STATEMENT OF BASIS

PERMITTEE:	Montana Department of Fish, Wildlife, and Parks
PERMIT NUMBER:	MT0030546
RECEIVING WATER:	Jocko River
FACILITY:	Jocko River Trout Hatchery
RESPONSIBLE OFFICIAL:	Ron Snyder, Manager 71873 Hatchery Lane Arlee, Montana 59821 (406)726-3344
LOCATION:	71873 Hatchery Lane Arlee, Montana 59821 T16N, R20W, Section 12 Latitude 47.170611º N and Longitude 114.086067º W Flathead Reservation, Lake County, Montana
PERMIT TYPE:	Indian Country, Minor Permit, Permit Renewal

I. Permit Status

The current National Pollutant Discharge Elimination System (NPDES) Permit for the Jocko River Trout Hatchery (Hatchery) became effective on October 1, 2010, and expired on September 30, 2015. The Montana Department of Fish, Wildlife and Parks (FWP) submitted an application for renewal that was received and considered completed on July 23, 2015.

II. Facility Information

The Hatchery is located along the Jocko River on the Flathead Reservation in northwestern Montana near Arlee, Montana. The Hatchery is operated by the Montana FWP for the purpose of raising Arlee rainbow trout broodstock for egg production. Since the 2010 permit cycle, the Hatchery has increased production from approximately 34,000 pounds to 40,000 pounds of trout per year in its flow-through system. The eggs are provided to other FWP hatcheries, and the trout are distributed to Montana waters. The Hatchery consists of ten indoor tanks for cultivation of trout eggs and fifteen outdoor raceways.

Source water for the Hatchery is from underground springs approximately 0.2 and 0.4 miles east of the Hatchery. Juvenile fish are raised in the indoor tanks, which are cleaned once per day (when fish are present) by lowering the water level in the raceway and using a push broom to remove the detritus. The indoor tanks drain to a floor drain. Detritus is removed from the outdoor raceways approximately two times a week using a push broom and the same process as the indoor tanks. After fish have been removed from a raceway, the raceway is power-sprayed with water. Discharges from all of the tanks and raceways are routed to a collection structure, which then routes the wastewater into a full-flow settling pond which discharges via Outfall 1 to a channel that flows into the Jocko River. An aerial image overview of the Hatchery, settling pond, and discharge location (Outfall 1) is shown below in Figure 1.

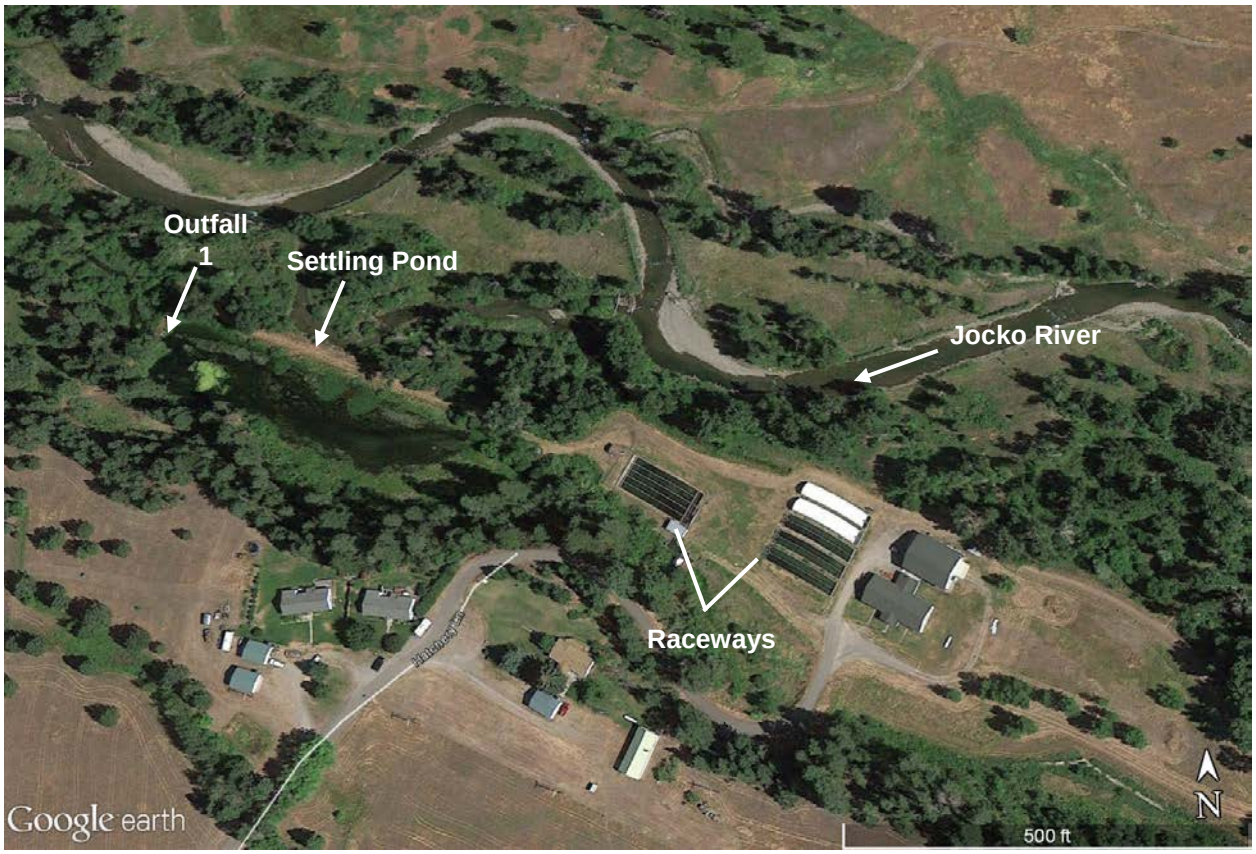

Figure 1. Aerial image overview of the Jocko Hatchery, settling pond, and discharge location. Based on a Google Earth image taken July 2013.

