

NPDES PERMIT NO. NM0030121 FACT SHEET

FOR THE DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES

APPLICANT

State of New Mexico Department of Game & Fish (NMDGF)
Lisboa Springs 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

August 22, 2023

PERMIT ACTION

Renewal of a permit previously issued on August 20, 2018, with an effective date of August 21, 2018, and an expiration date of August 20, 2023.

RECEIVING WATER – BASIN

Pecos River 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
CBOD	Carbonaceous biochemical oxygen demand (five-day unless noted otherwise)
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
DO	Dissolved oxygen
ELG	Effluent limitation guidelines
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
FWS	United States Fish and Wildlife Service
mg/L	Milligrams per liter
ug/L	Micrograms per liter
lbs	Pounds
MG	Million gallons
MGD	Million gallons per day
NMFS	National Marine Fisheries Service
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
ML	Minimum quantification level
O&G	Oil and grease
POTW	Publicly owned treatment works
RP	Reasonable potential
SS	Settle-able solids
SIC	Standard industrial classification
su.	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
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
WWTP	Wastewater treatment plant

In this document, references to State WQS and/or rules shall collectively mean the State of New Mexico.

I. CHANGES FROM THE PREVIOUS PERMIT

Changes from the permit previously issued on August 20, 2018, with an effective date of August 21, 2018, and an expiration date of August 20, 2023, are as follow:

- The highest 30-day average flow of 0.607 MGD from the most recent two-year (1/2021-12/2022) flow data in DMRs has been used per NMIP to calculate the permit limitations.
- Added monitoring for newly approved NMWQS to the draft permit. Samples 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 Lisboa Springs State Fish Hatchery is in San Miguel County at 26 Fish Hatchery Road, Pecos, NM. Under the SIC code 0921, the facility hatches and raises Rainbow trout and Rio Grande Cutthroat trout for stocking to support angling in public waters within the state of New Mexico with total yearly estimated production of 80,000 lbs of Rainbow trout and 5,000 lbs of Rio Grande Cutthroat trout. Water sources are natural springs and a well; the waters are filtered and disinfected by an ultraviolet (UV) unit before entering raceways. No chlorine is used for disinfection in the hatchery operation.

The Hatchery operation includes two parts: the north portion of the hatchery is the spring-side, and the south portion is the riverside. The facility primarily consists of 32 major raceways, 8 fry raceways, 28 troughs, 48 trays, 2 circulation tanks replacing previously the circulation pond, Kettles settling basin and an earthen settling pond. Majority of wastes from water filtration and fish are washed off into the settling pond. Currently, there are only two outfalls: Outfalls 002 and 003. Outfall002 is located at the settling Kettles, is the primary outfall for discharging of wastewater with an approximate flow of 0.607 MGD based on the highest monthly average flow for the past 24 months. Outfall 003 is located at the settling pond; this outfall is used as an emergency back up only if Outfall 002 or the settling Kettles need to be bypassed for repairs or maintenance. Discharge from Outfall 003 shall be reported on the DMR as Outfall 002.

III. RECEIVING STREAM STANDARDS

The general and specific stream standards are provided in " NMWQS," (20.6.4 NMAC, effective June 5, 2013). The effluent from the hatchery is discharged from Outfall 002 to the Pecos River watershed, segment 20.6.4.217 NMAC. The designated uses of the receiving water are domestic water supply, fish culture, high quality cold-water aquatic life, irrigation, livestock watering, wildlife habitat and primary contact; and public water supply on the main stem of the Pecos River.

IV. EFFLUENT CHARACTERISTICS

The facility has provided the laboratory test results for the priority pollutants (metals, cyanide/chlorine, volatile, acid compounds, base/neutral compounds, and pesticides) listed in Appendix D of NMIP. The results show most analytes are not detected at the method detection limits (MDLs). Laboratory results also show the following pollutants were detected (measurable) at levels above the laboratory MDLs and these concentration values were used for preliminary screening purposes:

POLLUTANT *	ug/L
Aluminum	27
Barium	37

* Total unless denoted by (D) which is dissolved. (J), Lab reported as estimated value.

