pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

**SOUTHCENTRAL REGIONAL OFFICE**
**CLEAN WATER PROGRAM**

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|---|---|---|---|
| Application Type | **Renewal** | Application No. | **PA0037141** |
| Facility Type | **Industrial** | APS ID | **329677** |
| Major / Minor | **Minor** | Authorization ID | **834171** |

# NPDES PERMIT FACT SHEET ADDENDUM

## Applicant and Facility Information

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|---|---|---|---|
| Applicant Name | **PA Fish & Boat Commission** | Facility Name | **Huntsdale Fish Hatchery** |
| Applicant Address | 1735 Shiloh Road | Facility Address | 195 Lebo Road |
| | State College, PA 16801-8495 | | Carlisle, PA 17015-9362 |
| Applicant Contact | Mindy Mcclenahan | Facility Contact | James Wetherill |
| Applicant Phone | (814) 353-2229 | Facility Phone | (717) 486-3419 |
| Client ID | 135455 | Site ID | 251142 |
| SIC Code | 0921 | Municipality | Penn Township |
| SIC Description | Agriculture - Fish Hatcheries And Preserves | County | Cumberland |
| Date Published in PA Bulletin | August 3, 2019 | EPA Waived? | No |
| Comment Period End Date | September 3, 2019 | If No, Reason | CAAP Permit |
| Purpose of Application | Application for a renewal of an NPDES permit for discharge of treated Industrial Waste | | |

## Internal Review and Recommendations

A revised draft permit was prepared on July 16, 2019 and published in the *Pennsylvania Bulletin* on August 3, 2019 for public comments for 30 days. No comments were received from the public. U.S. EPA has indicated via email dated September 16, 2019 that the agency has no draft permit comments. During the 30-day public commenting period, the permittee has provided a number of comments. DEP has addressed these comments as follows:

**Comment no.1**: For Outfalls 001, 002 and 003, we recommend that Carbonaceous Biochemical Oxygen Demand (CBOD5), CBOD5 Intake, and CBOD5 Effluent Net be changed to Biochemical Oxygen Demand (BOD5), BOD5 Intake, and BOD5 Effluent Net. This recommendation is in line with other PFBC hatcheries that have similar Concentrated Aquatic Animal Production (CAAP) limitations. This recommendation also aligns with DEP's PAG-11 Fact Sheet guidance document.

**Response:** In general, DEP's PAG-11 NPDES General Permit can be used as guidance to develop NPDES individual permit requirements. DEP develops NPDES individual permit requirements based on site-specific discharge and receiving stream conditions. This is the main reason why the individual NPDES permit for Huntsdale can contain different requirements from PAG-11 General Permit and individual NPDES permits for other CAAP facilities. During a phone conversation, PFBC indicated that DEP has begun to convert CBOD5 effluent limits to BOD5 effluent limits for CAAP permits that have been recently renewed. DEP's database shows the following information:

| Facility Name | Region | NPDES No. | Permit Status | CBOD5/BOD5? |
|---|---|---|---|---|
| Fairview State Fish Hatchery | NWRO | PA0037133 | Issued in Jan 2019 | BOD5 |
| Tionesta Fish Culture Station | NWRO | PA0037915 | Issued in Apr 2018 | BOD5 |
| Corry State Fish Hatchery | NWRO | PA0044041 | Issued in Jan 2018 | BOD5 |
| Oswayo Hatchery | NCRO | PA0039144 | Issued in Feb 2015 | CBOD5 |
| Benner Spring State Fish Hatchery | NCRO | PA0010553 | Issued in Aug 2014 (pending) | CBOD5 |
| Pleasant Gap FCS | NCRO | PA0010561 | Issued in Aug 2014 (pending) | CBOD5 |

| Approve | Return | Deny | Signatures | Date |
|---|---|---|---|---|
| | | | Jinsu Kim / Environmental Engineering Specialist | October 2, 2019 |
| | | | Daniel W. Martin, P.E. / Environmental Engineer Manager | |
| | | | Maria D. Bebenek, P.E. / Program Manager | |

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|---|---|---|---|---|
| Bellefonte State Fish Hatchery | NCRO | PA0040835 | Issued in Jul 2014 (pending) | CBOD5 |
| Tylersville State Fish Hatchery | NCRO | PA0112127 | Issued in Jun 2014 (pending) | CBOD5 |
| Linesville Fish Culture Station | NWRO | PA0044016 | Issued in Aug 2013 (pending) | CBOD5 |
| Pleasant Mount State Fish Hatchery | NERO | PA0044024 | Issued in Dec 2013 (pending) | CBOD5 |
| Upper Spring Creek State Fish Hatchery | NCRO | PA0044032 | Issued in Oct 2013 (pending) | CBOD5 |
| Reynoldsdalle Fish Culture Station | SCRO | PA0044059 | Issued in Jan 2010 (pending) | CBOD5 |