A. Current Effluent Limits and Characteristics

The effluent limitations in the current Permit are shown below in Table 1 and a summary of self-monitoring effluent data for the period of record (POR) from October 2010 through April 2016 is included in Table 2.

Table 1. Effluent Limitations in Current Permit

Effluent Characteristic	Effluent Limitation	
	30-Day Average a/	Daily Maximum a/
Total Suspended Solids (TSS), lbs/day	71	106
Total Residual Chlorine (TRC), µg/L	N/A	19 b/
Oil and Grease, mg/L	N/A	10
The pH of the discharge shall not be less than 6.5 or greater than 8.5 at any time.		

a/ See Definitions, Part 1.1, for definition of terms.
b/ Any residual chlorine measured at less than the detection limit of 100 µg/L will be considered in compliance with the limitation.

Table 2. Summary of Self-Monitoring Data for October 2010 – April 2016

Value Reported	Flow mgd	TSS monthly average lb/day	TSS daily max lbs/day	TRC µg/L	Oil & Grease visual	pH s.u.
Maximum	9.36	98	169	20	None	8.39
Minimum	1.79	0	0	<20	None	7.5
Average	5.84	28	34	<20	None	8.0
No. of Samples	22	22	22	22	22	22
No. of Exceedances	N/A	2	1	0	0	0

B. Feed Use

The 2010 Permit required yearly reporting of the total and daily average feed use. Table 3 shows the feed usage at the Hatchery over the last five years. The daily average and total feed increased over the previous permitting cycle (2005-2009), which had a daily average of 119 pounds (lbs) and a total annual average of 43,467 lbs. As noted above, however, production also increased from the previous permit cycle by approximately 6,000 lbs.

Table 3: Feed Usage 2005-2009

Time Period	Total Feed (lbs)	Daily Average (lbs)
7/1/10-6/30/11	47,937	131
7/1/11-6/30/12	56,283	154
7/1/12-6/30/13	55,968	153
7/1/13-6/30/14	51,487	141
7/1/14-6/30/15	51,581	141
Average	52,651	144

C. Compliance History

A review of the Discharge Monitoring Reports (DMRs) submitted since the Permit became effective in October 2010 showed two exceedances of the monthly total suspended solids (TSS) limit and one exceedance of the daily TSS limit. However, an examination of the TSS concentrations showed very low concentrations, with 3 of 22 samples being 2 mg/L, and the remaining 19 samples being at 1 mg/L or less. No other parameters came close to exceeding their limit. The Hatchery was last inspected by the Environmental Protection Agency (EPA) on June 11, 2013, and no deficiencies were observed.

III. Technology Based Effluent Limits (TBELs)

TBELs are national wastewater discharge standards developed by the EPA for certain industries. They are industry-specific and intended to represent the greatest pollutant reductions that are economically achievable for an industry.

A. Best Management Practices (BMP) Plan

40 CFR § 451 establishes effluent limitations for the Concentrated Aquatic Animal Production Point Source Category, which includes fish hatcheries. 40 CFR § 451 is not applicable to facilities that produce less than 100,000 pounds of aquatic animals per year, such as the Hatchery, which produces approximately 40,000 pounds per year. Permittees subject to 40 CFR § 451 do not have numeric TBELs

but are required to develop a BMP Plan detailing how the Permittee will address solids control, materials storage, structural maintenance, record-keeping, and training.

Because the BMP Plan requirements associated with 40 CFR § 451 are in the current Permit based on best professional judgment (BPJ) and appear to be an effective control for TSS and other pollutants associated with solids, the EPA will continue to use BPJ to apply those requirements to the Hatchery. The requirements at 40 CFR § 451.11 for the BMP Plan are presented below.

1. Solids Control. The Permittee must:

    a. Employ efficient feed management and feeding strategies that limit feed input to the minimum amount reasonably necessary to achieve production goals and sustain targeted rates of aquatic animal growth in order to minimize potential discharges of uneaten feed and waste products to waters of the United States.
    b. In order to minimize the discharge of accumulated solids from settling ponds and basins and production systems, identify and implement procedures for routine cleaning of rearing units and off-line settling basins, and procedures to minimize any discharge of accumulated solids during the inventorying, grading, and harvesting aquatic animals in the production system.
    c. Remove and dispose of aquatic animal mortalities properly on a regular basis to prevent discharge to waters of the United States, except in cases where the permitting authority authorizes such discharge in order to benefit the aquatic environment.