According to a review of DMR data spanning from September 2018 to August 2023, certain pH and total suspended solids values must adhere to permit limitations. Furthermore, the hatchery was inspected by the State on May 28, 2019, and any findings can be accessed on the NMED website at <https://www.env.nm.gov/surface-water-quality/wp-content/uploads/sites/25/2017/07/NM0030121-20190501.pdf>.

IV. 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 the 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. The application was received on February 17, 2023. It is proposed that the permit be reissued for a 5-year term following regulations promulgated at 40 CFR §122.46(a).

V. DRAFT 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 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 draft permit for TSS, and SS. Water quality-based effluent limitations are established in the proposed draft permit for pH.

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 ELGs 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 TSS and SS.

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

Pursuant to 40 CFR 451, ELGs have been promulgated for this concentrated aquatic animal production facility that produces 100,000 lbs or more annually. BPT is appropriate to flow-through and recirculating systems. BAT and BCT requirements are the same as for BPT. No quantitative requirements for specific pollutants or toxic substances are established. BMP for solid control, materials storage, structural maintenance, recordkeeping, and training are required (40 CFR 451.11).

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

Limitations for TSS were established at 10 mg/L monthly average and 15 mg/L daily max. Limitations for SS were set at 0.1 ml/L monthly average and 0.5 ml/L daily max. The limitations are retained in the draft permit for Outfalls 002 and 003.

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, maximum 30-day flow 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)(L)/(mg)(MG) * flow in MGD
 Monthly average TSS loading = 10 mg/l * 8.345 (lbs)(L)/(mg)(MG) * 0.607 MGD = 51 lbs/day
 Daily maximum average TSS loading = 15 mg/l * 8.345 (lbs)(L)/(mg)(MG) * 0.607 MGD = 76 lbs/day

A summary of the technology-based limits for the facility is:

Parameter	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum
TSS	51 lbs/day	76 lbs/day	10 mg/L	15 mg/L
SS	N/A	N/A	0.1 ml/L	0.5 ml/L
pH	N/A	N/A	6 to 9 s.u.	

C. 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)(1)(C) of the CWA, discharges are subject to effluent limitations based on federal or state WQS. Effluent limitations and/or conditions established in the draft permit follow 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

New water quality standards (WQS) for the state of New Mexico were adopted by the NM WQCC on July 24, 2020. USEPA approved them on October 27, 2020. On April 23, 2022, NM WQCC adopted additional WQS, which USEPA approved on January 19, 2023. The newly approved pollutants have been included in the draft permit. To comply with the permit, one sample of each pollutant must be collected and analyzed within the first year of the permit's effective date. The results must be submitted to both EPA and NMED. In addition, the newly approved pollutants should be a part of the pollutant scan with the reapplication process.

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

For high quality cold-water aquatic life, criteria for pH are between 6.6 and 8.8 s.u. pursuant to 20.6.4.900.H(1) NMAC.

b. Bacteria - not applicable since there is no discharge of sanitary waste.

c. Toxics

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 water quality criteria, the permit must contain an effluent limit for that pollutant. In the attached reasonable potential (RP) WQS spreadsheet, **Appendix A** of the Fact Sheet, WQS were evaluated for the pollutants using critical low flows as required in 20.6.4.11 NMAC for Pecos River.

