Friends of Merrymeeting Bay

Friends of Merrymeeting Bay Testimony & Sampling Report to the BEP on Upgrading the Upper Lower Androscoggin from Worumbo Dam to Gulf Island Pond

10/16/25

A prehistoric eel weir discovered during low flows while sampling.

Photo: Point of View Helicopter Services

Contents:

Friends of Merrymeeting Bay utilizes research, education, advocacy, and land conservation to preserve, protect, and improve the unique ecosystems of Merrymeeting Bay and Gulf of Maine

Friends of Merrymeeting Bay

P.O. Box 233, Richmond, ME 04357 www.fomb.org

Friends of Merrymeeting Bay Testimony to the BEP on Upgrading the Upper Lower Androscoggin from Worumbo Dam to Gulf Island Pond

Ed Friedman - 10/16/25

Summary

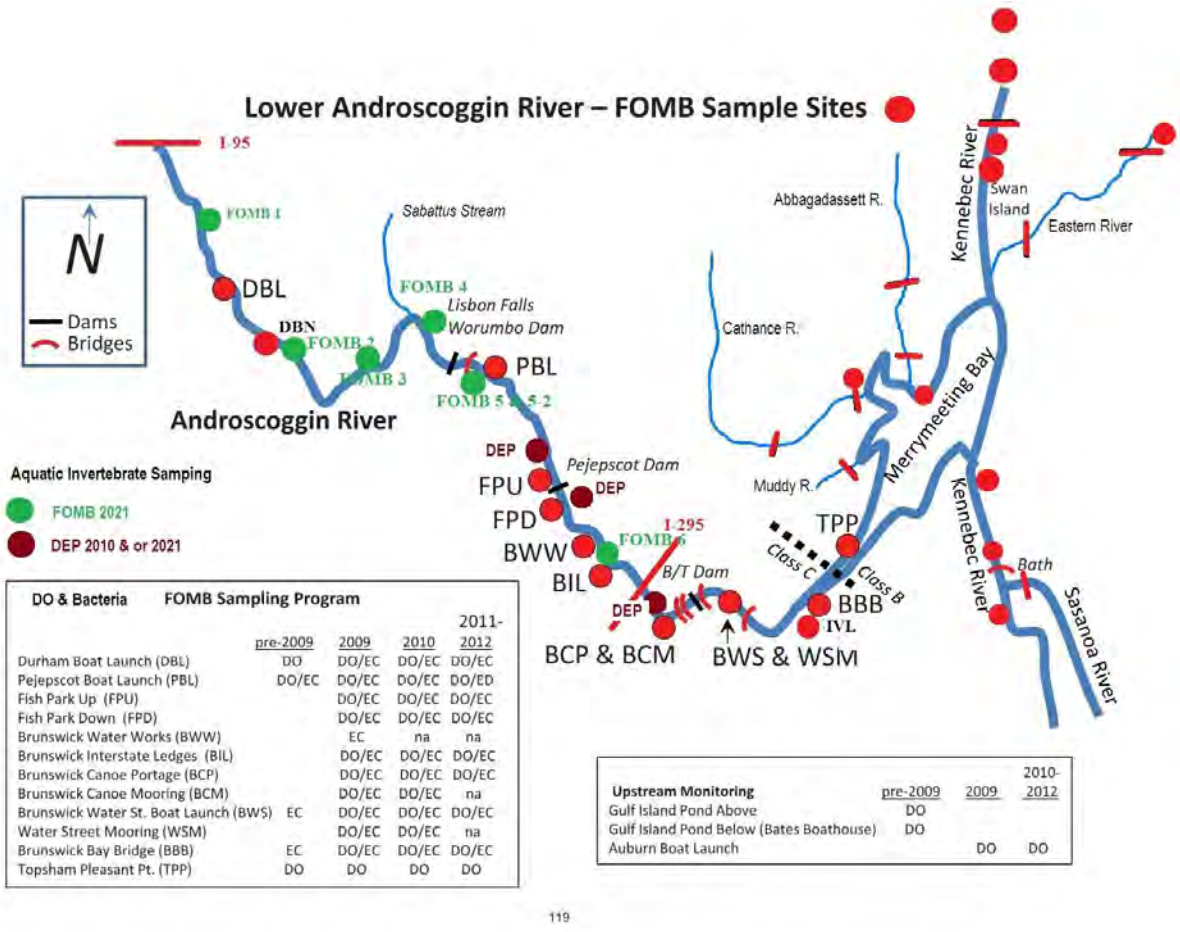
There has been a lack of comprehensive water quality data on the Androscoggin section from Worumbo dam to Gulf Island Pond proposed for an upgrade from Class C to Class B by Grow L+A. Friends of Merrymeeting Bay trialed the use of a float-equipped helicopter in 2024 to determine if this was a feasible sampling methodology to fill the data gap in a comprehensive fashion with minimal personnel. The trial was successful and in 2025 six sampling flights were undertaken to ascertain whether data supported the proposed upgrade. They did.

Sampling a longitudinal profile of 10 sites and one replicate on 6 dates from the upper Worumbo impoundment into Gulf Island Pond, all sites easily met Class B criteria for dissolved oxygen and bacteria. These totaled 198 samples for bacteria, dissolved oxygen in mg/l and dissolved oxygen in percent saturation. Other readings included specific conductivity, water temperature and air temperature. (Exhibit 5) Flows were extremely (even historically) low for the last four sampling events, well below 96 year medians so likely surpassing 7Q10 conditions. (Exhibit 3G)

Our sampling data easily support a classification upgrade for this reach to Class B.

Introduction

After years of water quality data gathering and reclassification attempts, Friends of Merrymeeting Bay (FOMB) data were used during the last Triennial despite DEP and industry objections, to successfully upgrade state classification of the lower Androscoggin River from Worumbo dam in Lisbon Falls to Merrymeeting Bay. The Board followed the law, the legislature concurred and contrary to some popular beliefs, the world did not end for industrial users of the river. FOMB data also supported the Kennebec River Class C to Class B upgrade back in 2002 from Augusta to Merrymeeting Bay.



DO & Bacteria FOMB Sampling Program

	pre-2009	2009	2010	2011-2012
Durham Boat Launch (DBL)	DO	DO/EC	DO/EC	DO/EC
Pejepscot Boat Launch (PBL)	DO/EC	DO/EC	DO/EC	DO/ED
Fish Park Up (FPU)		DO/EC	DO/EC	DO/EC
Fish Park Down (FPD)		DO/EC	DO/EC	DO/EC
Brunswick Water Works (BWW)		EC	na	na
Brunswick Interstate Ledges (BIL)		DO/EC	DO/EC	DO/EC
Brunswick Canoe Portage (BCP)		DO/EC	DO/EC	DO/EC
Brunswick Canoe Mooring (BCM)		DO/EC	DO/EC	na
Brunswick Water St. Boat Launch (BWS)	EC	DO/EC	DO/EC	DO/EC
Water Street Mooring (WSM)		DO/EC	DO/EC	na
Brunswick Bay Bridge (BBB)	EC	DO/EC	DO/EC	DO/EC
Topsham Pleasant Pt. (TPP)	DO	DO	DO	DO

Upstream Monitoring	pre-2009	2009	2010-2012
Gulf Island Pond Above	DO		
Gulf Island Pond Below (Bates Boathouse)	DO		
Auburn Boat Launch		DO	DO

Figure 1. FOMB & DEP sampling sites on lower Androscoggin, Kennebec and Bay tributaries

The lower river section from Worumbo to the Bay had been classified as Class C for many years, the state's lowest category while the actual water quality as measured by dissolved oxygen (DO), *E. coli* bacteria and aquatic life was that of Class B, with significantly higher standards. State and federal laws prohibit backsliding of water quality but this is measured by classification so having actual conditions surpass those of the classification means there is room to pollute and still meet the current and lower classification. This is now also the case for the upper lower section from Worumbo dam upstream into Gulf Island Pond (GIP).

If actual river conditions exceed that of the next lower classification (C in this case), Maine DEP has a nondiscretionary duty to recommend the upper lower Androscoggin for reclassification because it attains the Class B standard as our data show and as Grow L+A has proposed.

Under federal and Maine law, a water quality standard is composed of narrative or quantitative criteria, designated uses, and an anti-degradation policy. The Clean Water Act (CWA) and Maine's anti-degradation policy require that *"[w]hen the actual quality of any classified water exceeds the minimum standards of the next highest classification, that higher water quality must be maintained and protected. The board shall recommend to the Legislature that that water be reclassified in the next higher classification."*[1] Simply put, if actual data show that the upper

[1] 38 M.R.S. § 464.4.F.4 (emphasis added); see also 40 C.F.R. § 131.20(i) ("Where existing water quality standards specify designated uses less than those which are presently being attained, the State shall revise its standards to reflect the uses actually being attained."); *accord* Waste Discharge Program Guidance: Antidegradation (5/13/01) p.2.

lower Androscoggin in fact meets the standard for a Class B water, then the Maine Board of Environmental Protection has a non-discretionary duty to recommend to the legislature that it be so classified. Our attorney Scott Sells will elaborate on this and other legal requirements.

There is a great deal of interest in extending the upgrade up river from Worumbo but water quality data from this section between Worumbo and Gulf Island Pond (GIP) were somewhat sporadic. Grow L+A's upgrade nomination does a good job of detailing these varied data sets. There is a small amount of historic data from FOMB, more recent aquatic life data from FOMB (used in the last upgrade effort of the lower river), some Brookfield and some DEP data, largely focused on the Lewiston area. At last check, the DEP, like last time, does not support the proposed Worumbo to GIP upgrade from C to B. Perhaps our data may change this?

Figure 2. Helicopter sampling sites

Materials and Methods

In order for FOMB to possibly support this new upgrade proposal, we felt more rigorous and widespread water quality data were needed. Because most FOMB water quality volunteers live lower on the river and closer to the Bay, last year (2024) we looked at the possibility of using a Schweizer 300C helicopter with amphibious floats (www.pointofviewhelicopters.com)as a means with limited personnel, to gather comprehensive data in possible support of the upgrade if warranted. We did a trial flight in August, 2024 and were very successful at sampling a longitudinal profile of 10 sites from Lisbon Falls into GIP with two people in about 1 ½ hours. Measurements need to be completed by 8am to catch DO levels at the low point of their diurnal sag (DO levels rise daily as photosynthesis creates oxygen and fall each night as aquatic plants use the oxygen and give off CO2).

In light of this, the Merrymeeting Bay Chapter of Trout Unlimited (MMBTU) and FOMB split the cost of six flights and sampling in 2025, one in June (6/26), two each in July (7/18 & 7/29) and August (8/12 & 8/22) and one in September on 9/5 (our focus is on hot and dry "worst case" low flow conditions) in an effort to provide the most comprehensive data to-date on this section

to back up the upgrade proposal if data warranted it. We had exceptionally low flows this year and flows for the last four flights were well below the 96 year USGS medians for Auburn so probably meeting 7Q10 conditions which represent the lowest average river flow that occurs for seven consecutive days once every ten years, based on historical flow data (The 7Q10 low-flow condition is used by DEP to evaluate water quality. It represents the point where a river's ability to dilute pollutants is at its lowest, making it a critical measure for ensuring that pollution control measures are effective.). For example, river flows measured in cubic feet per second (cfs) on 8/22 were 1,280 cfs vs the median of 2,872 cfs and on 9/5 were 1,300 cfs vs 2,940 cfs for the median. See Exhibit 3 for USGS screen shots of real time and 96 year median flows on sample dates.

Date	Sampling	96 yr Median Flow
6/26/2025	3150	4240
7/18/2025	3720	3255
7/29/2025	2100	2995
8/12/2025	1540	3070
8/22/2025	1280	2875
9/5/2025	1300	2940

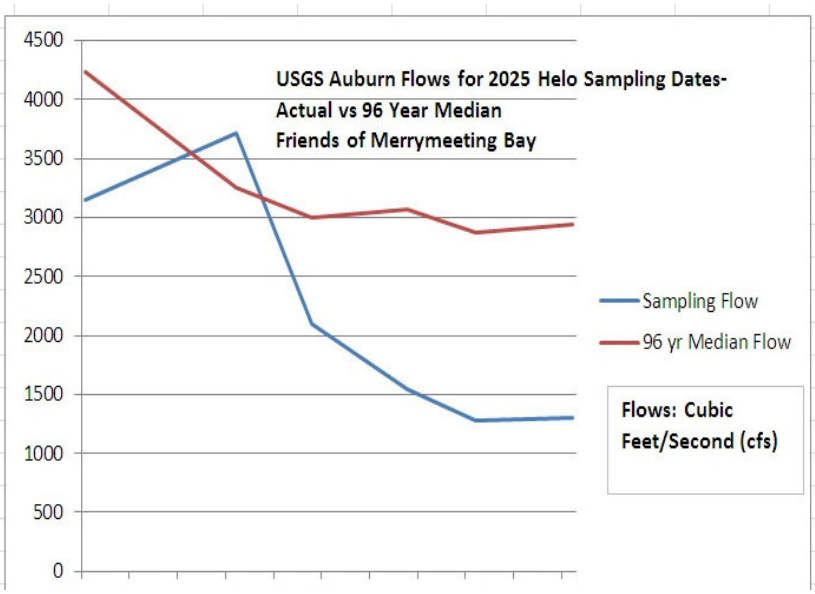


Figure 3. Sampling flows vs. 96 year median flows

For DO measurements a DEP YSI ProSolo meter was used with 12' cable marked in 1' intervals for easy gauge of probe depth. This meter was used all season in the Volunteer River Monitoring Program (VRMP) by the author who has been sampling for over 20 years. E. coli and total coliform samples were analyzed using the EPA certifies IDEXX Colilert system, the same as used by the Maine Health and Environmental Testing Lab. pH measurements were taken using a calibrated YSI Pro Quattro meter rented from Pine Environmental Services.

