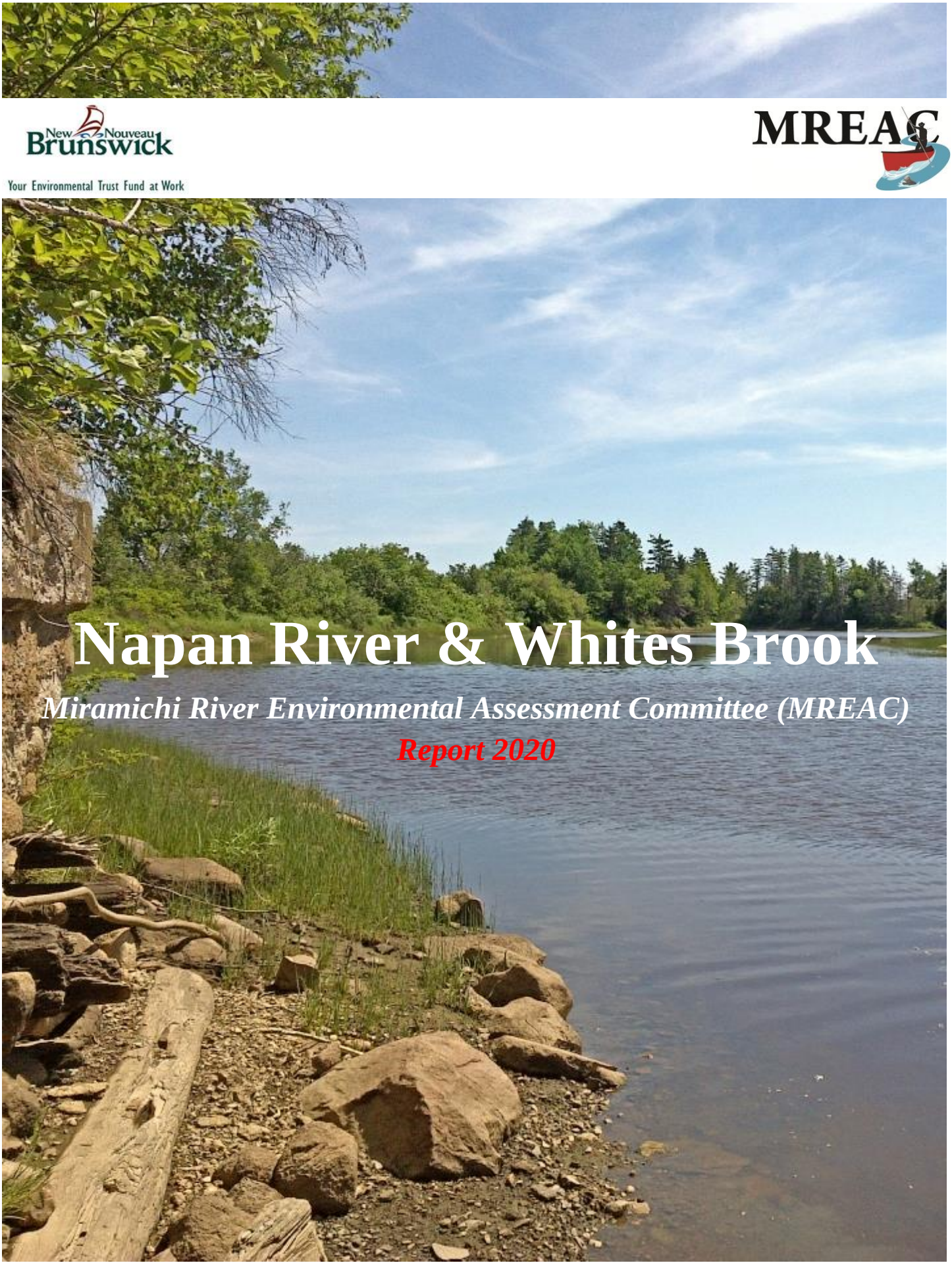

New Nouveau Brunswick

Your Environmental Trust Fund at Work

MREAC

Napan River & Whites Brook

Miramichi River Environmental Assessment Committee (MREAC)

Report 2020

Napan River & Whites Brook

Escherichia coli (E. coli) and Total Coliform Sampling

Report 2020

Harry Collins
Vladimir King Trajkovic

Miramichi River Environmental Assessment Committee

PO Box 85, 21 Cove Road
Miramichi, New Brunswick
E1V 3M2

Phone: (506) 778-8591
Fax: (506) 773-9755

Email: mreac@nb.aibn.com
Website: www.mreac.org

January 11, 2021

Acknowledgements

The Miramichi River Environmental Assessment Committee (MREAC) would like to thank the New Brunswick Department of Environment and Local Government (DELG) for their continued monetary support for the Napan River and Whites Brook monitoring and sampling program.

