Pennsylvania Department of Environmental Protection

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0037915**
Facility Type	**Industrial**	APS ID	**1074915**
Major / Minor	**Minor**	Authorization ID	**1416237**

NPDES PERMIT FACT SHEET INDIVIDUAL INDUSTRIAL WASTE (IW) AND IW STORMWATER

Applicant and Facility Information

Applicant Name	**PA Fish & Boat Commission**	Facility Name	**Tionesta Fish Culture Station**
Applicant Address	Benner Spring Fish Research Station 1735 Shiloh Road State College, PA 16801-8495	Facility Address	Tionesta State Fish Hatchery 172 Hatchery Lane Tonesta, PA 16353-9729
Applicant Contact	Mindy McClenahan	Facility Contact	Walt Stover
Applicant Phone	(814) 353-2229	Facility Phone	(814) 755-3524
Client ID	87637	Site ID	264071
SIC Code	0921	Municipality	Tionesta Borough
SIC Description	Agriculture - Fish Hatcheries And Preserves	County	Forest
Date Application Received	October 28, 2022	EPA Waived?	Yes
Date Application Accepted	October 28, 2022	If No, Reason	
Purpose of Application	NPDES Permit Renewal.		

Summary of Review

PA Fish & Boat Commission (PFBC) has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its NPDES permit. The permit was last reissued on April 12, 2018, and became effective on May 1, 2018. The permit expired on April 30, 2023.

Based on the review, it is recommended that the permit drafted.

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Approve	Deny	Signatures	Date
X		Jinsu Kim Jinsu Kim / Environmental Engineering Specialist	August 25, 2025
X		Adam Olesnanik Adam Olesnanik, P.E. / Environmental Engineer Manager	August 26, 2025

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	1.5571
Latitude	41º 30' 33.37"	Longitude	79º 27' 1.68"
Quad Name	West Hickory	Quad Code	2063
Wastewater Description:	IW Process Effluent without ELG		

Receiving Waters	Allegheny River	Stream Code	42122
NHD Com ID	100474633	RMI	153.9
Drainage Area	3710	Yield (cfs/mi^2)	0.158
Q_{7-10} Flow (cfs)	586.9	Q_{7-10} Basis	USGS #03016000 ('67-'08)
Elevation (ft)	1058	Slope (ft/ft)	
Watershed No.	16-F	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Mercury		
Source(s) of Impairment	Unknown		
TMDL Status		Name	

Nearest Downstream Public Water Supply Intake	Aqua Pennsylvania, Inc. - Emlenton		
PWS Waters	Allegheny River	Flow at Intake (cfs)	
PWS RMI	90.0	Distance from Outfall (mi)	64

Comment: The receiving stream Allegheny River is impaired for mercury as a result of unknown source for fish consumption use based on the latest DEP's Integrated Water Quality Report developed in 2024. Aquatic life use is supported at the point of discharge. No Total Maximum Daily Load (TMDL) has been developed yet; therefore, no TMDL has been taken into consideration for this discharge at this time. The drainage area as well as streamflow have been obtained from the fact sheet developed for the last permit renewal.

Treatment Facility Summary				
Treatment Facility Name: Tionesta Fish Culture Station				
WQM Permit No.	**Issuance Date**			
2773201	8/30/1973			
2790201	11/13/1995			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Industrial	Physical (Industrial Waste)	Sedimentation	No Disinfection	
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
			Dewatering	Land Application

Tionesta Fish Culture Station or Tionesta State Fish Hatchery (TSFH) is a multi-fish propagation facility (SIC code 0921) raising steelhead trout, catfish, hybrid stripped bass & largemouth bass, walleye, and fathead minnows. Three wells are utilized for steelhead raceways (cold water) and Tubbs Run is utilized for other warm water fishes. The discharge from cold water raceways is to the existing clarifier and then to polishing pond; then ultimately to Allegheny River via Outfall 001. The discharge from warm water raceways is either recirculated back to raceways or to two (2) ponds connected in series. From these ponds, water is discharged to Allegheny River via Outfall 001. The last permit renewal indicates the design flow to be 1.5571 MGD. The application indicates the highest annual average flow generated during 2017-2022 is 1.5143 MGD. using the flow value of 1.5571 MGD is still the appropriate for the upcoming permit renewal.

Any liquid sludge waste generated at TSFH is removed and placed in drying bins then it is land applied by local farmers as fertilizer.