2. Materials Storage. The Permittee must:
    a. Ensure proper storage of drugs, pesticides, and feed in a manner designed to prevent spills that may result in the discharge of drugs, pesticides or feed to waters of the United States.
    b. Implement procedures for properly containing, cleaning, and disposing of any spilled material.

3. Structural maintenance. The Permittee must:
    a. Inspect the production system and the wastewater treatment system on a routine basis in order to identify and promptly repair any damage.
    b. Conduct regular maintenance of the production system and the wastewater treatment system in order to ensure that they are properly functioning.

4. Recordkeeping. The Permittee must:
    a. In order to calculate representative feed conversion ratios, maintain records for aquatic animal rearing units documenting the feed amounts and estimates of the numbers and weight of aquatic animals.
    b. Keep records of documenting the frequency of cleaning, inspections, maintenance and repairs.

5. Training. The Permittee must:
    a. In order to ensure the proper clean-up and disposal of spilled material adequately train all relevant facility personnel in spill prevention and how to respond in the event of a spill.
    b. Train staff on the proper operation and cleaning of production and wastewater treatment systems including training in feeding procedures and proper use of equipment.

Requirements 1 through 5 above are directly from the regulations. Because they are being applied on a BPJ basis, and to clarify the expectations of the BMP Plan, the following requirements will also be requirements of the BMP Plan for this Permit. The protocols referenced in Requirements 1.b. and 2.b. must either be included or referenced in the BMP Plan. As the Hatchery is already conducting facility inspections on a weekly basis, the inspection requirement associated with Requirement 3 (Structural

Maintenance) will be specified as weekly. The Hatchery is currently submitting average daily and total annual feed usage annually; this documentation will be required to be maintained on-site. Additionally, the training element will include a requirement to document the participants, date, and topics covered for staff training. As presented below in Section V.A.2., Drug and Chemical Management will also be a required element of the BMP Plan. It will require proper usage of all chemicals and drugs and for the BMP Plan to include or reference the Hatchery's Standard Operating Procedures (SOPs) for storage and usage of all drugs, chemicals, and pesticides used at the facility.

Since the plan is a requirement of the current Permit and minimal changes are being proposed, the Hatchery will have 90 days after the effective date of this Permit to revise the plan in accordance with Permit requirements. The plan must be signed and dated by the facility manager, revised as needed and signed and dated with the most recent revisions, kept on-site, and be available to the EPA and the Confederated Salish and Kootenai Tribes (CSKT) upon request. After completion of the plan, the Hatchery must submit the certification statement provided with the Permit to both the EPA and CSKT.

B. TSS

The current limits for TSS are a numeric TBEL developed by the EPA Region 8 in the 1970s and applied based on BPJ. The original BPJ analysis derived the monthly average limit by calculating 75% of the food weight and assuming conventional treatment removes an average 20% of the TSS. The daily maximum limit was then calculated to be 1.5 times the monthly average.

The EPA has relied on the original BPJ calculation in subsequent permit cycles. A review of recent EPA rulemaking efforts for hatcheries and the Jocko facility monitoring data, however, suggests that the assumptions underlying the BPJ calculation are incorrect. The EPA last revised the effluent limitation guideline for hatcheries (40 CFR § 451) in 2004. In September 2002, the EPA proposed an average monthly TSS limit of 6 mg/L and a maximum daily limit of 11 mg/L for full-flow settling basin discharges, such as the Jocko facility. The EPA subsequently reevaluated the technological basis for the numerical limits for TSS and determined that it would be more appropriate to promulgate qualitative TSS limits, in the form of solids control BMP requirements that could better respond to regional and site-specific conditions. This approach was adopted in the final rule. In adopting a BMP-based approach, the agency noted that feed management control and solids handling practices could routinely achieve very low TSS numbers, but that discharge levels could vary. In particular, the agency noted that such operational control measures may not have the precision or consistently predictable performance from site to site that come with the traditional wastewater treatment technologies. The agency also noted that variability in the discharge could also be due to exogenous factors such as changing flow and dilution.

Monitoring data from the Jocko facility suggests that the factors underlying the final adoption of the BMP approach in 40 CFR § 451 also exist at Jocko. As described in Section II.C., 19 of the 22 effluent samples at Jocko were at or below the TSS detection limit of 1 mg/L. The remaining three samples were at 2 mg/L TSS. The generally non-detectable levels TSS demonstrate that Jocko's feed management and solids control are achieving the low levels anticipated in 40 CFR § 451. However, despite having extremely low TSS concentrations in its effluent, the Hatchery has had some exceedances of its load limits for TSS as a result of its discharge flows. This is because the Hatchery calculates its daily and monthly TSS loads by multiplying the TSS concentration by the discharge flow at the facility, which is a source of variability and is driven by the discharge flow from the spring that feeds the facility.

The average flow from the Jocko facility is 5.84 million gallons per day (mgd). At this flow, TSS concentrations of 1.48 mg/L will result in an exceedance of the monthly average limit of 71 lbs/day, and TSS concentrations of 2.2 mg/L will result in an exceedance of the daily maximum limit. The maximum

flow from the Jocko facility is 9.36 mgd. At this flow level, any TSS discharge at or above the detection level of 1 mg/L will result in an exceedance of the monthly average limit. Thus, even extremely low concentrations of TSS will result in violations of the original BPJ limits and, during periods of high flow, any detectable discharge of TSS would result in a violation.

