

# **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**

Lisboa Springs State Fish Hatchery  
P.O. Box 25112  
Santa Fe, NM 87508

### **ISSUING OFFICE**

U.S. Environmental Protection Agency  
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### **DATE PREPARED**

May 2, 2013

### **PERMIT ACTION**

Renewal of a permit previously issued on August 29, 2006 with an effective date of October 1, 2006,  
and an expiration date of September 30, 2011.

### **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
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	Publically owned treatment works
RP	Reasonable potential
SS	Settleable solids
SIC	Standard industrial classification
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
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

## **I. CHANGES FROM THE PREVIOUS PERMIT**

Changes from the permit previously issued on August 29, 2006 with an effective date of October 1, 2006, and an expiration date of September 30, 2011 are as follow:

- Ammonia Nitrogen and limit for TRC have been dropped.
- "Report" for TRC has been added to Outfalls 002, 003 and 01B.
- WET testing type has been changed from chronic to acute with different species.
- WET testing frequency has been changed from once/5 years to once/6 six months.

## **II. APPLICANT LOCATION and ACTIVITY**

As described in the application, the facility (Latitude 35° 36' 30.2" N and Longitude 105° 40' 36.9" W) is located at Route 2-HC 74 Box 61, City of Pecos, San Miguel County, New Mexico.

Under the SIC code 921, the facility hatches and raises rainbow trout for stocking in lakes and streams with estimated production of 168,000 lbs annually. 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. Outfall 002, located at the Kettles settling basin, is the primary outfall for discharging of wastewater with an approximate flow of 0.98 MGD. Outfall 003 is located at the settling pond; this outfall is used when the Kettles settling basin is being cleaned. Discharge from Outfall 003 shall be reported on the DMR as Outfall 002. Outfall 004 is only used intermittently between May and October during times the riverside portion of the hatchery is used in once flow through operation. Discharge from Outfall 4 would not include any cleaning activities, and monitoring when discharge is occurring shall be on the DMR from Outfall 004. A map of the facility is attached.

## **III. EFFLUENT CHARACTERISTICS**

Applicable pollutants were sampled on January 26, 2011, and analyzed. Test results and applicant's certification dated March 3, 2011, state all tested pollutants, except boron, were not detected at or above the MQLs. Boron was detected at 0.158 mg/L; whereas its MQL is 0.1 mg/l. TRC was detected below 0.1 mg/L.

During the permit term DMRs at Outfall 002 showed ammonia nitrogen was below 1.31 mg/L, several pH measures were between 6.0 and 6.6, and one TSS report was at 10.5 mg/L.

## **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 March 28, 2011. 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).

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, 003, 004.

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:

$$\text{Loading in lbs/day} = \text{pollutant concentration in mg/l} * 8.345 \text{ (lbs)(l)/(mg)(MG)} * \text{flow in MGD}$$

$$\text{Monthly average TSS loading} = 10 \text{ mg/l} * 8.345 \text{ (lbs)(l)/(mg)(MG)} * 0.98 \text{ MGD} = 81.78 \text{ lbs/day}$$

$$\text{Daily max. average TSS loading} = 15 \text{ mg/l} * 8.345 \text{ (lbs)(l)/(mg)(MG)} * 0.98 \text{ MGD} = 122.67 \text{ lbs/day}$$

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

Effluent Characteristic	Discharge Limitation			
	lbs/day, unless noted		mg/l, unless noted	
Parameter	Monthly Avg	Daily Max	Monthly Avg	Daily Max
TSS	81.78	122.67	10	15
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 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 amended through November 20, 2012). The discharge is 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 coldwater aquatic life, irrigation, livestock watering, wildlife habitat and primary contact; and public water supply on the main stem of the Pecos River.

### 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 coldwater aquatic life, criteria for pH is 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 a water quality criteria, the permit must contain an effluent limit for that pollutant.

Boron was detected above the MQL in the effluent. However, it does not show a RP to exceed the State WQS according to Appendix A attached. Reporting of ammonia nitrogen is dropped because submitted data from 2008 to 2012 showed most of them were below 0.8 mg/l, and the highest was at 1.31 mg/l; it's not a concern at this time. There are no toxics that need to be placed in the draft permit; TRC is mentioned in DMC (Section E) below.

### 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

D. WHOLE EFFLUENT TOXICITY

The provisions of this section apply to all three outfalls, which are same locations as previous permit 002, 003 and 004. The toxicity results from either Outfall 002 and/or Outfall 003 shall be reported on Outfall's 002 DMR. Outfall 004, used only intermittently, is the riverside discharge during times when once pass through operations are occurring. The flow from Outfall 004 is not known, but it would be less than the flow from Outfalls 002/003. Therefore, critical dilution from Outfall 004 would be smaller than Outfalls 002/003; but for permitting purposes, the same critical dilution will be used. For Outfall 004, this is a conservative approach.