Compliance History	
Summary of DMRs:	A summary of past 12 month DMR is presented on the next page.
Summary of Inspections:	08/24/2022: DEP conducted a routine inspection. No significant issues were found at the time of inspection.
Other Comments:	Since the last permit reissuance, there has been no permit violation reported for this facility. DEP's database shows there is no open violation associated with this facility or permittee.

Effluent Data

DMR Data for Outfall 001 (from July 1, 2024 to June 30, 2025)

Parameter	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24
Flow (MGD) Average Monthly	1.3392	1.1894	1.2269	1.3392	1.3392	1.368	1.3572	1.345	1.3507	1.3507	1.3565	1.368
pH (S.U.) Daily Minimum	6.8	6.9	6.8	6.8	6.9	6.9	6.8	6.9	6.8	6.9	6.9	7.0
pH (S.U.) Daily Maximum	7.0	7.0	7.0	7.1	7.1	7.1	7.1	7.1	7.0	7.1	7.1	7.2
DO (mg/L) Daily Minimum	10.6	11.8	13.6	12.7	14.8	13.5	13.2	11.8	12.9	12.9	12.4	10.2
BOD5 (mg/L) Average Quarterly	< 3.0			< 3.0			3.8			< 3.0		
BOD5 (mg/L) Daily Maximum	< 3.0			< 3.0			3.8			< 3.0		
TSS (mg/L) Average Quarterly	1.6			1.0			2.3			3.7		
TSS (mg/L) Daily Maximum	1.6			1.0			2.3			3.7		
Total Nitrogen (mg/L) Daily Maximum	< 2.5			< 2.6053			< 3.175			< 2.9796		
Ammonia (lbs/day) Average Monthly	2	1							5	5	2	3
Ammonia (mg/L) Average Monthly	0.1696	0.1556							0.5158	0.4442	0.2	0.2645
Ammonia (mg/L) Daily Maximum			< 0.1	0.2163	0.1821	0.3299	0.1914	0.3377				
Total Phosphorus (mg/L) Daily Maximum	0.06			0.11			0.13			0.13		
Chloride (mg/L) Daily Maximum	26.4			22.5			20.0			19.7		

Existing Effluent Limits and Monitoring Requirements

The table below summarizes effluent limits and monitoring requirements specified in the existing permit:

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Quarterly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0	XXX	1/week	Grab
Dissolved Oxygen	XXX	XXX	6.0 Daily Min	XXX	XXX	XXX	1/month	Grab
Biochemical Oxygen Demand (BOD5)	XXX	XXX	XXX	6.0	10.0	12	1/quarter	24-Hr Composite
Total Suspended Solids	XXX	XXX	XXX	10.0	20.0	20	1/quarter	24-Hr Composite
Total Nitrogen	XXX	XXX	XXX	XXX	20.0	XXX	1/quarter	24-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	XXX	XXX	XXX	XXX	Report	XXX	1/month	24-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	197	XXX	XXX	15.0 Avg Mo	XXX	30	1/month	24-Hr Composite
Total Phosphorus	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	24-Hr Composite
Chloride	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	24-Hr Composite

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 1.5571
Latitude 42º 2' 34.58" **Longitude** -80º 16' 25.81"
Wastewater Description: IW Process Effluent without ELG

Technology-Based Limitations

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

Parameter	Limit (mg/l)	SBC	Federal Regulation	State Regulation
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)

Water Quality-Based Limitations

CBOD5, NH3-N and Dissolved Oxygen (DO)
WQM 7.0 version 1.0b is a water quality model designed to assist DEP to determine appropriate permit requirements for CBOD5, NH3-N and DO. DEP's guidance no. 391-2000-007 provides the technical methods contained in WQM 7.0 for conducting wasteload allocation and for determining recommended NPDES effluent limits for point source discharges. The model output indicates that all existing effluent limits are still protective of water quality. It is noteworthy that DEP has been consistently applying BOD5 in lieu of CBOD5 with the conversion ratio of 1:1 for PFBC hatcheries. Without any extensive data showing a different ratio needs to be applied, DEP determines that this one to one ratio is still acceptable.

Also, DEP's SOP no. BCW-PMT-032 recommends effluent limits and/or monitoring requirements from the General Permit, if exists, to be considered as minimum standards. The NPDES PAG-11 General Permit includes net limits and BOD5, TSS and Total Nitrogen. However, because the source water for this facility is not entirely coming from the same watercourse as the discharge was to, DEP has previously determined that net limits do not apply, and thus gross effluent limits have been included in the permit without any influent monitoring requirements. This permitting approach is supported by 40 CFR § 122.45 (g) and therefore will continue to be applied for this upcoming permit renewal.

