



## Appendix 8.3

### Noise Survey Details and Summary Results

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**APPENDIX 8.3**  
**NOISE SURVEY DETAILS AND SUMMARY RESULTS**

**LOCATION**

Barry Island, Wales

**RECORDED WEATHER CONDITIONS**

Date	Daytime (07:00 hours – 23:00 Hours)				Night Time (23:00 hours – 07:00 hours)			
	Temp, °C	Rain, mm/h	Wind Direction	Average Wind Speed, m/s	Temp, °C	Rain, mm/h	Wind Direction	Average Wind Speed, m/s
22/02/2022	10	-	W	3.0	8	-	W	1.9
23/02/2022	9	0.1	W	3.0	8	4.2	W	3.2
24/02/2022	6	7.6	W	3.6	6	-	W	2.4
25/02/2022	8	-	W	1.9	4	-	Var	0.7
26/02/2022	8	-	E	2.0	6	-	E	2.5
27/02/2022	8	-	E	2.0	8	0.9	E	0.8
28/02/2022	9	3.6	E	1.0	7	-	E	1.1
01/03/2022	8	0.5	E	3.8	7	1.0	E	3.6
02/03/2022	9	2.7	E	2.4	8	1.0	E	1.8
03/03/2022	9	0.2	NW	1.9	6	-	NW	1.4
04/03/2022	8	-	NW	1.4	4	-	NW	0.8
05/03/2022	8	-	E	1.9	5	-	E	3.0
06/03/2022	6	0.2	E	3.4	5	-	E	3.3
07/03/2022	5	-	E	3.0	-	-	-	-

**PERSONNEL**

Brian Horner – Sol Acoustics

Daniel Reeves – Sol Acoustics

## **INSTRUMENTATION**

### *Measurement Position 1*

01dB Cube sound level meter (serial no. 12070)  
01dB Pre22 microphone preamplifier (serial no. 1915040)  
GRAS 40CD microphone capsule (serial no. 288057)  
01dB Cal21 acoustic calibrator (serial no. 34675320)

### *Measurement Position 2*

01dB Cube sound level meter (serial no. 12068)  
01dB Pre22 microphone preamplifier (serial no. 1936010)  
GRAS 40CD microphone capsule (serial no. 292577)  
01dB Cal21 acoustic calibrator (serial no. 34675320)

### *Boundary Measurement Position 1*

01dB Cube sound level meter (serial no. 11571)  
01dB Pre22 microphone preamplifier (serial no. 1805255)  
GRAS 40CD microphone capsule (serial no. 331595)  
Vaisala WXT520 weather station (serial no. P4910392)  
01dB Cal21 acoustic calibrator (serial no. 34675320)

### *Boundary Measurement Position 2*

01dB Cube sound level meter (serial no. 11348)  
01dB Pre22 microphone preamplifier (serial no. 1805363)  
GRAS 40CD microphone capsule (serial no. 260642)  
01dB Cal21 acoustic calibrator (serial no. 34675320)

### *Boundary Measurement Position 3*

01dB Cube sound level meter (serial no. 11495)  
01dB Pre22 microphone preamplifier (serial no. 1805327)  
GRAS 40CD microphone capsule (serial no. 331753)  
01dB Cal21 acoustic calibrator (serial no. 34675320)

## **METHODOLOGY**

All noise monitoring equipment was calibrated before and after noise measurements to an accuracy of  $\pm 0.3\text{dB}$  using the Cal 21 calibrator in each instance. The calibrator produces a sound pressure level of  $94\text{dB re } 2 \times 10^{-5} \text{ Pa @ } 1\text{kHz}$ .

## **MEASUREMENT RESULTS**

Figure A8.3.1 and Figure A8.3.2 summarises the broadband A-weighted results obtained at Measurement Positions 1 and 2.

Figure A8.3.3, Figure A8.3.4 and Figure A8.3.5 summarise the broadband A-weighted results obtained at Boundary Measurement Positions B1, B2 and B3.

Figure A8.3.6, Figure A8.3.7 and Figure A8.3.8 provides visual statistical analysis (histograms) of the as-measured Background Sound Levels as during the daytime, evening and night time periods respectively at Measurement Position 1.

Similarly, Figure A8.3.9, Figure A8.3.10 and Figure A8.3.11 provides visual statistical analysis (histograms) of the as-measured Background Sound levels as during the daytime, evening and night time periods respectively at Measurement Position 2.

