

Section 5-1 Androscoggin River (Androscoggin River Watershed Council)

Androscoggin River

The Androscoggin River is the third largest river in the state. It has a length of 177 miles and drainage area of 3,450 square miles (2,730 sq. mi. in Maine). The headwaters are Umbagog Lake in Maine/New Hampshire. From there it flows into New Hampshire and then back into Maine through the towns of Gilead and Bethel. It continues flowing through the towns and cities of Rumford, Mexico, Dixfield, Jay, Livermore Falls, Lewiston, Auburn, Lisbon, Lisbon Falls, Durham, Brunswick, and Topsham where it joins the Kennebec River at Merrymeeting Bay.

The Androscoggin River has a long history of industrial and municipal use over the last 200 years.¹ Beginning in the early 1800s, many dams were constructed for mills, primarily in the lower part of the river. By the late 1800s, many textile and lumber mills were in operation, mostly from Lewiston to Brunswick. Pulp and paper mills that are still in operation today were established in the late 1800s in New Hampshire, Rumford, and Jay. Beginning in the late 1920s, Central Maine Power built hydroelectric dams that impounded much of the river from Lewiston to Livermore Falls. Some of these uses continue today. “Along its course to the sea, the river is repeatedly dammed. It receives discharges from industrial and municipal sources, as well as polluted runoff from a variety of sources.”² Specific problems include mill discharges, combined sewer overflows (CSOs), dam impacts (28 dams exist), and historical sediment toxics.

The Androscoggin River Watershed Council (ARWC) is a nonprofit organization that focuses on the upper part of the Androscoggin River. The mission of the ARWC is “To improve environmental quality and promote healthy and prosperous communities in the Androscoggin River Watershed.”³

The Androscoggin River is statutory Class B from the Maine/New Hampshire boundary to its confluence with the Ellis River. It is statutory Class C from the confluence with the Ellis River until it joins the Kennebec River at Merrymeeting Bay. In the Upper Androscoggin River, unless otherwise assigned, tributaries of the Androscoggin from the Maine-New Hampshire state border in Gilead to (and including) the Ellis River are Class A.

¹ Maine Rivers Website- Androscoggin River Profile

² Androscoggin River Alliance Website-Androscoggin River slideshow

³ Androscoggin River Watershed Council Website-Bylaws

Monitoring History

- The Maine DEP Biological Monitoring Program has been monitoring the Upper Androscoggin River since 1983. There are established monitoring stations on the mainstem as well as on the major tributaries including the Wild River, Bear River, Sunday River, Ellis River and Swift River. This data is available on DEP's website.
- The Androscoggin River Watershed Council (ARWC) began participating in the New Hampshire Volunteer River Assessment Program (VRAP) in 2007.
- ARWC joined the Maine Volunteer River Monitoring Program (VRMP) in 2012, thus extending sampling locations on the Androscoggin River into Maine.

Methods and Sampling Sites

Androscoggin River Watershed Council has nine monitoring sites on the Androscoggin River, one site on the Pleasant River, two sites on the Sunday River and two sites on the Ellis River. Not all the sites are monitored every year. One site [Androscoggin River-A1018-ARWC (AR-2)] was discontinued due to new bridge construction. All of the ARWC sampling sites are now VRMP approved sites.

Monitoring is conducted 1-3 times per month from June to August/September. Monitors take measurements of water temperature and dissolved oxygen using a YSI meter. Specific conductance is measured using an Oakton EC Testr 11+/11 pen. Grab samples may be collected for turbidity and analyzed using a New Hampshire Volunteer River Assessment Program turbidity meter.

Table 5-1-1: Androscoggin River Watershed Council sampling sites on the Androscoggin River-listed from upstream to downstream and tributaries. **Sites sampled in 2019 are in bold.**

VRMP Site ID	Organization Site Code	Sample Location	Class
Androscoggin River-A1189-VRMP	NL1	Newt's Landing	B
Androscoggin River - 1150-VRMP	AR1; BB1	Route 2-Bethel Bridge	B
Androscoggin River-A1087-VRMP	ML1	Moran's Landing	B
Androscoggin River-A1032-VRMP	AR5	Hanover Boat Launch	B
Androscoggin River-A1018-VRMP	AR2	Rumford Point	C
Androscoggin River-A1015-VRMP	AR3	Route 232 Bridge	C
Androscoggin River-A939-VRMP	AR6	Rumford Boat Launch	C

Ellis River-AES199-VRMP	ER1	Route 120	A
Ellis River-AES126-VRMP	ER2	Below Covered Bridge	A
Pleasant River- APL29-VRMP	PR1	Smith Farm Road	A
Sunday River- ASY08 -VRMP	SR-2	Off Martin Lane	A
Sunday River- ASY02 -VRMP	SR1	Route 2 Crossing	A
Androscoggin River- A558 - VRMP	GID1	Below Gulf Island Dam	C
N/A not current site in 2019, added in 2020	GID2	Below Gulf Island Dam south	C
Androscoggin River- A517 - VRMP	FP1	Festival Plaza, Auburn	C

