NPDES PERMIT No. NM0030139 FACT SHEET

FOR THE NPDES PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES

APPLICANT

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DATE PREPARED

June 28, 2018

PERMIT ACTION

Proposed reissuance of the previous NPDES permit issued September 25, 2013 with an effective date of November 1, 2013 and an expiration date of October 31, 2018.

RECEIVING WATER – BASIN

Chama River— Rio Grande Basin

DOCUMENT ABBREVIATIONS

In the document that follows, various abbreviations are used. They are as follows:

4Q3	Lowest four-day average flow rate expected to occur once every three-years
BAT	Best available technology economically achievable
BCT	Best conventional pollutant control technology
BPT	Best practicable control technology currently available
BMP	Best management plan
BOD	Biochemical oxygen demand (five-day unless noted otherwise)
BPJ	Best professional judgment
CD	Critical dilution
CFR	Code of Federal Regulations
cfs	Cubic feet per second
COD	Chemical oxygen demand
COE	United States Corp of Engineers
CWA	Clean Water Act
DMR	Discharge monitoring report
ELG	Effluent limitation guidelines
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
FCB	Fecal coliform bacteria
F&WS	United States Fish and Wildlife Service
gpm	Gallons per minute
mg/L	Milligrams per liter (one part per million)
ug/L	Micrograms per liter (one part per billion)
MGD	Million gallons per day
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NMIP	New Mexico NPDES Permit Implementation Procedures
NMWQS	New Mexico State Standards for Interstate and Intrastate Surface Waters
NPDES	National Pollutant Discharge Elimination System
MQL	Minimum quantification level
O&G	Oil and grease
POTW	Publicly owned treatment works
RP	Reasonable potential
SIC	Standard industrial classification
SOPS	Standard Operating Procedures
s.u.	Standard units (for parameter pH)
SWQB	Surface Water Quality Bureau
TDS	Total dissolved solids
TMDL	Total maximum daily load
TRC	Total residual chlorine
TSS	Total suspended solids
UAA	Use attainability analysis
UV	Ultraviolet light
USFWS	United States Fish & Wildlife Service
USGS	United States Geological Service
WLA	Waste-load allocation
WET	Whole effluent toxicity
WQCC	New Mexico Water Quality Control Commission
WQMP	Water Quality Management Plan
WQS	Water Quality Standards
WWTP	Wastewater Treatment Plant

I. CHANGES FROM THE PREVIOUS PERMIT

The changes from the previous NPDES permit issued September 25, 2013 with an effective date of November 1, 2013 and an expiration date of October 31, 2018 are:

1. Outfall 001 to operate as an emergency discharge. Outfall 002 has been relocated and will be the primary discharge for the facility

2. NMDGF in its final interim report stated that the *first/interim* reporting and limits set out in the previous permit (see footnotes 6, 8 and 9) for E. coli, total Nitrogen and total Phosphorus have been met. Therefore, the *first/interim* limits for E. coli, total Nitrogen and total Phosphorus have been removed from the proposed permit.

3. Compliance sampling is changed to grab from composite grab since there is only one primary discharge, Outfall 002.

4. Per NMIP, used the highest monthly average flow for the past 24 months (3.7761 MGD) to estimate the Daily Maximum E. coli bacteria loading.

II. APPLICANT LOCATION and ACTIVITY

As described in the application, the facility is located at 29 Hatchery Road in the town of Los Ojos, Rio Arriba County, New Mexico. The locations of the two outfalls based on the flow diagram in the application package are:

Outfall 001 - Latitude 36^0 43' 9.01" North, Longitude 106^0 34' 39.02" West
Outfall 002 - Latitude 36^0 43' 2.13" North, Longitude 106^0 34' 36.01" West