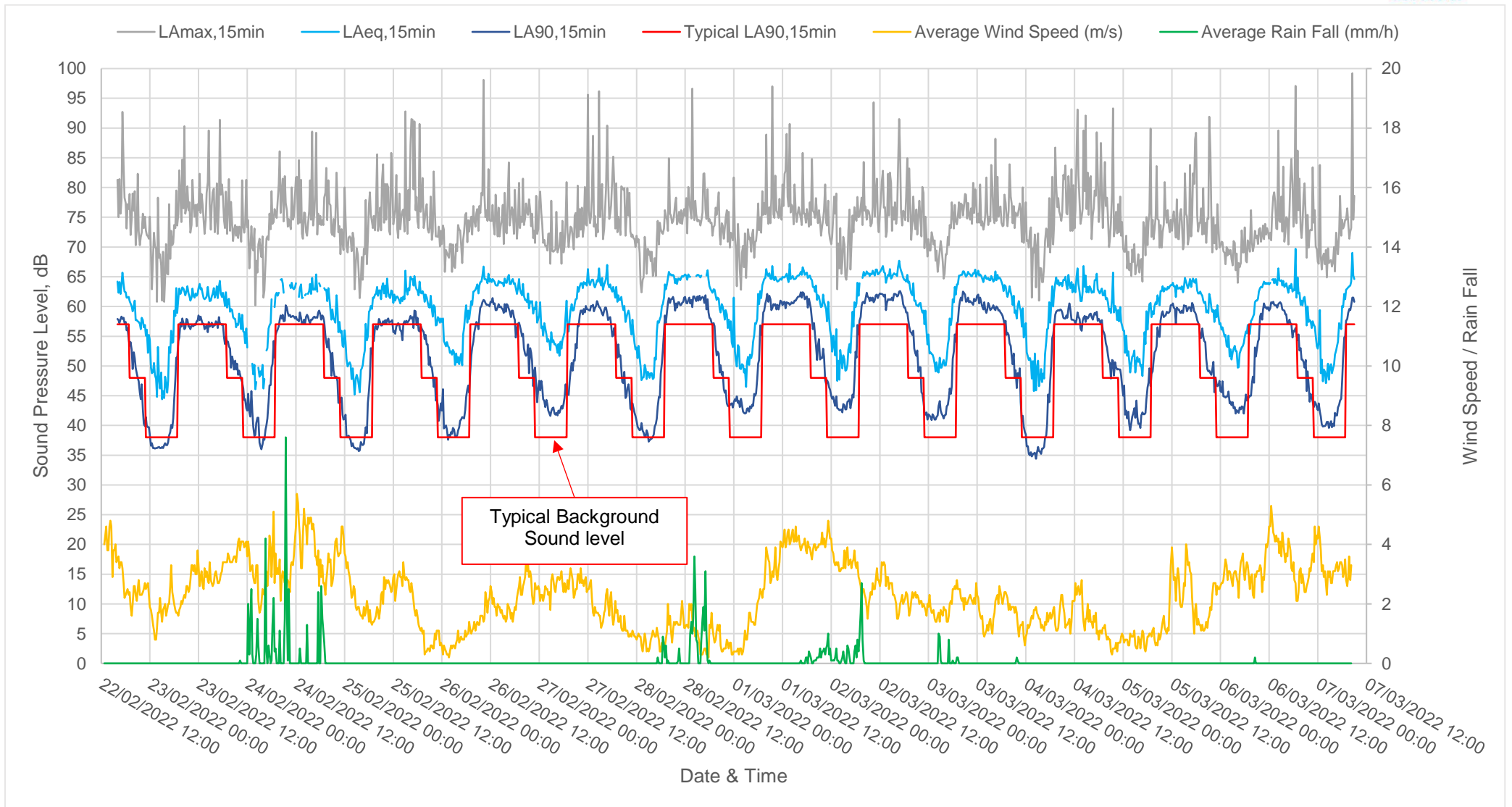


Figure A8.3.1: Time-history graph of environmental noise levels at Measurement Position 1, 22 February 2022 to 7 March 2022

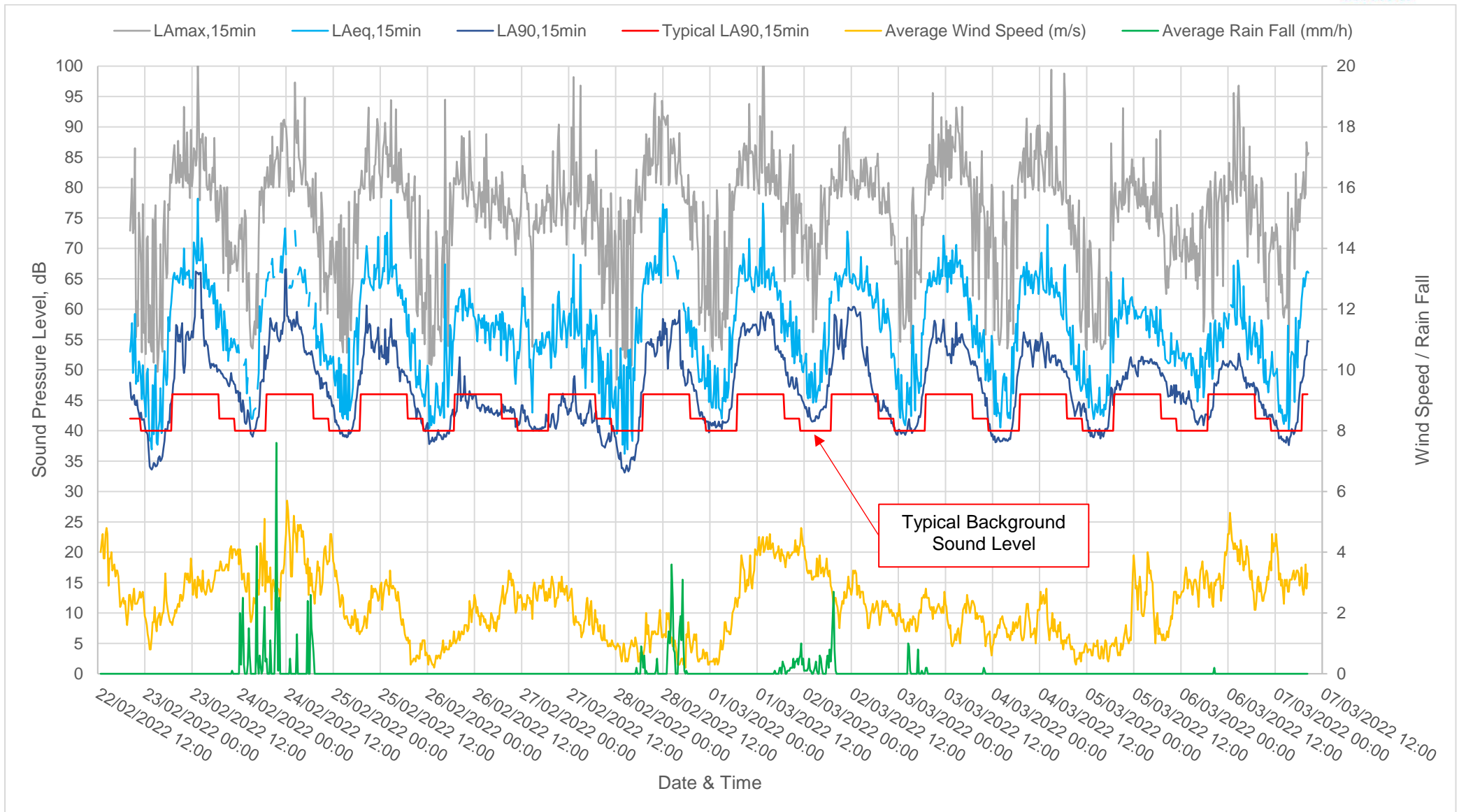


Figure A8.3.2: Time-history graph of environmental noise levels at Measurement Position 2, 22 February 2022 to 7 March 2022