Figure 4. Sampling helicopter and sampler

The sampling procedures follow this sequence:

1. Pre-label E. coli sample bottles and what we could with data sheets

2. Turn on meter upon arrival at airport and let warm up at least 20 minutes while checking, preparing and warming up aircraft.

3. Calibrate meter, give instructions to sampler and depart.

4. Arrive at first sample site, open door (if on), and lower DO probe to appropriate depth to acclimate and stabilize

5. Rinse bacteria sample "throw bottle" three times and on the fourth time fill IDEXX sample bottle. Replace sample in cooler.

6. Sampler reads off meter readings (DO in mg/l, DO in %, Specific conductivity and water temperature) to pilot who records time, air temperature, depth and sampler water data.

7. Secure equipment, close door, insure controls are free and depart for next site where process is repeated.

8. Back at the lab; IDEXX tray sealer and oven are turned on, bottles are emptied to the 100 ml mark, reagent is added to bottles and dissolved, Quantitrays are marked for sample location, samples are poured into corresponding IDEXX Quantitray which are sealed and then incubated for 24 hours before bacteria presence is counted and recorded.

9. For each sampling flight one replicate sample s recorded and gathered and at the lab one lab blank (distilled water) is processed, incubated and counted.

Results & Discussion

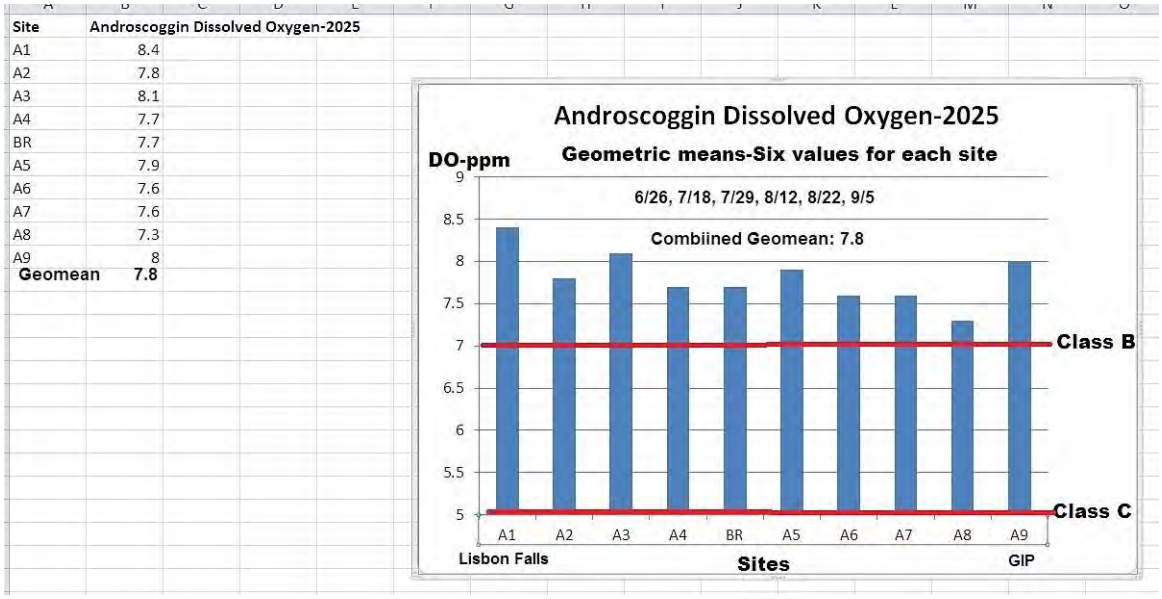
Our results for 2025 have been outstanding with all stations easily meeting **Class B standards** which for **DO** are a minimum geometric mean of **7 parts per million** (ppm) or **75% saturation whichever is higher** and ***E. coli*** not to exceed a geometric mean of **64 colonies/100 ml** over a 90 day period. Of 198 total measurements for DO in mg/l, DO in percent saturation and *E. coli* bacteria, every individual DO and *E. coli* reading except once at A8 (Deer Rips impoundment on 9/5 at 6.7ppm DO) has met Class B standards of above 7ppm for dissolved oxygen and below 64 colonies for bacteria. Because % DO at Deer Rips was 76.6%, we went from 99.995% compliance to 100%. And Deer Rips falls under the hydropower exclusion anyway (Exhibit 6).

Site	**DO (ppm)**	**E. coli (col/100ml)**
A1	8.4	19.9
A2	7.8	20
A3	8.1	29.5
A4	7.7	44.6
BR	7.7	35.1
A5	7.9	31.6
A6	7.6	15.7
A7	7.6	12.4
A8	7.3	9.1
A9	8.0	3.6
Geomean Totals	**7.8**	**18.1**

Figure 5. Combined geometric means by station

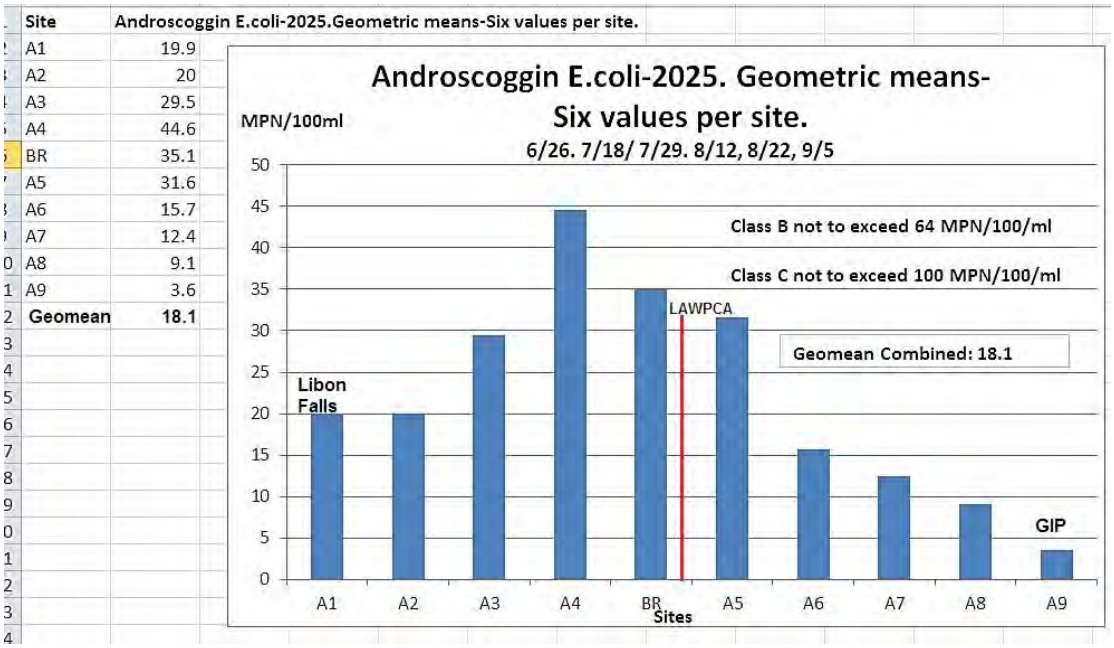
E. coli levels rise as we move upstream closer to the L/A wastewater plant (just above BR) mixing zone area (BR and A4) and then diminish upstream of the plant. **Class C minimum for DO is 5ppm and maximum geomean for bacteria is 100 colonies/100ml.**

With no pH meter available from DEP, FOMB rented a pH meter for our last scheduled flight to get a sense of acidity readings and whether or not they were within the 6.5-9 acceptable range DEP proposes adding to the classification standards. Our results ranged from 6.86 in the Deer Rips impoundment (A8) to 7.6 in the upper Worumbo impoundment (A1). Rental cost for the meter was $150/day which along with possible requirements for freshwater nutrient (phosphorus) monitoring put surveillance out of reach for volunteer river monitoring program groups on which the Department depends.



Site	Androscoggin Dissolved Oxygen-2025
A1	8.4
A2	7.8
A3	8.1
A4	7.7
BR	7.7
A5	7.9
A6	7.6
A7	7.6
A8	7.3
A9	8
Geomean	7.8

Figure 6. Geometric means for DO by station



Site	Androscoggin E.coli-2025.Geometric means-Six values per site.
A1	19.9
A2	20
A3	29.5
A4	44.6
BR	35.1
A5	31.6
A6	15.7
A7	12.4
A8	9.1
A9	3.6
Geomean	18.1

Figure 7. Geometric means for E. coli by station

Site	Androscoggin E. coli
A9	2
A8	7.4
A7	33.6
A6	6.3
A5	16
BR	15.3
A4	21.6
A3	15.6
A2	6.3
A1	13.5
DBL	23.6
PBL	12.2
FPU	6.2
FPD	4.1
BIL	5.2
BCP	12
BWS	8.6
IVL	48
	Geomean 9.8

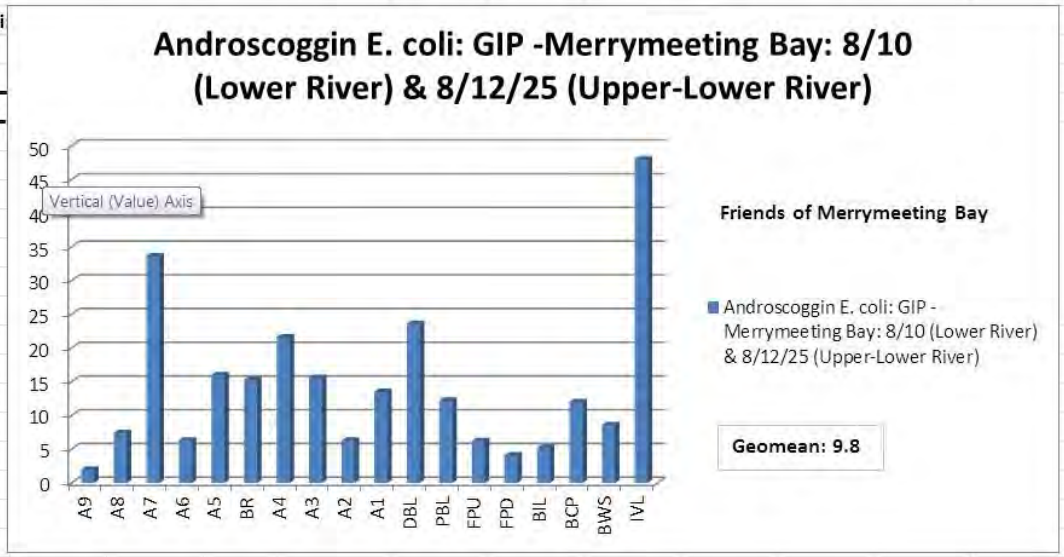


Figure 8. E. coli for Helicopter and VRMP sites two days apart

Site	Androscoggin pH 9/5/25
A1	7.6
A2	7.33
A3	7.34
A4	7.22
BR	7.27
A5	7.42
A6	7.05
A7	6.98
A8	6.86
A9	7.04
A6 Replicate	7.01

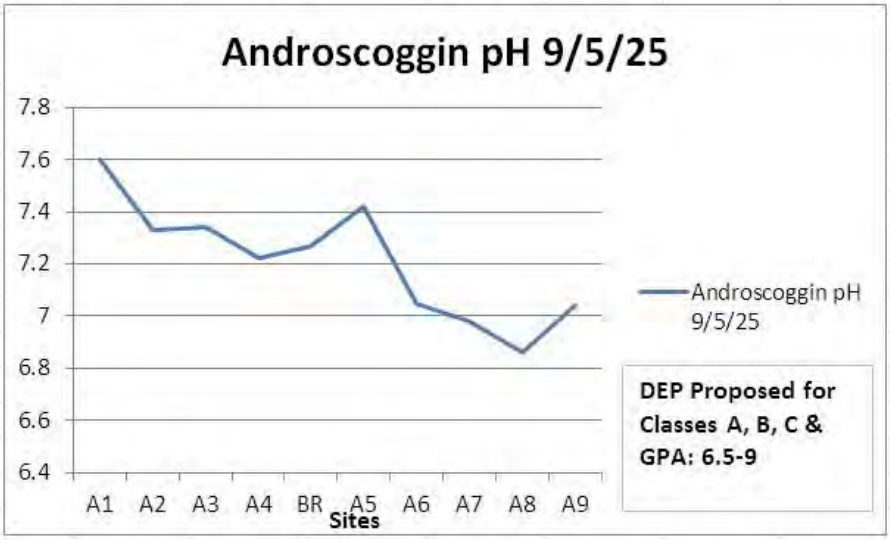


Figure 9. pH on 9/5/25 by station

Response to Comments

DEP: Prior to our sampling effort the DEP submitted the following comment including that the section does not fully meet Class B criteria for aquatic life and DO and that bacteria data are limited but indicate neither Class B or Class C criteria may be met. Our sampling data clarify this section of river is in full compliance with Class B bacteria and DO criteria under normal and extremely low flow conditions. The DEP has already modeled (based on FOMB benthic macroinvertebrate work for the last Triennial) aquatic life as meeting Class B in the free-flowing reach of this section from Lewiston to the Worumbo impoundment. (Exhibit 4) Phosphorus criteria are not part of the current water quality standards.

