NPDES PERMIT No. NM0030147 FACT SHEET

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

APPLICANT

State of New Mexico Department of Game & Fish
Red River State Fish Hatchery
1 Wildlife Way
Santa Fe, NM 87507

ISSUING OFFICE

U.S. Environmental Protection Agency
Region 6
1201 Elm Street, Suite 500
Dallas, Texas 75270

PREPARED BY

Jim Afghani
Environmental Engineer
NPDES Permitting and Wetlands Section (6WD-PE)
Phone: (214) 665-6615
Email: afghani.jim@epa.gov

DATE PREPARED

April 18, 2023

PERMIT ACTION

Proposed reissuance of the current NPDES permit issued September 27, 2017, with an effective date of November 1, 2017, and an expiration date of October 31, 2022.

RECEIVING WATER – BASIN

Red 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 current permit is proposed to be reissued for a 5-year term. The changes from the current permit issued September 27, 2017, with an effective date of November 1, 2017, and an expiration date of October 31, 2022, are:

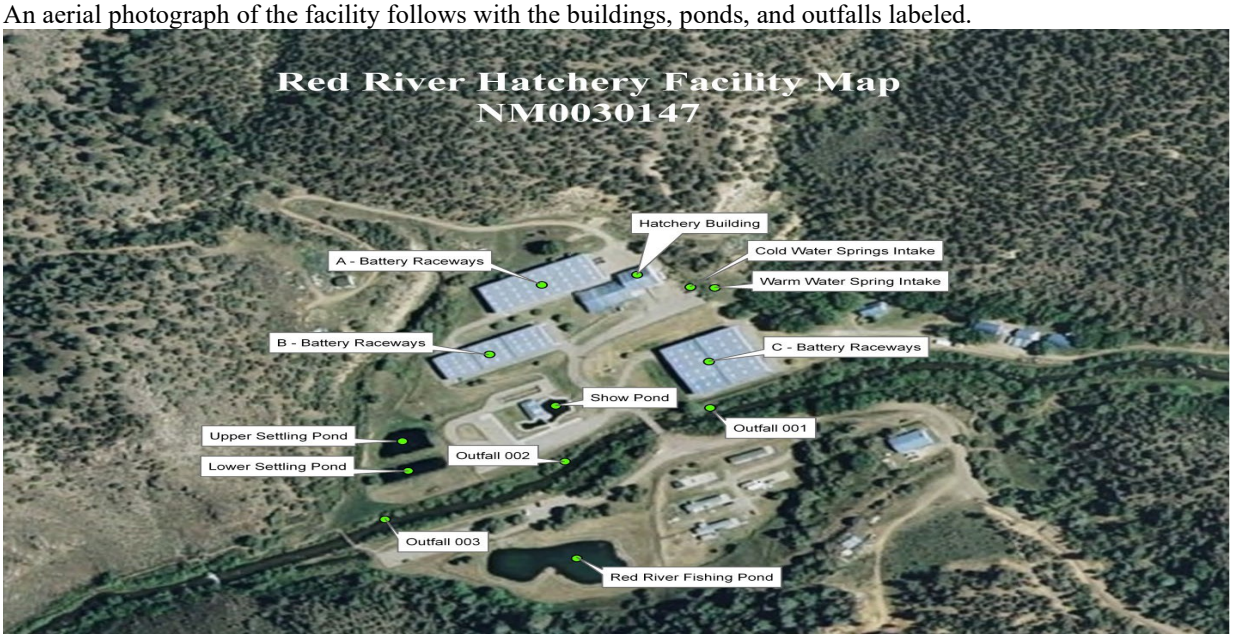
A. Maintained Total Suspended Solids limits in line with impending TMDL.
B. Removed reporting requirements for Aldrin based on RP analysis and data provided by the applicant.
C. Added newly approved NMWQS to the draft permit. They must be collected and analyzed within the first year of the permit effective date. Submit the results to both EPA and NMED.