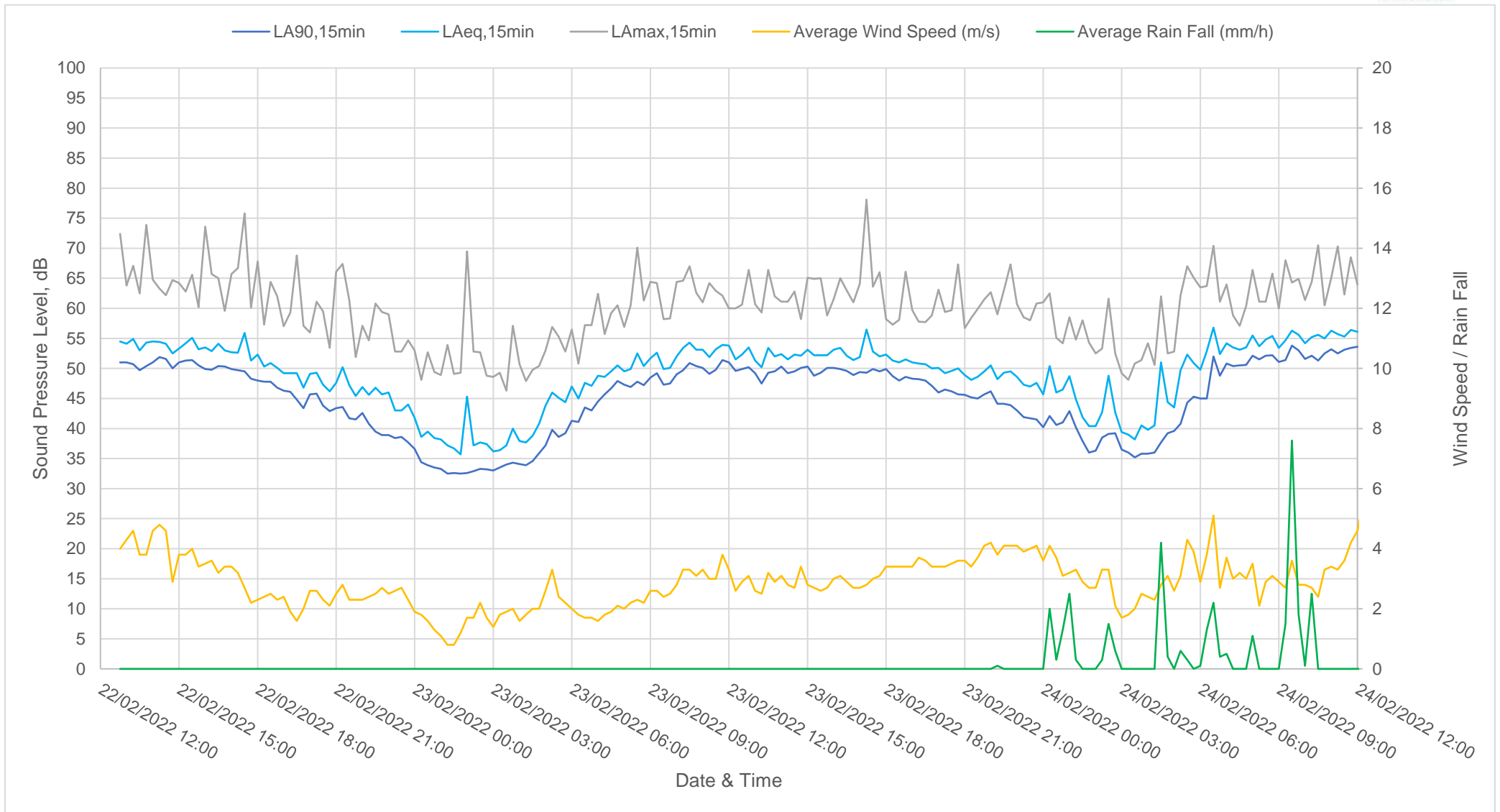


Figure A8.3.3: Time-history graph of environmental noise levels at Measurement Position B1, 22 February 2022 to 24 February 2022