Except for human health-organism only criteria, critical low flow is the minimum average four consecutive day flow that occurs with a frequency of once in three years (4Q3). NMED SWQB provided an estimated critical low flow of Pecos River 15.961 cfs (NMED SWQB e-mail to USEPA on July 14, 2023). For human health-organism only criteria, the critical low flow is the harmonic mean flow. A harmonic mean value of 41.378 cfs (NMED SWQB e-mail to USEPA on July 14, 2023) was used for human health-organism only criteria per USEPA NMIP 2012. Based on the attached spreadsheet using reportable effluent data from Outfall 002, no pollutant exhibits reasonable potential to cause an exceedance of WQS for Pecos River. TRC is mentioned in DMC (Section E) below.

d. Per- and polyfluoroalkyl substances

As explained at <https://www.epa.gov/pfas>, PFAS are a group of synthetic chemicals that have been in use since the 1940s. PFAS are found in a wide array of consumer and industrial products. PFAS manufacturing and processing facilities, facilities using PFAS in producing other products, airports, and military installations can contribute to PFAS releases into the air, soil, and water. Due to their widespread use and persistence in the environment, most people in the United States have been exposed to PFAS. Exposure to some PFAS above certain levels may increase the risk of adverse health effects.

However, PFAS testing and reporting are not required for fish hatcheries as they are not identified as an industry having PFAS contaminants.

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). The monitoring frequencies are retained from the previous permit as follow:

Parameter	Frequency	Sample Type
Flow	Daily	Measured over weir
pH	2/Month	Grab
TSS	2/Month	Grab
SS	2/Month	Grab
TRC	Daily	Grab

D. WHOLE EFFLUENT TOXICITY

The provisions of this section apply to both outfalls, which are same locations as previous permit 002 and 003. The toxicity results from either Outfall 002 and/or Outfall 003 shall be reported on Outfall's 002 DMR. The testing requirements are based on the instream concentration of effluent after complete mixing with 100% of the receiving water of the Pecos River at low-flow conditions, measured at United States Geological Survey (USGS) Station No. 08378500. NMED provided the low flow at the site located about 7 miles upstream as 15.961 cfs, its stream mixing fraction of 1. The critical dilution is calculated and rounded off to a nearest number as follow:

$$CD = Q_e \div (F \cdot Q_a + Q_e), \text{ where:}$$

$$Q_e = 0.607 \text{ MGD (Design/production flow)}$$

$$Q_a = 15.961 \text{ cfs} = 10.32 \text{ MGD (Critical low flow)}$$

$$F = 1 \text{ (Stream mixing fraction)}$$

$$CD = 0.607 / (1 \cdot 15.961 + 0.607) = 0.037 = 4\%$$

Procedures for implementing WET terms and conditions in NPDES permits are contained in the NMIP. Table 11 (page 42) of the NMIP outlines the type of WET testing for different types of discharges. Based on the nature of the discharge: fish hatchery and perennial receiving water with the critical dilution of 4%, the NMIP directs the WET testing to be acute tests (48-hrs.) using *Daphnia pulex* and *Pimephales promelas* once every six months.

The permittee did not fail a WET test during the previous permit cycle. Statistical analysis of the data indicates there is no reasonable potential for an excursion of the narrative criterion to protect the aquatic life against toxicity. EPA concludes that this effluent does not cause or contribute to an exceedance of the State water quality standards. Therefore, WET limits will not be established in the proposed permit. Testing shall be required for Outfall 002 in the same manner as previous permit. Outfall 003 is identical to Outfall 002 as far as pollutant loadings and environmental impacts, so if at the time of WET testing, the discharge is flowing through Outfall 003, then the test results will be reported on the DMR form as being from Outfall 002.

The proposed permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests based on a 0.75 dilution series. These additional effluent concentrations shall be 1.7%, 2.3%, 3.0%, 4.0% and 5.3%. The low-flow effluent concentration (critical low-flow dilution) is defined as 4% effluent. The permittee shall limit and monitor discharge(s) as specified below:

WET Testing (48-hr Static Renewal) ¹	30-day Average Minimum	48-Hour Minimum	Frequency	Type
Daphnia pulex	Report	Report	Once/6 month ²	Grab
Pimephales promelas	Report	Report	Once/6 month	Grab

1. Monitoring and reporting requirements begin on the effective date of this permit. See Part II of the permit, Whole Effluent Toxicity Testing Requirements for additional WET monitoring and reporting conditions.
2. The test shall take place between April 1 and June 30. This permit does not establish requirements to automatically increase the WET testing frequency after a test failure, or to begin a toxicity reduction evaluation (TRE) in the event of multiple failures. However, upon failure of any WET test, the permittee must report the results to EPA and NMED, Surface Water Quality Bureau, in writing, within 5 business days of notification of the test failure. EPA and NMED will review the test results and determine the appropriate action necessary, if any.