II. APPLICANT LOCATION and ACTIVITY

As described in the application, the is facility located at the end of State Highway 515, about 10-miles northwest of the intersection with State Highway 522 and approximately 5-miles downriver (southwest) from the town of Questa in Taos County, New Mexico. The discharge from the facility is from three outfalls, all directly to the Red River. They are located as follows:

Outfall 001 - Latitude 36.683829, Longitude -105.651915
Outfall 002 - Latitude 36.683321, Longitude -105.652986
Outfall 003 - Latitude 36.682977, Longitude -105.65395

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



Under the SIC code 0921, the applicant operates a finfish hatchery raising Rainbow Trout and Rio Grande Cutthroat Trout for stocking in lakes and/or streams. The operation described in the application consists of spring water collection galleries feeding a series of production raceways, equipped with a low head oxygenation system, a hatchery building, a show pond, and settling ponds. The Red River Fishing Pond located south of the river is stocked by NMDGF but is not part of the trout hatchery operations. Flow from the river enters this pond then is returned back to the river. This permit does not require analytical monitoring of the flow from this fishing pond. The facility described in the application produces an annual estimated fish harvest of 256,838 pounds of rainbow trout and 2,500 pounds of Rio Grande cutthroat trout from 42 raceways.

The four ponds at the facility are the show pond, kids fishing pond and the two settling ponds. No fish are harvested for stocking from any of these ponds at the facility. Per renewal application, Outfall 001 has a daily maximum flow of 10,333,000 GPD (maximum 30-day average, 9,776,736 GPD). The discharge from this outfall is flow from the raceways used to raise fish. Outfall 002 has a daily maximum discharge of 678,240 GPD (maximum 30-day average, 457,200 GPD). Outfall 003 has a daily maximum discharge of 1,859,040 GPD (maximum 30-day average, 723,888 GPD). DMRs show one parameter exceedance: TRC with a value of 20 ug/L exceeding the maximum limit of 11 ug/L during the monitoring period ending on November 30, 2017

III. **RECEIVING STREAM STANDARDS**

The general and specific stream standards are provided in " NMWQS," (20.6.4 NMAC, effective April 23, 2022). The effluent from the facility through all three outfalls is discharged to the Red River in segment number 20.6.4.122 of the Rio Grande Basin. The designated uses of the receiving waters are cold-water aquatic life, fish culture, irrigation, livestock watering, wildlife habitat and primary contact.

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 except for Mercury. 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 the following pollutants were detected at levels above their MDLs with concentration values for screening purposes:

Effluent Laboratory Results

Pollutant	**Concentration**
Arsenic, total*	1.6 ug/L
Barium, total	27.8 ug/L
Molybdenum, total*	68.3 ug/L
Uranium, total*	2.9 ug/L
Vanadium, total	5.4 ug/L

Note: (*) Exceed MQL

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 Outfall 001 is shown below:

Effluent Data in DMRs

Pollutant	**Daily Average**
Flow	8.97 MGD
Settleable Solids	0.0 mg/L
Total Suspended Solids	3.0 mg/L
pH, maximum	8.17 s.u.
TRC	N/A
Aldrin	Not Detected

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.

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

The proposed effluent limitations for those pollutants proposed to be limited are based on regulations promulgated at 40 CFR 122.44. The draft permit limits are based on either technology-based effluent limit pursuant to 40 CFR 122.44(a), on best professional judgment (BPJ) in the absence of guidelines, and/or requirements pursuant to 40 CFR 122.44(d), whichever are more stringent.

A. REASON FOR PERMIT ISSUANCE

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 expired October 31, 2022. The application was received on May 1, 2022. The existing permit is administratively continued until this permit is issued.

B. OPERATION AND REPORTING

The permittee must submit monthly DMRs quarterly, beginning on the effective date of the permit, lasting through the expiration date of the permit, to report on all limitations and monitoring requirements in the permit. Also, the intent of the previous permit was to establish a single "sample" outfall, comprised of flow-weighted composite samples from the three outfalls. It was in the permit writer's professional judgment that the close physical proximity of the three outfalls and the nature of the discharge would allow that approach. The draft permit will continue with the same methodology. The draft permit will authorize discharges from Outfalls 001, 002 and 003, but will sample and report pollutant testing based on flow-weighted composite samples reported at Outfall 001. A second outfall for reporting and monitoring very intermittent drug, medications and chemicals used at the hatchery shall be proposed in the draft permit, designated Outfall 01B.

C. TECHNOLOGY BASED EFFLUENT LIMITATIONS/CONDITIONS

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. Technology-based effluent limitations found at 40 CFR 451 have been promulgated for this type of activity.

Regulations for 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 facility produces approximately 259,338 pounds annually.

The regulations impose best management practices (BMP) relating to solids control, materials storage, structural maintenance, recordkeeping, and training. No chemical specific effluent limitation guidelines are established. The draft permit shows the specific BMPs contained in the regulations. BMP was submitted to the Enforcement Branch of the EPA, Region 6 and NMED in January 2014.

