



Galileo 03 Ltd.

Mynydd Ty-talwyn Energy Park - Environmental Statement Volume III

Appendix 9.3: Baseline Noise Survey

Project Reference: 663870

NOVEMBER 2025

RSK



Appendix 9.3 - Baseline Noise Survey



Introduction

This report has been prepared by RSK Acoustics on behalf of Galileo 03 Ltd (part of Galileo Empower UK Ltd) (hereinafter referred to as 'Galileo' or the 'Applicant').

To support the noise impact assessment for the Mynydd Ty-talwyn Energy Park, a baseline noise survey was conducted at seven locations. The locations were representative of multiple receptors located within the vicinity of the Proposed Development.

The survey was carried out between Wednesday 24 April 2024 and Wednesday 3 July 2024. The data collected was used to determine appropriate ETSU-R-97, BS 4142 and BS 5228 criteria for the Proposed Development.

This report details the measurement locations, meteorological conditions, and the results of the survey.



Measurement Locations

Measurement Position 1 – Land near Uchaf Farm

The monitoring equipment installed at MP1 is shown below in **Figure 1**.



Figure 1 Noise Monitoring Position at MP1

The monitoring location is considered representative of the nearby residential dwellings. Monitoring equipment was installed at a greater elevation than the nearby receptors (NSR1-NSR4) as lower elevations were inaccessible due to the steep gradient and watercourse.

Observations of noise sources present during the installation and collection of equipment included birdsong, sheep in nearby fields and movement of foliage via wind.

Details of the monitoring equipment used at this location are provided in **Table 1**.

Equipment	Type	Serial number	Calibration date
Sound level meter	01dB Fusion*	14923	31/10/2022
Acoustic calibrator	Rion NC-74*	34236428	06/08/2023
Wind shield	High Speed	N/A	N/A
Measurement GPS position	284957 E, 187358 N		
Survey duration	24/04/2024 – 03/07/2024		
*Calibration certificates available upon request			

Table 1 MP1 Equipment Details



Measurement Position 2 – Maescadlawr

The monitoring equipment installed at MP2 is shown below in **Figure 2**.



Figure 2 Noise Monitoring Position at MP2

Noise sources observed during the installation and collection of equipment included nearby agricultural activity, birdsong and distant traffic on the A4063 to the northeast of the monitoring position.

Details of the monitoring equipment used at this location are provided in **Table 2**.

Equipment	Type	Serial number	Calibration date
Sound level meter	01dB Fusion*	15171	25/02/2023
Acoustic calibrator	Rion NC-74*	34236428	06/08/2023
Wind shield	High Speed	N/A	N/A
Measurement GPS position	286654 E, 187227 N		
Survey duration	24/04/2024 – 03/07/2024		
*Calibration certificates available upon request			

Table 2 MP2 Equipment Details



Measurement Position 3 – Pen-twyn

The monitoring equipment installed at MP3 is shown below in **Figure 3**.



Figure 3 Noise Monitoring Position at MP3

Noise sources observed during the installation and collection of equipment included distant traffic and birdsong.

Details of the monitoring equipment used at this location are provided in **Table 3**.

Equipment	Type	Serial number	Calibration date
Sound level meter	01dB Fusion*	14922	31/10/2022
Acoustic calibrator	Rion NC-74*	34236428	06/08/2023
Wind Shield	High Speed	N/A	N/A
Measurement GPS Position	288886 E, 186110 N		
Survey Duration	24/04/2024 – 25/06/2024		
*Calibration certificates available upon request			

Table 3 MP3 Equipment Details



Measurement Position 4 – Baiden Farm

The monitoring equipment installed at MP4 is shown below in **Figure 4**.



Figure 4 Noise Monitoring Position at MP4

Two turbines with line of sight to the monitoring position. MP6 has been agreed with EHO as a representative proxy location to provide a background noise level for this measurement location. Noise sources observed during the installation and collection of equipment included distant traffic and movement of foliage due to wind.

Details of the monitoring equipment used at this location are provided in **Table 4**.

Equipment	Type	Serial number	Calibration date
Sound level meter	01dB Fusion*	14919	02/12/2022
Acoustic calibrator	Rion NC-74*	34236428	06/08/2023
Wind Shield	High Speed	N/A	N/A
Measurement GPS Position	287017 E, 184965 N		
Survey Duration	24/04/2024 – 25/06/2024		
*Calibration certificates available upon request			

Table 4 MP4 Equipment Details



Measurement Position 5 – Pentyla Farm

The monitoring equipment installed at MP5 is shown below in **Figure 5**.



Figure 5 Noise Monitoring Position at MP5

The survey location at MP5 was close to foliage as the resident would not allow monitoring at any other location. Comparison of the noise levels measured at this location and MP6 was undertaken and indicated that the foliage had limited impact on the background sound level. Noise sources observed during the installation and collection of equipment included birdsong and farm animals.

Details of the monitoring equipment used at this location are provided in **Table 5**.

Equipment	Type	Serial number	Calibration date
Sound level meter	01dB Fusion*	14916	07/09/2022
Acoustic calibrator	Rion NC-74*	34236428	06/08/2023
Wind Shield	High Speed	N/A	N/A
Measurement GPS Position	285106 E, 185265 N		
Survey Duration	24/04/2024 – 03/07/2024		
*Calibration certificates available upon request			

Table 5 MP5 Equipment Details



Measurement Position 6 – Land near Pentre Farm

The monitoring equipment installed at MP6 is shown below in **Figure 6**.



Figure 6 Noise Monitoring Position at MP6

Noise sources observed during the installation and collection of equipment included birdsong, sheep in nearby fields and movement of foliage via wind.

Details of the monitoring equipment used at this location are provided in **Table 6**.

Equipment	Type	Serial number	Calibration date
Sound level meter	01dB Fusion*	14917 / 14177	07/09/2022 / 19/10/2023
Acoustic calibrator	Rion NC-74*	34236428	06/08/2023
Wind Shield	High Speed	N/A	N/A
Measurement GPS Position	284328 E, 185471 N		
Survey Duration	25/06/2024 – 18/06/2024, 25/06/2024 – 03/07/2024		
*Calibration certificates available upon request			

Table 6 MP6 Equipment Details



Measurement Position 7 – The Poultry Farm

The monitoring equipment installed at MP7 is shown below in **Figure 7**.



Figure 7 *Noise monitoring position at MP7*

Noise sources observed during the installation and collection of equipment included distant traffic noise and birdsong.

Details of the monitoring equipment used at this location are provided in **Table 7**.

Equipment	Type	Serial number	Calibration date
Sound level meter	01dB Fusion*	15189	26/04/2023
Acoustic calibrator	Rion NC-74*	34236428	06/08/2023
Wind Shield	High Speed	N/A	N/A
Measurement GPS Position	288761 E, 185293 N		
Survey Duration	24/04/2024 – 03/07/2024		
*Calibration certificates available upon request			

Table 7 *MP7 Equipment Details*



Historic Measurement Position –Cefn Ydfa (P/12/740/FUL)

The background noise level data collected at the assessment location Cefn Ydfa from the Gelli Las Farm wind turbine application has been used within the cumulative wind turbine assessment contained within the Environmental Statement (ES).

The measurement data is considered a representative true background at the assessment position as the measurements were both measured in the garden of the assessment position and undertaken prior to the installation of the Gelli Las Farm wind turbines, meaning there is no chance of contribution from the wind turbines during the survey.

Details of the monitoring equipment installed at Gelli Las Farm is provided within planning application documentation P/12/740/FUL.

Details of the monitoring equipment used at this location are provided in **Table 8**.

Equipment	Type	Serial number
Sound level meter	Rion NL-52	00810317
Acoustic calibrator	Rion NC-74	34615257
Wind shield	Dual layer	N/A
Measurement GPS position	287765 E, 186614 N	
Survey duration	11/12/2012 – 18/12/2012	

Table 8 Cefn Ydfa Equipment Details



Historic Measurement Position –Gelli Las Farm (P/12/740/FUL)

The background noise level data collected at the assessment location Gelli Las Farm from the Gelli Las Farm wind turbine application has been used within the cumulative wind turbine assessment contained within the ES.

The measurement data is considered a representative true background at the assessment position as the measurements were both measured in the garden of the assessment position and undertaken prior to the installation of the Gelli Las Farm wind turbines, meaning there is no chance of contribution from the wind turbines during the survey.

Details of the monitoring equipment installed at Gelli Las Farm is provided within planning application documentation P/12/740/FUL.

Details of the monitoring equipment used at this location are provided in **Table 9**.

Equipment	Type	Serial number
Sound level meter	Rion NL-52	00810316
Acoustic calibrator	Rion NC-74	34615257
Wind Shield	Dual Layer	N/A
Measurement GPS Position	288093 E, 186567 N	
Survey Duration	11/12/2012 – 18/12/2012	

Table 9 Gelli Las Farm Equipment Details



Meteorological Details

Wind speed and directions were logged at 10-minute averages during the monitoring period. To collect the data a Windcube LiDAR unit was installed at approximate GPS position: 285838E, 186090N.

Rainfall data was measured via the weather station installed at survey location MP2. Where rainfall was recorded, data periods were flagged and removed from analysis.

Data Exclusions

Under ETSU-R-97 guidelines, data must be removed if they are likely to have been affected by rain or are: 'considered atypical of the noise environment which normally prevails at the property'.

Data is also excluded if a noise logger exhibits unacceptable calibration drift between battery changes or over the whole survey period. A drift of more than 0.5 dB between battery changes or from the calibration value taken at the time of deployment would be deemed unacceptable. No calibration drift greater than 0.5 dB was detected during the monitoring period.

Wind Shear

Wind shear, also known as wind gradient, is the difference in wind speed and/or direction over a short distance in the atmosphere. In relation to wind farms and turbines, vertical wind shear is the change in wind speed with relation to height. ETSU-R-97 suggests that a standardised height of 10 m is appropriate for referencing background noise levels against wind speeds. It should be noted that this is not representative of wind at hub height, which is what affects the noise generated by the turbines.

ETSU-R-97 and the Institute of Acoustics Good Practice Guide (GPG) suggest that the preferred method of accounting for wind shear is by referencing background noise measurements to hub height wind speeds. The hub height wind speeds are then corrected to the standardised 10 m height.

Wind shear has been addressed by relating background noise measurements to 119 m height wind speed (i.e. the approximate hub height of the candidate turbine model).

The derived hub height wind speed has been corrected to 'standardised' 10 m as detailed within the GPG:

$$U_1 = U_2 \frac{\ln(10/z)}{\ln(H/z)}$$

where U_1 is the 'standardised' wind speed at 10 metres, U_2 is the measured wind speed, H is the hub height and z is the reference ground roughness length ($=0.05$ m).