E. DRUGS MEDICATIONS and/or CHEMICALS (DMC)

The permittee shall comply with reporting requirements pursuant to 40 CFR 451.3 if investigational new animal drug (INAD) or any extra-label drug is used where such the use may lead to the receiving water. Reporting is not required for an INAD or extra-label drug, previously approved by FDA, if its use is at or below the approved dosage and involves similar conditions of uses. The permittee shall also notify NMED and EPA of the use of non-FDA (U.S. Food and Drug Administration) approved drug. Notification to NMED shall be by phone within one business day and to EPA within three days of the intention. Written notification shall also be to both NMED and EPA within five business days. Notifying information must include name of the DMC, the reason for treatment, date(s), and time(s) of the addition (including duration), method of application and the amount added.

When the DMC used is neither approved by FDA or its use is not consistent with FDA practices, including INAD and extra-label drug with above approved dosage, such that it may lead to the receiving water, the permittee shall conduct WET tests. The testing is retained from the previous permit, CD at 100% with additional effluent concentrations at 32%, 42%, 56%, 75%, and 100%, as table below. The permittee shall report WET tests on the DMR as Outfall 01B and mention reporting letter to NMED and EPA.

WET Testing (48-hr Static Renewal)	30-day Average Minimum	48-Hour Minimum	Frequency	Type
Daphnia pulex	Report	Report	Once/Use ¹	Grab ²
Pimephales promelas	Report	Report	Once/Use ¹	Grab ²

1. Once/Use is for intermittent use of DMC. For long-term use, only one WET shall be required on the maximum dosage. If any dose is later increased by more than 20% of the maximum dosage, then additional WET tests will be required. This permit does not establish requirements to automatically increase the WET testing frequency after a test failure, or to begin a toxicity reduction evaluation (TRE) in the event of multiple failures. However, upon failure of any WET test, the permittee must report the results to EPA and NMED, Surface Water Quality Bureau, in writing, within 5 business days of notification of the test failure. EPA and NMED will review the test results and determine the appropriate action necessary, if any.
2. The sample shall be taken approximately 30 minutes after the expected time of arrival of the treated water has passed through the outfall. The expected time of arrival can be estimated by direct observations with light floatable object.

Toxics - Total Residual Chlorine

The limits for TRC are based on acute and chronic chlorine limitations for the protection of aquatic life and the protection of wildlife uses in the numeric criteria table in 20.6.4.900 NMAC. The permit limit is determined using the mixing zone model. The critical dilution used in conjunction with the chronic criteria, 11 ug/L and end-of-pipe used with the acute criteria, 19 ug/L, are calculated. The most limiting criteria is then used to determine the limit.

The previous permit states that “The applicant shall not use chlorine in the hatchery operation nor discharge any chlorine that may eventually migrate to the outfall(s) at the facility.” The 2017 Hatchery Management Plan previously attached with the renewal application described the use of Chloramine-T at the hatchery.

Consistent with USEPA’s response to NMDGF comments for the Red River State Fish Hatchery final permit (NM0030147), TRC monitoring and limitation protective of WQS has been added to the draft permit during the period when the FDA approved drug Chloramine-T is used as a treatment for Bacterial Gill Disease. A daily maximum TRC limit has been added in the proposed draft permit.