Androscoggin River Sampling Sites

Androscoggin River Watershed Council

Androscoggin River Sampling Sites - Upper Sites

Androscoggin River Watershed Council

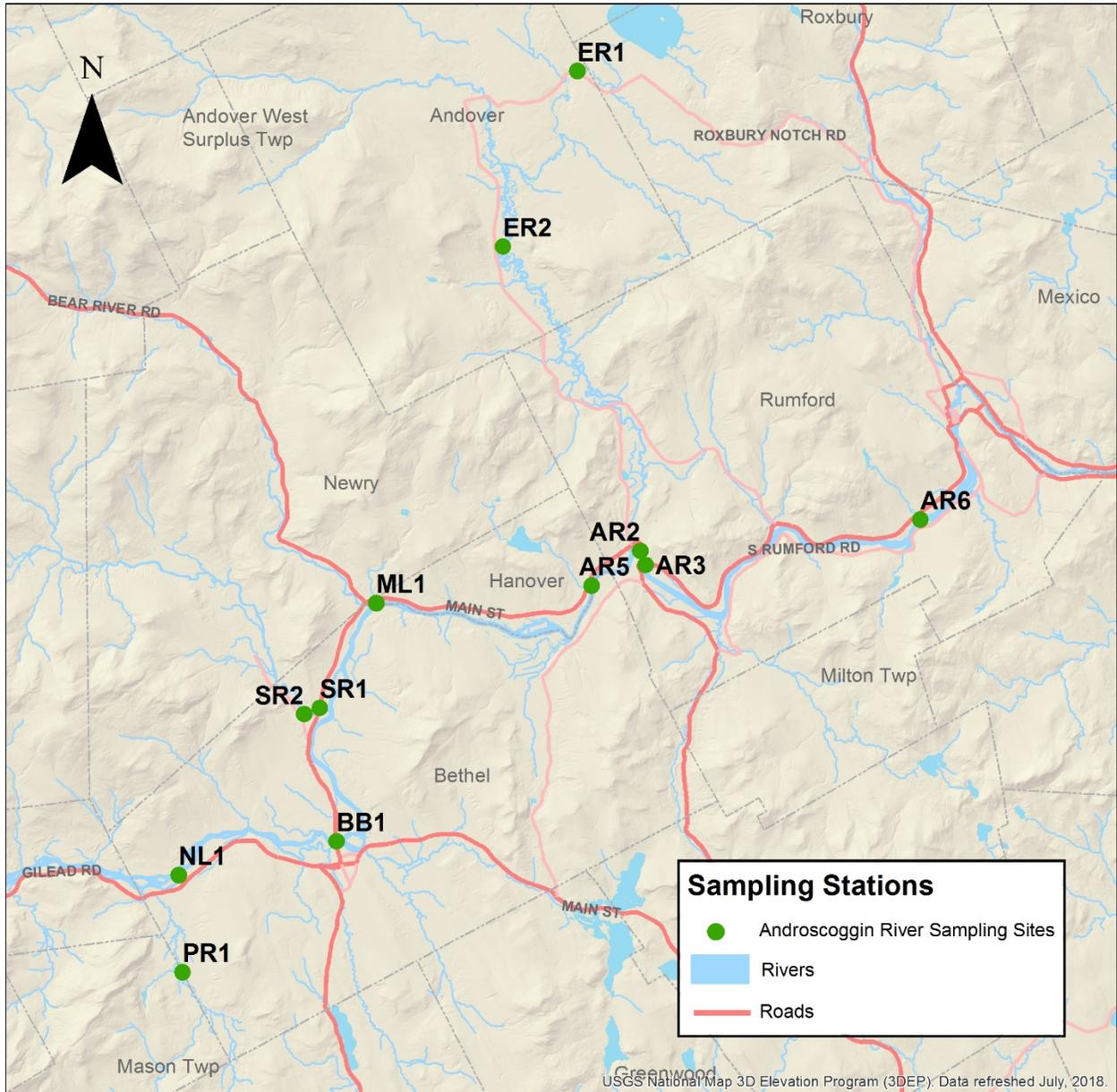


Figure 5-1-1: Map of Androscoggin River Watershed Council upper river sampling sites.

