Darigold Inc. manufactures powdered nonfat milk, condensed whole milk, cream, and separated ice cream from whole milk and discharges 0.438 mgd intermittently to the plant.

The WWTP has a design flow rate of 3.0 mgd.

2.2.2.2 TMDL Historical Perspective

The Mid-Snake TMDL allocated a WLA of 204.7 lb/day TP (DEQ 1997, Table 24, p. 62) to the City of Jerome and it discharges indirectly to the Middle Snake River via the NSCC. Additionally, the Mid-Snake TMDL stipulates that

> "Load reductions from those municipalities which discharge into creeks or ag drains (Filer and Buhl into creeks; Hansen and Jerome into an ag drain) will be reflected in the loads from the Other component in Table 22" (DEQ 1997, p. 63).

The "Other" component includes TP estimates from urban runoff, construction, land disposal, silviculture, bank erosion, grazing, some municipalities, and some aquaculture (DEQ 1997, Table 22, Footnote 7).

The Upper Snake-Rock TMDL further describes the WLA for Jerome City as 205.0 lb/day TP (DEQ 1999), specific for Segment 3 (Crystal Springs to Box Canyon) of the Middle Snake River.

The Upper Snake-Rock TMDL modification retains the TP WLA (DEQ 2005, Table 3-A, pp. 49–51). The current NPDES permit (2010 issuance, 2015 expiration) has a TP limit of 204.5 lb/day average monthly and 377 lb/day average weekly.

2.3 Applicable Water Quality Standards and Beneficial Uses

This section discusses the applicable water quality standards and beneficial uses of the affected waters. As part of that discussion, the application of the man-made waterway provision is also discussed.

2.3.1 Man-Made Waterway Provision

JCC has been discharging to Lateral 12 for at least 20 years. Lateral 12 then discharges into the N Canal system. Both canals are under the jurisdiction of the NSCC. This canal system trifurcates and ends in three separate discharges to the Middle Snake River: the N-23, N-30, and N-33 Canals (via the K Canal). All three discharges are in the Pillar Falls to Crystal Springs segment (Segment 2) of the Middle Snake River (Figure 2). During the irrigation season (April 1–October 31), the flow in Lateral 12 averages approximately 3 cubic feet per second or 1.94 mgd (a maximum of 4.5 cubic feet per second or 2.91 mgd) (JCC 2010–2015).

The NSCC canals are man-made waterways that convey agricultural irrigation water and stockwater. Aquatic life and recreational uses and associated criteria are not applicable to the N Canal and J Canal systems, as discussed below.

Idaho's water quality standards designate uses for Idaho waters. However, the standards also contain provisions for those waters with no specific designations. IDAPA 58.01.02.101.02 applies to man-made waterways that have not been designated for any specific uses in the table: "Unless designated in Sections 110 through 160, man-made waterways are to be protected for the use for which they were developed."

The definition and identification of man-made waterways is clarified as follows:

> Canals, flumes, ditches, wasteways, drains, laterals, and/or associated features, constructed for the purpose of water conveyance. This may include channels modified for such purposes prior to November 28, 1975. These waterways may have uniform and rectangular cross-sections, straight channels, follow rather than cross topographic contours, be lined to reduce water loss, and be operated or maintained to promote water conveyance. (IDAPA 58.01.02.010.58)

The NSCC canal system into which JCC discharges is clearly a man-made waterway as defined in the EPA-approved Idaho water quality standards. It has uniform and rectangular cross-sections, straight channels, and is used to convey water for agricultural purposes. The canal system is not designated for specific uses in the water quality standards. Therefore, under the plain language of IDAPA 58.01.02.101.02, the NSCC canal system is protected only for agricultural water supply; the aquatic life and recreational criteria do not apply.

The man-made waterway provision has been in the water quality standards since 1980. DEQ has consistently interpreted the provision to protect such waterways only for the purpose for which they were created. When EPA disapproved other sections of Idaho's water quality standards in 1997, EPA specifically confirmed that the man-made waterway provision continued to be an approved water quality standard for Idaho (See 147 FR 41176–41177, July 31, 1997).

EPA has also consistently applied the man-made waterway provision in NPDES permits. In addition to the prior JCC and Jerome City permits, the man-made waterway provision has been applied in permits for Amalgamated Sugar Company, Caldwell Housing Authority, Magic Valley Produce, Paul Housing Authority, Sorrento Lactalis, and the City of Star.

The JCC NPDES permit states that a portion of their effluent at Outfall 001A discharges "to an irrigation ditch referred to as Lateral 12 which flows west to the N canal (both of which are owned and operated by the North Side Canal Company of Jerome, Idaho)." Because this lateral and the canal are primarily manmade conveyances for carrying water to agricultural lands, the permit reflects that the receiving canal water is protected for agricultural water supply uses as existing beneficial uses (and not designated for agricultural water supply). Other effluent limits may be necessary to meet water quality standards applicable to the downstream Snake River.

2.3.2 Beneficial Uses

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

2.3.3 Existing Uses

Existing uses under the Clean Water Act (CWA) are "those uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the water quality standards" (40 CFR 131.3). The existing instream water uses and the water quality necessary to protect the uses shall be maintained and protected (IDAPA 58.01.02.050.02, .02.051.01 and 02.051.07). Existing uses include uses actually occurring, whether or not the water quality to fully support the uses exists.

DEQ visited the N Canal and J Canal during 2010–2012. The visits indicated that both canals conveyed irrigation water during the irrigation season for agricultural croplands and for animal stockwater. Thus, the canal water has agricultural water supply purposes. However, both JCC and Jerome City discharge to these canals year-round, and thus provide year-round treated effluent wastewater, which also becomes part of the agricultural water supply use until both discharge to the Middle Snake River. DEQ's discussion with the NSCC indicates that Jerome City's discharge does reach the Middle Snake River through the J Canal and the J-8 Canal. However, JCC's discharge during the non-irrigation season does not reach the Middle Snake River (unless sufficient stormwater is present). This discharge stays within the canal, freezes during the winter, thaws during the spring, and is eventually discharged to the river when the irrigation season begins. Table 2 summarizes the existing beneficial uses for the canal systems and applicable Snake River segments.

Table 2. Existing beneficial uses.

Water Body	Salmonid Spawning	Cold Water Aquatic Life	Primary Contact Recreation	Secondary Contact Recreation	Agricultural Water Supply
N Canal	Not applicable	Not applicable	Not applicable	Not applicable	Confirmed[a]
J Canal	Not applicable	Not applicable	Not applicable	Not applicable	Confirmed[a]
Snake River—Segment 2	Not confirmed[b]	Confirmed	Confirmed	Not applicable	Not applicable
Snake River—Segment 3	Not confirmed[b]	Confirmed	Confirmed	Not applicable	Not applicable

[a] JCC and Jerome City discharge to private man-made canals (N Canal and J Canal, respectively). These canalways are considered man-made waterways in the Idaho water quality standards. IDAPA 58.01.02.101.02 stipulates that man-made waterways are to be protected for the use for which they were developed.
[b] Salmonid spawning has not been confirmed as an existing beneficial use in the main stem Middle Snake River (in Segments 2 and 3). Based on IDFG discussions with DEQ, IDFG believes that salmonid spawning in the Middle Snake River is occurring only at those tributary confluences that are spring-fed systems. DEQ has not been able to confirm salmonid spawning in the main stem Middle Snake River since 1995.

2.3.4 Designated Uses

Designated uses under the CWA are "those uses specified in water quality standards for each water body or segment whether or not they are being attained" (40 CFR 131.3). Designated uses are simply uses officially recognized by the state. In Idaho, these designated uses include aquatic life support, recreation in and on the water, domestic water supply, and agricultural uses. Water quality must be sufficiently maintained to meet the most sensitive use.

Designated uses may be added or removed using specific procedures in state law, but the effect must not be to preclude protection of an existing higher quality use such as cold water aquatic life or salmonid spawning.

Designated uses are specifically listed for Idaho water bodies in the water quality standards (see IDAPA 58.01.02.010.24 and .02.109–160, in addition to citations for existing uses). Table 3 summarizes the designated beneficial uses as defined in IDAPA 58.01.02.150.14 (Upper Snake-Rock subbasin).

Table 3. Designated beneficial uses as defined in IDAPA regulations.

Water Body	Salmonid Spawning	Cold Water Aquatic Life	Primary Contact Recreation	Secondary Contact Recreation
N Canal	No	No	No	No
J Canal	No	No	No	No
Snake River—Segment 2	Yes	Yes	Yes	No
Snake River—Segment 3	Yes	Yes	Yes	No

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2.3.5 Presumed Beneficial Uses

In Idaho, most water bodies listed in the water quality standards do not yet have specific use designations. These undesignated uses are to be designated. In the interim, and absent information on existing uses, DEQ presumes that most waters in the state will support cold water aquatic life and either primary or secondary contact recreation (IDAPA 58.01.02.101.01). To protect these so-called *presumed uses*, DEQ will apply the numeric cold water aquatic life criteria and primary or secondary contact recreation criteria to undesignated waters except as noted regarding man-made waterways (see section 2.3.1).

2.3.6 Criteria to Support Beneficial Uses

Beneficial uses are protected by a set of criteria, which include *narrative* criteria for pollutants such as sediment and nutrients and *numeric* criteria for pollutants such as bacteria, dissolved oxygen, pH, ammonia, temperature, and turbidity (IDAPA 58.01.02.200, 02.250 and 02.251).

Table 4 includes the most common numeric criteria used in TMDLs.

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

Water Quality Parameter	Beneficial Uses			
	Primary Contact Recreation	Secondary Contact Recreation	Cold Water Aquatic Life	Salmonid Spawning (During Spawning and Incubation Periods for Inhabiting Species)
Water Quality Standards: IDAPA 58.01.02.250				
Bacteria, pH, and dissolved oxygen	Less than 126 *E. coli*/100 mL[a] as a geometric mean of 5 samples over 30 days; no sample greater than 406 *E. coli*/ 100 mL	Less than 126 *E. coli*/100 mL as a geometric mean of 5 samples over 30 days; no sample greater than 576 *E. coli*/100 mL	• pH between 6.5 and 9.0 • Dissolved oxygen (DO) exceeds 6.0 mg/L[b]	• pH between 6.5 and 9.5 • Water Column DO: DO exceeds 6.0 mg/L in water column or 90% saturation, whichever is greater • Intergravel DO: DO exceeds 5.0 mg/L for a 1-day minimum and exceeds 6.0 mg/L for a 7-day average
Temp-erature[c]	n/a	n/a	• 22 °C or less daily maximum; 19 °C or less daily average • Seasonal Cold Water: Between summer solstice and autumn equinox—26 °C or less daily maximum; 23 °C or less daily average	• 13 °C or less daily maximum; 9 °C or less daily average • Bull trout: not to exceed 13 °C maximum weekly maximum temperature over warmest 7-day period, June–August; not to exceed 9 °C daily average in September and October
Turbidity	n/a	n/a	Turbidity shall not exceed background by more than 50 NTU[d] instantaneously or more than 25 NTU for more than 10 consecutive days.	n/a
Ammonia	n/a	n/a	Ammonia not to exceed calculated concentration based on pH and temperature.	n/a
EPA Bull Trout Temperature Criteria: Water Quality Standards for Idaho, 40 CFR Part 131				
Temp-erature	n/a	n/a	n/a	7-day moving average of 10 °C or less maximum daily temperature for June–September

[a] *Escherichia coli* organisms per 100 milliliters
[b] Milligrams per liter
[c] Temperature Exemption—Exceeding the temperature criteria will not be considered a water quality standard violation when the air temperature exceeds the ninetieth percentile of the 7-day average daily maximum air temperature calculated in yearly series over the historic record measured at the nearest weather reporting station.
[d] Nephelometric turbidity units

2.4 Summary and Analysis of Existing Water Quality Data

Segments of this river were listed as water quality limited in 1990 because nuisance weed growth had exceeded water quality criteria and standards established for protection of cold water aquatic life and salmonid spawning. For Jerome City, the DMRs for January 2008 through July 2012 were utilized for TMDL development of wasteload allocations.

