FACT SHEET

The United States Environmental Protection Agency (EPA)
Proposes To Reissue
A National Pollutant Discharge Elimination System (NPDES) Permit to:

City of Fruitland, Snake River Facility
P.O. Box 324
Fruitland, Idaho 83619

NPDES Permit Number: ID-002033-8

Public Notice Start Date: February 16, 2011
Public Notice Expiration Date: March 18, 2011

Technical Contact: John Drabek, 206-553-8257, drabek.john@epa.gov
1-800-424-4372 ext. 3-8257 (within Region 10)
drabek.john@epa.gov

EPA Proposes To Reissue NPDES Permit

EPA proposes to reissue the NPDES permit to the facility referenced above. The draft permit places conditions on the discharge of pollutants from the wastewater treatment plant to waters of the United States. In order to ensure protection of water quality and human health, the permit place limits on the types and amounts of pollutants that can be discharged from each facility.

This Fact Sheet includes:

- information on public comment, public hearing, and appeal procedures
- a listing of proposed effluent limitations, and other conditions for each facility
- a map and description of the discharge locations
- technical material supporting the conditions in the permit

State Certification for Facilities that Discharge to State Waters

EPA will request that the Idaho Department of Environmental Quality (IDEQ) certify the NPDES permit for this facility, under Section 401 of the Clean Water Act. Comments regarding the certification should be directed to:

IDEQ Boise Regional Office
1445 N. Orchard
Boise, ID 83706
ph: (208) 373-0550
fx: (208) 373-0287

Public Comment

Persons wishing to comment on, or request a Public Hearing for the draft permit for this facility may do so in writing by the expiration date of the Public Comment period. A request for a Public Hearing must state the nature of the issues to be raised as well as the requester's name, address and telephone number. All comments and requests for Public Hearings must be in writing and should be submitted to EPA as described in the Public Comments Section of the attached Public Notice.

After the Public Notice expires and all comments have been considered, EPA Region 10's Director for the Office of Water and Watersheds will make a final decision regarding permit reissuance. If no substantive comments are received, the tentative conditions in the draft permit will become final, and the permit will become effective upon issuance. If comments are received, EPA will address the comments and issue the permit. In such a case, the permit will become effective at least 30 days after the issuance date unless an appeal is submitted to the Environmental Appeals Board within 30 days.

Documents are Available for Review.

The draft permit and fact sheet are posted on the Region 10 website at http://yosemite.epa.gov/r10/WATER.NSF/NPDES+Permits/DraftPermitsID Copies may also be requested by writing to EPA at the Seattle address below, by e-mailing washington.audrey@epa.gov, or by calling Audrey Washington at 206-553-0523 or (800) 424-4372 ext 0523 (within Alaska, Idaho, Oregon, & Washington). Copies may also be inspected and copied at the offices below between 8:30 a.m. and 4:00 P.M., Monday through Friday, except federal holidays. In Seattle, visitors report to the 12th floor Public Information Center.

United States Environmental Protection Agency
Region 10
1200 Sixth Avenue, OWW-130
Seattle, Washington 98101
(206) 553-0523 or
Toll Free 1-800-424-4372 (within Alaska, Idaho, Oregon and Washington)

EPA Idaho Operations Office
1435 North Orchard Street
Boise, Idaho 83706
(208) 378-5746

IDEQ Boise Regional Office
1445 N. Orchard
Boise, ID 83706
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For technical questions regarding the permit or fact sheet, contact John Drabek at the phone number or e-mail address at the top of this fact sheet. Those with impaired hearing or speech may contact a TDD operator at 1-800-833-6384 and ask to be connected to the appropriate phone number. Persons with disabilities may request additional services by contacting John Drabek.

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APPLICANT

This fact sheet provides information on the draft NPDES permit for the following entity:

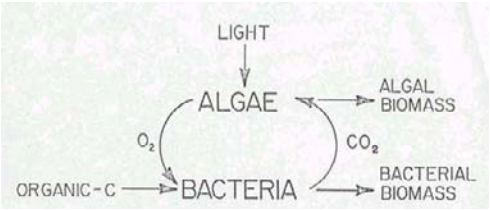
Facility Name:	City of Fruitland, Snake River Wastewater Treatment Plant
Mailing Address:	P.O. Box 324, Fruitland, Idaho 83619
Facility Address:	7652 North Nevada Avenue, Idaho 83619
Contact:	Rick Shultz, (208) 452-3997

I. FACILITY INFORMATION

A. Facility Description

The City of Fruitland owns, operates and has maintenance responsibility for a facility that treats domestic sewage and commercial wastewater discharge. The facility is primarily from local residents and commercial establishments through a separate sanitary sewer system. Swire Coca-Cola, USA is the only industrial discharger to the system and discharges in the range of 100,000 gallons per day (mgd) to the treatment system. This is greater than 25,000 gallons per day making it a significant industrial user. Discharges are from the production of beverages made from water, corn syrup and phosphoric acid.

Primary treatment consists of screening. The Fruitland Snake River wastewater treatment plant provides treatment equivalent to secondary (TES) using waste stabilization ponds five to seven feet deep, that allows sunlight algae, bacteria and oxygen to interact. The treatment plant consists of a hybrid five cell lagoon system with a total area of eleven acres. These lagoons allow settleable solids introduced by the wastewater to settle to the bottom to form a sludge layer that decomposes anaerobically. If oxygen is present in the water column, the biodegradable organic materials that do not settle are degraded aerobically. The term facultative describes the aerobic-anaerobic nature of the lagoon - an anaerobic bottom region covered by an aerobic top layer. The depth of the latter is in a state of constant fluctuation as the result of changing meteorological conditions. The dominant organisms in the system are algae and bacteria which function in a mutually beneficial relationship. The oxygen needed for aerobic treatment in facultative lagoons is supplied primarily by algae, the cultivation of which is a major factor in the lagoon design.



The removal of BOD5 will vary from 50 to 95 percent, depending on how much algae is in the lagoon at the time. The hybrid system at Fruitland includes 10 surface aerators in the first treatment cell and a Lemna Grid System consisting of duckweed, a floating aquatic plant, in a controlled manner to assist in continued biological breakdown, nutrient removal and to

provide a cover in the summertime to prevent algae blooms. Fruitland achieved overall BOD removal of 90 to 97 percent and with three exceptions and 85 to 95 percent TSS removal.

Disinfection is by adding sodium hypochlorite from either an on-site hypochlorite generator or 12.5% hypochlorite.

Settled solids are removed from the treatment system and disposed of by burial at Payette County's Clay Peak Sanitary Landfill.

The sanitary collection system which drains to the Snake River Wastewater Treatment facility contains approximately 14.3 miles of piping with 980 service connections serving approximately 1,030 residential, commercial and industrial units. Approximately 975 of those units are residential households, apartments and mobile homes. The remaining units are commercial, with one large industrial user, Swire Coca-Cola. The current service population is estimated to be 2,850 people. The WWTP has a design flow rate of 0.48 mgd.

The average inflow and infiltration is 65,000 gallons per day. To address this, the City has prepared a facilities plan and is continuing to upgrade and maintain the collection system.

Permit History

The facility's previous permit became effective on December 31, 2001. A complete application for permit reissuance was submitted to EPA on September 13, 2006. Since the permit was not reissued before the expiration date of January 2, 2007, the permit was administratively extended under 40 CFR 122.6. An updated application was sent to EPA on November 6, 2009.

B. Compliance History

A review of the DMRs from January, 2003 to July 2009 found the following:

TSS

TSS violation of the average mass monthly limit in March, 2008 with a discharge 541 lbs/day.

TSS violation of the average monthly concentration limit in January, 2009 with a discharge of the of 75 mg/L and in March, 2008 with a discharge of 155 mg/L.

Violation of the weekly TSS mass limit of 440 lbs/day with a discharge of 642 lbs/day in March, 2008.

Violation of the weekly TSS concentration limit of 105 mg/L with a discharge of 186 mg/L.

E. coli

Violation of the instantaneous *E. coli* limit of 408 #/100ml with a discharge of 950 #/100ml in March, 2003.

Violation of the instantaneous *E. coli* limit of 408 #/100ml with a discharge of 3,300 #/100ml in April, 2004.

Violation of the instantaneous *E. coli* limit of 408 #/100ml with a discharge of 1,400 #/100ml in October, 2007.

Violation of the instantaneous *E. coli* limit of 408 #/100ml with a discharge of 590 #/100ml in September, 2008

Violation of the monthly average *E. coli* limit of 126 #/100ml with a discharge of 128 #/100ml in May, 2005

Chlorine

The monthly average chlorine limit of 0.5 mg/L was violated in 2003 with discharges of 0.56, 0.61, 0.62, 0.65, 0.69 and 0.79 mg/L.

The weekly average chlorine limit of 0.75 mg/L was violated in July, 2008 with a discharge of 1.02 mg/L.

TSS Removal

The percent TSS removal requirement was violated in February, 2004 with a 62% removal in March, 2004 with a removal of 59% and in January, 2009 with 62%.