The previous permit-maintained technology-based limitations 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 max. 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 draft permit.

Regulations at 40 CFR § 122.45 (f)(1) require all pollutants limited in permits to have limits expressed in terms of mass such as pounds per day. When determining mass limits for industrial facility, the hatchery's highest monthly average flow for the past 24 months is used to establish the mass load. Mass limits are determined by the following mathematical relationship:

Loading in lbs/day = pollutant concentration in mg/L * 8.345 lbs/gal * design flow in MGD
Daily maximum TSS loading = 15 mg/L * 8.345 lbs/gal * 12.4 MGD = 1,552 lbs/day
Daily average TSS loading = 10 mg/L * 8.345 lbs/gal * 12.4 MGD = 1,035 lbs/day

The cold-water aquatic life use for Red River was found to be "not supporting" in 2020 due to turbidity. At the time of writing, the NMED has released a proposed TMDL for public comment which includes a TSS Waste Load Allocation (WLA) for the Red River State Fish Hatchery. The TSS WLA for the hatchery was calculated using the TSS effluent limits and estimated flow of the previous permit. In anticipation of the proposed WLA, the mass limit from the previous permit will be maintained in the proposed permit:

Daily maximum TSS loading = 15 mg/L * 8.345 lbs/gal * 10.717 MGD = 1,342 lbs/day
Daily average TSS loading = 10 mg/L * 8.345 lbs/gal * 10.717 MGD = 894 lbs/day

Although the proposed permit will limit TSS based on the proposed TMDL, if the final TMDL includes a more stringent WLA than used in the proposed permit then the permit may be reopened and modified (see below, section XII: Permit Reopener).

Monitoring frequency for TSS and SS will be identical to the current permit, twice/month. Sample type in the current permit for TSS is a 24-hour composite, but the flow is only required at once per day frequency. The permit will require that sampling be done during periods when there is a discharge from the settling ponds at Outfall 003. During this sampling period, when discharges are from settling ponds, grab samples are more appropriate and consistent with the daily flow reporting requirements.

D. WATER QUALITY BASED LIMITATIONS

1. General Comments

Effluent limitations and/or conditions established in the draft permit are in compliance with State WQS and the applicable water quality management plan.

2. Revised Water Quality Standards

The NM WQCC adopted the new water quality standards (WQS) of the State of New Mexico effective July 24, 2020. USEPA approved the state approved WQS on October 27, 2020. The NM WQCC adopted additional WQS effective April 23, 2022, which USEPA approved on January 19, 2023. The newly approved NMWQS pollutants have been added to the draft permit. One per-term sample of each pollutant must be collected and analyzed within the first year of the permit effective date. Submit the results to both EPA and NMED.

3. Segment Specific 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) as follows:

i. the use-specific numeric criteria set forth in 20.6.4.900 NMAC is applicable to pH to be between 6.6-8.8 s.u. The permit retains the pH limitations of 6.6-8.8 s.u.

ii. E. coli limits are not included in the previous permit and will not be added based on BPJ. The reasoning for this is that E. coli are associated with mammals and not fish. No sanitary sewer wastewater will be discharged from the facility through the permitted outfalls.

4. Toxics Evaluation

The Clean Water Act 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 RP to cause an in-stream excursion above a water quality criterion, the permit must contain an effluent limit for that pollutant.

An RP analysis was conducted using hatchery effluent data from the New Mexico Department of Game and Fish. The State provided upstream water quality data from station 28RedRiv005.9 (Red River above Fish Hatchery and diversion) for 2017 and 2018. A geometric mean of hardness data was calculated (174.9 mg/L) for the RP analysis. The analysis showed no excursion of NM WQS. Effluent sample results show total, not dissolved, concentrations for most metals. The applicant can resubmit the dissolved values for the RP analysis.

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 the WET analysis that showed no significant effects at the CD at 54%. 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-permit term frequency shall be maintained per the NMIP for test species: Ceriodaphnia dubia and Pimephales promelas.

Further, the Region 6 Implementation Guidance for the State of New Mexico Standards for Interstate and Intrastate Streams allows effluent toxicity to aquatic life to be determined using biomonitoring to assess a discharge's compliance with State WQS. The draft permit has biomonitoring requirements discussed below.

5. Post Third Round Policy and Strategy

Section 101 of the CWA states that "...it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited..." To ensure that the CWA's prohibitions on toxic discharges are met, EPA has issued a "Policy for the Development of Water Quality-Based Permit Limitations for Toxic Pollutants 49 FR 9016-9019, March 9, 1984." In support of the national policy, Region 6 adopted the "Policy for Post Third Round NPDES Permitting" and the "Post Third Round NPDES Permit Implementation Strategy" on October 1, 1992.