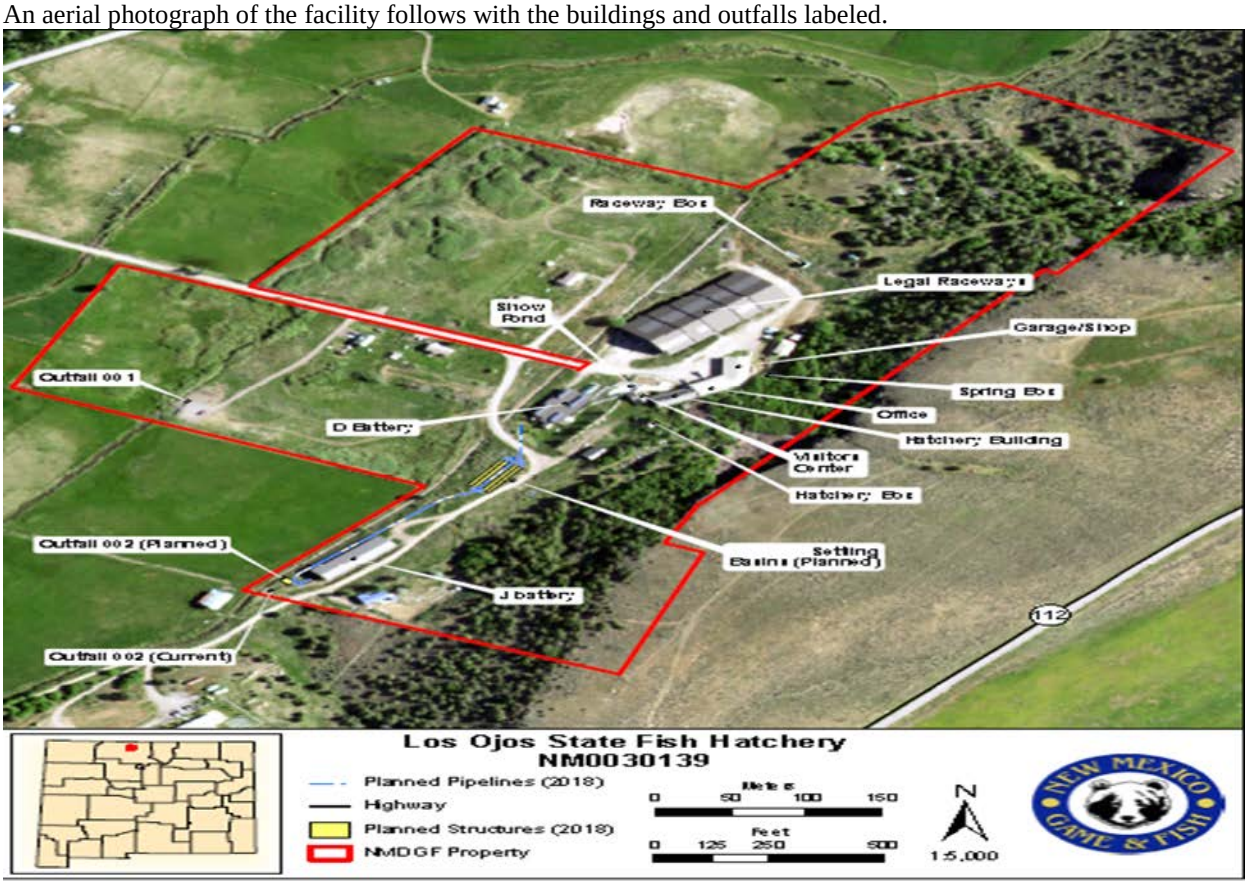
Under the SIC Code 0921, the applicant operates a cold-water finfish hatchery raising Rainbow Trout and Kokanee Salmon for stocking in lakes and/or streams. In addition, as part of an experimental pilot study, Los Ojos Hatchery has been raising Brook Trout since January 2018. This pilot study is currently slated to continue for three years. A maximum harvestable total weight of 82,025 pounds of Rainbow Trout, Kokanee Salmon and Brook Trout per year is proposed in the renewal application. The operation described in the application consists of spring water feeding 64 production raceways, and sedimentation settling basins.

The Los Ojos Hatchery is permitted to discharge into ultimately the Chama River from two separate routes. Outfall 001 will only be used as an emergency discharge. Outfall 001 when needed discharges, which contain water from the A-B-C battery and D battery, via a pipe to two settling basins thence to an unnamed irrigation ditch, thence unobstructed to the smaller 1.5- acre Upper Laguna del Campo and then the larger 20-acre Laguna del Campo; (previously known as Upper Bums and Bums Canyon Lake), thence to the La Puente Irrigation Ditch, thence to the Rio Chama in Segment 20.6.4.119 of the Rio Grande Basin. Outfall 002 is the primary discharge located at the lower end of J-battery and receives the overflow and cleaning waste (after passing through settling basins) from A-B-C and D-batteries, and flow from J-battery operation including J-battery cleaning effluent (after passing through a settling basin). Anticipated flow from Outfall 002 is 2.88 MGD. The water from Outfall 002 enters the La Puente Ditch where it can be utilized by irrigators, diverted to Laguna del Campo, or a portion utilized for both irrigation and diverted to Laguna del Campo simultaneously. The La Puente Ditch Association manages flow in La Puente Ditch downstream of the hatchery. Flow from Laguna del Campo can either be used for irrigation or it flows to the Chama River.

The Los Ojos Hatchery normally raises Rainbow Trout and Kokanee Salmon. However, in September 2005 all the raceways were shut down for fish production in response to the detection of whirling disease, a single-celled parasite that is particularly devastating to immature trout. All raceways have been disinfected, scrubbed clean, covered with metal roofs and the sides fenced to prevent any outside contact with the disease vectors and the spread of disease. The hatchery spent approximately $ 2.4 million in this renovation. In 2010, the hatchery was raising Rainbow Trout in this area to test for any remaining whirling disease. Kokanee Salmon fry are being hatched and raised in an enclosed hatchery building.

Water belonging to others and used by the hatchery under agreement, is supplied by several natural springs located on-site and sent through an aeration system. During fish production activities, first-use spring water flows into the A-B-C raceways, exits and flows into an enclosed concrete settling basin (where solids from A-B-C settle) then the water enters D-battery. The D battery contains a water re-circulation/aeration system and a pump sump channel located at the downstream end. Flow through water from D-Battery can be directed either by pump to the J battery or in emergencies it flows to the sediment structure at Outfall 001.

An aerial photograph of the facility follows with the buildings and outfalls labeled.



III. **RECEIVING STREAM STANDARDS**

The general and specific stream standards are provided in " NMWQS," (20.6.4 NMAC, as approved by the New Mexico's Water Quality Control Commission (WQCC) effective March 2, 2017) and USEPA effective August 11, 2017. The effluent from the facility flows through the primary discharge (Outfall 002) to the Chama River in segment number 20.6.4.119 of the Rio Grande Basin. Outfall 001 will only be used as an emergency discharge to the Chama River in the same segment number 20.6.4.119 of the Rio Grande Basin. Segment-specific and use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses.

