pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0222909**
Facility Type	**Municipal**	APS ID	**1088371**
Major / Minor	**Minor**	Authorization ID	**1439503**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Kinzua Warren Joint Authority**	Facility Name	**Kinzua Warren County WWTP**
Applicant Address	119 Mead Boulevard	Facility Address	509 Kinzua Road
	Clarendon, PA 16313-1119		Warren, PA 16365
Applicant Contact	Jeri Graham	Facility Contact	Jesse Crawford
Applicant Phone	(814) 726-7126	Facility Phone	(814) 726-7126
Applicant Email	kwcjauthority@gmail.com		
Client ID	44318	Site ID	522490
Ch 94 Load Status	Not Overloaded	Municipality	Mead Township
Connection Status	No Limitations	County	Warren
Date Application Received	May 3, 2023	EPA Waived?	Yes
Date Application Accepted	August 24, 2023	If No, Reason	

Purpose of Application: Renewal of a NPDES Permit for an Existing Discharge From a POTW

Summary of Review

No changes to discharge quantity or quality are being proposed as part of this renewal.

Act 14 – Proof of Notification was submitted and received.

SPECTIAL CONDITIONS: NONE

The EPA waiver is in effect.

There are NO open violations in WMS for the subject Client ID (44318) as of October 6, 2023 *11/21/2023 CWY*

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		Aeshah Shameseldin Aeshah Shameseldin / Civil Engineer Trainee	October 6, 2023
X		Chad W. Yurisic Chad W. Yurisic, P.E. / Environmental Engineer Manager	11/21/2023

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.3125
Latitude	41º 49' 25.3"	Longitude	-79º 6' 36.1"
Quad Name	Clarendon	Quad Code	41079G1
Wastewater Description:	Sewage Effluent		

Receiving Waters	Allegheny River (CWF)	Stream Code	42122
NHD Com ID	112375329	RMI	192.76
Drainage Area	2200	Yield (cfs/mi^2)	0.18
Q_{7-10} Flow (cfs)	396	Q_{7-10} Basis	Calculated
Elevation (ft)	1200	Slope (ft/ft)	---
Watershed No.	16-B	Chapter 93 Class.	CWF
Existing Use	---	Existing Use Qualifier	---
Exceptions to Use	---	Exceptions to Criteria	---
Assessment Status	Not Assessed		
Cause(s) of Impairment	---		
Source(s) of Impairment	---		
TMDL Status	---	Name	---

Background/Ambient Data		Data Source
pH (SU)	7.0	Default
Temperature (°F)	20	Default
Hardness (mg/L)	100	Default
Other:		

Nearest Downstream Public Water Supply Intake	Aqua Pennsylvania, Inc. – Emlenton		
PWS Waters	Allegheny River	Flow at Intake (cfs)	1376
PWS RMI	90.0	Distance from Outfall (mi)	98.5

Changes Since Last Permit Issuance: None.

Other Comments: None.

Treatment Facility Summary

Treatment Facility Name: Kinzua Warren County WWTP

WQM Permit No.	Issuance Date
6221401	06/28/2021

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary with Ammonia Reduction	Extended Aeration	Ultraviolet	0.3125

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.3125	550	Not Overloaded	Aerobic digester / sludge drying beds	Landfill

Changes Since Last Permit Issuance: None.

Other Comments: None.

Compliance History

DMR Data for Outfall 001 (from July 1, 2022 to June 30, 2023)