The goal of a TBEL is to use technology to maximize the removal of pollutants of concern, and the TSS concentrations in the effluent demonstrate the success of the BMP Plan and the Hatchery's solids controls. The monitoring and flow data from the Jocko facility indicate that the assumptions, particularly concerning pollutant removal rates and flow variability, were incorrect in the original BPJ analysis, at least as applied to the Jocko facility. As a result, the EPA has determined that the original TSS load limits do not reflect an accurate case-by-case analysis under CWA § 402(a)(1)(B), and is removing them from the Permit. The BMP Plan requirements, which are intended to be narrative TBELs, will be maintained.

Generally, the Clean Water Act prohibits the reissuance of permits containing water quality based effluent limits that "are less stringent than the comparable effluent limitations in the previous permit" (CWA § 402(o)(1)). Section 402(o)(2) provides some exceptions to this general rule. Under this section of the Act, a NPDES permit may be modified to contain less stringent effluent limits if "information is available which was not available at the time of permit issuance . . . and which would have justified the application of a less stringent effluent limitation at the time of permit issuance." In this situation, the removal of the TSS load limits is not considered backsliding (i.e., relaxation of the permit limit) because the existing TBELs were originally based on BPJ that made general treatment assumptions but new information regarding treatment is now available, and site-specific data show the Hatchery is maximizing the removal of TSS in its effluent.

IV. Water Quality Based Effluent Limitations

WQBELs, which are based on water quality standards, must be established for any parameters where TBELs are not sufficient to ensure water quality standards will be attained in the receiving water (40 CFR 122.44(d)). The parameters that must be limited are those that are or may be discharged at a level that will cause, or have the reasonable potential to cause or contribute to an exceedance of water quality standards. The purpose of this section is to provide a basis and rationale for establishing WQBELs based on the applicable water quality standards of the receiving water.

A. Receiving Waters

The Hatchery discharges into the Jocko River, which is a tributary to the Flathead River. There are no United States Geological Survey (USGS) gauging stations on the Jocko River with streamflow statistics that are representative of stream flows near the Hatchery. However, the Confederated Salish and Kootenai Tribes (CSKT) have a water quality sampling station, JCK-JKC4059 ("Jocko River Below K Canal"), approximately 4.5 miles upstream of the Hatchery where they have collected flow data, and there are no major tributaries between that site and the Hatchery. Flow measurements were collected 21 times between November 2005 and February 2007, which is not sufficient to calculate a 7Q10 flow. The average flow was 136 cubic feet per second (cfs), the 25th percentile was 45 cfs, and the minimum was 13.6 cfs. The minimum flow of 13.6 cfs will be considered the 7Q10 or critical stream flow. Based on the maximum discharge during the POR of 9.36 mgd (14.5 cfs) and a critical stream flow of 13.6 cfs, the dilution ratio is 0.9:1.

B. Water Quality Considerations

The Confederated Salish and Kootenai Tribes (CSKT) have EPA-approved Water Quality Standards that were last revised in 2006. The Jocko River is designated B-1 by the Tribal Water Quality Standards. B-1 waters must be maintained suitable for drinking, culinary and food processing purposes after conventional treatment; bathing, swimming and recreation; growth and propagation of salmonid fishes and associated aquatic life; waterfowl and furbearers; and agricultural and industrial water supply purposes.

C. Reasonable Potential Analysis

Within the *Technical Development Document for the Final Effluent Limitations Guidelines and New Source Performance Standards for the Concentrated Aquatic Animal Production Point Source Category* (EPA 2004), effluent data from state, federal, and large commercial flow-through and recirculating facilities with NPDES permits was analyzed to identify the pollutants of concern from hatcheries. The primary pollutants generated by hatcheries that may be harmful to water quality are conventional pollutants such as biological material (measured by BOD_5), TSS, oil & grease, dissolved oxygen (DO), and pH; and non-conventional pollutants such as total residual chlorine (TRC), ammonia (NH_3), nitrate (NO_3), total nitrogen (TN), and total phosphorus (TP), metals, and microbiologicals (EPA 2004). The primary source of these pollutants is the feed. Chemicals, drugs, and pesticides may also be discharged from hatcheries. Typically, flow-through systems, such as the Hatchery, have low pollutant concentrations because of the high flow volume, and the highest concentrations are generated during feeding and cleaning (EPA 2004). The reasonable potential analysis is based on a combination of findings discussed in the *Technical Development Document* (EPA 2004) and monitoring data from the Hatchery.

The BMP Plan requirement is the main tenant of the TBEL for fish hatcheries because research into treatment technologies for all of the pollutants of concern listed above indicated that the operation and maintenance activities required by the plan are the most cost-effective way of controlling the discharge of those pollutants into receiving waters (EPA 2004).

1. Conventional Pollutants

TSS and BOD_5 – As evidenced by the DMR data, the Hatchery's management of solids and the settling pond provide substantial removal of TSS, which includes organic matter. Since BOD_5 is essentially a measure of the amount of dissolved oxygen needed to break down organic matter, controlling the discharge of organic matter by managing and limiting the discharge of TSS also controls BOD_5.