TRC is sampled using an instantaneous grab sample, and 40 CFR Part 136 defines instantaneous maximum as being measured within 15-minutes of sampling. Also, TRC cannot be averaged for reporting purposes. The draft permit has a footnote for TRC stating that:

“The effluent limitation for TRC is the instantaneous maximum grab sample taken during periods of chlorine use and cannot be averaged for reporting purposes. Instantaneous maximum is defined in 40 CFR Part 136 as being measured within 15-minutes of sampling.”

VI. TMDL REQUIREMENTS

The Pecos River segment from Alamitos Canyon to Jack's Creek (20.6.217) is listed as category 5/5A in the "2022-2024 State of New Mexico Clean Water Act Section 303(d)/305(b) Integrated Report (IR)" due to turbidity impairment. Category 5/5A is used for those segments having impaired for one or more designated or existing uses.

This report also states that a TMDL was prepared and approved by the New Mexico Water Quality Control Commission (WQCC) for turbidity on June 14, 2005. The USEPA approved it on September 13, 2005. The TMDL states, "A correlation of $r^2=0.59$ was found between TSS and turbidity, indicating that TSS is not the sole contributor to turbidity in this assessment unit. Turbidity exceedances only occurred during the spring and are likely due to snowmelt runoff."

The hatchery was assigned a Waste Load Allocation (WLA) of 721 lbs/day (5.76 MGD design flow x 15 mg/L TSS daily maximum x 8.34 conversion factor) for the Pecos River segment from Alamitos Canyon to Willow Creek (20.6.4.217). Please note that the 2005 TMDL report does not mention the Pecos River segment from Alamitos Canyon to Jack's Creek (20.6.4.217).

The Lisboa Springs Fish Hatchery NPDES permit has TSS daily maximum limits of 15 mg/L (76 lbs/day), and a 30-day average of 10 mg/L (51 lbs/day). The draft permit will use the more stringent technology-based limitation due to the 721 lbs/day being significant. The permit has a reopener clause that would allow the permit to be changed if later the segment had a revised TMDL completed.

VII. ANTI-DEGRADATION

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.

VIII. ANTIBACKSLIDING

The proposed permit is consistent with the requirements to meet anti-backsliding provisions of the CWA, Section 402(o) and [40 CFR 122.44(l)(i)(A)], which state in part that interim or final effluent limitations must be as stringent as those in the previous permit, unless material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation. Based on the highest 30-day average flow of 9.16 MGD from the most recent two-year (1/2021-12/2022) flow data in DMRs per NMIP, mass loadings (Daily maximum: 1,147 lbs/day and Monthly average: 764 lbs/day) have been increased. However, the proposed permit will maintain the concentration limits in the previous permit for SS and TSS, as stated in the TMDL CONSIDERATIONS section above. All changes are consistent with the WQS and WQMP.

VIII. ENDANGERED SPECIES CONSIDERATIONS

As of July 17, 2023, USFWS lists at its website at <https://ecos.fws.gov/ecp/report/species-listings-by-current-range-county?fips=35047> eight species in San Miguel County as endangered (E) or threatened (T):

1. **Silverspot** (T) (*Speyeria nokomis nokomis*)

According to online review information, *Speyeria nokomis* is one of five subspecies of the silverspot butterfly, and there are only ten known populations. It's a large butterfly known for the spots on the underside of its wings, from which its name is derived. The top of the females' wings has patches of cream or light-yellow color and a brown or black base, while the top of the males' wings is bright orange. The butterfly's preferred habitat is high-altitude meadows that are relatively open and have a variety of vegetation. It lays eggs on or near a plant known as bog violet, the sole food source for the caterpillars.