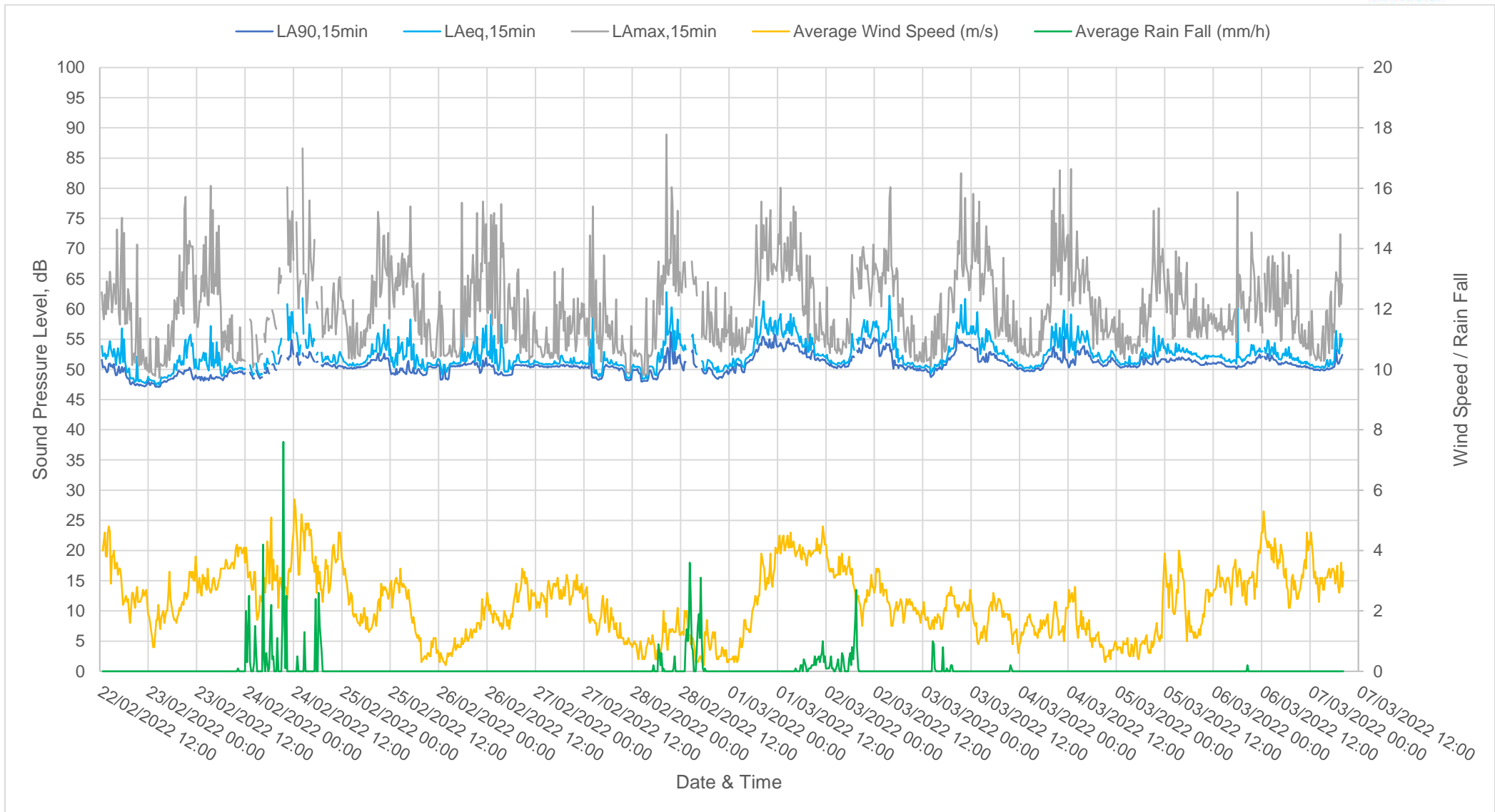


Figure A8.3.4: Time-history graph of environmental noise levels at Measurement Position B2, 22 February 2022 to 7 March 2022



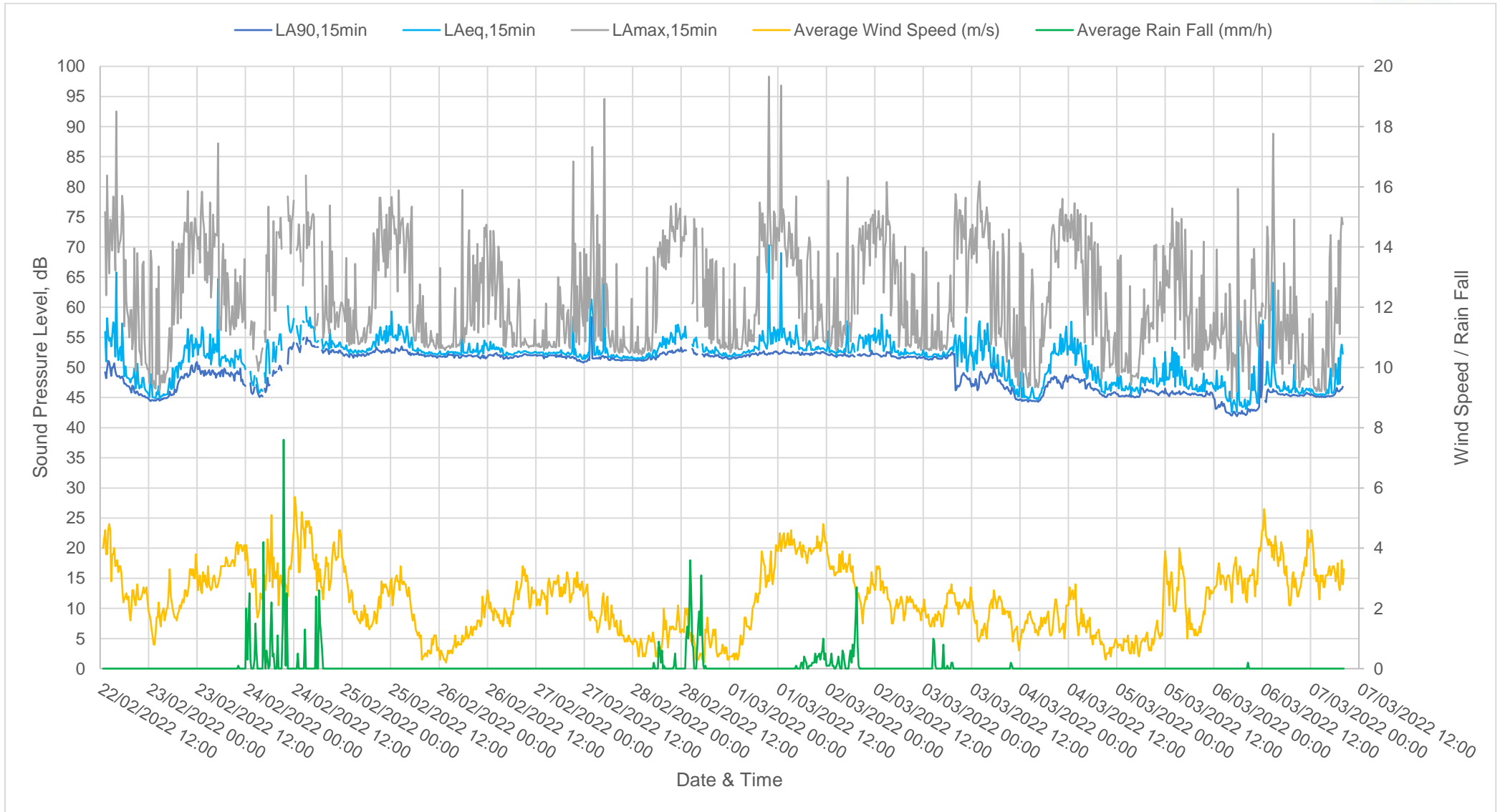


Figure A8.3.5: Time-history graph of environmental noise levels at Measurement Position B3, 22 February 2022 to 7 March 2022