Although the CSKT do not have numeric water quality standards for TSS or BOD_5, there is a turbidity standard that restricts the maximum allowable increase above naturally occurring turbidity to 5 nephelometric turbidity units. Also, there is a narrative standard of "No increases are allowed above natural concentrations of sediment, contaminated sediment, settleable solids, oils, or floating solids that create or are likely to create a nuisance or render the waters harmful, detrimental, or injurious to public health, recreation, safety, welfare, livestock, fish, or other wildlife." The measured TSS concentrations in the Jocko River at JCK-JKC4059 between 2005 and 2007 averaged 1.8 mg/L, and had a maximum of 16 mg/L and a 75^{th} percentile of 2.0 mg/L. Therefore, based on the effluent and instream concentrations of TSS, the narrative TBEL (i.e., BMP Plan) is stringent enough to ensure the turbidity and narrative standards will be met, and no WQBEL is necessary for TSS or BOD_5. As a check that BMPs are continuing to be effective at protecting the water quality standards, TSS monitoring will continue to be required but the frequency will be decreased from quarterly to semi-annually.

Oil and Grease – Oil and grease is a pollutant of concern because fish feed contains oils. The existing limit for oil and grease was based on the CSKT narrative water quality standard cited above. In reviewing the monitoring data, no oil and grease sheen has been observed during the 37 sampling events since 2005. This indicates there is no reasonable potential for oil and grease to exceed 10 mg/L, and there has not been since the permit limit was put in place. In light of this new information, the EPA has concluded that the 10 mg/L effluent limit is not necessary to protect water quality and does not belong in the Permit.

Generally, the Clean Water Act prohibits the reissuance of permits containing water quality based effluent limits that "are less stringent than the comparable effluent limitations in the previous Permit except in compliance with section [303(d)(4) of the Act]." CWA § 402(o)(1). In this instance, the receiving water is not listed on the state's CWA § 303(d) list, so only the exceptions in section 402(o)(2) apply. Under this section of the Act, a NPDES permit may be modified to contain less stringent effluent limits if "information is available which was not available at the time of permit issuance . . . and which would have justified the application of a less stringent effluent limitation at the time of permit issuance." In the present case, oil and grease monitoring data that was not available at the time of issuance clearly indicates that the discharge lacks the reasonable potential to cause or contribute to an exceedance of the state's narrative water quality criterion. Thus, removal of the oil and grease effluent limit is permissible and does not constitute backsliding under the CWA. However, because fish feed does contain oils, the EPA is including a narrative prohibition on oils and grease that cause a visible sheen. No additional oil and grease monitoring will be required.

pH – The CSKT water quality standard for pH states that an induced change of hydrogen ion concentration within the range of 6.5 to 8.5 must be less than 0.5 pH units, and that a natural pH outside this range must be maintained without change. The 75th percentile of pH values in the effluent during the POR was 8.1 and the 75th percentile instream value at JCK-JKC4059 between 2005 and 2007 was 8.7. The 75th percentile value at the CSKT monitoring station 1.25 miles downstream of the Hatchery (JCK-JSC2797) between 2005 and 2007 was 8.2. pH levels within the Hatchery are maintained at optimal ranges for trout rearing and survival and the values in the effluent are very consistent. However, because the pH at the background site is greater than 8.5, and pH changes by 0.5 between the background site 4.5 miles upstream and the site 1.25 miles downstream, this indicates the pH values may not be representative of conditions near Outfall 001. Therefore, quarterly ambient monitoring will be required upstream of the Hatchery but closer to Outfall 001. Quarterly effluent monitoring will continue to be required. The effluent limit of 6.5 to 8.5, which is based on the water quality standard, will continue to apply.

DO – Flow-through systems typically maintain high DO levels (EPA 2004). Additionally, controlling oxygen-consuming substances via the usage of BMPs is anticipated to keep DO levels high. However, there is potential for low levels of DO as the effluent leaves the settling pond and there is currently no DO data for the Hatchery's effluent to evaluate reasonable potential. Therefore, DO monitoring will be required so reasonable potential can be evaluated during the next permit cycle.

2. Non-Conventional Pollutants

Total Residual Chlorine (TRC) – Chlorine bleach is used as a disinfectant for the cleaning brooms prior to rinsing them. Additionally, approximately one gallon per year is used as a disinfectant for the egg incubators (primarily in November and December); however, the Hatchery plans to discontinue using bleach for this purpose during the upcoming permit cycle. Prior to use, bleach is held in an open container for twenty-four hours. Based on its occasional usage, a TRC limit was put into the Permit. However, based on the sporadic nature of its usage, the controls put in place to neutralize it and minimize residuals, and all monitoring results being below the detection limit, there is no reasonable potential for the bleach to cause or contribute to an exceedance of the TRC standard and the limit will be removed from the

Permit. Similarly to oil and grease, this is not backsliding under CWA Section 402(o)(2) because new information that was not available when the limit was put in place demonstrates there is not reasonable potential for TRC. However, as stated in Section III.A., the protocol for the usage of bleach must be documented or referenced in the BMP Plan.

NH_3 – Five quarterly NH_3 samples were collected in 2005 and 2006. The concentrations in the discharge ranged from 0.04 mg/L to 0.9 mg/L NH_3. The 75th percentile concentration of 26 samples collected between 2005 and 2007 in the Jocko River at station JCK-JKC4059 is 0.01 mg/L. Following the procedures in the *Technical Support Document for Water Quality-Based Toxics Control* (EPA 1991) the values for Equation 1 are as follows: critical effluent concentration (C_d) estimated to represent the 95th percentile of the dataset is 2.07 mg/L, the maximum reported discharge (Q_d) during the POR is 15.6 cfs, critical stream flow (Qs) is13.6 cfs, and the stream concentration (C_s) is 0.01 mg/L.