This method ensures that the comparisons of predicted turbine noise level, background level and the corresponding noise targets are made on a like-for-like basis.

Results – Wind Farm Analysis

The results of the baseline survey are presented for each measurement location and assessment period: daytime amenity and night-time.

Table 10 outlines the specific time criteria for each assessment period.

Day	Time	Period
Monday – Friday	18:00 – 23:00	Daytime amenity (DT)
Saturday	13:00 – 23:00	Daytime amenity (DT)



Day	Time	Period
Sunday	07:00 – 23:00	Daytime amenity (DT)
All Days	23:00 – 07:00	Night-time (NT)

Table 10 Assessment Periods

Daytime amenity hours assessment criteria are based on lower fixed limits of 35 dB L_{A90} or the measured background level plus 5 dB, whichever is greater. For night-time periods, a lower fixed limit of 43 dB L_{A90} , or the measured background level plus 5 dB, whichever is greater has been adopted. A financially involved limit of 45 dB L_{A90} has also been applied.

In accordance with ETSU-R-97, a regression analysis with 'best fit' polynomial curves were used to determine the noise criteria. Any extraneous data points and those during periods of rainfall were removed from the analysis.



Measurement Position 1 – Land near Uchaf Farm – Daytime

The daytime amenity assessment results for MP1 are presented graphically in **Figure 8**.

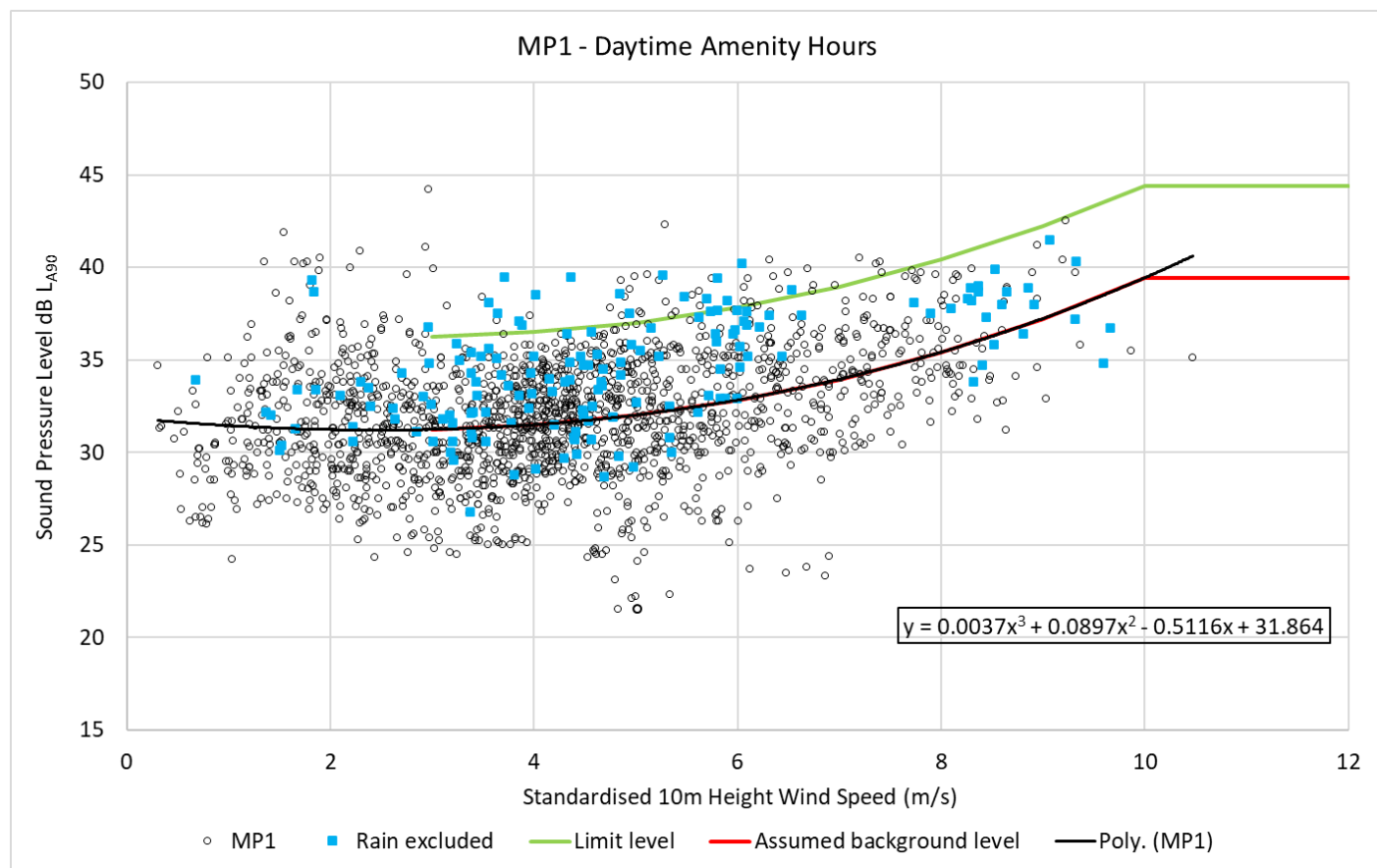


Figure 8 *MP1 Daytime Amenity Assessment*

Table 11 provides the tabulated results for MP1 during daytime amenity.

Daytime	Total	Standardised 10 m Wind Speed (m/s)									
		3	4	5	6	7	8	9	10	11	12
Average Value	$L_{A90, 10min}$	31.2	31.5	32.0	32.8	33.9	35.4	37.2	39.4	39.4	39.4
Derived Limit Level	$L_{A90, 10min}$	36.2	36.5	37.0	37.8	38.9	40.4	42.2	44.4	44.4	44.4

Table 11 *MP1 Tabulated Daytime Amenity Assessment*



Measurement Position 1 – Land near Uchaf Farm – Night

The night-time assessment results for MP1 are presented graphically in **Figure 9**.

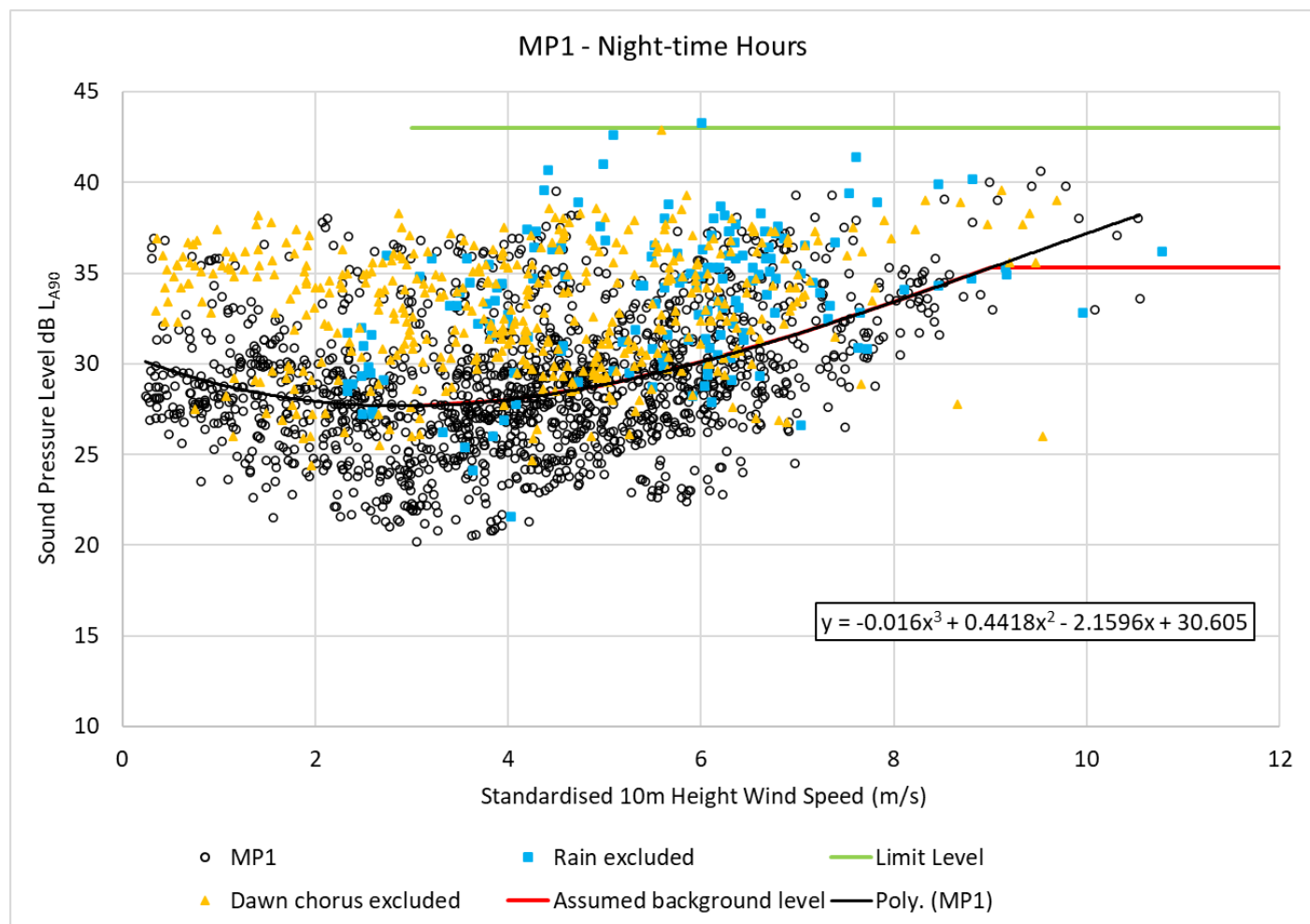


Figure 9 MP1 Night-time Assessment

Table 12 provides the tabulated results for MP1 during night-time.

Daytime	Total	Standardised 10 m Wind Speed (m/s)									
		3	4	5	6	7	8	9	10	11	12
Average Value	$L_{A90, 10min}$	27.7	28.0	28.9	30.1	31.6	33.4	35.3	35.3	35.3	35.3
Derived Limit Level	$L_{A90, 10min}$	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0

Table 12 MP1 Tabulated Night-time Assessment



Measurement Position 2 – Maescadlawr – Daytime

The daytime amenity assessment results for MP2 are presented graphically in **Figure 10**.