The Regional policy and strategy are designed to ensure that no source will be allowed to discharge any wastewater which (1) results in instream aquatic toxicity; (2) causes a violation of an applicable narrative or numerical State/Tribal water quality standard resulting in nonconformance with the provisions of 40 CFR 122.44(d); (3) results in the endangerment of a drinking water supply; or (4) results in aquatic bioaccumulation which threatens human health.

The Region is currently implementing its post third round policy in conformance with the regional strategy. Either technology-based effluent limitations reflecting the best controls available or 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. Biomonitoring of the effluent is thereby required as a condition of this permit to assess potential toxicity.

6. Aquatic Toxicity Testing

a. General Comments

The State has established narrative criteria, which in part, state that the "Surface waters of the State shall be free of toxic pollutants from other than natural causes in amounts, concentrations or combinations that affect the propagation of fish or that are toxic to humans, livestock or other animals, fish or other aquatic organisms…" (NM Standards Section 20.6.4.13.F.1). The Implementation Guidance for NM Standards state that:

"Biomonitoring requirements will be applied to all major dischargers and those minor dischargers with known or potential problems to cause or contribute to exceedances of applicable NM Standards, numeric or narrative water quality criteria in waters with existing or designated fishery uses" (Section VI. Narrative Toxics Implementation).

b. Permit Action

The provisions of this section apply to discharges from Outfalls 001, 002 and 003. The sample shall be a flow-weighted composite sample representing ALL three outfalls and reported on the DMR for Outfall 001. Also, the testing requirements are based on the instream concentration of effluent after complete mixing with 100% of the receiving water of the Red River at low-flow conditions.

NMED SWQB provided the low flow (4Q3) of the Red River, downstream of the facility at the nearest USGS gaging station 08266820 (Red River below Fish Hatchery, Near Questa, NM). In addition to proximity, the decision to use a downstream instead of an upstream gaging station was based on difficulties in determining contributions from described diversions for irrigation in the USGS 2014 Annual Water Data Report. Also, flows from both Cabresto Creek and Red River near Questa gaging stations would have had to have been combined if the upstream gaging station was used.

Upstream of Hatchery (Above Outfall 001):

Total Hatchery Discharge = Outfall 003+Outfall 002+Outfall 001 = 0.72 MGD+0.46 MGD + 9.78 MGD = 10.96 MGD of facility outflow. However, NMIP recommends that the past 24-month of the highest daily average flow should be used for 4Q3 and Harmonic Mean (HM) if the facility is an industrial type. 12.4 MGD was the highest daily average flow in the past 24 months.

Estimated 4Q3 above Hatchery= 19.73 MGD (30.53 cfs) – 12.4 MGD (19.19 cfs) = 7.33 MGD (11.34 cfs)
Estimated HM above Hatchery = 34.05 MGD (52.69 cfs) – 12.4 MGD (19.19 cfs) = 21.65 MGD (33.50 cfs)

The critical dilution for perennial streams is calculated as $C_d = (Q_e)/ (FQ_a + Q_e)$, Where:

Q_e = the treatment facility flow (12.4 MGD, see above)
Q_a = the critical low flow (7.33 MGD, see above)
F = the fraction of stream allowed for mixing, and for site specific streams, when conditions such as climatic conditions, channel characteristics and morphology are not known, a value of 1.0 is used.

CD = (12.4) / {(1.0*7.33) + 12.4} = 0.628 x 100% = 63%

OUTFALL 001

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; 63*%*, the NMIP directs the WET test to be a 7-day chronic test using *Ceriodaphnia dubia* and *Pimephales promelas.* A once per permit term frequency would be consistent with the NMIP.

According to the NMIP, when a test frequency is 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 the CD of 54%. 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 27%, 35%, 47%, 63% and 84%. The low-flow effluent concentration (critical low-flow dilution) is defined as 63% 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 001 to the Red River, thence the Rio Grande in segment 20.6.4.122 of the Rio Grande Basin. Discharges shall be limited and monitored by the permittee as specified below:

WET Reporting & Frequency Requirements

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 Composite Grab
Pimephales promelas	One per permit term	24-hr Composite 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.

