October 21, 2024

Kathy Shreve
Department of Environmental Quality
Water Quality Division
200 West 17th St., 4th Floor
Cheyenne, WY 82002

Re: WY0097021 - Pollutant Discharge Permit — Jackson National Fish Hatchery

Dear Ms. Shreve:

On behalf of Protect Our Water Jackson Hole (POWJH), I am pleased to submit this letter in response to the Wyoming Department of Environmental Quality's (DEQ) September 20, 2024 public notice inviting comments on the above-referenced pollutant discharge permit.

POWJH is a locally-based nonprofit organization dedicated to serving Teton County, Wyoming, as a powerful advocate for restoring and protecting the surface waters and groundwater in our community.

In accordance with Section 402 of the Clean Water Act, 33 U.S.C. §1342, and the DEQ's water quality rules and regulations contained in Chapter 2, the Jackson National Fish Hatchery (facility) has submitted an application to DEQ requesting a permit to discharge pollutants from a "Concentrated Aquatic Animal Production" facility into Flat Creek.

Flat Creek provides outstanding recreation opportunities to our community including fishing, swimming and floating. As acknowledged by the Wyoming Game and Fish Department, Flat Creek "is well-known for its trophy-class cutthroat trout."

See https://wgfd.wyo.gov/Regional-Offices/Jackson-Region/Jackson-Region-News/Flat-Creek-Fishery-Better-Than-Ever

Summary of Statement-of-Basis

General Description:

The Statement-of-Basis (SOB) prepared by DEQ offers the following description of the facility:

> The US Department of the Interior, Fish and Wildlife is the operator of the Jackson Fish Hatchery, located in Teton County, Wyoming. The facility is designed so that there is constant water flow through the various raceways and ponds. After the water has flowed through the raceways, it is discharged to Flat Creek (class 2AB), in the Snake

River basin. The typical annual fish production fish is approximately 30,000 pounds, with the maximum allowable production being set at 36,000 pounds.

This facility underwent upgrade construction beginning in 2009. The entire facility was rebuilt (at the same location) and the water supply inlet for Peterson Spring was re-routed. Peterson Spring is now the primary water supply for this rearing station; with the wells listed as the secondary source on an as needed basis. The discharge remains the same and at the same location.

As water moves through the ponds and raceways, the water quality is degraded because of increased suspended solids. The increased total suspended solids (TSS) concentration has been attributed to such activities as uneaten feed and fish waste. Increased degradation also occurs during cleaning of the fish holding facilities. Cleaning activities involve flushing and scrubbing of the raceways

The SOB (at 1) notes that "all permit effluent limits and monitoring requirements have been updated in accordance with current WDEQ regulations and policy." Proposed changes are summarized in numbered sentences 1 through 10, and include modifications to limits on Total Suspended Solids "from a daily maximum to weekly and monthly averages to better reflect applicable legislative parameters"; an increase in monitoring frequency of TSS from biannual to monthly; a reduction in the maximum feed per day to 125kg from 143kg; a reduction of the maximum daily raceway cleaning to 4 hours; and monthly pH monitoring.

Effluent Limits

As shown below, the proposed permit includes two different technology-based effluent limits for Total Suspended Solids: one for normal operations and the other during raceway cleaning, each including limits based on monthly and weekly averages.

• Total Suspended Solids (Net), During Normal Operation:
525 kg Weekly Avg. / 2,281.3 kg Monthly Avg.

• Total Suspended Solids (Net), During Raceway Cleaning:
131.5 kg Weekly Avg. / 571.5 kg Monthly Avg.

The permit also contains a water quality based effluent limit for pH:

• Effluent pH shall remain within the range of 6.5 to 9.0 in all grab sample measurements.

Table 1A displays permit effluent limits and monitoring requirements. In addition, "Other permit requirements" (SOB at 4,5) specify that:

• All waters shall be discharged in a manner to prevent erosion, scouring, or damage to stream banks, stream beds, ditches, or other waters of the state at the point of discharge. Discharges shall not occur in such a manner that will result in violations of Water Quality Rules and Regulations, Chapter 1, Section 15. In addition, there shall be no deposition of substances in quantities that could result in significant aesthetic degradation, or degradation of habitat for aquatic life, plant life or wildlife; or that could adversely affect public water supplies or those intended for agricultural or industrial use.