Androscoggin River Sampling Sites - LA Sites

Androscoggin River Watershed Council

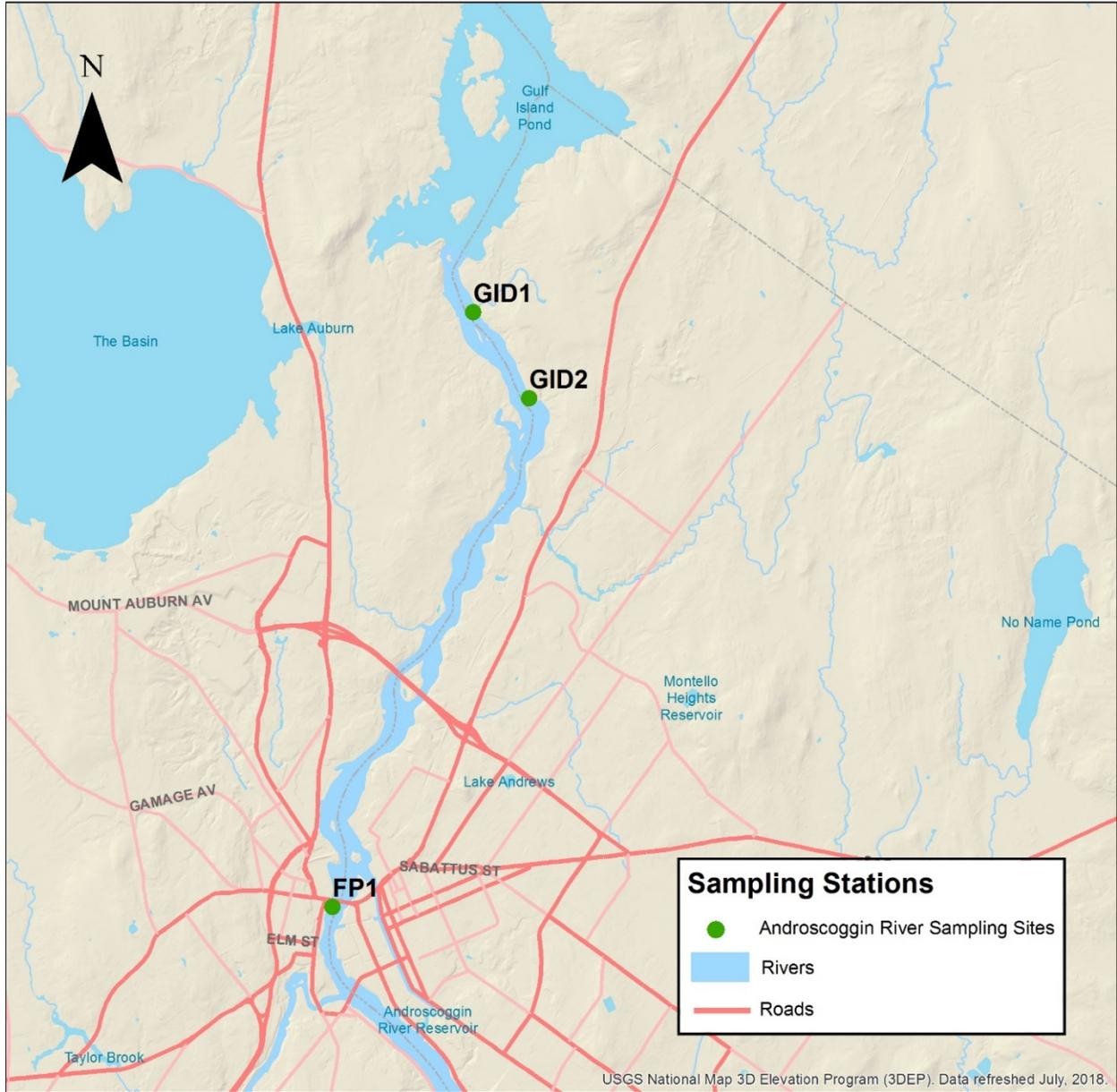


Figure 5-1-2: Map of Androscoggin River Watershed Council Lewiston-Auburn area sampling sites.

Parameters

Dissolved Oxygen

Dissolved oxygen (DO) levels are generally lowest early in the morning and then increases during the day, peaking mid to late afternoon. Monitors should try to collect some samples early in the morning. Dissolved oxygen is also affected by flow conditions and temperature. During high flow conditions, more oxygen is added to the river from the atmosphere as the water is more turbulent and there is more opportunity for mixing. If flow during the summer months is higher or lower than normal, dissolved oxygen will be affected.

Class A and Class B criteria for DO are a minimum of 7.0 mg/l (milligrams/liter) or 75% saturation, whichever is higher. Class C criteria for DO are a minimum of 5.0 mg/l or 60% saturation, whichever is higher. To meet water quality criteria, both concentration and saturation standards must be met.

Water Temperature

Maine's Regulations Relating to Temperature (06-096 CMR Chapter 582) require that discharge of pollutants not raise the temperature of any river and stream above the EPA criteria for indigenous species (23 °C maximum and 19 °C weekly average) or 0.3 °C (0.5 °F) above the temperature that would naturally occur outside a mixing zone established by the Board of Environmental Protection. Pollutant is defined in statute as many things including dirt and heat. For tidal waters, discharge of pollutants may not raise the temperature more than 4 °F (2.2 °C) or more than 1.5 °F (0.8 °C) from June 1 to September 1, and may not cause the temperature of any tidal waters to exceed 85 °F (29 °C) at any point outside a mixing zone established by the Board of Environmental Protection.

Specific Conductance

Specific conductance is related to the amount of dissolved materials in the water. While there are no numerical standards, a relationship exists between conductivity and chloride which has numerical criteria. In general, streams located in urban areas tend to have high specific conductance due to polluted urban stormwater runoff. This may also, in large part, be due to salt buildup in surface and groundwater from road maintenance practices. In addition, discharges from pulp and paper mills upstream can increase the conductivity of the river.

Turbidity

The State of Maine does not have turbidity standards. Turbidity is a measure of the amount of suspended materials in the water; including soil particles, algae, plankton, and decaying vegetation. Precipitation events that are great enough to cause runoff and land use activities such as construction, agriculture, and logging may contribute to increased turbidity.