Parameter	JUN-23	MAY-23	APR-23	MAR-23	FEB-23	JAN-23	DEC-22	NOV-22	OCT-22	SEP-22	AUG-22	JUL-22
Flow (MGD) Average Monthly	0.095	0.108	0.107	0.148	0.125	0.156	0.128	0.141	0.112	0.118	0.107	0.112
Flow (MGD) Daily Maximum	0.123	0.152	0.192	0.179	0.319	0.405	0.182	0.562	0.193	0.255	0.147	0.194
pH (S.U.) Daily Minimum	6.03	6.04	6.02	6.06	0.01	6.0	6.05	6.01	6.18	6.44	6.09	6.04
pH (S.U.) Daily Maximum	7.03	6.98	7.1	6.85	6.86	6.92	7.1	7.47	7.12	7.36	7.53	7.98
DO (mg/L) Daily Minimum	6.7	7.38	6.49	6.07	7.57	5.68	7.44	6.3	5.92	5.83	5.23	5.87
CBOD5 (lbs/day) Average Monthly	4.0	< 4.0	< 4.0	8.0	6.0	11.0	< 4.0	< 5.0	< 4.0	< 6.0	< 5	< 4.0
CBOD5 (lbs/day) Weekly Average	8.0	7.0	< 4.0	12	13.0	27	4.0	8.0	< 4.0	< 9	9.0	< 5.0
CBOD5 (mg/L) Average Monthly	7.0	< 5.0	< 4.0	7.0	6.0	< 11.0	< 4.0	< 6.0	< 4.0	< 4.0	< 5.0	< 4.0
CBOD5 (mg/L) Weekly Average	10.0	9.0	4.0	10.0	11.0	26.0	5.0	9.0	< 4.0	< 4.0	10.0	< 4.0
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	234	240	198	236	205	204.0	313	246	210	350	261	265.0
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	285	303	210	275	215	267.0	350	315	260	455	271	296
BOD5 (mg/L) Raw Sewage Influent Average Monthly	279	278	231	225	215.0	189.0	332	267	246	260	288.0	281.0
TSS (lbs/day) Average Monthly	14.0	11.0	< 6.0	14.0	21.0	45.0	< 21.0	5.0	< 5.0	< 8.0	7.0	< 7.0
TSS (lbs/day) Raw Sewage Influent Average Monthly	281	212	154	186	187	187.0	805	240	256	667	381	210.0
TSS (lbs/day) Raw Sewage Influent Daily Maximum	533	345	200	227	306	258.0	1949	271	416	1449	734	268.0

TSS (lbs/day) Weekly Average	24.0	15.0	9.0	21.0	79.0	90	40.0	7.0	5.0	11.0	11	15.0
TSS (mg/L) Average Monthly	17.0	13.0	< 7.0	14.0	22.0	41.0	< 22.0	6.0	< 6.0	< 6.0	8.0	< 7.0
TSS (mg/L) Raw Sewage Influent Average Monthly	319	242	176	179	179.0	173.0	814	269	302	518	426.0	220.0
TSS (mg/L) Weekly Average	29.0	18.0	12.0	22.0	66.0	87.0	45.0	9.0	7.0	8.0	12.0	13.0
Fecal Coliform (No./100 ml) Geometric Mean	< 7.0	< 1.0	< 1.0	< 1.0	43	< 52.0	< 1.0	< 6.0	5.0	15	14	< 2.0
Fecal Coliform (No./100 ml) Instantaneous Maximum	< 2420.0	5.0	1.0	< 1.0	2420	2420.0	5.0	148	11.0	65	96	10
Total Nitrogen (mg/L) Daily Maximum							< 1.25					
Ammonia (lbs/day) Average Monthly	< 7.0	< 0.04	< 0.3	0.3	0.4	3.0	< 0.3	< 0.03	< 0.3	2.0	0.4	< 0.3
Ammonia (mg/L) Average Monthly	< 0.3	< 0.3	< 0.3	0.3	0.44	2.98	< 0.3	< 0.3	< 0.3	0.77	0.49	< 0.3
Total Phosphorus (mg/L) Daily Maximum							5.87					

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .3125
Latitude 41º 49' 25.3" **Longitude** -79º 6' 36.1"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

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

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)
E. Coli	Report (No./100 ml)	IMAX	-	§ 92a.61

Comments: TRC limit not applicable for this discharge because UV disinfection is utilized. *Daily monitoring of UV Intensity is being added to the permit in accordance with the Department's March 24, 2021 SOP "Establishing Effluent Limitations for Individual Sewage Permits". 11/21/2023 CWY*

Water Quality-Based Limitations

A "Reasonable Potential Analysis" determined the following parameters were candidates for limitations: CBOD5, Nitrogen, Ammonia, Phosphorus, and Dissolved Oxygen (DO).
CBOD5, Ammonia, and DO are evaluated using WQM 7.0 (See Attachment 1)

The following limitations were determined through water quality modeling (output files attached):

Parameter	Limit (mg/l)	SBC	Model
Dissolved Oxygen	4	Daily Min.	WQM 7.0
CBOD5	25	Monthly Avg.	WQM 7.0
	50	IMAX	