Equation 1: $C_r = \frac{Q_d C_d + Q_s C_s}{Q_r}$

Solving Equation 1 for C_r yields the concentration in the Jocko River under these critical conditions, assuming full mixing. Then, C_r may be compared to the applicable water quality standard to determine if there is reasonable potential and a permit limit is needed.

The reasonable potential analysis for NH_3 in the current Permit used summary statistics in the 2009 CSKT report titled *Assessment of Water Quality Conditions in the Jocko River Watershed*. In examining the raw data, the percentiles cited in that report are incorrect. Using the 75th percentile pH value and 75th percentile temperature value of 8.7 and 8.1°C, respectively (instead of 8.0 and 4.56°C), the applicable ammonia standards are: acute (salmonids present) = 1.5 mg/l and chronic (early life stages present) = 0.78 mg/L. The predicted concentration of ammonia downstream of the Hatchery under these critical conditions is 1.1 mg/L, which exceeds the chronic standard. However, using the Jocko River data at the site 1.25 miles downstream (JCK-JSC2797) of the Hatchery, which had a 75th percentile pH value of 8.2 and a 75th percentile temperature value of 9.3°C, the acute and chronic ammonia standards are 3.8 mg/L and 1.79 mg/L, respectively. Therefore, the ambient pH and temperature make a substantial difference in the standard, and whether the Hatchery has reasonable potential to exceed the ammonia standard. Also, although all sample values were less than the applicable standard, five samples is a very limited dataset for a reasonable potential analysis, which greatly increases the multiplier used to estimate the critical effluent concentration. Based on the uncertainty regarding the representativeness of the ambient and effluent data, additional effluent monitoring will be required and ambient pH and temperature monitoring will be required upstream of the Hatchery but closer to Outfall 001.

TN, **TP**, **NO_3** – There is potential for all of these nutrient forms in the effluent because they are present in fish feed and feces. Although controlling solids will reduce the concentration of these pollutants in the effluent, nutrients were identified in the *Technical Development Document* (EPA 2004) as one of the pollutants of concern that may be present in significant quantities. Additionally, the *Assessment of Water Quality Conditions in the Jocko River Watershed* noted an increase in nutrient concentrations in the Jocko River segment containing the Hatchery. Since there is currently no effluent data for these pollutants of concern, monitoring will be required for TN, TP, and NO_3 so that reasonable potential can be evaluated.

Metals – The Hatchery does not use copper sulfate but trace amounts of metals are present in the feed. Because the BMP Plan focuses on solids control, the current control measures in place should effectively limit metals concentrations in the effluent. No effluent limits or monitoring will be required for metals.

Microbiologicals – Fish are not a source of *Escherichia coli*, and the Hatchery rarely has bacterial infections because it uses a protected groundwater source and its own broodstock (i.e., eggs and fish are not brought in from elsewhere). Occurrences of external pathogens on the eggs/fish are minimized via the use of drugs and chemicals. Therefore, there is no reasonable potential for microbiologicals to cause or contribute to an exceedance of water quality standards in the Jocko River and no permit limit or monitoring will be required.

Aquaculture Drugs and Chemicals – The following drugs and chemicals are used at the Hatchery to aid in fish growth and control the occurrence and spread of disease.

- Aquaflor (florfenical), INAD 10-697
- Chloramine-T, INAD 9321
- Oxytetracycline-Feed Additive, INAD 9332

Disease control chemicals (including some pesticides) and drugs approved for use in the aquaculture industry are regulated by the U.S. Food and Drug Administration (FDA) or under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Use of vaccines, bacterins, test kits, antitoxins, and immunostimulants are under the scope of the U.S. Department of Agriculture. Pesticides are regulated by the EPA. These agencies have developed regulations for the use of these compounds. If the Hatchery uses BMPs and adheres to all applicable regulations and dosage/usage requirements for drugs and chemicals, these pollutants should not cause toxicity in the Jocko River and will meet the narrative CSKT water quality standards. Monitoring for drugs and chemicals used at the Hatchery will not be required as there are no established or approved analytical methods for these compounds.

V. Proposed Final Effluent Limitations

The following limits and prohibitions are effective upon issuance of the Permit and remain in effect for the duration of the permit cycle. Overall, the BMP Plan is intended to meet the pH effluent limit and the discharge prohibitions, but the six required elements of the plan are also narrative (technology-based) effluent limits.

A. Effluent Limits

1. The pH of the discharge from Outfall 001 shall not be less than 6.5 or greater than 8.5 at any time.

2. The Hatchery must comply with the BMP Plan Elements: Solids Control, Materials Storage, Structural Maintenance, Recordkeeping, Training, and Drug and Chemical Management
    a. **Solids Control**. The Permittee must:
        1. Employee efficient feed management and feeding strategies that limit feed input to the minimum amount reasonably necessary to achieve production goals and sustain targeted rates of aquatic animal growth in order to minimize potential discharges of uneaten feed and waste products.
        2. In order to minimize the discharge of accumulated solids from settling ponds and basins and production systems, identify and implement procedures to minimize any discharge of accumulated solids during the inventorying, grading, and harvesting aquatic animals in the production system. The procedures must be documented or referenced in the BMP Plan.