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To fully evaluate JCC's data, DEQ did a summary evaluation of three data sets pertinent to JCC: the September 1995 through November 1997 preliminary raw data; the JCC DMRs from January 2010 through September 2012 for TP as discussed in their attorney's letter to EPA (dated June 22, 2012) for data that reflects a long-term average of 0.254 lb/day TP and 5.14 lb/day TSS; and the JCC DMRs from October 2001 through December 2012. DEQ determined that the best data set that describes the effluent discharge into Lateral 12 is the one from October 2001 through December 2012. Therefore, this dataset will be used in the following discussion.

The existing water quality TP data for Jerome City and JCC are summarized and described in the following sections.

2.4.1 Jerome City Data (January 2008–July 2012)

DEQ did a summary evaluation on August 21, 2012, of the DMRs for Jerome City from January 2008 through July 2012 for TP. The DMRs provided the following metrics:

- TP effluent gross values as monthly averages (lb/day) and daily maximums (lb/day) from January 2008 through July 2010
- TP effluent gross values as monthly averages (lb/day), weekly averages (lb/day), and single samples (mg/L) from July 2010 through July 2012

Table 5 summarizes the DMR data. See Appendix A for the data analysis.

Table 5. Summary statistical analysis of Jerome City's total phosphorus (TP) discharge monitoring report data (January 2008–July 2012)—NPDES ID-002016-8.

Statistic	Daily Maximum TP	Monthly Average TP	Weekly Average TP	Single Sample TP
Count	30	55	25	25
Minimum	152 lb/day	45 lb/day	90 lb/day	8.6 mg/L
Mean	280 lb/day	183 lb/day	211 lb/day	14.9 mg/L
Median	229 lb/day	172 lb/day	207 lb/day	14.1 mg/L
Maximum	709 lb/day	536 lb/day	326 lb/day	25.4 mg/L
Exceedances	4	13	0	n/a
% Exceedances	13.3%	23.6%	0.0%	n/a

Source: Data from EPA's NetDMR program and Jerome City's DMRs.
Note: National Pollutant Discharge Elimination System (NPDES), pound (lb), milligrams per liter (mg/L), not applicable (n/a)

2.4.2 Jerome Cheese Company Data (October 2001–December 2012)

The DMRs in this data set are from October 2001 through December 2012 and are only for the discharge of the noncontact cooling water (i.e., the "cow water" or "high quality condensate water"). Table 6 summarizes the descriptive statistics for this data set (which is found in Appendix A).

Table 6. Descriptive statistics of JCC's DMRs (2001–2012) for TP.

TP Statistic	TP Effluent Load		TP Concentration	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum
Count	128	127	129	129
Minimum	0.00	0.00	0.000	0.000
Mean	0.72	0.80	0.251	0.247
Median	0.49	0.59	0.180	0.180
Maximum	3.76	3.76	1.320	1.320
95th Percentile	2.42	2.74	0.772	0.748
Standard Deviation	0.81	0.85	0.273	0.262

Note: Load in lb/day; concentration in mg/L.

The data indicate that the maximum load on a monthly average and daily maximum is 3.76 lb/day. That equates to a concentration of 1.32 mg/L for both the monthly average and the daily maximum. These data reflect 11 years and 2 months (or 134 months) of continuous activity, and thus represents a large data set (N > 50). There are no gaps in the data that would disqualify it from considering seasonality if needed. Consequently, DEQ has determined that this data set best reflects JCC's discharge into Lateral 12.

2.5 Data Gaps

The most prominent data gaps for both facilities are information that would provide the following:

- A minimum of N = 50 values, each value representing a monthly reporting requirement. The Jerome City database has less than 50 values, although the timeframe is 54 months. The JCC database is well over the 50 values.
- A continuous data set that covered at least 4 years. The Jerome City database has a timeframe of 54 months; whereas the JCC database is for 134 months.
- Consideration for seasonality based on months and quarters, and based on irrigation versus non-irrigation seasons. Seasonality was not requested as a consideration by either facility, so seasonality is not a provision.

Therefore, DEQ concludes that the current data are sufficient to provide DEQ with an understanding of the effluent discharge quality and consider a WLA for JCC.

3 Subbasin Assessment—Pollutant Source Inventory

Nonpoint source pollution and water diversions are the predominant influences on surface water quality in the Upper Snake-Rock subbasin. Such is the case for the J Canal system, N Canal system, and the Middle Snake River. Pollutants of greatest concern that have been associated with water quality degradation and stream habitat degradation include nutrients, sediment, bacteria, organic waste, and elevated water temperature. However, irrigation drainage,

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aquaculture effluent, municipal effluent, hydrologic modification, and dams also affect water quality in the Middle Snake River.

The distinction with these canalways (from other canalways) is that point source inputs (i.e., JCC and Jerome City) discharge into their waterways, thus contributing wastewater from a municipality (for the J Canal) and from an industrial facility (for the N Canal). Thus, the discharge into the Middle Snake River is considered both nonpoint source (from the canalways) and point source wastewater.

4 Monitoring and Status of Water Quality Improvements

DEQ reviewed the JCC DMR data (134 months) and made the following observations:

- Only 1 in 129 samples (0.78% of the data) had a TP concentration of zero (monthly average and daily maximum). This value occurred in April 2007.
- 45 in 129 samples (34.9% of the data) had TP concentration less than 0.1 mg/L (for the monthly average).
- Only 84 in 129 samples (65.1% of the data) had TP concentrations greater than or equal to 0.1 mg/L (for the monthly average).

These data indicate that JCC has violated its NPDES permit (zero discharge for TP) 99.2% of the time in 134 months. Only once during the 2001–2012 time period did the facility meet the NPDES permit.

5 Total Maximum Daily Load(s)

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

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

Where:

LC = load capacity

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

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

LA = load allocation for all nonpoint sources

WLA = wasteload allocation for all point sources

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

5.1 Wasteload Allocation and Analysis

The Middle Snake River is the receiving water body for the J Canal system and the N Canal system. This section addresses design conditions, development of instream water quality targets, monitoring locations, and the proposed WLAs for JCC and Jerome City.

5.1.1 Design Conditions

The design conditions for the proposed transfer of 3.8 lb/day TP (i.e., 10 lb/day total transferred, but 6.2 lb/day retired) from Jerome City to JCC are the same as defined in the Upper Snake Rock TMDL and modification (DEQ 1999, 2005). The 6.2 lb/day TP transferred by Jerome City to JCC are being retired in perpetuity as a net water quality benefit to the Middle Snake River and an additional explicit margin of safety. The design conditions originally envisioned for the Middle Snake River are not being modified. The following is a summary of the design conditions based on the three TMDLs of record (DEQ 1997, 1999, 2005):

- The Mid-Snake TMDL set a baseline year of 1991 (DEQ 1997, p. 10). This date was later supported by the Upper Snake-Rock TMDL (DEQ 1999, p. 99) but was modified to represent the entire Middle Snake River as an average value.
- Load capacities for TP in the Upper Snake-Rock TMDL were calculated as an annual average load (DEQ, 1999, p. A-7). Allocations of TP are expressed as pounds per day.
- The Middle Snake River was divided into six decision units (segments) to determine compliance with water quality standards and targets within the river system from upstream to downstream (DEQ, 1999, p. A-11; DEQ 2005, p. 24). Each decision unit was assigned a target load for TP based on the concentration targets and the average flow of the river system (based on US Geological Survey water flow information).
- Point source industry facilities were assigned permit limits (as WLAs) based on either a water quality–based effluent limitation or a technology-based effluent limitation. These limitations have been modified in the permits as the permits have been reissued during their 5-year cycles.
- Nonpoint source industries were assigned load allocations based on the river and tributary instream targets and the average flow of the tributary or man-made conveyance. Stream types accounted for in the load allocation process include springs, agricultural drains, natural tributaries, and segments of the Middle Snake River. Load allocations for TP are expressed as daily values (e.g., lb/day) (DEQ 1999, p. A-12).
- The TMDL includes an implicit margin of safety (DEQ 1999, pp. 195–197).

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5.1.2 Instream Water Quality Targets

The instream TP water quality targets are not proposed for modification or change. The TP instream target for the Middle Snake River was set at 0.075 mg/L (DEQ 1997, pp. 10, 169; DEQ 1999, p. A-6; DEQ 2005, p. 24) for the narrative standard of excess nutrients. This concentration was set primarily based on EPA's RBM10 Model, which included TP reductions from various water industry groups, in order to reduce the nuisance aquatic plant growths (i.e., macrophytes and algae) that were predominant in the Crystal Springs reach of the river system.

For tributaries to the Middle Snake River, an instream target of 0.1 mg/L TP was set as EPA's Blue Book standard (DEQ 1999, pp. 99–100, 169, A-6). Additionally, this target was applied to both natural and man-made conveyances (DEQ 2005, p. 24).

For ground water spring sources, an instream target of 0.020 mg/L TP was adopted as a mean regional value (DEQ 1999, p. 435).

5.1.3 Monitoring

The monitoring locations (or points) for the Middle Snake River have been based on the Trend Monitoring Plan that was initially developed for the Mid-Snake TMDL (DEQ 1997) and remains in effect. This plan involves monitoring at seven locations within the six segments of the Middle Snake River, including Segments 2 and 3, which encompass the discharges from JCC and Jerome City, respectively.

However, any monitoring on the J Canal system and the N Canal system has not been conducted by DEQ. Such monitoring should be part of the effluent discharge NPDES permit sampling for compliance purposes.

Therefore, DEQ has no water quality monitoring data from both canal systems involved, nor has it established any monitoring points in either canal system.

5.1.4 Wasteload Allocations

Load capacity values for TP were derived and shown in the TMDL and are summarized in Table 7. This table accounts only for that portion of the TMDL load allocation that will be involved in the transfer of TP from Jerome City to JCC. All other portions of the TMDL are unchanged.

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Table 7. Segments 2 and 3 total phosphorus load capacity values as shown in the Upper Snake Rock TMDL (1999), Upper Snake Rock TMDL modification (2005), and this 2014 revision. Items in red indicate changes to previous TMDL.

Monitoring Location	Total Phosphorus (pounds/day)		
	1999 TMDL[a]	2005 TMDL[b]	2014 Revision
Middle Snake River Segment 2			
Jerome Golf Course drain	4.2	4.2	4.2
N 42 drain	4.8	4.8	4.8
N 42 drain (rim)	5.5	5.4	5.4
Unaccounted surface waters	43.0	43.0	43.0
Jerome Cheese Company	0.0	0.0	3.8
Subtotal	57.5	57.4	61.3
Subtotal load at Crystal Springs	-	3,287.13	3,290.93
Export loss and attenuation	-	-1,065.03	-1,065.03
Total load at Crystal Springs	2,222.6	2,222.10	2,225.00
Note: 6.2 pounds/day will be retired from the shift in 10 pounds/day to 3.8 pounds/day.			
Middle Snake River Segment 3			
J-8 drain	4.9	4.9	4.9
Unaccounted surface waters	53.0	53.0	53.0
Jerome City	205.0	204.5	194.5
Subtotal	262.9	262.4	252.4
Subtotal at Box Canyon	-	3,567.65	3,557.65
Export loss and attenuation	-	-652.88	-652.88
Total load at Box Canyon	2,915.5	2,914.77	2,904.77

[a] *Source*: DEQ 1999, Table 9c, p. A-32; Table 9e, pp. A-33–34; Table 9-d, pp. A-32–33; TSS-TP Allocations Summary tables
[b] *Source*: DEQ 2005, Table 2-1, pp. 43–44; Table 3-A, pp. 49–50

Table 7 compares the 1999 and 2005 TMDLs and shows the proposed WLA for the 2014 revision. The subtotal TP values and total load at Crystal Springs are essentially the same between the 2000 and 2005 TMDLs for both Segments 2 and 3.