Therapeutic Chemicals Analysis
TSFH uses a number of therapeutic chemicals to treat fish for various diseases. DEP has determined to evaluate the use of these chemicals using the same permitting approach that DEP evaluates the use of chemical additives or other toxic pollutants. This approach has been consistently used in other fish hatcheries throughout the state. DEP's Toxics Management Spreadsheet (TMS) is used to evaluate the use of these chemicals and both acute and chronic fish water quality criteria for each of these chemicals were obtained from PFBC's Huntsdale Fish Hatchery NPDES Permit Renewal Fact Sheet (PA0037141; dated October 29, 2021). Based on this, these chemicals have been evaluated as follows:

Chemical Name	Current Maximum Daily Usage Rate, lbs	Maximum Allowable Usage Rates, lbs/day	Adjusted Maximum Allowable Usage Rates, lbs/day
Parasite-S	68.5 60 days per year	45.3	45.3
Chloramine-T	25 25 days per year	80.2	25
Hydrogen Peroxide	146 175 days per year	14.1 = 1400	146
Terramycin TM200	45 45 days per year	987	45
Diquat Dibromide	3.02 45 days per year	13.0	3.02
Romet-TC	0.09 25 days per year	404	0.09
Lysol	0.2 15 days per year	0.63	0.2
Florfenicol	0.8 30 days per year	3,602	0.8

Sodium Chloride	1075 75 days per year	1075	1075
Pennox 343	24, 30 days per year	Not Allowed (no Ecological Information available for the whole product)	Not Allowed (no Ecological Information available for the whole product)

For hydrogen peroxide, the MSDS indicates the actual 99% biodegradation occurring in first 30 min. Thus, the maximum allowable usage rate has modified from 0.22 lbs/day to 22 lbs/day. For Chloramine-T, only acute water quality criterion was used in the TMS. The study conducted by USGS (i.e., Finding of No Significant Impact for Halamid aqua) only developed the acute benchmark and partly indicated that the chronic water quality benchmark is not thought to be necessary to mitigate potential risks. Therefore, only acute WQC has been considered. For Pennox 343, there are no known ecological information specified in MSDS provided in the application; thus, DEP has determined not to allow the use of this chemical. This approach is also consistent with the decision made for the Huntsdale Fish Hatchery.

The adjusted maximum allowable usage rates are the lesser of the current maximum daily usage rates and maximum allowable usage rates produced by TMS. The Part C of the permit will include these rates as this permitting approach has been or will likely be implemented throughout the state to ultimately ensure that the amount of chemicals being used at these hatcheries needs to be regulated for water quality protection.

Additional Considerations

Flow Monitoring
The requirement to monitor the volume of effluent will remain in the draft permit per 40 CFR § 122.44(i)(1)(ii).

PFAS Monitoring
DEP's SOP no. BCW-PMT-032 recommends a routine monitoring of per- and polyfluoroalkyl substances (PFAS) related compounds including PFOA, PFOS, HFPO-DA and PFBS for those considered under industrial waste facilities or non-sewage facilities. The monitoring frequency is based on the sample provided in the application per this SOP. However, since the application was submitted prior to this SOP recommendation, an annual PFAS monitoring will be included in this permit. This approach is consistent with DEP's Central Office directive dated February 5, 2024 (see attached).

Monitoring Frequency and Sample Type
All monitoring frequencies and sample types will remain unchanged in the permit.

Mass Loading Limitations
All effluent mass loading limits will be based on the formula: design flow x concentration limit x conversion factor of 8.34.

Antidegradation Requirements
All effluent limitations and monitoring requirements have been developed to ensure that existing instream water uses and the level of water quality necessary to protect the existing uses are maintained and protected.

Anti-Degradation Requirements
Unless stated otherwise in this fact sheet, all permit requirements proposed in this fact sheet are at least as stringent as permit requirements specified in the existing permit renewal in accordance with 40 CFR §122.44(l)(1).

Threatened and Endangered Mussel Species Concerns and Considerations

The Allegheny River is known to contain state and federally listed threatened and endangered mussel species. Due to this being a direct discharge to the Allegheny River, potential impacts to endangered and threatened species were evaluated.

The USFWS has indicated in comment letters on other NPDES permits that in order to protect threatened and endangered mussel species, wastewater discharges containing ammonia-nitrogen (NH_3-N), chloride (Cl^-), nickel, zinc, and copper where mussels or their habitat exist, can be no more than 1.9 mg/l, 78 mg/l, 7.3 µg/l, 13.18 µg/l, and 10 µg/l respectively.