According to PFBC, previous data from one of their facilities and recent sample results from Huntsdale Fish Hatchery show that BOD5 concentrations are almost identical to CBOD5 concentrations; therefore, the 1 to 1 ratio can be applied to convert these limits. PFBC further explained that it is in fact more expensive to analyze the CBOD5 samples than BOD5 samples. In some cases, DEP uses the 1 (BOD5) to 1.2 (CBOD5) ratio is used to convert BOD5/CBOD5, referenced from secondary treatment standards found in 25 Pa Code §92a.47(a)(1). Unless DEP obtains a long-term data from Huntsdale to develop a site-specific BOD5/CBOD5 ratio, it is not reasonable to use the 1 to 1.2 ratio to convert these pollutants at this time. Using the 1 to 1 ratio would be the most conservative approach as the BOD5 concentration is typically greater than the CBOD5 concentration. Consequently, the proposed CBOD5 effluent limits have been converted into BOD5 effluent limits using the 1 to 1 ratio.

**Comment no.2** : In Part A, Section I.A. on pages 2-4, we recommend for Outfall 001 that the seasonal limitations (Jan 1 – Apr 30, May 1 – Aug 31, Sep 1 – Dec 31) for CBOD5 Effluent Net, Total Suspended Solids (TSS) Effluent Net, Ammonia-Nitrogen, and Total Phosphorus be removed and replaced with Mass Unit limitations based on our two-year average flow (June 2017-June 2019) of 10.5464 MGD. We recommend the Mass Units limitations for CBOD5 (BOD5) Effluent Net be changed to 264 lbs/day and 528 lbs/day for Average Monthly and Daily Maximum, respectively. We recommend the Mass Units limitations for Total Suspended Solids (TSS) Effluent Net be changed to 307 lbs/day and 615 lbs/day for Average Monthly and Daily Maximum, respectively. We recommend the Mass Units limitations for Ammonia-Nitrogen be changed to 123 lbs/day and 246 lbs/day for Average Monthly and Daily Maximum, respectively. We recommend the Mass Units limitations for Total Phosphorus be changed to 176 lbs/day and 351 lbs/day for Average Monthly and Daily Maximum, respectively. These seasonal limitations are remnants from previous permits and are not typically used in CAAP permits. In addition, any fluctuations in hatchery flows are caused by weather changes, rather than production changes. Seasonal limitations are no longer needed.

**Response:** The original fact sheet developed on July 2, 2014 indicates that seasonal effluent limits were developed based on the biomass in raceways and reported effluent volumes representing typical flows in three different periods of the year. Based on the phone conversation with PFBC, the recorded effluent volume has been fairly consistent throughout the year. A review of actual DMR data over the past 4 years indicates that the discharge rate is moderately fluctuating; yet, there is no clear trend of data. The facility is experiencing the average discharge rate of 10.03994 MGD (30-day Average) and 10.46276 MGD (daily maximum) with median of 9.9182 MGD (30-day Average) and 10.2241 MGD (daily maximum) over the past 45 months. The highest 30-day average discharge rate was 12.46 MGD and the highest daily maximum discharge rate was 12.96 MGD in which both numbers were observed in December 2018. The lowest 30-day average discharge rate was 6.9365 MGD (February 2017) and the lowest daily maximum discharge rate was 8.6357 MGD (January 2017). It is reasonable to accept PFBC's recommendation and therefore the following effluent limits have been adjusted based on the flow of 10.5464 MGD:

| | **30-Day Average** | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **CBOD5 (net)** | | **TSS (net)** | | **TP** | | **NH3-N** | |
| | **Existing (lbs/day)** | **Proposed (lbs/day)** | **Existing (lbs/day)** | **Proposed (lbs/day)** | **Existing (lbs/day)** | **Proposed (lbs/day)** | **Existing (lbs/day)** | **Proposed (lbs/day)** |
| @13.824 MGD (Jan to Apr) | 346 | N/A | 403 | N/A | 230 | N/A | 161 | N/A |
| @11.232 MGD (May to Aug) | 281 | N/A | 328 | N/A | 187 | N/A | 131 | N/A |
| @12.384 MGD (Sept to Dec) | 310 | N/A | 361 | N/A | 206 | N/A | 144 | N/A |
| @10.5464 MGD (year round) | N/A | 246 (BOD5) | N/A | 307 | N/A | 176 | N/A | 123 |

