Real-Time Water Quality Deployment Report

Iron Ore Company of Canada
Labrador West Network

July 23 to
September 19, 2024

Newfoundland Labrador

Government of Newfoundland & Labrador
Department of Environment and Climate Change
Water Resources Management Division

Contents

General

- The Water Resources Management Division, in partnership with the Iron Ore Company of Canada (IOC) and Environment and Climate Change Canada (ECCC), maintain a network of real-time water quality (RTWQ) and water quantity stations in Labrador West.
- There are two stations located on Wabush Lake; the official name of each station is *Wabush Lake at Dolomite Road* and *Wabush Lake at Lake Outlet*, hereafter referred to as the Dolomite Road station and the Julienne Narrows station.
- These stations are situated upstream (Dolomite Road) and downstream (Julienne Narrows) of the IOC tailings disposal area in Wabush Lake.
- On June 8th, 2016, an additional station was commissioned under this agreement. This station is located at *Dumbell Stream above Dumbell Lake*, hereafter referred to as Dumbell Stream.
- On June 12th, 2017, a new station was commissioned under this agreement. This station is located at *Pumphouse Stream above Drum Lake*, hereafter referred to as Pumphouse Stream.
- On November 19th, 2023, a new station was commissioned under this agreement. This station is located at an *Unnamed Tributary above Fraggle Rock Lake* hereafter referred to as Fraggle Rock. The hydrometric portion of this station is operated by WRMD.
- Water Resources Management Division staff monitor the real-time graphs regularly. They will inform IOC of any significant water quality events by email notification and by monthly deployment reports.
- Between July 23rd and 25th, clean and calibrated real-time water quality-monitoring instruments were deployed at the IOC stations. The instruments were deployed between 54-57 days at each station. The instruments were removed between September 17th and 19th.

Figure 1: RTWQ Monitoring Stations in Labrador West

Quality Assurance and Quality Control

- As part of the Quality Assurance and Quality Control protocol (QA/QC), an assessment of the reliability of data recorded by an instrument is made at the beginning and end of each deployment period. The procedure is based on the approach used by the United States Geological Survey.

  At deployment and removal, a QA/QC Sonde is temporarily deployed adjacent to the Field Sonde. Values for temperature, pH, conductivity, dissolved oxygen and turbidity are compared between the two instruments**.** Based on the degree of difference between parameters recorded by the Field Sonde and QA/QC Sonde at deployment and at removal, a qualitative statement is made on the data quality (Table 1).

Table 1: Ranking classifications for deployment and removal

	Rank				
Parameter	**Excellent**	**Good**	**Fair**	**Marginal**	**Poor**
Temperature (°C)	<=+/-0.2	>+/-0.2 to 0.5	>+/-0.5 to 0.8	>+/-0.8 to 1	<+/-1
pH (unit)	<=+/-0.2	>+/-0.2 to 0.5	>+/-0.5 to 0.8	>+/-0.8 to 1	>+/-1
Sp. Conductance (µS/cm)	<=+/-3	>+/-3 to 10	>+/-10 to 15	>+/-15 to 20	>+/-20
Sp. Conductance > 35 µS/cm (%)	<=+/-3	>+/-3 to 10	>+/-10 to 15	>+/-15 to 20	>+/-20
Dissolved Oxygen (mg/L) (% Sat)	<=+/-0.3	>+/-0.3 to 0.5	>+/-0.5 to 0.8	>+/-0.8 to 1	>+/-1
Turbidity <40 NTU (NTU)	<=+/-2	>+/-2 to 5	>+/-5 to 8	>+/-8 to 10	>+/-10
Turbidity > 40 NTU (%)	<=+/-5	>+/-5 to 10	>+/-10 to 15	>+/-15 to 20	>+/-20

- It should be noted that the temperature sensor on any sonde is the most important. All other parameters can be broken down into three groups: temperature dependent, temperature compensated and temperature independent. Because the temperature sensor is not isolated from the rest of the sonde, the entire sonde must be at the same temperature before the sensor will stabilize. The values may take some time to climb to the appropriate reading; if a reading is taken too soon it may not accurately portray the water body.
- Deployment and removal comparison rankings for the IOC water quality stations deployed between July 23-25 and September 17-19 are summarized in Table 2.

Table 2: QA/QC comparison rankings for IOC stations between July 23-25 and September 17-19.

Station	Date	Action	Comparison Ranking				
			Temperature	pH	Conductivity	Dissolved Oxygen	Turbidity
Julienne Narrows	Jul 24, 2024	Deployment	Excellent	Good	Excellent	Good	Excellent
	Sept 18, 2024	Removal	Excellent	Fair	Excellent	Good	Excellent
Dolomite Road	Jul 25, 2024	Deployment	Excellent	Excellent	Excellent	Excellent	Excellent
	Sept 17, 2024	Removal	Excellent	Good	Excellent	Excellent	Excellent
Dumbell Stream	Jul 23, 2024	Deployment	Excellent	Excellent	Excellent	Excellent	Excellent
	Sept 17, 2024	Removal	Excellent	Good	Excellent	Excellent	Excellent
Pumphouse Stream	Jul 24, 2024	Deployment	Excellent	Excellent	Excellent	Excellent	Excellent
	Sept 19, 2024	Removal	Excellent	Good	Excellent	Excellent	Good
Fraggle Rock	Jul 24, 2024	Deployment	Excellent	Excellent	Excellent	Good	Excellent
	Sept 18, 2024	Removal	Excellent	Good	Excellent	Excellent	Excellent

- There are a few circumstances which may cause less than ideal QA/QC rankings to be obtained. These include: the placement of the QA/QC sonde in relation to the field sonde; the amount of time each sonde was given to stabilize before readings were recorded; and deteriorating performance of one or more of the sensors.

Deployment

- All parameters at all stations ranked either 'excellent' or 'good'.

Removal

- At Julienne Narrows, all parameters besides pH ranked either 'good' or 'excellent'; pH ranked 'fair'. The field instrument read a value of 8.18, while the QA/QC instrument read a value of 7.58. When compared to the grab sample pH of 7.97 collected at removal, the field instrument ranked 'good'.
- Parameters at all other stations ranked either 'good' or 'excellent'.

Data Interpretation

- The following graphs and discussion illustrate water quality-related events from July 23-25 to September 17-19, 2024, at the IOC RTWQ monitoring stations in Labrador West.
- With the exception of water quantity data (Stage and Flow), all data used in the preparation of the graphs and subsequent discussion below adhere to this stringent QA/QC protocol. Water Survey of Canada is responsible for QA/QC of water quantity data with the exception of Fraggle Rock which is maintained by WRMD. Corrected data can be obtained upon request.

Wabush Lake Network

- Water temperature ranged from 12.30 to 22.20ºC at Dolomite Road, and 11.80 to 21.60ºC at Julienne Narrows during this deployment period (Figure 2).
- Overall, water temperature decreased slightly over the course of this deployment period, as temperatures cooled into the fall. Water temperature corresponded to increases/decreases in ambient air temperature trends (Figure 2).

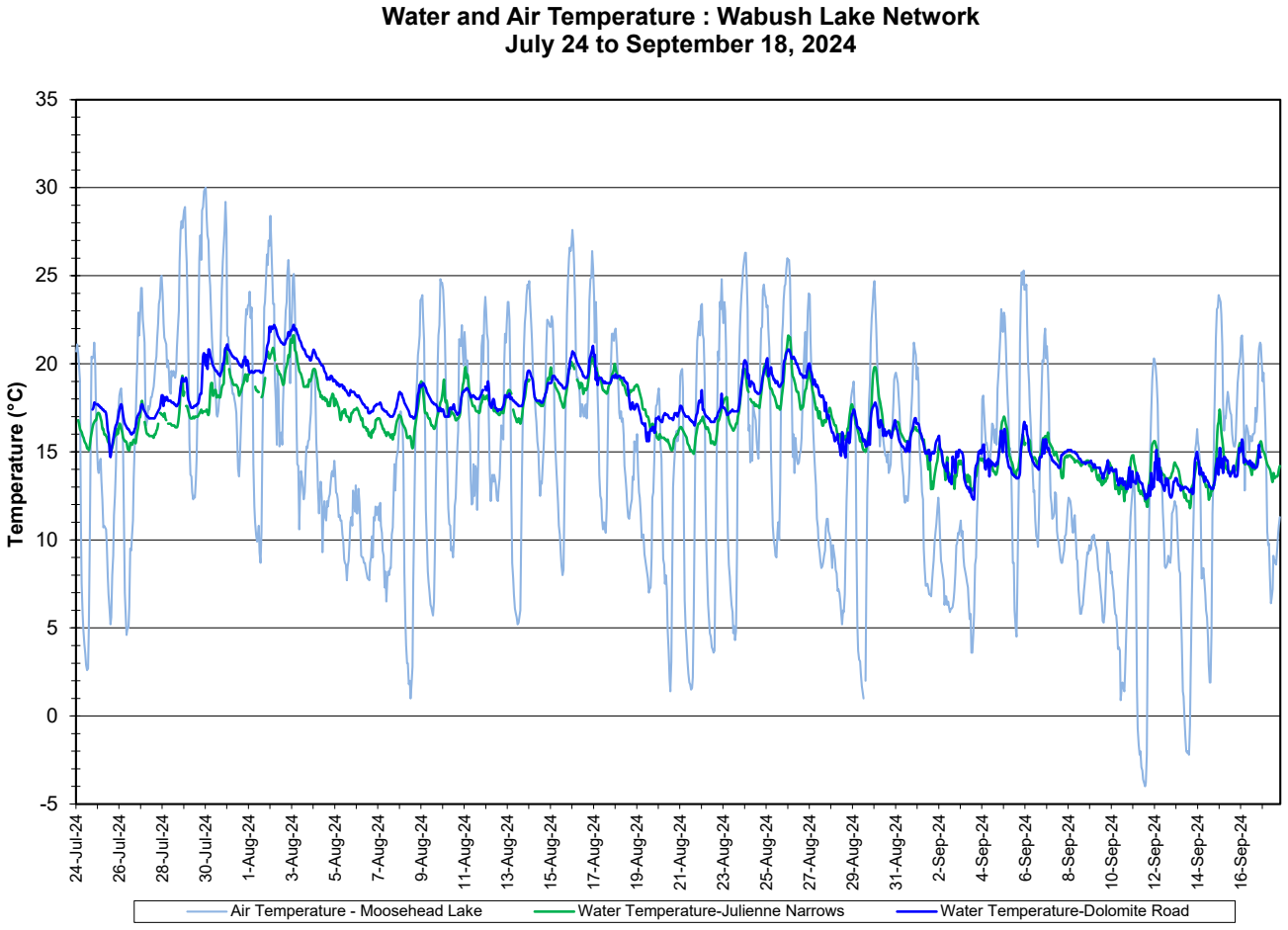

Figure 2: Water and Air Temperature – Wabush Lake Network

(Weather data collected from climate station near Moosehead Lake)

- pH ranges from 7.28 to 8.09 pH units at Dolomite Road and 7.74 to 8.60 pH units at Julienne Narrows throughout the deployment period (Figure 3). The median pH is 7.92 and 8.13, respectively.
- All values at Dolomite Road and Julienne Narrows during the deployment are within the CCME Guidelines for the Protection of Aquatic Life (between 6.5 and 9 pH units). pH fluctuates slightly throughout the day and night. There is a sudden decrease in pH at Dolomite Road during the first week of deployment, this corresponds with a sharp increase in stage at that time.
- Water Survey Canada operates the hydrometric components of these stations. Due to differences in protocols, Water Survey Canada hydrometric data is quality controlled on a less frequent basis than water quality data. The hydrometric data shown in this report is provisional and has not undergone quality control checks.

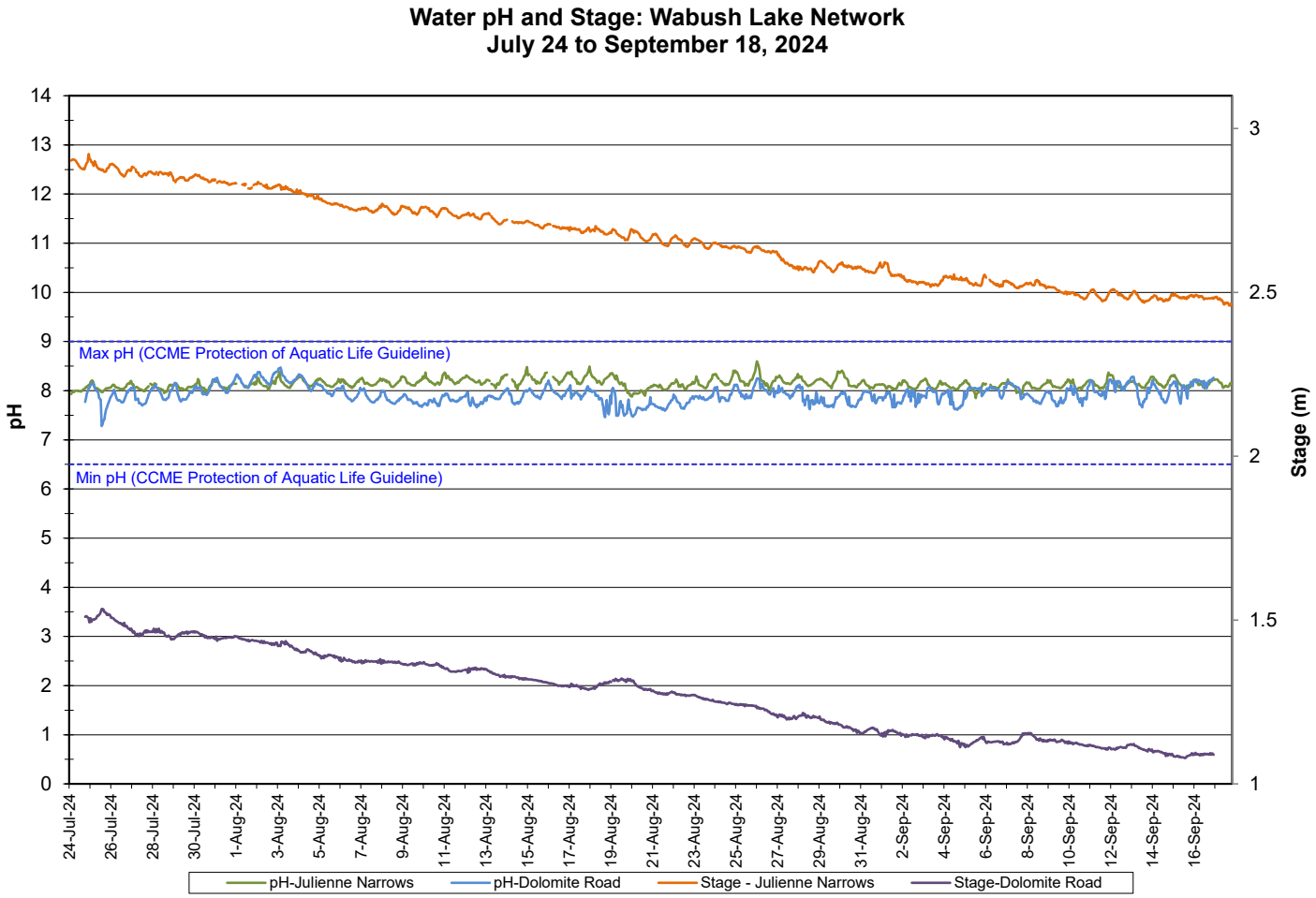

Figure 3: Water pH and Stage – Wabush Lake Network

- Specific conductivity ranged from 59.4 to 143.5 µs/cm at Dolomite Road and from 94.1 to 119.3 at Julienne Narrows throughout the deployment period (Figure 4).
- Specific conductivity at Dolomite Road starts to increase and fluctuate greatly as stage decreases. During the removal visit, it was noted that the stage had dropped significantly, and the instrument was in little water. Wave action from wind and flow combined with the low water level could result in frequent stirring of the water near the sonde, resulting in these fluctuations.
- Water Survey Canada operates the hydrometric components of these stations. Due to differences in protocols, Water Survey Canada hydrometric data is quality controlled on a less frequent basis than water quality data. The hydrometric data shown in this report is provisional and has not undergone quality control checks.