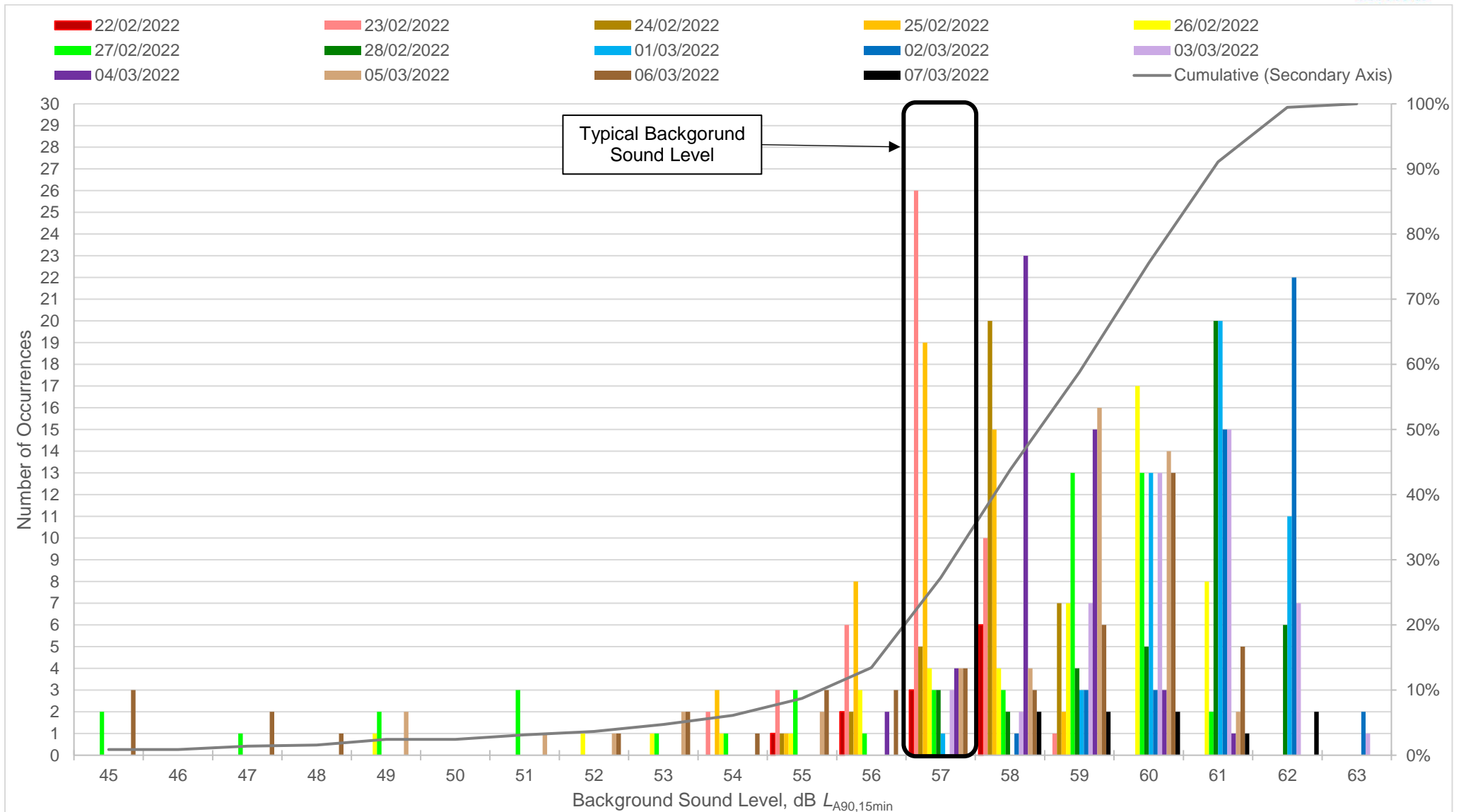


Figure A8.3.6: Histogram of daytime (07:00 hours to 19:00 hours) Background Sound Levels at Measurement Position 1