Effluent Limit Development

The SOB (at 3,4) describes the process used by the permit writer to set effluent limits for the facility (limited to TSS and pH):

> Only facilities with fish production greater than 100,000 pounds require permitting under Federal Effluent Guidelines 40 CFR Part 451, Concentrated Aquatic Animal Production Point Source Category. Concentrated aquatic animal production activity at this facility is below 100,000 pounds production, therefore 40 CFR 451 does not apply. Instead, the permit authorizes surface discharge provided effluent quality complies with effluent limitations judged by the State of Wyoming to represent 'Best Practicable Control Technology Currently Available (BPT)' for this type of activity and *Wyoming Water Quality Rules and Regulations.*"

Finally, the SOB (at 4) summarizes applicable "Class 2AB water protections" and the anti-degradation impairment review.

POWJH has the following comments, questions and concerns regarding the SOB and draft discharge permit:

1) To facilitate public review of the permit and deepen understanding of hatchery operations, we suggest that the maximum daily and average monthly flow rates and other pertinent information displayed in the application be included in the General Description of the facility contained on page 1 of the Statement-of-Basis. In addition, many of the links to relevant information provided in the Application appear to be dead, hampering public review.

2) Under the heading Aquatic Animal Management the Application indicates that the "average number of times per day the facility is cleaned" is "20" (twenty). Is that correct? If so, it seems the facility would be in a near constant state of cleaning and therefore subject to the less stringent effluent limits for Total Suspended Solids for most if not all of the day. This information appears to be at odds with the statement #9 on page 1 of the SOB indicating that "cleaning operations occurred 5 hours per day" and that "maximum daily cleaning is 4 hours." For the sake of clarity, we suggest that the SOB be revised to clarify **frequency, number** AND **duration** of cleaning sessions. How many hours per day is the facility subject to the less stringent TSS effluent limits?

3) In the numbered paragraphs appearing on Page 1 of the Statement-of-Basis, the term, "applicable legislative parameters" appears in paragraphs #6 and #10 without any further explanation. We recommend that SOB explain what the term "applicable legislative parameters" means in this context and include a reference to applicable law, regulation and policy. Specifically, what "applicable legislative parameter" supports changing the effluent limit for TSS from a daily maximum to weekly and monthly averages? Similarly, what "applicable legislative parameter" supports increasing the frequency of pH monitoring from semiannual to monthly?

4) The Jackson National Fish Hatchery meets the DEQ's definition of a "Concentrated aquatic animal production facility" and is therefore subject to the WYPDES permit program in accordance with Chapter 2 of the DEQ's water quality rules and regulations. Chapter 2, Section 3(b)(xvii). A concentrated aquatic animal production facility "means a hatchery, fish farm, or other facility which meets the criteria as defined in **Appendix F** of these regulations, or an aquatic animal production facility that is designated as concentrated by the department as a result of its significant contribution of pollution to surface waters of the state." (emphasis added).

The Statement-of-Basis (at 2) indicates, however, that "[t]echnology-based limits reflect the provisions of Chapter 2, **Appendix H**, Water Quality Rules and Regulations. Waters meeting the following criteria are suitable for stock and/or wildlife watering." (emphasis added).

We assume the reference to Appendix H in the SOB was made in error? Chapter 2 Appendix H contains requirements specific to produced water discharges from oil and gas production facilities, not concentration aquatic animal production facilities. Technology-based effluent limits must be based on the proper characterization of the discharging facility.

5) The Statement-of-Basis (at 2) discloses that "[a]s water moves through the ponds and raceways, the water quality is degraded because of increased suspended solids. The increased total suspended solids (TSS) concentration has been attributed to such activities as uneaten feed and fish waste. Increased degradation also occurs during cleaning of the fish holding facilities. Cleaning activities involve flushing and scrubbing of the raceways."

It should be noted that **TSS is not the only pollutant of concern** associated with this type of facility.