7. Permit Limits

See the proposed permit for final limitations. All pollutants including biomonitoring (except the special biomonitoring test discussed in the next section) shall be based on composite samples. Composite samples shall be obtained using the following procedures:

a. During times when discharging from the settling ponds through Outfall 003, collect a sample aliquot from each outfall and at the same time, measure and record the flow over the weir from each outfall.

b. After the last aliquot from the last outfall has been collected, calculate the proportion of each outfalls flow to the total flow from all the outfalls.

c. Make the composite sample by mixing each individual outfall's aliquot in the same ratio as the flow proportion determined in Step b. above.

8. Monitoring Frequency

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)]. The monitoring frequencies are based on the professional judgment of the permit writer, taking into account the nature of the facility. For all sample events, flow shall be monitored daily by measurement of head over each of the weirs, totaled and reported.
The parameters pH and temperature shall be monitored twice/month, with each reporting period sample taken at least 10-days after the previous reporting period first sample. This frequency is proposed at the same frequency in the current permit.

E. APPROVED MEDICATIONS AND HATCHERY PRACTICES

1. Drugs Medications and/or Chemicals

At times, the DGF hatchery staff administers drugs, medications and/or chemicals (DMC) 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 (US). The US Food and Drug Administration (FDA) has approved some of these DMC and/or amounts of use. However, sometimes either the DMC at either concentrations and/or used for purposes not specifically approved by the FDA, or the DMC are not approved at all by the FDA, but their use is consistent with sound hatchery practices. In this case, 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 to EPA within three days. Written notification shall also be to both EPA and NMED, in writing no less than five-business days later. Both notifications 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.

When the DMC 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, the DGF shall conduct the following Whole Effluent Toxicity Test, per instance of use (See footnote *1 below). This testing shall be reported on DMR and reported as Outfall 01B. 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 drugs, medications and/or chemicals 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.

VII. **303(d) LIST**

The Red River, Segment No. 20.6.4.122, is listed on the current "2022-2024 State of New Mexico Clean Water Act §303(d)/§305(b) Integrated Report" as an integrated report (IR) Category 5/5A. This category indicates that it is not fully supporting its designated uses (cold-water aquatic life, irrigation, livestock watering, primary contact, and wildlife habitat. Fish culture designation use has not been assessed.).

The cold-water aquatic life use was found to be "not supporting" in 2020 due to turbidity. A TMDL, which includes a TSS WLA for the Red River State Fish Hatchery, has been proposed but not yet finalized at the time of writing.

Red River (Rio Grande to Placer Creek, NM-2119-10) TMDL for Acute Aluminum was approved by USEPA on March 17, 2006. However, due to the change from a dissolved aluminum to a hardness-based total aluminum water quality criterion and the recent assessments of water quality data for the Red River assessment unit (AU), the NMED SWQB has withdrawn the 2006 Red River dissolved aluminum TMDL from the New Mexico WQMP. EPA approved withdrawal of the TMDL on January 16, 2013.

VIII. **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 WQS. The limitations and monitoring requirements set forth in the proposed permit are developed from the State WQS 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 are protective of the assimilative capacity of the receiving waters, which is protective of the designated uses of that water, per NMAC 20.6.4.8. A.2.

IX. **ANTIBACKSLIDING** (AND ALDRIN STUDY)

The draft permit is consistent with the requirements and exemption to meet anti-backsliding provisions of the CWA, Section 402 (o) and 40 CFR Part 122.44 (i) (B), which states in part that interim or final effluent limitations must be as stringent as those in the previous permit, unless information is available which was not available at the time of permit issuance, or substantial alterations to the permitted facility have been made.

The previous permit included an Aldrin study assessment to determine whether RP for Aldrin exists. This assessment was based on the fact that a single data point was presented for evaluation, and it appeared that springs used as a source of intake water for the Hatchery may already contain some level of Aldrin due to its historical use as a pesticide. EPA believed that further investigation was needed to ascertain the sources and incoming levels of Aldrin concentrations from its use in agriculture into the late 1970's and for termite control into the early 1980's.

The previous permit included a reporting requirement for Aldrin of once/quarter. All Aldrin DMR data submitted during this time was reported as "Below Detection Limit/No Detection", with the exception of the data submitted 10/15/2018 which was reported as "0.0". The effluent data supplied with the permit reapplication also showed that Aldrin was not detected. Based on the DMR data and RP analysis the quarterly reporting requirement has been removed in the proposed permit. The modifications do not increase the volume, nature, or pollutants of the discharge from the current permit. The proposed modifications do not violate the provisions anti-backsliding provisions of the CWA.