Comments: Due to the discharge being directly to the Allegheny River, potential impacts to endangered mussel species were evaluated. Based on USFWS Recommendation, the following effluent limitations have been established for Ammonia-Nitrogen (See Attachment 2) *The calculated average monthly Ammonia-Nitrogen limit using WQM 7.0 is 25 mg/l. The more stringent limits established in previous permits are attainable and will be retained. Monitoring frequency is 1/week in accordance with Table 6-3 in the "Technical Guidance for the Development and Specification of Effluent Limitations".*

Parameter	Limit (mg/l)	SBC	Model
Ammonia Nitrogen (05/01 – 10/31)	2.2	Monthly Average	USFWS Recommendation (See Attachment 2)
	4.4	IMAX	
Ammonia Nitrogen (11/01 – 04/30)	6.6	Monthly Average	USFWS Recommendation (See Attachment 2)
	13.2	IMAX	

Best Professional Judgment (BPJ) Limitations

Comments: A dissolved oxygen effluent limit of a minimum of 4.0 mg/l, and monitoring for total nitrogen, total phosphorus and raw sewage influent monitoring for BOD_5 and TSS are placed in the permit in accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual Sewage Permits."

Anti-Backsliding

No backsliding of limits is being proposed.

Threatened and Endangered Mussel Species Concerns and Considerations

The USFWS has indicated in comment letters and email correspondence on other NPDES Permits, that to protect threatened and endangered mussel species, wastewater discharges containing ammonia-nitrogen (NH3-N), chloride (Cl-), dissolved nickel, dissolved zinc, and total copper where mussels or their habitat exist, can be no more than 1.9 mg/l, 78 mg/l, 7.3 ug/l, 13.18 ug/l, and 10 ug/l respectively. Therefore, the Department has considered all of these parameters in this evaluation.

Although the Allegheny River is known to contain state and federally listed threatened and endangered (T/E) mussel species, there have been no known populations of T/E species found in the segment of the Allegheny River between the outlet of the Kinzua Dam and the confluence with Conewango Creek. This has been confirmed by studies conducted by the Department as well as other agencies. The Department believes the reason for this is likely due to the Dam outflow patterns and colder water from the outflow. This section of the Allegheny River is also nutrient and sediment deprived because of the outflow from the Dam.

Ammonia:

The USFWS began informal consultation with the Rural Utilities Service (RUS) in 1994, based on concerns that this discharge could potentially affect federally listed endangered mussels that could exist in this section of stream. The USFWS had further discussions with RUS, the Authority, their consultant and the Department in the later part of 1994. A letter from the USFWS to the Authority on 12/1/1994 outlined conditions that the Authority would need to take in order for the service to concur with a "not likely to have adversely affect" determination. The Authority agreed to the conditions, and the USFWS formally ended the informal consultation, via a letter dated 11/26/1997 (see Attachment 2). The conditions were: 1) a summertime ammonia nitrogen limit of 2.2 mg/l, 2) the use of UV disinfection, and the discharge be above the low water mark in the stream. These ammonia limits have been written into previous permits, are attainable, and will be reimplemented with this renewal.

Chloride, Dissolved Nickel, Dissolved Zinc, and Total Copper:

Based on the prior recommendations of the USFWS and there being no known T/E species in the vicinity of the discharge, the Department does not expect this discharge to have an adverse impact on threatened or endangered mussels in the Allegheny River.

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.