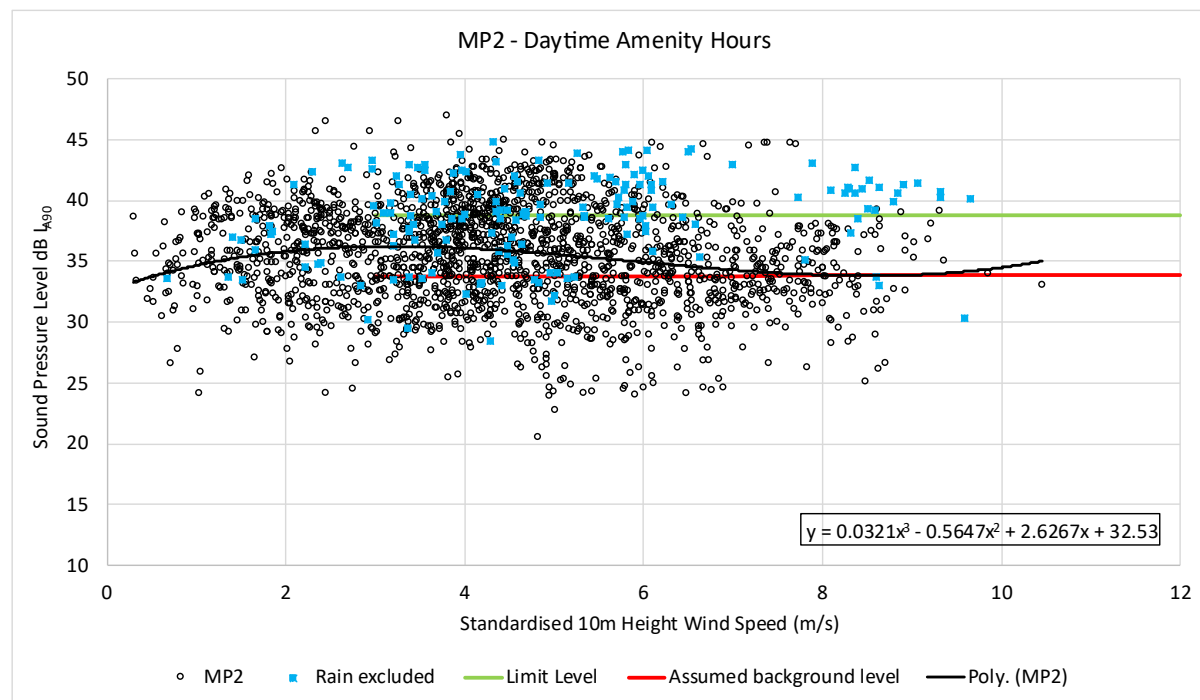


Figure 10 MP2 Daytime Amenity Assessment

Table 13 provides the tabulated results for MP2 during daytime amenity.

Daytime	Total	Standardised 10 m Wind Speed (m/s)									
		3	4	5	6	7	8	9	10	11	12
Average Value	$L_{A90, 10min}$	33.8	33.8	33.8	33.8	33.8	33.8	33.8	33.8	33.8	33.8
Derived Limit Level	$L_{A90, 10min}$	38.8	38.8	38.8	38.8	38.8	38.8	38.8	38.8	38.8	38.8

Table 13 MP2 Tabulated Daytime Amenity Assessment



Measurement Position 2 – Maescadlawr – Night

The night-time assessment results for MP2 are presented graphically in **Figure 11**.

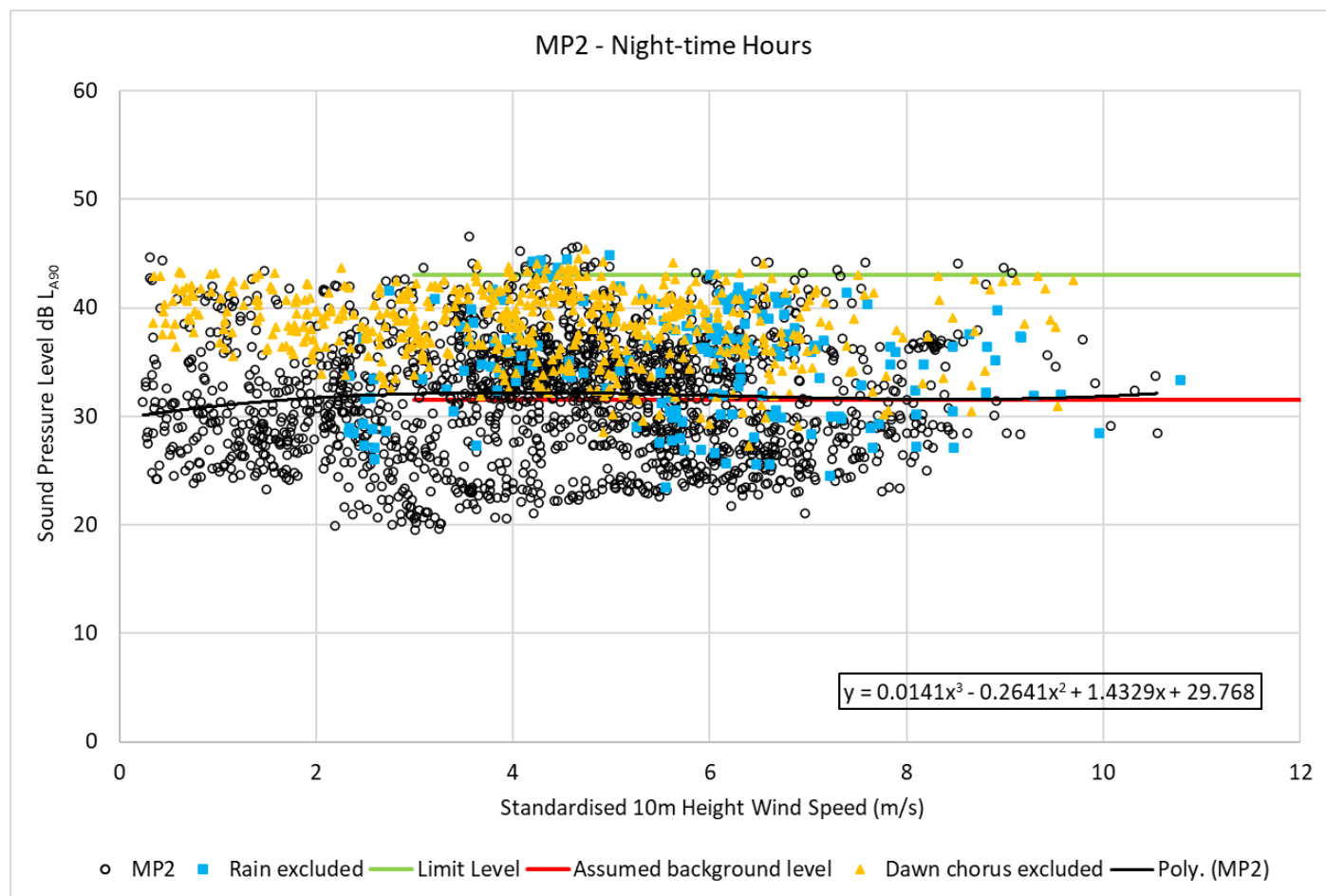


Figure 11 *MP2 Night-time Assessment*

Table 14 provides the tabulated results for MP2 during night-time.

Daytime	Total	Standardised 10 m Wind Speed (m/s)									
		3	4	5	6	7	8	9	10	11	12
Average Value	$L_{A90, 10min}$	31.5	31.5	31.5	31.5	31.5	31.5	31.6	31.6	31.6	31.6
Derived Limit Level	$L_{A90, 10min}$	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0

Table 14 *MP2 Tabulated Night-time Assessment*



Measurement Position 3 – Pen-twyn – Daytime

The daytime amenity assessment results for MP3 are presented graphically in **Figure 12**.

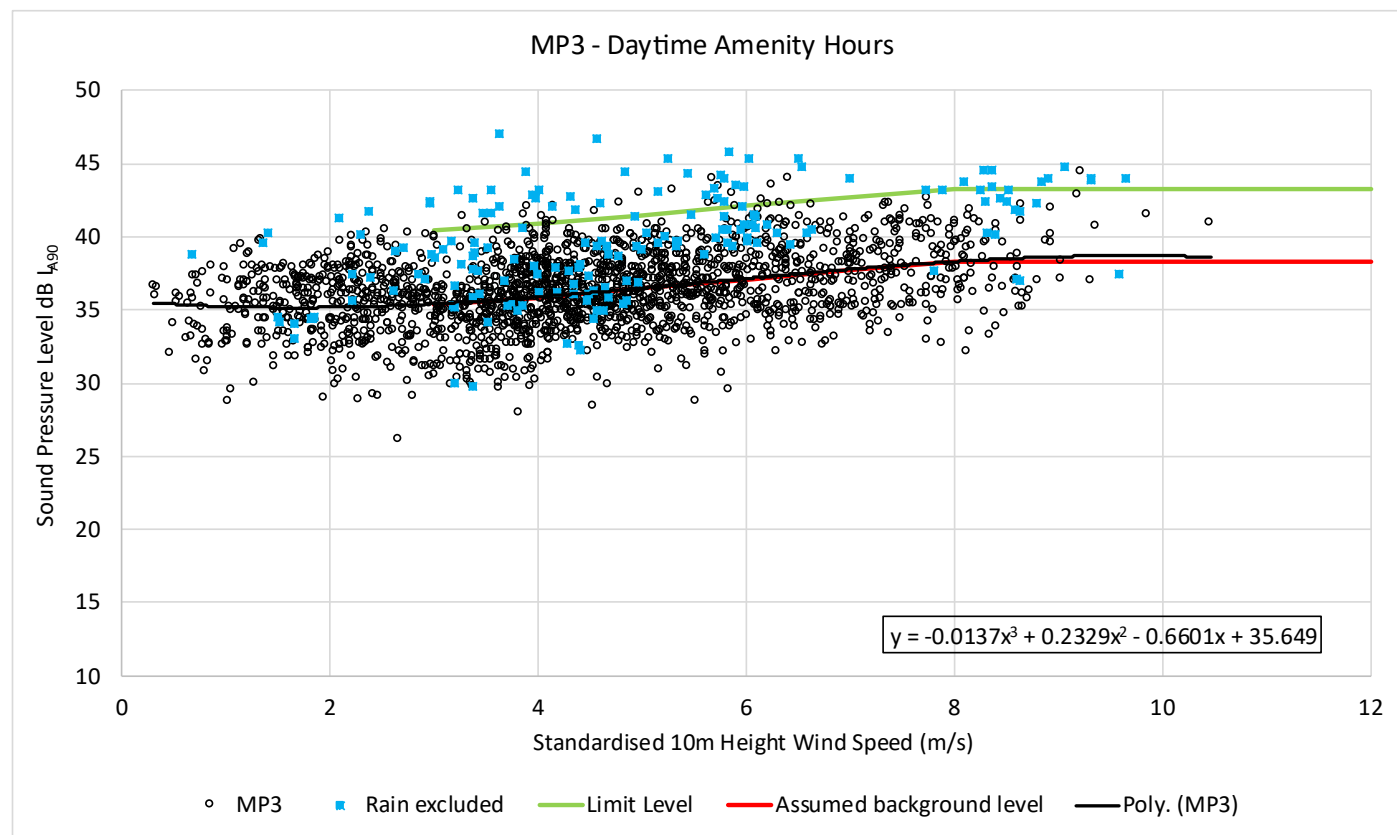


Figure 12 MP3 Daytime Amenity Assessment

Table 15 provides the tabulated results for MP3 during daytime amenity.