IV. **EFFLUENT CHARACTERISTICS**

The facility has provided the laboratory test results for the priority pollutants listed in Appendix D of NMIP. The results show most analytes were not detected at their respective MDLs. MDLs for these toxins are lower than their individual MQLs. When a pollutant is non-detect at an MDL that is greater than its MQL, then for screening purposes that analyte is assumed to have a concentration at that MDL. Laboratory results also show that most of the following pollutants were detected at levels above their MDLs with concentration values for screening purposes:

Effluent Laboratory Results

Pollutant	**Conc. (ug/L)**	**MDL (ug/L)**	**MQL (ug/L)**	**Pollutant**	**Conc. (ug/L)**	**MDL (ug/L)**	**MQL (ug/L)**
Aluminum, total	6.100	0.4	2.5	Molybdenum, total*	0.750	0.03	10
Antimony, total	0.063	0.02	60	Nickel, total	0.440	0.04	0.5
Arsenic, total*****	0.690	0.09	0.5	Selenium, total (J)	0.500	0.2	5.0
Barium, total	40.70	0.02	100	Thallium, total (J)	0.015	0.008	0.5
Boron, total*	28.40	0.5	100	Uranium, total*	0.887	0.006	0.1
Cadmium, total (**J**)	0.018	0.006	1.0	Vanadium	2.380	0.03	50
TCR (J)	21.0	9.0	33.0	Zinc, total	6.100	0.2	20
Chromium, total	0.700	0.03	10	Chloromethane (J)	0.100	-	-
Cobalt, total	0.030	0.008	50	Methylene Chloride (J)	0.060	0.06	20
Copper, total	0.840	0.04	0.5	Chloroform (J)	0.050	0.036	50
Cyanide, Total (J)	1.0	0.9	10	Toluene	1.100	0.032	10
Lead, total (**J**)	0.028	0.004	0.5	Diethyl Phthalate (J)	0.033	0.012	10
Mercury, Total	0.0004	0.00006	0.005	Di-n-butyl Phthalate (J)	0.029	0.023	10

Note: (*****) Exceed MQLs; (**J**) Lab reported as estimated value

In addition to the above, a review of effluent data for the past 12 months and total discharge flow data for the past 24 months in DMRs from current Outfall 001 is shown below:

Effluent Data in DMRs

Pollutant	**Daily Average**
Flow	3.7761 MGD
Settle-able Solids	00.050 mg/L
Total Suspended Solids	12.500 mg/L
pH, maximum	08.49 s.u.
Nitrogen, total, interim	2.72 mg/L
Nitrogen, total, final	NA
Phosphorus, total, interim	4.9235 mg/L
Phosphorus, total, final	NA
E. coli bacteria	172.3 cfu/100mL

DMRs also show that total suspended solids daily average and maximum permit limitations have been exceeded several times. E. coli daily average value has also exceeded the permit limitation once.

V. **REGULATORY AUTHORITY/PERMIT ACTION**

In November 1972, Congress passed the Federal Water Pollution Control Act establishing the NPDES permit program to control water pollution. These amendments established technology-based or end-of-pipe control mechanisms and an interim goal to achieve “water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water”; more commonly known as the “swimmable, fishable” goal. Further amendments in 1977 of the CWA gave EPA the authority to implement pollution control programs such as setting wastewater standards for industry and established the basic structure for

regulating pollutants discharges into the waters of the United States. In addition, it made it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit was obtained under its provisions. Regulations governing the EPA administered NPDES permit program are generally found at 40 CFR §122 (program requirements & permit conditions), §124 (procedures for decision making), §125 (technology-based standards) and §136 (analytical procedures). Other parts of 40 CFR provide guidance for specific activities and may be used in this document as required. It is proposed that the permit be reissued for a 5-year term following regulations promulgated at 40 CFR §122.46(a). The previous permit expires October 31, 2018. The application was received on April 23, 2018. Until this proposed permit is issued, the existing permit is administratively continued.

VI. **PROPOSED PERMIT RATIONALE AND PROPOSED PERMIT CONDITIONS**

A. OVERVIEW OF TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Regulations contained in 40 CFR 122.44 require that NPDES permit limits are developed that meet the more stringent of either technology-based effluent limitation guidelines, numerical and/or narrative water quality standard-based effluent limits, or the previous permit. Technology-based effluent limitations are established in the proposed permit for TSS and SS. Water quality-based effluent limitations are established in the proposed permit for pH, total phosphorus and total nitrogen.

B. TECHNOLOGY BASED EFFLUENT LIMITATIONS/CONDITIONS

1. General Comments

Regulations promulgated at 40 CFR 122.44(a) require technology-based effluent limitations to be placed in NPDES permits based on effluent limitations guidelines where applicable, on BPJ in the absence of guidelines, or on a combination of the two. In the absence of promulgated guidelines for the discharge, permit conditions may be established using BPJ procedures. EPA establishes limitations based on the following technology-based controls: BPT, BCT, and BAT. These levels of treatment are:

BPT - The first level of technology-based standards generally based on the average of the best existing performance facilities within an industrial category or subcategory.

BCT - Technology-based standard for the discharge from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and O&G.

BAT - The most appropriate means available on a national basis for controlling the direct discharge of toxic and non-conventional pollutants to navigable waters. BAT effluent limits represent the best existing performance of treatment technologies that are economically achievable within an industrial point source category or subcategory.

2. Effluent Limitation Guidelines

Technology-based effluent limitations found at 40 CFR §451 were promulgated for this type of activity. Regulations for best practicable control technology currently available (BPT), apply for discharge of pollutants from a concentrated aquatic animal production facility that produces 100,000 pounds or more per year of aquatic animals in a flow-through or recirculating system. The hatchery to produce approximately 82,025 pounds annually.

The previous permit established BMPs consistent with 40 CFR §451 and those will be continued in the proposed permit. The BMP's cover solids control, materials storage, structural maintenance, recordkeeping and training. Regulations at 40 CFR §451 do not establish ELG's. However, previous permits established technology-based ELG's prior to the promulgation of 40 CFR §451 regulations based on BPJ and those will be continued in the proposed permit. They established ELG's for total suspended solids (TSS) and settle-able solids (SS). Limitations for TSS were established at 10 mg/L daily average, 15 mg/L daily maximum. Limitations for SS were established at 0.1 milliliter/liter (ml/L) daily average, 0.5 ml/L daily maximum. These limitations will be retained in the proposed permit for both Outfall 001 and Outfall 002.

