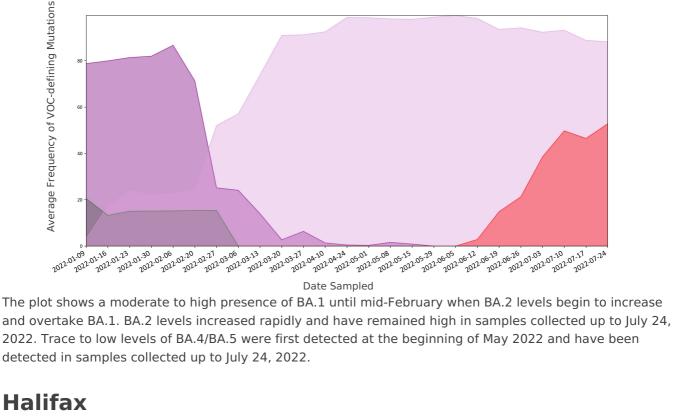
## **Wastewater Sequencing Trend Report: Detection of SARS-CoV-2 Variants of Concern by Metagenomic Sequencing**

**Public Health** Agence de la santé **Statistics** Statistique publique du Canada Agency of Canada Canada Canada Longitudinal wastewater sequencing data ending 2022-07-24

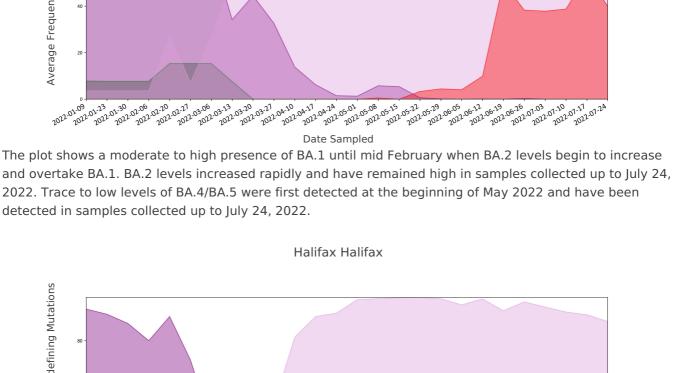
The plots show the percentage of three SARS-CoV-2 variants of concern (Alpha, Delta and Omicron)

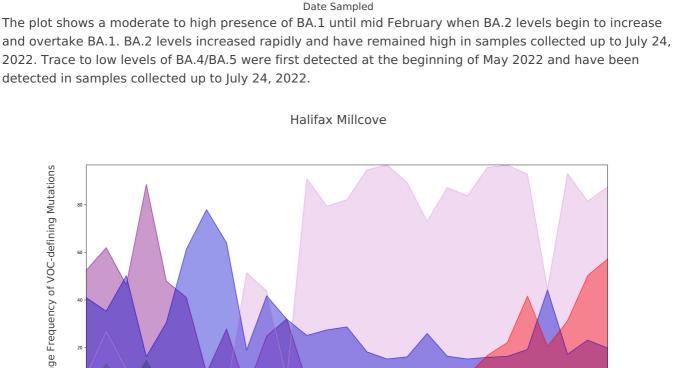
viral fragments present in the wastewater are isolated and sequenced to obtain a genomic "blueprint" of the virus. Each variant of concern carries small differences in their genomic blueprint called mutations that can be queried using specialized software to identify the presence and abundance of Alpha, Delta and Omicron (BA.1, BA.2 and BA.4 or BA.5) present in the wastewater sample. The shaded areas in the plot show Delta in green, BA.1 in dark purple, BA.2 in light purple, BA.4 or BA.5 in red and where applicable, Alpha in blue. **Edmonton** 

detected in wastewater samples collected from different sites using metagenomic sequencing. SARS-CoV-2