Summary of Data by Site and Parameter (2012-2019)

A summary of mean, minimum and maximum dissolved oxygen concentration (mg/l) values at Androscoggin River Watershed Council monitoring site: NL1

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2015	B	4	8.2	7.2	9.2	7	0
2016	B	4	7.5	6.9	8.2	7	1

A summary of mean, minimum and maximum dissolved oxygen saturation (%) values at Androscoggin River Watershed Council monitoring site: NL1

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2015	B	4	87.2	84.1	95.4	75	0
2016	B	4	82.7	80.9	85.7	75	0
2019	B	6	89.2	82.1	95.5	75	0

A summary of mean, minimum and maximum water temperature (°C) values at Androscoggin River Watershed Council monitoring site: NL1

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2015	B	4	19.9	16.7	22.8	n/a	n/a
2016	B	4	20.4	15.5	23.0	n/a	n/a
2019	B	6	19.8	15.7	24.1	n/a	n/a

A summary of mean, minimum and maximum specific conductance (µS/cm) values at Androscoggin River Watershed Council monitoring site: NL1

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2016	B	4	48	45	51	n/a	n/a

A summary of mean, minimum and maximum dissolved oxygen concentration (mg/l) values at Androscoggin River Watershed Council monitoring site: BB1 (note Site AR1's name changed to BB1 in 2015)

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2013	B	6	8.7	7.9	10.0	7	0
2014	B	2	9.2	9.1	9.2	7	0
2015	B	4	8.4	7.5	9.1	7	0
2016	B	4	9.2	8.7	9.9	7	0
2017	B	4	9.1	8.8	9.2	7	0
2018	B	8	7.9	7.3	8.5	7	0

A summary of mean, minimum and maximum dissolved oxygen saturation (%) values at Androscoggin River Watershed Council monitoring site: BB1 (note Site AR1's name changed to BB1 in 2015)

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2013	B	6	96.9	94.8	99.3	75	0
2014	B	2	103.4	101.6	105.2	75	0
2015	B	4	88.8	86.7	91.4	75	0
2016	B	4	100.2	97.7	101.9	75	0
2017	B	4	102.4	101.6	103.9	75	0
2018	B	8	88.6	85.8	92.3	75	0
2019	B	6	90.2	87.5	95.0	75	0

A summary of mean, minimum and maximum water temperature (°C) values at Androscoggin River Watershed Council monitoring site: BB1 (note Site AR1's name changed to BB1 in 2015)

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2013	B	6	19.5	13.3	24.9	n/a	n/a
2014	B	2	19.9	18.7	21.1	n/a	n/a
2015	B	4	18.2	14.0	22.0	n/a	n/a
2016	B	4	19.1	15.9	20.9	n/a	n/a
2017	B	4	20.6	19.5	21.9	n/a	n/a
2018	B	8	20.6	16.1	23	n/a	n/a
2019	B	6	20.3	16.6	24.3	n/a	n/a

A summary of mean, minimum and maximum specific conductance ($\mu\text{S}/\text{cm}$) values at Androscoggin River Watershed Council monitoring site: BB1 (note Site AR1's name changed to BB1 in 2015)							
Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2013	B	6	33	29	39	n/a	n/a
2014	B	2	31	29	32	n/a	n/a
2016	B	4	33	32	36	n/a	n/a
2017	B	4	33	30	35	n/a	n/a
2018	B	7	40	40	40	n/a	n/a

A summary of mean, minimum and maximum turbidity (NTU) values at Androscoggin River Watershed Council monitoring site: BB1 (note Site AR1's name changed to BB1 in 2015)							
Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2013	B	6	1.8	1.2	3.4	n/a	n/a
2014	B	2	2.2	1.8	2.6	n/a	n/a
2016	B	4	1.1	0.7	1.4	n/a	n/a
2017	B	4	1.7	1.1	2.3	n/a	n/a

A summary of mean, minimum and maximum dissolved oxygen concentration (mg/l) values at Androscoggin River Watershed Council monitoring site: ML1

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2012	B	7	9.1	7.6	10.9	7	0
2013	B	6	9.2	8.7	10.4	7	0
2014	B	7	9.6	8.6	10.3	7	0
2015	B	5	9.8	9.3	10.4	7	0
2016	B	4	9.5	9.1	10.3	7	0
2017	B	4	9.6	9.3	10.1	7	0
2018	B	4	8.9	8.3	9.3	7	0

A summary of mean, minimum and maximum dissolved oxygen saturation (%) values at Androscoggin River Watershed Council monitoring site: ML1

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2012	B	7	92.8	85.6	105.6	75	0
2013	B	6	98.2	96.3	100.7	75	0
2014	B	7	102.8	96.8	113.3	75	0
2015	B	5	101.9	100.3	104.6	75	0
2016	B	4	101.5	100.5	102.2	75	0
2017	B	4	104.3	102.3	105.6	75	0
2018	B	4	98.8	96.3	100.8	75	0

A summary of mean, minimum and maximum water temperature (°C) values at Androscoggin River Watershed Council monitoring site: ML1