II. RECEIVING WATER

The treated effluent from the City of Fruitland's wastewater treatment facility is discharged continuously to the Snake River at river mile 373, which is identified in the Idaho *Water Quality Standards and Wastewater Treatment Requirements at* IDAPA 58.01.02.140.13. The discharge is in the Middle Snake-Payette Subbasin, HUC 17050115, (SW-1, Snake River - the Idaho/Oregon border to Weiser River). The beneficial use classifications are: domestic water supply, cold water biota, primary contact recreation, aesthetics; wildlife habitats; and domestic, agricultural and industrial water supply. The outfall is located at latitude 44° 02' 20.4" N and longitude 116° 55' 25" W.

A. Water Quality Standards

Section 301(b)(1)(C) of the CWA requires the development of limitations in permits necessary to meet water quality standards by July 1, 1977. Federal regulations at 40 CFR 122.4(d) require that the conditions in NPDES permits ensure compliance with the water quality standards of all affected States. A State's water quality standards are composed of use classifications, numeric and/or narrative water quality criteria, and an anti-degradation policy. The use classification system designates the beneficial uses (such as drinking water supply, contact recreation, and aquatic life) that each water body is expected to achieve. The numeric and/or narrative water quality criteria are the criteria deemed necessary by the State to support the beneficial use classification of each water body.

B. Water Quality Limited Segment and TMDL

A water quality limited segment (WQLS) is any waterbody, or definable portion of a waterbody, where it is known that water quality does not meet applicable water quality standards or is not expected to meet applicable water quality standards. In accordance with section 303(d) of the Clean Water Act, States must identify waters not achieving water quality standards in spite of application of technology-based controls in National Pollutant Discharge Elimination System (NPDES) permits for point sources. Such waterbodies are

known as water quality limited segments (WQLSs), and the list of such waterbodies is called the "303(d) list." Once a water body is identified as a WQLS, the States are required under the Clean Water Act to develop a total maximum daily load (TMDL).

A TMDL is a determination of the mass or concentration of a pollutant from point, nonpoint, and natural background sources that may be discharged to a water body without causing the water body to exceed the water quality criterion for that pollutant (including a margin of safety). The TMDL documents the amount of a pollutant a water body can assimilate without violating a state's water quality standards and allocates that load to known point sources and nonpoint sources.

The segment of the Snake River to which the City of Fruitland discharges was identified on the State of Idaho 303(d) list because it did not attain or was not expected to meet the state water quality standards for dissolved oxygen, sediment, temperature, pH, bacteria and mercury.

The State of Idaho jointly with the State of Oregon developed the Snake River - Hells Canyon Total Maximum Daily Load (TMDL) **(**IDHW-DEQ), June, 2004 (SR-HC TMDL) which was approved by EPA in September, 2004. The TMDL addresses pollutant listings of both Idaho and Oregon for the Snake River. The TMDL established allocations for total phosphorus, sediments, also called total suspended solids (TSS), heat load in both British Thermal Units and alternately degrees Fahrenheit and flow. The TMDL did not provide allocations for mercury, bacteria or pH.

Dissolved Oxygen and Phosphorus

Nutrient concentrations are closely linked with dissolved oxygen and organic matter concentrations. Elevated concentrations of nutrients can lead to increased growth of algae and associated organic matter when other conditions such as water flow, depth, clarity, sunlight penetration, and temperature are conducive to enhanced growth. Algae and aquatic plants in turn consume oxygen from the water column during periods when respiration is the dominant process and in the aerobic decomposition of the dead algae and other detritus (non-living organic material). Total phosphorus has been identified as the nutrient of concern in the SR-HC TMDL reach. Improvements in dissolved oxygen can be achieved through attainment of growth-limiting concentrations of phosphorus. The portions of the Snake River upstream of RM 409 were shown to exhibit dissolved oxygen concentrations below the water quality to support cold water aquatic life. The calculated reduction in organic phosphorous loading is projected to result in an improvement in dissolved oxygen levels in both the Upstream Snake River and Brownlee Reservoir segments. Therefore, phosphorous concentrations are a surrogate to achieve the DO water quality standard. WLAs for phosphorus are contained in Table 4.0.8. *Total phosphorus waste load allocations (WLAs) for permitted point sources in the Snake River - Hells Canyon TMDL reach.* **"**Point sources currently employing facultative lagoons (Table 4.0.8) represent a miniscule proportion of the total point source phosphorus loading (1.2%) within the SR-HC TMDL reach and will therefore not receive specific total phosphorus reduction requirements at this time."

Therefore, the WLA assigned to the City of Fruitland is 5.5 kilograms per day (kg/day) (12 pounds per day). This is identical to the current loading. The waste load allocation applies for the critical period from May through September**.**

TSS

Allocations for TSS are in Table 4.0.15 a. of the Snake River TMDL. *Total suspended solids (TSS) waste load allocations for point sources discharging directly to the Snake River - Hells Canyon TMDL reach (RM 409 to 188).*

"Point source discharges represent less than 0.04 percent of the total load capacity for the SR-HC TMDL reach. Many point sources employ treatment measures that dramatically reduce the sediment concentrations in their effluent as compared to the source water. Due to the fact that point source loading represents such a miniscule proportion of the total load, waste load allocations have been established at existing NPDES permit levels for all point sources discharging directly to the mainstem Snake River."

The TMDL states the existing and allocated TSS discharges are an average monthly limit of 70 mg/L. Therefore, the WLA for the City of Fruitland is 70 mg/L.

Temperature

Allocations for heat load (temperature and flow) are in Table 4.0.16. *Permitted point source discharge temperature waste load allocations specific to cold water aquatic life/salmonid rearing for the Snake River - Hells Canyon TMDL reach (RM 409 to 188).*

"Waste load allocations specific to temperature limit point sources to existing loads based on design flow. Currently, cumulative, calculated anthropogenic increases in temperature do not occur above the defined "no-measurable-increase" value of 0.14 ^{o}C. Therefore, the focus of the TMDL is to ensure that additional, anthropogenic temperature influences do not occur over the defined no-measurable-increase value, to protect the cold water refugia currently in place within the SR-HC TMDL reach, and to improve water temperatures in a site-specific fashion in the Upstream Snake River segment (RM 409 to 335) where cold water refugia may be restored."

The temperature allocation for the City of Fruitland is 300 British Thermal Units (BTU) per day. The TMDL states this allocation is equivalent to a temperature of 72ºF together with a maximum flow 0.5 MGD. This allocation is specific to the salmonid rearing/coldwater aquatic life use, which applies year-round. Temperature and flow are used to implement the waste load allocation specific to temperature in the TMDL.

Mercury

Although this portion of the Snake is listed for mercury on the Idaho 303(d) list for the Department of Environmental Quality (IDEQ) has not written a TMDL for mercury for this portion of the river. Effluent monitoring will aide in the development of any future TMDL. EPA found the mercury monitoring in the current permit did not meet the necessary precision to determine reasonable potential to violate water quality standards. EPA requires a minimum level of detection (ML) of 0.005 µg/L ((Analytical Methods for Mercury in National Pollutant Discharge Elimination System (NPDES) Permit, James A Hanlon, August 23, 2007)). The ML for the mercury monitoring submitted by Fruitland was 0.01 µg/L. The draft permit contains a requirement for monitoring mercury with methods that achieve the lower ML of 0.005 µg/L.

pH and Bacteria

Although this portion of the Snake is 303(d) listed for pH and bacteria, the TMDL states that

"The data showed no exceedances of water quality targets for the SR-HC TMDL reach. Delisting of these two pollutants is recommended; therefore no load allocations have been identified."

III. EFFLUENT LIMITATIONS

A. Basis for Permit Effluent Limits

In general, the CWA requires that the limits for a particular pollutant be the more stringent of either technology-based effluent limits or water quality-based limits. Technology-based limits are set according to the level of treatment that is achievable using available technology. A water quality-based effluent limit is designed to ensure that the water quality standards of a waterbody are being met and they may be more stringent than technology-based effluent limits. The basis for the proposed effluent limits in the draft permit are provided in Appendix B of this document.

B. Proposed Effluent Limitations

The following summarizes the proposed effluent limitations that are in the draft permit:

1. There must be no discharge of any floating solids, visible foam in other than trace amounts, or oily wastes that produce a sheen on the surface of the receiving water.
2. Table 1 below presents the proposed effluent limitations.