The permit will continue to require that sampling for compliance purposes occur when discharges from Outfall 002 or Outfall 001 (emergency) are ongoing during cleaning operations. In the event during a reporting period that discharge from either outfall is not associated with a cleaning event, submit a grab sample from the discharging outfall and note on the discharge monitoring form which outfall is discharging." Also, flow is variable and is not a basis of the production of fish at each battery. The proposed permit will not establish mass loadings for the outfalls as the flow rate is not dependent on pounds of fish raised. The concentration limits will protect the environment. The deletion of mass limits does not constitute anti-backsliding as cited in 40 CFR 122.44 (l)(2)(i)(A); material and substantial alterations of the facility. Also, regulations in 40 CFR 122.45(f)(iii), mass limitations, when the mass of the pollutant discharged is not a measure of operation.

D. WATER QUALITY BASED LIMITATIONS

1. General Comments

Water quality based requirements are necessary where effluent limits, more stringent than technology-based limits, are necessary to maintain or achieve federal or state water quality limits. Under Section 301 (b)(l)(C) of the CWA, discharges are subject to effluent limitations based on federal or state WQS. Effluent limitations and/or conditions established in the proposed permit are in compliance with applicable State WQS and applicable State water quality management plans to assure that surface WQS of the receiving waters are protected and maintained, or attained.

2. Implementation

The NPDES permits contain technology-based effluent limitations reflecting the best controls available. Where these technology-based permit limits do not protect water quality or the designated uses, additional water quality-based effluent limitations and/or conditions are included in the NPDES permits. State narrative and numerical water quality standards are used in conjunction with EPA criteria and other available toxicity information to determine the adequacy of technology-based permit limits and the need for additional water quality-based controls.

3. State Water Quality Standards

The general and specific stream standards are provided in NMWQS (20.6.4 NMAC effective August 11, 2018 for federal CWA purposes). The facility discharges to an unnamed irrigation ditch, thence to the La Puente Irrigation Ditch, thence to the Rio Chama in Segment 20.6.4.119 NMAC in the Rio Grande Basin. The designated uses of the receiving waters (Rio Chama) are domestic water supply, fish culture, high quality cold-water aquatic life, irrigation, livestock watering, wildlife habit and primary contact; and public water supply.

4. Permit Action - Water Quality-Based Limits

Regulations promulgated at 40 CFR 122.44(d) require limits in addition to, or more stringent than effluent limitation guidelines (technology based). State WQS that are more stringent than effluent limitation guidelines are as follows:

a. pH

Criteria for pH is listed in 20.6.4.900.H.(l) for high quality cold-water aquatic life within the range of 6.6-8.8 su's. This is identical to the previous permit.

b. TOXICS

i. General Comments

The CWA in Section 301 (b) requires that effluent limitations for point sources include any limitations necessary to meet water quality standards. Federal regulations found at 40 CFR 122.44 (d) state that if a discharge poses the reasonable potential to cause an in-stream excursion above a water quality criterion, the permit must contain an effluent limit for that pollutant.

ii. Critical Conditions – Toxics

The low flow or 4Q3 of the Chama River determined by NMED for the segment between El Vado Reservoir and the Rio Brazos is 17.745 cfs (11.469 MGD). The USGS gauge (08284100) used however is located downstream of the hatchery current Outfall 001. Thus, the reported discharge of the hatchery needs to be subtracted from the above 4Q3(11.469 MGD - 3.7761 MGD = 7.6929 MGD = 11.9027 cfs). Human health pollutants are evaluated using the harmonic mean flow (HMF). The HMF as provided by NMED is 57.494 cfs (37.159 MGD). For CD is used in determining certain permit conditions. The CD is determined as follows:

CD = Qe / (Qe + Qa), Where:

Qe is the effluent flow, for industrial facilities the highest daily average flow for the past 24 months; 3.7761 MGD.

Qa is the 4Q3; 7.6929 MGD.

CD = 3.7761 / (3.7761+ 7.6929) = 0.329 or 33%

iii. Reasonable Potential – Toxics

Appendix A of the Fact Sheet shows the RP for those pollutants that had detections reported on the application form as noted above. As shown, no pollutants tested demonstrated RP to exceed WQS and further permit action is not required based on these results for toxics. According to NMED, no ambient data is available.

c. TMDL CONSIDERATIONS

The Chama River is on the 2016-2018 State of New Mexico Clean Water Act §303(d)/§305(b) list of impaired waters with impairments for bacteria and nutrient/eutrophication. The EPA approved the TMDL on August 16, 2011, and the associated WLAs for bacteria and nutrient/eutrophication.

i. Bacteria

Bacteria is not authorized in the discharge from the facility however the TMDL states that "… there are no E. coli data available to assess whether wildlife use of the ponds contribute to the E. coli load in the Rio Chama. A WLA will be assigned to the facility to be both protective of the in-stream water quality as well as the liability of the permittee." The WLA for bacteria is 1.35×10^{10} cfu/day based on 126 cfu/100 mL effluent limit, a 3.79×10^{7} conversion factor and 2.82 MGD 30-day maximum effluent flow over the past two years.