In New Mexico, it has been found in Coyote Creek in the Sangre de Cristo Mountains in San Miguel and Mora counties. There are also two known colonies in the Taos area, approximately 16 miles apart. The Taos population is highly resilient, but the butterflies in the Coyote Creek area have very low resiliency. Threats like overgrazing and human alteration of the hydrology are now impacting the meadows that the butterfly relies on, and these meadows are already intermittent, leading to genetic isolation. Human development has already destroyed some of the sites where the butterfly was found in the past. The species assessment mentions a golf course and nearby home development built in 1987 north of Durango, Colorado, that eliminated the habitat for the butterfly in that area. Invasive plant species could also threaten the butterfly's habitat. In the Taos area, Siberian elms have encroached on the meadows.

2. **Arkansas River shiner** (T) (*Notropis girardi*)

According to online review information, Arkansas River shiner, a minuscule minnow with a flat head, round snout, and petite mouth, showcases a remarkable display of physical features. With adult lengths reaching up to 8 cm, this species boasts dorsal, anal, and pelvic fins, each containing eight rays and a small black chevron at the base of the caudal fin. The shiner's dorsal coloration is typically a light tan, while its silvery sides gradually fade to white on the belly. Spawning occurs between June and July in the mainstream channel and occasionally in August when water flow rises. Within 24-48 hours, the eggs hatch, and the larvae can swim for up to four days before migrating to backwater pools and side channels where food is more abundant.

Sadly, the Arkansas River shiner has experienced a significant decline since the early 1980s due to changes in large prairie rivers. Historically, the species inhabited large sand bed rivers such as the Arkansas River in Kansas, Oklahoma, and Arkansas, the Cimarron River in Kansas and Oklahoma, and the North Canadian and Salt Fork of the Arkansas River in Oklahoma.

Presently, the shiner is only found in the South Canadian River, which stretches from eastern New Mexico through the Texas Panhandle and downstream into Oklahoma, with only 17% of its historical range remaining.

3. **Tricolored bat** (E) (*Perimyotis subflavus*)

According to online review information, Tricolored bat is a small insectivorous bat distinguished by its unique tricolored fur and often appears yellowish to nearly orange. The once common species is wide-ranging across the eastern and central United States and portions of southern Canada, Mexico, and Central America. During the winter, tricolored bats are often found in caves and abandoned mines.

However, in the south of the United States, where caves are sparse, tricolored bats are often found roosting in road-associated culverts, where they exhibit shorter torpor bouts and forage during warm nights. During the spring, summer, and fall, tricolored bats are found in forested habitats where they roost in trees, primarily among leaves of live or recently dead deciduous hardwood trees. However, they may also be found in Spanish moss, pine trees, and occasionally human structures.

Tricolored bats face extinction due primarily to the range-wide impacts of white-nose syndrome, a deadly disease affecting cave-dwelling bats across the continent. White-nose syndrome has caused an estimated 90 percent decline in affected tricolored bat colonies across most species' ranges. To address the growing threat of white-nose syndrome to the tricolored bat and other bats across North America, the U.S. Fish and Wildlife Service is leading the White-nose Syndrome National Response Team to minimize the impacts of the disease and recover affected bat populations.

4. **Peppered chub** (E) (*Macrhybopsis tetranema*)

According to online review information, Peppered chub is a diminutive freshwater fish that can reach a maximum length of three inches and has an average lifespan of two years, has suffered a significant decline in its distribution range. Once a ubiquitous species in the Arkansas River basin across Colorado, Kansas, New Mexico, Oklahoma, and Texas, it is now restricted to only six percent of its former territory.

The Canadian River in northeastern New Mexico and the Texas panhandle are the only remaining habitats for this species. The peppered chub requires unobstructed rivers with a minimum length of 127 river miles, where water flows consistently and has sufficient depth to support all its life stages. Unfortunately, the primary threats to the species are river fragmentation and alterations, primarily caused by water diversions and impoundments, as well as degradation of water quality within its remaining range.