Daytime	Total	Standardised 10 m Wind Speed (m/s)									
		3	4	5	6	7	8	9	10	11	12
Average Value	$L_{A90, 10min}$	35.4	35.9	36.5	37.1	37.7	38.3	38.3	38.3	38.3	38.3
Derived Limit Level	$L_{A90, 10min}$	40.4	40.9	41.5	42.1	42.7	43.3	43.3	43.3	43.3	43.3

Table 15 MP3 Tabulated Daytime Amenity Assessment



Measurement Position 3 – Pen-twyn – Night

The night-time assessment results for MP3 are presented graphically in **Figure 13**.

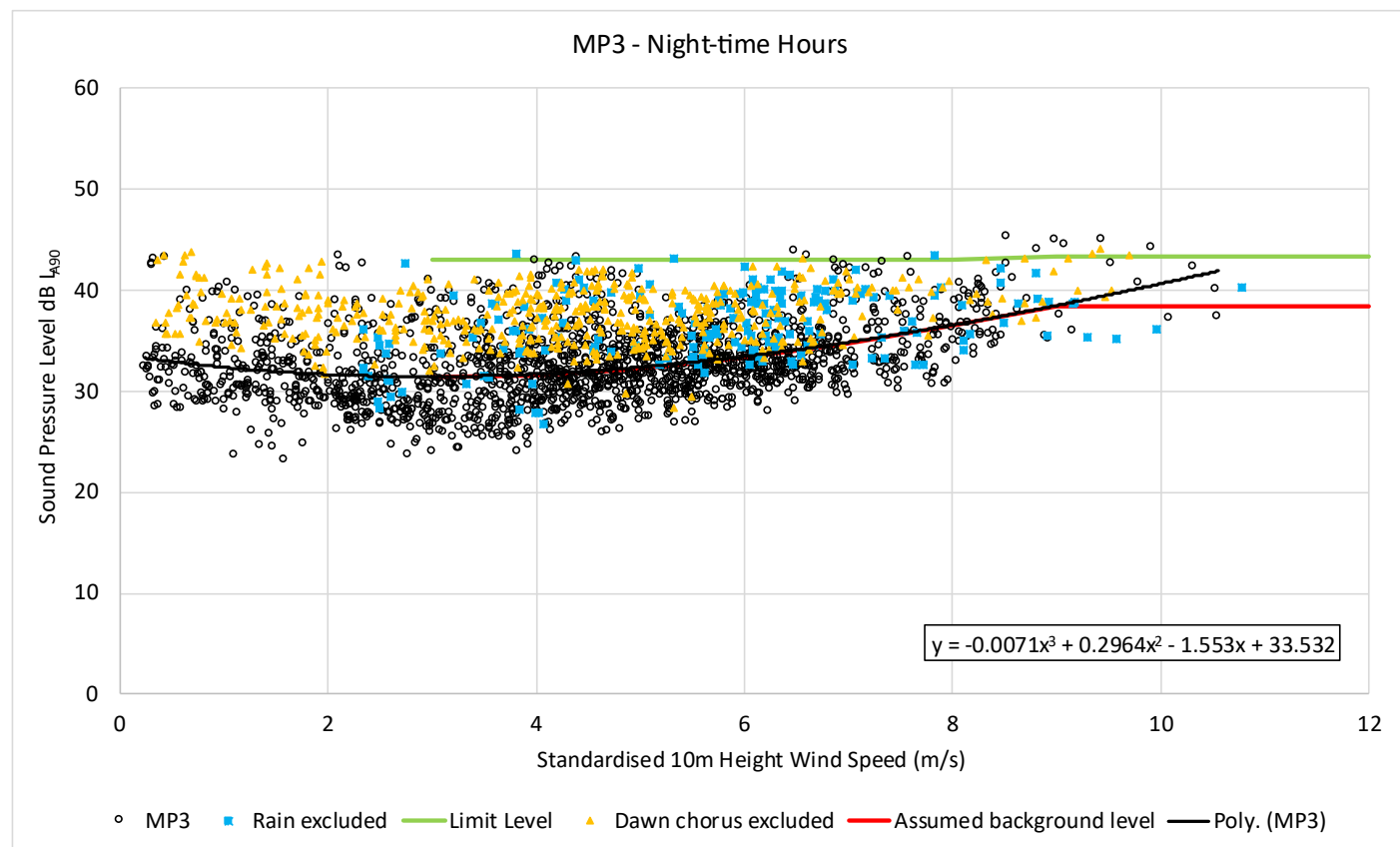


Figure 13 *MP3 Night-time Assessment*

Table 16 provides the tabulated results for MP3 during night-time.

Daytime	Total	Standardised 10 m Wind Speed (m/s)									
		3	4	5	6	7	8	9	10	11	12
Average Value	$L_{A90, 10min}$	31.3	31.6	32.3	33.4	34.7	36.4	38.4	38.4	38.4	38.4
Derived Limit Level	$L_{A90, 10min}$	43.0	43.0	43.0	43.0	43.0	43.0	43.4	43.4	43.4	43.4

Table 16 *MP3 Tabulated Night-time Assessment*



Measurement Position 4 – Baiden Farm – Daytime

The daytime amenity assessment results for MP4 are presented graphically in **Figure 14**.

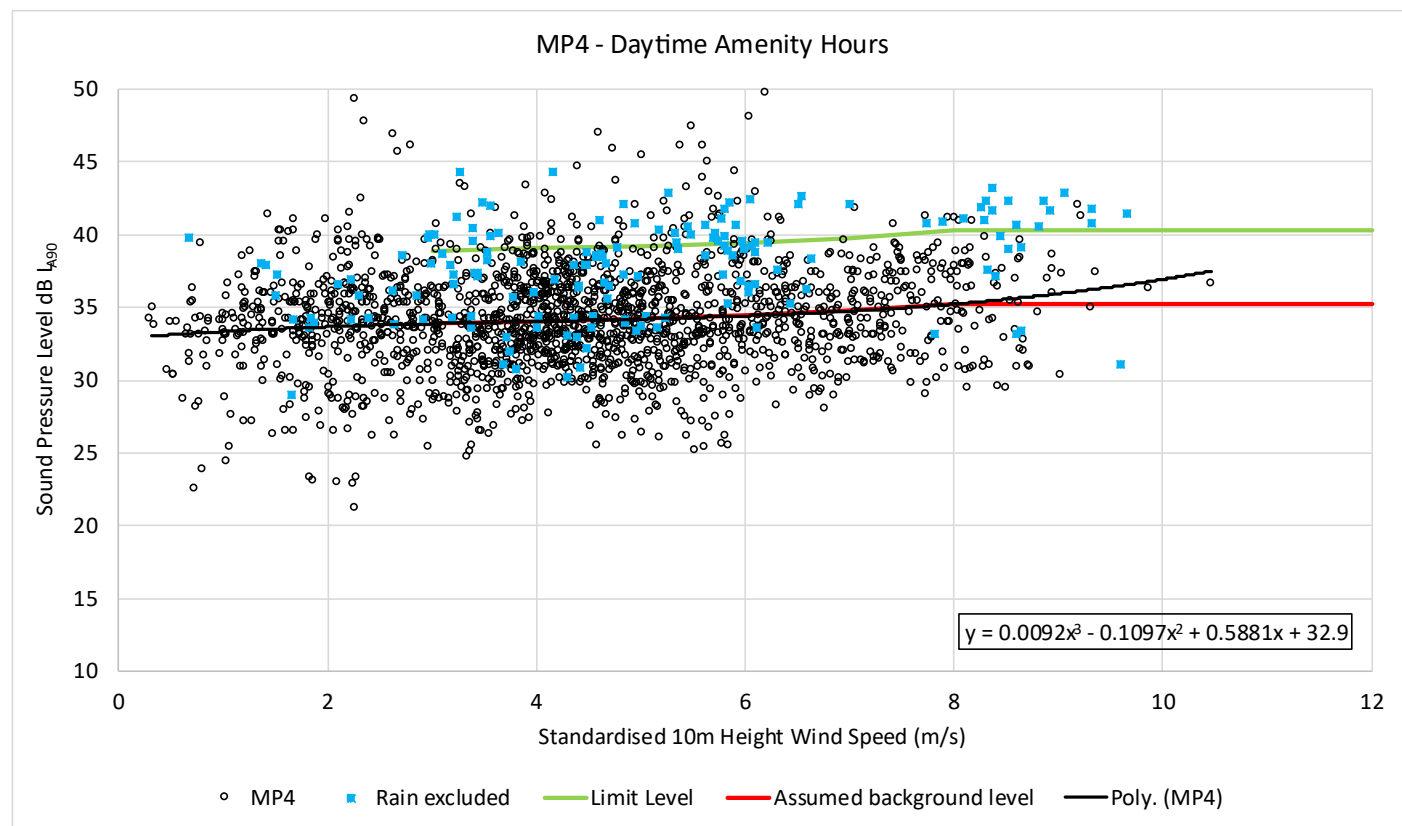


Figure 14 MP4 Daytime Amenity Assessment

Table 17 provides the tabulated results for MP4 during daytime amenity.

Daytime	Total	Standardised 10 m Wind Speed (m/s)									
		3	4	5	6	7	8	9	10	11	12
Average Value	$L_{A90, 10min}$	33.9	34.1	34.2	34.5	34.8	35.3	35.3	35.3	35.3	35.3
Derived Limit Level	$L_{A90, 10min}$	38.9	39.1	39.2	39.5	39.8	40.3	40.3	40.3	40.3	40.3

Table 17 MP4 Tabulated Daytime Amenity Assessment

Data presented for MP4 is not used within the assessment due to the presence of the existing wind turbines and is presented here for information only.



Measurement Position 4 – Baiden Farm – Night

The night-time assessment results for MP4 are presented graphically in **Figure 15**.