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2012	B	7	16.3	12.8	20.0	n/a	n/a
2013	B	6	16.4	10.5	21.4	n/a	n/a
2014	B	7	17.6	13.7	20.7	n/a	n/a
2015	B	5	16.2	13.2	19.5	n/a	n/a
2016	B	4	18.2	13.8	21.0	n/a	n/a
2017	B	4	18.4	16.0	19.9	n/a	n/a
2018	B	4	19.8	18.5	23.1	n/a	n/a

A summary of mean, minimum and maximum specific conductance ($\mu\text{S}/\text{cm}$) values at Androscoggin River Watershed Council monitoring site: ML1

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2012	B	7	55	38	61	n/a	n/a
2013	B	6	29	23	33	n/a	n/a
2014	B	7	37	20	50	n/a	n/a
2015	B	5	25	2	38	n/a	n/a
2016	B	4	36	31	41	n/a	n/a
2017	B	4	36	30	43	n/a	n/a
2018	B	4	35	24	47	n/a	n/a

A summary of mean, minimum and maximum turbidity (NTU) values at Androscoggin River Watershed Council monitoring site: ML1

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2012	B	6	1.3	0.4	4.7	n/a	n/a
2013	B	6	0.7	0.4	1.4	n/a	n/a
2015	B	5	0.7	0.5	1.4	n/a	n/a
2016	B	4	1.1	0.7	1.4	n/a	n/a
2017	B	4	1.1	0.8	1.8	n/a	n/a
2018	B	4	1.4	0.9	2.0	n/a	n/a

A summary of mean, minimum and maximum dissolved oxygen concentration (mg/l) values at Androscoggin River Watershed Council monitoring site: AR5

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2017	B	7	8.1	7.2	9.2	7	0
2018	B	7	8.2	7.1	9.5	7	0
2019	B	5	8.4	7.5	9.2	7	0

A summary of mean, minimum and maximum dissolved oxygen saturation (%) values at Androscoggin River Watershed Council monitoring site: AR5

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2017	B	7	88.9	79.5	96.9	75	0
2018	B	7	90.7	84.4	95.5	75	0
2019	B	5	86.9	84.5	89.2	75	0

A summary of mean, minimum and maximum water temperature (°C) values at Androscoggin River Watershed Council monitoring site: AR5

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2017	B	7	19.7	15.4	22.1	n/a	n/a
2018	B	7	20.7	15.7	24.6	n/a	n/a
2019	B	5	17.5	13.5	21.9	n/a	n/a

A summary of mean, minimum and maximum specific conductance (µS/cm) values at Androscoggin River Watershed Council monitoring site: AR5

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2017	B	7	32	25	37	n/a	n/a
2018	B	7	40	40	40	n/a	n/a

A summary of mean, minimum and maximum dissolved oxygen concentration (mg/l) values at Androscoggin River Watershed Council monitoring site: AR2

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2013	C	4	8.0	7.8	8.3	5	0

A summary of mean, minimum and maximum dissolved oxygen saturation (%) values at Androscoggin River Watershed Council monitoring site: AR2

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2013	C	4	89.1	87.4	90.3	60	0

A summary of mean, minimum and maximum water temperature (°C) values at Androscoggin River Watershed Council monitoring site: AR2

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2013	C	4	20.4	19.2	22.0	n/a	n/a

A summary of mean, minimum and maximum specific conductance (µS/cm) values at Androscoggin River Watershed Council monitoring site: AR2

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2013	C	1	30	30	30	n/a	n/a

A summary of mean, minimum and maximum dissolved oxygen concentration (mg/l) values at Androscoggin River Watershed Council monitoring site: AR6

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2017	C	7	8.2	7.5	9.3	5	0
2018	C	7	8.6	7.3	10.1	5	0
2019	C	5	8.6	7.6	9.4	5	0

A summary of mean, minimum and maximum dissolved oxygen saturation (%) values at Androscoggin River Watershed Council monitoring site: AR6

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2017	C	7	89.9	84.2	98.0	60	0
2018	C	7	94.9	87.1	100.1	60	0
2019	C	5	91.1	88.0	93.7	60	0

A summary of mean, minimum and maximum water temperature (°C) values at Androscoggin River Watershed Council monitoring site: AR6

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2017	C	7	20.1	16.1	21.7	n/a	n/a
2018	C	7	20.6	15.2	25.3	n/a	n/a
2019	C	5	18.9	15.3	23.4	n/a	n/a

A summary of mean, minimum and maximum specific conductance (µS/cm) values at Androscoggin River Watershed Council monitoring site: AR6

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2017	C	7	32	22	38	n/a	n/a
2018	C	7	39	30	40	n/a	n/a

A summary of mean, minimum and maximum dissolved oxygen concentration values (mg/l) at Androscoggin River Watershed Council monitoring site: ER1 (Ellis River)							
Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2017	A	1	7.7	7.7	7.7	7	0
2018	A	8	6.3	5.8	7.9	7	7
2019	A	7	7.3	6.1	8.7	7	3

A summary of mean, minimum and maximum dissolved oxygen saturation (%) values at Androscoggin River Watershed Council monitoring site: ER1 (Ellis River)							
Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2017	A	8	77.7	68.5	97.5	75	5
2018	A	8	70.5	65.2	80.3	75	7
2019	A	7	80.7	74.8	89.9	75	1