DEP proposals to include nutrient and pH requirements as well as continuous DO monitoring will have the unintended (or maybe intended?) effect of putting measurements of these criteria out of reach of virtually all citizen monitoring programs because of cost and technical capacity.

> The Department agrees that water quality in the Androscoggin River has significantly improved and that segments proposed for upgrade meet most of their current Class C water quality criteria. **However, Class B criteria are not always met for bacteria, aquatic life (biomonitoring), DO, and phosphorus. Data for the lower river indicate that this segment largely meets its current Class C criteria, but it does not fully meet all Class B criteria for aquatic life and DO. Bacteria data for this segment are limited, but available data indicate this segment may not meet either Class B or Class C criteria.** Most of the available phosphorus data for the Androscoggin River was collected in 2010, and very little data have been collected since that time. Results indicate that the river segments proposed meet Class C freshwater nutrient criteria and mostly meets Class B criteria. However, data for several sites in both the upper and lower river segments were above the Class B phosphorus criteria of 30 ppb. Additional data are needed to determine phosphorus criteria attainment.
>
> If these waters are upgraded but do not attain Class B criteria, they may be listed as impaired in the Department's Integrated Report with a requirement to complete a Total Maximum Daily Load (TMDL). Such listings and TMDLs may also impact discharges if the discharges cause or contribute to such impairments.

ARWC: The Androscoggin River Watershed Council (ARWC) makes the following speculation about water quality and aquatic life standards in the GIP to Worumbo reach. While they are substantially correct on water quality as measured by DO and bacteria, their speculation on aquatic life is incorrect as existing sampling has shown.

> As previously noted, we do not believe the water quality below Gulf Island Dam varies between the dam and the Worumbo Dam, but rather the existing conditions of the river substrate and morphology make it improbable that the macroinvertebrate model criteria can be met

Rumford-Mexico SD: There has been quite a bit of speculation and seemingly definitive (but false) assertions over the years on what the influence of Gulf Island Pond aeration might be on points downstream? The comments below ("*Without continuous operation of this oxygenation system, this reach of the Androscoggin would not be capable of meeting the existing or proposed Class B DO criteria. The attainment of DO thresholds in this reach is not a reflection of natural assimilative capacity but of sustained artificial intervention*.") by the Rumford-Mexico Sewage District submitted on 6/30/25 are typical and as our actual sampling data show are 180 degrees off.

https://www.maine.gov/dep/water/wqs/TR_DEP-PubComm_MayJune2025.pdf Page 46

I. **Artificial Oxygenation in the Androscoggin River: Gulf Island Pond System**

A clear example of this concern is the reach of the Androscoggin River between the confluence with the Ellis River at Rumford Point and the Worumbo Dam in Lisbon Falls. This stretch is heavily influenced by a mechanical oxygenation system located in Gulf Island Pond, which injects oxygen into the river during critical periods to maintain compliance with DO standards for Class C waterbodies. The system compensates for naturally low oxygen levels caused by the river's morphology (impounded, slow-moving waters), nutrient and organic loading, and warm summer temperatures.

Without continuous operation of this oxygenation system, this reach of the Androscoggin would not be capable of meeting the existing or proposed Class B DO criteria. The attainment of DO

thresholds in this reach is not a reflection of natural assimilative capacity but of sustained, artificial intervention. Simply put, the mechanical bubbler has effectively created artificial conditions that would not otherwise exist in this stretch of the river.

In fact our real-life sampling showed just the opposite. DO levels in GIP (A9) taken from 6-10' below the surface were high. But, DO levels just below in the Deer Rips impoundment (A8) consistantly had the lowest levels of oxygen on the reach (although all within Class B). Below Deer Rips, DO levels rose. The only explanation for this is that at least during 2025, the waters flowing through the GIP turbines were coming from the deeper more anoxic layer in the Pond, settling into the Deer Rips impoundment and from Deer Rips on down mixing with surface atmosphere to bring their DO levels up. If what Rumford-Mexico asserts were true, we would see the opposite-highest levels of DO in Deer Rips and trending down with distance from GIP, at least to some ambient level.

Conclusion

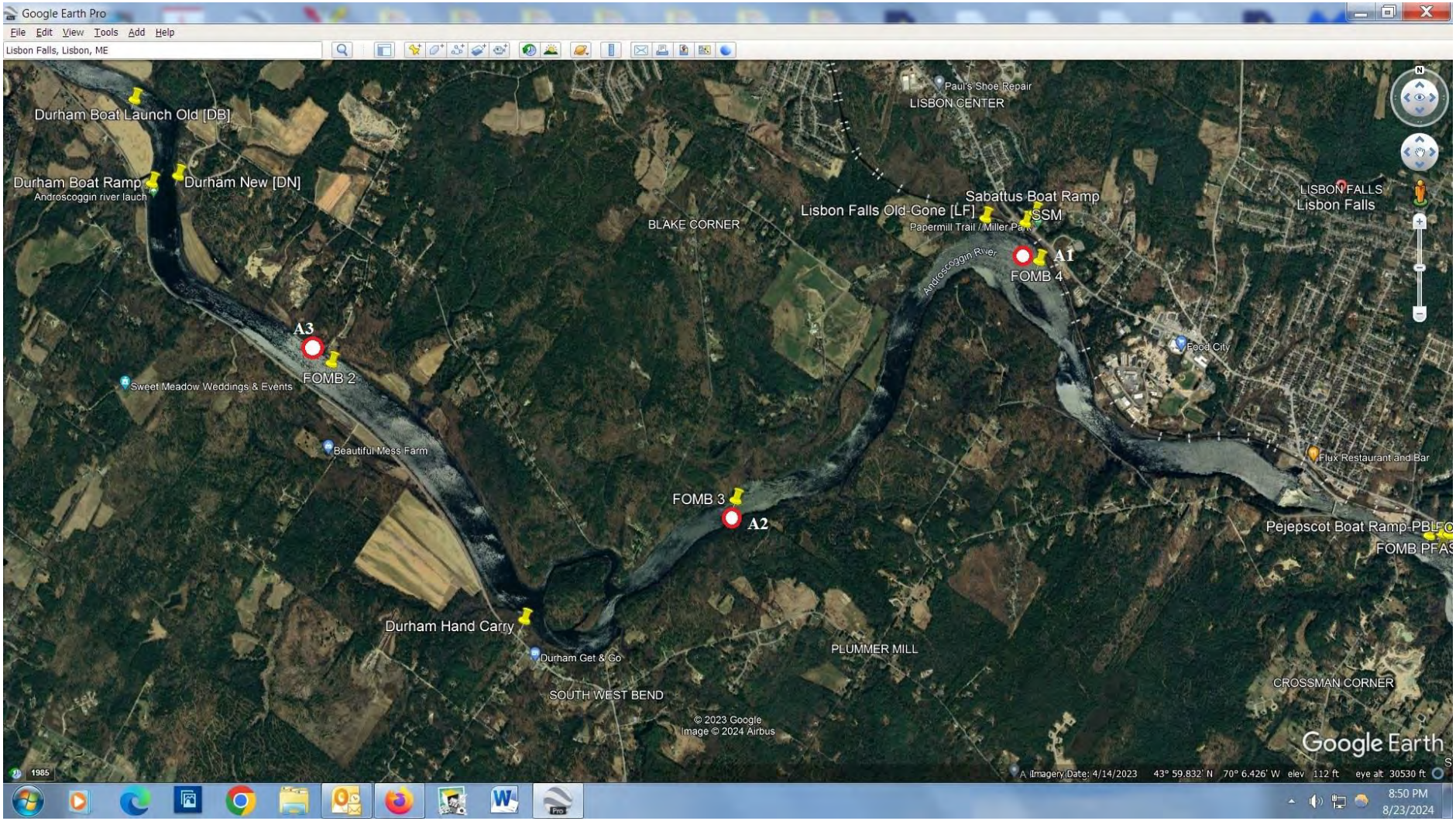
A 7Q10 value represents the lowest average river flow that occurs for seven consecutive days once every ten years, based on historical flow data. The 7Q10 low-flow condition is used by DEP to evaluate water quality. It represents the point where a river's ability to dilute pollutants is at its lowest, making it one critical measure for ensuring that pollution control measures are effective. With record low flows this year of extended drought we believe sampling occurred multiple times under 7Q10 conditions.

To the best of our knowledge the FOMB/MMTU helicopter sampling program is the most comprehensive water quality sampling undertaken to date on this section of river proposed for an upgrade. Having easily met Class B criteria in the entire section and aquatic life criteria in the free-flowing reach, the BEP has a non-discretionary duty to recommend upgrading this section to the legislature.

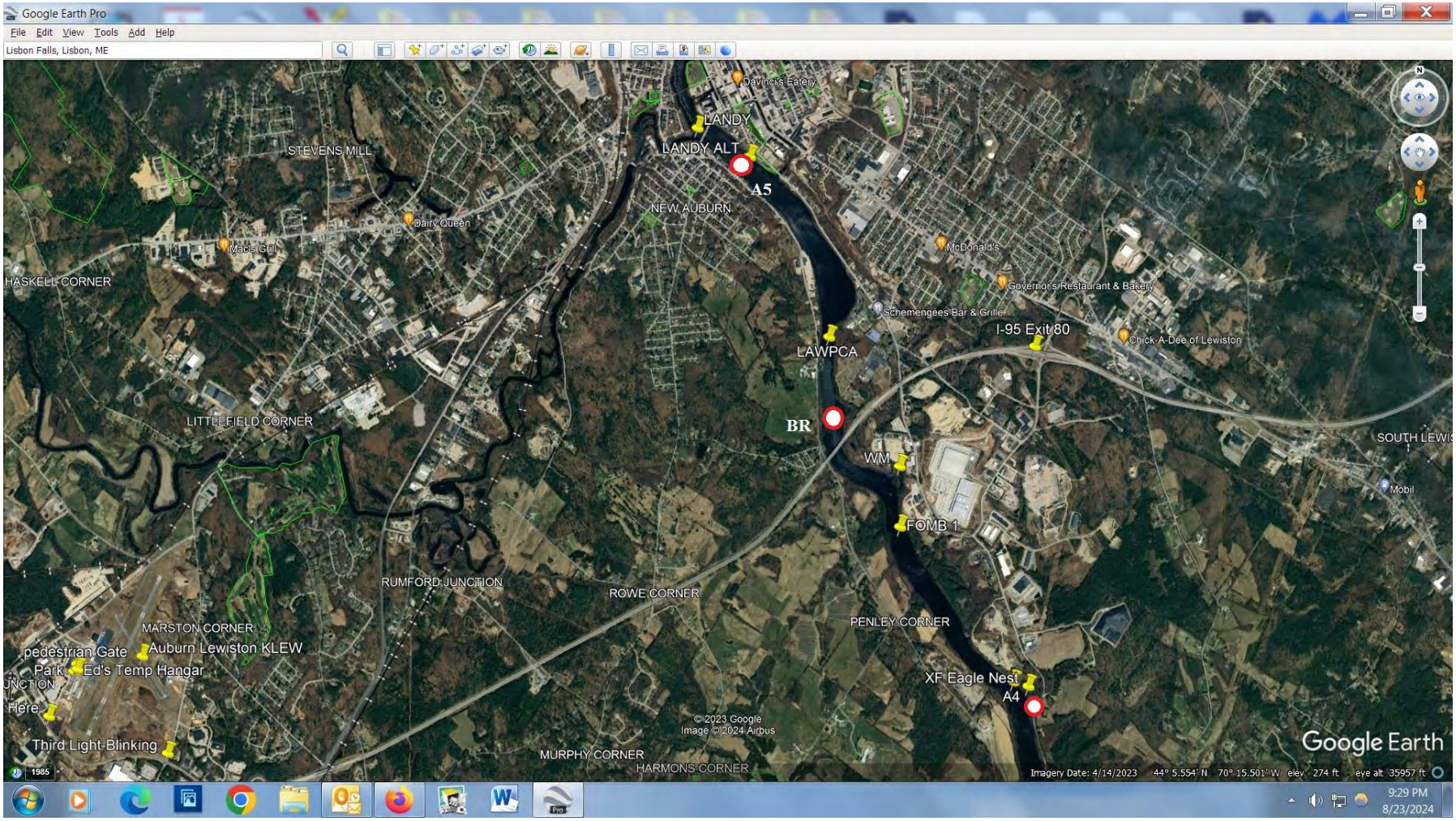
Exhibits

1. Sample site locations-Google Earth
2. Location Map-All FOMB Androscoggin sites
3. USGS Auburn flows for sampling dates
4. DEP Benthic macroinvertebrate reports from FOMB sampling 2021
5. 2025 Helicopter sampling data and notes