Alpha Delta BA.1 BA.2 BA.4/BA.5 Halifax Dartmouth

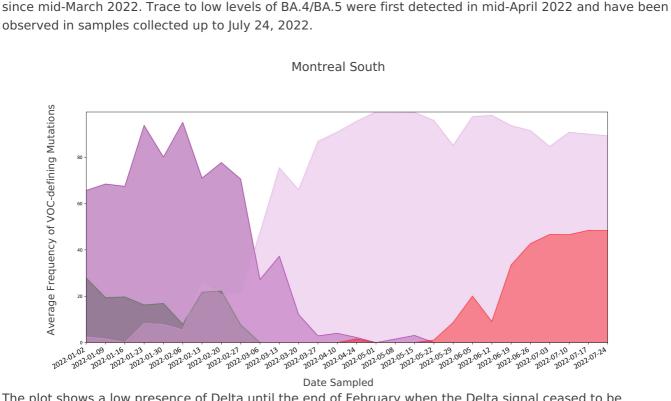




Average Frequency of VOC-defining Mutations

Date Sampled

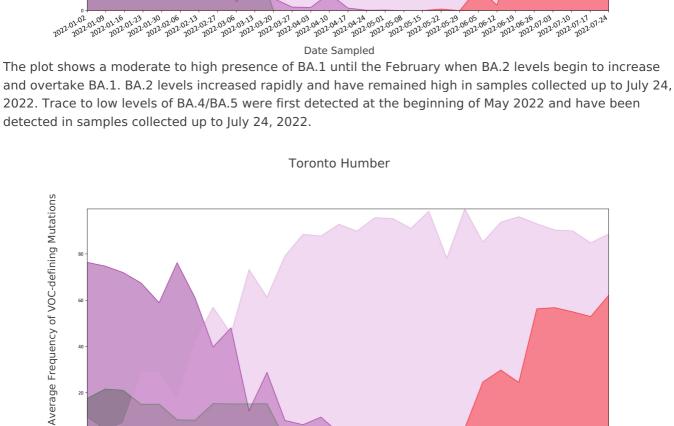
to be detected in the wastewater samples. High levels of BA.1 were observed until mid-March when BA.2 levels started to increase and overtake BA.1. High levels of BA.2 have been detected in samples collected



Toronto Ashbridges Bay Average Frequency of VOC-defining Mutations

Date Sampled

Delta BA.1 BA.2 BA.4/BA.5



Average Frequency of VOC-defining Mutations

moderate presence in samples collected up to August 7, 2022.

Vancouver

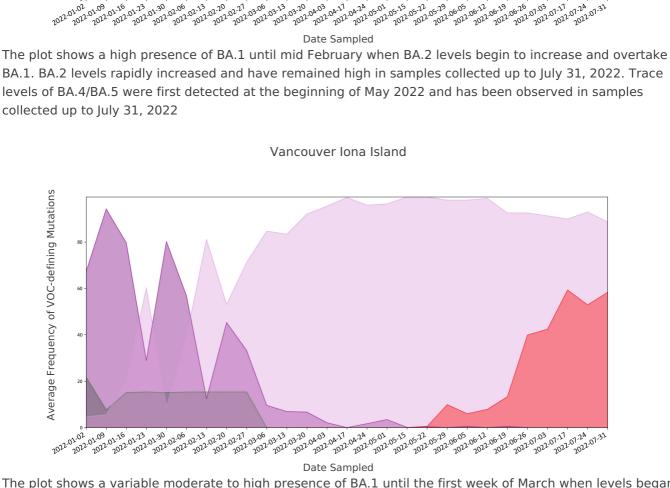
Average Frequency of VOC-defining Mutations

up to July 31, 2022.

Date Sampled The plot shows a high presence of BA.1 until mid February when BA.2 levels begin to increase and overtake BA.1. BA.2 levels rapidly increased and have remained high in samples collected up to August 7, 2022. Trace levels of BA.4/BA.5 were first detected at the beginning of May 2022 and have increased to a

Delta BA.1 BA.2 BA.4/BA.5

Vancouver Annacis Island



Average Frequency of VOC-defining Mutations 2022-06-05 2022-04-03 2022-04-27 2022-07-17 1.16 01.23 01.30 01.06 01.13 01.20 01.21 2012 01.23 01.30 2012 01.20 2012 01.21 2022 03-06 03-13 03-20 2022 03-2022 2022 2022 417 0424 05.08 05.22 05.29 2022 2022 2022 2022 2022 1012 06-12 06-19 06-26 01-03 2012 06-12 2012 06-26

Date Sampled The plot shows a high presence of BA.1 until the end of February when BA.2 levels begin to increase and overtake BA.1. BA.2 levels rapidly increased and have remained very high in samples collected up to July 31, 2022. Trace levels of BA.4/BA.5 were first detected at the end of May 2022 and have been observed in

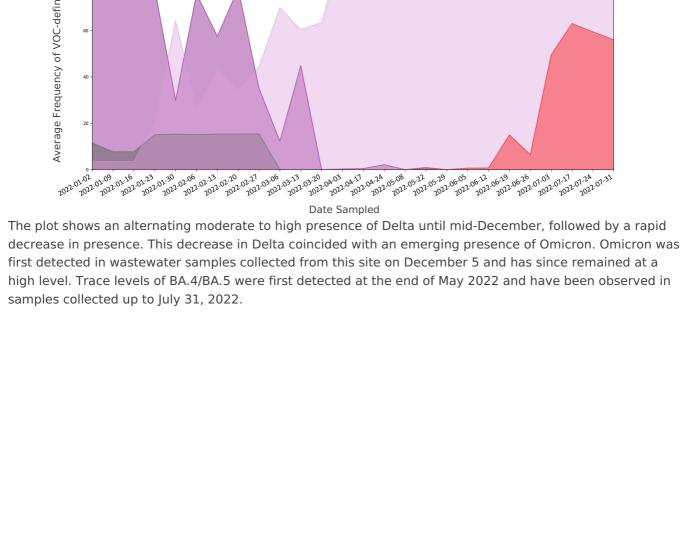
Vancouver Northwest Langley

The plot shows a high presence of BA.1 until mid February when BA.2 levels begin to increase and overtake BA.1. BA.2 levels rapidly increased and have remained high in samples collected up to July 31, 2022. Trace levels of BA.4/BA.5 were first detected at the end of May 2022 and have been observed in samples collected