A summary of effluent sampling of Ammonia-Nitrogen, and Chloride from the past five years follows; nickel, zinc and copper were not sampled:

Parameter	Average Value
Ammonia-Nitrogen	0.34
Chloride, mg/l	21.9

Based on this sampling data, the existing discharge from the Tionesta Fish Culture Station is not believed to be having any adverse effects on threatened or endangered mussel species in the Allegheny River. The long-term average of Ammonia-Nitrogen and Chloride are both at concentrations below the USFWS criteria. Due to this fact, the Department did not prepare an impact area spread sheet because USFWS criteria are already met at end of pipe .

Based on this information, the Department has determined the discharge will be protective of threatened and endangered mussels in the Allegheny River. However, the Department will continue the monthly effluent monitoring and limitations for Ammonia-Nitrogen, and quarterly effluent monitoring for chloride, and propose quarterly effluent monitoring for Nickel, Zinc, and Copper, to develop a dataset as a means of further evaluating potential impacts in the upcoming permit term.

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (386-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Quarterly	Average Weekly	Minimum	Average Quarterly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report Avg Mo	XXX	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0	XXX	1/week	Grab
Dissolved Oxygen	XXX	XXX	6.0 Daily Min	XXX	XXX	XXX	1/month	Grab
Biochemical Oxygen Demand (BOD5)	XXX	XXX	XXX	6.0	10.0	12	1/quarter	24-Hr Composite
Total Suspended Solids	XXX	XXX	XXX	10.0	20.0	20	1/quarter	24-Hr Composite
Total Nitrogen	XXX	XXX	XXX	XXX	20.0	XXX	1/quarter	24-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	XXX	XXX	XXX	XXX	Report	XXX	1/month	24-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	197	XXX	XXX	15.0 Avg Mo	XXX	30	1/month	24-Hr Composite
Total Phosphorus	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	24-Hr Composite
Chloride	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	24-Hr Composite
Total Copper	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	24-Hr Composite
Total Nickel	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	24-Hr Composite
Total Zinc	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	24-Hr Composite
PFOA (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab

Outfall 001, Continued (from Permit Effective Date through Permit Expiration Date)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Quarterly	Average Weekly	Minimum	Average Quarterly	Daily Maximum	Instant. Maximum		
PFOS (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
PFBS (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
HFPO-DA (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☐	Toxics Management Spreadsheet (see Attachment)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☐	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
☐	Pennsylvania CSO Policy, 386-2000-002, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
☐	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
☐	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 386-2000-016, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 10/97.
☐	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 386-2000-020, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 3/99.
☐	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 386-2000-010, 3/1999.
☐	Design Stream Flows, 386-2000-003, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 386-2000-006, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☐	SOP:
☐	Other:

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
18A	42122	ALLEGHENY RIVER	**153.900**	1060.00	3710.00	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.158	25.24	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Tionesta SFH	PA0037915	1.5571	1.5571	1.5571	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	6.00	2.00	0.00	1.50
Dissolved Oxygen	6.00	8.05	0.00	0.00
NH3-N	15.00	0.00	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
18A	42122	ALLEGHENY RIVER	**149.900**	1042.00	4210.00	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.158	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

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Toxics Management Spreadsheet
Version 1.4, May 2025

Discharge Information

Instructions | Discharge | Stream

Facility: **Tionesta State Fish Hatchery** NPDES Permit No.: **PA0037915** Outfall No.: **001**

Evaluation Type **Custom / Additives** Wastewater Description: **IW without ELG**

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
1.557	100	7						

				0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Formalin (Parasite-S)	µg/L		100000									
Chloramine-T	µg/L		100000									
Hydrogen Peroxide	µg/L		100000									
Terramycin (TM200)	µg/L		100000									
Diquate Dibromide	µg/L		100000									
Romet TC	µg/L		100000									
Professional Lysol	µg/L		100000									
Florfenicol	µg/L		100000									
Sodium Chloride	µg/L		100000									

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2025

Stream / Surface Water Information

Tionesta State Fish Hatchery , NPDES Permit No. PA0037915, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Allegheny River**

No. Reaches to Model: 1

- (●) Statewide Criteria
- ( ) Great Lakes Criteria
- ( ) ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	042122	153.9	1060	3710			Yes
End of Reach 1	042122	149.9	1042	4210			Yes