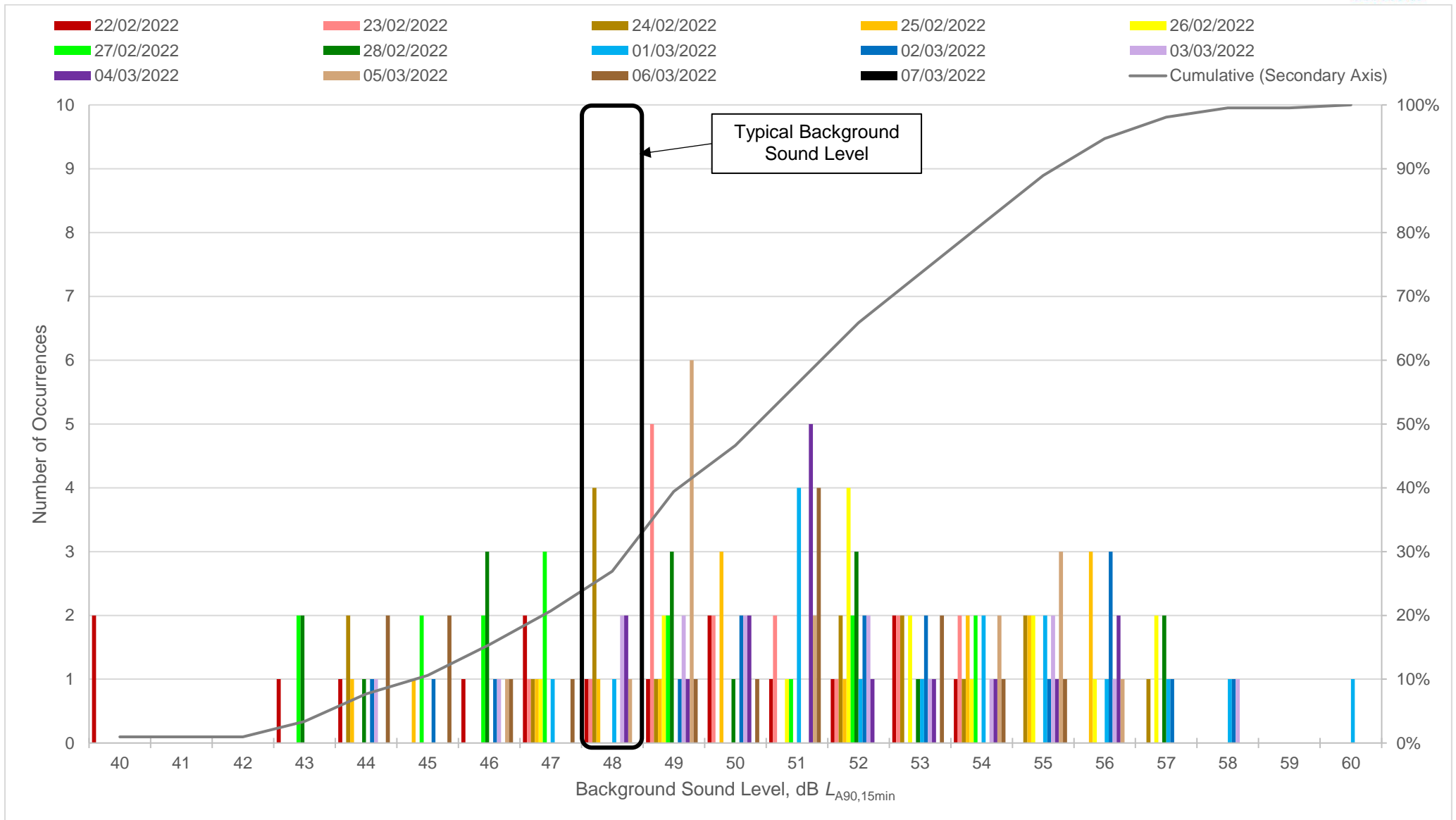


Figure A8.3.7: Histogram of evening (19:00 hours to 23:00 hours) Background Sound Levels at Measurement Position 1

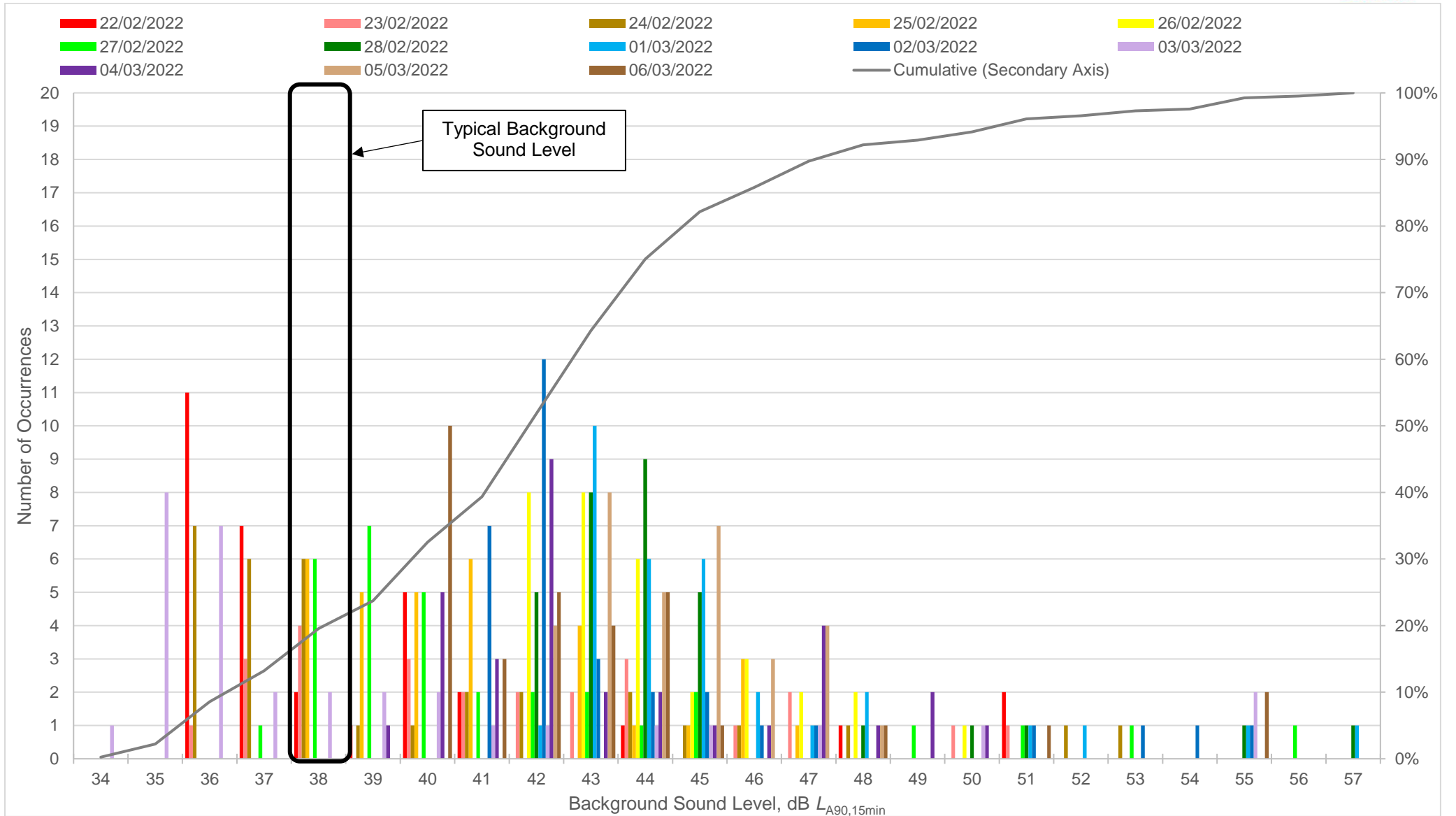


Figure A8.3.8: Histogram of night time (23:00 hours to 07:00 hours) Background Sound Levels at Measurement Position 1