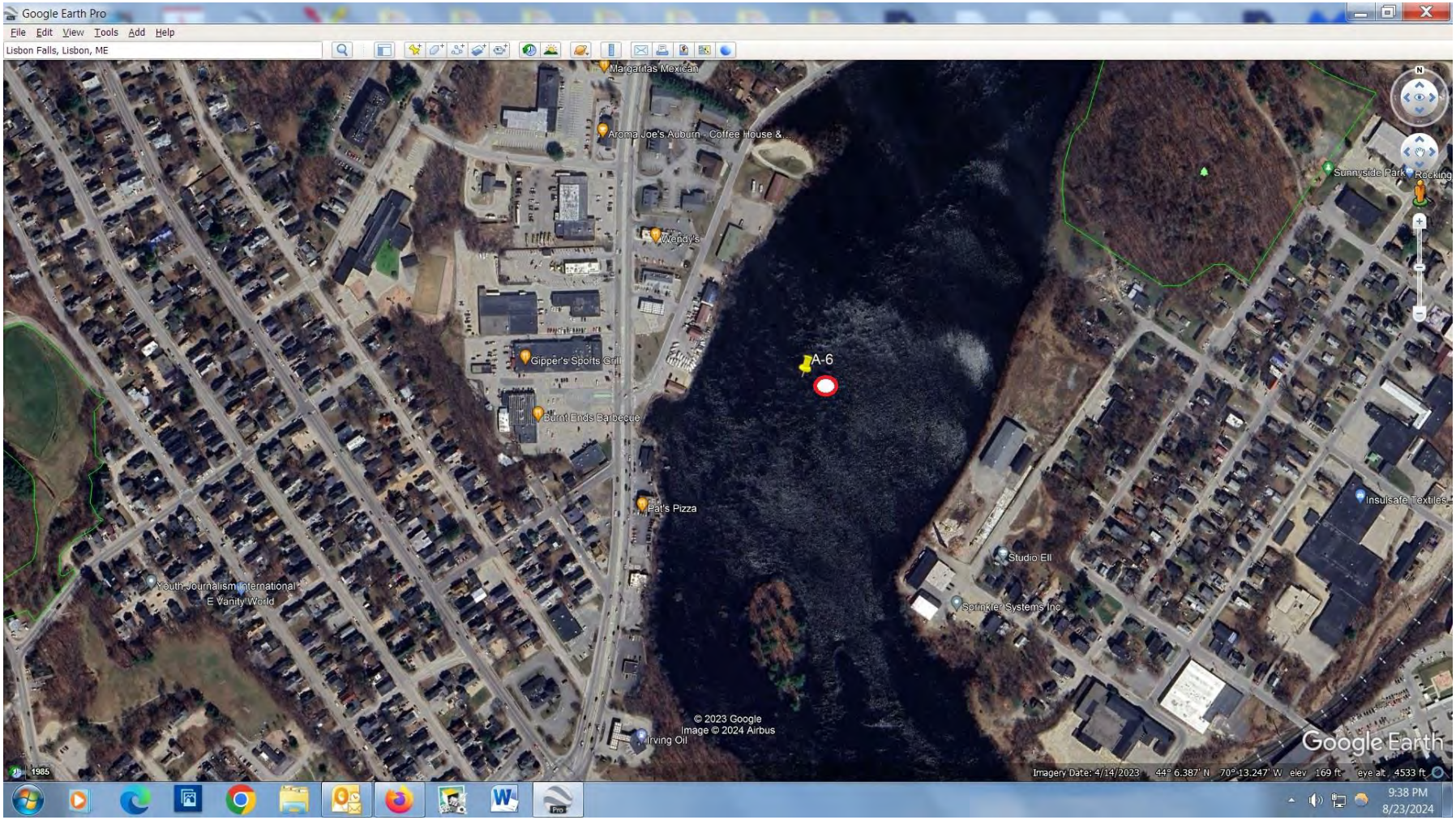
FOMB Exhibit 1A Sample Sites A1, A2, A3



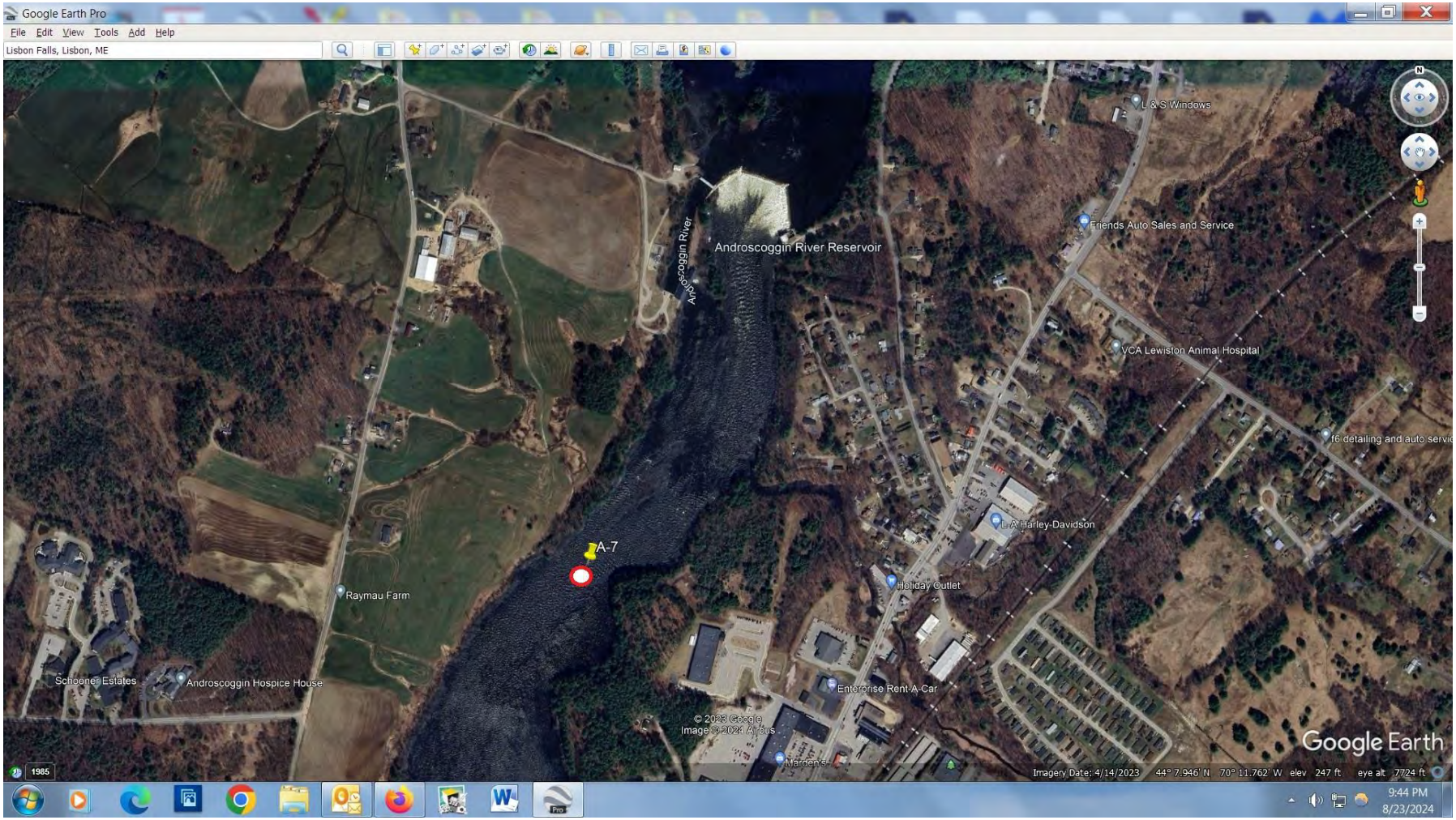
FOMB Exhibit 1B Sample Sites A4, BR (Benner Rips), A5



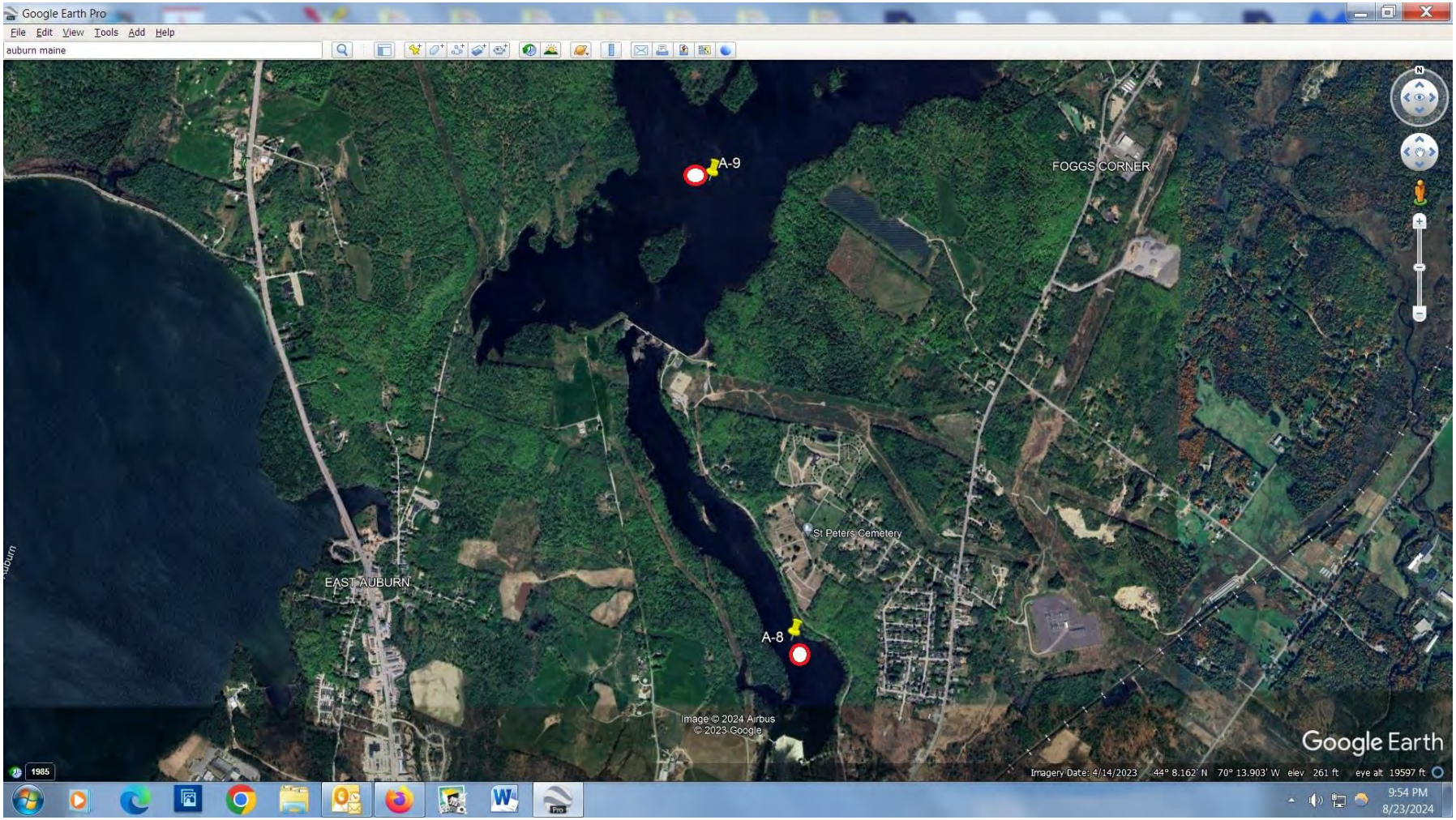
FOMB Exhibit 1C Sample Site A6



FOMB Exhibit 1D Sample Site A7



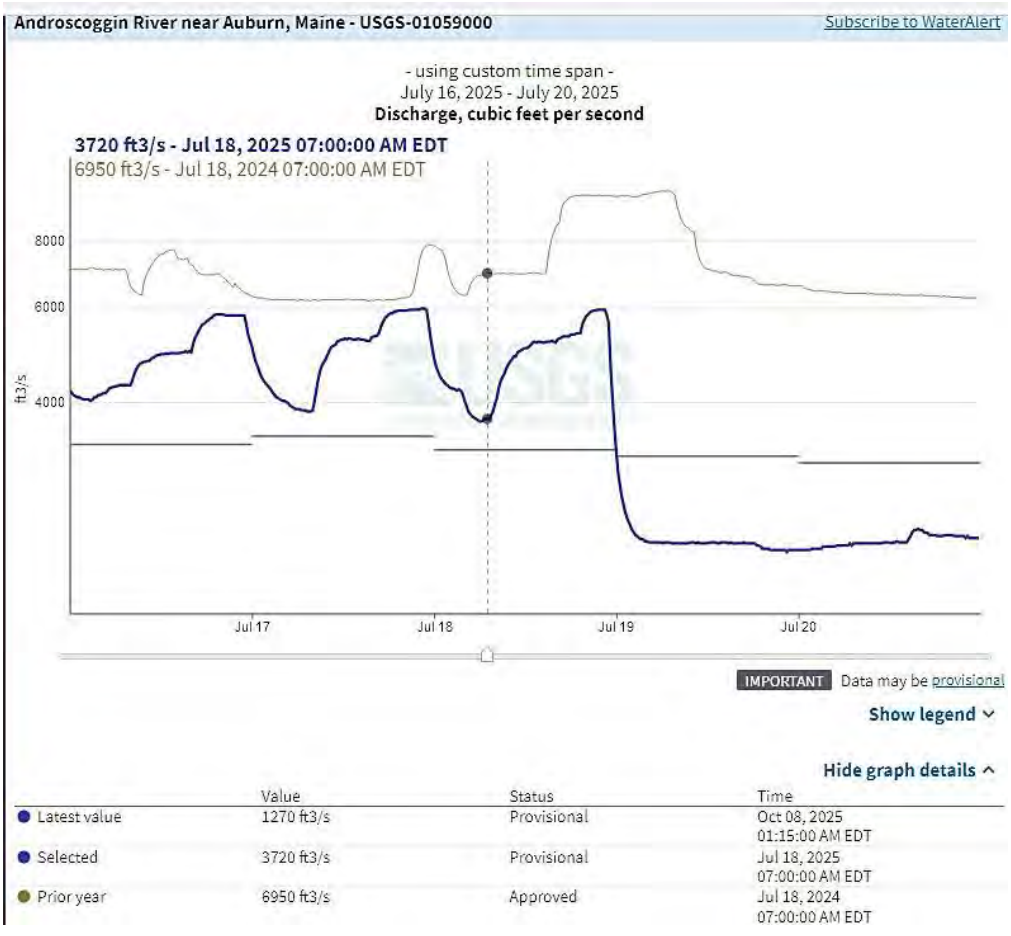
FOMB Exhibit 1E Sample Site A8, A9



FOMB Exhibit 2 All FOMB Sample Sites (VRMP & Helicopter)