A summary of mean, minimum and maximum water temperature (°C) values at Androscoggin River Watershed Council monitoring site: ER1 (Ellis River)							
Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2017	A	8	20.2	16.0	22.4	n/a	n/a
2018	A	8	21.4	16.9	23.4	n/a	n/a
2019	A	7	20.7	16.5	25.9	n/a	n/a

A summary of mean, minimum and maximum specific conductance (µS/cm) values at Androscoggin River Watershed Council monitoring site: ER1 (Ellis River)							
Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2017	A	8	34	30	50	n/a	n/a
2018	A	8	25	21	35	n/a	n/a
2019	A	7	30	25	40	n/a	n/a

A summary of mean, minimum and maximum dissolved oxygen concentration values (mg/l) at Androscoggin River Watershed Council monitoring site: ER2 (Ellis River)							
Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2018	A	8	7.8	7.2	8.8	7	0
2019	A	6	8.2	7.5	9.5	7	0

A summary of mean, minimum and maximum dissolved oxygen saturation (%) values at Androscoggin River Watershed Council monitoring site: ER2 (Ellis River)							
Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2018	A	8	81.4	76.2	85.9	75	0
2019	A	6	83.5	80.2	89.0	75	0

A summary of mean, minimum and maximum water temperature (°C) values at Androscoggin River Watershed Council monitoring site: ER2 (Ellis River)							
Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2018	A	8	17.6	13.9	20.2	n/a	n/a
2019	A	6	16.4	10.7	19.0	n/a	n/a

A summary of mean, minimum and maximum specific conductance (µS/cm) values at Androscoggin River Watershed Council monitoring site: ER2 (Ellis River)							
Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2018	A	8	40	24	55	n/a	n/a
2019	A	6	50	45	56	n/a	n/a

A summary of mean, minimum and maximum dissolved oxygen concentration values (mg/l) at Androscoggin River Watershed Council monitoring site: PR1 (Pleasant River)							
Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2015	A	4	8.3	6.8	9.6	7	1

A summary of mean, minimum and maximum dissolved oxygen saturation (%) values at Androscoggin River Watershed Council monitoring site: PR1 (Pleasant River)							
Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2015	A	4	84.6	75.7	93.6	75	0

A summary of mean, minimum and maximum water temperature (°C) values at Androscoggin River Watershed Council monitoring site: PR1 (Pleasant River)							
Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2015	A	4	17.1	12.9	20.8	n/a	n/a

A summary of mean, minimum and maximum dissolved oxygen concentration values (mg/l) at Androscoggin River Watershed Council monitoring site: SR2 (Sunday River)							
Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2013	A	8	9.2	8.2	10.4	7	0
2015	A	9	9.2	7.6	11.9	7	0
2016	A	9	8.3	7.3	10.0	7	0
2017	A	7	9.0	8.3	9.7	7	0
2018	A	4	8.2	7.7	8.9	7	0

A summary of mean, minimum and maximum dissolved oxygen saturation (%) values at Androscoggin River Watershed Council monitoring site: SR2 (Sunday River)							
Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2013	A	8	90.6	85.9	97.6	75	0
2015	A	9	93.9	81.8	103.5	75	0
2016	A	9	85.2	79.5	95.7	75	0
2017	A	7	91.5	82.1	96.5	75	0
2018	A	4	88.6	85.1	94.7	75	0

A summary of mean, minimum and maximum water temperature (°C) values at Androscoggin River Watershed Council monitoring site: SR2 (Sunday River)							
Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2013	A	8	14.7	11.4	18.0	n/a	n/a
2015	A	9	16.6	9.5	20.0	n/a	n/a
2016	A	9	15.9	12.8	18.8	n/a	n/a
2017	A	7	16.4	12.2	19.6	n/a	n/a
2018	A	4	18.6	17	19.6	n/a	n/a

A summary of mean, minimum and maximum specific conductance ($\mu\text{S}/\text{cm}$) values at Androscoggin River Watershed Council monitoring site: SR2 (Sunday River)

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2013	A	8	28	20	30	n/a	n/a
2015	A	9	34	20	40	n/a	n/a
2016	A	9	32	25	37	n/a	n/a
2017	A	7	40	30	50	n/a	n/a
2018	A	4	32	24	36	n/a	n/a

A summary of mean, minimum and maximum turbidity (NTU) values at Androscoggin River Watershed Council monitoring site: SR2 (Sunday River)

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2018	A	4	0.9	0.75	1.02	n/a	n/a

A summary of mean, minimum and maximum dissolved oxygen concentration values (mg/l) at Androscoggin River Watershed Council monitoring site: SR1 (Sunday River)							
Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2012	A	5	9.0	8.3	10.1	7	0
2014	A	7	9.0	8.2	9.9	7	0

A summary of mean, minimum and maximum dissolved oxygen saturation (%) values at Androscoggin River Watershed Council monitoring site: SR1 (Sunday River)							
Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2012	A	5	89.3	85.7	95.3	75	0
2014	A	7	94.7	87.8	103.8	75	0

A summary of mean, minimum and maximum water temperature (°C) values at Androscoggin River Watershed Council monitoring site: SR1 (Sunday River)							
Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2012	A	5	16.0	11.1	20.2	n/a	n/a
2014	A	7	16.4	12.8	18.2	n/a	n/a