The conversion factor is based on the following:

C as cfu/100 mL x 1000 ml/liter x 1liter/0.264 gallons x Qe expressed as MGD

The proposed permit will continue to incorporate the WLA as approved in the TMDL. Loading limits for bacteria in Region 6 permits is expressed as billions of cfu/day (l x 10^{9} cfu). The loading limit will be 13.5×10^{9} cfu/day, equivalent to the 1.35×10^{10} TMDL value. Consistent with bacteria TMDL permit limitations, the 126 cfu/100 mL concentration and 13.5×10^{9} cfu/day mass loading limit is shown as the 30-day average value. The primary contact designated use, allows a daily maximum of 410 cfu/100 mL but the segment specific criteria for 20.6.4.119 NMAC is 235 cfu/100 ml. The proposed permit will propose the 235 cfu/100 mL limit as the daily maximum. The daily maximum loading limit will be N/A.

ii. Nutrients

Nutrient WLAs have already been established using a two-phase approach recommended in the TMDL. WLA are based on 2.82 MGD 30-day maximum effluent flow over the past 2 years and the 8.34 lbs/gallon factor. The previous permit had *first/interim* and *final* discharge limitations for total phosphorus and total nitrogen. The *first/interim* phase had a target concentration of 0.24 mg/L, 5.66 lbs/day of total phosphorus and 3.0 mg/L, 70.6 lbs/day of total nitrogen.

According to the final Interim Report dated June 30, 2016, NMDGF had until May 1, 2016 to meet the Phase 1 *first/interim* limits. NMDGF has stated in their final Interim Report that it met the *first/interim* limits set out in the Permit as of April 11, 2016 and has entered the *final* phase in their permit. The *first/interim* limits for total nitrogen and total phosphorus therefore have been removed from the proposed permit.

The TMDL also established a *final* phase WLA of 0.07 mg/L, 1.65 lbs/day of total phosphorus and 0.25 mg/L, 5.88 lbs/day of total nitrogen. The proposed permit will continue to require these *final* limitations and loading limits as 30-day averages as required by the schedule of compliance. The permit will continue to establish daily maximum concentration limits consistent with the NMIP; using a "daily to maximum" factor of 1.5. The daily maximum load limits will continue to be report only. The facility has effectively ten (10) years from the previous permit effective date of November 1, 2013 to achieve the remaining *final* WLA limits. If future TMDLs determine that the *final* phase WLA need adjusting based on additional stream studies, then the *final* phase limits may be amended by future permit actions based on revised TMDLs and updates to the WQMP. However, if no further changes are made to the WQMP, the *final* nutrient permit limits will be required ten years from the previous permit effective date of November 1, 2013.

5. Monitoring Frequency for Limited Parameters

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity, 40 CFR § 122.48(b), and to assure compliance with permit limitations, 40 CFR § 122.44(i) (1). Sample frequency is based on the March 12, 2012, NMIP.

For Outfall 002 (primary), flow is to be measured and reported daily. Flow shall be recorded by measuring flow over the weir during cleaning operations and reported on Outfall 002 monitoring report. If during the permit term, a discharge is from Outfall 001 (emergency) but not from Outfall 002, monitoring and compliance requirements shall be sampled from Outfall 001and comment section will note that the discharge is from Outfall 001, and that Outfall 002 did not discharge.

The pollutants SS and TSS shall be sampled and reported twice per month using grab samples. The pollutant pH shall be sampled and reported twice per month using grab samples. The E. coli bacteria, total phosphorus and total nitrogen are to be sampled and reported twice per month by using grab samples.

6. Drugs Medications And/or Chemicals Used in Hatchery Practices

At times, DGF hatchery staff administers drugs medications and/or chemicals (DMCs) used for aquaculture purposes in the water system, in a manner and/or amount that will allow it to be discharged to waters of the United States. The US Food and Drug Administration (FDA) have approved some of these DMCs and/or amounts of use. Sometimes, however, either the DMCs are used for purposes not specifically approved by the FDA, or the DMCs are not approved at all by the FDA, but their use is consistent with sound hatchery practices.

Anytime DGF uses any DMC, such that it will enter waters of the State, then the DGF shall notify both EPA and NMED of its impending use. Notification to NMED shall be by phone within one business day of its decision to use the DMC, and at least three-business days prior to the actual use, and both EPA and NMED, in writing, within five-business days of its decision of use. Notification shall provide the name of the DMC, its amount, concentration of use and reason for its use, along with the expected date and time of its use, and expected duration of use. Also, Discharge of chlorine is not authorized in the permit and would be a violation of the permit. However, when the FDA approved drug Chloramine-T is used as a treatment for the Bacterial Gill Disease, TRC sampling is required.

When the DMCs used is either not approved by the FDA or its use is not consistent with FDA practices, such that it would allow it to enter the receiving stream, DGF shall conduct the following Whole Effluent Toxicity Test, per instance of use (See footnote *l below). This testing shall be reported on discharge monitoring report (DMR) and reported as Outfall 02B. On the DMR, report in the comment section the date, time, duration and the name of the DMC used. Also note the date of the letter sent to EPA and NMED.

Whole Effluent Toxicity Test

TOXICITY TESTS	FREQUENCY
7-day Ceriodaphnia dubia survival and reproduction test (Method 1002.0) (*1)	Once/use (*2,3)
7-day Pimephales promelas larval survival and growth test (Method 1000.0) (*1)	Once/use (*2,3)

Footnote:

*1. Chronic freshwater Whole Effluent Toxicity Testing

*2. WET testing shall be conducted on the maximum dose of each instance of intermittent use of DMCs not approved by the FDA, or drugs, medications and/or chemicals for purposes other than those for which FDA approval was granted. For long-term use of these drugs, medications and/or chemicals, only one WET test shall be required on the maximum dose of the treatment, unless that maximum dose is later increased by 20 percent. At that point, and any later increases above 20 percent, then additional WET tests will be required.