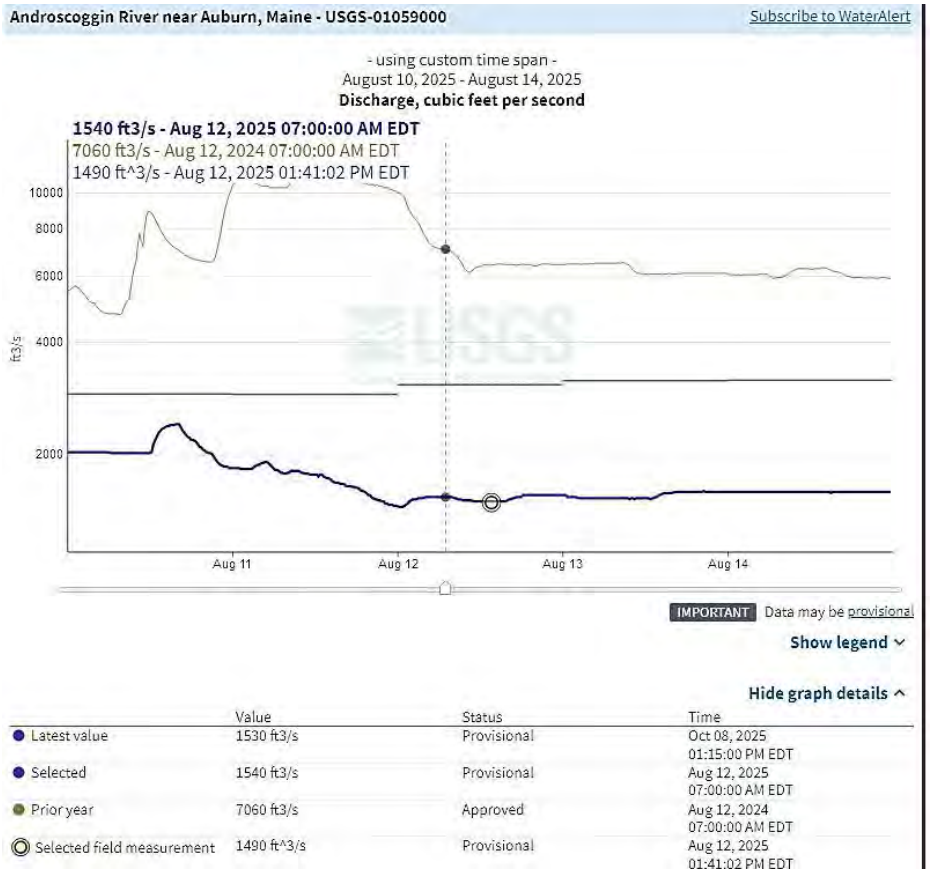
Exhibit 3 - USGS Auburn Flows

6/26 Flows

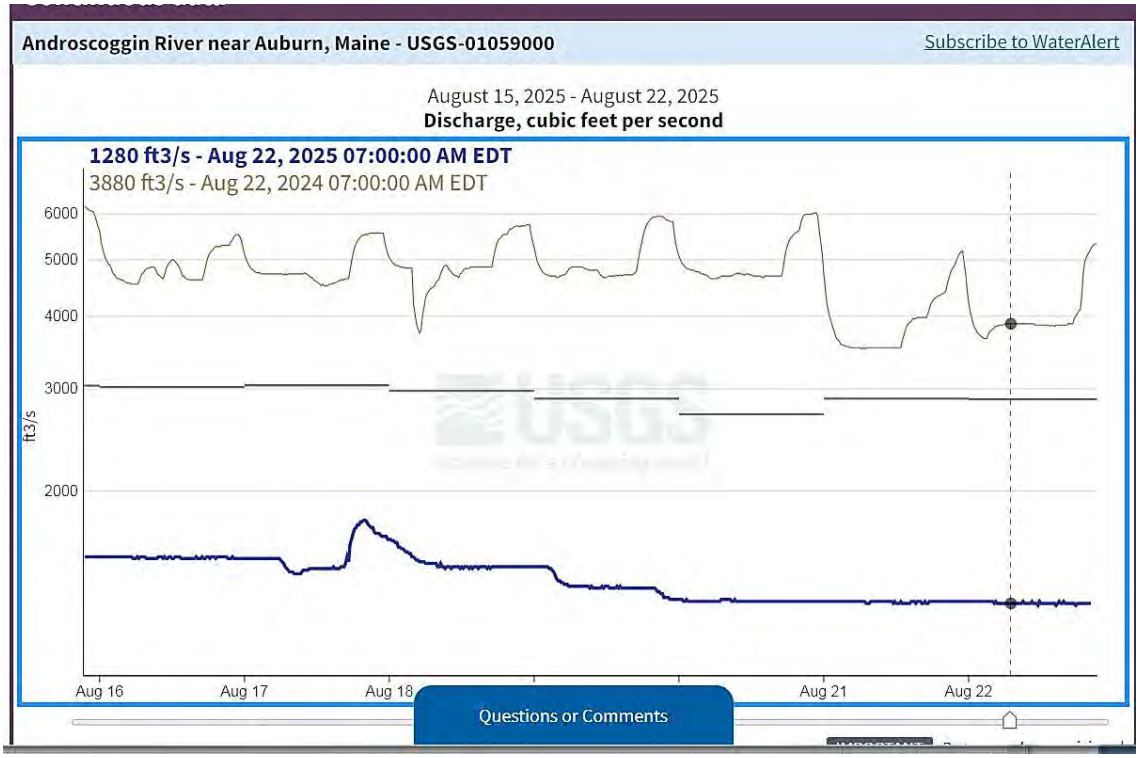


7/18 Flows

7/29 Flows



8/12 Flows



8/22 Flows

9/5 Flows

Auburn Flows April 1- October 8, 2025 (Gray line is 96 year median flow)

Maine Department of Environmental Protection
Biological Monitoring Program
Aquatic Life Classification Attainment Report

Station Information

Station Number: **S-1204**
Waterbody: Androscoggin River - Station 1204
Town: Lewiston
Directions: FROM DURHAM BOAT LAUNCH GO UPSTREAM 300 YDS DWNSTRM OF OLD DEP SAMPLING SITE "HELO BEACH"

River Basin: Androscoggin
HUC8 Name:
Latitude: 44 3 28.97 N
Longitude: 70 12 0.98 W
Stream Order:

Sample Information

Log Number: **2938** Type of Sample: ROCK BASKET Date Deployed: 8/4/2021
Subsample Factor: X1 Replicates: 3 Date Retrieved: 8/31/2021

Classification Attainment

Statutory Class: **C** **Final Determination:** **B** Date: 3/29/2022
Model Result with P≥0.6: B **Reason for Determination:** **Model**
Date Last Calculated: 3/23/2022 Comments:

Model Probabilities

First Stage Model			
Class A	0.32	Class C	0.04
Class B	0.64	NA	0.00

C or Better Model	
Class A, B, or C	1.00
Non-Attainment	0.00

B or Better Model	
Class A or B	0.99
Class C or Non-Attainment	0.01

A Model	
Class A	0.16
Class B or C or Non-Attainment	0.84

Model Variables

01	Total Mean Abundance	2388.33
02	Generic Richness	27.00
03	Plecoptera Mean Abundance	2.67
04	Ephemeroptera Mean Abundance	169.00
05	Shannon-Wiener Generic Diversity	2.85
06	Hilsenhoff Biotic Index	3.21
07	Relative Abundance - Chironomidae	0.05
08	Relative Generic Richness Diptera	0.22
09	*Hydropsyche* Abundance	32.33
11	*Cheumatopsyche* Abundance	172.67
12	EPT Generic Richness/ Diptera Generic Richness	2.17
13	Relative Abundance - Oligochaeta	0.00
15	Perlidae Mean Abundance (Family Functional Group)	2.67
16	Tanypodinae Mean Abundance (Family Functional Group)	10.67
17	Chironomini Abundance (Family Functional Group)	72.00
18	Relative Abundance Ephemeroptera	0.07
19	EPT Generic Richness	13.00
21	Sum of Abundances: *Dicrotendipes, Micropsectra, Parachironomus, Helobdella*	0.00
23	Relative Generic Richness- Plecoptera	0.04
25	Sum of Abundances: *Cheumatopsyche, Cricotopus, Tanytarsus, Ablabesmyia*	183.33
26	Sum of Abundances: *Acroneuria, Maccaffertium, Stenonema*	0.67
28	EP Generic Richness/14	0.29
30	Presence of Class A Indicator Taxa/7	0.29

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	*Chimarra*	41.95
2	Planariidae	16.43
3	Hydrobiidae	10.34
4	*Cheumatopsyche*	7.23
5	*Acerpenna*	6.73

Maine Department of Environmental Protection
Biological Monitoring Program
Aquatic Life Classification Attainment Report

Station Number: **S-1204** Town: Lewiston Date Deployed: 8/4/2021
Log Number: **2938** Waterbody: Androscoggin River - Station 1204 Date Retrieved: 8/31/2021

Sample Collection and Processing Information

Sampling Organization: MOODY MOUNTAIN ENVIRONMENTAL

Taxonomist: PAUL LEEPER (MOODY MOUNTAIN ENVIRONMENTAL)

Waterbody Information - Deployment		Waterbody Information - Retrieval	
Temperature:	23.3 deg C	Temperature:	
Dissolved Oxygen:	9.5 mg/l	Dissolved Oxygen:	
Dissolved Oxygen Saturation:		Dissolved Oxygen Saturation:	
Specific Conductance:		Specific Conductance:	
Velocity:	59 cm/s	Velocity:	
pH:		pH:	
Wetted Width:	152 m	Wetted Width:	152 m
Bankfull Width:		Bankfull Width:	
Depth:	55 cm	Depth:	55 cm

Water Chemistry

Summary of Habitat Characteristics

Landuse Name	Canopy Cover	Terrain	
Upland Conifer	Open	Rolling	
Upland Hardwood			
Potential Stressor	**Location**	**Substrate**	
Nps Pollution	Below POTW	Boulder	10 %
Urban Runoff	Below Urban NPS	Gravel	25 %
		Rubble/Cobble	55 %
		Sand	10 %

Landcover Summary - 2004 Data

Sample Comments

FILAMENTOUS ALGAE, AQ. PLANTS

Maine Department of Environmental Protection
Biological Monitoring Program

Aquatic Life Taxonomic Inventory Report

Station Number: S-1204 Waterbody: Androscoggin River - Station 1204 Town: Lewiston