$Q_{7\text{-}10}$

Location	RMI	LFY (cfs/mi²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	153.9	0.158										100	7		
End of Reach 1	149.9	0.158													

Q_h

Location	RMI	LFY (cfs/mi²)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	153.9														
End of Reach 1	149.9														

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2025

Model Results

Tionesta State Fish Hatchery , NPDES Permit No. PA0037915, Outfall 001

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | (•) All ( ) Inputs ( ) Results ( ) Limits

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.044 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Formalin (Parasite-S)	0	0		0	296.3	296	3,487	
Chloramine-T	0	0		0	525.1	525	6,180	
Hydrogen Peroxide	0	0		0	92.3	92.3	1,086	
Terramycin (TM200)	0	0		0	6455.7	6,456	75,973	
Diquate Dibromide	0	0		0	85	85.0	1,000	
Romet TC	0	0		0	2646.9	2,647	31,150	
Professional Lysol	0	0		0	4.1	4.1	48.3	
Florfenicol	0	0		0	23,571	23,571	277,393	
Sodium Chloride	0	0		0	38,462	38,462	452,636	

☑ ***CFC*** CCT (min): 720 PMF: 0.307 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Formalin (Parasite-S)	0	0		0	32.9	32.9	2,487	
Chloramine-T	0	0		0	N/A	N/A	N/A	
Hydrogen Peroxide	0	0		0	10.3	10.3	779	
Terramycin (TM200)	0	0		0	717.3	717	54,232	
Diquate Dibromide	0	0		0	9.4	9.4	711	
Romet TC	0	0		0	294.1	294	22,236	
Professional Lysol	0	0		0	0.5	0.5	37.8	
Florfenicol	0	0		0	2619.1	2,619	198,019	
Sodium Chloride	0	0		0	4273.6	4,274	323,108	

☑ ***THH*** CCT (min): 720 PMF: 0.307 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream	Stream	Trib Conc	Fate	WQC	WQ Obj	WLA (µg/L)	Comments

Pollutants	Conc (µg/L)	CV	(µg/L)	Coef	(µg/L)	(µg/L)	WLA (µg/L)	Comments
Formalin (Parasite-S)	0	0		0	N/A	N/A	N/A	
Chloramine-T	0	0		0	N/A	N/A	N/A	
Hydrogen Peroxide	0	0		0	N/A	N/A	N/A	
Terramycin (TM200)	0	0		0	N/A	N/A	N/A	
Diquate Dibromide	0	0		0	N/A	N/A	N/A	
Romet TC	0	0		0	N/A	N/A	N/A	
Professional Lysol	0	0		0	N/A	N/A	N/A	
Florfenicol	0	0		0	N/A	N/A	N/A	
Sodium Chloride	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): 720 PMF: 0.454 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Formalin (Parasite-S)	0	0		0	N/A	N/A	N/A	
Chloramine-T	0	0		0	N/A	N/A	N/A	
Hydrogen Peroxide	0	0		0	N/A	N/A	N/A	
Terramycin (TM200)	0	0		0	N/A	N/A	N/A	
Diquate Dibromide	0	0		0	N/A	N/A	N/A	
Romet TC	0	0		0	N/A	N/A	N/A	
Professional Lysol	0	0		0	N/A	N/A	N/A	
Florfenicol	0	0		0	N/A	N/A	N/A	
Sodium Chloride	0	0		0	N/A	N/A	N/A	

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Formalin (Parasite-S)	29.0	45.3	2,235	3,487	5,588	µg/L	2,235	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Chloramine-T	51.4	80.2	3,961	6,180	9,902	µg/L	3,961	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Hydrogen Peroxide	9.04	14.1	696	1,086	1,741	µg/L	696	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Terramycin (TM200)	632	987	48,696	75,973	121,739	µg/L	48,696	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Diquate Dibromide	8.33	13.0	641	1,000	1,603	µg/L	641	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Romet TC	259	404	19,966	31,150	49,914	µg/L	19,966	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Professional Lysol	0.4	0.63	30.9	48.3	77.3	µg/L	30.9	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Florfenicol	2,309	3,602	177,798	277,393	444,494	µg/L	177,798	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Sodium Chloride	Report	Report	Report	Report	Report	µg/L	290,121	AFC	Discharge Conc > 25% WQBEL (no RP)

☑ ***Other Pollutants without Limits or Monitoring***

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., <= Target QL).

Pollutants	Governing WQBEL	Units	Comments

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