3. Remove and dispose of aquatic animal mortalities properly on a regular basis to prevent discharge to waters of the United States, except in cases where the permitting authority authorizes such discharge in order to benefit the aquatic environment.

b. **Materials Storage**. The Permittee must:
   1. Ensure proper storage of drugs, pesticides, and feed in a manner designed to prevent spills that may result in the discharge of drugs, pesticides or feed.
   2. Implement procedures for properly containing, cleaning, and disposing of any spilled material. The procedures must be documented or referenced in the BMP Plan.

c. **Structural Maintenance**. The Permittee must:
   1. Inspect the production system and the wastewater treatment system on a weekly basis in order to identify and promptly repair any damage.
   2. Conduct regular maintenance of the production system and the wastewater treatment system in order to ensure that they are properly functioning.

d. **Recordkeeping**. The Permittee must:
   1. In order to calculate representative feed conversion ratios, maintain records for aquatic animal rearing units documenting the feed amounts and estimates of the numbers and weight of aquatic animals. Feed documentation must include the daily average and annual total pounds of feed used.
   2. Keep records of documenting the frequency of cleaning, inspections, maintenance and repairs.

e. **Training**. The Permittee must:
   1. In order to ensure the proper clean-up and disposal of spilled material, adequately train all relevant facility personnel in spill prevention and how to respond in the event of a spill.
   2. Train staff on the proper operation and cleaning of production and wastewater treatment systems including training in feeding procedures and proper use of equipment.
   3. Document the participants, date, and topics covered for staff training.

f. **Drug and Chemical Management**. The Permittee must:
   1. Only use drugs and chemicals deemed acceptable for use in waters that will or may be discharged to reservation waters in accordance with all applicable regulations, including, but not limited to requirements contained in the labeling of pesticide products approved under FIFRA, and dosage and usage requirements established by the FDA and in strict accordance with the manufacturer's site-specific instructions.
   2. Document all drug and chemical use, including Investigational New Animal Drugs (INADs), and include or reference the SOPs for their storage and usage. Additionally, records must be maintained on-site that include the date of the treatment, the number of fish treated, the drug used, dosage, duration, type of treatment (static bath or flow), disease treated, estimated concentration at discharge, and the method of disposal.

B. Discharge Prohibitions

1. Discharges from the Hatchery must not cause or contribute to a violation of CSKT Water Quality Standards.

2. The Hatchery must not discharge to waters of the reservation:
   a. Any floating solids or visible foam in other than trace amounts, or substances that cause a visible oil sheen;

   b. Any hazardous materials in concentrations found to be of public health significance or to impair designated beneficial uses;

   c. Any sludge, grit and accumulated solid residues;

   d. Any untreated cleaning wastewater (e.g., obtained from a vacuum or standpipe bottom drain system or rearing/holding unit disinfection);

   e. Any floating, suspended or submerged matter, including dead fish, in amounts causing nuisance or objectionable condition or that may impair designated beneficial uses in the receiving water; and/or

   f. Any toxic substances, including drugs, pesticides, or other chemicals, in concentrations that impair designated uses.

   g. Any deleterious materials in concentrations that impair designated beneficial uses.

   h. Any oxygen-demanding materials in concentrations that would result in an anaerobic water condition.

   i. Sanitary wastes and untreated wastes or wastewater.

VI. Self-Monitoring Requirements

At a minimum, upon the effective date of this Permit, the parameters in Table 5 shall be monitored during cleaning days at the frequency and with the type of measurement indicated; samples or measurements shall be representative of the volume and nature of the monitored discharge. Effluent samples at Outfall 001 shall be sampled at the point of discharge from the settling pond. Upstream samples must be collected in the Jocko River upstream and beyond the influence of Outfall 001. Unless specified in Table 5, semi-annual monitoring is required once in January through June and once in July through December. Influent monitoring for TSS was previously required because of concerns expressed by the Hatchery in 2001 regarding the influent quality. However, influent TSS monitoring is no longer required, as the TSS load limit was removed and during the POR, all influent samples had a TSS concentration of equal to or less than 1 mg/L.

All monitoring shall be reported semi-annually. Monitoring results must be submitted no later than the 28th day of the month following the end of the monitoring period.

Table 5: Self-Monitoring Requirements

Effluent Characteristic	Location	Frequency	Sample Type[(1)]	Reporting Requirements	Required Reporting Value
Flow, mgd	Effluent	Daily	Instantaneous	Maximum Daily & Monthly Average	N/A
Total Suspended Solids, mg/L	Effluent	Semi-annual	Composite[(2)]	Single Sample	1 mg/L
pH, s.u.	Effluent Upstream	Quarterly	Grab[(3)]	Daily Minimum & Maximum	0.1 s.u.