Log Number: 2938 Subsample Factor: X1 Replicates: 3 Calculated: 3/23/2022

Taxon	Maine Taxonomic Code	Count (Mean of Samplers) Actual	Count (Mean of Samplers) Adjusted	Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance % Actual	Relative Abundance % Adjusted
Planariidae	03010101	392.33	392.33		--	16.4	16.4
Annelida	08	2.67	2.67		--	0.1	0.1
Paragnetina	09020209049	2.67	2.67	1	PR	0.1	0.1
Boyeria	09020301004	0.33	0.33	2	PR	0.0	0.0
Acerpenna	09020401007	160.67	160.67	5	CG	6.7	6.7
Maccaffertium	09020402015	0.67	0.67	4	SC	0.0	0.0
Isonychia	09020404018	7.67	7.67	2	CF	0.3	0.3
Chimarra	09020601003	1002.00	1002.00	2	CF	42.0	42.0
Cheumatopsyche	09020604015	172.67	172.67	5	CF	7.2	7.2
Hydropsyche	09020604016	32.33	32.33	4	CF	1.4	1.4
Macrostemum	09020604018	55.67	55.67	3	CF	2.3	2.3
Ochrotrichia	09020607027	65.00	65.00	4	P	2.7	2.7
Oxyethira	09020607028	5.33	5.33	3	P	0.2	0.2
Brachycentrus	09020609043	3.00	3.00	0	CF	0.1	0.1
Nectopsyche	09020618074	9.00	9.00	3	SH	0.4	0.4
Oecetis	09020618078	20.00	20.00	8	PR	0.8	0.8
Pentaneura	09021011014	10.67	10.67	6	PR	0.4	0.4
Cricotopus	09021011037	2.67	2.67	7	SH	0.1	0.1
Eukiefferiella	09021011041	29.33	29.33	8	CG	1.2	1.2
Tanytarsus	09021011076	8.00	8.00	6	CF	0.3	0.3
Polypedilum	09021011102	72.00	72.00	6	SH	3.0	3.0
Simulium	09021012047	78.00	78.00	4	CF	3.3	3.3
Elmidae	09021113	2.67	2.67		--	0.1	0.1
Ancyronyx	09021113063	5.33	5.33	6	--	0.2	0.2
Hydrachna	09030103001	0.33	0.33		--	0.0	0.0
Hydrobiidae	10010104	247.00	247.00		--	10.3	10.3
Physidae	10010202	0.33	0.33		SC	0.0	0.0

Maine Department of Environmental Protection
Biological Monitoring Program
Aquatic Life Classification Attainment Report

Station Information

Station Number: S-1205
Waterbody: Androscoggin River - Station 1205
Town: Durham
Directions: FROM DURHAM BOAT LAUNCH GO DOWNSTREAM APPROX. 1 MILE UPSTREAMOFSAND BAR. CONSULTANT SITE NAME: ANDY 2

River Basin: Androscoggin
HUC8 Name:
Latitude: 44° 00' 06.90221700" N
Longitude:
Stream Order:

Sample Information

Log Number: 2939 Type of Sample: ROCK BASKET Date Deployed: 8/4/2021
Subsample Factor: X1 Replicates: 3 Date Retrieved: 8/31/2021

Classification Attainment

Statutory Class: C **Final Determination: B** Date: 3/29/2022
Model Result with P≥0.6: C **Reason for Determination: Best Professional Judgement**
Date Last Calculated: 3/23/2022 Comments: Indeterminate for Class B (p = 0.51). Raised to Class B based on community structure.

Model Probabilities

First Stage Model

Class A	0.12	Class C	0.29
Class B	0.59	NA	0.00

C or Better Model

Class A, B, or C	1.00
Non-Attainment	0.00

B or Better Model

Class A or B	0.51
Class C or Non-Attainment	0.49

A Model

Class A	0.01
Class B or C or Non-Attainment	0.99

Model Variables

01 Total Mean Abundance	677.33
02 Generic Richness	37.00
03 Plecoptera Mean Abundance	1.00
04 Ephemeroptera Mean Abundance	138.33
05 Shannon-Wiener Generic Diversity	3.71
06 Hilsenhoff Biotic Index	5.18
07 Relative Abundance - Chironomidae	0.13
08 Relative Generic Richness Diptera	0.30
09 *Hydropsyche* Abundance	0.33
11 *Cheumatopsyche* Abundance	185.67
12 EPT Generic Richness/ Diptera Generic Richness	1.45
13 Relative Abundance - Oligochaeta	0.00
15 Perlidae Mean Abundance (Family Functional Group)	1.00
16 Tanypodinae Mean Abundance (Family Functional Group)	61.67
17 Chironomini Abundance (Family Functional Group)	18.67
18 Relative Abundance Ephemeroptera	0.20
19 EPT Generic Richness	16.00
21 Sum of Abundances: *Dicrotendipes, Micropsectra, Parachironomus, Helobdella*	8.00
23 Relative Generic Richness- Plecoptera	0.03
25 Sum of Abundances: *Cheumatopsyche, Cricotopus, Tanytarsus, Ablabesmyia*	195.33
26 Sum of Abundances: *Acroneuria, Maccaffertium, Stenonema*	23.33
28 EP Generic Richness/14	0.36
30 Presence of Class A Indicator Taxa/7	0.00

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	*Cheumatopsyche*	27.41
2	*Acerpenna*	16.58
3	Planariidae	8.42
4	*Pentaneura*	6.84
5	Hydrobiidae	5.36

Maine Department of Environmental Protection
Biological Monitoring Program
Aquatic Life Classification Attainment Report

Station Number: **S-1205** Town: Durham Date Deployed: 8/4/2021
Log Number: **2939** Waterbody: Androscoggin River - Station 1205 Date Retrieved: 8/31/2021

Sample Collection and Processing Information

Sampling Organization: PAUL LEEPER (MOODY MOUNTAIN ENVIRONMENTAL)

Taxonomist: PAUL LEEPER (MOODY MOUNTAIN ENVIRONMENTAL)

Waterbody Information - Deployment		Waterbody Information - Retrieval	
Temperature:	24.8 deg C	Temperature:	24.9 deg C
Dissolved Oxygen:	11 mg/l	Dissolved Oxygen:	10 mg/l
Dissolved Oxygen Saturation:		Dissolved Oxygen Saturation:	
Specific Conductance:		Specific Conductance:	
Velocity:	21 cm/s	Velocity:	
pH:		pH:	
Wetted Width:	252 m	Wetted Width:	252 m
Bankfull Width:		Bankfull Width:	
Depth:	52 cm	Depth:	46 cm

Water Chemistry

Summary of Habitat Characteristics

Landuse Name	Canopy Cover	Terrain	
Upland Conifer	Open	Flat	
Upland Hardwood			
Potential Stressor	**Location**	**Substrate**	
Nps Pollution	Below Agriculture NPS	Gravel	15 %
Urban Runoff	Below POTW	Rubble/Cobble	5 %
	Below Urban NPS	Sand	80 %

Landcover Summary - 2004 Data

Sample Comments

Maine Department of Environmental Protection
Biological Monitoring Program

Aquatic Life Taxonomic Inventory Report

Station Number: S-1205 Waterbody: Androscoggin River - Station 1205 Town: Durham

Log Number: 2939 Subsample Factor: X1 Replicates: 3 Calculated: 3/23/2022

Taxon	Maine Taxonomic Code	Count (Mean of Samplers) Actual	Count (Mean of Samplers) Adjusted	Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance % Actual	Relative Abundance % Adjusted
Planariidae	03010101	57.00	57.00		--	8.4	8.4
Annelida	08	0.33	0.33		--	0.0	0.0
Hyalella	09010203006	3.00	3.00	8	CG	0.4	0.4
Orconectes	09010301008		1.00		CG		0.1
Orconectes limosus	09010301008013	1.00			--	0.1	
Acroneuria	09020209042	1.00	1.00	0	PR	0.1	0.1
Amphiagrion	09020309046	11.00	11.00	9	PR	1.6	1.6
Chromagrion	09020309049	0.33	0.33	4	PR	0.0	0.0
Acerpenna	09020401007	112.33	112.33	5	CG	16.6	16.6
Maccaffertium	09020402015	22.33	22.33	4	SC	3.3	3.3
Isonychia	09020404018	0.33	0.33	2	CF	0.0	0.0
Tricorythodes	09020411038	3.33	3.33	4	CG	0.5	0.5
Chimarra	09020601003	7.33	7.33	2	CF	1.1	1.1
Neureclipsis	09020603008	0.33	0.33	7	CF	0.0	0.0
Polycentropus	09020603010	7.00	7.00	6	PR	1.0	1.0
Cheumatopsyche	09020604015	185.67	185.67	5	CF	27.4	27.4
Hydropsyche	09020604016	0.33	0.33	4	CF	0.0	0.0
Macrostemum	09020604018	1.33	1.33	3	CF	0.2	0.2
Ochrotrichia	09020607027	35.33	35.33	4	P	5.2	5.2
Oxyethira	09020607028	13.67	13.67	3	P	2.0	2.0
Ceraclea	09020618072	1.00	1.00	3	CG	0.1	0.1
Nectopsyche	09020618074	9.67	9.67	3	SH	1.4	1.4
Oecetis	09020618078	28.00	28.00	8	PR	4.1	4.1
Ablabesmyia	09021011001	8.33	8.33	8	PR	1.2	1.2
Pentaneura	09021011014	46.33	46.33	6	PR	6.8	6.8
Thienemannimyia	09021011020	7.00	7.00	3	PR	1.0	1.0
Nanocladius	09021011049	1.33	1.33	3	CG	0.2	0.2
Rheotanytarsus	09021011072	1.67	1.67	6	CF	0.2	0.2
Tanytarsus	09021011076	1.33	1.33	6	CF	0.2	0.2
Dicrotendipes	09021011085	8.00	8.00	8	CG	1.2	1.2
Microtendipes	09021011094	2.67	2.67	6	CF	0.4	0.4
Polypedilum	09021011102	7.67	7.67	6	SH	1.1	1.1
Robackia	09021011103	0.33	0.33		CG	0.0	0.0
Simuliidae	09021012	1.33	1.33		--	0.2	0.2
Hydrobiidae	10010104	36.33	36.33		--	5.4	5.4
Physidae	10010202	31.00	31.00		SC	4.6	4.6
Planorbidae	10010203	10.33	10.33		--	1.5	1.5

Maine Department of Environmental Protection
Biological Monitoring Program

Aquatic Life Taxonomic Inventory Report

Station Number: **S-1205** Waterbody: Androscoggin River - Station 1205 Town: Durham

Log Number: **2939** Subsample Factor: X1 Replicates: 3 Calculated: 3/23/2022

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
Ancylidae	10010204	12.00	12.00		SC	1.8	1.8

Maine Department of Environmental Protection
Biological Monitoring Program
Aquatic Life Classification Attainment Report

Station Information

Station Number: S-1206
Waterbody: Androscoggin River - Station 1206
Town: Lisbon
Directions: FROM SABATTUS STREAM LAUNCH GO UPSTREAM APPROX. 2 MILE TO BOULDER FIELD. CONSULTANT SITE NAME: ANDY 3

River Basin: Androscoggin
HUC8 Name:
Latitude: 43° 59' 34.17243456" N
Longitude:
Stream Order:

Sample Information

Log Number: 2940 Type of Sample: ROCK BASKET Date Deployed: 8/4/2021
Subsample Factor: X1 Replicates: 3 Date Retrieved: 8/31/2021

Classification Attainment

Statutory Class: C **Final Determination: B** Date: 3/29/2022
Model Result with P≥0.6: B **Reason for Determination: Model**
Date Last Calculated: 3/23/2022 Comments:

Model Probabilities

First Stage Model				C or Better Model	
Class A	0.29	Class C	0.05	Class A, B, or C	1.00
Class B	0.66	NA	0.00	Non-Attainment	0.00

B or Better Model		A Model	
Class A or B	0.97	Class A	0.06
Class C or Non-Attainment	0.03	Class B or C or Non-Attainment	0.94

Model Variables

01	Total Mean Abundance	1359.00
02	Generic Richness	30.00
03	Plecoptera Mean Abundance	7.00
04	Ephemeroptera Mean Abundance	213.67
05	Shannon-Wiener Generic Diversity	3.68
06	Hilsenhoff Biotic Index	4.06
07	Relative Abundance - Chironomidae	0.13
08	Relative Generic Richness Diptera	0.30
09	*Hydropsyche* Abundance	40.33
11	*Cheumatopsyche* Abundance	161.33
12	EPT Generic Richness/ Diptera Generic Richness	1.67
13	Relative Abundance - Oligochaeta	0.00
15	Perlidae Mean Abundance (Family Functional Group)	7.00
16	Tanypodinae Mean Abundance (Family Functional Group)	22.67
17	Chironomini Abundance (Family Functional Group)	114.67
18	Relative Abundance Ephemeroptera	0.16
19	EPT Generic Richness	15.00
21	Sum of Abundances: *Dicrotendipes, Micropsectra, Parachironomus, Helobdella*	5.33
23	Relative Generic Richness- Plecoptera	0.03
25	Sum of Abundances: *Cheumatopsyche, Cricotopus, Tanytarsus, Ablabesmyia*	194.67
26	Sum of Abundances: *Acroneuria, Maccaffertium, Stenonema*	38.00
28	EP Generic Richness/14	0.43
30	Presence of Class A Indicator Taxa/7	0.14

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	*Chimarra*	24.60
2	Planariidae	13.47
3	*Cheumatopsyche*	11.87
4	*Acerpenna*	11.63
5	*Ochrotrichia*	6.99

Maine Department of Environmental Protection
Biological Monitoring Program
Aquatic Life Classification Attainment Report

Station Number: **S-1206** Town: Lisbon Date Deployed: 8/4/2021
Log Number: **2940** Waterbody: Androscoggin River - Station 1206 Date Retrieved: 8/31/2021

Sample Collection and Processing Information

Sampling Organization: PAUL LEEPER (MOODY MOUNTAIN ENVIRONMENTAL)