Table of Contents **Page**

Contents

1.0 Introduction & Background 5

2.0 Discussion 5

3.0 Conclusion 15

List of Figures:

Figure 1 Napan River and Whites Brook Sampling Sites 6
Figure 2 Whites Brook at Outfall from Skypark 7
Figure 3 Sampling Skypark Outfalls 7
Figure 4 Whites Brook at Highway 11 Sampling Site 8
Figure 5 Whites Brook at Highway 11 Looking Upstream 8
Figure 6 Whites Brook at North Napan Bridge Sampling Site 9
Figure 7 Whites Brook at North Napan Road Bridge Looking Downstream 9
Figure 8 Dead Beaver at Hannah Hills Road (South Branch Napan) Sampling Site 10
Figure 9 Napan River Beaver Dam Upstream of Johnston Road Bridge Sampling Site 10
Figure 10 Napan River Eroded Bank from Johnston Road Bridge Sampling Site 11
Figure 11 Napan River and Whites Brooks E. coli Results 2020 12
Figure 12 Napan River E. coli Results 2012-2020 13
Figure 13 Whites Brook E. coli Results 2012-2020 14

1.0 Introduction & Background

The Napan River is a smaller tributary of Miramichi Inner Bay. The meander length of the river is 28 kilometers. Approximately 10 km of this distance is influenced by tide due to the low elevations of the watershed.

The Napan River valley is one of the few sub-watersheds on the Miramichi drainage that is highly developed with significant active agricultural lands, industrial and municipal development. Along a tributary stream, Whites Brook and the mostly parallel North Napan Road is a ribbon community of rural residents, including some small-scale farming operations. Other farms are situated along the lower half of the river in Center Napan and Lower Napan. Most of the farms are livestock based with corresponding feed-lands (hay and grains). Environmental issues related to livestock rearing are manure and waste handling practices, fertilizer application, and the use of herbicides.

Whites Brook is a small tributary to the Napan that has historically been impacted by agriculture and by the ribbon residential development and that was the receiving stream of the sewage treatment plant from the former Department of National Defence (DND) site, Canadian Forces Base - Chatham. In 2011 the sewage from the airbase, now Skypark, was diverted to the new South Side sewage treatment plant. The old treatment plant was decommissioned (2013). A storm water discharge line continues to drain into Whites Brook.

MREAC has been sampling multiple sites on both the Napan River and Whites Brook since 1996 due to this land use history and the impacts this watercourse it has suffered over the years. Sample sites (Figures 1,2,3,4,5,6,7,8,9.)

2.0 Discussion

Water quality monitoring results in 2020 (Figures 11, 12, 13) well illustrate the ongoing problems of contamination impacting the Napan River and especially its smaller tributary, Whites Brook. Despite the upgrades to municipal wastewater and the diversion of the sanitary sewer to the South Side Sewage Treatment Plant in 2011, high levels of contamination continue to be discharged into Whites Brook from the storm water drainage lines and perhaps infiltration from old sanitary sewer lines. The two drainage pipes from the former systems remain active at the headwaters discharge into Whites Brook. The storm-water line is still in commission and the sanitary sewer line seems to receive significant infiltration. Whatever the pathway, the combined discharge from these pipes and the high bacterial content indicates a significant discharge of sewage still finds its way into what should only be a storm-water discharge.

MREAC sampling in 2020 on the Napan River watershed was limited to bacteriological monitoring. The Napan River site samples has an exceedance of the 200 e-coli/100ml guideline (for recreational water quality) at two locations: Johnston Road Bridge and Whites Bridge Lane. The sampling on Whites Brook again shows results far above this standard.

The spike of contamination noted on the North Napan Road Bridge is downstream of a beef farm with very little buffer between the farm and Whites Brook. The farm operation also includes a stream crossing for cattle, crossing from the farmyard to pasture grounds.