Table 1
Effluent Limitations

Parameters	Average Monthly Limit	Average Weekly Limit	Minimum Percent Removal[1]	Instantaneous Maximum Limit
Flow	0.5 MGD	--	---	--
BOD_5	45 mg/L	65 mg/L	65%	--
	200 lbs/day[2]	430 lbs/day[2]		--
TSS	45 mg/L	65 mg/L	65%	--
	170 lbs/day[2]	290 lbs/day[2]		--
E. coli Bacteria	126 colonies /100mL[3]	--	--	406 colonies /100mL
Fecal Coliform	50 colonies /100mL[3]			
Total Phosphorus May 1 – September 30	12 lbs/day	22 lbs/day	--	--
Temperature	72°F	--	--	--

Table 1
Effluent Limitations

Parameters	Average Monthly Limit	Average Weekly Limit	Minimum Percent Removal[1]	Instantaneous Maximum Limit
Total Residual Chlorine	0.5 mg/L	0.75 mg/L	--	--
	2.1 lbs/day	3.1 lbs/day	--	--
pH	6.5 – 9.0 standard units			

1. Percent removal is calculated using the following equation: ((influent - effluent) / influent) x 100, this limit applies to the average monthly values.
2. Loading limits are calculated by multiplying the concentration in mg/L by the design flow of 0.5 mgd and a conversion factor of 8.34 lbs/gallon.
3. The monthly averages for *E. coli* and fecal coliform are the geometric mean of all samples taken during the month.

IV. MONITORING REQUIREMENTS

A. Basis for Effluent and Surface Water Monitoring Requirements

Section 308 of the CWA and federal regulation 40 CFR 122.44(i) require monitoring in permits to determine compliance with effluent limitations. Monitoring is also required to characterize the effluent to determine if additional effluent limitations are required and to monitor effluent impacts on receiving water quality.

B. Effluent Monitoring Requirements

Parameters

BOD_5, TSS, *E. coli*, Fecal Coliform, Total Phosphorus, Temperature, Flow and Total Residual Chlorine

The permit requires monitoring BOD_5, TSS, *E. coli*, fecal coliform, total phosphorus, flow, temperature, pH and total residual chlorine to determine compliance with the effluent limits; it also requires monitoring of the influent for BOD_5 and TSS to calculate monthly removal rates. Temperature monitoring is increased from once per week to continuous. Total phosphorus monitoring is increased from once per quarter to once per week consistent with the City of Weiser POTW that also has a TMDL allocation for phosphorus in the Snake River Hells Canyon TMDL. The weekly phosphorus monitoring is also required to insure compliance with the weekly limit. The weekly phosphorus monitoring is also consistent with the 24 hour composite samples for TSS and BOD_5.

Ortho-Phosphorus, Kjeldahl Nitrogen, Nitrate - Nitrite (as N),

Idaho and EPA agree since total phosphorus is the primary limiting nutrient and the downstream Snake River TMDL includes allocations for total phosphorus only, continued ortho-phosphorus, kjeldahl nitrogen and nitrate – nitrite monitoring will

provide no additional useful information. Monitoring for these parameters have been discontinued in this reissued permit.

Mercury

An August 23, 2007, memorandum from James A. Hanlon to the Water Division Directors clarifies and explains that, in light of existing regulatory requirements for NPDES permits, only the most sensitive methods, such as Methods 1631E and 245.7, are appropriate in most instances for use in deciding whether to set a permit limitation for mercury and for sampling and analysis of mercury pursuant to the monitoring requirements within a permit. See *Analytical Methods for Mercury in National Pollutant Discharge Elimination System (NPDES) Permits*, which is available at http://www.epa.gov/npdes/pubs/mercurymemo_analyticalmethods.pdf.

The permit requires Methods 1631E or 245.7 for mercury monitoring.

Ammonia

Monitoring for ammonia is again required however it is expanded from two years in the existing permit to the life of the new permit. Ammonia is a parameter commonly monitored for POTWs to determine performance and will determine impacts to the Snake River. It does not have a reasonable potential to violate the water quality standards of the Snake River and a limit is not required.

Application Form 2A Monitoring

The City of Fruitland WWTP is a minor NPDES facility (i.e.,<1 MGD design flow). Monitoring for reapplication is required over a three your period as required in NPDES Application Form 2A Effluent Testing Data.

Frequency

Monitoring frequencies are based on the nature and effect of the pollutant, as well as a determination of the minimum sampling necessary to adequately monitor the facility's performance. Permittees have the option of taking more frequent samples than are required under the permit. These samples can be used for averaging if they are conducted using EPA approved test methods (generally found in 40 CFR 136) and if the Method Detection Limits (MDLs) are less than the effluent limits.

Table 2 presents the effluent monitoring requirements for the permittee in the draft permit. Each of the effluent monitoring requirements from the previous permit was evaluated to determine whether the requirements should be continued, updated or eliminated.

The sampling location must be after the last treatment unit and existing to discharge to the receiving water. If no discharge occurs during the reporting period, "no discharge" shall be reported on the DMR.

Table 2
Effluent Monitoring Requirements

Parameter	Unit	Sample Location	Sample Frequency	Sample Type
Flow	mgd	Effluent	Continuous	Recording
BOD_5	mg/L	Influent and Effluent[5]	1/week	24-hour composite
	lbs/day	Effluent	1/week	Calculation
	% Removal	---	---	Calculation
TSS	mg/L	Influent and Effluent[5]	1/week	24-hour composite
	lbs/day	Effluent	1/week	Calculation
	% Removal	---	---	Calculation
pH	standard units	Effluent	5/week	Grab
E.coli Bacteria	colonies/100 ml	Effluent	1/week	Grab
Fecal Coliform	colonies/100 ml	Effluent	1/month	Grab
Total Residual Chlorine	mg/L	Effluent	5/week	Grab
	lbs/day			
Total Ammonia Nitrogen	mg/L	Effluent	1/2 month	24-hour composite
Total Phosphorus	Lbs/day	Effluent	1/week	24-hour composite
Temperature	°F	Effluent	5/week	Grab
Total Mercury[6]	µg/L	Effluent	1/quarter	24-hour composite
NPDES Application Form 2A Effluent Testing Data	mg/L	Effluent	1 each in 2nd, 3rd, & 4th years of the permit	See footnote 7

5. Influent and effluent composite samples shall be collected during the same 24-hour period.
6. Method 1631E or 245.7
7. For Effluent Testing Data, in accordance with instructions in NPDES Application Form 2A, Part B.6.

V. SLUDGE (BIOSOLIDS) REQUIREMENTS

EPA Region 10 separates wastewater and sludge permitting. Under the CWA, EPA has the authority to issue separate sludge-only permits for the purposes of regulating biosolids. EPA may issue a sludge-only permit to each facility at a later date, as appropriate.

In the absence of a sludge-only permit, sludge management and disposal activities at each facility continue to be subject to the national sewage sludge standards at 40 CFR Part 503 and any requirements of the State's biosolids program. Since the 40 CFR Part 503 regulations are self-implementing, the permittees must comply with them whether or not a permit has been issued.

The proposed permit requires the permittee to submit a biosolids permit application (NPDES Form 2S) before sewage sludge is removed from the lagoon. The application is required by 40 CFR 122.21(a)(i), 122.21(a)(ii)(H), and 122.21(c)(2). The regulations require 180 days so EPA has time to evaluate the information, ask for additional information and prepare the permit.

VI. OTHER PERMIT CONDITIONS

A. Quality Assurance Plan Implementation

The federal regulation at 40 CFR 122.41(e) requires the permittee to develop procedures to ensure that the monitoring data submitted to EPA are accurate and to explain data anomalies if they occur. The permittee is required to develop or update and implement a Quality Assurance Plan within 90 days of the effective date of the final permit. The Quality Assurance Plan shall consist of standard operating procedures that the permittee must follow for collecting, handling, storing and shipping samples, laboratory analysis and data reporting. The plan shall be retained on site and be made available to EPA and IDEQ upon request.

B. Operation and Maintenance Plan Implementation

The permit requires the Permittee to properly operate and maintain all facilities and systems of treatment and control. Proper operation and maintenance is essential to meeting discharge limits, monitoring requirements, and all other permit requirements at all times. The Permittee is required to develop and implement an operation and maintenance plan for its facility within 180 days of the effective date of the final permit. The plan shall be retained on site and made available to EPA and IDEQ upon request.

C. Sanitary Sewer Overflows and Proper Operation and Maintenance

Untreated or partially treated discharges from separate sanitary sewer systems are referred to as sanitary sewer overflows (SSOs). SSOs may present serious risks of human exposure when released to certain areas, such as streets, private property, basements, and receiving waters used for drinking water, fishing and shellfishing, or contact recreation. Untreated sewage contains pathogens and other pollutants, which are toxic. SSOs are not authorized under this permit. Pursuant to the NPDES regulations, discharges from separate sanitary sewer systems authorized by NPDES permits must meet effluent limitations that are based upon secondary treatment. Further, discharges must meet any more stringent effluent limitations that are established to meet EPA-approved state water quality standards.

The permit contains language to address SSO reporting and public notice and operation and maintenance of the collection system. The permit requires that the permittee identify SSO occurrences and their causes. In addition, the permit establishes reporting, record keeping and third party notification of SSOs. Finally, the permit requires proper operation and maintenance of the collection system. The following specific permit conditions apply:

Immediate Reporting – The permittee is required to notify the EPA of an SSO within 24 hours of the time the permittee becomes aware of the overflow. (See 40 CFR 122.41(l)(6))

Written Reports – The permittee is required to provide the EPA a written report within five days of the time it became aware of any overflow that is subject to the immediate reporting provision. (See 40 CFR 122.41(l)(6)(i)).