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 email dated March 7, 2013 provided the low-flow at the site as 15.4 cfs, its stream mixing fraction of 1. The critical dilution is calculated and rounded off to a nearest number as follow:

$$Cd = Qe \div (F \cdot Qa + Qe) = 9\%$$

Where: Qe = 0.98 MGD (Design/production flow)  
 Qa = 15.4 cfs = 9.955 MGD (Critical low flow)  
 F = 1 (Stream mixing fraction)

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 9%, the NMIP directs the WET testing to be acute tests (48-hrs.) using *Daphnia pulex* and *Pimephales promelas* once every six months. This WET testing is different from the previous permit due to calculated critical dilution of 18%. Since the WET testing was less than 10 samples, RP automatically exist; but the permittee had never failed a WET test and since reasonable potential for an excursion of the narrative criterion to protect the aquatic life against toxicity does not actually exist because toxic events were not demonstrated. 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 BOTH Outfalls 002 and 004 in the same manner as previous permit. Noted above, 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. For Outfall 004, testing shall be one-time, anytime, when discharging.

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 4%, 5%, 7%, 9%, and 12%. The low-flow effluent concentration (critical low-flow dilution) is defined as 9% effluent. The permittee shall limit and monitor discharge(s) as specified below:

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	30-day Avg Min.	48-Hr. Min.	Frequency	Type
WET Testing (48-hr Static Renewal) <sup>1</sup>	Report	Report	Once/6 month <sup>2</sup>	Grab
<i>Daphnia pulex</i>	Report	Report	Once/6 month	Grab
<i>Pimephales promelas</i>	Report	Report	Once/6 month	Grab

<sup>1</sup> 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.

<sup>2</sup> 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 extralabel drug is used where such the use may lead to the receiving water. Reporting is not required for an INAD or extralabel 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 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 extralabel drug with above approved dosage, such that 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.

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	30-day Avg Min.	48-Hr. Min.	Frequency	Type
WET Testing (48-hr Static Renewal)	Report	Report	Once/Use <sup>1</sup>	Grab <sup>2</sup>
Daphnia pulex	Report	Report	Once/Use	Grab
Pimephales promelas	Report	Report	Once/Use	Grab

<sup>1</sup> 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.

<sup>2</sup> 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.

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. TRC limits are dropped from the previous permit since the permittee has eliminated the chlorine usage. However, because TRC was uncertainly detected below the concerned level at the settling pond, it will be monitored twice per month during facility cleanings, including raceway, troughs, and tanks for Outfalls 003 (settling pond) and 01B (when DMC is used).

**VI. TMDL REQUIREMENTS**

Pecos River with segment 20.6.4.217, Almitos Canyon to Willow Creek, has a TMDL for turbidity (TSS) approved by EPA on September 13, 2005. This TMDL stated “Turbidity exceedences only occurred during the spring and are likely due to snowmelt runoff.” The permit was issued on October 9, 2001 with TSS of 15 mg/l (daily maximum), 10 mg/l (monthly average) and 5.76 MGD. The daily maximum load (721 lbs) was used to calculate the WLA; less than 1% TSS was from the facility. There was only one exceedance (at 10.5 mg/l in March 2012) from 2008 to 2012 on the DMR. Limitation for TSS in the renewal permit will be unchanged at 10 mg/l and 15 mg/L from the previous permit.



The permit has a reopener clause that would allow the permit to be changed if at a later date the segment had a revised TMDL completed.

## **VII. ANTIDegradation**

The NMAC, Section 20.6.4.8 “Antidegradation 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. ENDANGERED SPECIES CONSIDERATIONS**

According to the USFWS list updated on February 14, 2013 for San Miguel County, NM, the species are Mexican spotted owls (threatened), Southwestern willow flycatcher (endangered), Arkansas River shiner (threatened) and Holy Ghost ipomopsis (endangered). The same endangered and threatened species were mentioned in the previous permit with determination of “no effect”.

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. No additions have been made to the USFWS list of threatened and endangered species and critical habitat designation in the area of the discharge 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.
3. The draft permit is consistent with the States WQS and does not increase pollutant loadings.
4. EPA determines that Items 1, thru 3 result in no change to the environmental baseline established by the previous permit, therefore, EPA concludes that reissuance of this permit will have “no effect” on 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 National Marine Fisheries Service prior to the publication of that notice.

#### **XIII. FINAL DETERMINATION**

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

#### **XIV. ADMINISTRATIVE RECORD**

The following information was used to develop the proposed permit:

##### **A. APPLICATION(S)**

EPA Application Form 2B received March 28, 2011

##### **B. 40 CFR CITATIONS**

Sections 122, 124, 125, 133, 136, 451

##### **C. STATE OF NEW MEXICO REFERENCES**

New Mexico State Standards for Interstate and Intrastate Surface Water, 20.6.4 NMAC, as amended through November 20, 2012.

Procedures for Implementing National Pollutant Discharge Elimination System Permits in New Mexico, March 15, 2012.

State of New Mexico 303(d) List for Assessed Stream and River Reaches, 2012-2014.