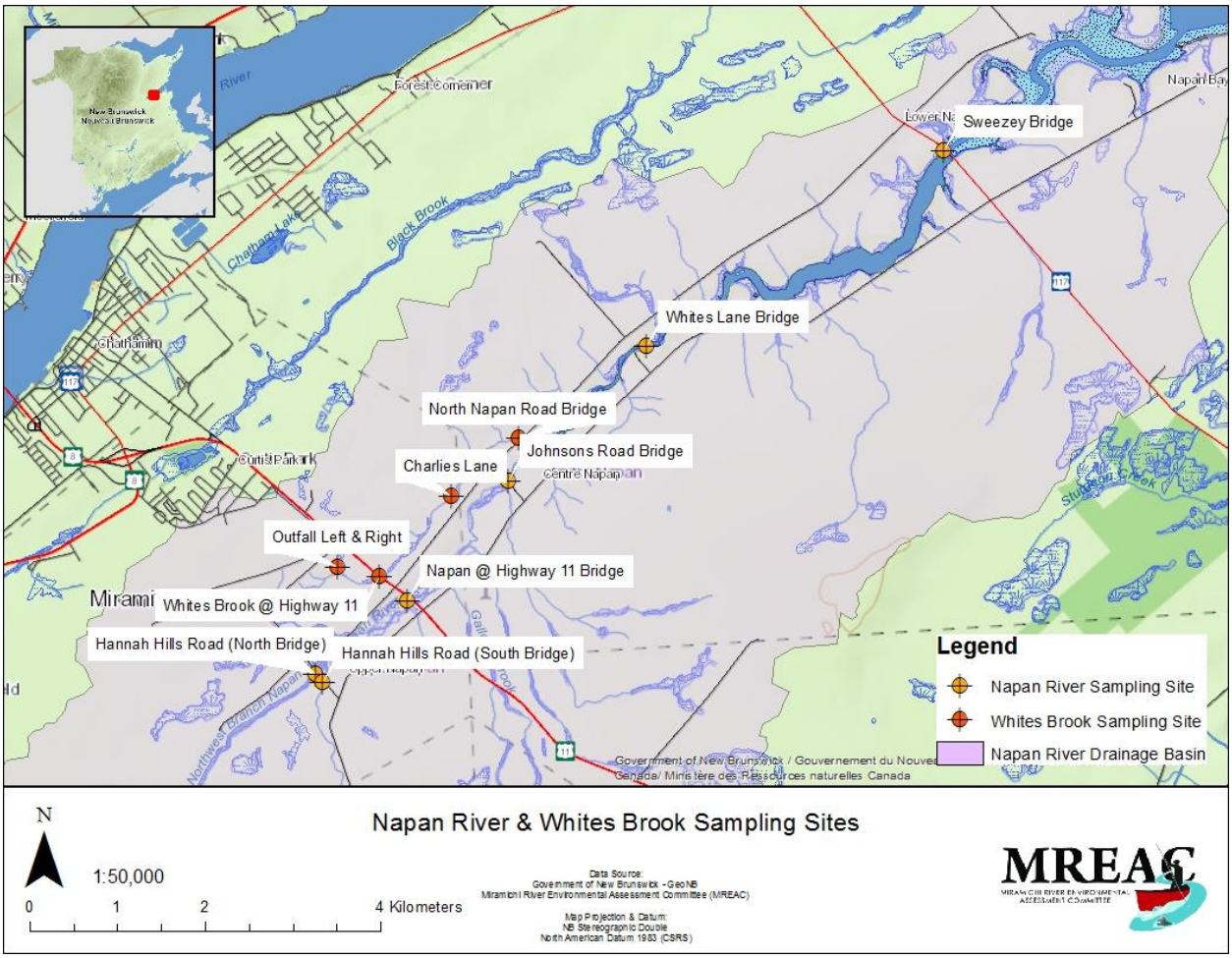

Figure 1 Napan River and Whites Brook Sampling Sites

Figure 2 Whites Brook at Outfall from Skypark

Figure 3 Sampling Skypark Outfalls

Figure 4 Whites Brook at Highway 11 Sampling Site

Figure 5 Whites Brook at Highway 11 Looking Upstream

Figure 6 Whites Brook at North Napan Bridge Sampling Site

Figure 7 Whites Brook at North Napan Road Bridge Looking Downstream