Taxonomist: PAUL LEEPER (MOODY MOUNTAIN ENVIRONMENTAL)

Waterbody Information - Deployment		Waterbody Information - Retrieval	
Temperature:	24.3 deg C	Temperature:	25.5 deg C
Dissolved Oxygen:	10.6 mg/l	Dissolved Oxygen:	9.4 mg/l
Dissolved Oxygen Saturation:		Dissolved Oxygen Saturation:	
Specific Conductance:		Specific Conductance:	
Velocity:	27 cm/s	Velocity:	11 cm/s
pH:		pH:	
Wetted Width:	139 m	Wetted Width:	139 m
Bankfull Width:		Bankfull Width:	
Depth:	30 cm	Depth:	37 cm

Water Chemistry

Summary of Habitat Characteristics

Landuse Name	Canopy Cover	Terrain	
Upland Conifer	Open	Rolling	
Upland Hardwood			
Potential Stressor	**Location**	**Substrate**	
Nps Pollution	Below Agriculture NPS	Boulder	80 %
Urban Runoff	Below POTW	Gravel	10 %
	Below Urban NPS	Sand	10 %

Landcover Summary - 2004 Data

Sample Comments

BOULDER FIELD

Maine Department of Environmental Protection
Biological Monitoring Program

Aquatic Life Taxonomic Inventory Report

Station Number: S-1206 Waterbody: Androscoggin River - Station 1206 Town: Lisbon

Log Number: 2940 Subsample Factor: X1 Replicates: 3 Calculated: 3/23/2022

Taxon	Maine Taxonomic Code	Count (Mean of Samplers) Actual	Count (Mean of Samplers) Adjusted	Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance % Actual	Relative Abundance % Adjusted
Planariidae	03010101	183.00	183.00		--	13.5	13.5
Acroneuria	09020209042	7.00	7.00	0	PR	0.5	0.5
Acerpenna	09020401007	158.00	158.00	5	CG	11.6	11.6
Plauditus	09020401012	13.33	13.33		CG	1.0	1.0
Maccaffertium	09020402015	31.00	31.00	4	SC	2.3	2.3
Isonychia	09020404018	7.33	7.33	2	CF	0.5	0.5
Tricorythodes	09020411038	4.00	4.00	4	CG	0.3	0.3
Chimarra	09020601003	334.33	334.33	2	CF	24.6	24.6
Neureclipsis	09020603008	22.67	22.67	7	CF	1.7	1.7
Cheumatopsyche	09020604015	161.33	161.33	5	CF	11.9	11.9
Hydropsyche	09020604016	40.33	40.33	4	CF	3.0	3.0
Macrostemum	09020604018	46.00	46.00	3	CF	3.4	3.4
Ochrotrichia	09020607027	95.00	95.00	4	P	7.0	7.0
Brachycentrus	09020609043	2.67	2.67	0	CF	0.2	0.2
Nectopsyche	09020618074	9.33	9.33	3	SH	0.7	0.7
Oecetis	09020618078	25.33	25.33	8	PR	1.9	1.9
Petrophila	09020901004	1.00	1.00	5	SC	0.1	0.1
Pentaneura	09021011014	14.67	14.67	6	PR	1.1	1.1
Thienemannimyia	09021011020	8.00	8.00	3	PR	0.6	0.6
Cricotopus	09021011037	17.33	17.33	7	SH	1.3	1.3
Paratanytarsus	09021011071	2.67	2.67	6	--	0.2	0.2
Tanytarsus	09021011076	16.00	16.00	6	CF	1.2	1.2
Dicrotendipes	09021011085	5.33	5.33	8	CG	0.4	0.4
Microtendipes	09021011094	30.67	30.67	6	CF	2.3	2.3
Polypedilum	09021011102	78.67	78.67	6	SH	5.8	5.8
Simulium	09021012047	13.33	13.33	4	CF	1.0	1.0
Elmidae	09021113	4.00	4.00		--	0.3	0.3
Macronychus	09021113065	12.00	12.00	4	--	0.9	0.9
Hydrobiidae	10010104	12.33	12.33		--	0.9	0.9
Physidae	10010202	2.33	2.33		SC	0.2	0.2

Maine Department of Environmental Protection
Biological Monitoring Program
Aquatic Life Classification Attainment Report

Station Information

Station Number: S-1207
Waterbody: Androscoggin River - Station 1207
Town: Lisbon
Directions: FROM SABATTUS STREAM LAUNCH GO DOWNTREAM APPROX. 350 YDS. CONSULTANT SITE NAME: ANDY 4

River Basin: Androscoggin
HUC8 Name:
Latitude: 44° 00' 31.44009501" N
Longitude:
Stream Order:

Sample Information

Log Number: 2941 Type of Sample: ROCK BASKET Date Deployed: 8/4/2021
Subsample Factor: X1 Replicates: 3 Date Retrieved: 8/31/2021

Classification Attainment

Statutory Class: C **Final Determination: C** Date: 3/29/2022
Model Result with P≥0.6: C **Reason for Determination: Model**
Date Last Calculated: 3/23/2022 Comments:

Model Probabilities

First Stage Model			
Class A	0.00	Class C	0.94
Class B	0.01	NA	0.05

C or Better Model	
Class A, B, or C	1.00
Non-Attainment	0.00

B or Better Model	
Class A or B	0.00
Class C or Non-Attainment	1.00

A Model	
Class A	0.00
Class B or C or Non-Attainment	1.00

Model Variables

01 Total Mean Abundance	295.00
02 Generic Richness	40.00
03 Plecoptera Mean Abundance	0.00
04 Ephemeroptera Mean Abundance	31.00
05 Shannon-Wiener Generic Diversity	3.71
06 Hilsenhoff Biotic Index	6.40
07 Relative Abundance - Chironomidae	0.34
08 Relative Generic Richness Diptera	0.28
09 *Hydropsyche* Abundance	0.67
11 *Cheumatopsyche* Abundance	2.00
12 EPT Generic Richness/ Diptera Generic Richness	1.45
13 Relative Abundance - Oligochaeta	0.00
15 Perlidae Mean Abundance (Family Functional Group)	0.00
16 Tanypodinae Mean Abundance (Family Functional Group)	11.33
17 Chironomini Abundance (Family Functional Group)	85.33
18 Relative Abundance Ephemeroptera	0.11
19 EPT Generic Richness	16.00
21 Sum of Abundances: *Dicrotendipes, Micropsectra, Parachironomus, Helobdella*	1.00
23 Relative Generic Richness- Plecoptera	0.00
25 Sum of Abundances: *Cheumatopsyche, Cricotopus, Tanytarsus, Ablabesmyia*	13.00
26 Sum of Abundances: *Acroneuria, Maccaffertium, Stenonema*	11.67
28 EP Generic Richness/14	0.36
30 Presence of Class A Indicator Taxa/7	0.00

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	*Microtendipes*	27.34
2	*Polycentropus*	12.54
3	*Hyalella*	11.19
4	*Oecetis*	9.49
5	Physidae	6.10

Maine Department of Environmental Protection
Biological Monitoring Program

Aquatic Life Classification Attainment Report

Station Number: **S-1207** Town: Lisbon Date Deployed: 8/4/2021
Log Number: **2941** Waterbody: Androscoggin River - Station 1207 Date Retrieved: 8/31/2021

Sample Collection and Processing Information

Sampling Organization: PAUL LEEPER (MOODY MOUNTAIN ENVIRONMENTAL)

Taxonomist: PAUL LEEPER (MOODY MOUNTAIN ENVIRONMENTAL)

Waterbody Information - Deployment		Waterbody Information - Retrieval	
Temperature:	23.6 deg C	Temperature:	24.9 deg C
Dissolved Oxygen:	9.4 mg/l	Dissolved Oxygen:	8.1 mg/l
Dissolved Oxygen Saturation:		Dissolved Oxygen Saturation:	
Specific Conductance:		Specific Conductance:	
Velocity:	8.5 cm/s	Velocity:	5 cm/s
pH:		pH:	
Wetted Width:	396 m	Wetted Width:	396 m
Bankfull Width:		Bankfull Width:	
Depth:	314 cm	Depth:	320 cm

Water Chemistry

Summary of Habitat Characteristics

Landuse Name	Canopy Cover	Terrain	
Upland Conifer	Open	Rolling	
Upland Hardwood			
Potential Stressor	**Location**	**Substrate**	
Impounded	Below Agriculture NPS	Sand	100 %
Nps Pollution	Below POTW		
Nutrients	Below Urban NPS		
Urban Runoff			

Landcover Summary - 2004 Data

Sample Comments

Maine Department of Environmental Protection
Biological Monitoring Program

Aquatic Life Taxonomic Inventory Report

Station Number: S-1207 Waterbody: Androscoggin River - Station 1207 Town: Lisbon

Log Number: 2941 Subsample Factor: X1 Replicates: 3 Calculated: 3/23/2022

Taxon	Maine Taxonomic Code	Count (Mean of Samplers) Actual	Count (Mean of Samplers) Adjusted	Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance % Actual	Relative Abundance % Adjusted
Planariidae	03010101	15.00	15.00		--	5.1	5.1
Annelida	08	0.33	0.33		--	0.1	0.1
Hirudinidae	08030201	1.67	1.67		--	0.6	0.6
Amphipoda	090102	0.33	0.33	8	--	0.1	0.1
Hyalella	09010203006	33.00	33.00	8	CG	11.2	11.2
Orconectes	09010301008		0.67		CG		0.2
Orconectes limosus	09010301008013	0.67			--	0.2	
Somatochlora	09020305027	0.33	0.33	1	PR	0.1	0.1
Argia	09020309048	1.00	1.00	7	PR	0.3	0.3
Coenagrion	09020309050	1.00	1.00	8	PR	0.3	0.3
Acerpenna	09020401007	1.00	1.00	5	CG	0.3	0.3
Plauditus	09020401012	0.33	0.33		CG	0.1	0.1
Stenacron	09020402014	14.67	14.67	7	SC	5.0	5.0
Maccaffertium	09020402015	11.67	11.67	4	SC	4.0	4.0
Caenis	09020412040	3.33	3.33	7	CG	1.1	1.1
Chimarra	09020601003	0.67	0.67	2	CF	0.2	0.2
Neureclipsis	09020603008	0.33	0.33	7	CF	0.1	0.1
Polycentropus	09020603010	37.00	37.00	6	PR	12.5	12.5
Cheumatopsyche	09020604015	2.00	2.00	5	CF	0.7	0.7
Hydropsyche	09020604016	0.67	0.67	4	CF	0.2	0.2
Ochrotrichia	09020607027	2.00	2.00	4	P	0.7	0.7
Oxyethira	09020607028	0.33	0.33	3	P	0.1	0.1
Brachycentridae	09020609	1.00	1.00		--	0.3	0.3
Nectopsyche	09020618074	8.33	8.33	3	SH	2.8	2.8
Triaenodes	09020618077	0.33	0.33	6	SH	0.1	0.1
Oecetis	09020618078	28.00	28.00	8	PR	9.5	9.5
Ablabesmyia	09021011001	9.00	9.00	8	PR	3.1	3.1
Nilotanypus	09021011012	0.33	0.33	6	PR	0.1	0.1
Pentaneura	09021011014	0.67	0.67	6	PR	0.2	0.2
Thienemannimyia	09021011020	1.33	1.33	3	PR	0.5	0.5
Cricotopus	09021011037	0.67	0.67	7	SH	0.2	0.2
Eukiefferiella	09021011041	0.67	0.67	8	CG	0.2	0.2
Rheotanytarsus	09021011072	1.33	1.33	6	CF	0.5	0.5
Tanytarsus	09021011076	1.33	1.33	6	CF	0.5	0.5
Dicrotendipes	09021011085	1.00	1.00	8	CG	0.3	0.3
Microtendipes	09021011094	80.67	80.67	6	CF	27.3	27.3
Polypedilum	09021011102	3.67	3.67	6	SH	1.2	1.2

Maine Department of Environmental Protection
Biological Monitoring Program

Aquatic Life Taxonomic Inventory Report

Station Number: **S-1207** Waterbody: Androscoggin River - Station 1207 Town: Lisbon

Log Number: **2941** Subsample Factor: X1 Replicates: 3 Calculated: 3/23/2022

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
Elmidae	09021113	0.33	0.33		--	0.1	0.1
Ancyronyx	09021113063	0.33	0.33	6	--	0.1	0.1
Hydrobiidae	10010104	2.67	2.67		--	0.9	0.9
Physidae	10010202	18.00	18.00		SC	6.1	6.1
Planorbidae	10010203	1.00	1.00		--	0.3	0.3
Pisidium	10020201002	7.00	7.00		CF	2.4	2.4