JCC's TP discharge was recognized, but the WLA was given a numeric value of zero. Jerome City's TP is comparable at 99.8% from 1999 to 2005. Jerome City has given JCC 10 lb/day TP under a legal instrument. With this transfer, Jerome City's current WLA of 204.5 lb/day TP would be reduced by 10 lb/day to 194.5 lb/day TP.

JCC has requested from DEQ and EPA a TP WLA for their discharge. DEQ has reviewed the characterization and composition of the discharge and the justification for 10 lb/day TP when the 95th percentile TP load (based on the 1995–1997 and 2010–2012 data sources) indicates a monthly average of 2.4 lb/day (monthly average) TP and a maximum of 3.8 lb/day. DEQ cannot justify 10 lb/day as a WLA for JCC when the data indicate smaller actual discharge levels.

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JCC's WLA will be 3.8 lb/day; 6.2 lb/day of TP will be retired in perpetuity as a net benefit to the Middle Snake River and additional explicit margin of safety. Reasonable assurance is achieved based on a combination of continued active implementation of nonpoint source reductions as identified in existing implementation plans combined with the retirement of 6.2 lb/day TP by JCC in perpetuity pursuant to their acquisition of 10 lb/day from Jerome City. **There will be no reserve for growth; as a consequence of the transfer, DEQ is not creating a reserve but rather retiring 6.2 lb/day TP in perpetuity.**

The nonpoint source TP load allocation is comparable between the 1999 and 2005 TMDLs for the drains and the unaccounted surface waters. Therefore, it seems appropriate to retain these without change.

5.2 Public Participation

The public participation process includes the Mid-Snake Watershed Advisory Group, which is made up of industry stakeholders, government agencies, and various organizations and individuals with an interest in the Upper Snake-Rock subbasin. A 30-day public comment period will be provided for public participation before the proposed WLA transfer is finalized. The distribution list and response to public comments will be provided in the appendices in the final version of this revision.

5.3 Implementation Strategies

DEQ recognizes that implementation strategies for TMDLs may need to be modified if monitoring shows that TMDL goals are not being met or significant progress is not being made toward achieving the goals. DEQ is not proposing to modify any of the other WLAs or load allocations for point sources and nonpoint sources.

5.3.1 Time Frame

The expected time frame for meeting water quality standards and/or beneficial uses is one NPDES permit cycle.

5.3.2 Approach

The approaches to be used to meet WLAs will be implementation of the permit limits for TP in one permit cycle.

5.3.3 Responsible Parties

Pursuant to EPA NPDES permit requirements, Jerome City and JCC will abide by all terms related to monitoring and reporting to EPA in their DMRs.

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Appendix A. Data Sources

Jerome City DMR Dataset (2008–2012)

DEQ obtained the Jerome City DMR data from the actual reports submitted to DEQ and from the EPA NetDMR Database. The following table summarizes that data.

DMR Label	TP	lb/day or mg/L	End Period	Permit Limit[a]	Units	Daily Max (lb/d)	Mo Avg (lb/d)	Wkly Avg (lb/d)	Sing-samp (mg/L)
MO AVG	183	lb/d	01/31/2008	205	lb/d		183		
DAILY MX	216	lb/d	01/31/2008	377	lb/d	216			
MO AVG	250	lb/d	02/29/2008	205	lb/d		250		
DAILY MX	288	lb/d	02/29/2008	377	lb/d	288			
MO AVG	249	lb/d	03/31/2008	205	lb/d		249		
DAILY MX	292	lb/d	03/31/2008	377	lb/d	292			
MO AVG	123	lb/d	04/30/2008	205	lb/d		123		
DAILY MX	174	lb/d	04/30/2008	377	lb/d	174			
MO AVG	121	lb/d	05/31/2008	205	lb/d		121		
DAILY MX	157	lb/d	05/31/2008	377	lb/d	157			
MO AVG	149	lb/d	06/30/2008	205	lb/d		149		
DAILY MX	177	lb/d	06/30/2008	377	lb/d	177			
DAILY MX	190	lb/d	07/31/2008	377	lb/d	190			
MO AVG	164	lb/d	07/31/2008	205	lb/d		164		
DAILY MX	171	lb/d	08/31/2008	377	lb/d	171			
MO AVG	146	lb/d	08/31/2008	205	lb/d		146		
DAILY MX	299	lb/d	09/30/2008	377	lb/d	299			
MO AVG	257	lb/d	09/30/2008	205	lb/d		257		
DAILY MX	189	lb/d	10/31/2008	377	lb/d	189			
MO AVG	185	lb/d	10/31/2008	205	lb/d		185		
DAILY MX	190	lb/d	11/30/2008	377	lb/d	190			
MO AVG	165	lb/d	11/30/2008	205	lb/d		165		
DAILY MX	241	lb/d	12/31/2008	377	lb/d	241			
MO AVG	190	lb/d	12/31/2008	205	lb/d		190		
DAILY MX	217	lb/d	01/31/2009	377	lb/d	217			
MO AVG	194	lb/d	01/31/2009	205	lb/d		194		
DAILY MX	233	lb/d	02/28/2009	377	lb/d	233			
MO AVG	185	lb/d	02/28/2009	205	lb/d		185		
DAILY MX	179	lb/d	03/31/2009	377	lb/d	179			
MO AVG	189	lb/d	03/31/2009	205	lb/d		189		
DAILY MX	390	lb/d	04/30/2009	377	lb/d	390			
MO AVG	207	lb/d	04/30/2009	205	lb/d		207		
DAILY MX	261	lb/d	05/31/2009	377	lb/d	261			
MO AVG	156	lb/d	05/31/2009	205	lb/d		156		

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DMR Label	TP	lb/day or mg/L	End Period	Permit Limit[a]	Units	Daily Max (lb/d)	Mo Avg (lb/d)	Wkly Avg (lb/d)	Sing-samp (mg/L)
DAILY MX	152	lb/d	06/30/2009	377	lb/d	152			
MO AVG	143	lb/d	06/30/2009	205	lb/d		143		
DAILY MX	366	lb/d	07/31/2009	377	lb/d	366			
MO AVG	251	lb/d	07/31/2009	205	lb/d		251		
DAILY MX	709	lb/d	08/31/2009	377	lb/d	709			
MO AVG	536	lb/d	08/31/2009	205	lb/d		536		
DAILY MX	689	lb/d	09/30/2009	377	lb/d	689			
MO AVG	524	lb/d	09/30/2009	205	lb/d		524		
DAILY MX	624	lb/d	10/31/2009	377	lb/d	624			
MO AVG	262	lb/d	10/31/2009	205	lb/d		262		
DAILY MX	237	lb/d	11/30/2009	377	lb/d	237			
MO AVG	158	lb/d	11/30/2009	205	lb/d		158		
DAILY MX	224	lb/d	12/31/2009	377	lb/d	224			
MO AVG	166	lb/d	12/31/2009	205	lb/d		166		
DAILY MX	375	lb/d	01/31/2010	377	lb/d	375			
MO AVG	183	lb/d	01/31/2010	205	lb/d		183		
DAILY MX	287	lb/d	02/28/2010	377	lb/d	287			
MO AVG	218	lb/d	02/28/2010	205	lb/d		218		
DAILY MX	305	lb/d	03/31/2010	377	lb/d	305			
MO AVG	208	lb/d	03/31/2010	205	lb/d		208		
DAILY MX	169	lb/d	04/30/2010	377	lb/d	169			
MO AVG	147	lb/d	04/30/2010	205	lb/d		147		
DAILY MX	185	lb/d	05/31/2010	377	lb/d	185			
MO AVG	57	lb/d	05/31/2010	205	lb/d		57		
DAILY MX	217	lb/d	06/30/2010	377	lb/d	217			
MO AVG	115	lb/d	06/30/2010	205	lb/d		115		
MO AVG	151	lb/d	07/31/2010	204.5	lb/d		151		
SINGSAMP	12.5	mg/L	07/31/2010		mg/L				12.5
WKLY AVG	166	lb/d	07/31/2010	377	lb/d			166	
MO AVG	177	lb/d	08/31/2010	204.5	lb/d		177		
SINGSAMP	15.6	mg/L	08/31/2010		mg/L				15.6
WKLY AVG	258	lb/d	08/31/2010	377	lb/d			258	
MO AVG	143	lb/d	09/30/2010	204.5	lb/d		143		
SINGSAMP	13.4	mg/L	09/30/2010		mg/L				13.4
WKLY AVG	181	lb/d	09/30/2010	377	lb/d			181	
MO AVG	171	lb/d	10/31/2010	204.5	lb/d		171		
SINGSAMP	12.5	mg/L	10/31/2010		mg/L				12.5
WKLY AVG	209	lb/d	10/31/2010	377	lb/d			209	
MO AVG	155	lb/d	11/30/2010	204.5	lb/d		155		
SINGSAMP	13.9	mg/L	11/30/2010		mg/L				13.9
WKLY AVG	266	lb/d	11/30/2010	377	lb/d			266	

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DMR Label	TP	lb/day or mg/L	End Period	Permit Limit[a]	Units	Daily Max (lb/d)	Mo Avg (lb/d)	Wkly Avg (lb/d)	Sing-samp (mg/L)
MO AVG	158	lb/d	12/31/2010	204.5	lb/d		158		
SINGSAMP	13.7	mg/L	12/31/2010		mg/L				13.7
WKLY AVG	169	lb/d	12/31/2010	377	lb/d			169	
MO AVG	172	lb/d	01/31/2011	204.5	lb/d		172		
SINGSAMP	18.1	mg/L	01/31/2011		mg/L				18.1
WKLY AVG	195	lb/d	01/31/2011	377	lb/d			195	
MO AVG	45	lb/d	02/28/2011	204.5	lb/d		45		
SINGSAMP	15.9	mg/L	02/28/2011		mg/L				15.9
WKLY AVG	124	lb/d	02/28/2011	377	lb/d			124	
MO AVG	175	lb/d	03/31/2011	204.5	lb/d		175		
SINGSAMP	16.7	mg/L	03/31/2011		mg/L				16.7
WKLY AVG	326	lb/d	03/31/2011	377	lb/d			326	
MO AVG	237	lb/d	04/30/2011	204.5	lb/d		237		
SINGSAMP	18.1	mg/L	04/30/2011		mg/L				18.1
WKLY AVG	318	lb/d	04/30/2011	377	lb/d			318	
MO AVG	262	lb/d	05/31/2011	204.5	lb/d		262		
SINGSAMP	19.1	mg/L	05/31/2011		mg/L				19.1
WKLY AVG	297	lb/d	05/31/2011	377	lb/d			297	
MO AVG	225	lb/d	06/30/2011	204.5	lb/d		225		
SINGSAMP	16.1	mg/L	06/30/2011		mg/L				16.1
WKLY AVG	248	lb/d	06/30/2011	377	lb/d			248	
MO AVG	160	lb/d	07/31/2011	204.5	lb/d		160		
SINGSAMP	14.1	mg/L	07/31/2011		mg/L				14.1
WKLY AVG	244	lb/d	07/31/2011	377	lb/d			244	
MO AVG	120	lb/d	08/31/2011	204.5	lb/d		120		
SINGSAMP	20.8	mg/L	08/31/2011		mg/L				20.8
WKLY AVG	177	lb/d	08/31/2011	377	lb/d			177	
MO AVG	185	lb/d	09/30/2011	204.5	lb/d		185		
SINGSAMP	25.4	mg/L	09/30/2011		mg/L				25.4
WKLY AVG	270	lb/d	09/30/2011	377	lb/d			270	
MO AVG	97	lb/d	10/31/2011	204.5	lb/d		97		
SINGSAMP	11	mg/L	10/31/2011		mg/L				11
WKLY AVG	136	lb/d	10/31/2011	377	lb/d			136	
MO AVG	58	lb/d	11/30/2011	204.5	lb/d		58		
SINGSAMP	8.6	mg/L	11/30/2011		mg/L				8.6
WKLY AVG	90	lb/d	11/30/2011	377	lb/d			90	
SINGSAMP	9.1	mg/L	12/31/2011		mg/L				9.1
WKLY AVG	150	lb/d	12/31/2011	377	lb/d			150	
MO AVG	94	lb/d	12/31/2011	204.5	lb/d		94		
MO AVG	172	lb/d	01/31/2012	204.5	lb/d		172		
SINGSAMP	10.7	mg/L	01/31/2012		mg/L				10.7