Third Party Notice – The permit requires that the permittee establish a process to notify specified third parties of SSOs that may endanger health due to likelihood of human exposure or of unanticipated bypasses and upsets that exceed any effluent limitation in the permit or that may endanger health due to a likelihood of human exposure. The permittee is required to develop, in consultation with appropriate authorities at the local, county, and/or state level, a plan that describes how, under various overflow (and unanticipated bypass and upset) scenarios, the public, as well as other entities, would be notified of overflows that may endanger health. The plan should identify all overflows that would be reported, to whom, and the specific information that would be reported. The plan should include a description of lines of communication and the identities of responsible officials. (See 40 CFR 122.41(l)(6)).

Record Keeping – The permittee is required to keep records of SSOs. The permittee must retain the reports submitted to the EPA and other appropriate reports that could include work orders associated with investigation of system problems related to a SSO, that describes the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the SSO. (See 40 CFR 122.41(j)).

Proper Operation and Maintenance – The permit requires proper operation and maintenance of the collection system. (See 40 CFR 122.41(d) and (e)). SSOs may be indicative of improper operation and maintenance of the collection system. The permittee may consider the development and implementation of a capacity, management, operation and maintenance (CMOM) program.

The permittee may refer to Guide for Evaluating Capacity, Management, Operation, and Maintenance (CMOM) Programs at Sanitary Sewer Collection Systems (EPA 305-B-05-002). This guide identifies some of the criteria used by EPA inspectors to evaluate a collection system's management, operation and maintenance program activities. Owners/operators can review their own systems against the checklist (Chapter 3) to reduce the occurrence of sewer overflows and improve or maintain compliance.

D. Additional Permit Provisions

Sections III, IV, and V of the draft permit contain standard regulatory language that must be included in all NPDES permits. Because they are based on federal regulations, they cannot be challenged in the context of an individual NPDES permit action. The standard regulatory language covers requirements such as monitoring, recording, and reporting requirements, compliance responsibilities, and other general requirements.

VII. OTHER LEGAL REQUIREMENTS

A. Endangered Species Act

The Endangered Species Act requires federal agencies to consult with National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries) and the U.S. Fish and Wildlife Service (FWS) if their actions could adversely affect any threatened or endangered species.

EPA has determined that there are no listed species in the vicinity of the discharge; therefore, the issuance of this proposed permit will have no effect on listed species.

In an e-mail dated January 21, 2009, NOAA Fisheries stated that there are no threatened or endangered species under NOAA's jurisdiction in the Snake River drainage upstream of the Hells Canyon Dam, which is located at river mile 247.5. The City of Fruitland, Snake River is located at river mile 373 more than 100 miles upstream from the nearest ESA-listed threatened or endangered species under NOAA's jurisdiction. Therefore, the reissuance of this permit will have no effect on any listed threatened or endangered species under NOAA's jurisdiction.

Bull trout although listed for Payette County is not present in the Snake River according to the U.S. Fish and Wildlife Service (e-mail October 22, 2010 Bob Kibler - Fish and Wildlife Biologist, U.S. Department of The Interior - Fish and Wildlife Service).

Therefore, EPA concludes discharges from Fruitland will have no effect on any listed species under either the jurisdiction of NOAA or FWS.

B. Essential Fish Habitat

Essential fish habitat (EFH) includes the waters and substrate (sediments, etc.) necessary for fish to spawn, breed, feed, or grow to maturity. The Magnuson-Stevens Fishery Conservation and Management Act (January 21, 1999) requires EPA to consult with NOAA Fisheries when a proposed discharge has the potential to adversely affect (reduce quality and/or quantity of) EFH. The EFH regulations define an adverse effect as any impact which reduces quality or quantity of EFH and may include direct (e.g. contamination or physical disruption), indirect (e.g. loss of prey, reduction in species' fecundity), site specific, or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

The area of the discharge is not designated critical habitat as stated in 50 CFR Part 17 Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for Bull Trout in the Coterminous United States; Final Rule, October 18, 2010. EPA concludes that issuance of this permit has no affect on EFH.

C. State Certification

Section 401 of the CWA requires EPA to seek State certification before issuing a final permit. As a part of the certification, the State may require more stringent permit conditions or additional monitoring requirements to ensure that the permit complies with State water quality standards.

D. Permit Expiration

The permit will expire five years from the effective date of the permit.

VIII. DEFINITIONS AND ACRONYMS

1Q10	1 day, 10 year low flow

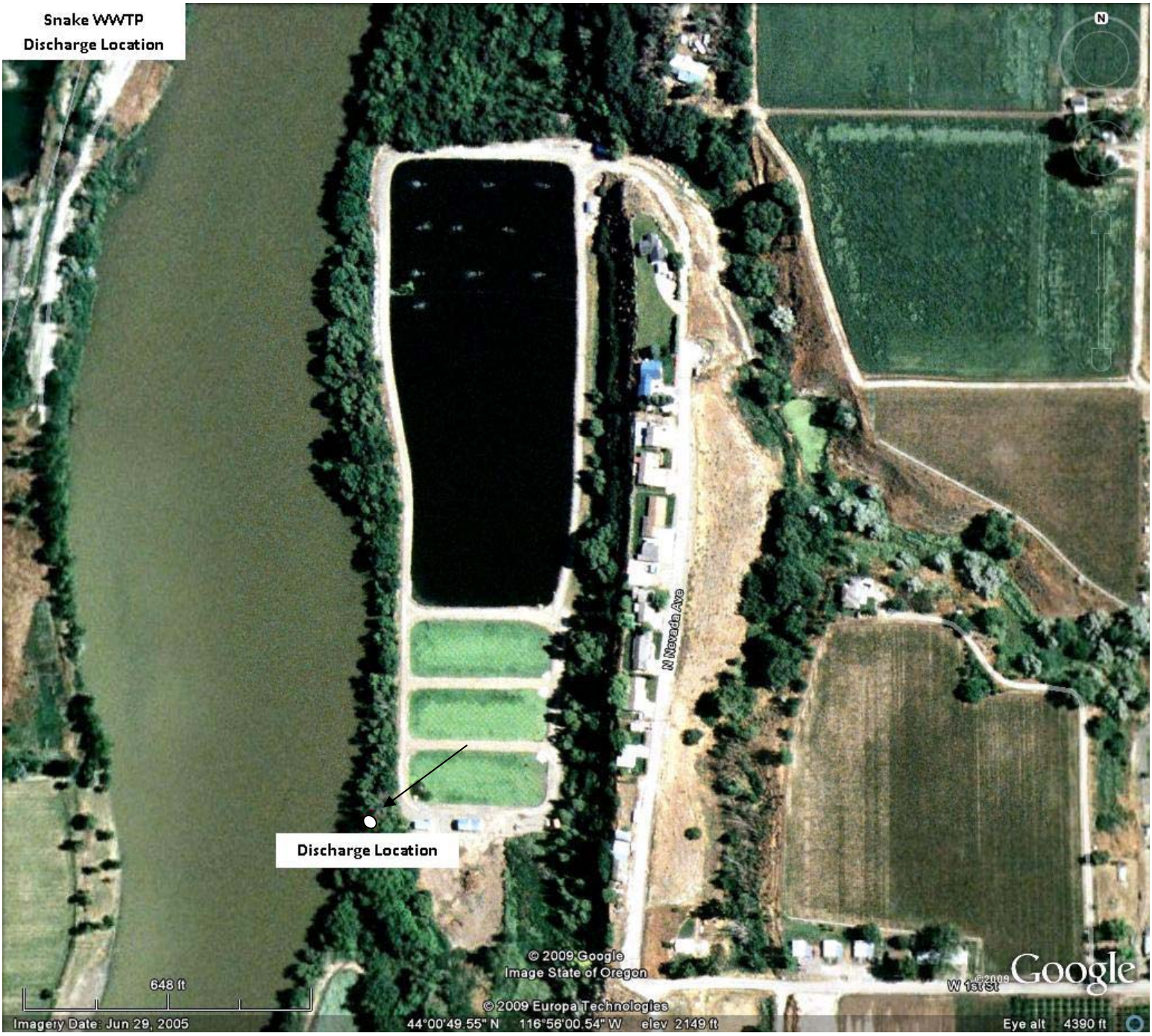
7Q10	7 day, 10 year low flow
AML	Average Monthly Limit
BOD_5	Biochemical oxygen demand, five-day
ºC	Degrees Celsius
cfs	Cubic feet per second
CFR	Code of Federal Regulations
CV	Coefficient of Variation
CWA	Clean Water Act
DMR	Discharge Monitoring Report
DO	Dissolved oxygen
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
lbs/day	Pounds per day
LTA	Long Term Average
mg/L	Milligrams per liter
ml	milliliters
µg/L	Micrograms per liter
mgd	Million gallons per day
MDL	Maximum Daily Limit or Method Detection Limit (depending on the context)
NOAA	National Oceanographic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
OWW	Office of Water and Watersheds
O&M	Operations and maintenance
POTW	Publicly owned treatment works
QAP	Quality assurance plan
RP	Reasonable Potential
RPM	Reasonable Potential Multiplier
s.u.	Standard Units
TMDL	Total Maximum Daily Load
TRE	Toxicity Reduction Evaluation
TSD	Technical Support Document (EPA, 1991)
TSS	Total suspended solids
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
UV	Ultraviolet radiation
WLA	Wasteload allocation
WQBEL	Water quality-based effluent limit
WWTP	Wastewater treatment plant