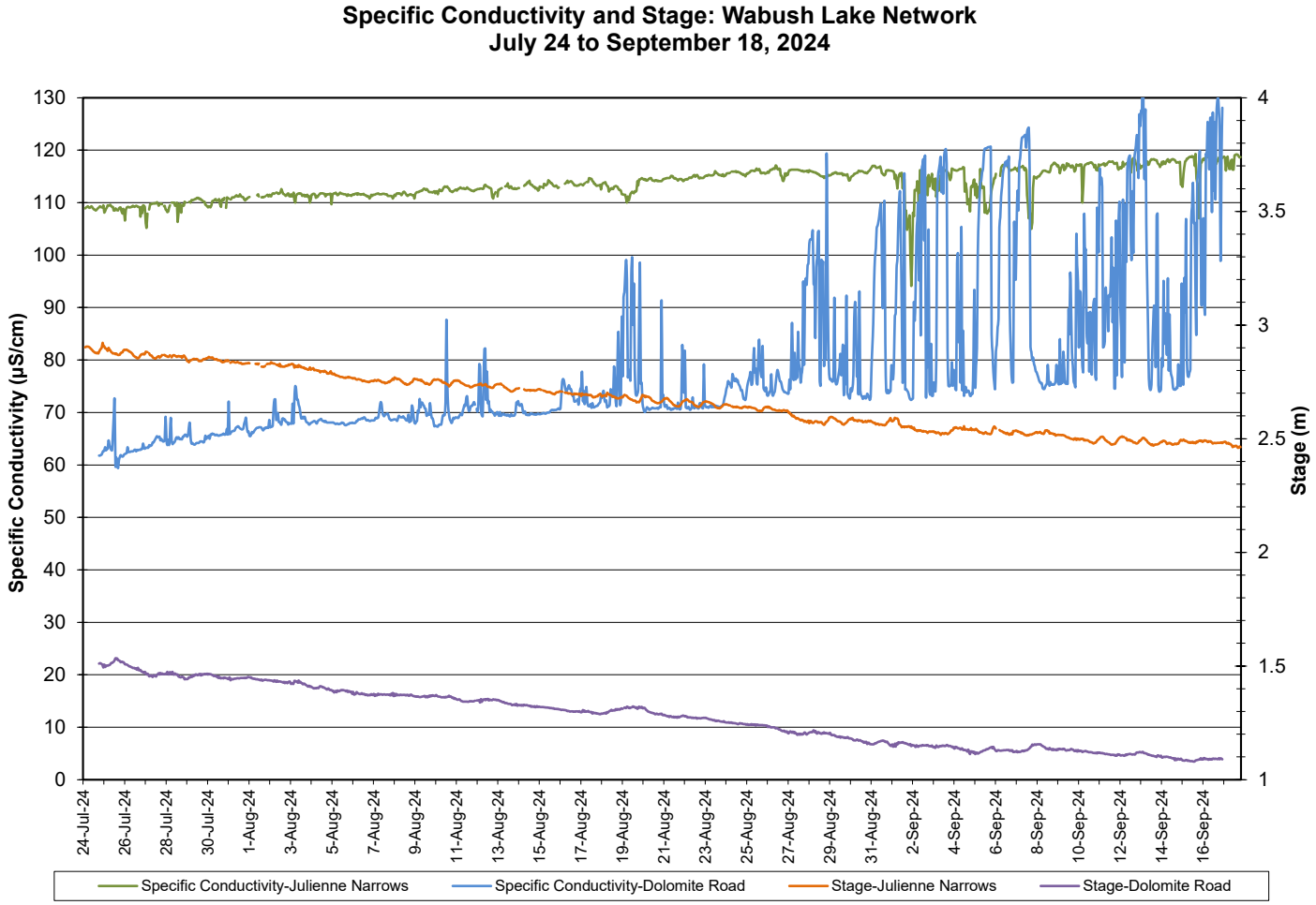

Figure 4: Specific Conductivity and Stage – Wabush Lake Network

- At the Dolomite Road station, the saturation of dissolved oxygen ranged from 81.9 to 110.1% while the dissolved oxygen content ranged from 8.20 to 10.61 mg/l with a median value of 9.22 mg/l (Figure 5).
- At the Julienne Narrows station, the saturation of dissolved oxygen ranged from 88.6 to 121.1% while the dissolved oxygen content ranged from 8.65 to 11.07 mg/l with a median value of 9.56 mg/l (Figure 5).
- All values recorded at Dolomite Road and Julienne Narrows were above the CCME Guideline for the Protection of Aquatic Life for Cold Water Biota of Other Life Stages of 6.5 mg/l. When values are compared to the CCME Guideline for the Protection of Aquatic Life for Cold Water Biota of Early Life Stages of 9.5 mg/l, most values at Dolomite Road were below this guideline, while most values at Julienne Narrows were above. The guidelines are indicated in blue on Figure 5.
- Dissolved oxygen levels show an inverse relationship to water temperature levels, increasing as temperatures fall and cooler weather approaches.

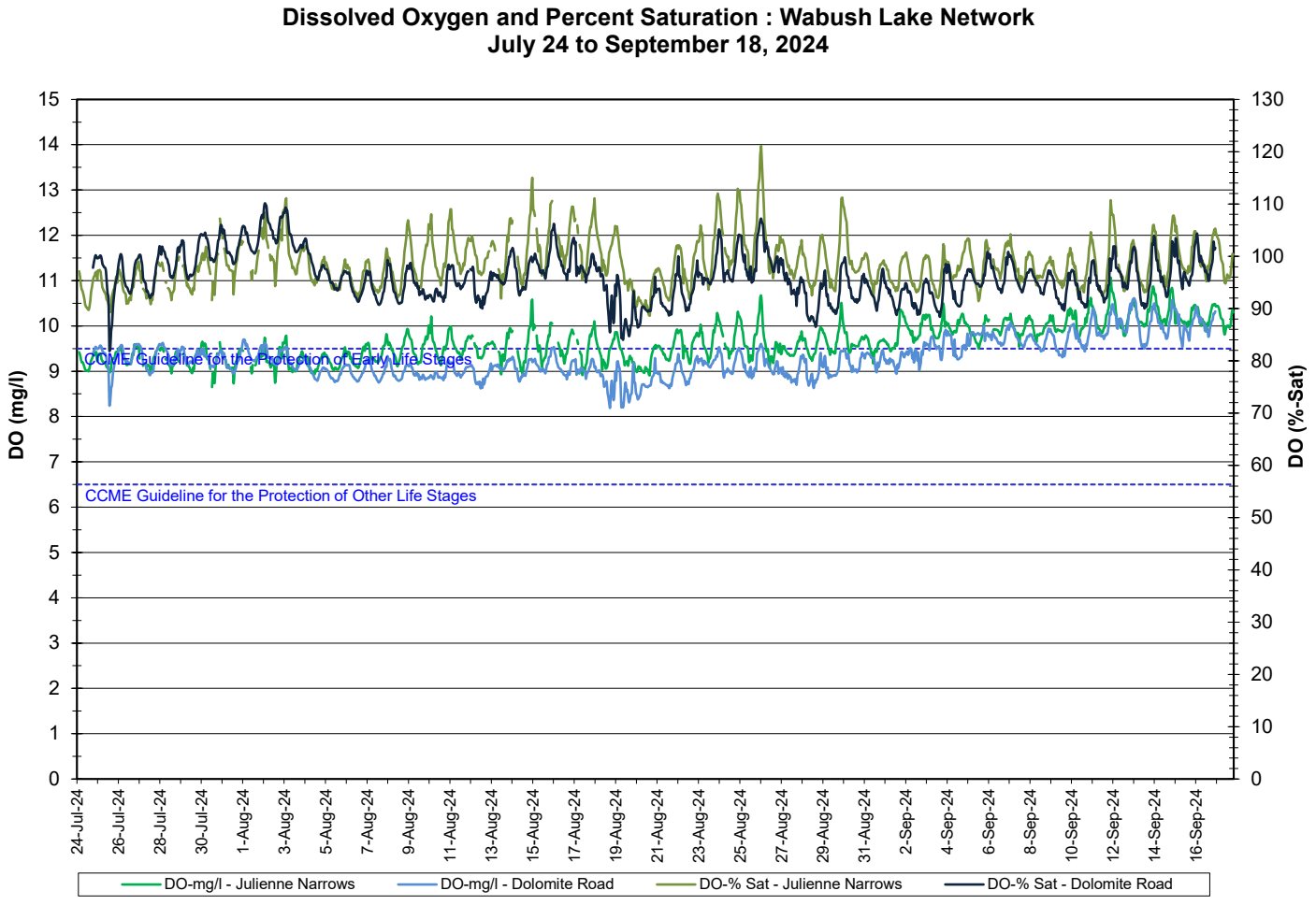

Figure 5: Dissolved Oxygen and Percent Saturation – Wabush Lake Network

- At the Dolomite Road station, turbidity values ranged between 0.5 and 42.6 NTU (Figure 6). Background turbidity values were very low, with small spikes noted for short periods of time.
- Increased turbidity values during the second half of deployment correspond with increased specific conductivity (Figure 4) at this time, and is likely related to wave action frequently stirring the water around the instrumentation in the abnormally low water levels.

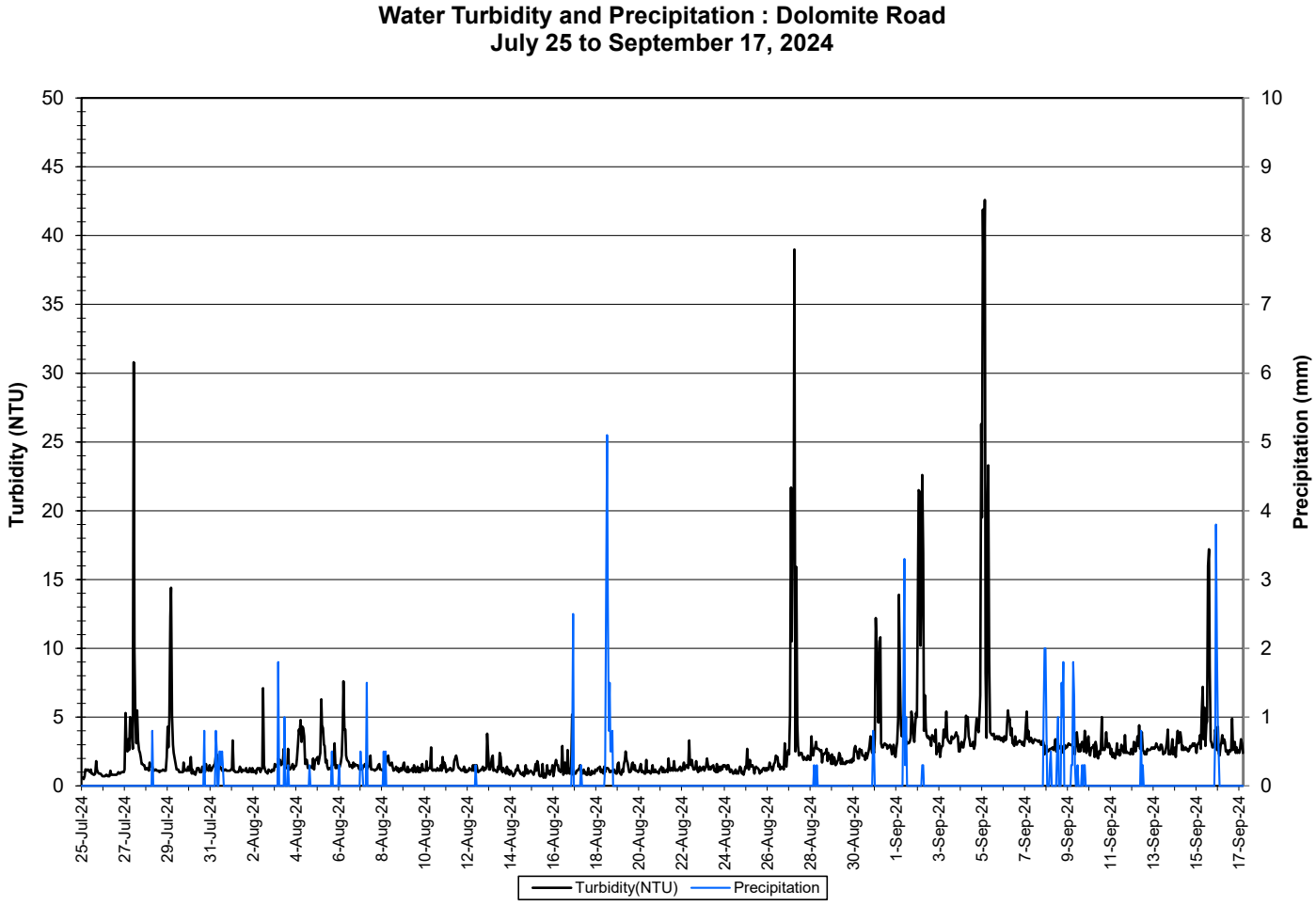

Figure 6: Turbidity and Precipitation – Dolomite Road

(Weather data collected from climate station near Moosehead Lake)

- At the Julienne Narrows station, turbidity values ranged between 0.2 and 99.2 NTU (Figure 7). Background turbidity values were very low, with small spikes noted for short periods of time.

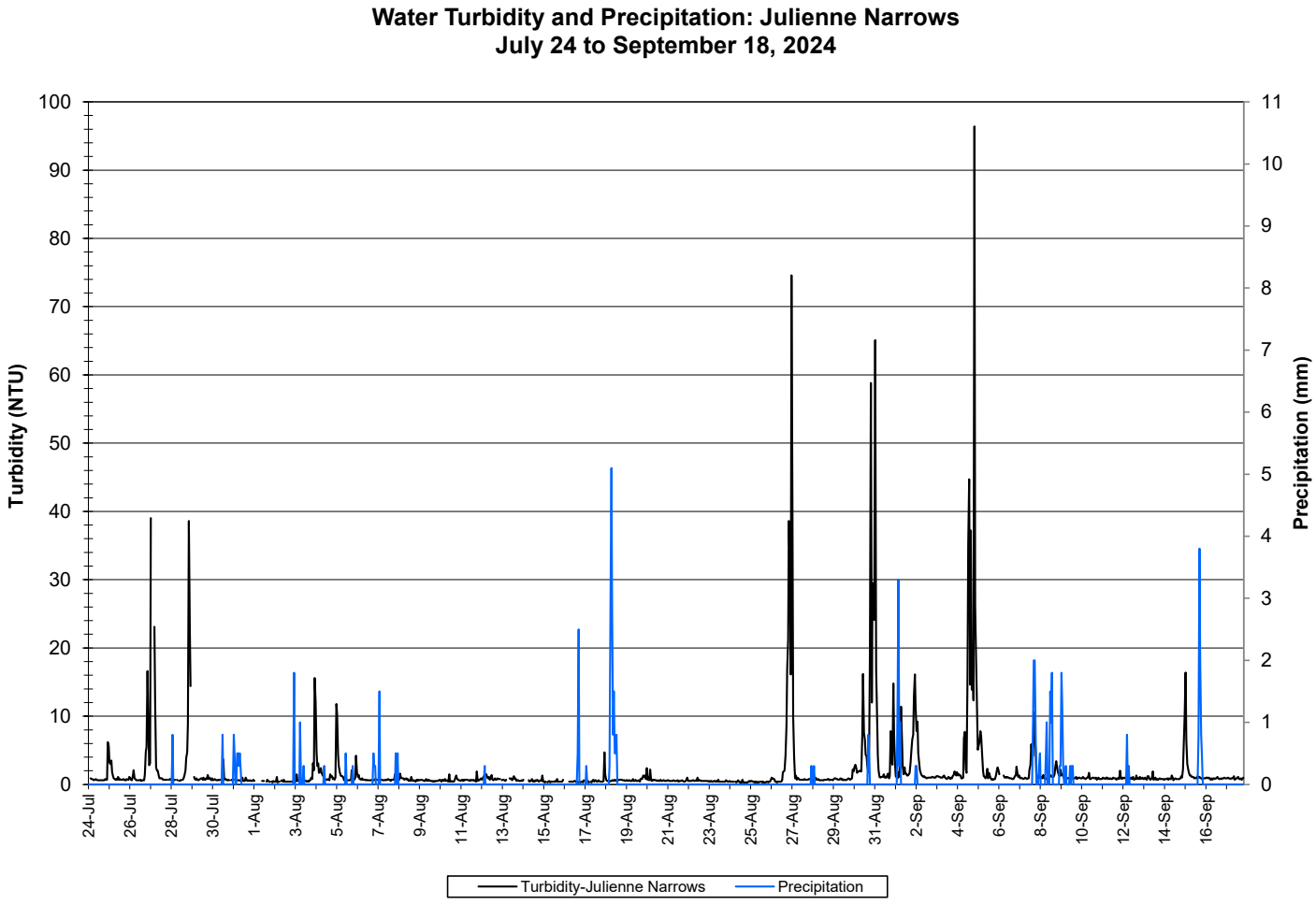

Figure 7: Turbidity and Precipitation – Julienne Narrows

(Weather data collected from climate station near Moosehead Lake)

- Stage and precipitation are graphed below to show the relationship between rainfall and water level at Dolomite Road and Julienne Narrows (Figure 8). Stage decreased during this deployment period at both stations.
- Water Survey Canada operates the hydrometric components of these stations. Due to differences in protocols, Water Survey Canada hydrometric data is quality controlled on a less frequent basis than water quality data. The hydrometric data shown in this report is provisional and has not undergone quality control checks.

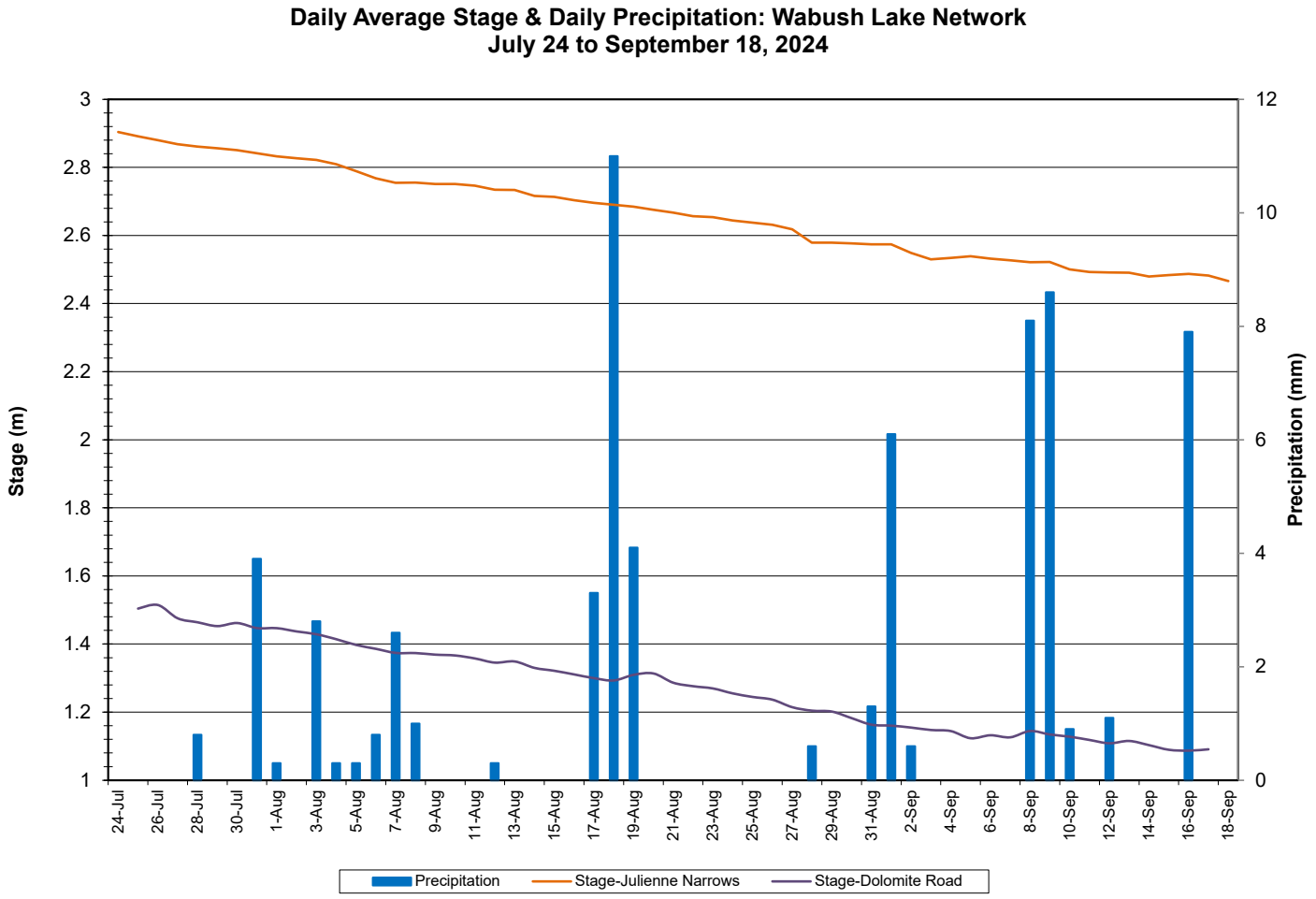

Figure 8: Stage and Precipitation – Wabush Lake Network

(Weather data collected at climate station located near Moosehead Lake)

Dumbell Stream

- Water temperature ranged from 2.86 to 8.52°C during this deployment period (Figure 9).
- Water temperature fluctuated within a small range during this deployment period, with a slight decreasing trend overall. Water temperature at Dumbell Stream is typically much lower than other stations (Figure 9).