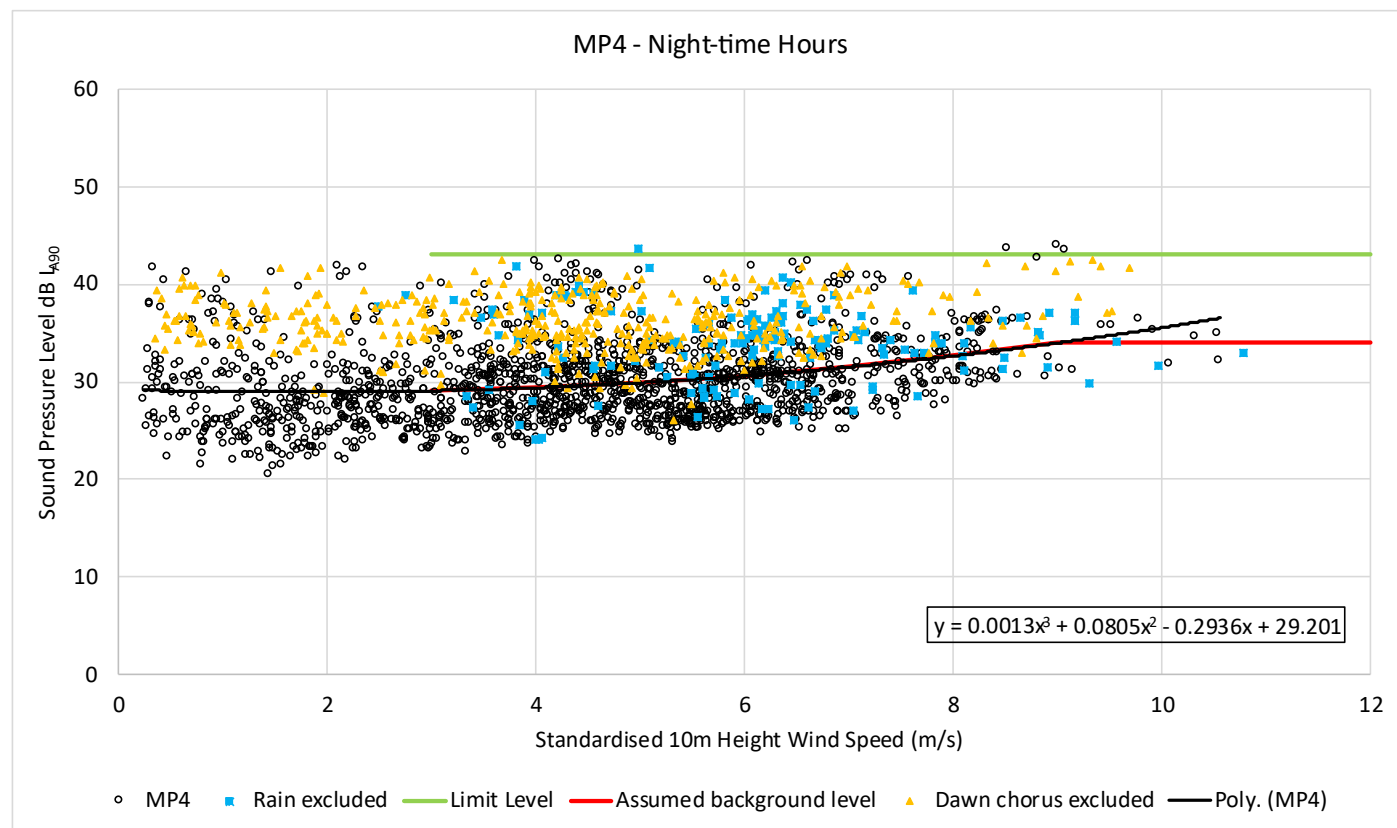


Figure 15 MP4 Night-time Assessment

Table 18 provides the tabulated results for MP4 during night-time.

Daytime	Total	Standardised 10 m Wind Speed (m/s)									
		3	4	5	6	7	8	9	10	11	12
Average Value	$L_{A90, 10min}$	29.1	29.4	29.9	30.6	31.5	32.7	34.0	34.0	34.0	34.0
Derived Limit Level	$L_{A90, 10min}$	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0

Table 18 MP4 Tabulated Night-time Assessment

Data presented for MP4 is not used within the assessment due to the presence of the existing wind turbines and is presented here for information only.



Measurement Position 5 – Pentyla Farm – Daytime

The daytime amenity assessment results for MP5 are presented graphically in **Figure 16**.

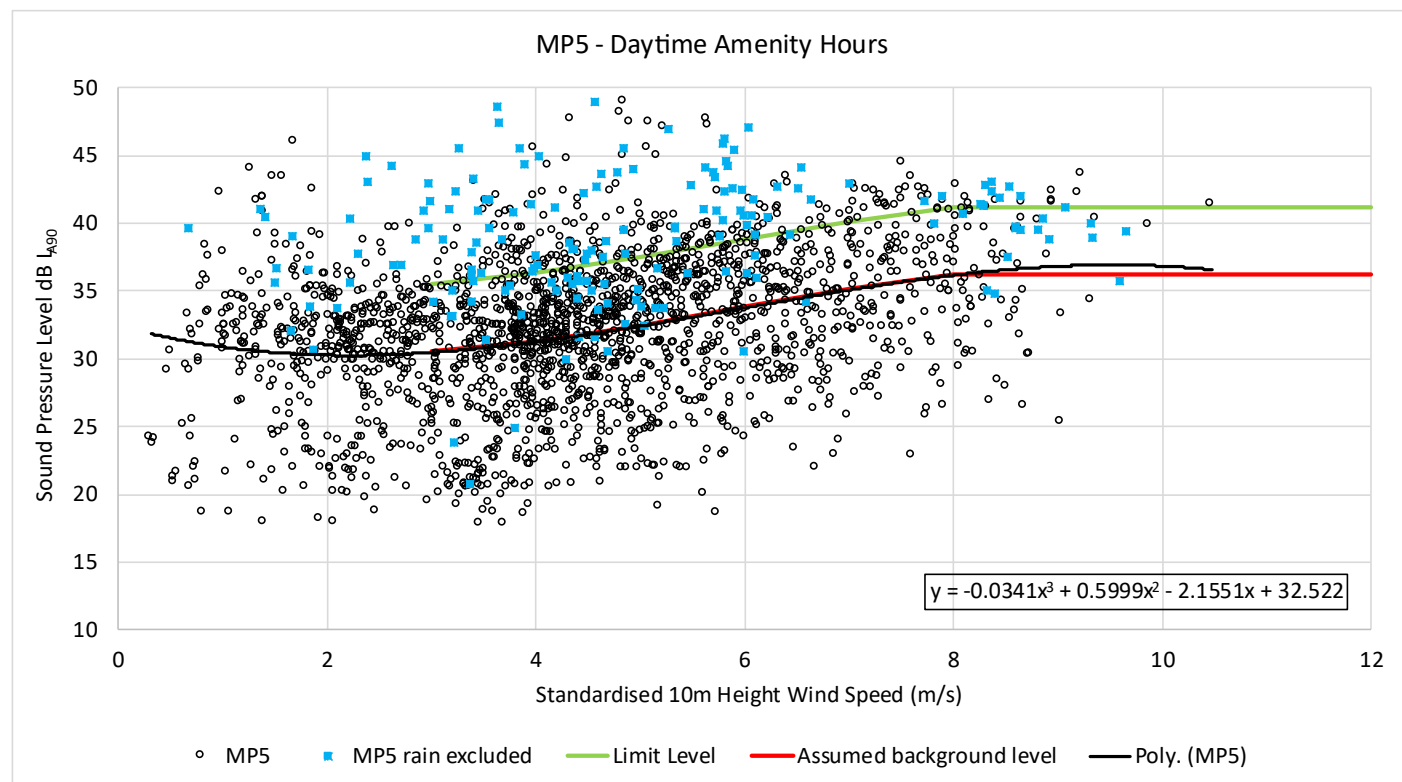


Figure 16 MP5 Daytime Amenity Assessment

Table 19 provides the tabulated results for MP5 during daytime amenity.

Daytime	Total	Standardised 10 m Wind Speed (m/s)									
		3	4	5	6	7	8	9	10	11	12
Average Value	$L_{A90, 10min}$	30.5	31.3	32.5	33.8	35.1	36.2	36.2	36.2	36.2	36.2
Derived Limit Level	$L_{A90, 10min}$	35.5	36.3	37.5	38.8	40.1	41.2	41.2	41.2	41.2	41.2

Table 19 MP5 Tabulated Daytime Amenity Assessment



Measurement Position 5 – Pentyla Farm – Night

The night-time assessment results for MP5 are presented graphically in **Figure 17**.