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| | Daily Maximum | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | CBOD5 (net) | | TSS (net) | | TP | | NH3-N | |
| | Existing (lbs/day) | Proposed (lbs/day) | Existing (lbs/day) | Proposed (lbs/day) | Existing (lbs/day) | Proposed (lbs/day) | Existing (lbs/day) | Proposed (lbs/day) |
| @13.824 MGD (Jan to Apr) | 692 | N/A | 807 | N/A | 461 | N/A | 323 | N/A |
| @11.232 MGD (May to Aug) | 562 | N/A | 656 | N/A | 374 | N/A | 262 | N/A |
| @12.384 MGD (Sept to Dec) | 619 | N/A | 723 | N/A | 413 | N/A | 289 | N/A |
| @10.5464 MGD (year round) | N/A | 528 (BOD5) | N/A | 615 | N/A | 351 | N/A | 246 |

Since the water quality of Yellow Breeches Creek must be maintained and protected in accordance with 25 Pa Code §93.4a(c) and the fact that PFBC has been consistently meeting existing concentration based effluent limits, all concentration based effluent limits will remain the same despite the fact that the reduced discharge volume has been considered in developing these mass loading based effluent limits. Further, the existing Part C Condition pertaining to the total annual TSS loading requirements is described as follows:

Existing: *"The permittee shall achieve a TSS annual mass loading of 65,348 pounds from Outfall 001. If there is trout production in Series C raceways, the overtopping water is conveyed to Series A raceways and the annual mass loading limit is 65,920 pounds. If there is a discharge from Outfall 002 (production other than trout) during the production year, the combined annual mass loading limit from Outfalls 001 and 002 is 69,194 pounds."*

The basis of this condition is specified in the original draft permit fact sheet dated July 2, 2014. As PFBC proposed a reduced discharge rate, this condition needs to be modified. The existing condition 0.36 MGD was used for Outfall 002 TSS loading calculations for trout production and 0.72 MGD was used for non-trout production. It is unclear as to why 0.36 MGD was used rather than 0.72 MGD, presumably perhaps because there are 2 raceways. PFBC has indicated that this overtopping approach is no longer preferable and would like to discharge directly via Outfall 002. DEP believes that this is an acceptable approach as all water quality analysis and permit requirements have been consistently developed using 0.72 MGD for Outfall 002 which is an ultimate (maximum) discharge rate when the overtopping does not occur. Also, when developing the combined mass loading, 3.5 mg/L was used to calculate TSS loading for Outfall 002. However, this concentration value is a "net" effluent limit for Outfall 002; thus, it should not be considered in calculating the TSS loading for Outfall 002. The original fact sheet stated that 8.68 pounds of TSS per million gallons was determined based on the 80% confidence interval during the TSS impairment analysis. As a result, the writer believes that the combined loading should simply be based on 8.68 pounds of TSS per the total flow rate. Consequently, the condition has been modified as follows:

Proposed: *The permittee shall achieve a TSS annual mass loading of 59,318 pounds from Outfall 001 and the combined TSS annual mass loading of 61,601 pounds from Outfalls 001 and 002.*

**Comment no.3:** In Part A, Section I.A. on pages 2-3, for Outfall 001 we recommend that the "Minimum Measurement Frequency" for CBOD5, CBOD5 Intake, CBOD5 Effluent Net, TSS, TSS Intake and TSS Effluent Net be 2/month instead of 1/week. Historical data proves that there is little fluctuation in the results for these parameters (see Figure 1). Also, this change would align with the other parameter frequencies already listed in the NPDES draft permit. Additionally, DEP's PAG-11 Fact Sheet recommends BOD5 to be monitored once per quarter.

**Response**: A further review of DMR data confirms that TSS effluent levels have not been fluctuated widely and CBOD5 has repeatedly been non-detected in the effluent. Also, using EPA's technical guidance, the ratio of long term average data and limits is low enough to warrant the reduction from1/week to 2/month for TSS. Although CBOD5 effluent levels, based on the calculated ratio, do not meet the criteria, only detected values have been taken into account to calculate this ratio. Given the number of non-detected values, it is reasonable to reduce the monitoring frequency from 1/week to 2/month. All data calculations and analysis are attached to this fact sheet addendum.

**Comment no.4:** We would just like to mention that in Part A, Section I.B. on page 5 the "River Mile Index" is now 0.23 and it was previously listed as 0.8. Since this a significant change we are assuming this is a correction made by DEP, but wanted the difference noted.

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**Response:** This correction has been made to the permit.