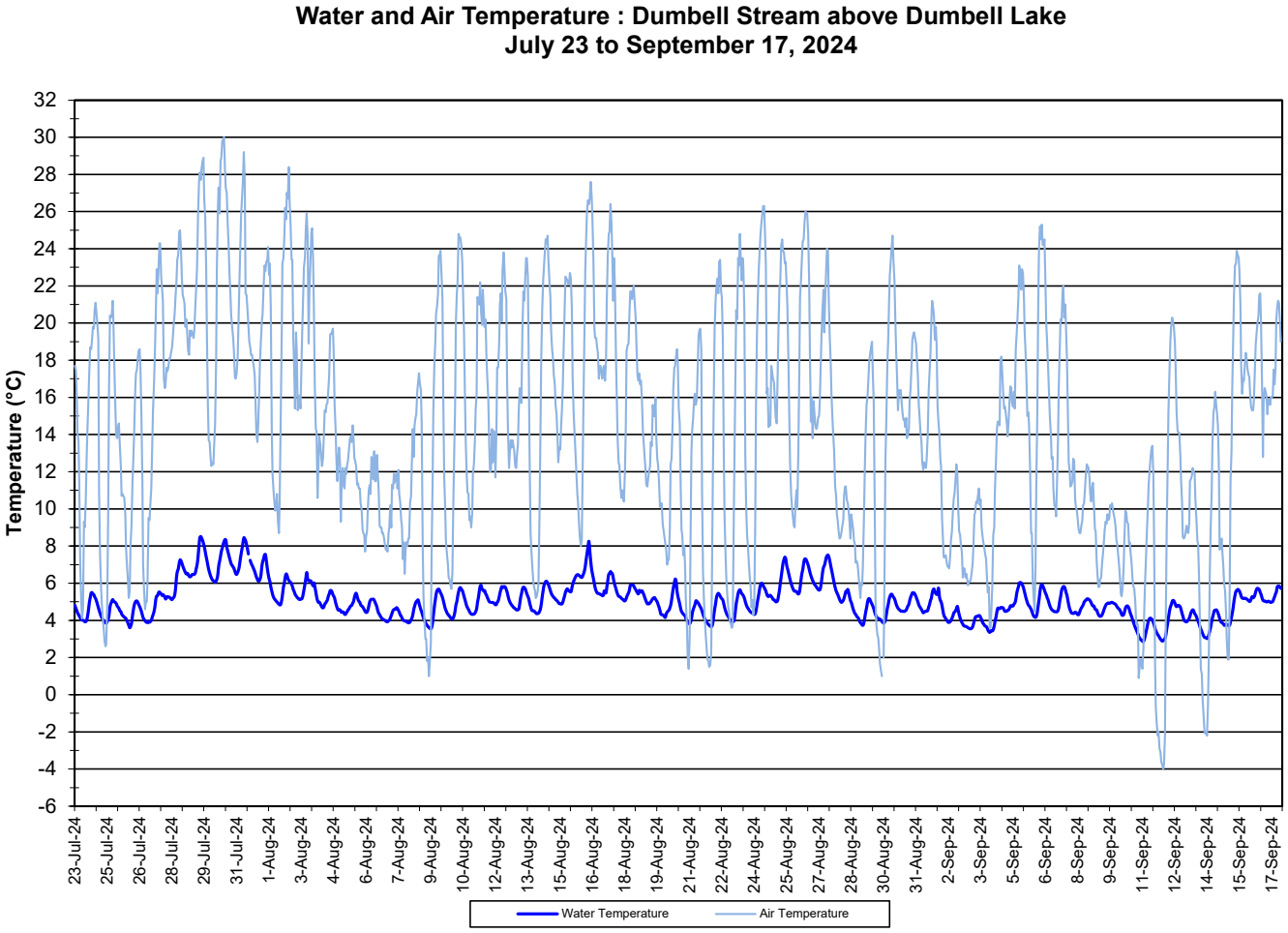

Figure 9: Water and Air Temperature – Dumbell Stream

(Weather data collected from climate station near Moosehead Lake)

- pH ranged from 7.59 to 8.03 pH units (Figure 10). The median pH was 7.86.
- All values are within the CCME Guidelines for the Protection of Aquatic Life (between 6.5 and 9 pH units). pH fluctuates slightly throughout the day and night.
- Water Survey Canada operates the hydrometric component of this station. Due to differences in protocols, Water Survey Canada hydrometric data is quality controlled on a less frequent basis than water quality data. The hydrometric data shown in this report is provisional and has not undergone quality control checks. Corrected data can be obtained upon request.

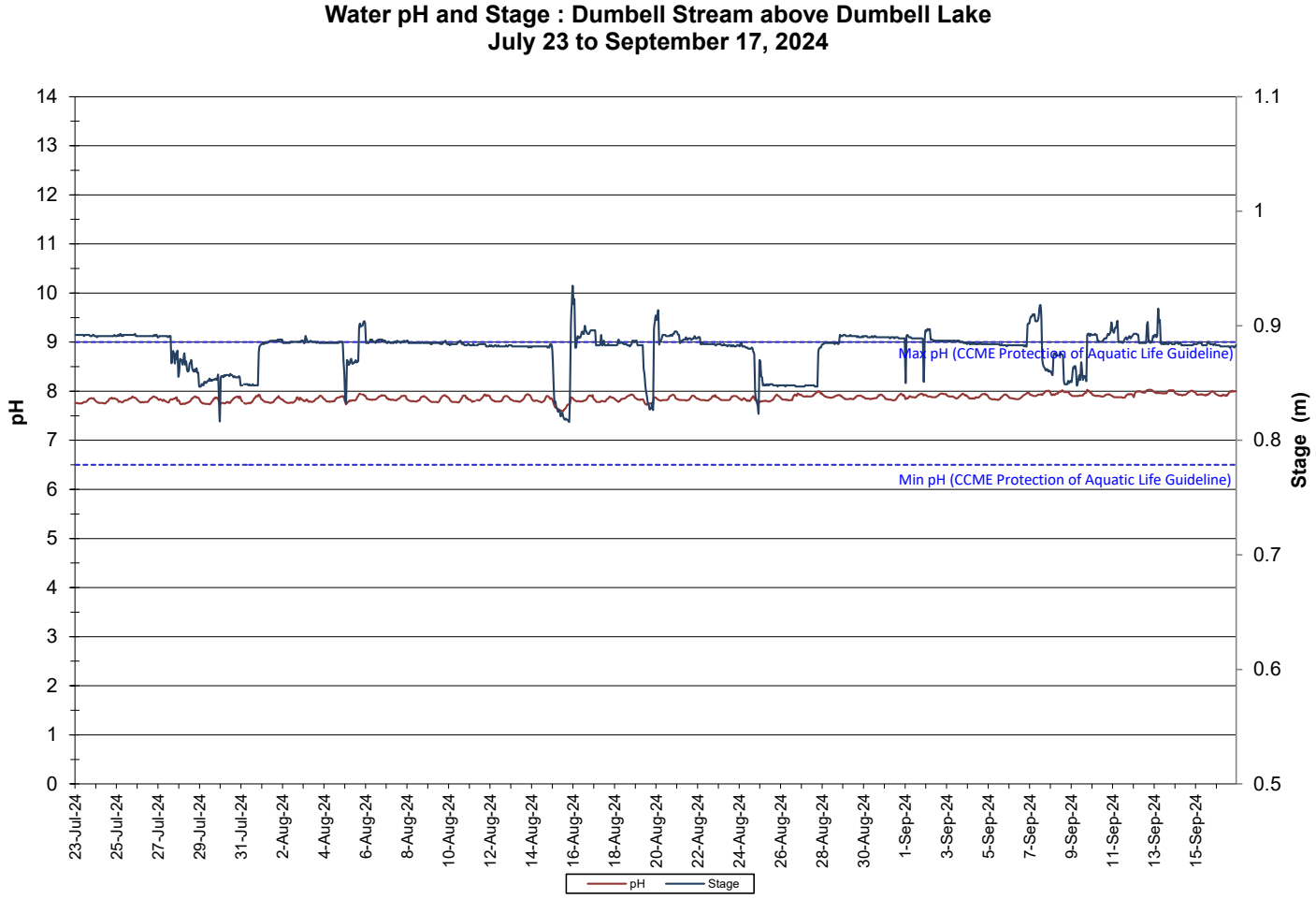

Figure 10: Water pH and Stage – Dumbell Stream

- Specific conductivity ranged from 142.1 to 305.0 µs/cm, throughout the deployment period (Figure 11).
- There are several increases in conductivity during this deployment period. These increases correspond with decreases in stage.
- Water Survey Canada operates the hydrometric component of this station. Due to differences in protocols, Water Survey Canada hydrometric data is quality controlled on a less frequent basis than water quality data. The hydrometric data shown in this report is provisional and has not undergone quality control checks. Corrected data can be obtained upon request.

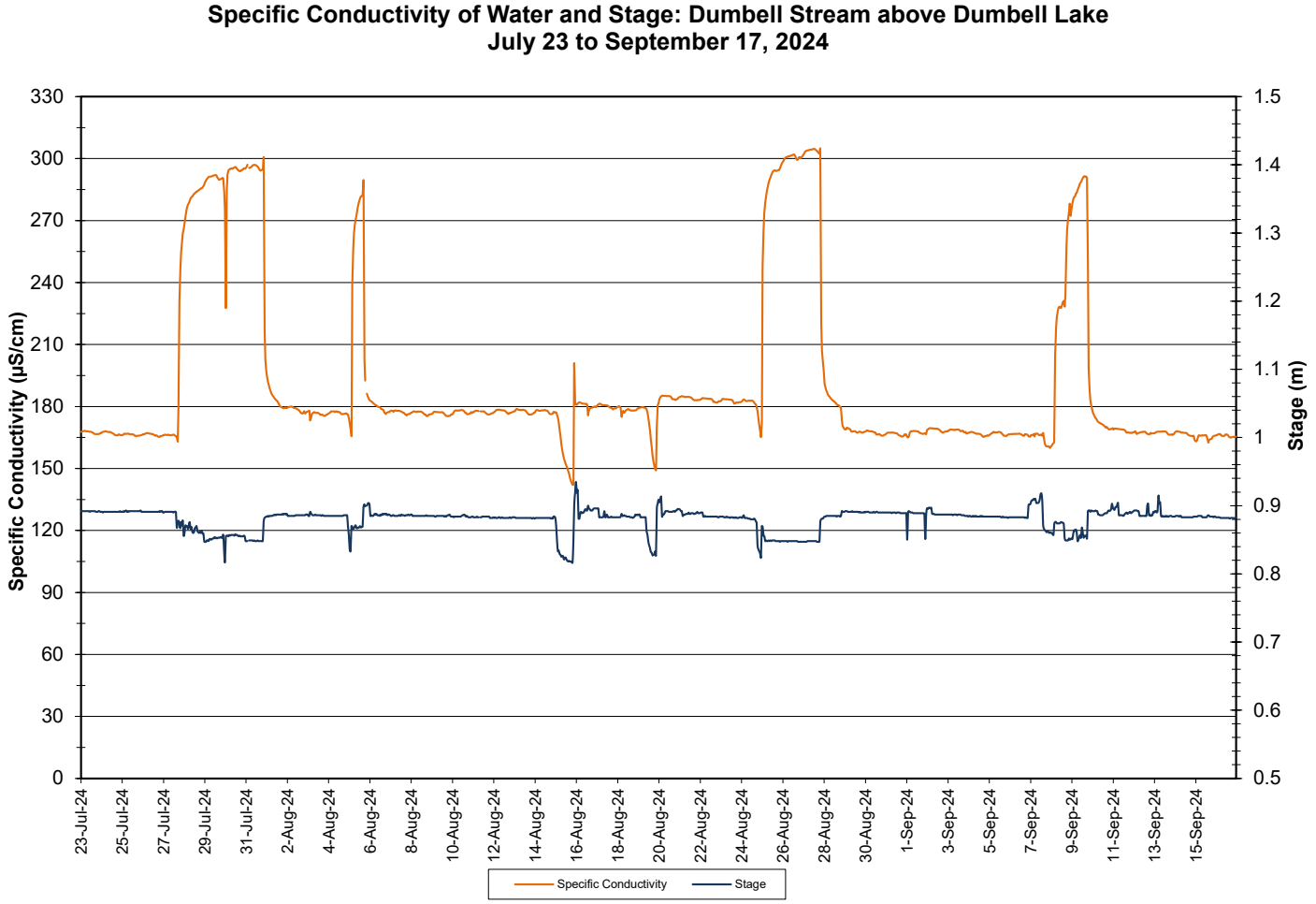

Figure 11: Specific Conductivity and Stage – Dumbell Stream

(Weather data collected from climate station near Moosehead Lake)

- The saturation of dissolved oxygen ranged from 93.1% to 97.9% while the dissolved oxygen content ranged from 10.98 to 13.08 mg/l with a median value of 12.20 mg/l (Figure 12).
- All values recorded at Dumbell Stream were above the CCME Guideline for the Protection of Aquatic Life for Cold Water Biota of Other Life Stages of 6.5 mg/l, and the CCME Guideline for the Protection of Aquatic Life for Cold Water Biota of Early Life Stages of 9.5 mg/. The guidelines are indicated in blue on Figure 12.
- Overall, dissolved oxygen increased slightly over this deployment period. Dissolved oxygen fluctuated daily with decreases observed at night.

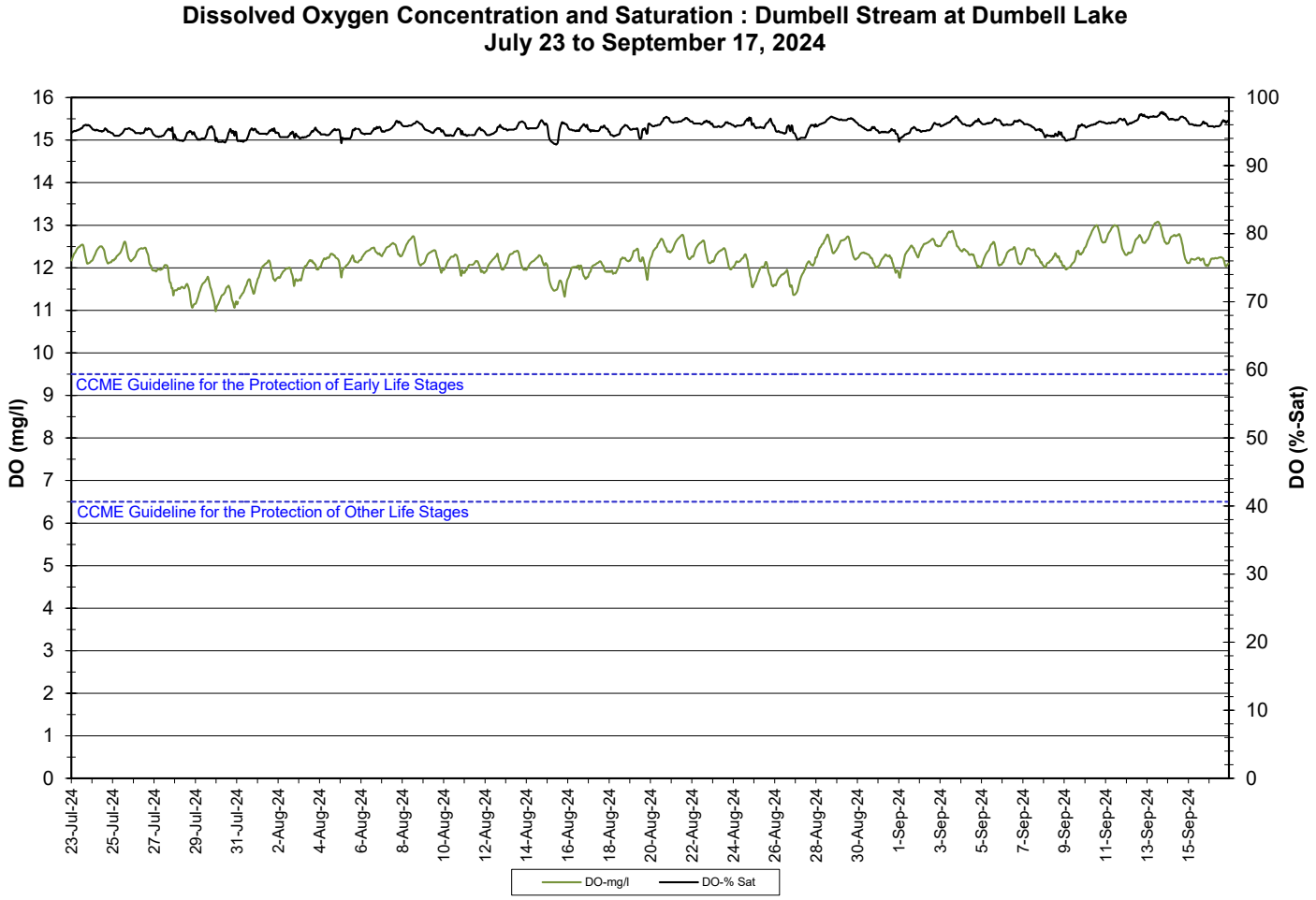

Figure 12: Dissolved Oxygen – Dumbell Stream

- Turbidity values ranged between 0.0 and 5.7 NTU throughout the deployment period (Figure 13). Turbidity levels at this station are generally low. Some spikes occur during precipitation events.