A summary of mean, minimum and maximum specific conductance (µS/cm) values at Androscoggin River Watershed Council monitoring site: SR1 (Sunday River)							
Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2012	A	5	33	25	40	n/a	n/a
2014	A	7	36	20	40	n/a	n/a

A summary of mean, minimum and maximum dissolved oxygen concentration values (mg/l) at Androscoggin River Watershed Council monitoring site: GID1 (Downstream of Gulf Island Dam)

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2019	C	5	7.5	6.5	9.3	5	0

A summary of mean, minimum and maximum dissolved oxygen saturation (%) values at Androscoggin River Watershed Council monitoring site: GID1 (Downstream of Gulf Island Dam)

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2019	C	5	89.1	78.8	106.3	60	0

A summary of mean, minimum and maximum water temperature (°C) values at Androscoggin River Watershed Council monitoring site: GID1 (Downstream of Gulf Island Dam)

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2019	C	5	24.4	22.0	25.9	n/a	n/a

A summary of mean, minimum and maximum specific conductance (µS/cm) values at Androscoggin River Watershed Council monitoring site: GID1 (Downstream of Gulf Island Dam)

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2019	C	4	98	77	119	n/a	n/a

A summary of mean, minimum and maximum dissolved oxygen concentration values (mg/l) at Androscoggin River Watershed Council monitoring site: FP1 (Festival Plaza, Auburn)

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2019	C	5	7.8	7.3	9.3	5	0

A summary of mean, minimum and maximum dissolved oxygen saturation (%) values at Androscoggin River Watershed Council monitoring site: FP1 (Festival Plaza, Auburn)

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2019	C	5	93.3	88.0	108.0	60	0

A summary of mean, minimum and maximum water temperature (°C) values at Androscoggin River Watershed Council monitoring site: FP1 (Festival Plaza, Auburn)

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2019	C	5	24.4	22.4	26.0	n/a	n/a

A summary of mean, minimum and maximum specific conductance (µS/cm) values at Androscoggin River Watershed Council monitoring site: FP1 (Festival Plaza, Auburn)

Year	Class	# Sample Points	Mean	Minimum	Maximum	Criterion	# Not Meeting Criterion
2019	C	4	97	80	117	n/a	n/a

Appendix A

* Sampling depths are only reported for Tier 1 VRMP sites.

** "NA" = normal environmental sample ; "D" = field duplicate; "L" = lab duplicate.

*** D.O. = dissolved oxygen; "Spec. Cond" = specific conductance; "TDS" = Total dissolved solids; "TSS" = total suspended solids."