Figure 8 Dead Beaver at Hannah Hills Road (South Branch Napan) Sampling Site

Figure 9 Napan River Beaver Dam Upstream of Johnston Road Bridge Sampling Site

Figure 10 Napan River Eroded Bank from Johnston Road Bridge Sampling Site

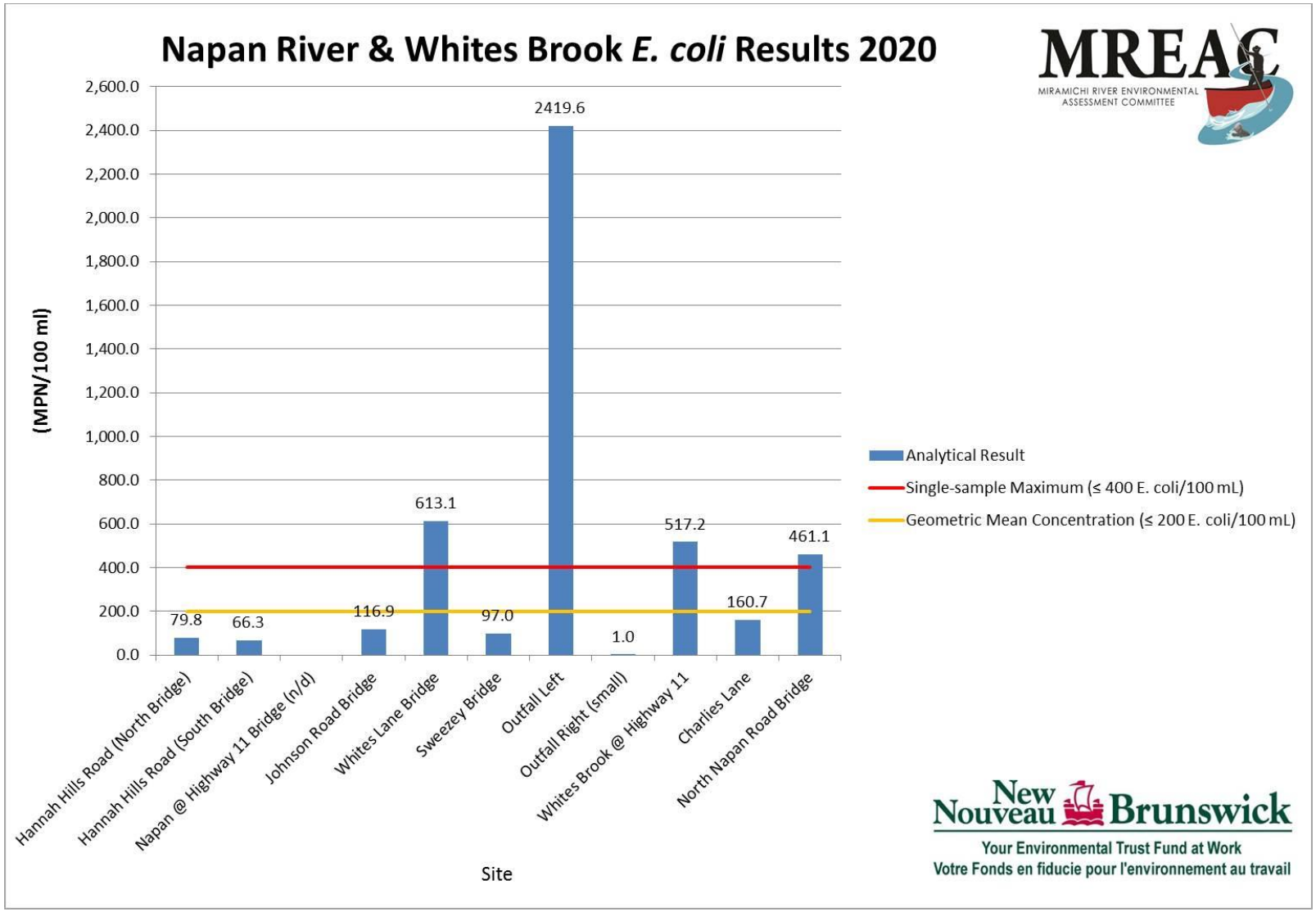

Figure 11 Napan River and Whites Brooks E. coli Results 2020

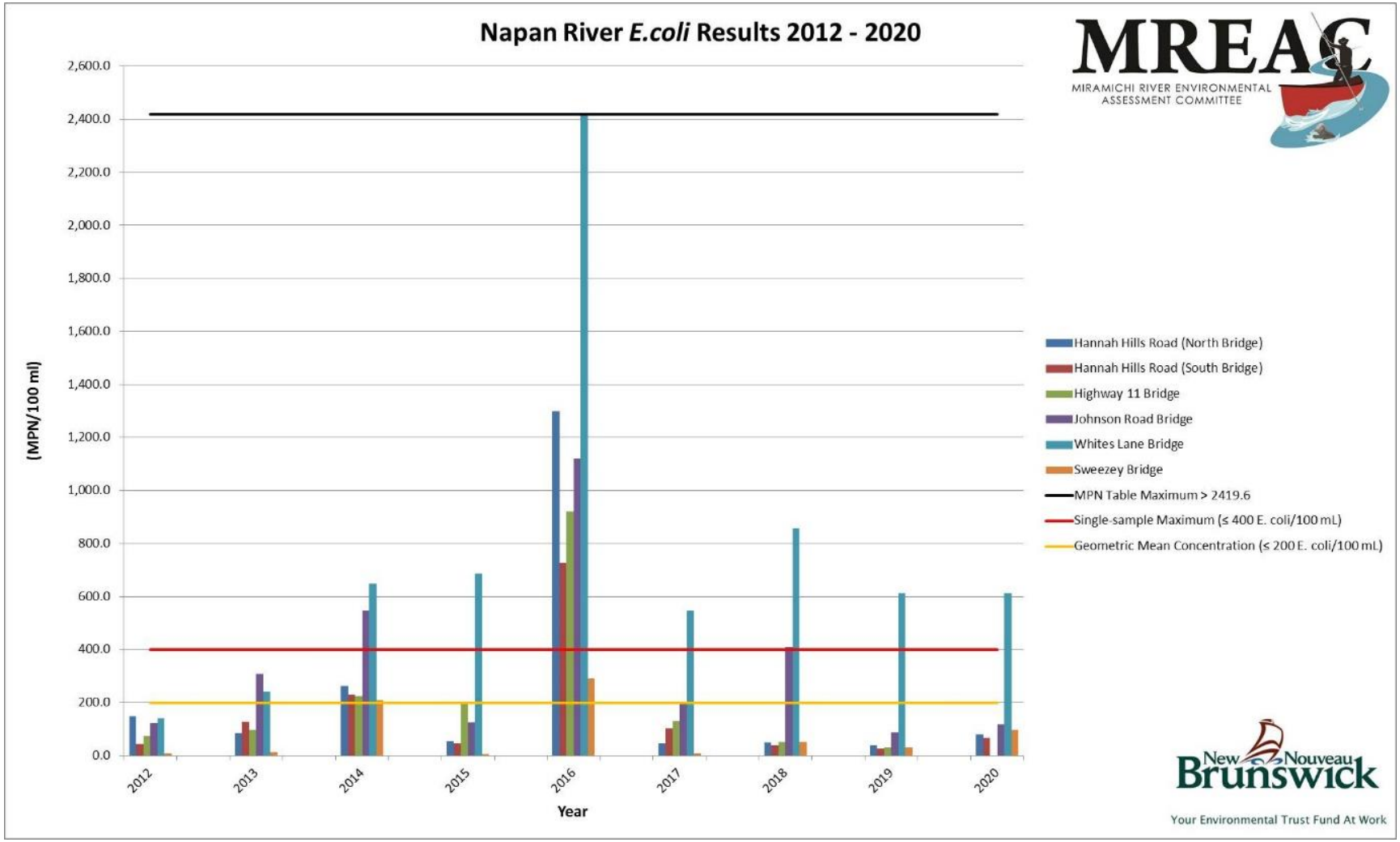

Figure 12 Napan River E. coli Results 2012-2020

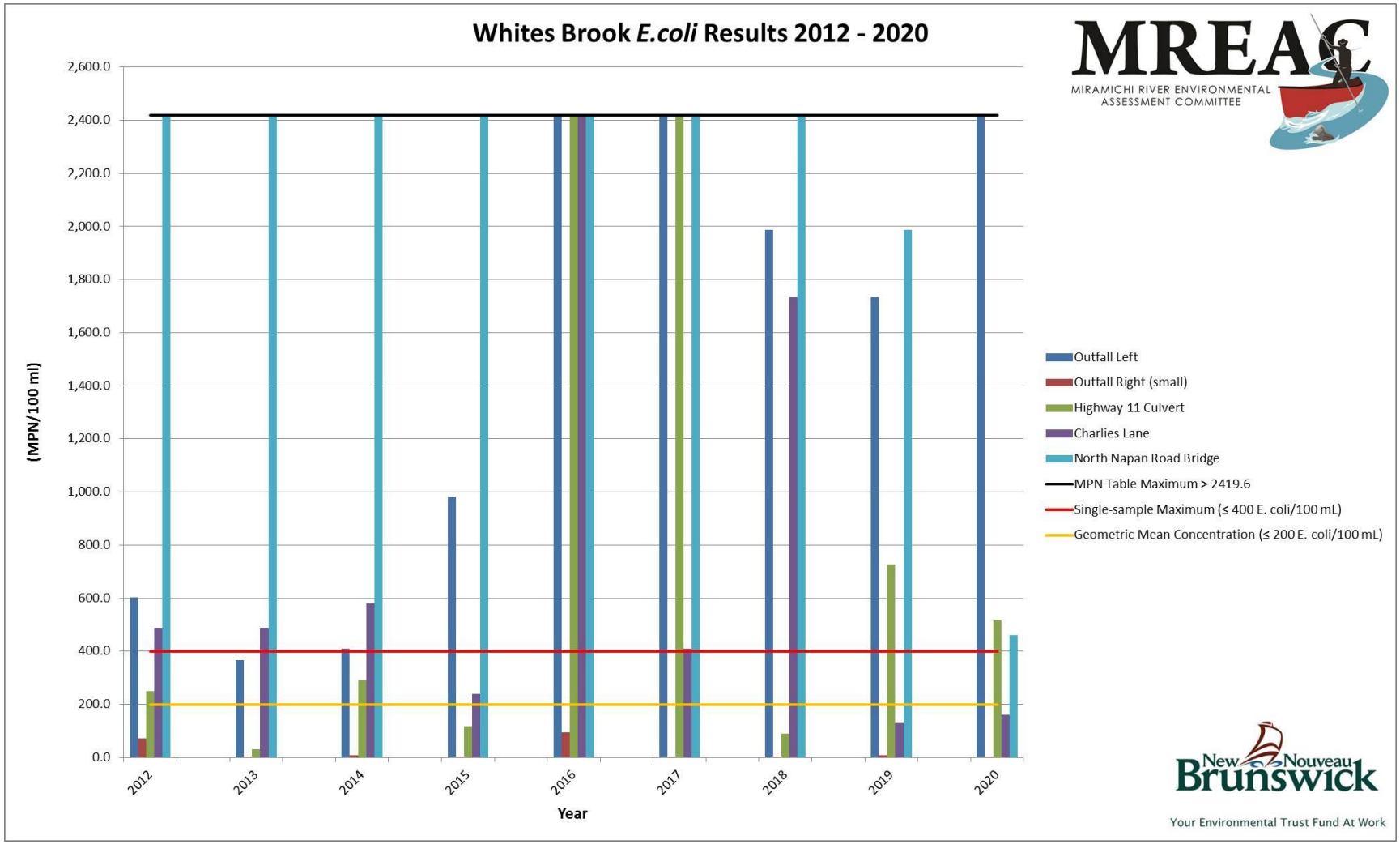

Figure 13 Whites Brook E. coli Results 2012-2020

3.0 Conclusion

The results of sampling on the Napan River watershed in 2020 are consistent with those found in previous years. Whites Brook continues to be highly contaminated with e-coli seemingly from a variety of sources. Bacterial contamination exists to a lesser degree in the Napan River. Previous efforts to inform the residents of this contamination indicated that there was significant awareness of the issue at the time. No follow-up remedial actions have resulted on the part of the municipality or the province. There have been efforts in the past to identify the infiltration issues from the former Canadian Forces Base – Chatham without a clear pathway forward to remediate these flows.

MREAC, with Environmental Trust Fund support, will continue to undertake this maintenance and situation monitoring of these waterways into future years.