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DMR Label	TP	lb/day or mg/L	End Period	Permit Limit[a]	Units	Daily Max (lb/d)	Mo Avg (lb/d)	Wkly Avg (lb/d)	Sing-samp (mg/L)
WKLY AVG	241	lb/d	01/31/2012	377	lb/d			241	
SINGSAMP	15.4	mg/L	02/29/2012		mg/L				15.4
WKLY AVG	193	lb/d	02/29/2012	377	lb/d			193	
MO AVG	154	lb/d	02/29/2012	204.5	lb/d		154		
MO AVG	165	lb/d	03/31/2012	204.5	lb/d		165		
SINGSAMP	15.2	mg/L	03/31/2012		mg/L				15.2
WKLY AVG	209	lb/d	03/31/2012	377	lb/d			209	
MO AVG	180	lb/d	04/30/2012	204.5	lb/d		180		
SINGSAMP	15.2	mg/L	04/30/2012		mg/L				15.2
WKLY AVG	207	lb/d	04/30/2012	377	lb/d			207	
MO AVG	156	lb/d	05/31/2012	204.5	lb/d		156		
SINGSAMP	12.9	mg/L	05/31/2012		mg/L				12.9
WKLY AVG	211	lb/d	05/31/2012	377	lb/d			211	
MO AVG	178	lb/d	06/30/2012	204.5	lb/d		178		
SINGSAMP	13.6	mg/L	06/30/2012		mg/L				13.6
WKLY AVG	204	lb/d	06/30/2012	377	lb/d			204	
MO AVG	176	lb/d	07/31/2012	204.5	lb/d		176		
SINGSAMP	13.9	mg/L	07/31/2012		mg/L				13.9
WKLY AVG	196	lb/d	07/31/2012	377	lb/d			196	
COUNT	**123**			**COUNT**		**30**	**55**	**25**	**25**
				MIN		152	45	90	8.6
				MEAN		280.1	182.7	211.4	14.9
				MEDIAN		228.5	172	207	14.1
				MAX		709	536	326	25.4
				Exceedances		4	13	0	N/A
				% Exceedances		13.3%	23.6%	0.0%	N/A

Note: DMR = discharge monitoring report
DMR Label = reporting descriptor as Mo Avg, Daily Mx, Wkly Avg or Singsamp.
TP = total phosphorus
End Period = last day of monthly reporting period
Daily Max = daily maximum value (load in lb/day)
Mo Avg = monthly average value (load in lb/day)
Wkly Avg = weekly average value (load in lb/day)
Singsamp = single sample value (concentration in mg/L)

[a] The 204.5 versus 205 permit limit for monthly average TP is based on the following: the 204.5 lb/day TP is the current wasteload allocation in the NPDES permit for the Jerome City, while the 205 lb/day TP was from the previous permit cycle.

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Jerome Cheese Company Dataset (1995–1997)

Abbreviated data set that includes all of the TP data.

Date	TP (mg/L)	Flow (gpd)	Flow (mgd)	TP Load (lb/day)
4-Nov-97	0.030	497,000	0.497	0.124349
1-Jul-97	0.010	611,000	0.611	0.050957
1-Apr-97	0.060	268,000	0.268	0.134107
18-Apr-97	0.160	187,000	0.187	0.249533
21-Apr-97	0.050	215,000	0.215	0.089655
7-May-97	0.050	—	—	—
20-May-97	0.030	—	—	—
27-May-97	0.090	—	—	—
4-Mar-97	0.100	190,000	0.19	0.15846
4-Feb-97	0.040	231,000	0.231	0.077062
4-Dec-97	0.470	386,000	0.386	1.513043
21-Nov-96	0.250	406,000	0.406	0.84651
4-Oct-96	0.088	239,000	0.239	0.175407
18-Sep-96	0.050	37,000	0.037	0.015429
1-Jul-96	0.110	104,000	0.104	0.09541
3-Jun-96	0.090	33,500	0.0335	0.025145
3-May-96	0.230	—	—	—
9-Apr-96	0.100	—	—	—
6-Mar-96	0.060	168,600	0.1686	0.084367
6-Feb-96	0.050	150,200	0.1502	0.062633
2-Jan-96	0.060	—	—	—
12-Dec-96	0.120	217,400	0.2174	0.217574
7-Nov-95	0.300	177,700	0.1777	0.444605
5-Oct-95	0.110	159,500	0.1595	0.146325
5-Sep-95	0.220	175,200	0.1752	0.321457
count	25	499	499	19
Minimum	0.010	33,500	0.034	0.015
Maximum	0.470	884,000	0.884	1.513
Average	0.117	260,466	0.260	0.254
95th %	0.290	594,700	0.595	0.913
Stdev	0.105	147,746		0.360

0.254 average lb/day

0.630 95 percentile and average flow

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Jerome Cheese Company's Discharge Monitoring Report Data: October 2001–December 2012

Jerome Cheese Company: ID-002760-0, Discharge No. 001A—2001–2012. Values in red are explained below.

		Flow (Q)		TSS Load		TSS Concentration			TP Load		TP Concentration		
Year	Month	Q, Avg mgd	Q Max mgd	Avg, lbs/day	Max, lbs/day	Min, mg/L	Avg, mg/L	Max, mg/L	Avg, lbs/day	Max, lbs/day	Min, mg/L	Avg, mg/L	Max, mg/L
PERMIT LIMIT		-	-	16.60	16.60	-	< 4.0	< 4.0	0.040	0.040	-	0.010	0.010
2001	1												
	2												
	3												
	4												
	5												
	6												
	7												
	8												
	9												
	10	0.342	0.439	1.00	3.00	0.00	1.00	1.00	0.490	0.490	0.180	0.180	0.180
	11	0.333	0.512	2.00	9.00	0.00	1.00	3.00	0.570	0.570	0.260	0.260	0.260
	12	0.324	0.606	0.00	0.00	0.00	0.00	0.00	1.340	1.340	0.390	0.390	0.390
2002	1	0.323	0.547	1.00	3.00		0.00	1.00	1.610	1.610		0.700	0.700
	2	0.345	0.490	0.00	0.00		0.00	0.00	0.710	0.710		0.200	0.200
	3	0.343	0.555	0.00	0.00	0.00	0.00	0.00	0.030	0.860		0.220	0.220
	4	0.366	0.620	0.00	0.00	0.00	0.00	0.00	0.810	0.810		0.280	0.280
	5	0.337	0.744	0.00	0.00	0.00	0.00	0.00					
	6	0.374	0.505	0.00	0.00	0.00	0.00	0.00	0.590	0.590		0.140	0.140
	7	0.337	0.517	0.00	0.00	0.00	0.00	0.00	0.710	0.710		0.260	0.260
	8	0.350	0.550	0.00	0.00	0.00	0.00	0.00	1.710	1.710		0.590	0.590
	9	0.335	0.475	0.00	0.00	0.00	0.00	0.00	0.570	0.740		0.240	0.320
	10	0.321	0.432	0.00	0.00	0.00	0.00	0.00	0.650	0.650	0.210	0.210	0.210
	11	0.313	0.573	0.00	0.00	0.00	0.00	0.00	0.630	0.630	0.230	0.230	0.230
	12	0.311	0.458	0.00	0.00	0.00	0.00	0.00	0.890	0.890	0.370	0.370	0.370
2003	1	0.320	0.465										
	2	0.360	0.471	0.00	0.00	0.00	0.00	0.00	1.950	1.950	0.760	0.760	0.760
	3	0.361	0.466	0.00	0.00	0.00	0.00	0.00	1.440	1.440		0.500	0.500
	4	0.334	0.450	0.00	0.00	0.00	0.00	0.00	0.570	0.570		0.170	0.170
	5	0.349	0.520	0.00	0.00	0.00	0.00	0.00	0.470	0.470	0.150	0.150	0.150
	6	0.385	0.510	0.00	0.00	0.00	0.00	0.00	1.220	1.220	0.320	0.320	0.320
	7	0.400	0.529			0.00	0.00	0.00	0.330	0.330	0.290	0.290	0.290
	8	0.439	0.537	0.00	0.00	0.00	0.00	0.00					
	9	0.423	0.613			0.00	0.75	3.00	0.799	0.799	0.270	0.270	0.270
	10	0.205	0.290				0.50	1.00				0.350	0.350
	11	0.323	0.536	3.25	4.00		0.50	0.50	0.260	0.390		0.100	0.140
	12	0.351	0.705	0.00	0.00		0.00	0.00	0.330	0.330		0.120	0.120
2004	1			0.00	0.00		0.00	0.00	0.390	0.390		0.180	0.180
	2	0.379	0.552	4.00	6.00		0.00	0.00	2.760	2.760		0.830	0.830
	3	0.960	0.503	0.00	0.00		0.00	0.00	1.970	1.970		0.520	0.520
	4	0.424	0.597	8.14	26.00		5.50	9.00	0.980	0.980		0.300	0.300
	5	0.486	0.639	10.40	31.00		2.00	7.00	0.900	0.900		0.260	0.260
	6	0.615	1.037	0.00	0.00		0.00	0.00	0.670	0.670		0.140	0.140
	7	0.478	0.764	0.00	0.00		0.00	0.00	1.330	1.330		0.210	0.210
	8	0.505	0.646	0.00	0.00		0.00	0.00	0.165	0.165		0.025	0.025
	9	0.506	0.707	0.00	0.00		0.00	0.00	0.610	0.610		0.130	0.130
	10	0.545	0.779	0.00	0.00		0.00	0.00	2.420	2.760		0.490	0.500
	11	0.471	0.608	0.60	3.00		1.00	1.00	1.720	1.720		0.520	0.520
	12	0.482	0.607	0.00	0.00		0.00	0.00	0.360	0.360		0.130	0.130