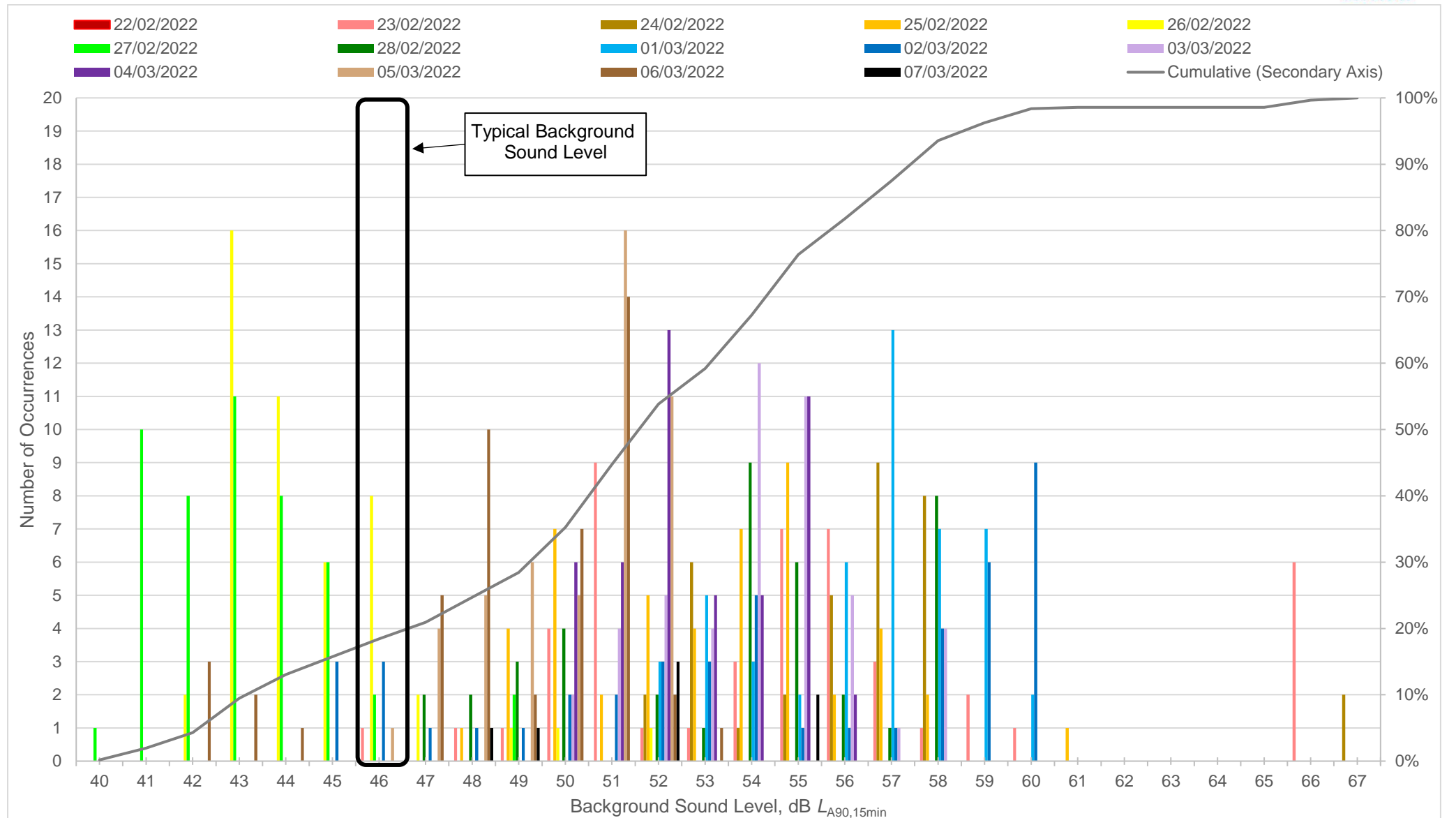


Figure A8.3.9: Histogram of daytime (07:00 hours to 19:00 hours) Background Sound Levels at Measurement Position 2