Upper Lower Androscoggin Helicopter Water Sampling Profiles 2024-2025-FOMB

Date	Site	Lat	Long	Time	DO mg/l	DO %	Spec Cond	H2O Temp	Depth Ft.	Air Temp	E. coli	Total Col.
6/26/2025	A1	44° 0.524N	70° 5.169W	6:37	8	92.9	75.2	23.1	4	19	42.2	1986
7/18/2025	A1	44° 0.524N	70° 5.169W	6:47	7.6	91.8	74.4	24.9	4	20	28.3	>2419.6
7/29/2025	A1	44° 0.524N	70° 5.169W	6:31	8.1	98.2	75.7	25.1	4	19.9	18.5	1732.9
8/12/2025	A1	44° 0.524N	70° 5.169W	6:24	8.6	107	90.3	26.1	6	19.5	13.5	1986.3
8/22/2025	A1	44° 0.524N	70° 5.169W	6:35	9.9	116	101.5	23.1	6	12	17.2	1732.9
9/5/2025	A1	44° 0.524N	70° 5.169W	6:45	8.6	101.2	104.5	23	6	18	12.1	>2419.6
				Geomean	**8.4**						**19.9**	
6/26/2025	A2	43° 59.573N	70° 6.839W	6:52	7.9	91.5	74.7	22.7	2	19	22.8	2419.6
7/18/2025	A2	43° 59.573N	70° 6.839W	6:55	7.7	92.2	74.1	24.6	2	22	25.3	>2419.6
7/29/2025	A2	43° 59.573N	70° 6.839W	6:38	7.9	95.2	75.8	24.9	2	18.5	29.5	>2419.6
8/12/2025	A2	43° 59.573N	70° 6.839W	6:33	7.9	96.2	91.1	25.2	4	19	6.3	1553.1
8/22/2025	A2	43° 59.573N	70° 6.839W	6:43	7.8	90.1	101.8	22.2	2	15	13.4	>2419.6
9/5/2025	A2	43° 59.573N	70° 6.839W	6:54	7.9	90.3	104.9	22	2	18	44.1	>2419.6
				Geomean	**7.8**						**20**	
6/26/2025	A3	44° 0.116N	70° 9.076W	7:00	7.9	91.6	74.2	22.6	2	19	50.4	>2419.6
7/18/2025	A3	44° 0.116N	70° 9.076W	7:05	7.7	92.6	73.3	24.6	3	22	22.8	>2419.6
7/29/2025	A3	44° 0.116N	70° 9.076W	6:44	7.6	92.7	77.2	25	2	19	23.8	2419.5
8/12/2025	A3	44° 0.116N	70° 9.076W	6:40	8.4	102.7	91.8	25.4	1	19	15.6	1732.9
8/22/2025	A3	44° 0.116N	70° 9.076W	6:50	8.5	98.4	107	22.8	2	12	37.7	1986.3
9/5/2025	A3	44° 0.116N	70° 9.076W	7:00	8.3	95.5	105.9	22.4	2	18	40.8	>2419.6
				Geomean	**8.1**						**29.5**	

Date	Site	Lat	Long	Time	DO mg/l	DO %	Spec Cond	H2O Temp	Depth Ft.	Air Temp	E. coli	Total Col.
6/26/2025	A4	44° 2.744N	70° 11.278W	7:12	8	93.9	74.1	22.7	2	19	58.1	816.4
7/18/2025	A4	44° 2.744N	70° 11.278W	7:15	7.9	94	74	24.4	2.5	20.2	31.3	>2419.6
7/29/2025	A4	44° 2.744N	70° 11.278W	6:53	7.4	88.5	76.9	24.3	2	19	34.5	>2419.6
8/12/2025	A4	44° 2.744N	70° 11.278W	6:47	7.3	88.6	94.1	25	1	19	21.6	1986.3
8/22/2025	A4	44° 2.744N	70° 11.278W	6:58	7.6	87.9	102.4	23	2	12	108.6	2419.6
9/5/2025	A4	44° 2.744N	70° 11.278W	7:09	8.2	94	107	22	2	18	53.8	1986.3
				Geomean	**7.7**						**44.6**	
6/26/2025	BR	44° 3.917N	70° 12.457W	7:18	7.9	91.6	74.2	22.5	4	19	47.8	571.7
7/18/2025	BR	44° 3.917N	70° 12.457W	7:23	7.8	92.7	74.6	24.3	4	22	36.4	>2419.6
7/29/2025	BR	44° 3.917N	70° 12.457W	6:58	7.4	89.7	76	24.8	4	24.8	30.5	2419.5
8/12/2025	BR	44° 3.917N	70° 12.457W	6:53	7.4	88.9	92.2	24.9	6	19.5	12.2	1732.9
8/22/2025	BR	44° 3.917N	70° 12.457W	7:06	7.4	86.1	99.7	23.1	6	12	38.8	1986.3
9/5/2025	BR	44° 3.917N	70° 12.457W	7:20	8.3	94.4	108.5	22	6	18	74.9	2419.6
				Geomean	**7.7**						**35.1**	
6/26/2025	A5	44° 13.010N	70° 13.010W	7:25	7.9	92.1	68.5	22.6	4	19	59.8	640.5
7/18/2025	A5	44° 13.010N	70° 13.010W	7:30	7.9	94.3	69.4	24.5	4	22	32.3	2419.6
7/29/2025	A5	44° 13.010N	70° 13.010W	7:03	7.5	91.5	69.9	25	4	22	18.3	1986.3
8/12/2025	A5	44° 13.010N	70° 13.010W	7:00	7.9	95.8	85.6	25.2	6	20	16	1119.9
8/22/2025	A5	44° 13.010N	70° 13.010W	7:12	7.7	91.8	90.8	23.9	4	16	20.1	1986.3
9/5/2025	A5	44° 13.010N	70° 13.010W	7:29	8.8	101.6	101.6	22.3	6	18	88.2	2419.6
				Geomean	**7.9**						**31.6**	

Date	Site	Lat	Long	Time	DO mg/l	DO %	Spec Cond	H2O Temp	Depth Ft.	Air Temp	E. coli	Total Col.
6/26/2025	A6	44° 6.364N	70° 13.406W	7:28	7.9	91.2	68.3	22.6	4	19	51.2	980.4
7/18/2025	A6	44° 6.364N	70° 13.406W	7:35	7.7	92.1	68.9	24.6	4	21	13.5	>2419.6
7/29/2025	A6	44° 6.364N	70° 13.406W	7:08	7.3	88.7	69.7	25	6	22	6.3	1732.9
8/12/2025	A6	44° 6.364N	70° 13.406W	7:06	7.7	92.8	85.2	25.1	6	20	6.3	1203.3
8/22/2025	A6	44° 6.364N	70° 13.406W	7:20	7.6	91	90.3	24.2	6	16	15.6	1986.3
9/5/2025	A6	44° 6.364N	70° 13.406W	7:33	7.5	86	101.7	22	6	18	35	980.4
				Geomean	**7.6**						**15.7**	
6/26/2025	A7	44° 7.791N	70° 12.358W	7:42	8	92.6	67.6	22.8	4	19	32.8	1986.3
7/18/2025	A7	44° 7.791N	44° 7.791N	7:40	7.6	91.5	68.3	24.7	6	20	4.1	1553.1
7/29/2025	A7	44° 7.791N	44° 7.791N	7:14	7.3	88.3	68.8	24.6	6	22	3.1	>2419.6
8/12/2025	A7	44° 7.791N	70° 12.358W	7:11	7.6	91.3	85.9	24.8	6	20	33.6	1986.3
8/22/2025	A7	44° 7.791N	44° 7.791N	7:25	7.5	89.3	90.1	24.1	6	14	24.1	2419.6
9/5/2025	A7	44° 7.791N	44° 7.791N	7:42	7.4	84.5	103	21.8	6	18	11	1986.3
				Geomean	**7.6**						**12.4**	
6/26/2025	A8	44° 8.421N	70° 12.125W	7:47	7.9	92.5	67.7	22.9	4	19	31.8	436.2
7/18/2025	A8	44° 8.421N	70° 12.125W	7:46	7.4	89.6	68.2	24.9	6	20	7.5	1986.3
7/29/2025	A8	44° 8.421N	70° 12.125W	7:18	7.3	87.3	68.5	24.6	6	21	4	>2419.6
8/12/2025	A8	44° 8.421N	70° 12.125W	7:15	7.3	87.6	84.8	24.8	6	20	7.4	980.4
8/22/2025	A8	44° 8.421N	70° 12.125W	7:30	7.1	85	89.6	24.2	6	15	8.4	1203.3
9/5/2025	A8	44° 8.421N	70° 12.125W	7:46	6.7	76.6	103.1	21.8	6	18	9.7	1119.9
				Geomean	**7.3**						**9.1**	

Date	Site	Lat	Long	Time	DO mg/l	DO %	Spec Cond	H2O Temp	Depth Ft.	Air Temp	E. coli	Total Col.
6/26/2025	A9	44° 9.586N	70° 12.415W	7:53	8.8	107.2	68.7	25.7	4	19	37.9	238.2
7/18/2025	A9	44° 9.586N	70° 12.415W	7:50	8	98.7	68.2	26	6	19	5.2	>2419.6
7/29/2025	A9	44° 9.586N	70° 12.415W	7:22	7.9	96.3	69.8	25.3	6	21	<1	>2419.6
8/12/2025	A9	44° 9.586N	70° 12.415W	7:20	8.3	101.9	86.4	25.7	6	20.5	2	920.8
8/22/2025	A9	44° 9.586N	70° 12.415W	7:38	7.5	89.8	91	24.5	6	16	5.2	1119.9
9/5/2025	A9	44° 9.586N	70° 12.415W	7:55	7.6	87.1	95	22	6	18	>1	1553.1
				Geomean	**8**						**3.6**	
				Geomean Combined-	**7.8**					**Geomean Combined-**		**18.1**
Replicates												
6/26/2025	A1	Replicate	As Above	6:46	8	92.9	75.2	23.1	4	19	30.5	2419.6
7/18/2025	A2	Replicate	As Above	6:57	7.7	91.9	74.1	24.6	2	22	28.2	>2419.6
7/29/2025	A3	Replicate	As Above	6:46	7.6	91.9	77.3	25	2	25	26.9	1732.9
8/12/2025	BR	Replicate	As Above	6:55	7.4	89.5	92.2	25	6	20	18.3	1732.9
8/22/2025	A5	Replicate	As Above	7:14	7.7	91.5	90.8	24	4	16	26.2	1533.1
9/5/2025	A6	Replicate	As Above	7:35	7.5	85.8	101.7	22	6	18	32.3	1203.3
				Geomean	**7.7**						**26.7**	
6/26/2025	Lab Blank			9:30							<1	<1
7/18/2025	Lab Blank			10:00							<1	<1
7/29/2025	Lab Blank	`		9:05							<1	<1
8/12/2025	Lab Blank			8:45							<1	<1
8/22/2025	Lab Blank			9:25							<1	<1
9/5/2025	Lab Blank			10:25							<1	<1

§464. Classification of Maine waters

https://www.mainelegislature.org/legis/statutes/38/title38sec464.html

10. Existing hydropower impoundments managed under riverine classifications; habitat and aquatic life criteria. For the purposes of water quality certification under the Federal Water Pollution Control Act, Public Law 92-500, Section 401, as amended, and the licensing of modifications under section 636, hydropower projects in existence on the effective date of this subsection, the impoundments of which are classified under section 465, are subject to the provisions of this subsection in recognition of some changes to aquatic life and habitat that have occurred due to the existing impoundments of these projects.

A. Except as provided in paragraphs B and D, the habitat characteristics and aquatic life criteria of Classes A and B are deemed to be met in the existing impoundments classified A or B of those projects if:

(1) The impounded waters achieve the aquatic life criteria of section 465, subsection 4, paragraph C. [PL 1991, c. 813, Pt. B, §1 (NEW).]

B. The habitat characteristics and aquatic life criteria of Classes A and B are not deemed to be met in the existing impoundments of those projects referred to in paragraph A if:

(1) Reasonable changes can be implemented that do not significantly affect existing energy generation capability; and

(2) Those changes would result in improvement in the habitat and aquatic life of the impounded waters.

If the conditions described in subparagraphs (1) and (2) occur, those changes must be implemented and the resulting improvement in habitat and aquatic life must be achieved and maintained. [PL 1991, c. 813, Pt. B, §1 (NEW).]

C. If the conditions described in paragraph B, subparagraphs (1) and (2) occur at a project in existence on the effective date of this subsection, the impoundment of which is classified C, the changes described in paragraph B, subparagraphs (1) and (2) must be implemented and the resulting improvement in habitat and aquatic life must be achieved and maintained. [PL 1991, c. 813, Pt. B, §1 (NEW).]

D. When the actual water quality of waters affected by this subsection attains any more stringent characteristic or criteria of those waters' classification under sections 465, 467 and 468, that water quality must be maintained and protected. [PL 1991, c. 813, Pt. B, §1 (NEW).] [RR 2021, c. 2, Pt. A, §130 (COR).]

11. Downstream stretches affected by existing hydropower projects. Hydropower projects in existence on the effective date of this subsection that are located on water bodies referenced in section 467, subsection 4, paragraph A, subparagraphs (1) and (7), and section 467, subsection 12, paragraph A, subparagraphs (7) and (9) are subject to the provisions of this subsection.

For the purposes of water quality certification of hydropower projects under the Federal Water Pollution Control Act, Public Law 92-500, Section 401, as amended, and licensing of modifications to these hydropower projects under section 636, the habitat characteristics and aquatic life criteria of Class A are deemed to be met in the waters immediately downstream of and measurably affected by the projects listed in this subsection if the criteria contained in section 465, subsection 4, paragraph C are met.