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2005	1	0.486	0.714	2.75	11.00		0.75	3.00	1.960	1.960		0.510	0.510
	2	0.578	0.756	0.00	0.00		0.00	0.00	0.940	0.940		0.180	0.180
	3	0.501	0.666	0.00	0.00		0.00	0.00	2.400	2.400		0.590	0.590
	4	0.508	0.736	2.30	9.00		1.20	2.00	1.700	1.700		0.320	0.320
	5	0.530	0.649	0.00	0.00		0.00	0.00	0.500	0.500		0.110	0.110
	6	0.482	0.583	0.00	0.00		0.00	0.00	0.280	0.280		0.060	0.060
	7	0.541	0.678	3.50	9.00		1.25	2.00	0.250	0.250		0.070	0.070
	8	0.529	0.661	10.30	15.00		2.00	3.00	2.700	2.700		0.540	0.540
	9	0.548	0.736	10.30	15.00		2.00	3.00	0.320	0.320		0.080	0.080
	10	0.512	0.647	0.00	0.00		2.00	2.00	0.830	0.830		0.190	0.190
	11	0.453	0.583	0.00	0.00		0.00	0.00	0.303	0.303		0.070	0.070
	12	0.428	0.529	0.00	0.00		1.00	1.00	1.160	1.160		0.280	0.280
2006	1	0.424	0.486	0.00	0.00		0.00	0.00	0.610	0.610		0.150	0.150
	2	0.391	0.541	0.00	0.00		0.00	0.00	0.610	0.610		0.150	0.150
	3	0.450	0.768	0.00	0.00		1.00	1.00	0.220	0.220		0.070	0.070
	4	0.584	0.871	0.00	0.00		0.00	0.00	0.930	1.550		0.250	0.430
	5	0.578	0.831	0.00	0.00		0.00	0.00	0.340	0.340		0.070	0.070
	6	0.424	0.642	0.00	0.00		0.00	0.00	0.280	0.280		0.070	0.070
	7	0.248	0.361	0.00	0.00		0.00	0.00	0.730	0.730		0.280	0.280
	8	0.424	0.424	0.00	0.00		0.00	0.00	0.180	0.180		0.050	0.050
	9	0.449	0.466	0.00	0.00		0.00	0.00	0.250	0.200		0.070	0.070
	10	0.397	0.585	0.00	0.00		0.00	0.00	0.310	0.310		0.070	0.070
	11	0.662	1.036	0.00	0.00		0.00	2.00	0.560			0.100	0.100
	12	0.822	1.190	0.00	0.00		0.00	0.00	3.060	3.060		0.340	0.340
2007	1	0.830	1.085	0.00	0.00		0.00	2.00	1.200	1.200		0.184	0.184
	2	0.792	1.123	0.00	0.00		0.00	0.00	0.700	0.700		0.100	0.100
	3	0.939	1.638	0.00	0.00		0.00	0.00	0.080	0.070		0.070	0.070
	4	0.764	1.610	0.00	0.00		0.00	0.00	0.660	0.660		0.000	0.000
	5	0.663	1.229	0.00	0.00		0.00	0.00	0.050	0.050		0.250	0.200
	6	0.470	0.617										
	7	0.286	0.447	0.00	0.00		0.50	0.50	1.770	1.770		0.660	0.660
	8	0.261	0.441	0.00	0.00		0.50	0.50	1.440	1.440		0.730	0.730
	9		0.620	0.00	0.00		0.50	0.50	0.380	0.380		0.600	0.600
	10		0.193	0.00	0.00		0.50	0.50	0.200	0.200		0.060	0.060
	11		0.520	0.00	0.00		0.50	0.50	0.400	0.400		0.330	0.330
	12	0.453	0.675	1.00	1.00		0.50	0.50	1.400	1.400		0.250	0.250
2008	1	0.468	0.625	0.00	0.00		0.50	0.50	0.700	0.700		0.140	0.140
	2	0.460	0.677	0.50	0.50		0.50	0.50	0.200	0.200		0.060	0.060
	3	0.544	0.669	0.50	0.50		0.50	0.50	0.900	0.900		0.220	0.220
	4	0.484	0.718	0.00	0.00		0.50	0.50	1.000	1.000		0.220	0.220
	5	0.422	0.689	0.00	0.00		0.50	0.50	0.480	0.480		0.200	0.200
	6	0.328	0.490	0.00	0.00		0.50	0.50	0.800	0.800		0.290	0.290
	7	0.274	0.409	0.50	0.50		0.50	0.50	1.300	1.300		0.590	0.590
	8	0.322	0.494	0.50	0.50		0.50	0.50	1.100	1.940		0.350	0.570
	9	0.339	0.485	0.00	0.00		0.50	0.50	1.700	1.700		0.470	0.470
	10	0.450	0.805	0.31	0.31		0.50	0.50	6.710	6.710		2.180	2.180
	11	0.196	0.458	0.31	0.31		0.50	0.50	0.111	0.466		0.150	0.150
	12	0.143	0.242	0.50	0.50		0.50	0.50	0.033	0.165		0.230	0.230
2009	1	0.170	0.338	0.50	0.50		0.50	0.50	0.800	0.800		0.540	0.540
	2	0.299	0.406	0.77	2.30		0.50	0.50	0.288	1.151		0.340	0.340
	3	0.348	0.425	0.50	0.50		0.50	0.50	2.405	2.405		0.810	0.810
	4	0.367	0.443	0.50	0.50		0.50	0.50	0.840	3.400		1.320	1.320
	5	0.394	0.510	0.50	0.50		0.50	0.50	0.310	1.250		0.370	0.370
	6	0.412	0.515	0.50	0.50		0.50	0.50	2.000	2.000		0.550	0.550
	7	0.412	0.609	0.50	0.50		0.50	0.50	3.760	3.760		1.290	1.290
	8	0.436	0.564	0.50	0.50		0.50	0.50	1.200	1.200		0.480	0.480
	9	0.435	0.547	0.50	0.50		0.50	0.50					
	10	0.436	0.641	1.80	1.80		2.00	2.00	3.510	3.510		0.780	0.780
	11	0.292	0.435	0.50	0.50		0.50	0.50	0.359	1.437		0.700	0.700
	12	0.290	0.429	0.40	1.94		0.20	1.00	0.560	2.802		0.969	0.960

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2010	1		0.430	1.00	4.00		4.00	4.00	2.850	0.710		1.180	0.240
	2		0.326	0.50	0.50		0.50	0.50	0.024	0.096		0.050	0.050
	3		0.426	0.50	0.50		0.50	0.50	0.040	0.040		0.025	0.025
	4		0.375	0.50	0.50		0.50	0.50	0.110	0.110		0.080	0.080
	5		0.432	0.50	0.50		0.50	0.50	0.070	0.280		0.140	0.140
	6		0.485	0.50	0.50		0.50	0.50	0.340	0.340		0.100	0.100
	7		0.536	0.50	0.50		0.50	0.50	1.200	1.200		0.430	0.430
	8		0.711	1.00	3.00		0.00	4.00	0.300	0.610		0.150	0.150
	9		0.253	0.50	0.50		0.50	0.50	0.003	0.003		0.003	0.003
	10		0.140	0.50	0.50		0.50	0.50	0.005	0.005		0.005	0.005
	11		0.281	1.00	1.00		1.00	1.00	0.005	0.005		0.005	0.005
	12		0.642	2.49	2.49		2.00	2.00	0.032	0.006		0.006	0.006
2011	1		0.198	0.50	0.50		0.50	0.50	0.010	0.010		0.010	0.010
	2		0.158	0.50	0.50		0.50	0.50	0.010	0.010		0.010	0.010
	3		0.185	0.26	1.29		1.00	1.00	0.006	0.006		0.005	0.005
	4		0.216	0.50	0.50		0.50	0.50	0.010	0.010		0.010	0.010
	5		0.249	0.50	0.50		0.50	0.50	0.010	0.010		0.008	0.008
	6		0.295	0.50	0.50		0.50	0.50	0.040	0.040		0.010	0.010
	7			0.50	0.50		0.50	0.50	0.020	0.020		0.015	0.015
	8		0.259	0.50	0.50		0.50	0.50	0.010	0.020		0.010	0.010
	9		0.242	0.50	0.50		0.50	0.50	0.007	0.007		0.009	0.009
	10		0.210	0.50	0.50		0.50	0.50	0.003	0.003		0.003	0.003
	11		0.200	2.64	2.64		2.00	2.00	0.020	0.020		0.005	0.005
	12		0.204	0.50	0.50		0.50	0.50	0.002	0.012		0.010	0.010
2012	1		0.260	0.50	0.50		0.50	0.50	0.005	0.005		0.003	0.003
	2		0.287	0.50	0.50		0.50	0.50	0.010	0.020		0.005	0.005
	3		0.288	0.82	4.10		3.00	3.00	0.010	0.010		0.003	0.003
	4		0.235	0.50	0.50		0.50	0.50	0.003	0.003		0.003	0.003
	5		0.240	0.50	0.50		0.50	0.50	0.002	0.008		0.001	0.005
	6		0.285	0.50	0.50		0.50	0.50	0.002	0.008		0.001	0.005
	7		0.288	0.50	0.50		0.50	0.50	0.003	0.003		0.003	0.003
	8		0.320	0.50	0.50		0.50	0.50	0.020	0.020		0.010	0.010
	9		0.262	0.50	0.50		0.50	0.50	0.004	0.018		0.010	0.010
	10		0.266	0.50	0.50		0.50	0.50	0.004	0.004		0.010	0.005
	11		0.388	0.50	0.50		0.50	0.50	0.003	0.003		0.003	0.003
	12		0.371	1.00	1.00		1.00	1.00	0.003	0.003		0.003	0.003
	N	95	133	130	130	21	133	133	129	128	11	130	130
	MIN	0.143	0.140	0.00	0.00	0.00	0.00	0.00	0.002	0.003	0.150	0.000	0.000
	MEAN	0.435	0.537	0.73	1.48	0.00	0.51	0.73	0.767	0.843	0.312	0.266	0.262
	MEDIAN	0.423	0.515	0.45	0.50	0.00	0.50	0.50	0.490	0.600	0.270	0.180	0.180
	MAX	0.960	1.638	10.40	31.00	0.00	5.50	9.00	6.710	6.710	0.760	2.180	2.180
		Note: Values that are underlined represent 1/2 of the MDL value reported in the DMR.											
		Note: Blank spaces represent no sample taken or calculated.											

A Grubb's Outlier Test was performed on the TP and TSS components of this spreadsheet. The outliers found were as follows:

- TSS Load Average = 10.40 lb/day
- TSS Max Load = 31.00 lb/day
- TSS Concentration Average = 4.0 mg/L
- TSS Concentration Max = 7.00 mg/L
- TP Load Average = 3.76 lb/day
- TP Max Load = 3.76 lb/day
- TP Concentration Average = 1.320 mg/L
- TP Concentration Max = 1.320 mg/L

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These values were excluded from the statistical calculations. Therefore, the actual statistical analysis that was performed resulted in the following:

Re-Analysis of TSS and TP by excluding the Outliers:

TSS Load		TSS Concentration			TP Load		TP Concentration		
Avg, lbs/day	Max, lbs/day	Min, mg/L	Avg, mg/L	Max, mg/L	Avg, lbs/day	Max, lbs/day	Min, mg/L	Avg, mg/L	Max, mg/L
129	129	21	132	132	128	127	11	129	129
0.00	0.00	0.00	0.00	0.00	0.002	0.003	0.150	0.000	0.000
0.66	1.25	0.00	0.47	0.66	0.720	0.797	0.312	0.251	0.247
0.40	0.50	0.00	0.50	0.50	0.485	0.590	0.270	0.180	0.180
10.30	26.00	0.00	4.00	7.00	3.760	3.760	0.760	1.320	1.320

It is this re-analysis of the TSS and TP (excluding the outliers) that was used to estimate the actual characteristics of the discharge going into Lateral 12.

The numbers in red in the table represent the following:

- Flow Column, August 2006 – Average flow and Maximum flow are the same. This is not possible given the flow values for the various years and months.
- Flow Column September, October and November 2007 – Only Maximum flow values were provided in the DMR's.
- TSS Load, July 2009 – Maximum value was not included in the DMR's. It was assumed like other similar values in other months that the Maximum value was the same as the Average value.
- TP Load, September 2006 – Maximum value was reported to be less than the Average value.