X. **ENDANGERED SPECIES CONSIDERATIONS**

A review of the most recent county listing available at US Fish and Wildlife Service (USFWS) website was conducted on June 13, 2022. Six species in Taos County are listed as endangered (E) or threatened (T) at https://ipac.ecosphere.fws.gov/. Three species are birds and include the Yellow-billed Cuckoo (*Coccyzus americanus*) (T), Mexican spotted owl (*Strix occidentalis lucida*) (T) and

the Southwestern Willow Flycatcher (*Empidonax traillii extimus*) (E). Two species are mammals and include the Canada Lynx (*Lynx Canadensis*) (T) and the New Mexico Meadow Jumping Mouse (*Zapus hudsonius luteus*) (T). One species is amphibian, the Jemez Mountains Salamander (*Plethodon neomexicanus*) (E). In addition, the Rio Grande Cutthroat Trout (*Oncorhynchus clarkii virginalis*) and Monarch Butterfly (*Danaus plexippus*) are currently considered "Candidate" species for this county, under consideration for official listing once sufficient data has been collected. Taos County also includes critical habitat for the Southwestern Willow Flycatcher (*Empidonax traillii extimus*).

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:

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.

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 Douglasfir, 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.

Southwestern Willow Flycatchers. habitat occurs in riparian areas along streams, rivers, and other wetlands where dense willow, cottonwood, buttonbush and arrowweed 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.

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.

New Mexico Meadow Jumping Mouse. The New Mexico Meadow Jumping Mouse is a species endemic to New Mexico, Arizona, and a southern portion of Colorado. The mouse nests in dry soils, but otherwise occupies riparian habitats. It utilizes two riparian community types" persistent emergent herbaceous wetlands and scrub-shrub wetlands. Each mouse occupies a territory range of 0.37-2.7 acres. Populations have declined because of the removal of beavers and overgrazing by cattle, both of which have reduced the amount of riparian habitat available for Jumping Mouse populations.

Jemez Mountains Salamander. A strictly terrestrial amphibian which must remain moist in order to absorb oxygen through its skin. The species is found exclusively in the Jemez Mountains, with 90% of its population found within the boundaries of the Santa Fe National Forest. The primary threat ot the Jemez Mountains Salamander is habitat loss.

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 draft 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.

XI. **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.

XII. **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].

XIII. **VARIANCE REQUESTS**

No variance requests have been received.

XIV. **CERTIFICATION**

The permit is in the process of certification by the State agency following regulations promulgated at 40 CFR 124.53. A draft permit and draft public notice 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.

XV. **FINAL DETERMINATION**

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

XVI. **ADMINISTRATIVE RECORD**

The following information was used to develop the proposed permit:

A. APPLICATION(S)

EPA Application Forms 1 and 2B received by EPA May 2, 2022.

B. 40 CFR CITATIONS: Sections 122, 124, 125, 133, 136

C. STATE OF NEW MEXICO REFERENCES

NMQWS, 20.6.4 NMAC, effective April 23, 2022.

Implementation Guidance for the NMIP, March 15, 2012.

2022-2024 State of New Mexico Clean Water Act 303(d)/305(b) Integrative Report

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

Application received for renewal of NPDES permit NM0030147 from Samantha Ferguson, New Mexico Department of Game and Fish, on May 2, 2022.

The application renewal for permit NM0030147 was found administratively complete on May 13, 2022.

Matias Fernandez, EPA, emailed Samantha Ferguson, New Mexico Department of Game and Fish, a Letter of Completeness for permit NM0030147 on May 16, 2022.

Matias Fernandez, EPA, called Quang Nguyen, EPA, for advice on TMDL procedures on June 16, 2022.

Matias Fernandez, EPA, emailed Susan Lucas Kamat, NMED, on June 17, 2022, requesting 4Q3, harmonic mean flow, and ambient water quality estimates for the NM0030147 permit. Data received from Levi Dean, NMED, on June 30, 2022, and July 1, 2022.

Matias Fernandez, EPA, emailed Silvia Zavala, EPA, on July 12, 2022, requesting a WET review for the NM0030147 permit. Received comment on July 26, 2022.

Matias Fernandez, EPA, emailed Jim Afghani, EPA, on November 23, 2022, requesting to finalize the draft permit and rerun RP analysis with new effluent lab data requested with New Mexico department of Game and Fish.

Samantha Ferguson, New Mexico Department of Game and Fish, emailed Jim Afghani, on February 17, 2023, new effluent lab data.