Table 5: Self-Monitoring Requirements					
Effluent Characteristic	**Location**	**Frequency**	**Sample Type(1)**	**Reporting Requirements**	**Required Reporting Value**
Dissolved Oxygen, mg/L	Upstream Effluent	Semi-annual	Grab(3)	Single Sample	0.3 mg/L
Temperature, °C	Upstream	Quarterly	Instantaneous	Daily Minimum & Maximum	0.1 °C
Ammonia, mg/L	Effluent Upstream	Semi-annual	Composite(2)	Single Sample	0.070 mg/L
Nitrate plus Nitrite, mg/L	Effluent Upstream	Semi-annual	Composite(2)	Single Sample	0.020 mg/L
Total Nitrogen, mg/L	Effluent Upstream	Semi-annual(4)	Composite(2)	Daily Minimum & Maximum	0.100 mg/L
Total Phosphorus, mg/L	Effluent Upstream	Semi-annual(4)	Composite(2)	Daily Minimum & Maximum	0.010 mg/L

(1) See definitions in Permit
(2) Composite samples shall be composed of four equal aliquots collected at evenly spaced times during the raceway cleaning event. For all upstream samples, they should be grab samples.
(3) Analyses of pH samples must be performed within 15 minutes of sample collection. Because ambient pH may change during the day, the upstream and effluent samples must be collected within an hour of each other.
(4) TN and TP samples must be collected two times per year between July 1 and September 30 at least one month apart. TN may be measured directly or calculated as the sum of Total Kjeldahl Nitrogen and Nitrate + Nitrite.

A. Discharge Monitoring Reports

The Permittee has been approved by the EPA to use *NetDMR*, and must electronically report discharge monitoring reports (DMRs) using *NetDMR*. If you have any DMR questions or concerns regarding *NetDMR*, please contact the EPA's Policy, Information Management and Environmental Justice Program, DMR Coordinator at (303) 312-6056. See Section 2.4 of the Permit, Reporting of Monitoring Results, for additional information.

VII. Endangered Species Act Requirements

Section 7(a) of the Endangered Species Act (ESA) requires federal agencies to ensure that any actions authorized, funded or carried out by an agency are not likely to jeopardize the continued existence of any federally-listed endangered or threatened species or adversely modify or destroy critical habitat of such species. According to the U.S. Fish and Wildlife Service (USFWS), Information for Planning and Conservation (IpaC) website (https://ecos.fws.gov/ipac/) on May 23, 2016, there are five federally listed threatened and endangered species and critical habitat for one species found in the vicinity of the Jocko Fish Hatchery (Table 6).

Table 6. Federally listed species near the Jocko Fish Hatchery		
Common Name	**Scientific Name**	**Status**
Bull Trout	*Salvelinus confluentus*	Threatened; Final critical habitat

Table 6. Federally listed species near the Jocko Fish Hatchery		
Common Name	**Scientific Name**	**Status**
Grizzly Bear	*Ursus arctos horribilis*	Threatened
Canada Lynx	*Lynx canadensis*	Threatened
Spalding's Catchfly	*Silence spaldingii*	Threatened
Yellow-billed Cuckoo	*Coccyzus americanus*	Threatened

The EPA finds this Permit is not likely to adversely affect any of the species listed by the USFWS under the ESA. The Hatchery discharges to the Jocko River, which has one listed aquatic species, the bull trout. No changes to the facility are associated with the renewal of this Permit, and there are no increases in effluent limitations over the previous Permit. The EPA submitted an ESA determination request to the USFWS on August 17, 2016, and the USFWS responded on September 1, 2016, that it concurs with the EPA's determination that reissuance of the Permit is not likely to adversely affect any of the species listed under the ESA.

VIII. National Historic Preservation Act (NHPA) Requirements

Section 106 of the National Historic Preservation Act (NHPA), 16 U.S.C. § 470(f) requires that federal agencies consider the effects of federal undertakings on historic properties. The EPA has evaluated its planned reissuance of the NPDES Permit for the Jocko Trout Hatchery to assess this action's potential effects on any listed/eligible historic properties or cultural resources. No listed/eligible NHPA properties are located within the vicinity of the Hatchery. Therefore, the EPA does not anticipate any impacts on listed/eligible historic properties or cultural resources because there are no nearby NHPA properties and this Permit is a renewal that is not associated with any new ground disturbance or changes to the volume or point of discharge. The EPA notified the Tribal Historic Preservation Officer of the planned issuance of this NPDES Permit during the public comment period and did not receive a response regarding potential effects on historic properties or the EPA's preliminary determination of no effect.

IX. Miscellaneous

The renewal Permit will be issued for a period of approximately five years. The Permit effective and expiration dates will be determined at the time of permit issuance.

Permit drafted by Lisa Kusnierz, MOO, May 23, 2016.
Permit reviewed by Al Garcia, Amy Clark, VelRey Lozano, Qian Zhang, Craig Jorgenson, Wastewater Unit, 8P-W-WW, July 6, 2016.

X. Public Notice and Response to Comments

The Permit and Statement of Basis were public noticed in The Missoulian on September 14, 2016. The public comment period extended for 30 days and the documents were posted on the EPA's website. No comments were received during the public comment period.

During the public comment period, the EPA sent the CSKT a draft copy of this Statement of Basis and Permit for their review. The EPA informed the CSKT that it was unable to issue the Permit until they had either granted or denied Clean Water Act Section 401 certification under 40 CFR 122.55, or waived their right to certify. The CSKT issued a Section 401 certification letter for this Permit on September 20, 2016.