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Appendix B. DEQ Letter to EPA—June 10, 2011

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 North Hilton • Boise, Idaho 83706 • (208) 373-0502

C.L. "Butch" Otter, Governor
Toni Hardesty, Director

June 10, 2011

Mr. Michael Lidgard
U.S. Environmental Protection Agency
1200 Sixth Avenue
Seattle, Washington 98101
lidgard.michael@epa.gov

Subject: Middle Snake River Watershed Management Plan (Mid-Snake TMDL)

Dear Mr. Lidgard:

I. Treatment of Jerome Cheese (JC) in Applicable TMDLs

In 1997, DEQ issued the Middle Snake River Watershed Management Plan (Mid-Snake TMDL). This TMDL set total phosphorus (TP) allocations for point and non-point sources in order to meet state Water Quality Standards (WQS). The Mid-Snake TMDL was then revised and expanded with the Upper Snake/Rock TMDL in 2000. This TMDL split the Snake River into segments and further refined the TP allocations to help determine compliance with WQS. Finally, in 2005 DEQ issued the Upper Snake Rock TMDL Modification. The main objective of the Modification was to set the allocations of TP to the many aquaculture facilities located in the Snake River watershed. The 2005 Modification was not intended to adjust the TP allocations for other industries or sources. Therefore, the 2005 TMDL has little relevance to the question of whether JC received an allocation for its discharge.

The Mid-Snake and Upper Snake/Rock TMDLs recognized JC's discharge of "non-contact" cooling water. Table 25 in the Mid-Snake TMDL and the footnotes to Table 25 indicate that JC has a discharge of "non-contact" cooling water and that the TP levels in the discharge are unknown, but thought to be small. (Mid-Snake TMDL at pages 64-65.) The Upper Snake/Rock TMDL treats the JC discharge in a similar fashion by recognizing that the discharge was continuing and contributing to what was thought to be a small load of TP to the Snake River watershed. The Upper Snake/Rock TMDL says the following with respect to the JC and similar discharges: "Any loads coming from these NPDES-type facilities are extremely low and therefore negligible to the TMDL process at this time. Therefore, the current proposed load allocation to these facilities is zero." (Upper Snake/Rock TMDL at page 189.)

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Michael Lidgard
June 10, 2011
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The Mid-Snake and Upper Snake/Rock TMDLs' recognition of a JC discharge is consistent with other information indicating that at the time these TMDLs were issued, JC was discharging to the North Side Canal system. In 1995 JC applied for a NPDES permit for its discharge. EPA informed JC that due to a lack of resources it could not, at that time, issue a permit and that until a permit was issued JC should comply with any limits determined by DEQ to be necessary to meet state WQS. In March of 1995 DEQ provided JC a letter outlining requirements in order to meet WQS. The letter did not suggest TP limits, but instead required, among other things, for JC to monitor its flow and TP levels so that DEQ had information regarding the TP load the facility was discharging. DEQ has reviewed the monitoring data collected from September 1995 through November of 1997. The monitoring data collected by JC shows that by 1997 JC was discharging an average discharge flow of 0.260 million gallons per day, with an average TP concentration of 0.117 mg/L, which equals an average of 0.254 pounds of TP per day.

DEQ continued to monitor the JC discharge and in 1999 sent a letter to JC reminding JC of its obligation to monitor and meet certain effluent limitations pursuant to DEQ's 1995 "authorization" to discharge.

While the TMDLs appear to recognize the JC discharge of TP, the TMDLs do not provide any specific allocation to JC. Table 25 in the Mid-Snake TMDL provides a "0" allocation for JC. As noted above, however, the allocation is accompanied with a footnote that indicates that JC is discharging a low level of TP. In addition, the allocations are set forth as changes from baseline conditions, and a zero baseline is set for JC. On page 56 of the Mid-Snake TMDL, DEQ explains that there is a question as to whether the baseline loads for facilities such as JC represent zero. "For NPDES/Land Application facilities, more information is required to determine if discharges are actually occurring on a seasonal basis. These determinations will be conducted within three years of plan implementation. Therefore, the baseline loads for these facilities may not represent a zero discharge as defined in Table 25."

The 2000 Upper Snake/Rock TMDL also recognizes JC is continuing to discharge. This TMDL indicates that a zero allocation is provided for the discharge because the discharge is "negligible to the TMDL process at this time." (Upper Snake/Rock TMDL at page 189.)

The Mid-Snake and Upper Snake/Rock TMDLs appear to accommodate the JC discharge without providing a specific allocation because the discharge was negligible to the TMDL process. This is consistent with the information DEQ had at the time the TMDLs were developed. DEQ was well aware of the discharge, and in fact provided JC with a letter indicating the parameters JC should meet to comply with WQS. An interpretation of the TMDLs such that JC was not provided any allocation to discharge is inconsistent with DEQ's authorization of the discharge in its 1995 letter, which was reiterated in a 1999 letter.

The information collected by JC is also consistent with DEQ's statement in the Upper/Snake Rock TMDL that the JC discharge was negligible. The information indicates JC was discharging 0.254 pounds of TP per day to the North Side Canal system. The canal to which the discharge occurs splits a number of times and eventually discharges via a number of different discharge points to the Snake River, a significant distance from the discharge point. (See City of Jerome

Fact Sheet which estimates the distance of the City of Jerome discharge to the Snake River.) Compared to the TP load of 2,914 lbs/day in the portion of the Snake River to which the canals or at least some of them discharge, the JC discharge is very small and consistent with DEQ's statement that it was "negligible to the TMDL process."

While it appears the TMDLs intended to allow the JC discharge without a specific allocation, there are also general allocations provided in the TMDLs that arguably could include the JC discharge. Table 22 of the Mid-Snake TMDL shows the allocations by industry and source. An allocation is provided to irrigated agriculture, that is then further allocated to specific drains that discharge to the Snake River. JC's discharge ends up, in part, in the North Side Canal, J8 drain. This is provided an allocation of 5 lbs/day in Table 26. Footnote 6 to Table 22, however, calls into question whether this allocation was intended to include an allocation for facilities such as JC that discharge to the canals: "Irrigated Ag estimates of TP load are based on estimates for what is derived from TSS loads. The loading goal of 548.1 lbs/day is predicated on no additional input from any sources into tributaries or return flow streams. This load is allocated to irrigated agriculture effects only."

Table 22 of the Mid-Snake TMDL also includes a category and an allocation for "other" sources. This is explained in footnote 7 as follows: "This category includes TP estimates from urban runoff, construction, land disposal, silviculture, bank erosion, grazing, some municipalities, and some aquaculture. These loads need to be further categorized within three years of plan implementation." The JC discharge does not fit within the identified categories listed in footnote 7. The JC discharge, however, is consistent with the "other" category of discharges because the "other" category appears to be intended to capture other estimated, but unquantified discharges. The JC discharge was acknowledged but stated to be unknown, but estimated to be very low and therefore is consistent with the unquantified discharges covered by the "other" category.

In sum, allowing JC an allocation based on the discharge levels as of 1997, when the Mid-Snake TMDL was drafted, of 0.254 lbs/day is the most appropriate interpretation of the TMDLs given (1) the Upper Snake/Rock language that suggests an allocation was unneeded because of the size and location of the discharge and (2) the fact that DEQ was aware of the JC discharge, had "authorized" the discharge, and knew it was continuing after the TMDLs were drafted.

II. Application of the Man-Made Waterway Provision

JC discharges into the North Side Canal system. The North Side canals are man-made waterways constructed to convey agricultural water. The question is whether aquatic life and recreational uses and associated criteria are applicable to the canal system.

Idaho's WQS contain tables in which uses are designated for Idaho waters. The WQS, however, also contain provisions for those waters that have no specific designation in the tables contained in sections 110 through 160. Section 101.02 applies to man-made waterways that have not been designated for any specific uses in the tables. This provision reads as follows: "Unless designated in Sections 110 through 160, man-made waterways are to be protected for the use for which they were developed."

Michael Lidgard
June 10, 2011
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The definition of man-made waterways in section 010.56 further clarifies how to identify such waters: "Canals, flumes, ditches, wasteways, drains, laterals, and/or associated features constructed for the purpose of water conveyance. This may include channels modified for such purposes prior to November 28, 1975. These waterways may have uniform and rectangular cross-sections, straight channels, follow rather than cross topographic contours, be lined to reduce water loss, and be operated or maintained to promote water conveyance."

The North Side Canal system into which JC discharges is clearly a man-made waterway as defined in the Idaho WQS. It has uniform and rectangular cross-sections, straight channels and is used to convey water for agricultural purposes. The canal system is not designated for uses in the tables contained in sections 110 through 160 of the WQS. Therefore, under the plain language of section 101.02, the North Side canal system is protected only for agricultural water supply, and the aquatic life and recreational criteria do not apply.

EPA in the past has applied the man-made waterway provision to the North Side Canal system so that only the agricultural water supply use of the canal is recognized as protected. In the Response to Comments for the current Jerome Cheese NPDES permit, EPA clarified that in accordance with the man-made waterway provision, the Lateral 12 and N Canal are designated and protected for agricultural water supply uses only, and that any limits related to aquatic life and recreational uses are in the permit in order to meet WQS applicable to the Snake River, to which the canal system eventually discharges. (Response to Comments pages 2-3.)

The City of Jerome also discharges to North Side Canal system. In 2009, EPA issued a NPDES permit to the City of Jerome. Again, EPA applied the man-made waterway provision in the WQS and included limits intended to protect the canal for agricultural water supply.

The man-made waterway provision has been a part of the EPA approved WQS since 1980. DEQ has consistently interpreted the provision to protect such waterways only for the purpose for which they were created. In 1997 when EPA disapproved of other sections of Idaho's WQS, EPA specifically confirmed that the man-made waterway provision continued to be an approved WQS for Idaho. (See 147 Fed.Reg.at 41176-41177, July 31, 1997.)

EPA has also consistently applied the man-made waterway provision in NPDES permits. In addition to the Jerome Cheese and City of Jerome permits, the man-made waterway provision has been applied in the following permits: Amalgamated Sugar Company; Caldwell Housing Authority; Magic Valley Produce; Paul Housing Authority; Sorrento Lactalis; and Star.

In sum, the JC permit must reflect that the receiving canal water is designated and protected only for agricultural water supply uses. Other effluent limits may be necessary to meet WQS applicable to the downstream Snake River.

Michael Lidgard
June 10, 2011
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Should you have any questions, please contact me at (208) 373-0570.

Sincerely,

Michael McIntyre
Surface Water Manager

c: Leigh Woodruff, USEPA Region 10, Idaho Operations Office, woodruff.leigh@epa.gov
John Drabek, USEPA Region 10, drabek.john@epa.gov
Dave Croxton, USEPA Region 10, croxton.david@epa.gov
Marti Bridges, TMDL Coordinator, DEQ, marti.bridges@deq.idaho.gov
Balthasar Buhidar, Twin Falls Regional Office, DEQ, balthasar.buhidar@deq.idaho.gov
Barry Burnell, Water Quality Division Administrator, DEQ, barry.burnell@deq.idaho.gov

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DRAFT

Appendix C. JCC Letter to EPA—July 25, 2012

DAVISCO
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RECEIVED
JUL 26 2012
DEQ - TFRO

July 25, 2012

EPA Region 10
Office of Water and Watersheds OWW-130
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101

Re: Comments on draft NPDES Permit No. ID-002760-0

To Whom It May Concern:

The U.S. Environmental Protection Agency ("EPA") issued a May 24, 2012 notice for public comment on draft National Pollutant Discharge Elimination System ("NPDES") Permit No. ID-002760-0 (the "Permit") and its accompanying draft Fact Sheet. On June 23, 2012, Davisco Foods International, Inc. d/b/a Jerome Cheese Company ("Jerome Cheese"), the applicant for the Permit, submitted a comment letter in response. On June 25, 2012, Jerome Cheese received notice that the comment period had been extended until July 25, 2012. Jerome Cheese now submits the following comment letter in place of its June 23 comment letter.

Jerome Cheese has several concerns about EPA's draft Permit: (1) the Permit should include higher total phosphorus and total suspended solids ("TSS") limits; (2) the Permit should include a pollutant trading authorization; (3) if EPA continues to desire to issue a permit with (wrong) phosphorus limits, EPA should defer issuance of the Permit while the Idaho Department of Environmental Quality ("IDEQ") modifies The Middle Snake River Watershed Management Plan (the "Middle Snake TMDL" or "TMDL") to incorporate a phosphorus allocation for Jerome Cheese based on an agreement with the City of Jerome (the "City"); and (4) the Permit should not include limits (erroneously) based on protecting aquatic life in man-made ditches.