*3 The sample shall NOT be flow weighted with other outfall flow. The sample shall occur at the outfall location consistent with the unit being treated, during the time that the expected highest dose is being administered and shall be taken at a time taking into consideration the lag-time for the slug of maximum dosage of DMC to flow from the point of application to the sample point. The grab sample for the WET test shall be taken 30-minutes after the expected arrival time of the first slug of DMC at the outfall. The expected arrival time can be determined by direct observation by use of a floatable marker such as wooden blocks.

D. WHOLE EFFLUENT TOXICITY LIMITATIONS

Procedures for implementing WET terms and conditions in NPDES permits are contained in the NMIP. Table 11 and 12 of Section V of the NMIP outlines the type of WET testing for different types of discharges and receiving waters. Based on the nature of the discharge; *fish hatchery* (industrial), the type/size of the facility; m*inor*, the nature of the receiving water; *perennial*, and the critical dilution; 33 *%*, the NMIP directs the WET test to be a 7-day chronic test using *Ceriodaphnia dubia* and *Pimephales promelas* on a once per permit term frequency. This would also be consistent with the previous permit term.

According to the NMIP, when a test frequency is one (1) time a year or less (like in this case), the test should occur in winter or spring time when most sensitive juvenile life forms are likely to be present in receiving water and colder ambient temperatures might adversely affect treatment processes. This will generally be defined as between November 1 and April 30. However, the period of April 1 to June 30 encompasses the operational maximum for the facility and as such is used as the time period for WET testing.

DMR reports reveal passing of one required per term test for the *Ceriodaphnia dubia* and one required per term test for the *Pimephales promelas* during the last permit term. Because there is only one data point to work with, EPA RP Analyzer was not used to determine WET RP in this permit. Determination was made based on the results of WET analysis that showed no significant effects at dilution of 32% and the CD at 24%. EPA concludes that the effluent does not cause or contribute to an exceedance of the State water quality standards for the test species. Therefore, WET limits will not be established in the proposed permit for *Ceriodaphnia dubia* or *Pimephales promelas*. A once per permit term frequency shall be maintained as per the NMIP for test species: *Ceriodaphnia dubia and Pimephales promelas.*

The proposed permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests. These additional effluent concentrations shall be 14%, 19%, 25%, 33% and 44%. The low-flow effluent concentration (critical low-flow dilution) is defined as 33% effluent. During the period beginning the effective date of the permit and lasting through the expiration date of the permit, the permittee is authorized to discharge from Outfall 002 and Outfall 001 (emergency). Discharges shall be limited and monitored by the permittee as specified below:

WET Reporting & Frequency Requirements

EFFLUENT CHARACTERISTIC	DISCHARGE MONITORING	
Whole Effluent Toxicity Testing, 7-day Static Renewal[*1]	**30-day Ave. Minimum**	**7-day Minimum**
Ceriodaphnia dubia	REPORT	REPORT
Pimephales promelas	REPORT	REPORT
Whole Effluent Toxicity Testing, 7-day Static Renewal[*1]	**FREQUENCY**	**FREQUENCY**
Ceriodaphnia dubia	One per permit term	24-hr Grab
Pimephales promelas	One per permit term	24-hr Grab

Footnote:
*1. Monitoring and reporting requirements begin on the effective date of this permit. See Part II, Whole Effluent Toxicity Testing Requirements for additional WET monitoring and reporting conditions.

The sample for the WET test shall be taken during the period April 1 through June 30. The permittee shall submit the results of any toxicity testing performed in accordance with the Part II of the Permit. Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen, conductivity, and alkalinity shall be documented in a full report according to the appropriate test method publication. The full reports required by each test section need not be submitted unless requested. However, the full report is to be retained following the provisions of 40 CFR Part 122.41(j)(2). The permit requires the submission of the toxicity testing information to be included on the DMR.

VII. **TMDL REQUIREMENTS**

The Chama River is on the 201-2018 State of New Mexico Clean Water Act §303(d) list of impaired waters with impairments for bacteria and nutrients. The fact sheet earlier discussed and provided the basis for permit limits to address the impaired pollutants. The permit has a standard reopener clause that would allow the permit to be changed if later additional requirement on new or revised TMDLs were completed.

VIIl. **ANTIDEGRADATION**

The NMAC, Section 20.6.4.8 "Anti-degradation Policy and Implementation Plan" sets forth the requirements to protect designated uses through implementation of the State water quality standards. The limitations and monitoring requirements set forth in the proposed permit are developed from the State water quality standards and are protective of those designated uses. Furthermore, the policy sets forth the intent to protect the existing quality of those waters, whose quality exceeds their designated use. The permit requirements and the limits are protective of the assimilative capacity of the receiving waters, which is protective of the designated uses of that water, NMAC Section 20.6.4.8. A.2.

IX. **ENDANGERED SPECIES CONSIDERATIONS**

A review of the most recent county listing available at US Fish and Wildlife Service (USFWS), Southwest Region 2, website was conducted on August 10, 2018. Eight species in Rio Arriba County are listed as endangered (E) or threatened (T) at https://ecos.fws.gov/ecp0/reports/species-by-current-range-county?fips=35039. One specie is amphibian and include the Jemez Mountains salamander (Plethodon neomexicanus) (E), four species are birds and include the Yellow-billed Cuckoo (Coccyzus americanus) (T), Mexican spotted owl (*Strix occidentalis lucida*) (T), Least tern (Sterna antillarum) (E) and the Southwestern willow flycatcher (*Empidonax traillii extimus*) (E). Three species are mammalian include the Canada Lynx (Lynx Canadensis) (T), New Mexico meadow jumping mouse (Zapus hudsonius luteus) (E) and the North American wolverine (Gulo gulo luscus) (T).

In accordance with requirements under section 7(a)(2) of the Endangered Species Act, EPA has reviewed this permit for its effect on the following listed threatened and endangered species and their designated critical habitats:

1. **Jemez Mountains salamander** is a species of salamander in the family Plethodontidae endemic to New Mexico. Its natural habitat is temperate forests. It is threatened by habitat loss, is in rapid decline.