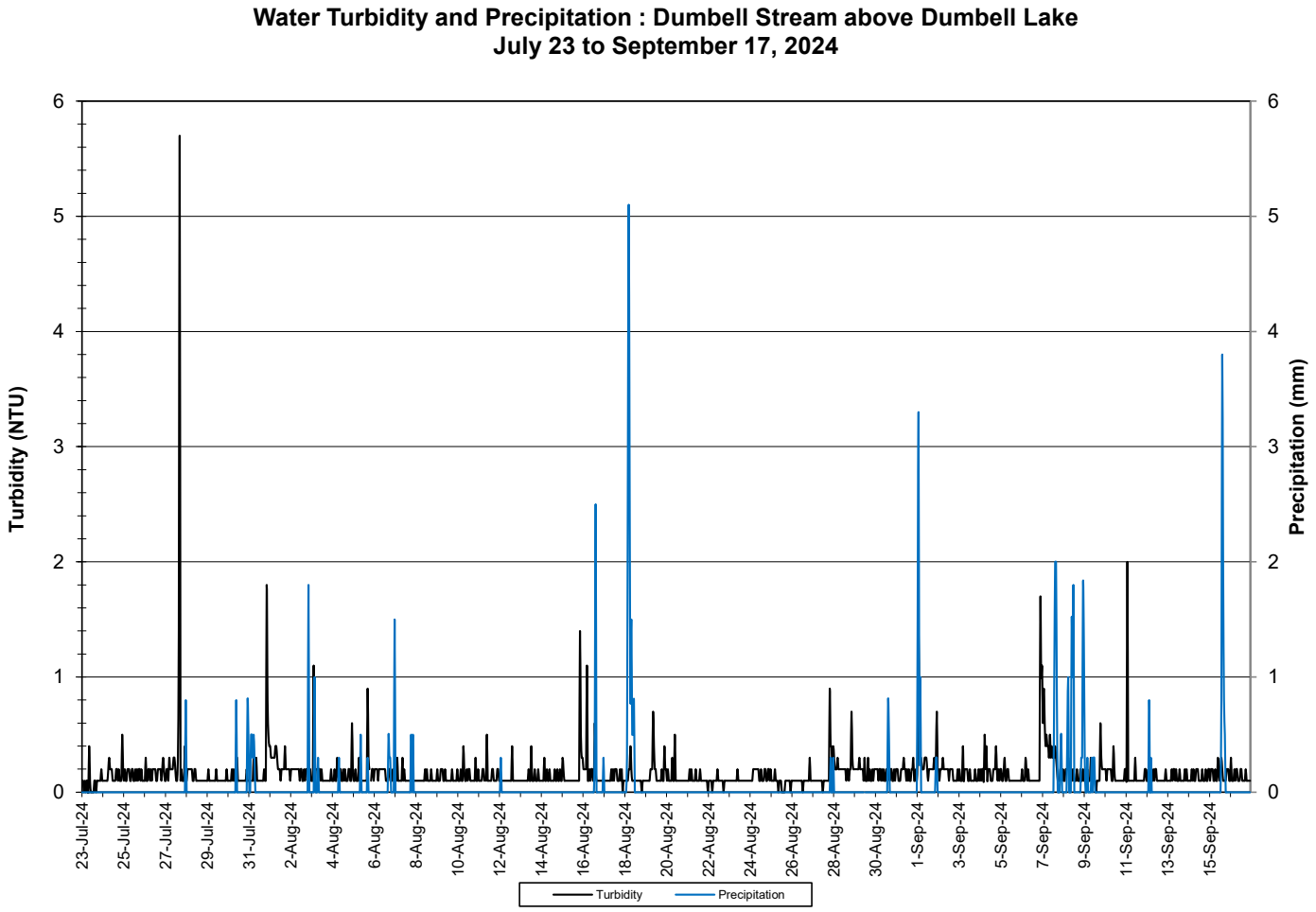

Figure 13: Turbidity and Precipitation – Dumbell Stream

(Weather data collected from climate station near Moosehead Lake)

- Stage and precipitation are graphed below to show the relationship between rainfall and water level at Dumbell Stream (Figure 14).
- Water Survey Canada operates the hydrometric component of this station. Due to differences in protocols, Water Survey Canada hydrometric data is quality controlled on a less frequent basis than water quality data. The hydrometric data shown in this report is provisional and has not undergone quality control checks. Corrected data can be obtained upon request.

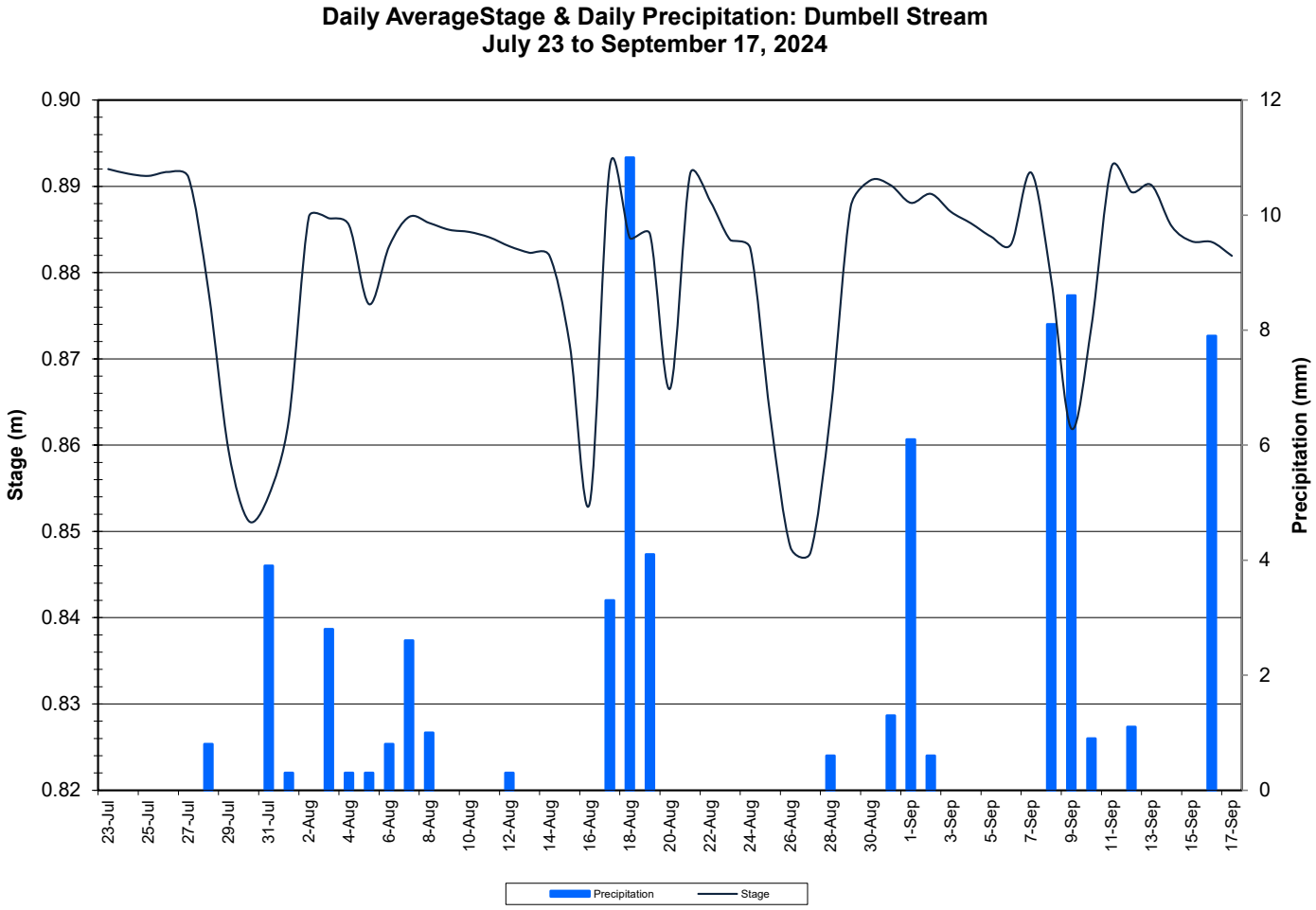

Figure 14: Stage and Precipitation – Dumbell Stream

(Weather data collected from climate station near Moosehead Lake)

Pumphouse Stream

- Water temperature ranged from 7.70 to 20.40°C during this deployment period (Figure 15).
- Fluctuations in water temperature corresponded with increases and decreases in ambient air temperature. (Figure 15). Water temperature decreased over the course of this deployment period.

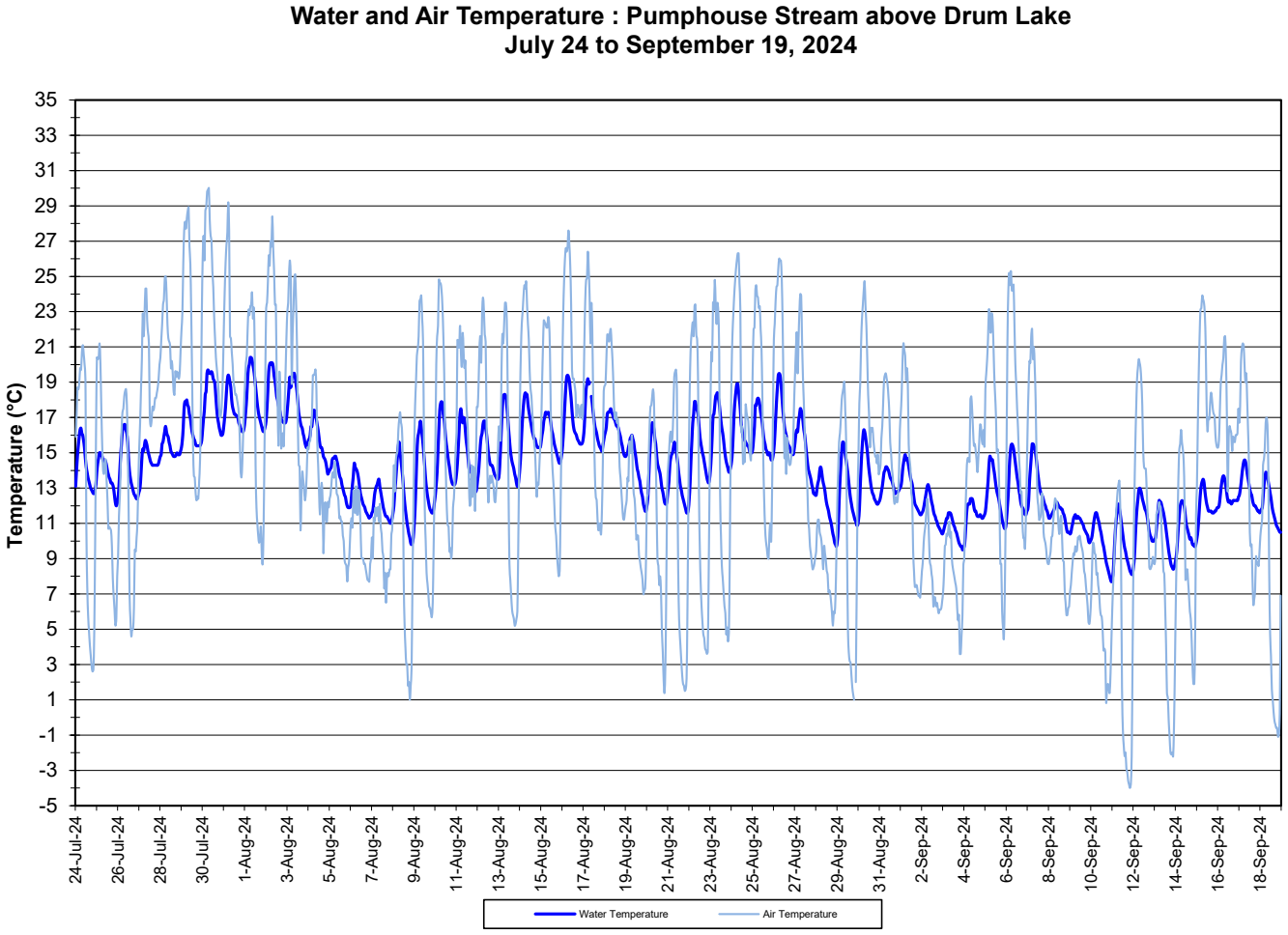

Figure 15: Water and Air Temperature – Pumphouse Stream

(Weather data collected from climate station near Moosehead Lake)

- pH ranged from 7.50 to 7.97 pH units (Figure 16). The median pH was 7.74.
- There are noticeable decreases in pH, corresponding with increases in stage. They are identified on the graph in red.
- All values during the deployment are within the CCME Guidelines for the Protection of Aquatic Life (between 6.5 and 9 pH units).
- Water Survey Canada operates the hydrometric component of this station. Due to differences in protocols, Water Survey Canada hydrometric data is quality controlled on a less frequent basis than water quality data. The hydrometric data shown in this report is provisional and has not undergone quality control checks. Corrected data can be obtained upon request.

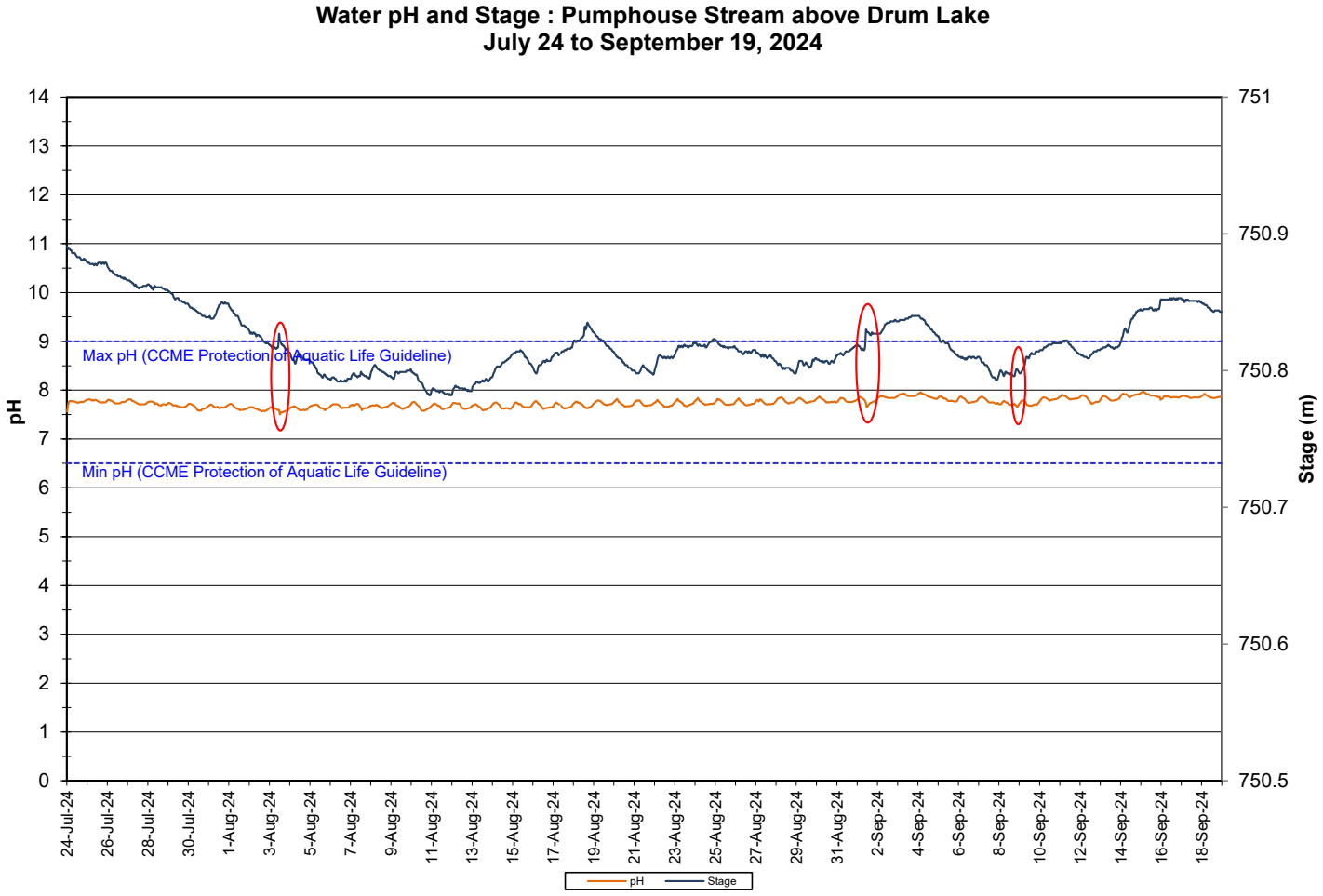

Figure 16: Water pH and Stage – Pumphouse Stream

- Specific conductivity ranged from 570.5 to 709.6 µs/cm, throughout the deployment period (Figure 17).
- The majority of sudden decreases in specific conductivity correspond to sudden increases in stage. As more water is added to the system from precipitation, the solids in the water are diluted, decreasing conductivity. Some correlations are identified on the graph in red.
- Water Survey Canada operates the hydrometric component of this station. Due to differences in protocols, Water Survey Canada hydrometric data is quality controlled on a less frequent basis than water quality data. The hydrometric data shown in this report is provisional and has not undergone quality control checks. Corrected data can be obtained upon request.