1. The Permit should include higher total phosphorus and TSS limits.

The draft Permit includes maximum daily and average monthly limits for total phosphorus and TSS of zero. EPA has no basis to impose these limits. Instead of these zero limits, EPA should include limits based on Jerome Cheese's historic wastewater discharge or a higher limit based on the insignificant nature of Jerome Cheese's discharge. The record does not support limits of zero but does support both of these approaches.

Scanned

Jerome Cheese Company
547 West Nez Perce Avenue, Jerome, ID 83338
PHONE 208-324-8806 FAX 208-324-8892
www.DaviscoFoods.com

a. EPA has no basis to issue the Permit with a total phosphorus limit of zero.

The draft Fact Sheet asserts that the Middle Snake TMDL and anti-backsliding provisions of the Clean Water Act require the imposition of zero limits in the Permit. Neither authority supports the proposed zero limits.

i. The Middle Snake TMDL does not require zero phosphorus limits.

IDEQ pointed out its correspondence to EPA dated June 10, 2011[1] and again in IDEQ's draft 401 certification dated May 3, 2012,[2] and as Jerome Cheese has separately pointed out to EPA on several occasions, the Middle Snake TMDL does not allocate a zero phosphorus or TSS load to Jerome Cheese. Given that IDEQ authored the Middle Snake TMDL, EPA should offer due deference to IDEQ's interpretation of the Middle Snake TMDL.[3]

The Middle Snake TMDL seeks to reduce phosphorus inputs for all sources in the Middle Snake River from about 4,860 pounds per day ("lbs/day")[4] to about 3,559 lbs/day,[5] and for food processing sources, from 1,192 lbs/day to 953.6 lbs/day.[6] At the time EPA approved the Middle Snake TMDL in 1997, the Jerome Cheese plant operated substantially as it does today, with a maximum daily phosphorus discharge of less than 10 lbs/day and a long-term average phosphorus discharge of less than 2 lbs/day.[7] Jerome Cheese's discharge is less than 0.01% of the overall approved long-term average load, and about 0.2% of the approved food processing load, despite Jerome Cheese having an economic presence far in excess of that tiny impact.

The Middle Snake TMDL describes the Jerome Cheese discharge (along with other similar discharges) as follows:

> NDPES non-contact cooling water permit. This is water used for cool refrigeration equipment and generally does not come in

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1 Attached as Exhibit "A."

2 Attached as Exhibit "B."

3 Attached as Exhibit "C." The Middle Snake TMDL is also available at www.deq.idaho.gov/media/454006-snake_river_middle_entire.pdf.

4 Middle Snake TMDL at 51.

5 *Id.* at 57.

6 *Id.* at 65.

7 *See* Exhibit "D" (showing phosphorus discharges between September 2006 and September 2010).

> contact with processed wastewater. The TP load from cooling water is unknown, but is expected to be very low.[8]

The TMDL establishes a baseline load for Jerome Cheese's discharge of "0" lbs/day, which the footnote text makes clear is an amount that is "unknown" but "very low."[9] The TMDL then states that the net reduction required for Jerome Cheese from the baseline load is "NA," which is defined in the TMDL as "Not Applicable," with the effect that the TMDL does not apply any reduction to Jerome Cheese's discharge.[10] In short, the TMDL determined that the phosphorus load in Jerome Cheese's discharge was small enough that the baseline load could be considered "0" for purposes of modeling, and the TMDL applied no net reduction amount to Jerome Cheese's historical discharge amount. IDEQ affirmed in its June 10, 2011 letter to EPA that Jerome Cheese's discharge is very small and was "negligible to the TMDL process." Indeed, the two food processors with large phosphorus loadings on the Middle Snake River (i.e., J.R. Simplot and Ore-Ida) were only required to reduce their loads by 20 percent, not to eliminate their discharges entirely.[11] They each received almost 500 lbs/day of phosphorus under the TMDL.[12]

On August 28, 2001, EPA issued Jerome Cheese's original NPDES permit. Unfortunately, the EPA permit writer wrongly assumed that Jerome Cheese was specifically allocated a zero phosphorus load, instead of Jerome Cheese being given no additional phosphorus beyond the amount in its historical discharge. The EPA permit writer may have just read a "0" for Jerome Cheese under the column "Load Allocation," without reading the TMDL that "Load Allocation" is a defined term in the TMDL and not the allocation of phosphorus to appear on the NPDES permit.[13] EPA erroneously issued Jerome Cheese's permit with a limit based on the premise of zero, interpreted to mean less than 0.010 milligrams per liter ("mg/L") total phosphorus, the concentration that EPA testing methods could reliably detect. Instead of EPA repeating its previous error, the new Permit should be based on the amount of phosphorus actually set out for Jerome Cheese in the Middle Snake TMDL and affirmed in correspondence by IDEQ to EPA on multiple occasions (e.g., June 10, 2011 and May 3, 2012).

In addition to the language of the TMDL itself, EPA has additional assurance of the insignificant and effectively non-existent impact of the Jerome Cheese discharge on Middle

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[8] Middle Snake TMDL at 65.

[9] *Id.* at 64-65.

[10] *Id.*

[11] *Id.* at 64.

[12] *Id.*

[13] *See id.* at 64-65.

Snake River water quality. Jerome Cheese does not discharge into the Middle Snake River. Rather, Jerome Cheese discharges into a man-made ditch known as Lateral 12. Water discharged into Lateral 12 has to travel about six miles through other man-made irrigation canals before any water would reach the Middle Snake River. Only a very small amount of the water Jerome Cheese discharges actually reaches the Middle Snake River and then for only part of the year. In the non-irrigation season between about the end of October and about the end of March, Lateral 12 and the intervening irrigation canals are completely dry except for Jerome Cheese's discharge, and Jerome Cheese's discharge freezes or soaks into the ground about one mile from the Jerome Cheese plant (which is about five miles short of the Middle Snake River). No water from Jerome Cheese's discharge reaches the Middle Snake River at all during the non-irrigation season (except perhaps under rare circumstances).

Indeed, EPA itself has already recognized the absence of flow in these canals. The City of Jerome discharges into the irrigation canals between Jerome Cheese and the Middle Snake River. In the City's NPDES permit, EPA described the nature of the flow in that irrigation canal and stated that the flow rarely reaches the Middle Snake River. EPA wrote in the Fact Sheet for the City's NPDES permit that during the irrigation season "minimum flows ultimately reach[] . . . the Snake River" and that during the non-irrigation season "practically no flow reach[es] the Snake River."[14]

During the irrigation season, Jerome Cheese's discharge mixes with irrigation water that is delivered to farm fields between the Jerome Cheese plant and the Middle Snake River. During the irrigation season, Jerome Cheese's discharge is about 0.4% of the flow in the downstream. Sometimes during the irrigation season, the irrigation water is entirely used up watering crops and there is no flow into the Middle Snake River. At other times, a small percentage (about three percent system-wide) of the irrigation water may flow past the spillways at the end of the canals into the Middle Snake River. Even on the occasion when water from the downstream canal does flow into the Middle Snake River, Jerome Cheese's contribution is 0.0004% of the flow.[15] To put 0.0004% into context, 0.0004% is equivalent to the ratio of one mile to the distance to the moon.[16]

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[14] *See* Excerpts from City Fact Sheet, attached as Exhibit "E."

[15] Jerome Cheese discharges on average 414,500 gallons per day, or about 0.64 cubic feet per second. About 3% of the flow in the downstream canal, when there is a flow past the spillway, reaches the Middle Snake River. The Middle Snake River during the irrigation season flows at about 5,400 feet per second. 0.64 x 3% ÷ 5,400 = 0.0004%.

[16] The ratio of one mile to the distance of the moon is 1 to 238,900. The ratio of Jerome Cheese's contribution to the flow in Middle Snake River, on the occasion when there is flow past the Northside Canal Company spillways, is about 1 to 284,649.

The declaration of the Ted Diehl,[17] the manager of the Northside Canal Company, which controls the N Canal, shows the nature and extent of flows into the Middle Snake River and further shows the insignificant nature of Jerome Cheese's discharge. The declaration of John Moeller, Ph.D.,[18] a principal of environmental engineering firm Forsgren Associates, shows the trivial nature of any phosphorus from Jerome Cheese that might reach the Middle Snake River. Based on the nature of Lateral 12 and the nature of any downstream flows between Lateral 12 and the Middle Snake River, Jerome Cheese reserves the right to argue that Jerome Cheese does not discharge into the "waters of the United States."

ii. Anti-backsliding provisions do not mandate zero phosphorus limits.

EPA's draft Fact Sheet for the Permit asserts, without analysis, that the anti-backsliding provisions of the Clean Water Act require that the zero limits remain in the Permit. This is not consistent with the Clean Water Act. Section 402(o) of the Clean Water Act provides the authority for anti-backsliding with regard to effluent limitations based on state water quality standards.[19] Section 402(o) expressly permits backsliding in compliance with Section 303(d)(4) of the Clean Water Act.[20] The relevant provision in Section 303(d)(4) allows revision of effluent limitations where the revised limitation "will assure the attainment of [the relevant] water quality standard."[21] This requirement is mirrored in Section 402(o)(3), which prohibits the inclusion of more relaxed effluent limitations if "such limitation would result in a violation of a water quality standard."[22]

In Jerome Cheese's situation, compliance with water quality standards is assured because Jerome Cheese's insignificant discharge has been contemplated all along by the Middle Snake TMDL. Further, the information included with this letter that only an insignificant portion of Jerome Cheese's discharge reaches the Middle Snake River provides further assurance that the permit limits can be relaxed while assuring attainment of the TMDL's phosphorus-reduction goals.

One further issue bears note on the anti-backsliding issue. Since September 7, 2010, Jerome Cheese has been able to comply with the zero phosphorus limits in its 2001 NPDES permit. Jerome Cheese has done so in part by evaporating more of its cooling water, which is an

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[17] Attached as Exhibit "F."

[18] Attached as Exhibit "G."

[19] 33 U.S.C. § 1342(o); USEPA Permit Writer's Manual (the "Permit Writer's Manual") § 7.2.1.3.

[20] 33 U.S.C. § 1342(o) (*citing* 33 U.S.C. § 1313(d)(4)).

[21] *Id.* § 1313(d)(4).

[22] *Id.* § 1342(o)(3).

efficient process that Jerome Cheese intends to continue. However, Jerome Cheese has also had to divert a portion of its evaporate from the cheese-making process and its non-contact cooling water obtained from ground water to the City treatment plant in order to meet the zero limits. This re-routing of discharge to the City treatment plant produces no environmental benefit and instead is a net environmental detriment. The City treatment plant does not remove any material amount of phosphorus from Jerome Cheese's flow, though the re-routing to the City does consume electricity and chemical resources and does generate sludge and chemical waste. Contrast this to Jerome Cheese discharging down the nearby ditch and irrigation canals, which dilutes the background concentrations and loads in these watercourses when co-mingled with Jerome Cheese's very clean water and which recharges the aquifer when the ditch and irrigation canals would otherwise be empty. Thus, the result of transferring the discharge from Jerome Cheese to the City has not been to reduce phosphorus discharges to the Middle Snake River or to improve the environment. Rather, the result has been to negatively impact the environment for the sole purpose of meeting an arbitrary and erroneous limit in Jerome Cheese's current Permit, an erroneous limit which EPA's draft Permit is mystifyingly trying to repeat.

b. The data submitted by IDEQ provide a basis for minimum alternate limits for phosphorus and TSS.