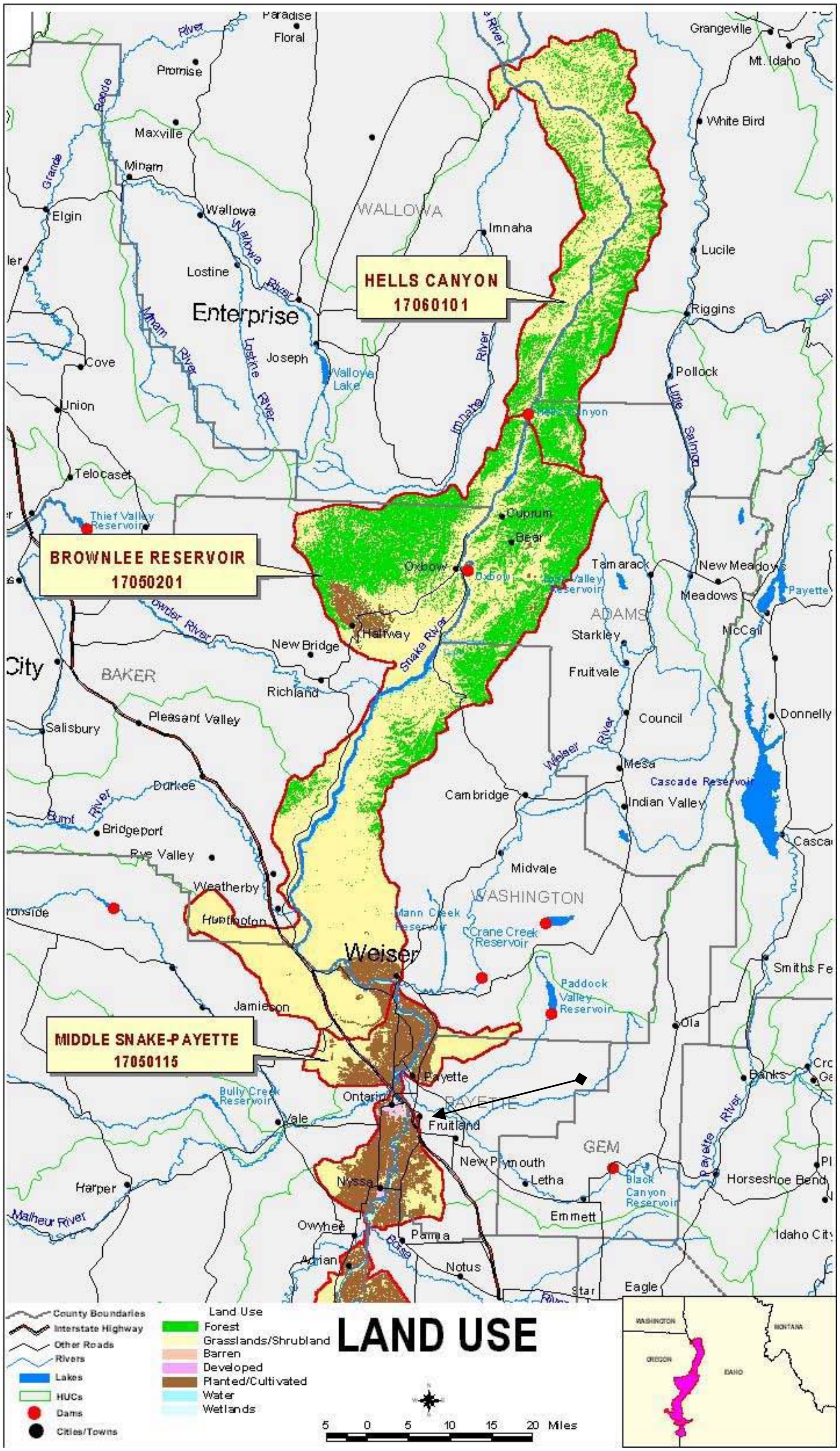
IX. REFERENCES

1. City of Fruitland, ID, NPDES permit, effective December 31, 2001 to January 2, 2007.
2. Idaho Administrative Procedures Act (IDAPA), 2006. Section 58, Water Quality Standards and Wastewater Treatment Requirements. Idaho Department of Environmental Quality Rules, Title 01, Chapter 02.

3. U.S. EPA, 1973. *Water Quality Criteria 1972* (EPA R3-73-033).
4. EPA. 1991. Technical Support Document for Water Quality-based Toxics Control. US Environmental Protection Agency, Office of Water, EPA/505/2-90-001.
5. EPA, 1996. U.S. EPA NPDES Permit Writer's Manual, US Environmental Protection Agency, Office of Water, EPA-833-B-96-003.

Appendix A – Location Map and Discharge Point to Snake River




HELLS CANYON
17060101
BROWNLEE RESERVOIR
17050201
MIDDLE SNAKE-PAYETTE
17050115
LAND USE
Land Use
Forest
Grasslands/Shrubland
Barren
Developed
Planted/Cultivated
Water
Wetlands
County Boundaries
Interstate Highway
Other Roads
Rivers
Lakes
HUCs
Dams
Cities/Towns
5 0 5 10 15 20 Miles
WALLOWA
BAKER
ADAMS
WASHINGTON
PAYETTE
GEM
Enterprise
Weiser
Fruitland
Payette
Ontario
Nyssa
Oxbow
Halfway
Cambridge
Council
Snake River

Appendix B – Basis for Effluent Limitations

The following discussion explains in more detail the statutory and regulatory basis for the technology and water quality-based effluent limits in the draft permit. Part A discusses technology-based effluent limits, Part B discusses water quality-based effluent limits in general, and Part C discusses facility specific water quality-based effluent limits.

A. Technology-Based Effluent Limits

The CWA requires POTWs to meet requirements based on available wastewater treatment technology. Section 301 of the CWA established a required performance level, referred to as "secondary treatment," which all POTWs were required to meet by July 1, 1977. EPA has developed and promulgated "secondary treatment" effluent limitations, which are found in 40 CFR 133.102. These technology-based effluent limits apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by application of secondary treatment in terms of BOD_5, TSS, and pH.

On September 20, 1984, EPA revised the Secondary Treatment Regulations (40CFR 133.102) for facilities that use waste stabilization ponds as the principal process. These revisions established effluent limitations for Treatment Equivalent to Secondary Treatment (40 CFR 133.105).

The existing permit adjusted these limits for TSS in accordance with 40 CFR 133.103(c) (IDAPA16.01.01.420.02.b.ii). However, these limitations were never submitted to or approved by EPA as alternative state requirements. Therefore they should not have been included in the previous permit. These alternative state requirements (ASRs) for TSS were a monthly limit of 70 mg/L and a weekly limit of 105 mg/L. Additionally, the State of Idaho eliminated IDAPA16.01.01420.02.b.ii and the ASRs. The limits established in the proposed reissued permit are the TSS limits in 40CFR 133.105(a) for BOD_5 and (b) for TSS Treatment Equivalent to Secondary shown in Table B-1.

Table B-1: Treatment Equivalent to Secondary Treatment (40 CFR 133.105)

Parameter	Average Monthly Limit	Average Weekly Limit	Range
BOD_5	45 mg/L	65 mg/L	---
TSS	45 mg/L	65 mg/L	---
Removal Rates for BOD_5 and TSS	65% (minimum)	---	---
pH	---	---	6.0 - 9.0 s.u.

Mass-based Limits

The federal regulations at 40 CFR 122.45(b) and (f) require that POTW limitations to be expressed as mass-based limits using the design flow of the facility. The mass-based limits, expressed in lbs/day, are calculated as follows based on the design flow:

Mass-based limit (lbs/day) = concentration limit (mg/L) × design flow (mgd) × 8.34

Adjustments Due to Industrial User Contributing Greater Than 10 Percent of Design Flow

BOD_5 and TSS can be adjusted by procedures that account for the industrial loadings under Special Considerations 40 CFR 133.103(b) Industrial wastes. This allows an adjustment of TSS and BOD_5 if greater than 10 percent loading comes from an industrial source. The existing permit incorrectly adjusted the limit. The basis of the error was the use of ASRs in the adjustment which as stated above were never approved and therefore could not be used in adjusting the TSS and BOD_5 limits under 40CFR133.103(c). Table B-4 identifies the correct effluent limits adjusted in accordance to 40CFR133.103(c). It states:

Proportional adjustments upward resulting in less stringent BOD_5 and TSS limits are allowed if the industrial user's flow or loading of BOD and TSS exceeds 10 percent of the design flow or loading of the publicly owned treatment works. The proportional adjustment is a flow weighted average of the domestic wastewater flow and the industrial wastewater loading.