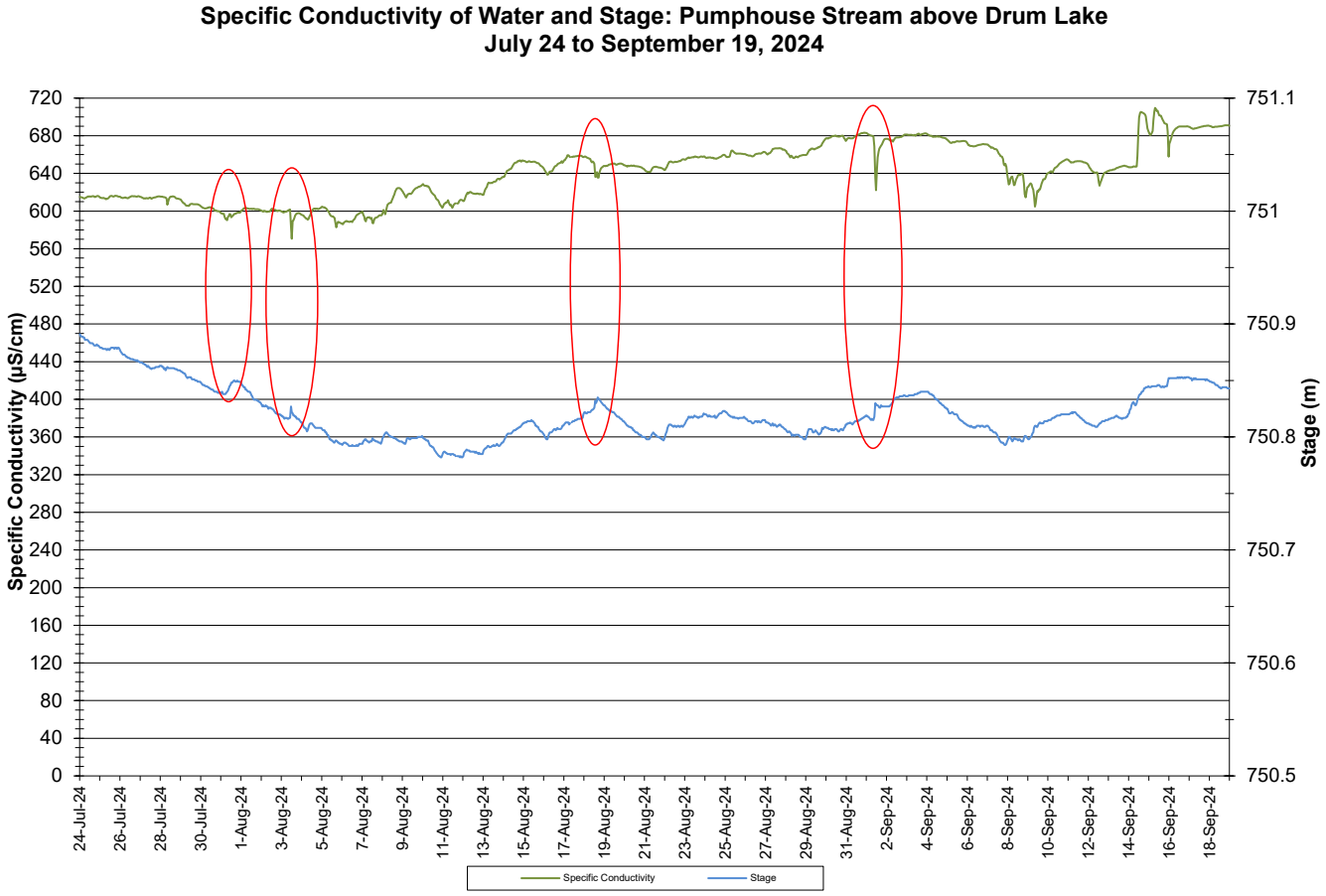

Figure 17: Specific Conductivity and Stage – Pumphouse Stream

(Weather data collected from climate station near Moosehead Lake)

- The saturation of dissolved oxygen ranged from 59.5 to 88.6% while the dissolved oxygen ranged from 5.64 to 9.68 mg/l with a median value of 7.67 mg/l (Figure 18).
- Dissolved oxygen increased during this deployment period, due to decreasing water temperatures.
- The majority of values recorded at Pumphouse Stream were above the CCME Guideline for the Protection of Aquatic Life for Cold Water Biota of Other Life Stages of 6.5 mg/l. However, nearly all values were below the CCME Guideline for the Protection of Aquatic Life for Cold Water Biota of Early Life Stages of 9.5 mg/. The guidelines are indicated in blue on Figure 18.

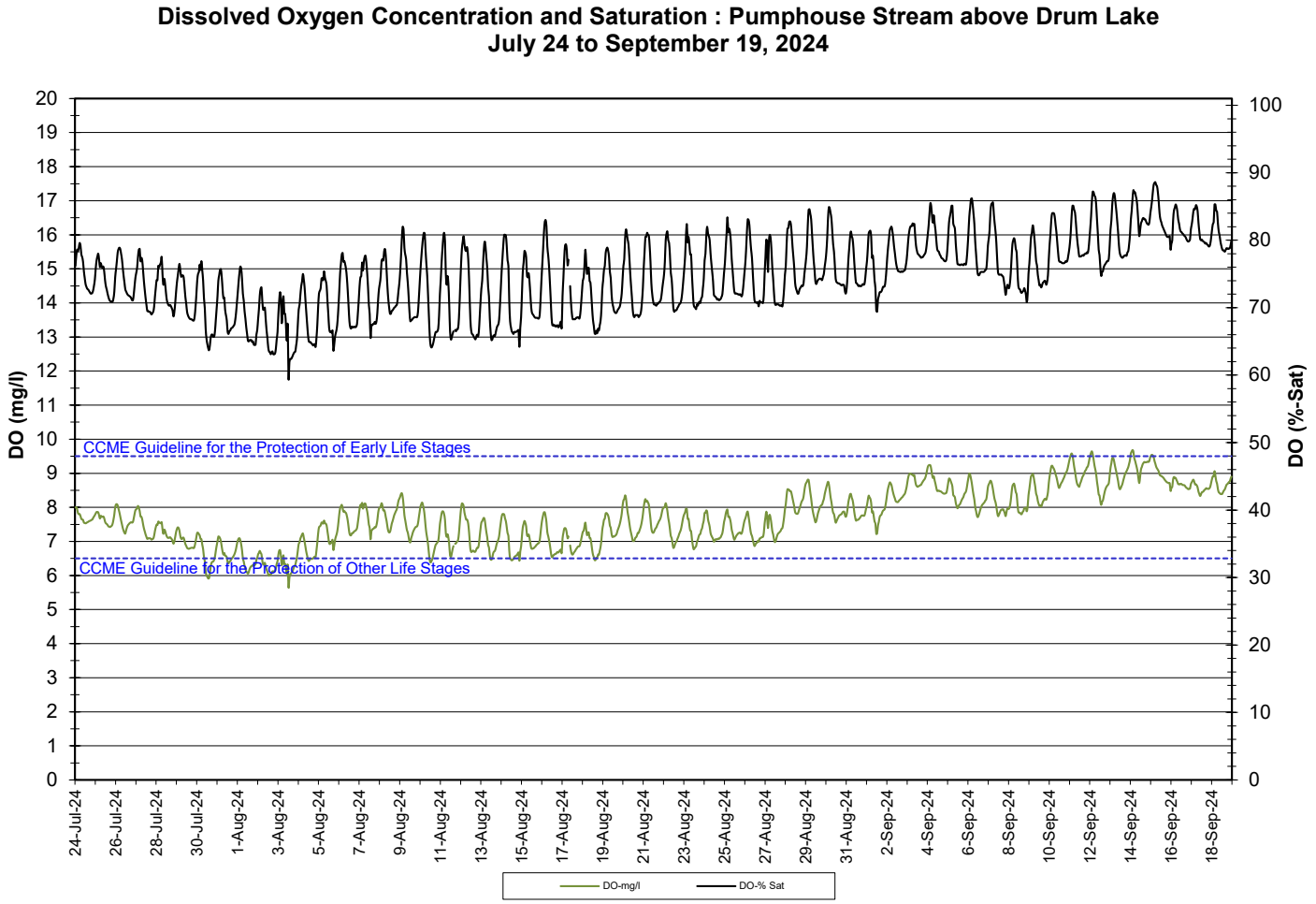

Figure 18: Dissolved Oxygen – Pumphouse Stream

- Turbidity values range from 0.8 NTU to 11.2 NTU throughout the deployment period (Figure 19). The median value was 1.4 NTU, indicating some background turbidity at this location.
- Turbidity spikes occur infrequently and for short periods of time.

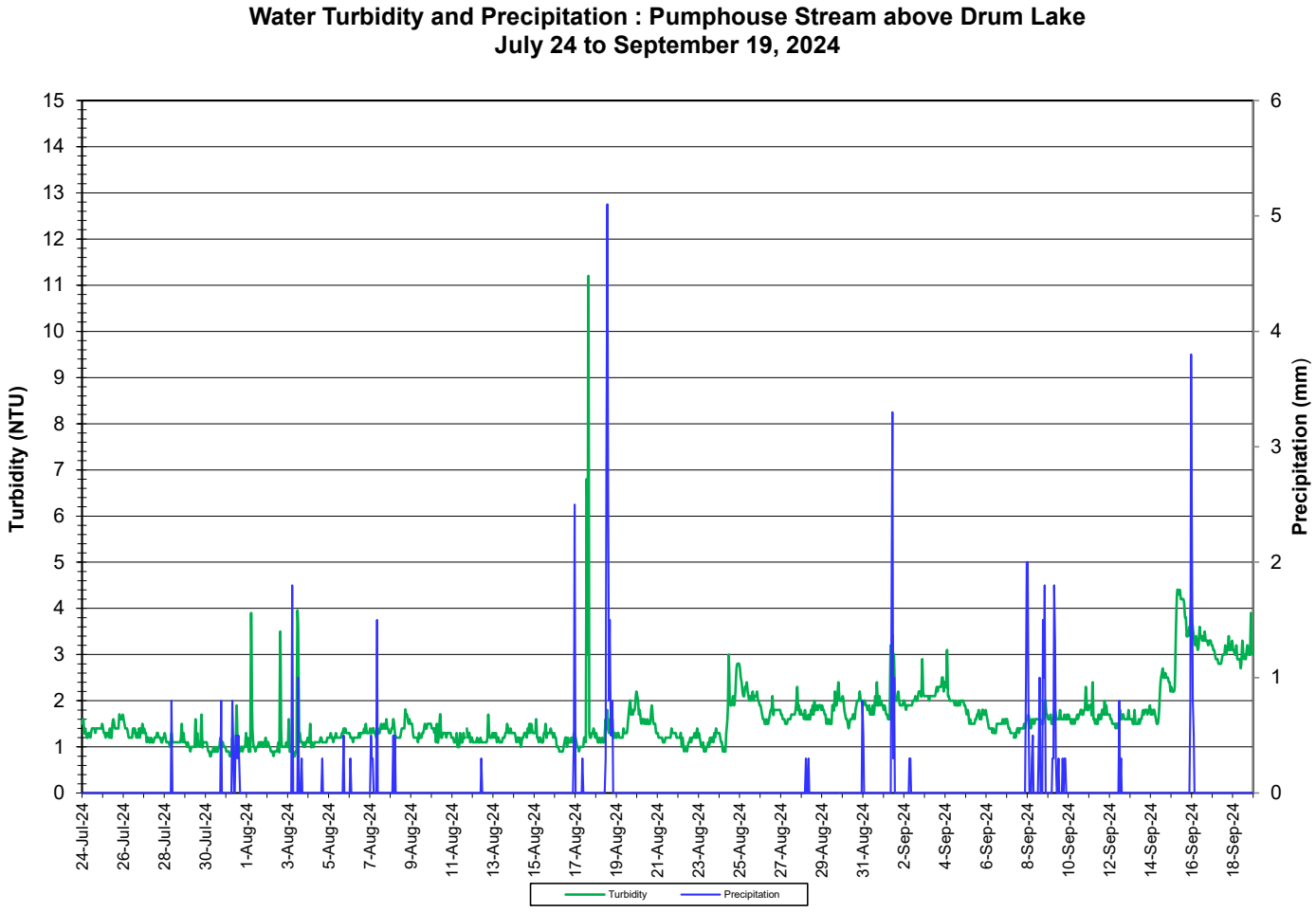

Figure 19: Turbidity and Precipitation – Pumphouse Stream

(Weather data collected from climate station near Moosehead Lake)

- Stage and precipitation are graphed below to show the relationship between rainfall and water level at Pumphouse Stream (Figure 20).
- Stage decreased during the first few weeks of the deployment period. It then increased slightly for the remainder of the deployment, with peaks noted after precipitation events.
- Water Survey Canada operates the hydrometric component of this station. Due to differences in protocols, Water Survey Canada hydrometric data is quality controlled on a less frequent basis than water quality data. The hydrometric data shown in this report is provisional and has not undergone quality control checks. Corrected data can be obtained upon request.

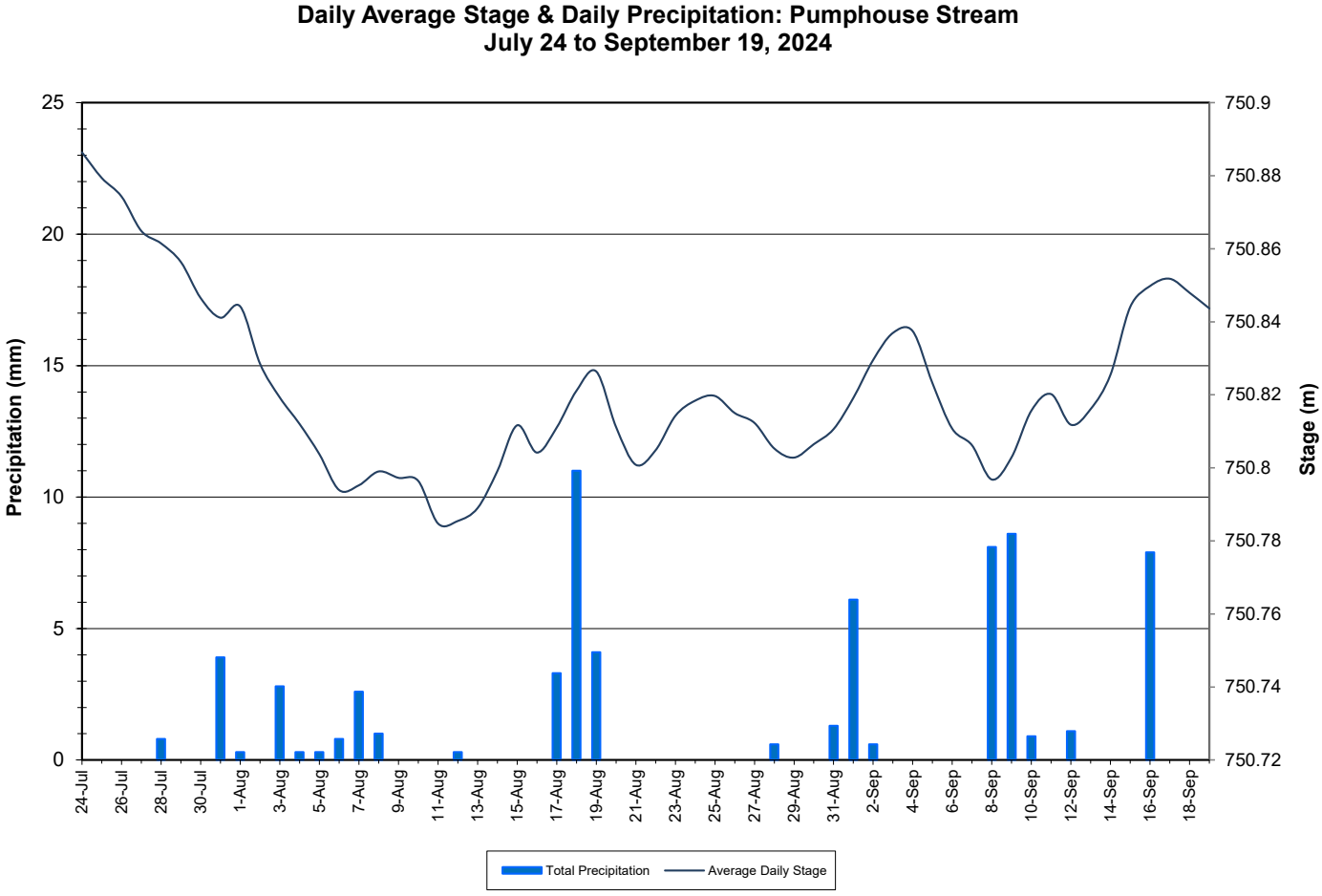

Figure 20: Stage and Precipitation – Pumphouse Stream

(Weather data collected from climate station near Moosehead Lake)

Fraggle Rock

- Water temperature ranged from 6.57 to 20.49°C during this deployment period (Figure 21).
- Fluctuations in water temperature corresponded with increases and decreases in ambient air temperature. (Figure 21). Water temperature decreased over the course of this deployment period.