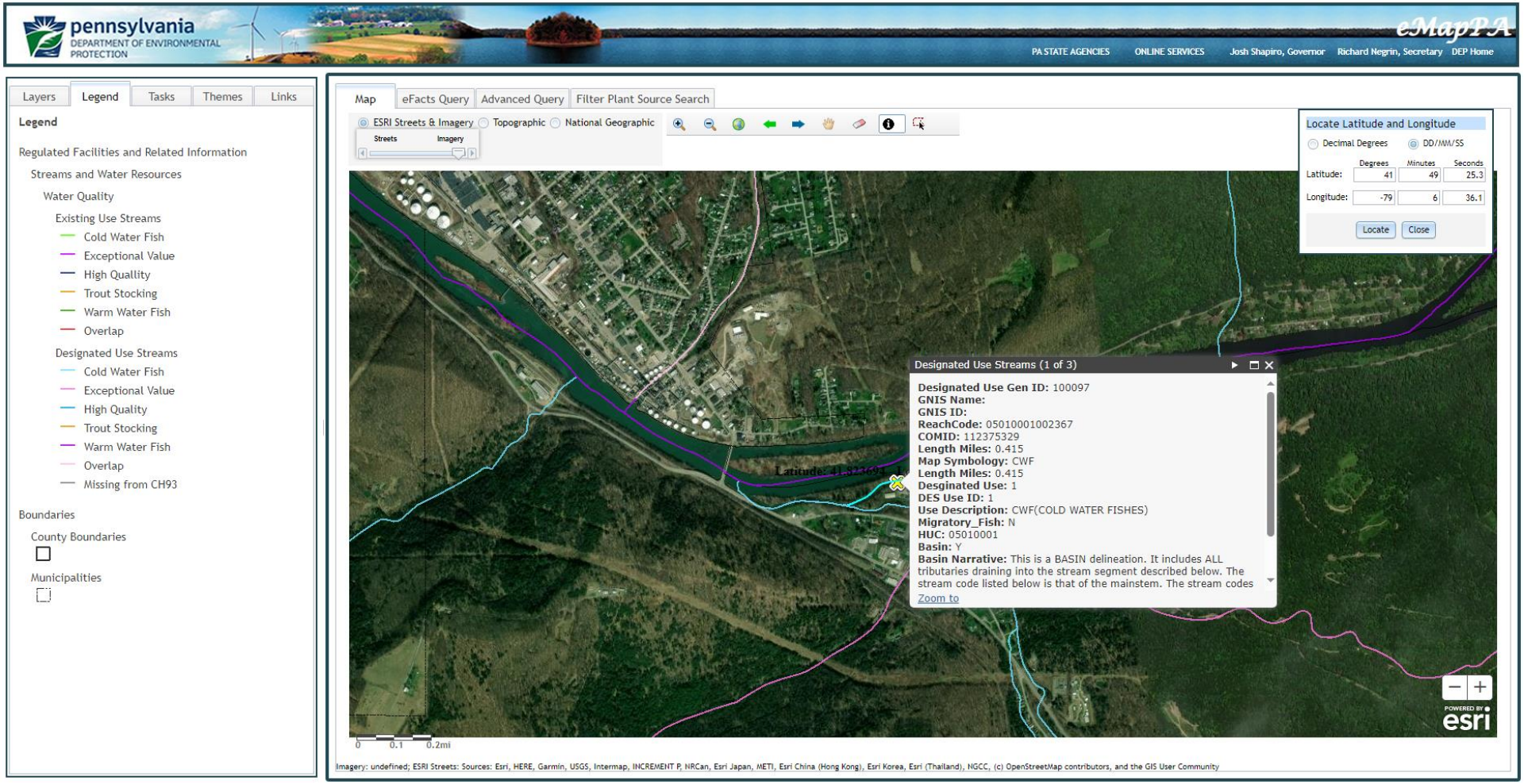
Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0 Daily Max	XXX	1/day	Grab
DO	XXX	XXX	4.0 Daily Min	XXX	XXX	XXX	1/day	Grab
CBOD5	65	104	XXX	25.0	40.0	50	1/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	24-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	24-Hr Composite
TSS	78	117	XXX	30.0	45.0	60	1/week	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
UV Intensity (µw/cm²)	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/day	Recorded
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Ammonia Nov 1 - Apr 30	17	XXX	XXX	6.6	XXX	13.2	1/week	24-Hr Composite
Ammonia May 1 - Oct 31	5.7	XXX	XXX	2.2	XXX	4.4	1/week	24-Hr Composite

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab

Compliance Sampling Location: Outfall 001, after disinfection.