Ninety percent of the Jemez Mountains salamander population lives within the boundaries of the Santa Fe National Forest. To protect the Jemez Mountains salamander, one must safeguard the Jemez Mountains—a striking landscape characterized by large tracts of undisturbed wilderness, rocky peaks, and mountain streams. Because volcanic activity formed the mountains, they also contain unique features such as hot springs, fumaroles, and the Valles Caldera itself, a ring of hills born from the remnants of several extinct volcanoes.

The Jemez Mountains salamander is the most imperiled of the three salamanders that live in New Mexico and is very vulnerable to losing more of its already limited habitat. It is now found in only 38 percent of the sites it historically occupied. Logging, wildfires, and fire suppression activities—such as trench-digging and application of fire-suppressant chemicals—threaten the remaining salamanders. So, does road-building: sometimes these tiny amphibians don't make it across roads alive during their nightly travels.

2. **Yellow-billed Cuckoos** use wooded habitat with dense cover and water nearby, including woodlands with low, scrubby, vegetation, overgrown orchards, abandoned farmland, and dense thickets along streams and marshes. In the Midwest, look for cuckoos in shrub-lands of mixed willow and dogwood, and in dense stands of small trees such as American elm. In the central and eastern U.S., Yellow-billed Cuckoos nest in oaks, beech, hawthorn, and ash. In the West, nests are often placed in willows along streams and rivers, with nearby cottonwoods serving as foraging sites.

3. **Mexican spotted owls** nest, forage, roost and disperse in a wide variety of biotic communities:

- Mixed-conifer forests are commonly used throughout the range and may include Douglas fir, white fir, southwestern white pine, limber pine, and ponderosa pine. Understory may include Gambel oak, maples, box elder, and/or New Mexico locust. Highest densities of Mexican spotted owls occur in mixed-conifer forests that have experienced minimal human disturbance.

- Madrean pine-oak forests are commonly used throughout the range, and, in the southwestern U.S., are typically dominated by an overstory of Chihuahua and Apache pines, with species such as Douglas fir, ponderosa pine, and Arizona cypress. Evergreen oaks are typically prominent in the understory.

- Rocky canyons are utilized by Mexican spotted owls in the northern part of their range, including far northern Arizona and New Mexico, and southern Utah and Colorado.

Nesting habitat is typically in areas with complex forest structure or rocky canyons, and contains mature or old growth stands which are uneven-aged, multistoried, and have high canopy closure. In the northern portion of the range (southern Utah and Colorado), most nests are in caves or on cliff ledges in steep-walled canyons. Elsewhere, the majority of nests are in Douglas-fir trees (*Pseudotsuga menziesii*). The patterns of habitat use by foraging owls are not well known, but Mexican spotted owls generally forage in a broader array of habitats than they use for roosting, and most commonly in Douglas fir. Ganey and Balda (1994) found that, in northern Arizona, owls generally foraged slightly more than expected in unlogged forests, and less so in selectively logged forests. However, patterns of habitat use varied between study areas and between individual birds, making generalizations difficult.

4. **Least tern**, very similar to the Old World Little Tern (Sternula antillarum), breeds widely along coastal beaches and major interior rivers of North America and winters broadly across

marine coastlines of Central and South America. This is the smallest of an array of terns that nest on relatively open beaches and islands kept free of vegetation by natural scouring from tidal or river action. Although widespread and common in places, its favored nesting habitat is prized for human recreation, residential development, and alteration by water diversion, which interfere with successful nesting in many areas. Although adapted to shift breeding readily in response to sites that change within and among years, this tern appears to be most productive at colony sites that have endured for several years.

The Least tern feeds mostly on small, shallow-bodied fresh- and saltwater fish, but its diet is varied and includes small crustaceans and insects. Before egg-laying, courtship is punctuated by elaborate rituals of aerial display and distinctive calling by males, after which the male offers fish to the female. Least terns nest in a simple scrape in sand, shell, or other fragmentary material throughout their breeding range; gravel rooftops and a variety of deposited materials have been used with varied success. A typical clutch is 2 or 3 eggs; both adults incubate and care for the young. This dainty tern is pugnacious when defending nest and young. Its well-known zwreep call of alarm identifies this tern long before it comes into view.

Once substantially reduced by collection to adorn women's hats, the Least tern portrays a roller coaster of changes in population. Diminished by recreational, industrial, and residential development in coastal breeding areas and significantly altered hydrology at interior breeding areas since the 1950s, it is specially classified for protection in much of its North American range. No other wide-ranging North American tern has that unfortunate distinction.

5. **Southwestern Willow Flycatchers** habitat occurs in riparian areas along streams, rivers, and other wetlands where dense willow, cottonwood, buttonbush and arrow weed are present. The primary reason for decline is the reduction, degradation and elimination of the riparian habitat. Other reasons include brood parasitism by the brown-headed cowbird and stochastic events like fire and floods that destroy fragmented populations. The permit does not authorize activities that may cause destruction of the flycatcher habitat, and issuance of the permit will have no effect on this species.

6. **Canada Lynx** are generally found in moist, boreal forests that have cold, snowy winters and a high density of their favorite prey: the snowshoe hare. Snowshoe hares tend to occur in habitats where dense stands of young conifers provide shelter, and where they can forage on conifer boughs that protrude above several feet of snow. These forest thickets may result from wildfires, timber harvest, or other disturbances. Meanwhile, lynx also use mature forests with dense undercover and downed wood for denning.