Fruitland has agreed to accept up to 0.3 mgd from Swire Coca-Cola, USA. This is 62.5 percent of the design flow and is greater than the 10 percent criteria for a proportional adjustment.

Domestic Wastewater Portion

Effluent loads were calculated from the allowable effluent concentrations and the portion of the total design flow (0.48 mgd) that is domestic (0.18 mgd), according to the following equation used in the existing permit.

BOD_5

Load, lb/d = Q x C x 8.34

Where: Q = design domestic flow portion (0.18 mgd) in mgd

C = effluent concentration in mg/L

8.34 = conversion factor to lb/day BOD5

Monthly Average Load, lb/day = 0.18 mgd x 45 mg/L x 8.34 = 68 lb/day

Weekly Average Load, lb/day = 0.18 mgd x 65 mg/L x 8.34 = 98 lb/day

TSS

Monthly Average Load, lb/day = 0.18 mgd x 45 mg/L x 8.34 = 68 lb/day

Weekly Average Load, lb/day = 0.18 mgd x 65 mg/L x 8.34 = 98 lb/day

Industrial Wastewater Flow

The discharges are the same in 2009 as in 2001 when the existing limits were calculated.

The Swire Pacific Holding Company facility is a Coca-Cola Bottling Company plant. An industrial allocation for the bottling plant was developed from a best professional judgment (BPJ) evaluation of production-based allowances and the bottling plant's projected production rate. A draft Development Document for Effluent Limitations Guidelines and New Source Performance Standards for Miscellaneous Foods and Beverages Point Source Category (March 1975) addressed the Soft Drink Bottling or Combined Bottling/Canning Subcategory (A27). The Development Document contains an industry categorization, wastewater characteristics, selection of pollutant parameters, evaluation of control and treatment technology, cost evaluation, and recommendations for effluent guidelines. This information was used to derive a BPJ of Best Conventional Pollutant Control Technology (BCT) for this industrial subcategory.

The Development Document recommended secondary biological treatment for Best Practicable Technology currently available (BPT) and tertiary physical/chemical treatment for Best Available Technology economically achievable (BAT). However, in determining appropriate limits for Fruitland and the bottling plant, EPA considered that BCT is equivalent to secondary biological treatment for the control of conventional pollutants. EPA's evaluation of biological treatment systems included activated sludge, with and without dual media filtration, and aerated lagoons followed by settling ponds, with and without dual media filtration. Although BPT recommendations were made based on activated sludge with dual media filtration, EPA has determined that for the Fruitland Snake River Facility, lagoon treatment represents the BAT. Lower land costs in this area allow aerated lagoons to be more cost-effective than activated sludge units, and expected effluent quality is equivalent. Based on these considerations, the 30-day average and maximum day production-based limits for BOD5 and TSS were selected from Alternative A27, VI, aerated lagoons followed by settling ponds, which are described in the following table.

Table B-2 Effluent Guidelines for Coca Cola

Parameter	30-day average maximum day	Maximum Daily
BOD_5	0.24 kg/m^3 of product	0.60 kg/m^3 of product
TSS	0.14 kg/m^3 of product	0.35 kg/m^3 of product

The bottling plant's average production is approximately 29,300 cases per day or 249.5 m^3/day (1990-1991 production data). Based on this production rate, the industrial contributions are as follows.

An example calculation is shown below:

For 30 day average BOD_5

0.24 kg/~~m~~^{3} x 249 ~~m~~^{3}/day x 2.2 lb/1.0 ~~kg~~ = 132 lbs/day

Table B-3 Loading Limitations Portion for Coca Cola		
Parameter	30-day average maximum day	Maximum Daily
BOD_5	132 lbs/day	330 lbs/day
TSS	77 lbs/day	193 lbs/day

Total load limits for the total discharge with both domestic and industrial components, are listed below. The monthly average limit is a summation of the 30 day average from the domestic component and the 30 day average from the industrial component. Since BOD_5 and TSS sampling is required once per week, the maximum daily limit for the industrial component has been used as the weekly average. The total effluent loadings calculations are shown below.

Total Effluent Load

Monthly Average Limits

BOD_5: 68 lb/day (domestic) + 132 lb/day (industrial) = 200 lb/day

TSS: 68 lb/day (domestic) + 77 lb/day (industrial) =145 lb/day TSS

Weekly Average Limits

BOD_5: 98 lb/day (domestic) + 330 lb/day (industrial) = 428 lb/day BOD5

TSS: 98 lb/day (domestic) + 193 lb/day (industrial) = 291 lb/day TSS

The production based allowances in the effluent guideline have two significant figures. The permit loadings in the permit are therefore also rounded to two significant figures.

Table B-4 Comparison of Loading Limitations for Fruitland		
Parameter	With adjustment for 62.5 percent loading from Coca Cola	Without Adjustment for Coca Cola
BOD_5 Monthly	200 lbs/day	170 lbs/day
TSS Monthly	150 lbs/day	170 lbs/day
BOD_5 Weekly	430 lbs/day	260 lbs/day
TSS Weekly	290 lbs/day	260 lbs/day

Mass-based limit (lbs/day) = concentration limit (mg/L) × design flow (mgd) × 8.34

For TSS Monthly limit

Mass-based limit (lbs/day) = 45 mg/L x 0.48 mgd x 8.34 = 168 lbs/day

The mass based effluent limitations for the monthly and weekly BOD5 and weekly TSS are less stringent and are adjusted upward. The mass limitation for monthly TSS is not less stringent and cannot be adjusted upward under 40 CFR 133.103 (b) for the industrial waste from Coca Cola. The mass limitation is 170 lbs/day.

Chlorine

Chlorine is often used to disinfect municipal wastewater existing to discharge. The Water Pollution Control Federation's *Chlorination of Wastewater* (1976) states that a properly designed and maintained wastewater treatment facility can achieve adequate disinfection if a 0.5 mg/L chlorine residual is maintained after 15 minutes of contact time. A treatment plant that provides adequate chlorination contact time can meet the 0.5 mg/L limit on a monthly average basis. The average weekly limit is expressed as 1.5 times the average monthly limit or in this case 0.75 mg/L. The technology based limits for total residual chlorine are 0.5 mg/L average monthly and 0.75 mg/l average weekly. This level of control has been achieved over the last five years.

Finally, since the federal regulation at 40 CFR 122.45 (f) requires limitations to be expressed as mass based limits using the design flow of the facility, mass based limits are calculated as follows:

Monthly average = 0.5 mg/L x 0.48 mgd x 8.34 = 2.0 lbs/day

Weekly average = 0.75 mg/L x 0.48 mgd x 8.34 = 3.0 lbs/day

B. Water Quality-Based Effluent Limits

Statutory Basis for Water Quality-Based Limits

Section 301(b)(1)(C) of the CWA requires the development of limitations in permits necessary to meet water quality standards by July 1, 1977.

The NPDES regulation 40 CFR 122.44(d)(1), implementing Section 301 (b)(1)(C) of the CWA, requires that permits include limits for all pollutants or parameters which are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state/tribal water quality standard, including state/tribal narrative criteria for water quality.

The regulations require that this evaluation be made using procedures which account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant in the effluent, species sensitivity (for toxicity), and where appropriate, dilution in the receiving water. The limits must be stringent enough to ensure that water quality standards are met and must be consistent with any available wasteload allocation.

Reasonable Potential Analysis

When evaluating the effluent to determine if water quality-based effluent limits based on chemical specific numeric criteria are needed, a projection of the receiving water concentration downstream of where the effluent enters the receiving water for each pollutant of concern is made. The chemical-specific concentration of the effluent and receiving water and, if

appropriate, the dilution available from the receiving water are factors used to project the receiving water concentration. If the projected concentration of the receiving water exceeds the numeric criterion for a limited parameter, then there is a reasonable potential that the discharge may cause or contribute to an excursion above the applicable water quality standard, and a water quality-based effluent limit is required.

Sometimes it is appropriate to allow a small volume of receiving water to provide dilution of the effluent; these volumes are called mixing zones. Mixing zone allowances will increase the allowable mass loadings of the pollutant to the water body and decrease treatment requirements. Mixing zones can be used only when there is adequate receiving water flow volume and the concentration of the pollutant of concern in the receiving water is below the numeric criterion necessary to protect the designated uses of the water body. Mixing zones must be authorized by the State. The State of Idaho authorized a mixing zone of 25 percent of the receiving water resulting in an acute dilution ratio of 1541 to 1 and a chronic dilution ratio of 1635 to 1.