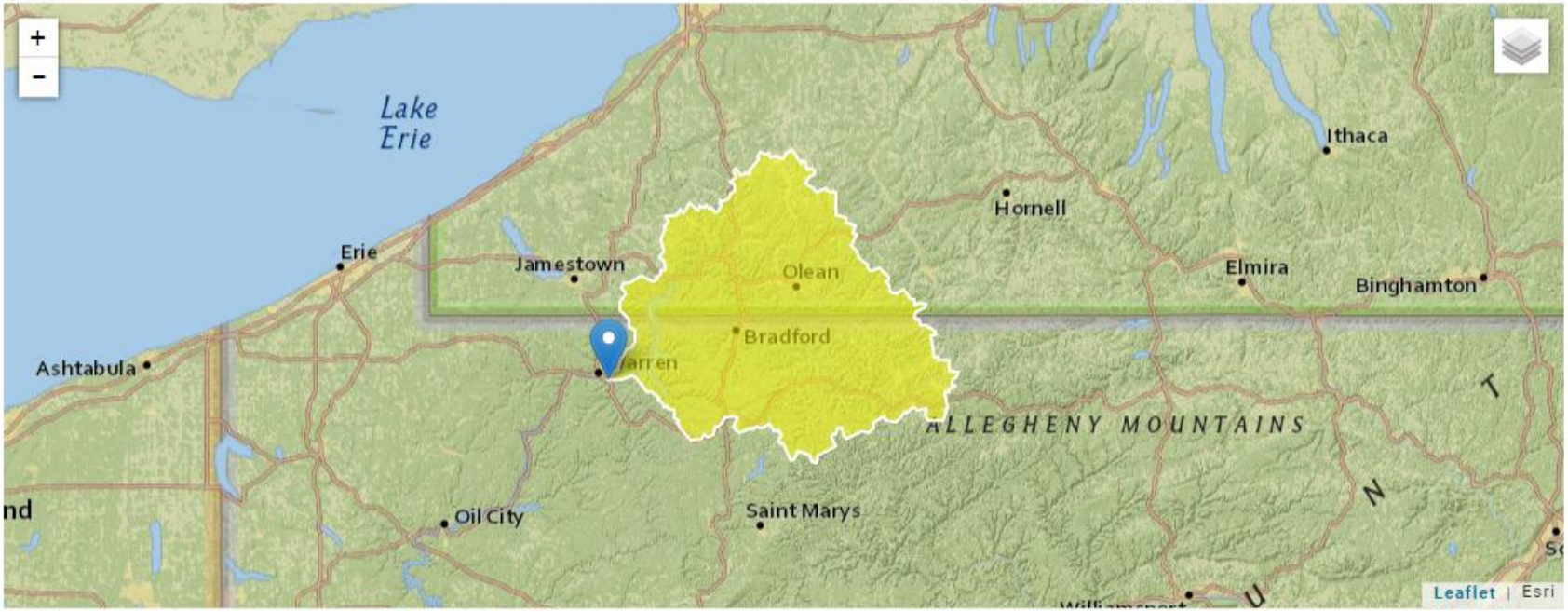
Outfall Location - eMap with Aerial Imagery



Drainage Area Location – StreamStats with Aerial Imagery

StreamStats Report

Region ID:	PA
Workspace ID:	PA20231005133639870000
Clicked Point (Latitude, Longitude):	41.82432, -79.11104
Time:	2023-10-05 09:37:16 -0400



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	2200	square miles

Attachment 1

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
18A	42122	ALLEGHENY RIVER

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
192.760	Kinzua Warren	PA0222909	0.313	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			4

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
18A	42122	ALLEGHENY RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
192.760	0.313	20.000	6.998
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
349.510	1.159	301.475	0.978
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.03	0.020	0.03	0.700
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.238	3.894	Tsivoglou	6
Reach Travel Time (days)			
0.139			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.014	2.03	0.03	8.24
0.028	2.03	0.03	8.24
0.042	2.03	0.03	8.24
0.055	2.03	0.03	8.24
0.069	2.03	0.03	8.24
0.083	2.02	0.03	8.24
0.097	2.02	0.03	8.24
0.111	2.02	0.03	8.24
0.125	2.02	0.03	8.24
0.139	2.02	0.03	8.24

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	6		

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	**192.760**	1182.00	2200.00	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	0.180	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
Kinzua Warren	PA0222909	0.3130	0.0000	0.0000	0.000	20.00	6.30

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	4.00	8.24	0.00	0.00
NH3-N	25.00	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	**190.540**	1172.00	2230.00	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	0.180	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
Kinzua Warren	PA0222909	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