Organization Site Code	VRMP Site ID	Date	Time	** Sample Type Qualifier	* Sample Depth	Depth Unit	Water Temp (DEG C)	*** D.O. (MG/L)	*** D.O. Sat. (%)	*** Spec. Cond. (US/CM)	Salinity (PPTH)	Turbidity (NTU)	*** TDS (MG/L)	*** TSS (MG/L)	E. coli Bacteria (MPN/100ML)	Enterococci (MPN/100ML)
AR5	ANDROSCOGGIN RIVER - A1032 - VRMP	7/24/2019	6:39 AM	NA			21.9	7.5	85.3							
AR5	ANDROSCOGGIN RIVER - A1032 - VRMP	8/5/2019	6:49 AM	NA			21.1	7.5	84.5							
AR5	ANDROSCOGGIN RIVER - A1032 - VRMP	8/30/2019	7:38 AM	NA			20.5	7.8	86.5							
AR5	ANDROSCOGGIN RIVER - A1032 - VRMP	9/19/2019	6:50 AM	NA			13.5	9.1	87.1							
AR5	ANDROSCOGGIN RIVER - A1032 - VRMP	10/1/2019	6:47 AM	NA			14.0	9.2	89.2							
AR5	ANDROSCOGGIN RIVER - A1032 - VRMP	10/1/2019	6:47 AM	D			14.0	9.2	88.8							
FP1	ANDROSCOGGIN RIVER - A517 - VRMP	7/10/2019	8:10 AM	NA			24.6	7.4	88.9	81						
FP1	ANDROSCOGGIN RIVER - A517 - VRMP	7/10/2019	8:10 AM	D			24.7	7.3	88.0	79.8						
FP1	ANDROSCOGGIN RIVER - A517 - VRMP	7/24/2019	7:10 AM	NA			25.1	7.3	88.4	91						
FP1	ANDROSCOGGIN RIVER - A517 - VRMP	8/7/2019	7:06 AM	NA			26.0	7.6	93.9							
FP1	ANDROSCOGGIN RIVER - A517 - VRMP	8/22/2019	7:08 AM	NA			23.6	7.8	92.5	115.2						
FP1	ANDROSCOGGIN RIVER - A517 - VRMP	9/4/2019	7:09 AM	NA			22.4	9.3	108.0	116.7						
GID1	ANDROSCOGGIN RIVER - A558 - VRMP	7/10/2019	7:21 AM	NA			24.8	6.8	82.0	77						
GID1	ANDROSCOGGIN RIVER - A558 - VRMP	7/24/2019	7:39 AM	NA			25.4	6.5	78.8	89.4						
GID1	ANDROSCOGGIN RIVER - A558 - VRMP	8/7/2019	7:40 AM	NA			25.9	7.0	86.1							
GID1	ANDROSCOGGIN RIVER - A558 - VRMP	8/22/2019	7:35 AM	NA			23.9	7.9	92.5	107.6						
GID1	ANDROSCOGGIN RIVER - A558 - VRMP	9/4/2019	7:35 AM	NA			22.0	9.3	106.3	119.4						
AR6	ANDROSCOGGIN RIVER - A939 - VRMP	7/24/2019	6:22 AM	NA			22.8	7.8	88.0							
AR6	ANDROSCOGGIN RIVER - A939 - VRMP	8/5/2019	6:33 AM	NA			23.4	7.6	89.6							
AR6	ANDROSCOGGIN RIVER - A939 - VRMP	8/30/2019	7:22 AM	NA			21.5	7.8	88.6							
AR6	ANDROSCOGGIN RIVER - A939 - VRMP	9/19/2019	6:29 AM	NA			15.3	9.4	93.7							
AR6	ANDROSCOGGIN RIVER - A939 - VRMP	9/19/2019	6:29 AM	D			15.3	9.3	93.2							
AR6	ANDROSCOGGIN RIVER - A939 - VRMP	10/1/2019	6:33 AM	NA			15.3	9.3	93.4							
AR-1	ANDROSCOGGIN RIVER-A1150-VRMP	7/15/2019	7:46 AM	NA			22.4		90.6							
AR-1	ANDROSCOGGIN RIVER-A1150-VRMP	7/31/2019	8:10 AM	NA			24.3		91.0							
AR-1	ANDROSCOGGIN RIVER-A1150-VRMP	8/15/2019	7:51 AM	NA			21.0		87.5							
AR-1	ANDROSCOGGIN RIVER-A1150-VRMP	8/27/2019	10:34 AM	NA			19.6		87.6							
AR-1	ANDROSCOGGIN RIVER-A1150-VRMP	9/10/2019	11:15 AM	NA			16.6		89.3							
AR-1	ANDROSCOGGIN RIVER-A1150-VRMP	9/24/2019	9:30 AM	NA			18.1		95.0							
NL-1	ANDROSCOGGIN RIVER-A1189-VRMP	7/15/2019	7:15 AM	NA			20.5		82.1							
NL-1	ANDROSCOGGIN RIVER-A1189-VRMP	7/31/2019	7:40 AM	NA			24.1		94.2							
NL-1	ANDROSCOGGIN RIVER-A1189-VRMP	7/31/2019	7:40 AM	D			24.1		91.1							
NL-1	ANDROSCOGGIN RIVER-A1189-VRMP	8/15/2019	7:32 AM	NA			17.5		85.7							
NL-1	ANDROSCOGGIN RIVER-A1189-VRMP	8/27/2019	7:47 AM	NA			18.9		84.5							
NL-1	ANDROSCOGGIN RIVER-A1189-VRMP	9/10/2019	10:45 AM	NA			15.7		91.3							
NL-1	ANDROSCOGGIN RIVER-A1189-VRMP	9/24/2019	9:05 AM	NA			17.8		95.5							
ER-2	ELLIS RIVER-AES126-VRMP	7/10/2019	8:00 AM	NA			17.2	8.1	84.1	45						
ER-2	ELLIS RIVER-AES126-VRMP	7/24/2019	7:47 AM	NA			18.5	7.5	80.2	45						
ER-2	ELLIS RIVER-AES126-VRMP	8/7/2019	7:46 AM	NA			19.0	7.5	81.0	56						
ER-2	ELLIS RIVER-AES126-VRMP	8/21/2019	7:54 AM	NA			18.6	7.6	81.6	49						
ER-2	ELLIS RIVER-AES126-VRMP	9/11/2019	8:00 AM	NA			14.2	9.1	89.0	50						
ER-2	ELLIS RIVER-AES126-VRMP	9/20/2019	7:36 AM	NA			10.7	9.5	85.4	56						
ER-1	ELLIS RIVER-AES199-VRMP	7/3/2019	7:27 AM	NA			22.2	6.8	77.8	25						
ER-1	ELLIS RIVER-AES199-VRMP	7/17/2019	7:36 AM	NA			23.7	6.6	78.1	29						
ER-1	ELLIS RIVER-AES199-VRMP	7/31/2019	7:45 AM	NA			25.9	6.1	74.8	26						
ER-1	ELLIS RIVER-AES199-VRMP	8/14/2019	7:41 AM	NA			21.4	7.2	81.6	31						
ER-1	ELLIS RIVER-AES199-VRMP	8/28/2019	8:14 AM	NA			19.4	7.7	83.5	30						
ER-1	ELLIS RIVER-AES199-VRMP	8/28/2019	8:14 AM	D			19.4	7.7	83.6	30						
ER-1	ELLIS RIVER-AES199-VRMP	9/11/2019	7:26 AM	NA			16.7	8.7	89.9	26						
ER-1	ELLIS RIVER-AES199-VRMP	9/25/2019	7:50 AM	NA			16.5	7.5	76.5	40						