According the the U.S. EPA, pollutants of concern from this type of facility include—

- Total suspended solids, settleable solids
- Biological wastes (metabolic waste, unconsumed feed)
- Floating and submerged matter
- Five-day biochemical oxygen demand, low dissolved oxygen
- Nutrients (phosphorus and nitrogen), ammonia
- Drugs that are unconsumed or unmetabolized
- Chemicals, such as anti-fouling agents

See https://www.epa.gov/npdes/managing-aquaculture-protect-water-quality

Addressing this issue in greater detail, the U.S. EPA noted in its Final Rule establishing Effluent Limitations Guidelines and New Source Performance Standards for the Concentrated Aquatic Animal Production Point Source Category, that:

> There are a number of pollutants associated with discharges from CAAP facilities. CAAP facilities can have high concentrations of suspended solids and nutrients, high BOD and low dissolved oxygen levels. Organic matter is discharged primarily from feces and uneaten feed. Metals, present in feed additives or from the deterioration of production equipment, may also be present in CAAP wastewater. Effluents with high levels of suspended solids, when discharged into receiving waters, can have a detrimental effect on the environment. Suspended solids can degrade aquatic ecosystems by increasing turbidity and reducing the depth to which sunlight can penetrate, thus reducing photosynthetic activity. Suspended particles can damage fish gills, increasing the risk of infection and disease. Nutrients are discharged mainly in the form of nitrate, ammonia and organic nitrogen. Ammonia causes two main problems in water. First, it is toxic to aquatic life. Second, it is easily converted to nitrate which may increase plant and algae growth.
>
> Some substances, like drugs and pesticides, that may be present in the wastewater may be introduced directly as part of the aquatic animal production process. An important source of the pollutants potentially present in CAAP wastewater is, as the above discussion suggests, the feed used in aquatic animal production. Feed used at CAAP facilities contributes to pollutant discharges in a number of ways: by-product feces, ammonia excretions and, most directly, as uneaten feed (in dissolved and particulate forms). Moreover, the feed may be the vehicle for introducing other

substances into the wastewater, like drugs. For example, medicated feed may introduce antibiotics into the wastewater.

See EPA Final Rule, 40 CFR Part 451, 69 Fed.Reg. 51892, 51899, August 23, 2004.

Although we commend the DEQ for including technology-based effluent limits for Total Suspended Solids (TSS), as well as a water-quality based effluent limit for pH, which the SOB asserts "represent 'Best Practicable Control Technology Currently Available (BPT) for this type of activity…" we question why the presence and potential water quality impacts from these other common pollutants are not addressed? We recommend monitoring of the discharge to determine if any of these common CAAP pollutants are present in the effluent, especially since Flat Creek is a Class 2AB "high quality" water suffering from water quality impairments downstream of this facility. Although not explicitly required, **the Federal Effluent Guidelines at 40 CFR Part 451 do not preclude the DEQ from imposing additional monitoring and/or effluent limits in order to maintain and restore the surface water quality in the receiving waters.**

6) As noted above, in addition to fish food and feces, compounds often used in fish farming, including fertilizers, antibiotics, and pesticides can have far-reaching detrimental impacts on aquatic life and public health. We recommend that the permit describe the chemicals used in the hatchery's production process, and require monitoring for these contaminants.

7) The facility presents bacterial contamination concerns: Fish can transport E. coli and other types of fecal coliform bacteria in their intestines. Given that this bacteria can come from contaminated food and other sources from outside the Flat Creek watershed, we recommend that a description of the type of feed the fish are receiving be included in the permit. We also recommend that the facility test for bacteria levels in their discharge.

8) Given the large amounts of organic material flowing into and out of the facility, we believe that it would be prudent for the permit to include monitoring for BOD and CBOD, as well as Dissolved Oxygen.

9) Given the likely presence of nutrients in the effluent, we recommend that monitoring be required in the permit.

10) In numbered sentence #2 the SOB states that "the permit is being processed as a new permit due to a lapse in permit coverage." How long did this facility operate without a valid WYPDES permit? Did DEQ take any enforcement action during the "lapse in permit coverage"?

11) The link in the Application to the Laboratory Report appears to be nonfunctional. In fact, it appears that none of the other information linked in the Application is available?

12) Under the heading, Effluent Treatment, the Application identifies "biannual TSS monitoring" as the only Control Measure. But under the heading, Wastewater Source, the Application identifies the settling pond as the Final Treatment Unit. These two statements appear to be contradictory.