The chronic ammonia criterion is expressed as a 30-day average not to be exceeded more than once every three years. The 30B3 is a biologically-based design flow intended to ensure an excursion frequency of once every three years for a 30-day average flow rate. The averaging period (30 days) and the excursion frequency (3 years) are consistent with the chronic ammonia criterion. This results in a dilution ratio of 1811.

$$D = \frac{Q_e + Q_u(MZ)}{Q_e}$$

D = Dilution Ratio

Q_e = Effluent flow rate (set equal to the design flow of the WWTP)

Q_u = Receiving water low flow rate upstream of the discharge (1Q10, 7Q10 or 30B3)

MZ = is the fraction of the receiving water flow available for dilution.

Qe = maximum effluent flow = 0.48 mgd

Q_u = 1Q10 = upstream acute critical low flow = 4560 CFS = 2947 mgd

$$\text{Acute dilution ratio} = \frac{0.48 + 2947(0.25)}{0.48} = 1535$$

Q_u = 7Q10 = upstream chronic critical low flow = 4840 CFS = 3128 mgd

$$\text{Chronic dilution ratio} = \frac{0.48 + 3128(0.25)}{0.48} = 1630$$

Q_u = 30B3 = ammonia upstream chronic critical low flow = 5360 CFS = 3464 mgd

$$\text{Ammonia Chronic dilution ratio} = \frac{0.48 + 3464(0.25)}{0.48} = 1805$$

Procedure for Deriving Water Quality-based Effluent Limits

The first step in developing a water quality-based effluent limit is to develop a wasteload allocation (WLA) for the pollutant. A wasteload allocation is the concentration or loading of a pollutant that the permittee may discharge without causing or contributing to an exceedance of water quality standards in the receiving water.

In cases where a mixing zone is not authorized, either because the receiving water already exceeds the criterion, the receiving water flow is too low to provide dilution, or the State does not authorize one, the criterion becomes the WLA. Establishing the criterion as the wasteload allocation ensures that the permittee will not cause or contribute to an exceedance of the criterion. The following discussion details the specific water quality-based effluent limits in the draft permit.

C. Facility-Specific Water Quality-based Limits

Once the WLA has been developed, EPA applies the statistical permit limit derivation approach described in Chapter 5 of the TSD to obtain daily maximum and monthly average permit limits. This approach takes into account effluent variability (using the CV), sampling frequency and the difference in time frames between the monthly average and daily maximum limits.

The daily maximum limit is based on the CV of the data and the probability basis, while the monthly average limit is dependent on these two variables and the monitoring frequency. As recommended in the TSD, EPA used a probability basis of 95 percent for monthly average limit calculation and 99 percent for the daily maximum limit calculation.

Floating, Suspended or Submerged Matter/Oil and Grease

The Idaho Water Quality Standards (IDAPA 58.01.02.200.05) require surface waters of the State to be free from floating, suspended or submerged matter of any kind in concentrations causing nuisance or objectionable conditions that may impair designated beneficial uses. A narrative condition is proposed for the draft permit that states there must be no discharge of floating solids or visible foam or oil and grease other than trace amounts.

Total Suspended Solids (TSS)

The Idaho water quality standards state that TSS shall not exceed quantities which impair designated beneficial uses. *The Snake River - Hells Canyon Total Maximum Daily Load (TMDL) (IDHW-DEQ) June, 2004* interpreted this water quality standard and established a TSS average monthly allocation of 70 mg/L, see discussion on page 9.

In translating the wasteload allocation into permit limits, EPA followed procedures in the TSD.

The NPDES regulations at 40 CFR 122.45(d) require that permit limits for publicly owned treatment works (POTWs) be expressed as average monthly limits (AMLs) and average weekly limits (AWLs), unless impracticable.

The AWL is calculated by multiplying the AML by the following relationship.

$$AWL = AML \times 1.5$$

$$AWL = 70 \text{ mg/L} \times 1.5 = 105 \text{ mg/L}$$

These water quality based loading limits are compared with the technology based effluent limits in Table B-5, below.

Table B-5
Comparison of Technology-based and Water Quality-based Limits for TSS

	Average Monthly Limit	Average Weekly Limit
Technology-based	45 mg/L	65 mg/L
Water quality-based	70 mg/L	105 Mg/L
Most stringent	45 mg/L	65 mg/L

The technology based mass limits are selected and applied in the draft permit. A review of the monitoring reports over the last five years found Fruitland exceeded the proposed 45 mg/L monthly TSS limit 14 times over the last five years and exceeded the proposed 65 mg/L weekly TSS limit eight times. Because all POTWs were required to meet the secondary treatment regulations by July 1, 1977 the NPDES regulations do not allow compliance schedules for technology-based effluent limits such as TSS. Therefore, the technology-based effluent limits for TSS apply when the permit becomes effective.

pH

The Idaho Water Quality Standards (IDAPA 58.01.02.250.01.a) require surface waters of the State to have a pH value within the range of 6.5 - 9.5 standard units. It is anticipated that a mixing zones will not be authorized for the water quality-based criterion for pH. Therefore, this criterion must be met when the effluent is discharged to the receiving water. The technology-based effluent limits for pH are 6.0 - 9.0 standard units. To ensure that both water quality-based requirements and technology-based requirements are met, the draft permit incorporates the more stringent lower limit of the water quality standards (6.5 standard units) and the more stringent upper limit of the technology-based limits (9.0 standard units). The City achieved these levels of control over the last five years.

Chlorine

Idaho water quality standards at IDAPA 58.01.02.210.01 establish a chlorine chronic aquatic life criterion of 11 μg/L and an acute aquatic life criterion 19 μg/L in the Snake River. Fruitland, Snake River does not have a reasonable potential to violate the water quality standards for chlorine in the Snake River. Therefore water quality based effluent limits for chlorine is not required. However, EPA will continue to include technology based limits of 0.5 mg/l average monthly and 0.75 mg/l weekly derived for the existing permit. This level of control was achieved by the City of Fruitland's treatment system. The highest monthly average measured

over the last five years was 0.4 mg/L. The highest weekly average was 0.5 mg/L. EPA will continue with the technology based monthly mass limit of 10 lbs/day and the weekly limit of 15 lbs/day. The highest monthly discharge was 8.7 lbs/day and the highest weekly discharge was 9 lbs/day.

Ammonia, Total (as Nitrogen)

The Idaho water quality standards contain criteria for the protection of aquatic life from the toxic effects of ammonia (IDAPA 58.01.02.250.01.d.). The water quality standards apply the criteria for early life stages to water bodies (IDAPA 58.01.02.250.01.d.(3)). The criteria are dependent on pH and temperature, because the fraction of ammonia present as the toxic, un-ionized form increases with increasing pH and temperature. Therefore, the criteria become more stringent as pH and temperature increase. Fresh water ammonia criteria are calculated according to the equations in Table B-6.

Table B-6 Water Quality Criteria for Ammonia

Acute Criterion	Chronic Criterion
$\frac{0.275}{1+10^{7.204-pH}}+\frac{39}{1+10^{pH-7.204}}$	$\left(\frac{0.0577}{1+10^{7.688-pH}}+\frac{2.487}{1+10^{pH-7.688}}\right)\times MIN\left(2.85,1.45\times10^{0.028\times(25-T)}\right)$

Ambient ammonia, temperature and pH data are from the surface water monitoring required during the last permit cycle. The 95th percentile of pH and temperature data are used to derive the acute and chronic criteria.

95th Percentile Ambient pH	8.7
95th Percentile Ambient Temperature °C	24.28
Highest Background Ammonia mg/L	0.25
Highest Discharge Ammonia mg/L	11
Coefficient of Variation	0.43

The coefficient of variation (CV) of the data and the highest observed effluent value are based on effluent data collected from January, 2004 through December, 2005. Receiving water data was collected from August, 2001 through December, 2003.

The ammonia acute standard is 1.47 mg/L and the chronic standard is 0.38 mg/L.

The reasonable potential analysis shows that there is no reasonable potential for the facility's discharge to cause or contribute to an exceedance of the acute or chronic criterion, therefore, effluent limits for ammonia are not required. The reasonable potential analysis performed for the development of the existing permit also found Fruitland had no reasonable potential to violate the ammonia water quality standards for the Snake River. Ammonia is a parameter commonly monitored for POTWs to determine performance. Monitoring will again be required. Receiving

water monitoring is not required.

Escherichia coli (E. coli) Bacteria

The Snake River at the point of discharge is designated for primary contact recreation. Waters of the State of Idaho that are designated for recreation are not to contain *E. coli* bacteria in concentrations exceeding 126 organisms per 100 ml as a geometric mean based on a minimum of five samples taken every three to seven days over a thirty day period (IDAPA 58.01.02.251.01.a). The permit contains a monthly geometric mean effluent limit for *E. coli* of 126 organisms per 100 ml and a monitoring schedule to determine compliance.

The Idaho water quality rules also state that for primary contact recreation a single water sample that exceeds 406 organisms/100 ml indicates a likely exceedance of the geometric mean criterion, although it is not, in and of itself, a violation of water quality standards. (IDAPA § 58.01.02.251.01.b.ii).