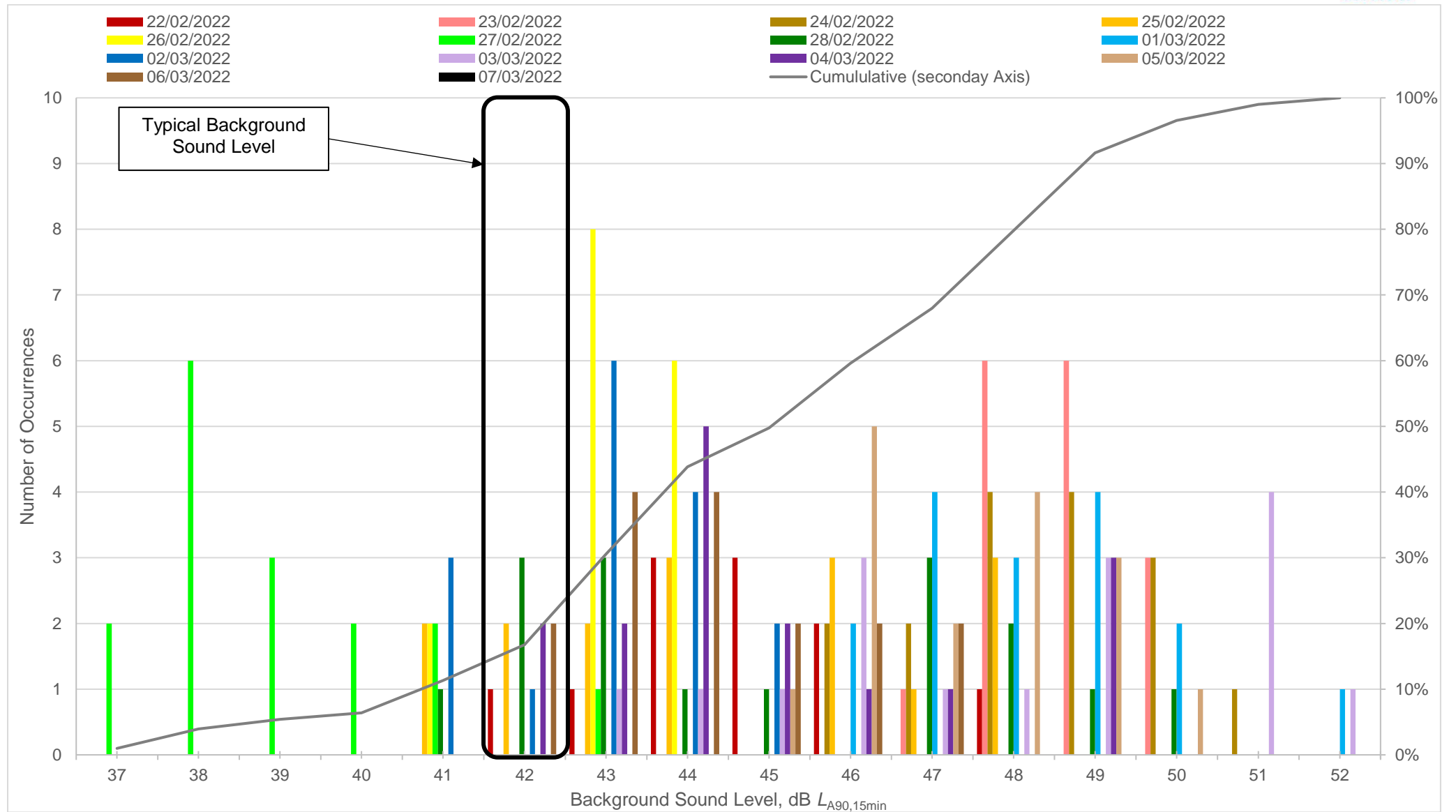


Figure A8.3.10: Histogram of evening (19:00 hours to 23:00 hours) Background Sound Levels at Measurement Position 2

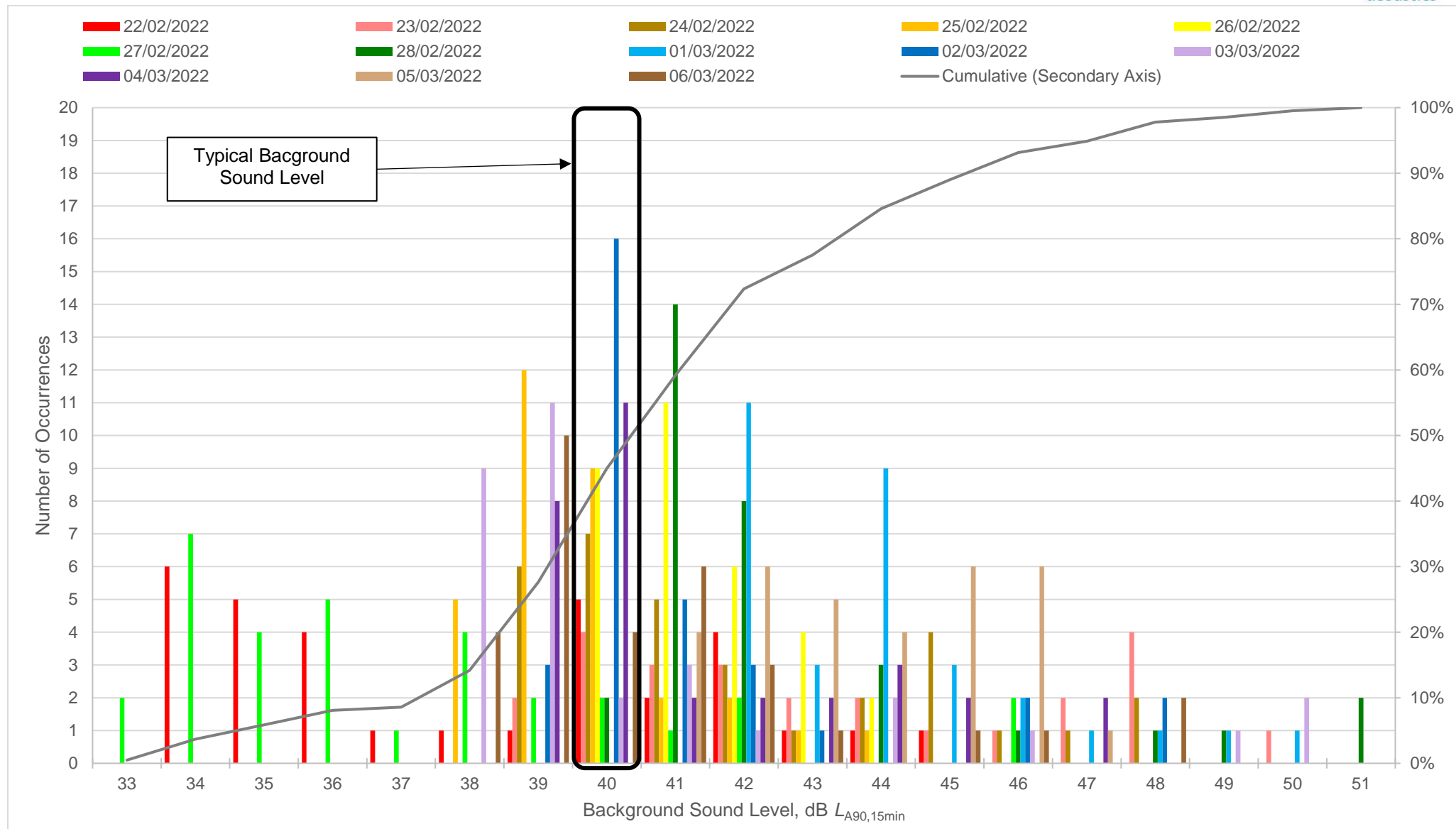


Figure A8.3.11: Histogram of night time (23:00 hours to 07:00 hours) Background Sound Levels at Measurement Position 2