13) Are there other locations in the facility where treatment/reduction of pollutants take place prior to discharge into Flat Creek? Please describe.

14) Regarding the settling pond, is it lined or monitored for pollutants? What is its size, depth? Is the settling pond ever cleaned? Are accumulated sediments and other pollutants present in pond water discharged into Flat Creek?

15) The Facility Process Flow Diagram linked in the Application is not available for viewing and appears to be missing in the Application Folder.

16) The application indicates that the facility lacks a "Permit to Construct, as per Chapter 3, Wyoming Water Quality Rules and Regulations." Should an after-the-fact permit be required?

17) Why doesn't the permit establish a mixing zone and identify this area with signage on the creek bank? Fish Creek is a heavily used recreation water and members of the public may enter the segment immediately downstream of the discharge point and be exposed to effluent that may contain fish waste, bacteria and other pollutants discussed above.

18) Antidegradation Review. It appears that the DEQ may have failed to follow the procedures and document the findings required by its antidegradation policies. This issue is discussed below.

The DEQ's water quality rules in Chapter 1 provide that:

(a) Water uses in existence on or after November 28, 1975 and the level of water quality necessary to protect those uses shall be maintained and protected. **Those surface waters not designated as Class 1, but whose quality is better than the standards contained in these regulations, shall be maintained at that higher quality.** However, after full intergovernmental coordination and public participation, the department may issue a permit for or allow any project or development which would constitute a new source of pollution, or an increased source of pollution, to these waters as long as the following conditions are met:

(i) The quality is not lowered below these standards;

(ii) All existing water uses are fully maintained and protected;

(iii) The highest statutory and regulatory requirements for all new and existing point sources and all cost effective and reasonable best management practices for nonpoint sources have been achieved; and

(iv) The lowered water quality is necessary to accommodate important economic or social development in the area in which the waters are located.

(b) The Water Quality Administrator (administrator) may require an applicant to submit additional information, including, but not limited to, an analysis of alternatives to any proposed discharge and relevant economic information before making a determination under this section.

(c) The procedures used to implement this section are described in the Antidegradation Implementation Policy.

See Chapter 1, Section 8 (emphasis added).

The policy referenced above is the DEQ's Antidegradation Implementation Policy, dated September 24, 2013. Importantly, "[t]he antidegradation implementation procedures … shall apply to the review to regulated activities involving new or increased discharges of pollution." See Section 2, Concepts. Accordingly, because "this permit is being processed as a new permit due to a lapse of permit coverage" (SOB at 1) the DEQ's antidegradation

implementation policies and procedures apply. The SOB (at 4) notes that the DEQ has "conducted" an antidegradation review; we are unable to locate that review in the application materials.

The two paragraphs below, quoted directly from page 4 of the SOB, purport to satisfy the DEQ's responsibilities in connection with its Antidegradation Implementation Policy:

> Class 2AB Water Protections:
>
> > The permit establishes limits that are intended to be protective of designated uses for class 2AB waters as defined in Chapter 1 of Wyoming Water Quality Rules and Regulations. Class 2AB uses include drinking water, game and non-game fish, fish consumption, aquatic life other than fish, recreation, agriculture, wildlife, industry, and scenic value. Limits for this permit are based on standards intended to protect for the above-listed designated uses and reflect application of "tier 2" antidegradation protection. Tier 2 antidegradation protection is the level of protection applicable to high quality waters of the state, as described in Wyoming Surface Water Quality Standards "Implementation Policies for Antidegradation, Mixing Zones and Dilution Allowances, Turbidity, and Use Attainability Analysis", effective September 24, 2013.
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> Antidegradation Impairment Review:
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> > Effluent limits and requirements established in this permit have been reviewed to ensure receiving stream water quality necessary to protect the receiving waters' designated uses are maintained and protected. An antidegradation review conducted by WDEQ staff verifies that the permit conditions and established effluent limitations provide a level of receiving water protection consistent with the state of Wyoming's antidegradation provisions and surface water quality standards.
> >
> > The antidegradation review also determined that the facility's immediate receiving water has not been listed on the state of Wyoming's 303(d) list as a waterbody that cannot support designated uses. The evaluation revealed that the facility's immediate receiving water is included on the state of Wyoming's 303(d) list for habitat alteration and may not be supporting all designated uses. However, this impairment begins at the confluence of Cache Creek, approximately 4 miles downstream of this facility's outfalls. Therefore, according to professional judgement this discharge is not contributing to the impairment.