The goal of a water quality-based effluent limit is to ensure a low probability that water quality standards will be exceeded in the receiving water as a result of a discharge, while considering the variability of the pollutant in the effluent (EPA, 1991). Because a single sample value exceeding 406 organisms/100 ml may indicate an exceedance of the geometric mean criterion, EPA has included an instantaneous (single grab sample) maximum effluent limit for *E. coli* of 406 organisms/ 100 ml, in addition to a monthly geometric mean limit of 126 organisms/100 ml, which directly implements the water quality criterion for *E. coli*. This will ensure that the discharge will have a low probability of exceeding the geometric mean criterion for *E. coli* and provide warning of and opportunity to avoid possible non-compliance with the geometric mean criterion.

The draft permit, like the previous permit, includes “criteria end-of-pipe” effluent limits for bacteria, in order to protect contact recreation beneficial uses in the receiving water. In 1986, EPA updated its criteria to protect recreational use of water recommending an *E. coli* criterion as a better indicator of bacteria levels that may cause gastro-intestinal distress in swimmers than fecal coliform. IDEQ subsequently changed its bacteria criterion from fecal coliform to *E. coli*. These limits are identical to the *E-coli* limits in the existing permit.

Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit. The fecal coliform monthly limit of 50 colonies/100 mL is more stringent than the 126 counts per 100 mL *E. Coli* limit. Therefore the proposed permit retains the 50 counts per 100 ml. fecal coliform effluent limitation. This limit is identical to the existing fecal coliform limit. The proposed permit requires monthly compliance monitoring.

Total phosphorus

The wasteload allocation is 5.5 kilograms per day (kg/day) (12 pounds per day) the same as the current loading. The waste load allocations apply for the critical period from May through September**.**

A weekly effluent limitation is developed by the procedure in the TSD.

AWL = AML x 1.5

AWL = 12 lbs/day x 1.5 = 18 lbs/day

Antidegradation

Overview

EPA is required under Section 301(b)(1)(C) of the Clean Water Act (CWA) and implementing regulations (40 CFR 122.4(d) and 122.44(d)) to establish conditions in NPDES permits that ensure compliance with State water quality standards, including antidegradation requirements. The fact that the State of Idaho has not identified methods for implementing its antidegradation policy does not necessarily prevent EPA from establishing such permit conditions.

The City of Fruitland NPDES permit contains limits as stringent as necessary to ensure compliance with all applicable water quality standards, including Idaho's antidegradation policy (IDAPA 58.01.02.051). As explained in detail below, the reissued permit ensures that "the existing in stream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected" consistent with the requirements of 40 CFR 131.12(a)(1) and IDAPA 58.01.02.051.01. Relative to the existing permit issued in 2001, the reissued permit does not allow a lowering of water quality for those parameters where the receiving water quality "exceeds levels necessary to support propagation of fish, shellfish and wildlife and recreation in and on the water." Therefore, the reissued permit maintains and protects the existing level of water quality, consistent with 40 CFR 131.12(a)(2) and IDAPA 58.01.02.051.02. Finally, the antidegradation policy for outstanding resource waters is inapplicable in this reissued permit because no waters of the State of Idaho are designated as "outstanding resource waters" (IDAPA 58.01.02.051.03).

The draft reissued permit ensures compliance with the State of Idaho's antidegradation policy and CWA regulations because the permit conditions ensure protection of existing uses and do not allow lower water quality relative to the existing permit. Under the circumstances of this draft reissued permit, EPA may issue an NPDES permit even though the State has not yet identified methods for implementing its antidegradation policy. In its antidegradation analysis below, EPA is applying a parameter-by-parameter approach in determining compliance with Idaho's antidegradation requirements.

EPA Antidegradation Analysis

Protection of Existing Uses (IDAPA 58.01.02.051.01 and 40 CFR 131.12(a)(1))

The segment of the Snake River that receives the Fruitland discharge has the following designated beneficial uses: cold water aquatic life; primary contact recreation; aesthetics; wildlife habitats; and domestic, agricultural and industrial water supply. The effluent limits in the draft permit ensure compliance with applicable numeric and narrative water quality criteria. The numeric and narrative water quality criteria are set at levels that ensure protection of the designated uses. As there is no information indicating the presence of existing beneficial uses other than those that are designated the draft permit ensures a level of water quality necessary to protect the designated uses and, in compliance with IDAPA 58.01.02.051.01 and 40 CFR 131.12(a)(1), also ensures that the level of water quality necessary to protect existing uses is maintained and protected. If EPA receives information during the public comment period demonstrating that there are existing uses for which the Snake River is not designated, EPA will

consider this information before issuing a final permit and will establish additional or more stringent effluent limitations if necessary to ensure protection of existing uses.

Specifically, the Snake River is listed for phosphorus, TSS, temperature, mercury, pH and bacteria under CWA Section 303(d). The State of Idaho developed the *Snake River Hells Canyon TMDL,* June, 2004 which was approved by EPA in September, 2004. The TMDL developed allocations for phosphorous, temperature and TSS (sediment). The effluent limits in the permit for phosphorus, TSS and temperature are consistent with the approved wasteload allocations (WLAs) in the TMDL and ensure compliance with the Idaho water quality standards The TMDL does not provide an allocation for mercury. EPA found the mercury monitoring did not meet the necessary precision to determine reasonable potential to violate water quality standards. EPA requires a minimum level of detection (ML) of 0.005 µg/L ((Analytical Methods for Mercury in National Pollutant Discharge Elimination System (NPDES) Permit, James A Hanlon, August 23, 2007)). The ML for the mercury monitoring submitted by Fruitland was 0.01 µg/L. The permit contains a requirement for monitoring mercury with methods that achieve the lower ML. Although the TMDL does not address pH and bacteria, the permit contains effluent limits for these pollutants that are set at levels that will ensure protection of the designated and existing uses. See pages 27 and 29. The effluent limits for pH are 6.5 to 9.0 that are identical to the existing permit. The effluent monthly limits for *E-coli* is 126 colonies per 100 mL and the instantaneous limitation is 406 colonies per 100mL and are both identical to the existing permit. The fecal coliform limit of 50 colonies per 100 mL is identical to the prior permit.

High Quality Waters (IDAPA 58.01.02.051.02 and 40 CFR 131.12(a)(2))

Fruitland discharges to a segment (assessment unit) of the Snake River that is considered high quality for all of the pollutants of concern except for phosphorus, TSS, temperature, mercury, pH and bacteria. As such, the quality of the Snake River must be maintained and protected, unless it is deemed appropriate and necessary to allow a lowering of water quality (IDAPA 58.01.02.051.02, 40 CFR 131.12(a)(2)).

All of the effluent limits in the reissued permit are as stringent as or more stringent than the corresponding limits in the existing (2001) permit. Because the limits are as stringent as or more stringent than the corresponding limits in the existing permit, the reissued permit will not allow lower water quality for pollutants that were limited in the existing permit.

As to those pollutants present in the discharge without effluent limits in both the reissued permit and the existing permit, there is no factual basis to expect that those pollutants will be discharged in greater amounts under the reissued permit than were authorized in the existing permit. Similarly, there is no factual basis to expect that the effluent contains any new pollutants that have not been discharged previously. EPA reached these conclusions because the permit application and the discharge monitoring report data indicate no changes in the design flow, actual flow, influent quality or treatment processes that could result in a new or increased discharge of pollutants.

Summary

As explained above, the effluent limits in the draft reissued permit are adequately stringent to ensure that existing uses are maintained and protected, in compliance with IDAPA 58.01.02.051.01 and 40 CFR 131.12(a)(1).

The effluent limits in the reissued permit are as stringent as or more stringent than the corresponding limits in existing permit for all parameters. Furthermore, the reissued permit will not authorize an increased discharge of any pollutants that were not subject to effluent limits under the existing permit.

The reissuance of the City of Fruitland NPDES permit will therefore not allow lower water quality relative to the existing permit, in compliance with IDAPA 58.10.02.051.02 and 40 CFR 131.12(a)(2). Consequently, there is no need for the State of Idaho to make a finding that "allowing lower water quality is necessary to accommodate important economic or social development" under IDAPA 58.01.02.051.02. Under these circumstances, EPA may issue an NPDES permit even though the State of Idaho has not yet identified methods for implementing its antidegradation policy.

REASONABLE POTENTIAL FOR AQUATIC LIFE

		State Water Quality Standard		Max concentration at edge of...		#ID-002033-8								
	Ambient Conc.	Chronic	Acute	Acute Mixing Zone	Chronic Mixing Zone	**LIMIT REQ'D?**	Effluent percentile value		Max effluent conc. measure	Coeff Variation	# of samples	Multiplier	Acute Dil'n Factor	Chronic Dil'n Factor
Parameter	*mg/L*	*mg/L*	mg/L	*mg/L*	*mg/L*			*Pn*	*mg/L*	*CV*	*n*			
Total Ammonia Nitrogen	0.25	1.47	0.38	0.262	0.260	**NO**	0.99	0.681	11.2	0.43	12	1.62	1540	1800
Total Residual Chlorine	0.0	0.019	0.011	0.00065	0.00062	**NO**	0.99	0.957	1.02	0.23	68	0.98	1540	1630