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
18A	42122	ALLEGHENY RIVER

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
192.760	Kinzua Warren	9.7	50	9.7	50	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
192.760	Kinzua Warren	1.92	25	1.92	25	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
192.76	Kinzua Warren	25	25	25	25	4	4	0	0

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
18A	42122	ALLEGHENY RIVER

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
192.760	396.00	0.00	396.00	.4842	0.00085	1.159	349.51	301.48	0.98	0.139	20.00	7.00
Q1-10 Flow												
192.760	253.44	0.00	253.44	.4842	0.00085	NA	NA	NA	0.76	0.178	20.00	7.00
Q30-10 Flow												
192.760	538.56	0.00	538.56	.4842	0.00085	NA	NA	NA	1.16	0.117	20.00	7.00

Attachment 2

FACT SHEET
ATTACHMENT B

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Suite 322
315 S. Allen St.
State College, Pennsylvania 16801

November 26, 1997

RECEIVED
DEC 05 1997
NORTHWEST ENGINEERING INC

Mr. Ervin B. Myers
Rural Utilities Service
1012 Water Street
Meadville, PA 16335

Dear Mr. Myers:

This is in response to your September 9, 1997, letter requesting that the Fish and Wildlife Service evaluate the proposed wastewater collection and treatment project of the Kinzua/Warren County Joint Authority. The treatment plant will discharge 500,000 gallons per day of municipal wastewater into the Allegheny River in Warren County. Informal consultation under Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat 884, as amended; 16 U.S.C. 1531 *et seq.*) began in 1994, based on concerns that the project could possibly affect federally listed endangered species, namely the clubshell mussel (*Pleurobema clava*) and the northern riffleshell mussel (*Epioblasma rangiana torulosa*). Discussions between your agency, the Pennsylvania Department of Environmental Protection (DEP), Lake Engineering (the Authority's consultant at the time), and the Service took place in the latter half of 1994.

In a letter dated December 1, 1994, the Service outlined steps that the Authority would need to take to enable the Service to concur with a "not likely to adversely affect" determination. Briefly, for the Service to concur, the plant would need to utilize ultraviolet (UV) light for disinfection rather than elemental chlorine, and water quality criteria for chemical constituents would need to be met at "end-of-pipe." We also recommended that a cursory mussel survey be conducted, since at that time there was flexibility regarding placement of the outfall structure, and we believed that suitable mussel habitat should be avoided if possible.

After receiving your September 9 letter, further discussions have taken place between your agency, DEP, Northwest Engineering, the Authority's current consultant, and the Service. We have also received a letter from the Authority dated October 21, 1997, in which they agreed to the measures outlined in our December 1, 1994, letter. We believe those measures will allow implementation and operation of the project without adversely affecting endangered species. Communications with Northwest Engineering indicate that, while an effluent concentration of 2.2 mg/L ammonia-nitrogen is attainable during summer conditions, this concentration is not attainable during colder weather, and concentrations in the range of 3 - 4 mg/L ammonia nitrogen will be discharged. We expect further information on this from Northwest Engineering, but do not believe that a winter effluent limitation that corresponds to a 2.2 mg/L summer effluent concentration will adversely affect endangered mussels in this case.

We also understand that a location for the treatment plant has been chosen and, therefore, there is little flexibility regarding the outfall location. Our past recommendation that a "cursory" mussel survey be conducted to minimize potential impacts by careful siting of the outfall no longer applies. The proposal calls for the outfall structure to be above the low water mark of the Allegheny River (H. Blumgren, Northwest Engineering, Inc. personal communication), so no mussel survey is needed.

We expect that construction and operation of the proposed collection and treatment systems, taking into account the Authority's commitment to the implementation of our recommendations, are not likely to adversely affect federally-listed endangered mussels. Therefore, this concludes informal consultation between our agencies pursuant to Section 7(a)(2) of the Endangered Species Act.

We appreciate your efforts, and those of the Authority, to conserve our Nation's rare species. Please contact Mark Hersh of this office (814-234-4090) if you have any questions regarding this matter.

Sincerely,

David Densmore
Supervisor

cc: John Arway, PFBC
Andy Shiels, PFBC
Rich Kaintz, DEP, NWRO
John Wester, K/WCJA
Hal Blumgren, Northwest Engineering
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