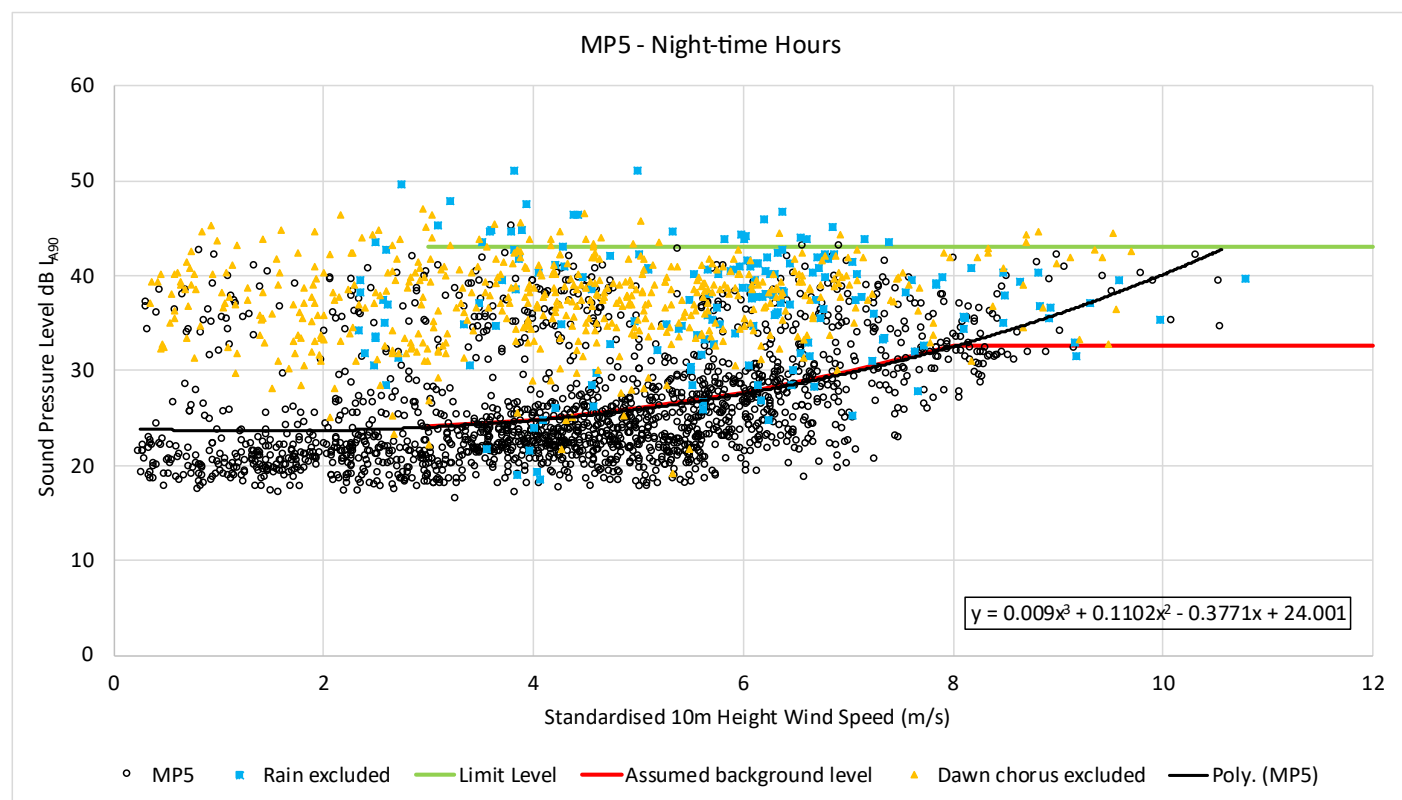


Figure 17 MP5 Night-time Assessment

Table 20 provides the tabulated results for MP5 during night-time.

Daytime	Total	Standardised 10 m Wind Speed (m/s)									
		3	4	5	6	7	8	9	10	11	12
Average Value	$L_{A90, 10min}$	24.1	24.8	26.0	27.6	29.8	32.6	32.6	32.6	32.6	32.6
Derived Limit Level	$L_{A90, 10min}$	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0

Table 20 MP5 Tabulated Night-time Assessment



Measurement Position 6 – Land near Pentre Farm – Daytime

The daytime amenity assessment results for MP6 are presented graphically in **Figure 18**.

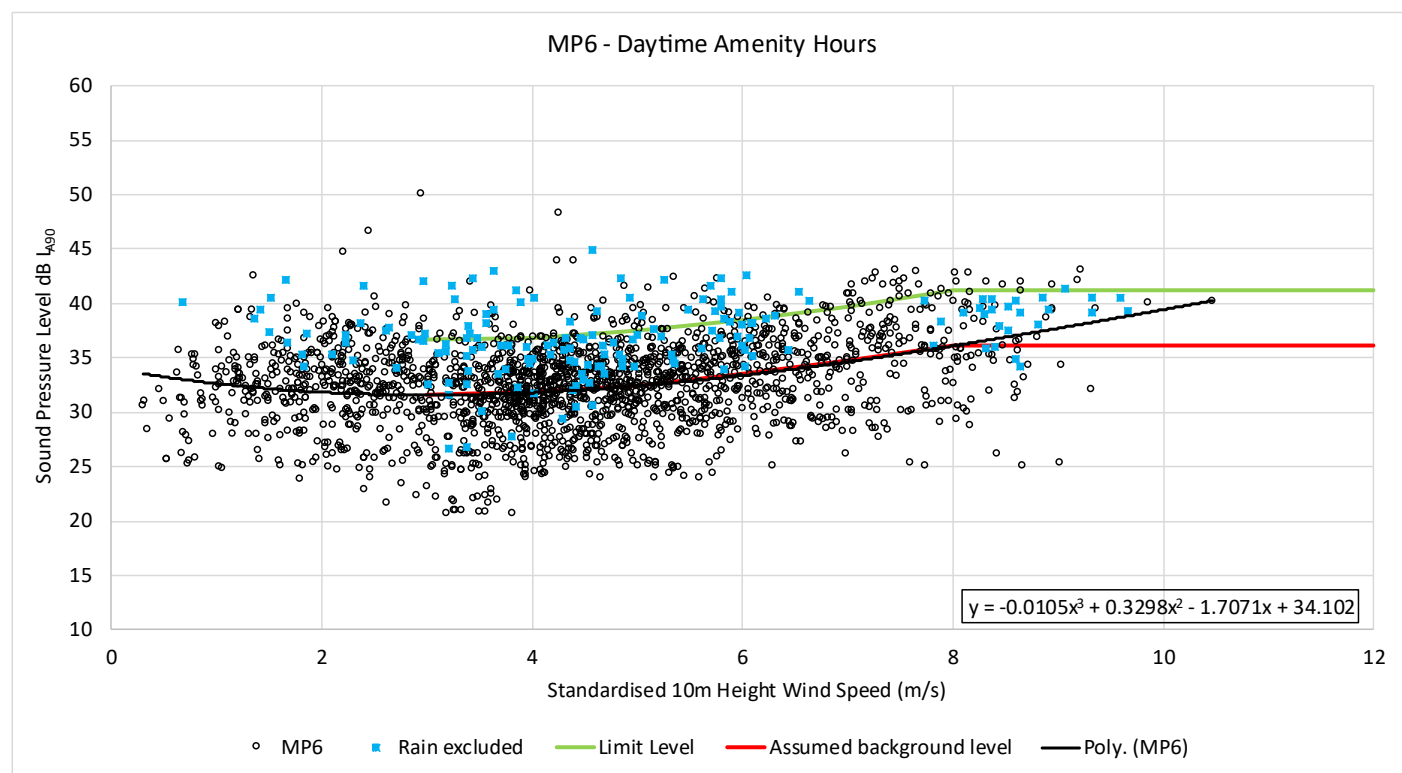


Figure 18 MP6 Daytime Amenity Assessment

Table 21 provides the tabulated results for MP6 during daytime amenity.

Daytime	Total	Standardised 10 m Wind Speed (m/s)									
		3	4	5	6	7	8	9	10	11	12
Average Value	$L_{A90, 10min}$	31.7	31.9	32.5	33.5	34.7	36.2	36.2	36.2	36.2	36.2
Derived Limit Level	$L_{A90, 10min}$	36.7	36.9	37.5	38.5	39.7	41.2	41.2	41.2	41.2	41.2

Table 21 MP6 Tabulated Daytime Amenity Assessment



Measurement Position 6 – Land near Pentre Farm – Night

The night-time assessment results for MP6 are presented graphically in **Figure 19**.

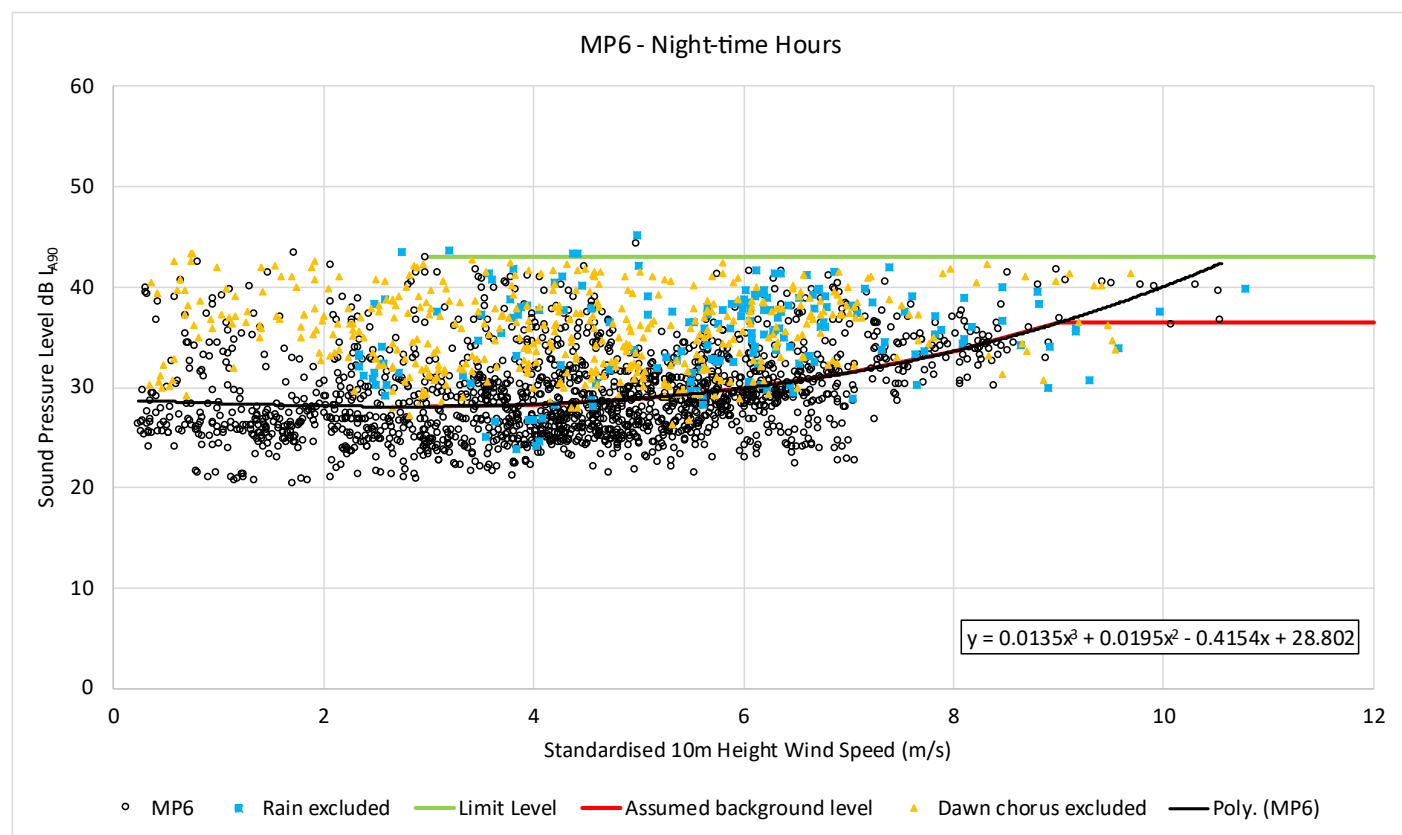


Figure 19 MP6 Night-time Assessment

Table 22 provides the tabulated results for MP6 during night-time.

Daytime	Total	Standardised 10 m Wind Speed (m/s)									
		3	4	5	6	7	8	9	10	11	12
Average Value	$L_{A90, 10min}$	28.1	28.3	28.9	29.9	31.5	33.6	36.5	36.5	36.5	36.5
Derived Limit Level	$L_{A90, 10min}$	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0

Table 22 MP6 Tabulated Night-time Assessment



Measurement Position 7 – The Poultry Farm – Daytime

The daytime amenity assessment results for MP7 are presented graphically in **Figure 20**.