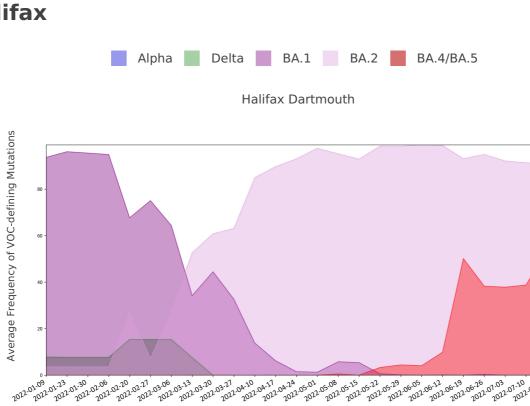
Vancouver Lulu Island

ning Mutations

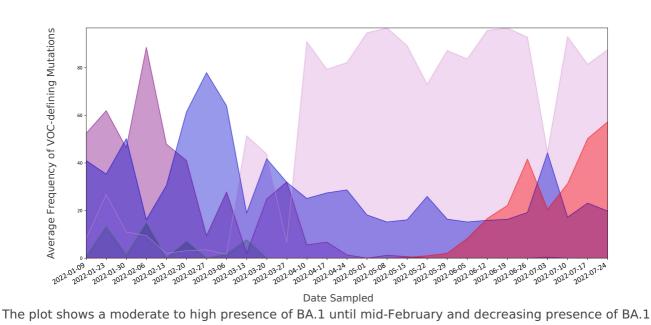
samples collected up to July 31, 2022.



Delta BA.1 BA.2 BA.4/BA.5 Edmonton Goldbar



# Average Frequency of VOC-defining Mutations



until the second week of April. BA.2 emerged at the start of March and rapidly increased to sustained high levels observed since the beginning of April. Variable levels of Alpha were observed between January and March at which point levels began to drop off to a low level of presence. Trace to low levels of BA.4/BA.5 were first detected at the beginning of May 2022 and have been detected in samples collected up to July 24,

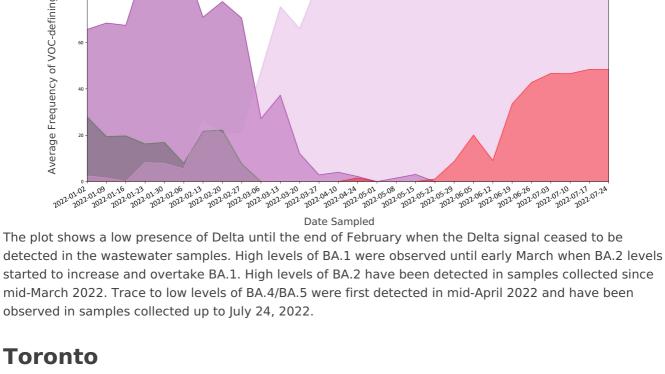
Delta BA.1 BA.2 BA.4/BA.5

Montreal North

# 1.02.01.08.09.10.10.01.13.01.20.01.06.02.13.01.10.02.13.01.10.20.12.03.06.03.13.03.10.03.12.03.20.03.13.03.10.03 The plot shows a low to moderate presence of Delta until the end of February when the Delta signal ceased

2022.

Montreal



The plot shows a moderate to high presence of BA.1 until mid February when BA.2 levels begin to increase and overtake BA.1. BA.2 levels increased rapidly and have remained high in samples collected up to August 7, 2022. Trace to low levels of BA.4/BA.5 were first detected at the beginning of May 2022 and have been detected in samples collected up to August 7, 2022. Toronto Highland Creek Average Freguency of VOC-defining Mutations

Date Sampled The plot shows a moderate to high presence of BA.1 until the beginning of March when BA.2 levels begin to increase and overtake BA.1. BA.2 levels rapidly increased and have remained high in samples collected up to August 7, 2022. A trace presence of BA.4/BA.5 was first detected at the beginning of May 2022 and has been observed in samples collected up to August 7, 2022 **Toronto North Toronto** 

The plot shows a variable moderate to high presence of BA.1 until the first week of March when levels began to decrease to trace levels by mid May. BA.2 emerged in mid January and was detected at high levels by mid February. BA.2 levels rapidly increased and have remained high in samples collected up to July 31, 2022. Trace levels of BA.4/BA.5 has been detected in samples collected since the end of May 2022 and has been observed in samples collected up to July 31, 2022. Vancouver Lions Gate Average Frequency of VOC-defining Mutations 2027-05-06 2022-02-13 2022 02-20 202-202-2022 306 03-13 2012 04 03 2012 04 13 2012 05 01 05 15 2012 05 19 2012 2012 2012 2012 2012 2012 2012 Date Sampled