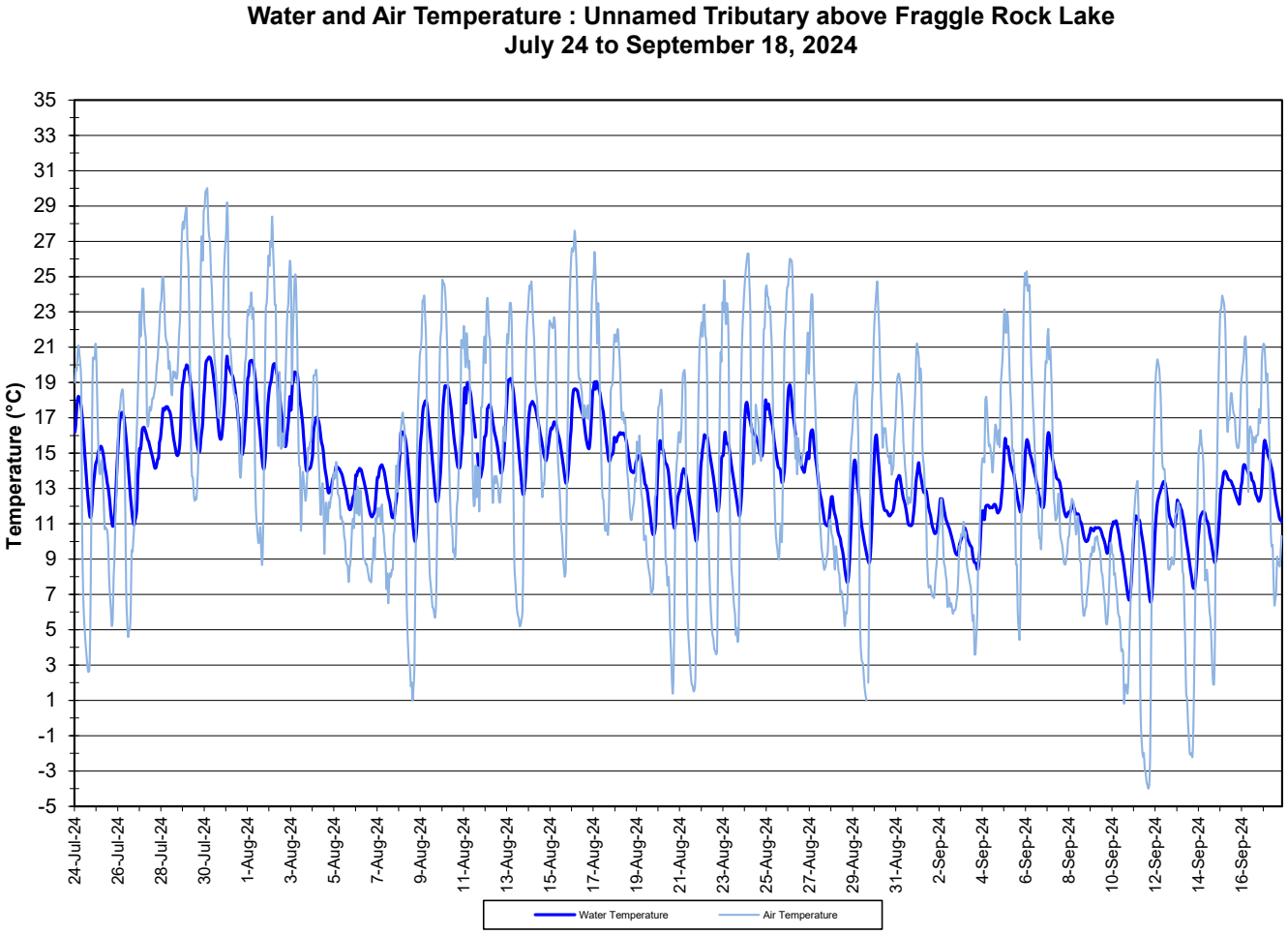

Figure 21: Water and Air Temperature – Fraggle Rock

(Weather data collected from climate station near Moosehead Lake)

- pH ranged from 8.00 to 8.47 pH units (Figure 22). The median pH was 8.25
- All values during the deployment are within the CCME Guidelines for the Protection of Aquatic Life (between 6.5 and 9 pH units).
- Water Resources Management Division hydrometric data is quality controlled on a less frequent basis than water quality data due to differences in protocols. The hydrometric data shown in this report is provisional and has not undergone quality control checks.

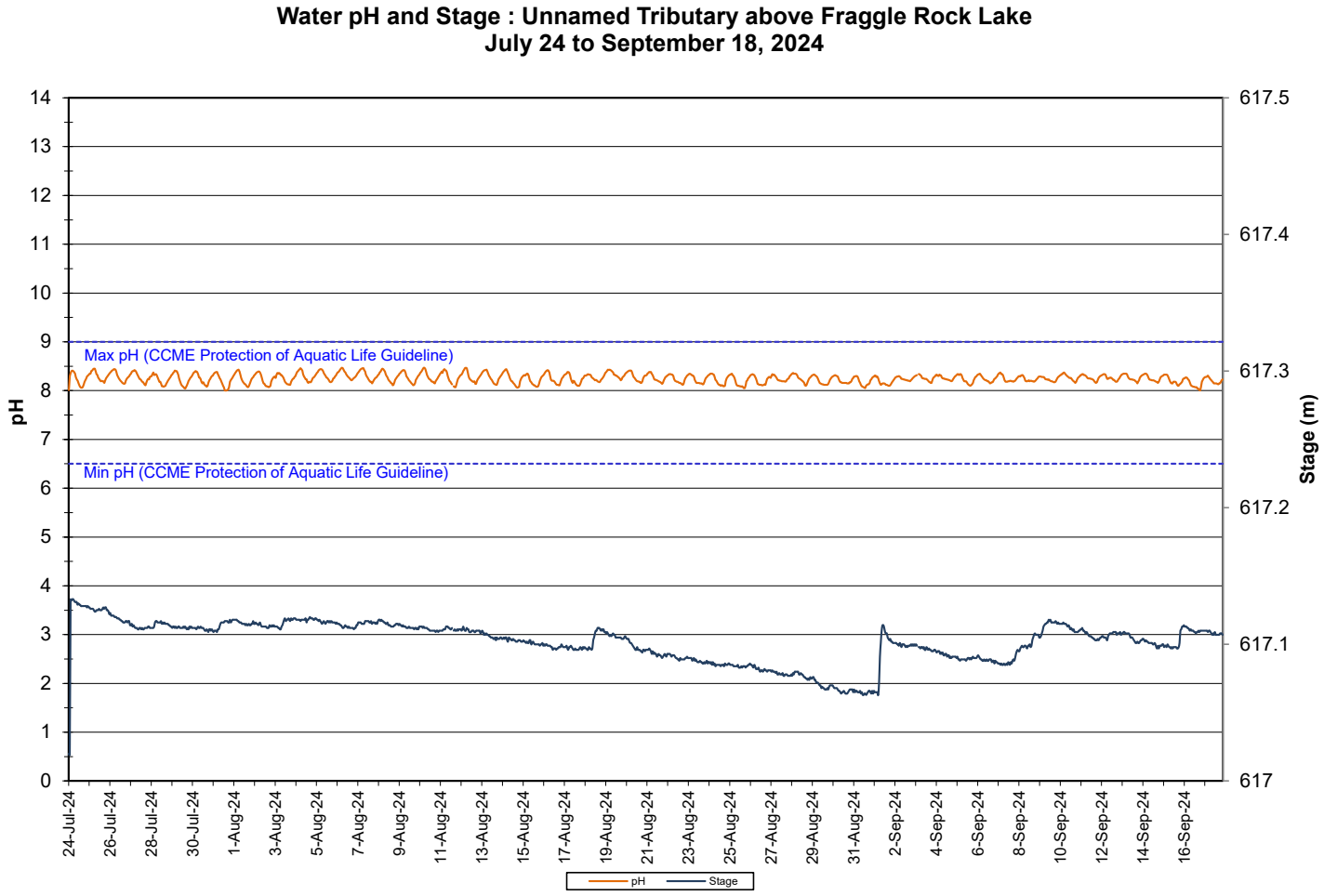

Figure 22: Water pH and Stage – Fraggle Rock

- Specific conductivity ranged from 154.0 to 191.2 µs/cm, throughout the deployment period (Figure 23).
- Sudden decreases in specific conductivity correspond with sudden increases in stage. As more water is added to the system from precipitation, the solids in the water are diluted, decreasing conductivity. Some correlations are identified on the graph in red.
- Water Resources Management Division hydrometric data is quality controlled on a less frequent basis than water quality data due to differences in protocols. The hydrometric data shown in this report is provisional and has not undergone quality control checks.

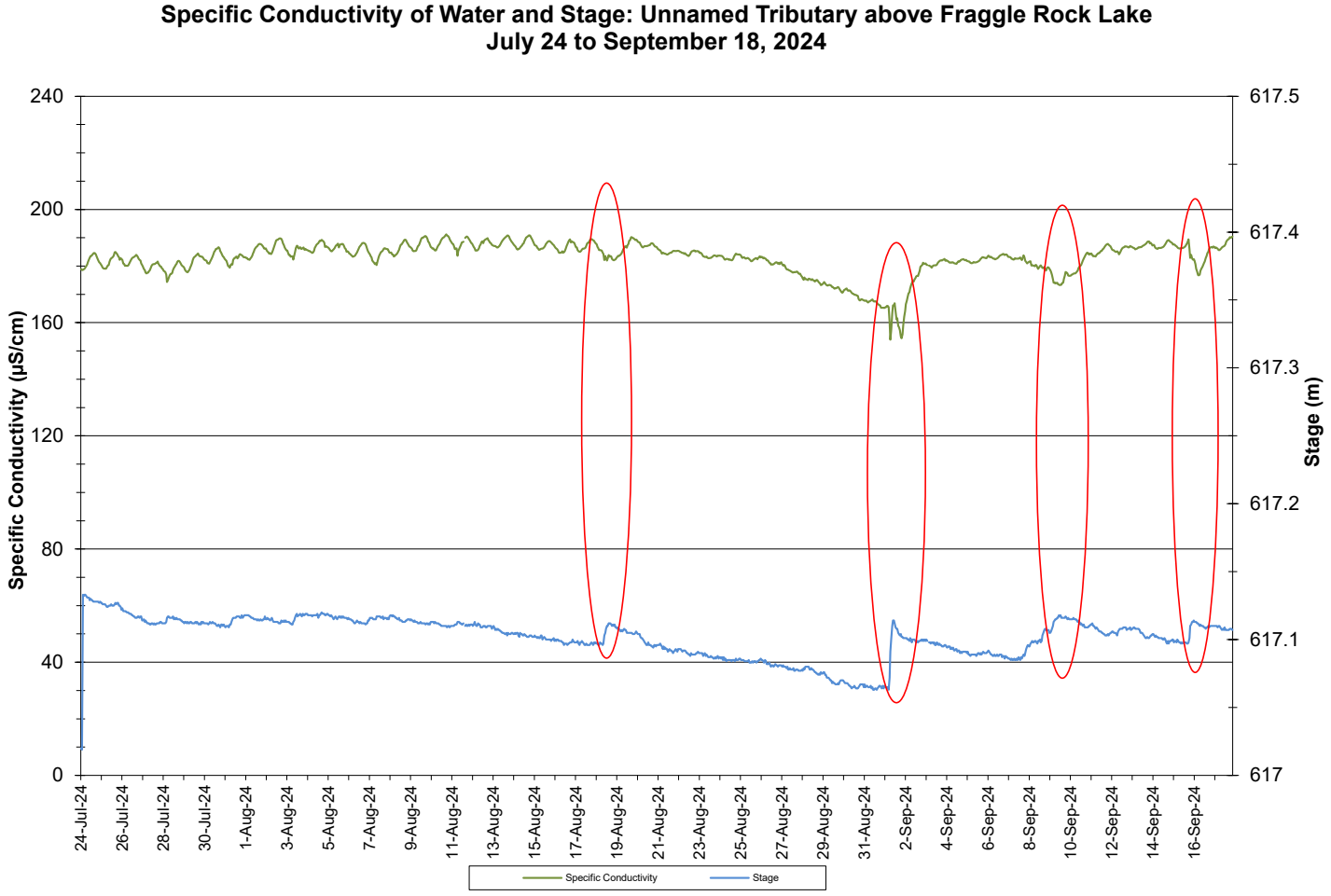

Figure 23: Specific Conductivity and Stage – Fraggle Rock

(Weather data collected from climate station near Moosehead Lake)

- The saturation of dissolved oxygen ranged from 89.4 to 97.4% while the dissolved oxygen ranged from 8.21 to 11.51 mg/l with a median value of 9.57 mg/l (Figure 24).
- Dissolved oxygen increased during this deployment period, due to decreasing water temperatures.
- All values recorded at Fraggle Rock were above the CCME Guideline for the Protection of Aquatic Life for Cold Water Biota of Other Life Stages of 6.5 mg/l, while about half of the values were above the CCME Guideline for the Protection of Aquatic Life for Cold Water Biota of Early Life Stages of 9.5 mg/l. The guidelines are indicated in blue on Figure 24.

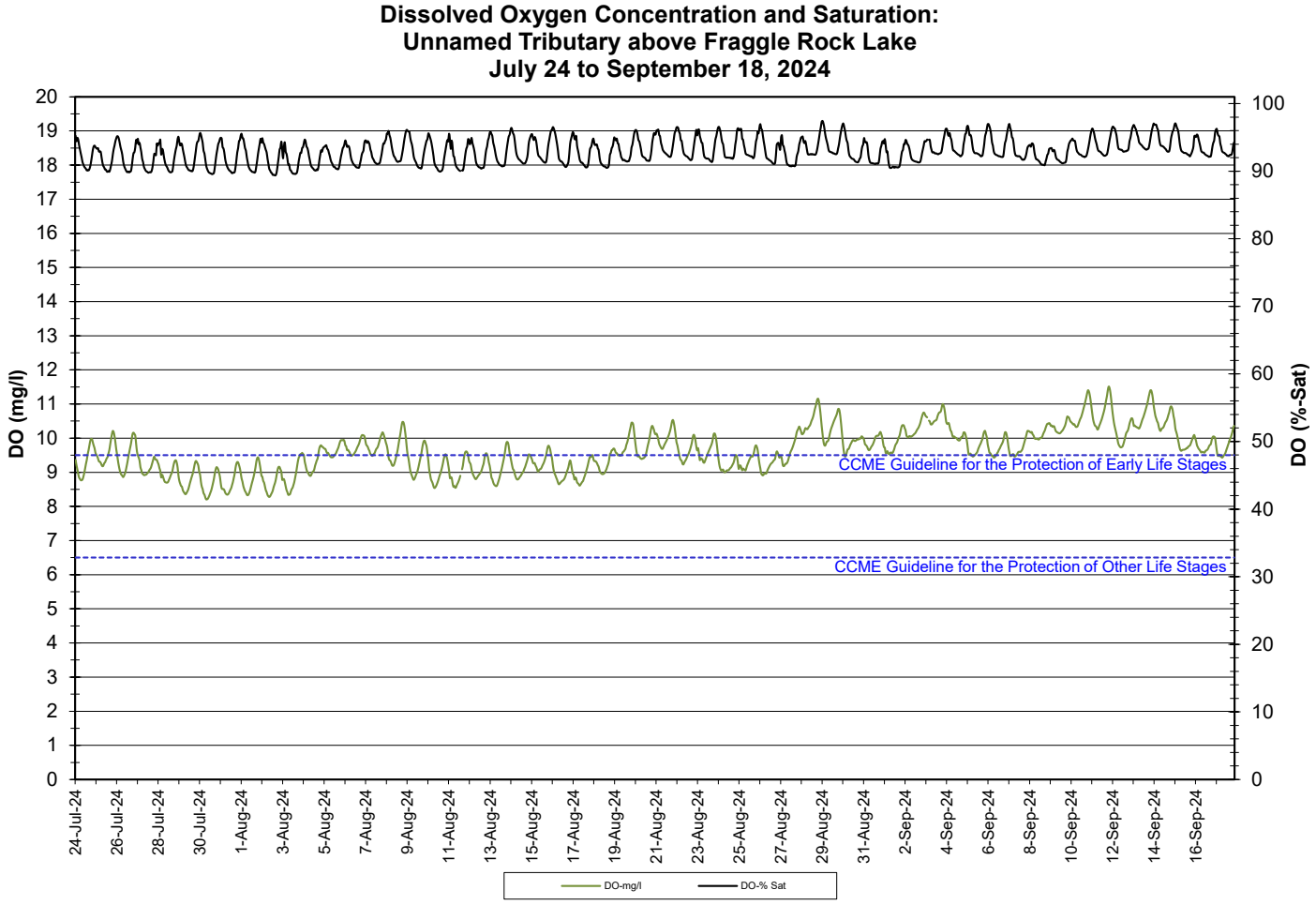

Figure 24: Dissolved Oxygen – Fraggle Rock

- Turbidity values range from 0.3 NTU to 1.2 NTU throughout the deployment period (Figure 25). Turbidity increased slightly during this deployment.
- Precipitation events often resulted in turbidity spikes for a short period of time.

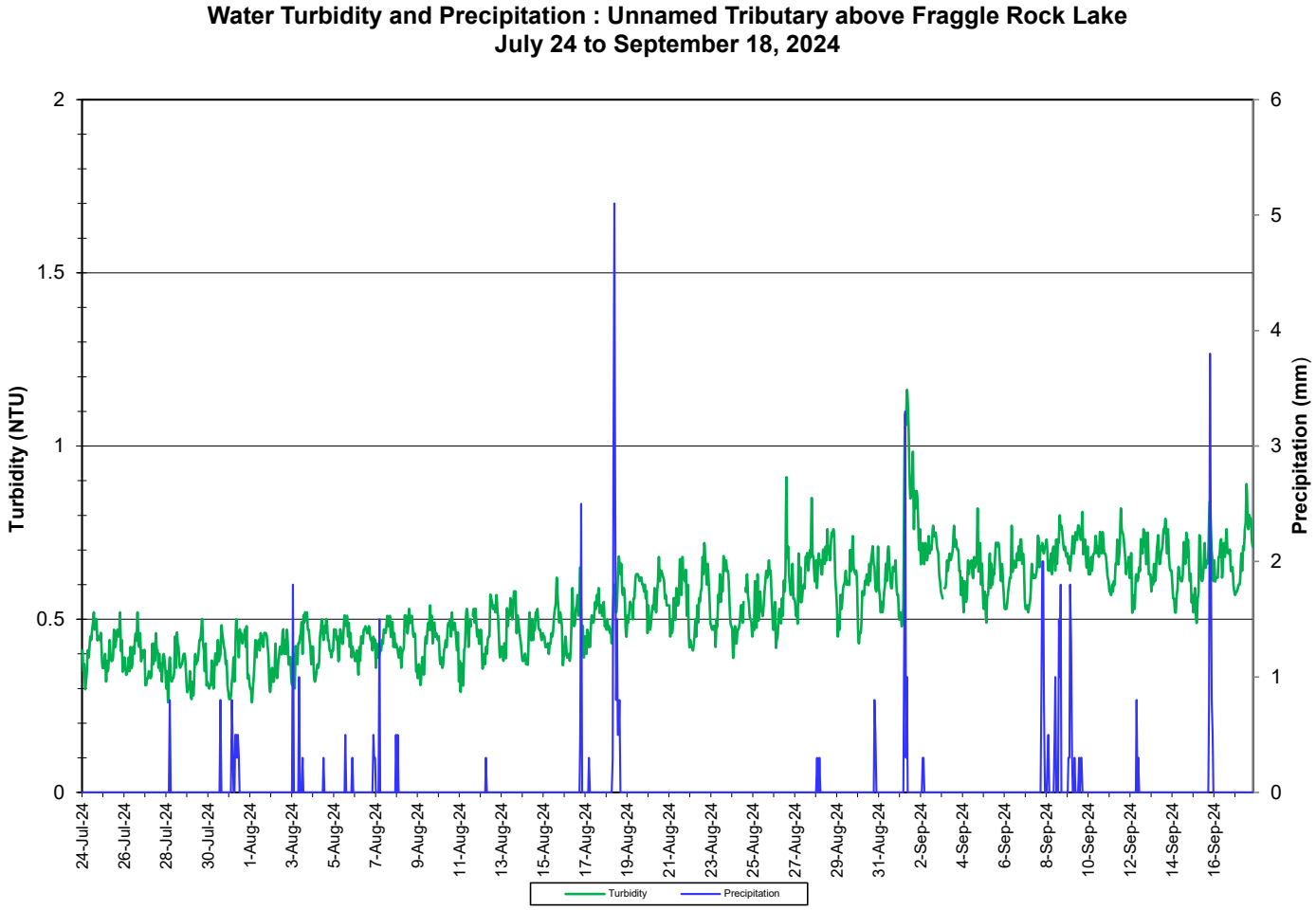

Figure 25: Turbidity and Precipitation – Fraggle Rock

(Weather data collected from climate station near Moosehead Lake)

- Stage and precipitation are graphed below to show the relationship between rainfall and water level at Fraggle Rock (Figure 26).
- Stage decreased during the first few weeks of the deployment period. It then increased slightly for the remainder of the deployment, with notable increases after precipitation events.
- Water Resources Management Division hydrometric data is quality controlled on a less frequent basis than water quality data due to differences in protocols. The hydrometric data shown in this report is provisional and has not undergone quality control checks.