Lynx can be found throughout much of the boreal forest of Alaska and Canada. The southern portion of their range has historically extended into the U.S. into the northern Rocky Mountains/Cascades, southern Rockies, Great Lakes states and the Northeast. Today, in the Lower-48 states they are known to have sustained breeding populations in Montana, Washington, Maine, and Minnesota and have been reintroduced to Colorado. They also occur and sometimes breed in Idaho, Oregon, Wyoming, Utah, New Mexico, New Hampshire, Vermont, New York, Michigan, and Wisconsin, but their population status is not well known in these areas.

7. **New Mexico meadow jumping mouse** is a unique subspecies of meadow jumping mouse; it is a water-loving animal that lives only along the banks of southwestern streams. It is semi-aquatic, and its large back feet may assist it with swimming as well as jumping.

Unlike other subspecies of meadow jumping mouse, it is never found in meadows or grasslands without suitable perennial water and riparian habitat. It is rarely found more than a few feet (1.8 m) from running water.

These mice are naturally rare and scattered across isolated population centers, and no wonder; riparian areas make up less than 1 percent of the landmass in the Southwest. But these precious arteries of life are in decline, and the jumping mouse along with them. The mouse has been extirpated from 70 to 80 percent of its historic range, which extended from the San Juan Mountains in southwestern Colorado into the Rio Grande Valley in New Mexico and the White Mountains in Arizona. These days, they are found only in 5 isolated mountain ranges in Colorado, New Mexico, and Arizona, and in the Rio Grande Valley.

In all historical locations surveyed since 2000, populations have undergone large declines and in some cases may have completely disappeared. Overgrazing by livestock is the primary driver of this decline; cattle grazing, even with low numbers of cows, destroys sensitive streamside habitat through loss of vegetation, alteration of the vegetative community by selective grazing of certain species, soil compaction, and general destruction from trampling. A mouse in grazed habitat generally cannot collect enough food during its short active period to make it through the winter. During surveys in 2005 and 2006, every population of New Mexico meadow jumping mice was found in areas inaccessible to livestock.

8. **North American wolverines** in the Lower 48 live in rugged, remote country, spending most of their time in high elevations near or above timberline. Further north in Alaska and Canada, wolverines occur within a wide variety of elevations in alpine, boreal and arctic habitats, including boreal forests, tundra and western mountains.

Historically, wolverines once lived in the northern and southern Rocky Mountains, Sierra Nevada Mountains, and North Cascades Mountains, as well as in parts of the Midwest and the Northeast. Today, wolverines in the Lower 48 can be found in portions of the North Cascades Mountains in Washington and the northern Rocky Mountains in Montana, Idaho and Wyoming

(this area also includes the Wallowa Range in Oregon). There have been lone individuals found in Michigan's forests, the southern Rocky Mountains in Colorado, and the Sierra Nevada Mountains in California.

After review of the above referenced information, EPA has determined that the reissuance of this permit will have "no effect" on listed threatened and endangered species nor will adversely modify designated critical habitat. EPA makes this determination based on the following:

1. EPA has received no additional information since the previous permit issuance which would lead to revision of its determinations.

2. The proposed permit is identical to the previous permit. Also, no changes in the treatment of wastewater technology have been proposed or implemented since last issuance of the permit.

3. The NPDES program regulates the discharge of pollutants from the treatment facility and does not regulate forest and agricultural management practices.

X. **HISTORICAL & ARCHEOLOGICAL PRESERVATION CONSIDERATIONS**

The reissuance of the permit should have no impact on historical and/or archeological sites since no construction activities are planned in the reissuance.

XI. **PERMIT REOPENER**

The permit may be reopened and modified during the life of the permit if relevant portions of New Mexico's WQS for Interstate and Intrastate Streams are revised or remanded by the NM WQCC. In addition, the permit may be reopened and modified during the life of the permit if relevant procedures implementing the WQS are either revised or promulgated by the NMED. Should the State adopt a State water quality standard, and/or develop or amend a TMDL, this permit may be reopened to establish effluent limitations for the parameter(s) to be consistent with that approved State standard and/or water quality management plan, in accordance with [40 CFR 122.44(d)]. Modification of the permit is subject to the provisions of [40 CFR 124.5].

XII. **VARIANCE REQUESTS**

No variance requests have been received.

XIII. **CERTIFICATION**

The permit is in the process of certification by the State agency following regulations promulgated at 40 CFR 124.53. Proposed permit and public notice both will be sent to the District Engineer, Corps of Engineers; to the Regional Director of the U.S. Fish and Wildlife Service and to the National Marine Fisheries Service prior to the publication of that notice.

XIV. **FINAL DETERMINATION**

The public notice describes the procedures for the formulation of final determinations.

XV. **ADMINISTRATIVE RECORD**

The following information was used to develop the proposed permit:

A. APPLICATION(S)

EPA Application Forms 1 and 2B received by EPA April 18, 2018.

B. 40 CFR CITATIONS

Citations to 40 CFR are as of August 10, 2018
Sections 122, 124, 125, 133, 136

C. STATE OF NEW MEXICO REFERENCES

NMQWS, 20.6.4 NMAC, effective June 5, 2013.
Implementation Guidance for the NMIP, March 15, 2012.

State of New Mexico 303(d) List for Assessed Stream and River Reaches, 2016 -2018.

D. MISCELLANEOUS REFERENCES

National Toxics Rule 57 FR 60848, December 22, 1992.

Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA/600/4-89/001, March 1989.

Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, EPA/600/4-90/027, September 1991.

E. CORRESPONDENCE

Email from NMED to EPA, Region 6, 6/28/2018 providing 4Q3 data.

Email from NMED to EPA, Region 6, 7/12/2018 providing Chama TMDL information.

Email from NMDGF to EPA, Region 6, 7/18/2018 providing additional hatchery information