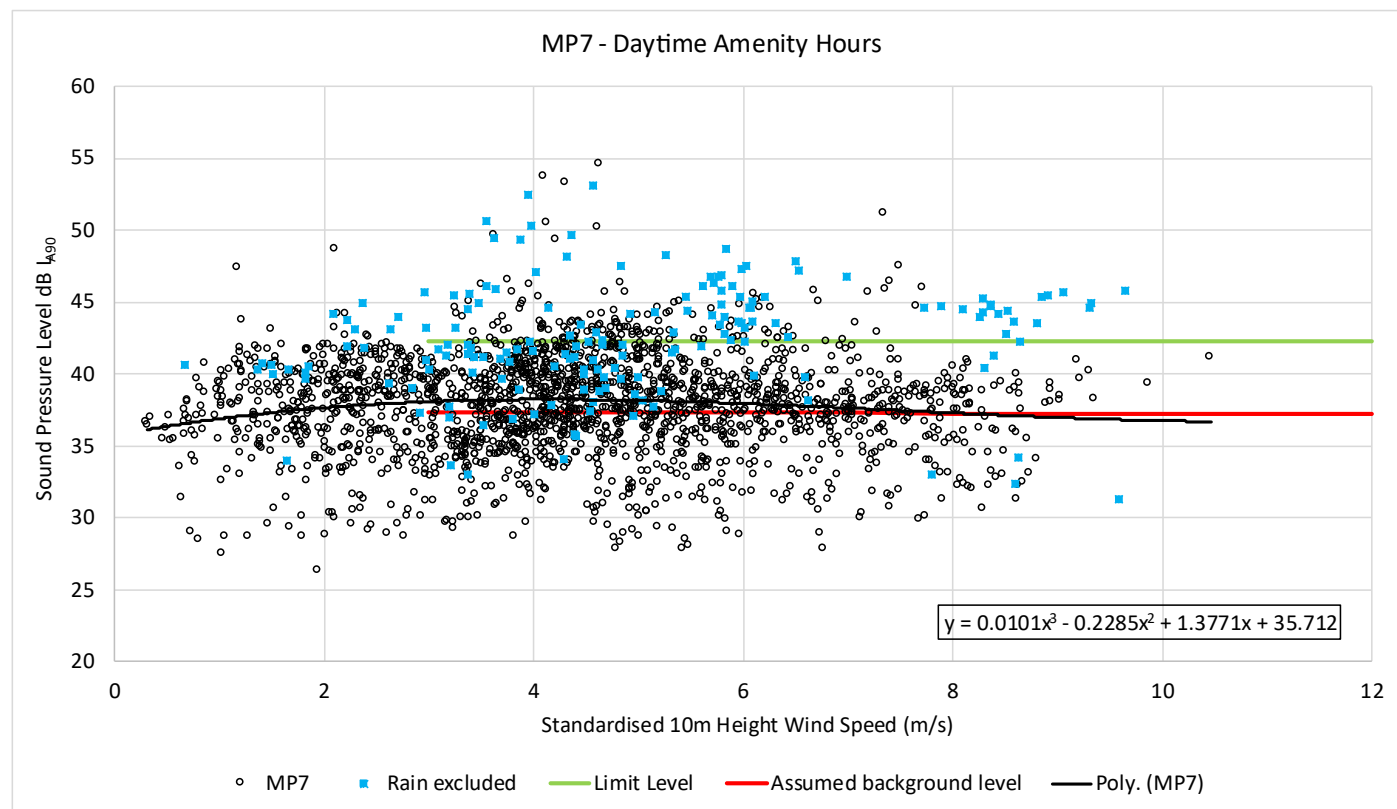


Figure 20 MP7 Daytime Amenity Assessment

Table 23 provides the tabulated results for MP7 during daytime amenity.

Daytime	Total	Standardised 10 m Wind Speed (m/s)									
		3	4	5	6	7	8	9	10	11	12
Average Value	$L_{A90, 10min}$	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3
Derived Limit Level	$L_{A90, 10min}$	42.3	42.3	42.3	42.3	42.3	42.3	42.3	42.3	42.3	42.3

Table 23 MP7 Tabulated Daytime Amenity Assessment



Measurement Position 7 – The Poultry Farm – Night

The night-time assessment results for MP7 are presented graphically in **Figure 21**.

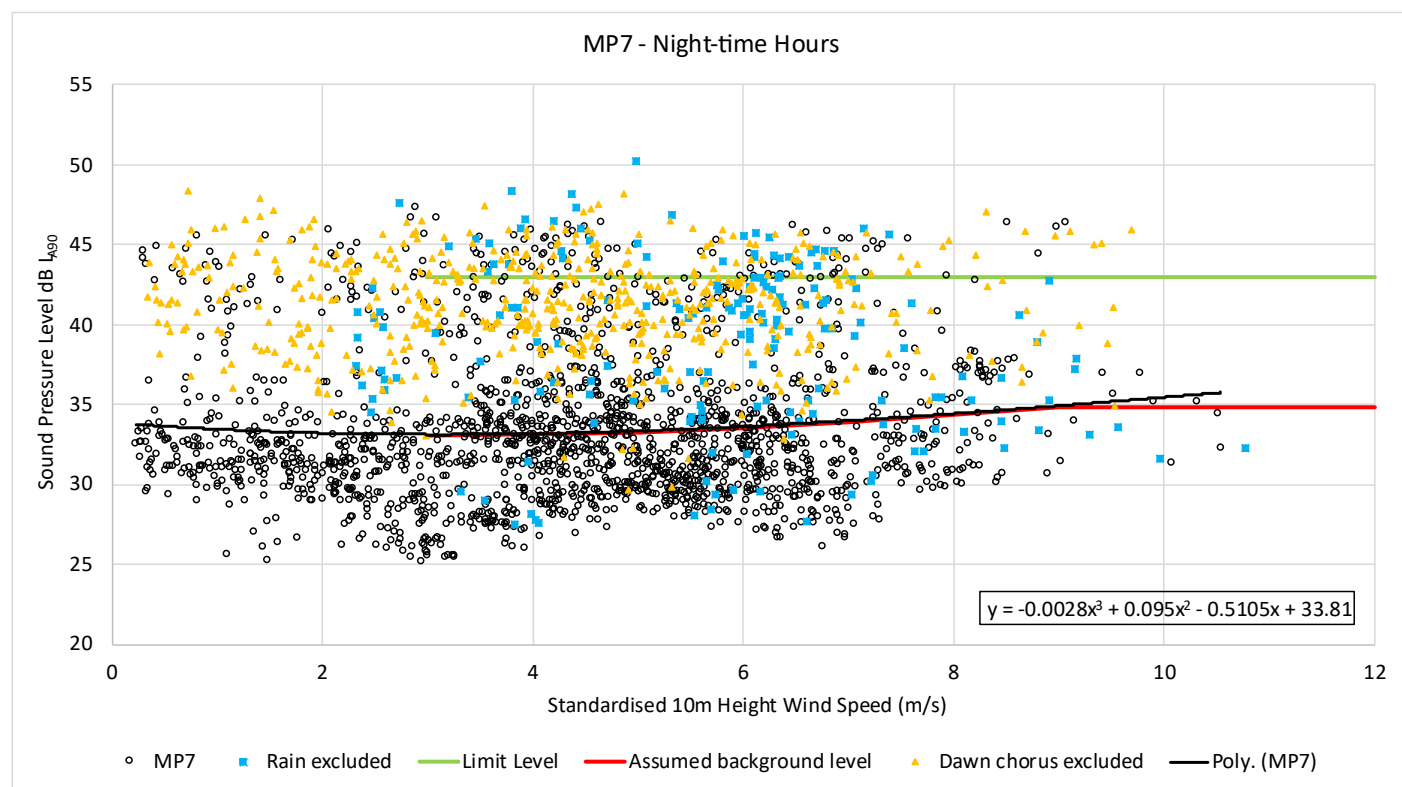


Figure 21 MP7 Night-time Assessment

Table 24 provides the tabulated results for MP7 during night-time.

Daytime	Total	Standardised 10 m Wind Speed (m/s)									
		3	4	5	6	7	8	9	10	11	12
Average Value	$L_{A90, 10min}$	33.1	33.1	33.3	33.6	33.9	34.4	34.9	34.9	34.9	34.9
Derived Limit Level	$L_{A90, 10min}$	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0

Table 24 MP7 Tabulated Night-time Assessment



The following data has been extracted from the noise assessments submitted in support of the planning applications for existing wind farms and is publicly available on the relevant local authority planning portal.

Table 25 provides the tabulated results for Cefn Ydfa during daytime amenity.

Daytime	Total	Standardised 10 m Wind Speed (m/s)									
		3	4	5	6	7	8	9	10	11	12
Average Value	L _{A90} , 10min	37.7	37.9	38.4	39.1	40.0	41.0	42.0	43.1	44.2	44.2
Derived Limit Level	L _{A90} , 10min	42.7	42.9	43.4	44.1	45.0	46.0	47.0	48.1	49.2	49.2

Table 25 Cefn Ydfa Tabulated Daytime Assessment

Table 26 provides the tabulated results for Cefn Ydfa during night-time.

Daytime	Total	Standardised 10 m Wind Speed (m/s)									
		3	4	5	6	7	8	9	10	11	12
Average Value	L _{A90} , 10min	35.3	35.3	35.6	36.4	37.5	39.1	41.0	43.3	46.0	46.0
Derived Limit Level	L _{A90} , 10min	43.0	43.0	43.0	43.0	43.0	44.1	46.0	48.3	51.0	51.0

Table 26 Cefn Ydfa Tabulated Night-time Assessment

Table 27 provides the tabulated results for Gelli Las Farm during daytime amenity.

Daytime	Total	Standardised 10 m Wind Speed (m/s)									
		3	4	5	6	7	8	9	10	11	12
Average Value	L _{A90} , 10min	35.6	35.3	35.6	36.3	37.4	38.6	39.8	40.8	41.4	41.4
Derived Limit Level	L _{A90} , 10min	40.6	40.3	40.6	41.3	42.4	43.6	44.8	45.8	46.4	46.4

Table 27 Gelli Las Farm Tabulated Daytime Assessment

Table 28 provides the tabulated results for Gelli Las Farm during night-time.