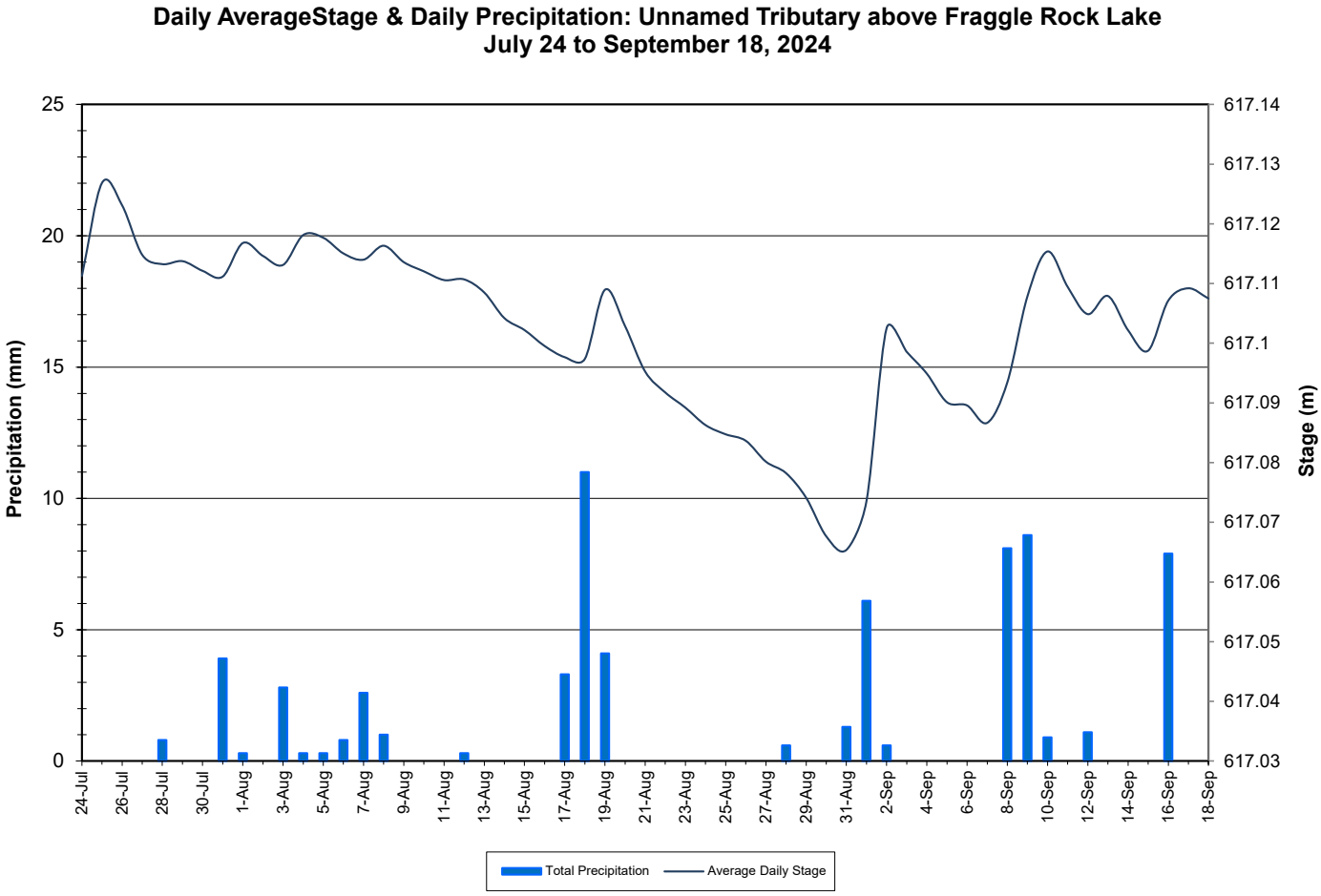

Figure 26: Stage and Precipitation – Fraggle Rock

(Weather data collected from climate station near Moosehead Lake)

Conclusions

- Instruments were deployed between July 23rd and 24th, 2024 and removed by September 19th, 2024. This was the second deployment for Dolomite Road, Dumbell Stream and Pumphouse Stream This was the first deployment for Julienne Narrows and Fraggle Rock in 2024 due to issues with helicopter access and forest fires.
- In most cases, precipitation events or increases/decreases in water level could be used to explain the data fluctuations. Most values recorded were within ranges as suggested by the CCME Guidelines for the Protection of Aquatic Life for pH and dissolved oxygen.
- Water temperature corresponded with air temperature at all stations. Temperature ranged between 2.86 and 22.20^{o}C at these stations during deployment.
- All pH values were within the recommended CCME Guidelines for the Protection of Aquatic Life. pH ranged between 7.28 and 8.60. Fluctuations were noted between day and night.
- Specific conductivity ranged from 59.4 µs/cm to 143.5 µs/cm at Dolomite Road, 94.1 µs/cm to 119.3 µs/cm at Julienne Narrows, 142.1 µs/cm to 305.00 µs/cm at Dumbell Stream, 570.5 µs/cm to 709.60 µs/cm at Pumphouse Stream and 154.0 µs/cm to 191.2 µs/cm at Fraggle Rock.
- At all stations besides Pumphouse Stream, dissolved oxygen values were above the minimum CCME Guideline for the Protection of Aquatic Life for Cold Water Biota at Other Life Stages of 6.5 mg/L. Pumphouse Stream had some values there were below this guideline. When dissolved oxygen values are compared to the CCME Guideline for the Protection of Aquatic Life for Cold Water Biota at Early Life Stages of 9.5 mg/L, Dolomite Road, Julienne Narrows and Fraggle Rock, had values below this guideline, while almost all values at Pumphouse Stream were below this value. Dissolved oxygen values at Dumbell stream were all above this guideline.
- Turbidity at Dolomite Road ranged from 0.5 to 42.6 NTU, 0.2 to 99.2 at Julienne Narrows, 0.0 to 5.7 NTU at Dumbell Stream, 0.8 to 11.2 NTU at Pumphouse Stream, and 0.3 to 1.2 NTU at Fraggle Rock.
- Stage at Dolomite Road and Julienne Narrows decreased. At Dumbell Stream, there were multiple sharp decreases in stage before returning to baseline level. Pumphouse Stream and Fraggle Rock also saw a decrease initially before gradually increasing over the remainder of the deployment period.
- The hydrometric components of the stations in this network are operated by Water Survey Canada, with the exception of Fraggle Rock, which is operated by WRMD. Due to differences in protocols, hydrometric data is quality controlled on a less frequent basis than water quality data. The hydrometric data shown in this report is provisional and has not undergone quality control checks.

Prepared by:
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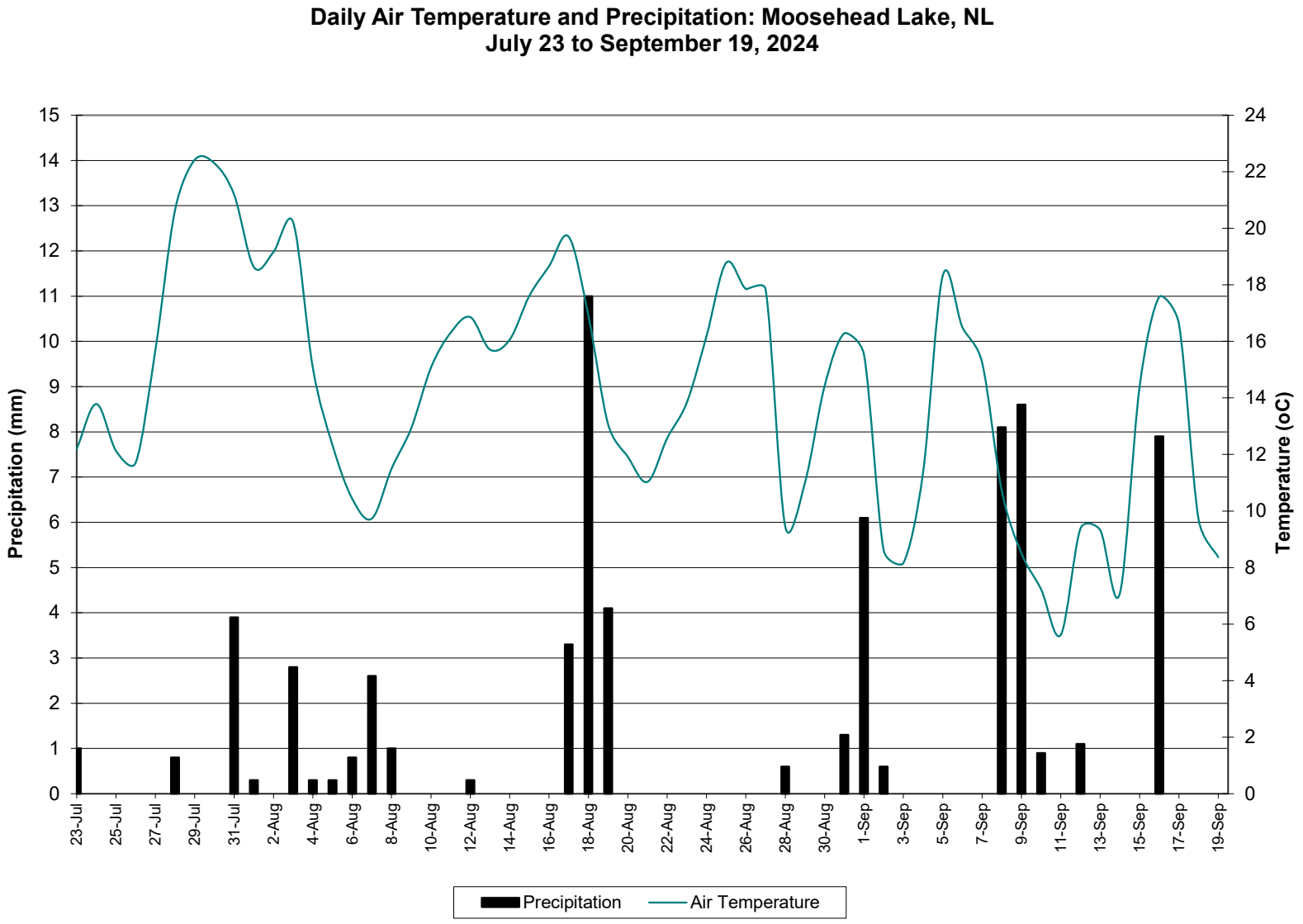
Department of Environment and Climate Change
Water Resources Management Division
Phone:709.896.7981

Appendix 1


Daily Air Temperature and Precipitation: Moosehead Lake, NL
July 23 to September 19, 2024
Precipitation (mm)
Temperature (oC)
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
0
2
4
6
8
10
12
14
16
18
20
22
24
23-Jul
25-Jul
27-Jul
29-Jul
31-Jul
2-Aug
4-Aug
6-Aug
8-Aug
10-Aug
12-Aug
14-Aug
16-Aug
18-Aug
20-Aug
22-Aug
24-Aug
26-Aug
28-Aug
30-Aug
1-Sep
3-Sep
5-Sep
7-Sep
9-Sep
11-Sep
13-Sep
15-Sep
17-Sep
19-Sep
Precipitation
Air Temperature

Appendix 2
QA/QC Grab Sample Results

Bureau Veritas Job #: C4N2532
Report Date: 2024/08/09

NL Department of Environment, Climate Change and Municipalities
Site Location: LABRADOR
Your P.O. #: 224006869-3
Sampler Initials: MM

Sample Details/Parameters	A	Result	RDL	UNITS	Extracted	Analyzed	By	Batch
ZWB141 DOLOMITE ROAD Sampling Date 2024/07/25 09:45 Matrix DR Sample # 2024-6315-00-SI-SP Registration # SA-0000								
RESULTS OF ANALYSES OF DRINKING WATER								
Calculated Parameters								
Hardness (CaCO3)	-	30	1.0	mg/L	N/A	2024/07/31		9545812
Nitrate (N)	-	0.069	0.050	mg/L	N/A	2024/08/01		9545815
Total dissolved solids (calc., EC)	-	34	1.0	mg/L	N/A	2024/08/01		9545914
Inorganics								
Conductivity	-	62	1.0	uS/cm	N/A	2024/07/31	LJV	9548388
Chloride (Cl-)	-	1.1	1.0	mg/L	N/A	2024/08/02	SUR	9550873
Bromide (Br-)	-	ND	1.0	mg/L	N/A	2024/08/02	SUR	9550873
Sulphate (SO4)	-	2.3	1.0	mg/L	N/A	2024/08/02	SUR	9550873
Total Alkalinity (Total as CaCO3)	-	27	2.0	mg/L	N/A	2024/07/31	LJV	9548390
Colour	-	25	5.0	TCU	N/A	2024/08/01	EMT	9548872
Dissolved Fluoride (F-)	-	ND	0.10	mg/L	N/A	2024/07/31	LJV	9548389
Total Kjeldahl Nitrogen (TKN)	-	0.14	0.10	mg/L	2024/08/06	2024/08/08	RTY	9559013
Nitrate + Nitrite (N)	-	0.069	0.050	mg/L	N/A	2024/08/01	EMT	9551115
Nitrite (N)	-	ND	0.010	mg/L	N/A	2024/08/01	EMT	9551116
Nitrogen (Ammonia Nitrogen)	-	ND	0.050	mg/L	N/A	2024/08/01	EMT	9551196
Dissolved Organic Carbon (C)	-	4.2	0.50	mg/L	N/A	2024/07/31	SSI	9549152
Total Organic Carbon (C)	-	4.4	0.50	mg/L	N/A	2024/07/30	MKY	9546369
pH	-	7.72		pH	N/A	2024/07/31	LJV	9548387
Total Phosphorus	-	0.005	0.004	mg/L	2024/08/06	2024/08/07	SPC	9558902
Total Suspended Solids	-	1.2	1.0	mg/L	2024/07/31	2024/08/02	ACK	9548528
Turbidity	-	0.59	0.10	NTU	N/A	2024/08/01	LJV	9551181
MERCURY BY COLD VAPOUR AA (DRINKING WATER)								
Metals								
Total Mercury (Hg)	-	ND	0.000013	mg/L	2024/08/06	2024/08/06	JEP	9554144
ELEMENTS BY ICP/MS (DRINKING WATER)								
Metals								
Total Aluminum (Al)	-	0.016	0.0050	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Antimony (Sb)	-	ND	0.0010	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Arsenic (As)	-	ND	0.0010	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Barium (Ba)	-	0.0098	0.0010	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Boron (B)	-	ND	0.050	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Cadmium (Cd)	-	ND	0.000010	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Calcium (Ca)	-	6.8	0.10	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Chromium (Cr)	-	ND	0.0010	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Copper (Cu)	-	0.00078	0.00050	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Iron (Fe)	-	ND	0.050	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Lead (Pb)	-	ND	0.00050	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Magnesium (Mg)	-	3.0	0.10	mg/L	2024/07/30	2024/07/30	MOA	9546414

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Bureau Veritas Job #: C4N2532
Report Date: 2024/08/09

NL Department of Environment, Climate Change and Municipalities
Site Location: LABRADOR
Your P.O. #: 224006869-3
Sampler Initials: MM

Sample Details/Parameters	A	Result	RDL	UNITS	Extracted	Analyzed	By	Batch
ZWB141 DOLOMITE ROAD								
Sampling Date 2024/07/25 09:45								
Matrix DR								
Sample # 2024-6315-00-SI-SP								
Registration # SA-0000								
ELEMENTS BY ICP/MS (DRINKING WATER)								
Metals								
Total Manganese (Mn)	-	0.019	0.0020	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Nickel (Ni)	-	ND	0.0020	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Phosphorus (P)	-	ND	0.10	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Potassium (K)	-	0.90	0.10	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Selenium (Se)	-	ND	0.00050	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Sodium (Na)	-	0.86	0.10	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Strontium (Sr)	-	0.014	0.0020	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Uranium (U)	-	ND	0.00010	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Zinc (Zn)	-	ND	0.0050	mg/L	2024/07/30	2024/07/30	MOA	9546414

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Report Date: 2024/08/09

NL Department of Environment, Climate Change and Municipalities
Site Location: LABRADOR
Your P.O. #: 224006869-3
Sampler Initials: MM