At a minimum, the phosphorus and TSS limits in the draft Permit should be raised based on the data regarding Jerome Cheese's historical discharges submitted by IDEQ on June 10, 2011 and in IDEQ's May 3, 2012 draft 401 certification. These data reflect a long-term average historical discharge of 0.254 lbs/day for phosphorus and 5.14 lbs/day for TSS. Of course, these averages are not themselves permit limits and would have to be translated into appropriate daily, weekly, and monthly limits.

c. The Middle Snake TMDL's analysis that discharges like Jerome Cheese's are insignificant provides a basis for an additional allocation to Jerome Cheese sufficient to meet Jerome Cheese's needs.

The Middle Snake TMDL does not require EPA to impose effluent limitations that forever tie Jerome Cheese to its historic level of discharge at the time the Middle Snake TMDL was issued. The Middle Snake TMDL simply notes that Jerome Cheese's discharge of a few pounds per day is "unknown" and "very low" in the context of a TMDL that authorizes total phosphorus discharges of over 3,500 lbs/day. It would be reasonable to interpret the Middle Snake TMDL to authorize a "very low" discharge of phosphorus to Jerome Cheese, where "very low" is in the context of a TMDL that authorizes the discharge of over 3,500 lbs/day of phosphorus. Indeed, the TMDL did not note or focus on the fact that Jerome Cheese's flow does not often even reach the Middle Snake River. Jerome Cheese believes that in light of this, a 2-lb/day long-term average allocation to Jerome Cheese is reasonable. On this basis, Jerome

Cheese requests the inclusion of limits based on a long-term average discharge of total phosphorus of 2 lbs/day.

2. The Permit should include a pollutant trading authorization.

EPA should include in the Permit a section authorizing pollutant trading. IDEQ has had an approved trading program in place on the Middle Snake River since about 2005 and EPA has authorized trading on the Middle Snake River since issuance of the Idaho Aquaculture General Permit in 2007. Jerome Cheese relied heavily on the availability of the pollutant-trading program and EPA's representations about it. In 2006, EPA represented to Jerome Cheese that Jerome Cheese would be able to take advantage of the trading program on the Middle Snake River. In reliance on those representations, Jerome Cheese entered into detailed negotiations with the City that culminated in an enforceable trading agreement with the City executed on August 13, 2008. In this agreement, the City agreed to provide Jerome Cheese 10 lbs/day of phosphorus credits and agreed to continue treating Jerome Cheese's higher strength discharges. In return, Jerome Cheese agreed to annex into the City. Jerome Cheese was annexed into the City effective January 1, 2008. The annexation raised Jerome Cheese's property taxes by about $375,000 per year. Jerome Cheese's agreement with the City played a significant role in the City's upgrade of its wastewater treatment plant, which (after operational issues were resolved) resulted in reductions in the City's phosphorus discharges far in excess of the 10 lbs/day Jerome Cheese received in the trade.

On October 26, 2009, the Idaho Conservation League ("ICL") filed a petition for review before the Environmental Appeals Board of the City of Twin Falls NPDES permit,[23] which included a pollutant trading provision. EPA caved under the threat of ICL's lawsuit and did not defend the Middle Snake trading program. EPA's fear of suit should not cause EPA to abandon trading on the Middle Snake River or prevent inclusion of a trading authorization in Jerome Cheese's Permit. Even if ICL's allegations concerning the current trading ratios were assumed to be true, trading should be authorized contingent on the creation of appropriate ratios or upon the submission of an analysis acceptable to EPA and IDEQ that the ratios for a particular trade are appropriate. Jerome Cheese is prepared to produce such an analysis for its trade with the City. EPA has no basis to impose a per se ban on any and all phosphorus trading on the Middle Snake River.

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[23] Attached as Exhibit "H" (without exhibits). The petition, with the exhibits, is also available at yosemite.epa.gov/oa/EAB_Web_Docket.nsf/Closed+Dockets?OpenView under "City of Twin Falls Wastewater Treatment Plant."

3. If EPA continues to desire to issue a permit with (wrong) phosphorus limits, EPA should defer issuance of the Permit while IDEQ modifies the TMDL to incorporate a phosphorus allocation for Jerome Cheese based on an agreement with the City.

IDEQ recently informed Jerome Cheese that IDEQ intends to propose a modification to the Middle Snake TMDL to incorporate a phosphorus allocation for Jerome Cheese. In its letter dated July 17, 2012,[24] IDEQ informed Jerome Cheese that based on Jerome Cheese's agreement with the City under which the City trades 10 lbs/day of phosphorus to Jerome Cheese, IDEQ is willing to modify the wasteload allocations for Jerome Cheese and the City. As described in the paragraph above, Jerome Cheese believes the modification is appropriate because the agreement with the City facilitated the upgrade of the City's wastewater treatment plant and thus created a significant environmental benefit by reducing overall phosphorus discharges. EPA has already approved a similar TMDL modification for the City of Twin Falls.

Jerome Cheese is not opposed to issuance of a Permit with correct phosphorus limits prior to modification of the TMDL. Some phosphorus allocation is better than none. However, we are concerned that EPA historically has disfavored NPDES permit modifications, so Jerome Cheese would like some assurance that if a permit is issued now and the TMDL is subsequently modified, EPA will promptly follow through with an appropriate permit modification. Further, if EPA will not revise its (wrong) interpretation of the TMDL, EPA may nonetheless find it administratively efficient to defer action on Jerome Cheese's Permit until IDEQ modifies the TMDL to avoid a later modification or an appeal. EPA has waited six years after the application was submitted to issue the Permit. The agency should not now spit out a permit with wrong limits that will be appealed and/or will require modification when IDEQ modifies the Middle Snake TMDL in the near future.

4. EPA has no basis to issue the Permit with temperature, *E. coli*, and ammonia limits based on the erroneous application of cold-water biota criteria to a man-made waterway.

As IDEQ ably points out in its May 3, 2012 draft 401 certification, the temperature, *E. coli*, and ammonia limits in the draft Permit are based on EPA (wrongly) setting water quality standards in Lateral 12 and the downstream irrigation canals consistent with the standards for protecting aquatic life uses. EPA's position is plainly inconsistent with Idaho's water quality standards ("WQS") that EPA has approved because Lateral 12 and the downstream irrigation canals are protected only for the purposes for which they were created, which here is limited to agricultural water supply.[25] These man-made canals are not protected for aquatic life or primary

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[24] Attached as Exhibit "I."

[25] IDAPA 58.01.02.101.02. All waters of the State of Idaho are protected for the uses of industrial and agricultural water supply (IDAPA 58.01.02.100.03.b and c), wildlife habitats (IDAPA 58.01.02.100.04), and aesthetics

contact recreation uses. Indeed, part of Lateral 12 is buried 12-inch pipe and is unsuitable for aquatic life. In taking a contrary position, EPA is reversing decades of precedent and a large number of NPDES permits in Idaho which hold otherwise.[26] In addition, EPA's position simply makes no sense in that these canals and laterals are dry about half of the year, such that the canals cannot sustain aquatic life. The limits for temperature, *E. coli*, and ammonia should be removed from the Permit.

Thank you for the opportunity to comment, and please do not hesitate to contact me if you have any questions.

Very truly yours,

William Riebesell
Plant Manager

cc: John Drabek, U.S. Environmental Protection Agency (via e-mail without exhibits)
Bill Allred, Regional Administrator, Idaho Department of Environmental Quality (without exhibits)
Doug Conde, Deputy Attorney General, Idaho Department of Environmental Quality (via e-mail without exhibits)
Gary G. Allen, Esq., Givens Pursley LLP

(IDAPA 58.01.02.100.05). The WQS in Sections 252.02, 252.03, and 253 require that industrial and agricultural water supply uses are to be protected by narrative criteria in IDAPA 58.01.02.200. In IDEQ's June 10, 2011 letter to EPA, IDEQ made clear that Jerome Cheese's receiving waterway, Lateral 12, is a man-made waterway, designated and protected only for agricultural water supply uses.

[26] *See, e.g.*, Caldwell Housing Authority-Farm Labor Camp (ID-002545-3) Fact Sheet at 8 ("agricultural irrigation"); City of Jerome (ID-0020168) Fact Sheet at 9; Magic Valley Produce, Inc. (ID0026654) Fact Sheet at 10 ("agricultural water supply"); Paul Housing Authority (ID-002526-7) Fact Sheet at 5 ("agricultural irrigation and industrial water supply"); City of Rexburg (ID-002381-7) Fact Sheet at 6 ("agricultural uses and general surface water uses"); Star Water District and Sewer District (ID-002359-1) Fact Sheet at 5 ("agricultural water supply").

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Appendix D. City of Jerome and Davisco Letter to DEQ—July 15, 2014

DAVISCO
FOODS INTERNATIONAL, INC.®

July 15, 2014

State of Idaho
Department of Environmental Quality
Attn: Buhidar Balthasar
1410 N Hilton St.
Boise, Idaho 83706

RE: City of Jerome, Idaho / Davisco Foods International, Inc. d/b/a Jerome Cheese Company
Transfer of Phosphorus Limit

Dear Mr. Balthasar:

Please accept this letter on behalf of City of Jerome, Idaho ("Jerome") and Davisco Foods International, Inc. d/b/a Jerome Cheese Company ("Jerome Cheese") addressing the grant and transfer from Jerome to Jerome Cheese of a portion of the phosphorus limit available to Jerome under its NPDES Permit.

Jerome and Jerome Cheese specifically acknowledge and agree to the following to effectuate the grant and transfer from Jerome to Jerome Cheese of a portion of the phosphorus limit available to Jerome under Jerome's NPDES Permit:

1. The phosphorus limit available to Jerome under Jerome's NPDES Permit shall be reduced by ten (10) pounds per day to effectuate the grant and transfer to Jerome Cheese of a portion of said phosphorus limit available to Jerome under Jerome's NPDES Permit; and
2. Jerome Cheese shall receive and accept the grant and transfer of a portion of the phosphorus limit available to Jerome under Jerome's NPDES Permit in a per day amount, not to exceed ten (10) pounds per day, to satisfy Jerome Cheese's phosphorus wasteload operational needs and requirements; and
3. The said grant and transfer from Jerome to Jerome Cheese of a portion of the phosphorus limit available to Jerome under Jerome's NPDES Permit shall be permanent.

Further, Jerome Cheese specifically acknowledges and agrees to the following to effectuate the grant and transfer from Jerome to Jerome Cheese of a portion of the phosphorus limit available to Jerome under Jerome's NPDES Permit:

Jerome Cheese Company
547 West Nez Perce Avenue, Jerome, ID 83338
PHONE 208-324-8806 FAX 208-324-8892
www.DaviscoFoods.com

State of Idaho
Department of Environmental Quality
Attn: Buhidar Balthasar
July 15, 2014
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a. The permanency of the grant and transfer from Jerome to Jerome Cheese of a portion of the phosphorus limit available to Jerome under Jerome's NPDES Permit is subject to modification of the TMDL; and

b. The difference between: (a) the ten (10) pounds per day reduction of the phosphorus limit available to Jerome under Jerome's NPDES Permit, and (b) the per day amount of the portion of the phosphorus limit available to Jerome under Jerome's NPDES Permit granted and transferred to Jerome Cheese to satisfy Jerome Cheese's phosphorus wasteload operational needs and requirements, shall be retired for the benefit of the middle Snake River.

Very truly yours,

David M. Davis

Dave Davis, Mayor
City of Jerome, Idaho

Bill Riebesell, COO
Davisco Foods International, Inc.,
d/b/a Jerome Cheese Company

Appendix E. Distribution List

The distribution list will be included after the final public comment period. However, at the present time, the distribution list will include:

- Mid-Snake WAG members (which includes industry stakeholders)
- EPA
- DEQ
- IDFG
- Environmental Organizations: Idaho Conservation League, Idaho Rivers United, and possibly others.

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Appendix F. Public Comments/Public Participation

[To be inserted following public comment period.]

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