5. **Holy Ghost ipomopsis** (E) (*Ipomopsis sancti-spiritus*)

According to online review information, Holy Ghost ipomopsis is a rare species of flowering plant in the phlox family. It is endemic to New Mexico in the United States, where it is known from only one canyon in the Sangre de Cristo Mountains, northern New Mexico. Though estimates of the population are difficult to make because of the plant's similarity to *I. aggregata*, some estimates have ranged from 372 to 2047 individuals. The plant most often grows on steep, west-facing limestone slopes next to a road in one canyon in the Santa Fe National Forest. In addition, the plant grows on bare soils, and probably requires periodic disturbance to keep its habitat clear of competing vegetation. Holy Ghost ipomopsis does not tolerate shade or an accumulation of leaf litter. This buildup of tinder increases the likelihood of a large wildfire, which could conceivably destroy the whole population; conservation efforts include clearing overgrown brush and flammable material. This species has low fecundity, rarely reproducing successfully, with fewer than 10% of flowers producing fruits and the fruits containing few viable seeds. With relatively few individuals in the breeding pool it likely suffers from inbreeding depression. Forecasts indicate that the plant is likely to reach extinction within 50 years.

6. **Yellow-billed cuckoo (T) (Coccyzus americanus)**

According to online review information, Yellow-billed cuckoo uses 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 shrublands 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' nests 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.

7. **New Mexico meadow jumping mouse (E) (Zapus hudsonius luteus)**

According to online review information, 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.

8. **Southwestern willow flycatcher (E) (Empidonax traillii extimus)**

According to online review information, Southwestern willow flycatcher 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.

In accordance with requirements under section 7(a)(2) of the Endangered Species Act, EPA has reviewed this permit for its effect on listed threatened and endangered species and designated critical habitat. After review, 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. There have been no changes in operation and treatment of discharge at the hatchery since prior issuance of the permit.
2. EPA has received no additional information since the previous permit issuance which would lead to revision of its determinations. Also, the draft permit is consistent with the State's WQS and does not increase pollutant loadings.
3. The NPDES program regulates the discharge of pollutants from the treatment facility and does not regulate forest and agricultural management practices.
4. Based on items 1 through 3 above, EPA concludes that reissuance of this permit will have "*no effect*" on the listed species and designated critical habitat.

IX. **HISTORICAL and ARCHEOLOGICAL PRESERVATION CONSIDERATIONS**

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

X. **PERMIT REOPENER**

The permit may be reopened and modified during the life of the permit if NMWQS are promulgated or revised.

In addition, if the State develops a TMDL, this permit may be reopened to establish effluent limitations for the parameter(s) to be consistent with that TMDL. Modification of the permit is subject to the provisions of 40 CFR §124.5.

XI. VARIANCE REQUESTS - None

XII. 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 of COE, to the Regional Director of FWS and to the NMFS prior to the publication of that notice.

XIII. FINAL DETERMINATION

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

XIV. ADMINISTRATIVE RECORDS

The following information was used to develop the proposed permit:

A. APPLICATION(S)

EPA Application Forms 1 and 2B received by EPA March 8, 2023.

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. CORRESPONDENCE

Application received for renewal of NPDES permit NM0030121 from Samantha Ferguson, New Mexico Department of Game and Fish, on March 8, 2023.

The application renewal for permit was found administratively complete on March 20, 2023.

Jim Afghani, EPA, emailed Samantha Ferguson and Patten, Kirk, New Mexico Department of Game and Fish, a Letter of Completeness for permit NM0030163 on March 31, 2023.

Jim Afghani, EPA, emailed Susan Lucas Kamat, NMED, on April 11, 2023, and June 4, 2023, requesting 4Q3, harmonic mean flow, and ambient water quality estimates for the NM0030121 permit. Data received from Jason Martinez, NMED, on July 14, 2023.

Jim Afghani, EPA, emailed Silvia Zavala, EPA, on August 23, 2023, requesting a WET review for the NM0030163 permit. Received comment on August 29, 2023.

Jim Afghani, EPA, emailed Susan Lucas Kamat, NMED, on August 23, 2023, requesting a draft for the NM0030163 permit. Received comment on September 20, 2023.