Sample Details/Parameters	A	Result	RDL	UNITS	Extracted	Analyzed	By	Batch
ZWB139 JULIENNE NARROWS Sampling Date 2024/07/24 16:45 Matrix DR Sample # 2024-6313-00-SI-SP Registration # SA-0000								
RESULTS OF ANALYSES OF DRINKING WATER								
Calculated Parameters								
Hardness (CaCO3)	-	51	1.0	mg/L	N/A	2024/07/31		9545812
Nitrate (N)	-	0.48	0.050	mg/L	N/A	2024/08/01		9545815
Total dissolved solids (calc., EC)	-	57	1.0	mg/L	N/A	2024/08/01		9545914
Inorganics								
Conductivity	-	100	1.0	uS/cm	N/A	2024/07/31	LJV	9548388
Chloride (Cl-)	-	1.3	1.0	mg/L	N/A	2024/08/01	SUR	9550868
Bromide (Br-)	-	ND	1.0	mg/L	N/A	2024/08/01	SUR	9550868
Sulphate (SO4)	-	3.3	1.0	mg/L	N/A	2024/08/01	SUR	9550868
Total Alkalinity (Total as CaCO3)	-	44	2.0	mg/L	N/A	2024/07/31	LJV	9548390
Colour	-	16	5.0	TCU	N/A	2024/08/01	EMT	9548872
Dissolved Fluoride (F-)	-	ND	0.10	mg/L	N/A	2024/07/31	LJV	9548389
Total Kjeldahl Nitrogen (TKN)	-	0.13	0.10	mg/L	2024/08/06	2024/08/08	RTY	9559013
Nitrate + Nitrite (N)	-	0.48	0.050	mg/L	N/A	2024/08/01	EMT	9551115
Nitrite (N)	-	ND	0.010	mg/L	N/A	2024/08/01	EMT	9551116
Nitrogen (Ammonia Nitrogen)	-	ND	0.050	mg/L	N/A	2024/08/01	EMT	9551194
Dissolved Organic Carbon (C)	-	3.3	0.50	mg/L	N/A	2024/07/31	SSI	9549152
Total Organic Carbon (C)	-	3.4	0.50	mg/L	N/A	2024/07/31	MKY	9546384
pH	-	7.90		pH	N/A	2024/07/31	LJV	9548387
Total Phosphorus	-	0.011	0.004	mg/L	2024/08/06	2024/08/07	SPC	9558902
Total Suspended Solids	-	19	2.0	mg/L	2024/07/31	2024/08/02	ACK	9548528
Turbidity	-	1.2	0.10	NTU	N/A	2024/08/02	LJV	9553872
MERCURY BY COLD VAPOUR AA (DRINKING WATER)								
Metals								
Total Mercury (Hg)	-	ND	0.000013	mg/L	2024/08/06	2024/08/06	JEP	9554144
ELEMENTS BY ICP/MS (DRINKING WATER)								
Metals								
Total Aluminum (Al)	-	0.098	0.0050	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Antimony (Sb)	-	ND	0.0010	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Arsenic (As)	-	ND	0.0010	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Barium (Ba)	-	0.0045	0.0010	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Boron (B)	-	ND	0.050	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Cadmium (Cd)	-	ND	0.000010	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Calcium (Ca)	-	12	0.10	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Chromium (Cr)	-	ND	0.0010	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Copper (Cu)	-	0.00064	0.00050	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Iron (Fe)	-	0.35	0.050	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Lead (Pb)	-	ND	0.00050	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Magnesium (Mg)	-	5.0	0.10	mg/L	2024/07/30	2024/07/30	MOA	9546414

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Bureau Veritas Job #: C4N2532
Report Date: 2024/08/09

NL Department of Environment, Climate Change and Municipalities
Site Location: LABRADOR
Your P.O. #: 224006869-3
Sampler Initials: MM

Sample Details/Parameters	A	Result	RDL	UNITS	Extracted	Analyzed	By	Batch
ZWB139 JULIENNE NARROWS								
Sampling Date 2024/07/24 16:45								
Matrix DR								
Sample # 2024-6313-00-SI-SP								
Registration # SA-0000								
ELEMENTS BY ICP/MS (DRINKING WATER)								
Metals								
Total Manganese (Mn)	-	0.073	0.0020	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Nickel (Ni)	-	ND	0.0020	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Phosphorus (P)	-	ND	0.10	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Potassium (K)	-	1.2	0.10	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Selenium (Se)	-	ND	0.00050	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Sodium (Na)	-	1.3	0.10	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Strontium (Sr)	-	0.017	0.0020	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Uranium (U)	-	0.00012	0.00010	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Zinc (Zn)	-	0.016	0.0050	mg/L	2024/07/30	2024/07/30	MOA	9546414

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Bureau Veritas Job #: C4N2532
Report Date: 2024/08/09

NL Department of Environment, Climate Change and Municipalities
Site Location: LABRADOR
Your P.O. #: 224006869-3
Sampler Initials: MM

Sample Details/Parameters	A	Result	RDL	UNITS	Extracted	Analyzed	By	Batch
ZWB136 DUMBELL STREAM Sampling Date 2024/07/23 18:00 Matrix DR Sample # 2024-6310-00-SI-SP Registration # SA-0000								
RESULTS OF ANALYSES OF DRINKING WATER								
Calculated Parameters								
Hardness (CaCO3)	-	76	1.0	mg/L	N/A	2024/07/31		9545812
Nitrate (N)	-	8.2	0.25	mg/L	N/A	2024/08/01		9545815
Total dissolved solids (calc., EC)	-	94	1.0	mg/L	N/A	2024/08/01		9545914
Inorganics								
Conductivity	-	170	1.0	uS/cm	N/A	2024/07/31	LJV	9548388
Chloride (Cl-)	-	1.5	1.0	mg/L	N/A	2024/08/02	SUR	9550873
Bromide (Br-)	-	ND	1.0	mg/L	N/A	2024/08/02	SUR	9550873
Sulphate (SO4)	-	8.3	1.0	mg/L	N/A	2024/08/02	SUR	9550873
Total Alkalinity (Total as CaCO3)	-	37	2.0	mg/L	N/A	2024/07/31	LJV	9548390
Colour	-	ND	5.0	TCU	N/A	2024/08/01	EMT	9548872
Dissolved Fluoride (F-)	-	ND	0.10	mg/L	N/A	2024/07/31	LJV	9548389
Total Kjeldahl Nitrogen (TKN)	-	0.28	0.20	mg/L	2024/08/06	2024/08/09	RTY	9559013
Nitrate + Nitrite (N)	-	8.2	0.25	mg/L	N/A	2024/08/01	EMT	9551115
Nitrite (N)	-	ND	0.010	mg/L	N/A	2024/08/01	EMT	9551116
Nitrogen (Ammonia Nitrogen)	-	ND	0.050	mg/L	N/A	2024/08/01	EMT	9551194
Dissolved Organic Carbon (C)	-	0.58	0.50	mg/L	N/A	2024/07/31	SSI	9549152
Total Organic Carbon (C)	-	0.53	0.50	mg/L	N/A	2024/07/31	SSI	9549145
pH	-	7.57		pH	N/A	2024/07/31	LJV	9548387
Total Phosphorus	-	0.013	0.004	mg/L	2024/08/06	2024/08/07	SPC	9558902
Total Suspended Solids	-	ND	1.0	mg/L	2024/07/30	2024/08/06	DME	9545942
Turbidity	-	0.43	0.10	NTU	N/A	2024/08/01	LJV	9551181
MERCURY BY COLD VAPOUR AA (DRINKING WATER)								
Metals								
Total Mercury (Hg)	-	ND	0.000013	mg/L	2024/08/06	2024/08/06	JEP	9554144
ELEMENTS BY ICP/MS (DRINKING WATER)								
Metals								
Total Aluminum (Al)	-	0.016	0.0050	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Antimony (Sb)	-	ND	0.0010	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Arsenic (As)	-	ND	0.0010	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Barium (Ba)	-	0.0033	0.0010	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Boron (B)	-	ND	0.050	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Cadmium (Cd)	-	ND	0.000010	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Calcium (Ca)	-	18	0.10	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Chromium (Cr)	-	ND	0.0010	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Copper (Cu)	-	ND	0.00050	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Iron (Fe)	-	ND	0.050	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Lead (Pb)	-	ND	0.00050	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Magnesium (Mg)	-	7.8	0.10	mg/L	2024/07/30	2024/07/30	MOA	9546414

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Bureau Veritas Job #: C4N2532
Report Date: 2024/08/09

NL Department of Environment, Climate Change and Municipalities
Site Location: LABRADOR
Your P.O. #: 224006869-3
Sampler Initials: MM

Sample Details/Parameters	A	Result	RDL	UNITS	Extracted	Analyzed	By	Batch
ZWB136 DUMBELL STREAM								
Sampling Date 2024/07/23 18:00								
Matrix DR								
Sample # 2024-6310-00-SI-SP								
Registration # SA-0000								
ELEMENTS BY ICP/MS (DRINKING WATER)								
Metals								
Total Manganese (Mn)	-	0.0050	0.0020	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Nickel (Ni)	-	ND	0.0020	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Phosphorus (P)	-	ND	0.10	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Potassium (K)	-	1.3	0.10	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Selenium (Se)	-	ND	0.00050	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Sodium (Na)	-	0.80	0.10	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Strontium (Sr)	-	0.020	0.0020	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Uranium (U)	-	ND	0.00010	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Zinc (Zn)	-	ND	0.0050	mg/L	2024/07/30	2024/07/30	MOA	9546414

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Your P.O. #: 224006869-3
Sampler Initials: MM

Sample Details/Parameters	A	Result	RDL	UNITS	Extracted	Analyzed	By	Batch
ZWB137 PUMPHOUSE STREAM Sampling Date 2024/07/24 09:30 Matrix DR Sample # 2024-6311-00-SI-SP Registration # SA-0000								
RESULTS OF ANALYSES OF DRINKING WATER								
Calculated Parameters								
Hardness (CaCO3)	-	240	1.0	mg/L	N/A	2024/07/31		9545812
Nitrate (N)	-	33	2.5	mg/L	N/A	2024/08/01		9545815
Total dissolved solids (calc., EC)	-	350	1.0	mg/L	N/A	2024/08/01		9545914
Inorganics								
Conductivity	-	620	1.0	uS/cm	N/A	2024/07/31	LJV	9548388
Chloride (Cl-)	-	6.1	1.0	mg/L	N/A	2024/08/02	SUR	9550873
Bromide (Br-)	-	ND	1.0	mg/L	N/A	2024/08/02	SUR	9550873
Sulphate (SO4)	-	42	1.0	mg/L	N/A	2024/08/02	SUR	9550873
Total Alkalinity (Total as CaCO3)	-	100	2.0	mg/L	N/A	2024/07/31	LJV	9548390
Colour	-	5.0	5.0	TCU	N/A	2024/08/01	EMT	9548872
Dissolved Fluoride (F-)	-	ND	0.10	mg/L	N/A	2024/07/31	LJV	9548389
Total Kjeldahl Nitrogen (TKN)	-	12	2.5	mg/L	2024/08/06	2024/08/09	RTY	9559013
Nitrate + Nitrite (N)	-	33	2.5	mg/L	N/A	2024/08/01	EMT	9551115
Nitrite (N)	-	0.59	0.050	mg/L	N/A	2024/08/01	EMT	9551116
Nitrogen (Ammonia Nitrogen)	-	9.4	0.50	mg/L	N/A	2024/08/02	EMT	9551194
Dissolved Organic Carbon (C)	-	1.1	0.50	mg/L	N/A	2024/07/31	SSI	9549152
Total Organic Carbon (C)	-	1.5	0.50	mg/L	N/A	2024/07/30	MKY	9546337
pH	-	7.88		pH	N/A	2024/07/31	LJV	9548387
Total Phosphorus	-	0.027	0.004	mg/L	2024/08/06	2024/08/07	SPC	9558902
Total Suspended Solids	-	1.4	1.0	mg/L	2024/07/31	2024/08/02	ACK	9548528
Turbidity	-	1.3	0.10	NTU	N/A	2024/08/01	LJV	9551181
MERCURY BY COLD VAPOUR AA (DRINKING WATER)								
Metals								
Total Mercury (Hg)	-	ND	0.000013	mg/L	2024/08/06	2024/08/06	JEP	9554144
ELEMENTS BY ICP/MS (DRINKING WATER)								
Metals								
Total Aluminum (Al)	-	0.29	0.0050	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Antimony (Sb)	-	ND	0.0010	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Arsenic (As)	-	ND	0.0010	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Barium (Ba)	-	0.028	0.0010	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Boron (B)	-	ND	0.050	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Cadmium (Cd)	-	0.000015	0.000010	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Calcium (Ca)	-	58	0.10	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Chromium (Cr)	-	0.0011	0.0010	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Copper (Cu)	-	0.0022	0.00050	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Iron (Fe)	-	1.1	0.050	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Lead (Pb)	-	ND	0.00050	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Magnesium (Mg)	-	24	0.10	mg/L	2024/07/30	2024/07/30	MOA	9546414

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Bureau Veritas Job #: C4N2532
Report Date: 2024/08/09

NL Department of Environment, Climate Change and Municipalities
Site Location: LABRADOR
Your P.O. #: 224006869-3
Sampler Initials: MM

Sample Details/Parameters	A	Result	RDL	UNITS	Extracted	Analyzed	By	Batch
ZWB137 PUMPHOUSE STREAM								
Sampling Date 2024/07/24 09:30								
Matrix DR								
Sample # 2024-6311-00-SI-SP								
Registration # SA-0000								
ELEMENTS BY ICP/MS (DRINKING WATER)								
Metals								
Total Manganese (Mn)	-	0.45	0.0020	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Nickel (Ni)	-	0.0024	0.0020	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Phosphorus (P)	-	ND	0.10	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Potassium (K)	-	3.8	0.10	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Selenium (Se)	-	ND	0.00050	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Sodium (Na)	-	2.4	0.10	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Strontium (Sr)	-	0.12	0.0020	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Uranium (U)	-	0.00062	0.00010	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Zinc (Zn)	-	ND	0.0050	mg/L	2024/07/30	2024/07/30	MOA	9546414

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NL Department of Environment, Climate Change and Municipalities
Site Location: LABRADOR
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Sampler Initials: MM

Sample Details/Parameters	A	Result	RDL	UNITS	Extracted	Analyzed	By	Batch
ZWB138 FRAGGLE ROCK Sampling Date 2024/07/24 14:15 Matrix DR Sample # 2024-6312-00-SI-SP Registration # SA-0000								
RESULTS OF ANALYSES OF DRINKING WATER								
Calculated Parameters								
Hardness (CaCO3)	-	96	1.0	mg/L	N/A	2024/07/31		9545812
Nitrate (N)	-	1.3	0.050	mg/L	N/A	2024/08/01		9545815
Total dissolved solids (calc., EC)	-	99	1.0	mg/L	N/A	2024/08/01		9545914
Inorganics								
Conductivity	-	180	1.0	uS/cm	N/A	2024/07/31	LJV	9548388
Chloride (Cl-)	-	1.6	1.0	mg/L	N/A	2024/08/01	SUR	9550868
Bromide (Br-)	-	ND	1.0	mg/L	N/A	2024/08/01	SUR	9550868
Sulphate (SO4)	-	8.3	1.0	mg/L	N/A	2024/08/01	SUR	9550868
Total Alkalinity (Total as CaCO3)	-	75	2.0	mg/L	N/A	2024/07/31	LJV	9548390
Colour	-	13	5.0	TCU	N/A	2024/08/01	EMT	9548872
Dissolved Fluoride (F-)	-	ND	0.10	mg/L	N/A	2024/07/31	LJV	9548389
Total Kjeldahl Nitrogen (TKN)	-	0.15	0.10	mg/L	2024/08/06	2024/08/09	RTY	9559013
Nitrate + Nitrite (N)	-	1.4	0.050	mg/L	N/A	2024/08/01	EMT	9551115
Nitrite (N)	-	0.013	0.010	mg/L	N/A	2024/08/01	EMT	9551116
Nitrogen (Ammonia Nitrogen)	-	ND	0.050	mg/L	N/A	2024/08/01	EMT	9551194
Dissolved Organic Carbon (C)	-	2.8	0.50	mg/L	N/A	2024/07/31	SSI	9549152
Dup.Dissolved Organic Carbon (C)	-	2.7	0.50	mg/L	N/A	2024/07/31	SSI	9549152
Total Organic Carbon (C)	-	2.8	0.50	mg/L	N/A	2024/07/31	MKY	9546384
pH	-	8.12		pH	N/A	2024/07/31	LJV	9548387
Total Phosphorus	-	0.005	0.004	mg/L	2024/08/06	2024/08/07	SPC	9558902
Total Suspended Solids	-	3.8	1.0	mg/L	2024/07/31	2024/08/02	ACK	9548528
Turbidity	-	0.51	0.10	NTU	N/A	2024/08/02	LJV	9553872
MERCURY BY COLD VAPOUR AA (DRINKING WATER)								
Metals								
Total Mercury (Hg)	-	ND	0.000013	mg/L	2024/08/06	2024/08/06	JEP	9554144
ELEMENTS BY ICP/MS (DRINKING WATER)								
Metals								
Total Aluminum (Al)	-	0.022	0.0050	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Antimony (Sb)	-	ND	0.0010	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Arsenic (As)	-	ND	0.0010	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Barium (Ba)	-	0.0064	0.0010	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Boron (B)	-	ND	0.050	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Cadmium (Cd)	-	ND	0.000010	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Calcium (Ca)	-	18	0.10	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Chromium (Cr)	-	ND	0.0010	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Copper (Cu)	-	ND	0.00050	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Iron (Fe)	-	0.076	0.050	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Lead (Pb)	-	ND	0.00050	mg/L	2024/07/30	2024/07/30	MOA	9546414

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Site Location: LABRADOR
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Sampler Initials: MM

Sample Details/Parameters	A	Result	RDL	UNITS	Extracted	Analyzed	By	Batch
ZWB138 FRAGGLE ROCK								
Sampling Date 2024/07/24 14:15								
Matrix DR								
Sample # 2024-6312-00-SI-SP								
Registration # SA-0000								
ELEMENTS BY ICP/MS (DRINKING WATER)								
Metals								
Total Magnesium (Mg)	-	12	0.10	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Manganese (Mn)	-	0.032	0.0020	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Nickel (Ni)	-	ND	0.0020	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Phosphorus (P)	-	ND	0.10	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Potassium (K)	-	1.3	0.10	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Selenium (Se)	-	ND	0.00050	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Sodium (Na)	-	1.1	0.10	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Strontium (Sr)	-	0.016	0.0020	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Uranium (U)	-	0.00021	0.00010	mg/L	2024/07/30	2024/07/30	MOA	9546414
Total Zinc (Zn)	-	ND	0.0050	mg/L	2024/07/30	2024/07/30	MOA	9546414

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