**Comment no. 5:** We also recommend in Part A, Section I.B. on page 5, for Outfall 002 that the "Minimum Measurement Frequency" for Flow (MGD) be changed to 1/week instead of Continuous. This Outfall is not metered, so a continuous flow measurement is not possible.

**Response:** PFBC indicated during a phone conversation that a flow meter is not available to measure the effluent volume discharged via Outfall 002. 1/week has been given as the minimum measurement frequency for all pollutants discharged via Outfall 002. Since compliance of the mass load effluent limits of these pollutants is to be achieved using weekly samples, a weekly flow monitoring requirement is acceptable to DEP.

**Comment no.6:** We recommend that in Part A, Section I.B. on page 5, for Outfall 002 that the "Daily Minimum" limitation for Dissolved Oxygen be changed to 6.5 mg/L from 7.0 mg/L to be consistent with the Dissolved Oxygen limitation for Outfall 001 and the general CAAP facility requirements. DEP's PAG-11 Fact Sheet recommends a Dissolved Oxygen minimum limitation to be 6.0 mg/L.

**Response:** The proposed DO effluent limit for Outfall 002 is a water quality-based effluent limit developed through an in-stream water quality analysis (see the original fact sheet dated July 2, 2014) using both stream and discharge characteristics. Because the receiving stream for Outfall 001 is not same as the receiving stream for Outfall 002, the water quality analysis produced different results for these outfalls. As mentioned earlier, the requirements listed in DEP's PAG-11 can be used as guidance to develop the requirements for the individual NPDES permit but it is not necessary to develop the individual permit requirements to be consistent with PAG-11 permit requirements. No change will therefore be made to the permit.

**Comment no. 7:** We recommend that in Part A, Section I.B. on page 6, for Outfall 002 the Concentration Limitations for Ammonia-Nitrogen be changed to 1.4, 2.8 and 3.5 mg/L for Average Monthly, Daily Maximum and Instant. Maximum, respectively. This would align the Outfall 002 limitations with the limits for Outfall 001.

**Response:** Based on the review of the original fact sheet dated July 2, 2014, ammonia-nitrogen effluent limits written for both Outfall 001 and Outfall 002 are water quality-based effluent limits. These effluent limits were developed through an in-stream water quality analysis using both stream and discharge characteristics. Because the receiving stream for Outfall 001 is not same as the receiving stream for Outfall 002, the water quality analysis produced different results for these outfalls. No change will therefore be made to the permit.

**Comment no. 8:** We recommend that in Part A, Section I.C. on page 7, for Outfall 003 that the "River Mile Index" of 44.1 and "Stream Code" of 10121 be added for clarity.

**Response:** The River Mile Index and Stream Code of Yellow Breeches Creek will be added for Outfall 003 on page 7 of the final permit.

**Comment no. 9:** We recommend that Part C, Section IV, Biological Monitoring Requirements for PCBs, on page 27, be removed. Since 2012, the downstream results have been within the one meal per month fish consumption advisory of 0.06 - 0.2 mg/kg for total PCBs. For this reason, we no longer think that it's necessary to sample White Suckers as it is a burden on staff to prepare for 3 and carry out these surveys, tissue sampling efforts and tissue processing/reporting. Table 2 is included in the 2018 report.

**Response:** The fish tissue collection for PCB is needed as PCB Arochlor 1260 is continued to be detected in fish tissues. DEP determines that the repeated detection of this pollutant is still of concern and should not be neglected. As specified in previous draft permits, the monitoring frequency is expected to be modified from once per year to once per every other year. The requirement proposed in the latest draft permit will be maintained in the final permit.

**Comment no. 10:** We also recommend that the drug and chemical usage rates listed in the original 2010 renewal application be updated to the drug and chemical usage rates listed in Table 1, since the renewal application was submitted over nine years ago in May 2010.

**Response:** Based on the review, most of therapeutics are expected to be introduced at the rates lower than those proposed in the original application. Further, for those therapeutics that the rates are expected to be increased, additional chemical evaluation indicates that the increased rate is still acceptable. For Aquaflor (50% Florenicol), the expected effluent

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concentration is 0.67 lbs/day / 8.34 / 10.5464 MGD = 0.0076 mg/L or 7.6 ug/L for Outfall 001 and 0.67 lbs/day / 8.34 / 0.72 MGD = 0.111 mg/L or 111 ug/L for Outfall 002. These numbers are still below the detention level of 150 ug/L recognized by DEP's Bureau of Clean Water in 2010.

Based on the above-mentioned changes made in response to the comments from PFBC, a redraft is recommended for another 30-day public commenting period.


Attachment