After reviewing the above language, two concerns immediately arise: 1) the level of protection required for Tier 2 "high quality" waters is not correctly stated; and, 2) the SOB lacks data, analysis, and written justification to support the conclusion that water quality will be maintained at the proper (i.e., higher) Tier 2 level.

Regarding the first point, the SOB explains that, "Effluent limits and requirements established in this permit have been reviewed to *ensure receiving stream water quality necessary to protect the receiving waters' designated uses are maintained and protected."* (emphasis added). It must be understood that the protection of designated uses, and the water quality necessary to support those uses, is the base level of protection required by the Clean Water Act, and represents the minimum level of protection required for all surface waters: i.e., a basic Tier 1 level of protection. However, as acknowledged by DEQ in the SOB, a Tier 2 level of protection

is required for this permit due to the discharge of pollutants into "high-quality" receiving waters. As noted in the DEQ's Antidegradation Implementation Policy"

> "Tier 2" protections apply to high quality waters. These are waters which have an existing quality that is better than the established use-support criteria and where an assimilative capacity exists for parameters that would be affected by a proposed activity. Under tier 2, a lowering of water quality may be allowed if it is determined that the amount of degradation is insignificant or if the lowered water quality is necessary to accommodate important economic or social development in the area. Under no circumstances, however, may water quality be lowered below the criteria established in the standards or below a level that would impair an existing use.

See DEQ Antidegradation Implementation Policy, Section 2, Concepts (describing the level of protection for Tier 1, 2 and Tier 3 surface waters, and procedures for policy implementation)

Regarding the second point, the DEQ asserts that it conducted an antidegradation review that "verifies that the permit conditions and established effluent limitations provide a level of receiving water protection consistent with the state of Wyoming's antidegradation provisions and surface water quality standards." Having omitted, or not fully described, the level of protection required for Tier 2 receiving waters, it is incumbent on the DEQ to properly document this review by demonstrating, with water quality data and analysis, that either: 1) the water quality degradation to Flat Creek caused by the discharge of pollutants from this facility is either "insignificant"; or 2) the lowered water quality is necessary to accommodate important economic or social development in the area. DEQ has done neither.

In order to support a finding of insignificance, the "significance determination" must be based on a review of the factors enumerated in Section 4 of the Antidegradation Implementation Policy, and **the draft permit "shall contain a statement describing the rationale for the determination of non-significance."** Section 4(a)(i)(A)(I-IV) (emphasis added). It appears that these mandatory procedures were not followed here. Absent further documentation, the unsupported and conclusory statement in the SOB that the "antidegradation review conducted by WDEQ staff verifies that the permit conditions and established effluent limitations provide a level of receiving water protection consistent with the state of Wyoming's antidegradation provisions and surface water quality standards" fails to satisfy the Section 4 requirements applicable to "reviewable waters."

Accordingly, we recommend that the Statement-of-Basis be revised to: 1) correctly set forth the level of water quality and associated requirements that apply to Tier 2 high-quality waters, and, 2) document the data, analysis and findings and make "a statement describing the rationale for the determination of non-significance" available for public review as required by the DEQ's antidegradation implementation policies in Section 4(a)(i)(A)(I-IV) quoted above.

We appreciate the opportunity to provide comments on the draft permit, and look forward to discussing with the DEQ and National Fish Hatchery practical options to reduce the discharge of pollutants entering Flat Creek from this facility. Achieving further reductions of pollutants from this facility advances the goal of Section 402 of the Clean Water Act, which is to eliminate the discharge of pollutants from point sources into surface waters: i.e., National Pollutant Discharge ***Elimination*** System.

We would appreciate being informed of future notices, comment opportunities and other proposed agency action regarding this new permit.

Thank you.

Sincerely,

Dan Heilig
Senior Policy Advisor
Protect Our Water Jackson Hole

Cc: Logan Prenger, WDEQ/WQD
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