Daytime	Total	Standardised 10 m Wind Speed (m/s)									
		3	4	5	6	7	8	9	10	11	12
Average Value	L _{A90} , 10min	34.2	33.8	34.0	34.7	35.6	36.7	37.6	38.4	38.6	38.6
Derived Limit Level	L _{A90} , 10min	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.4	43.6	43.6

Table 28 Gelli Las Farm Tabulated Night-time Assessment



Results – BS4142 Background Sound Levels

BS 4142:2014+A1:2019 'Methods for rating and assessing industrial and commercial sound' defines the methods for rating and assessing noise from industrial or commercial sources. The prescribed methodology requires the noise levels generated by the development to be assessed against the measured pre-development background sound levels at the surrounding receptor locations. Typically, the greater the difference between the rating level and the background sound level, the greater the magnitude of the impact.

Table 29 presents the ambient and representative background sound levels for each baseline monitoring location. These levels have been determined through the statistical analysis of background ($L_{A90,T}$) measurements recorded during the noise survey to provide a typical representative background noise level at each measurement location for both daytime (07:00 to 23:00) and night-time (23:00 to 07:00), in line with the guidance provided within BS 4142:2014+A1:2019. This excludes periods where weather conditions were unsuitable for noise monitoring.

ID	Measurement location	Ambient Sound Level, dB $L_{Aeq, T}$		Representative Background Sound Level, dB $L_{A90, T}$	
		Daytime	Night-time	Daytime	Night-time
MP1	Land near Uchaf Farm	51	46	25	24
MP2	Maescadlawr	45	43	29	24
MP3	Pen-twyn	41	40	32	30
MP4	Baiden Farm	48	41	32	26
MP5	Pentyla Farm	42	42	22	20
MP6	Land near Pentre Farm	48	39	26	25
MP7	The Poultry Farm	44	43	33	29

Table 29 Representative Background Sound Levels

The daytime and night-time statistical analysis for each of the measurement positions are presented in the following figures.



Measurement Position 1 – Land near Uchaf Farm

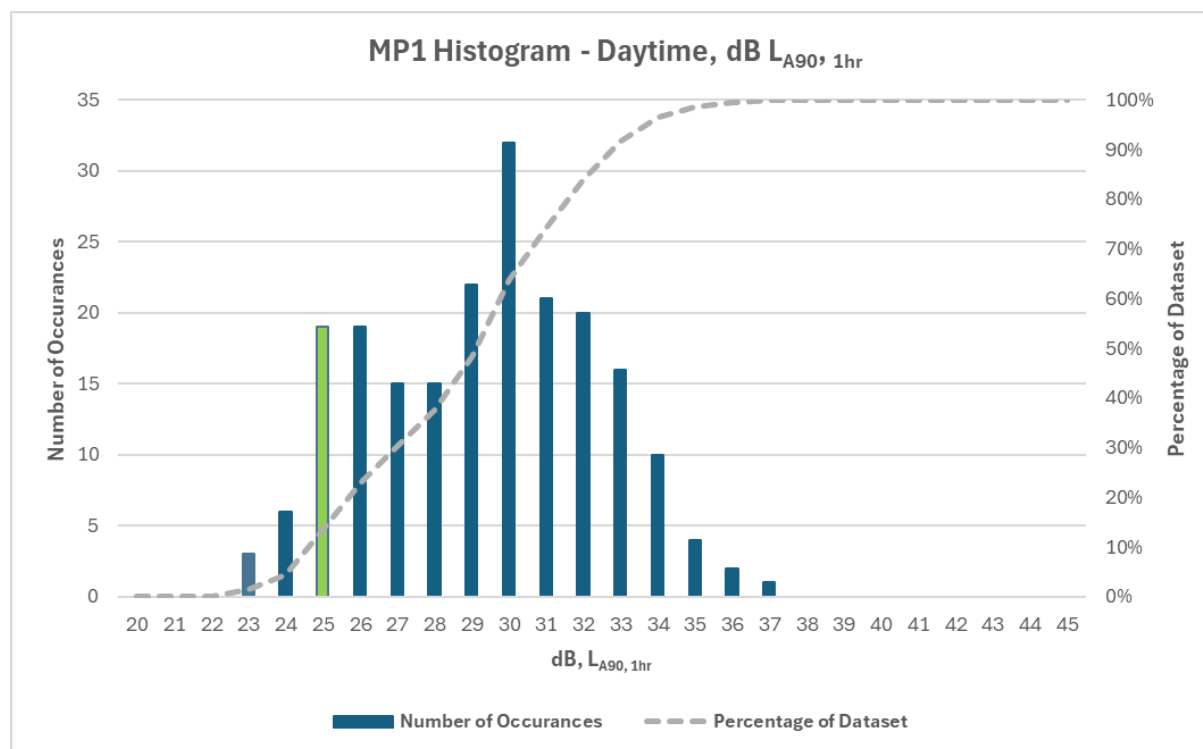


Figure 22 Statistical Analysis – MP1 Daytime

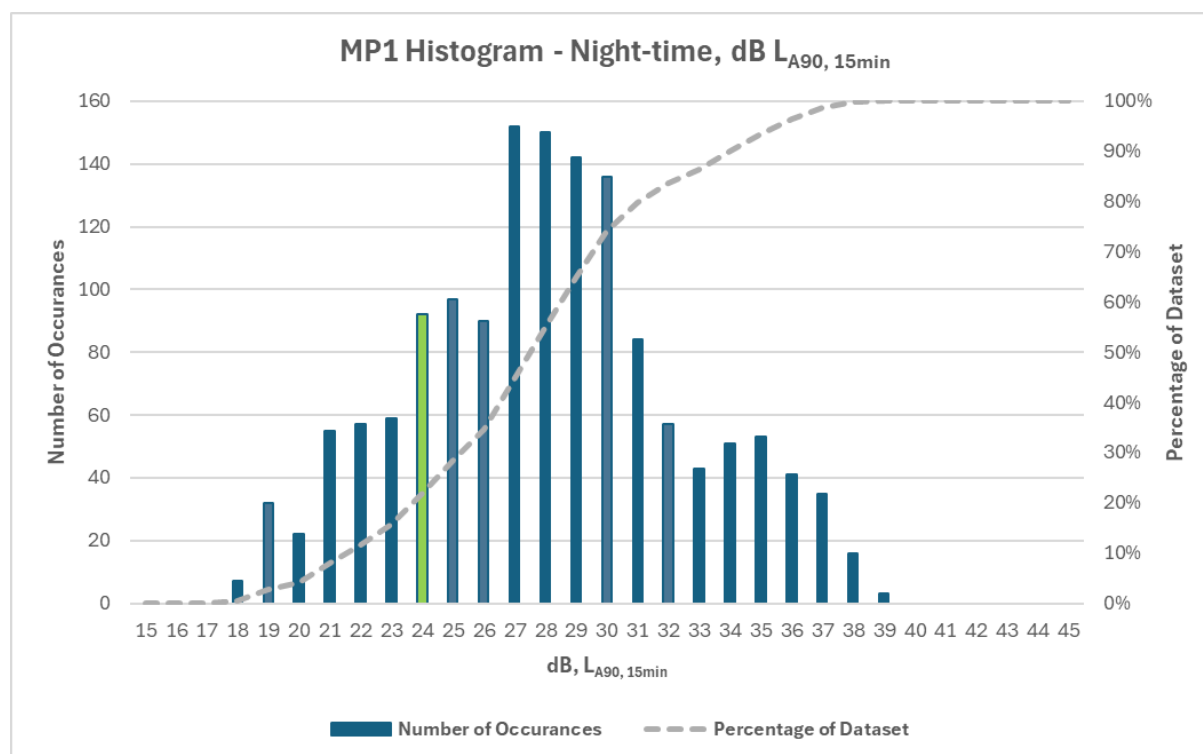


Figure 23 Statistical Analysis – MP1 Night-time



Measurement Position 2 – Maescadlawr

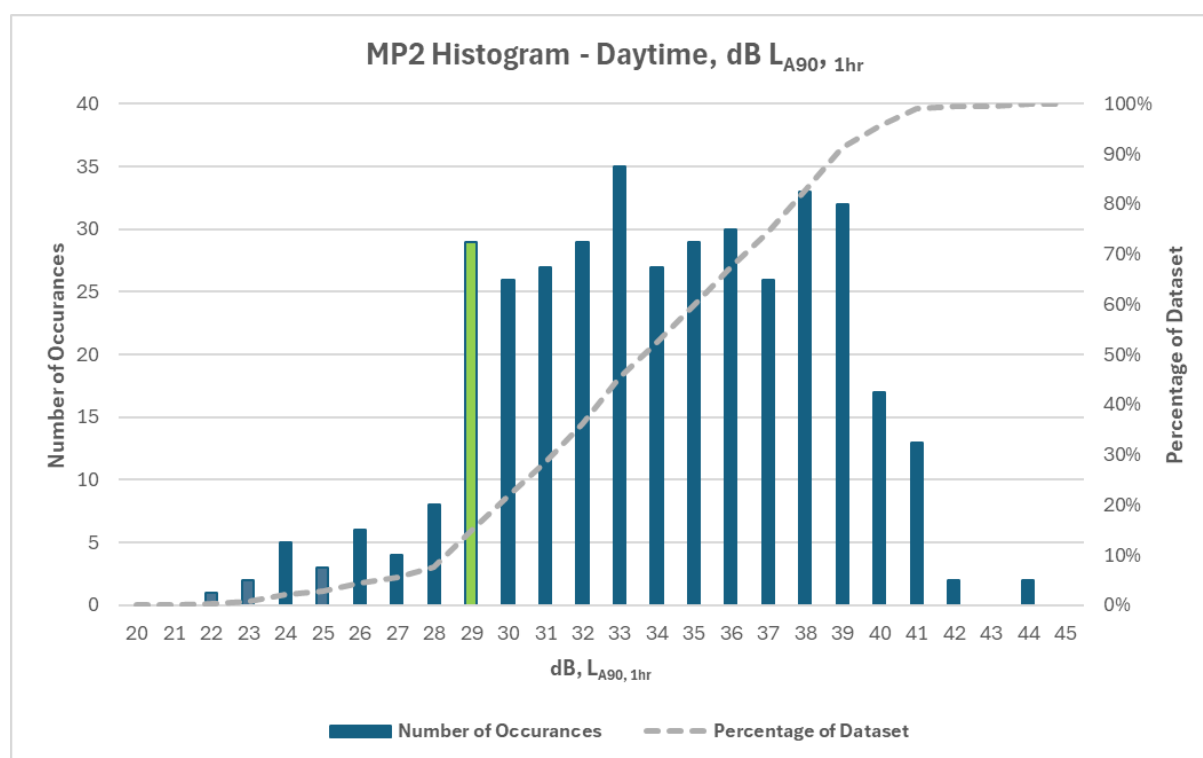


Figure 24 Statistical Analysis – MP2 Daytime

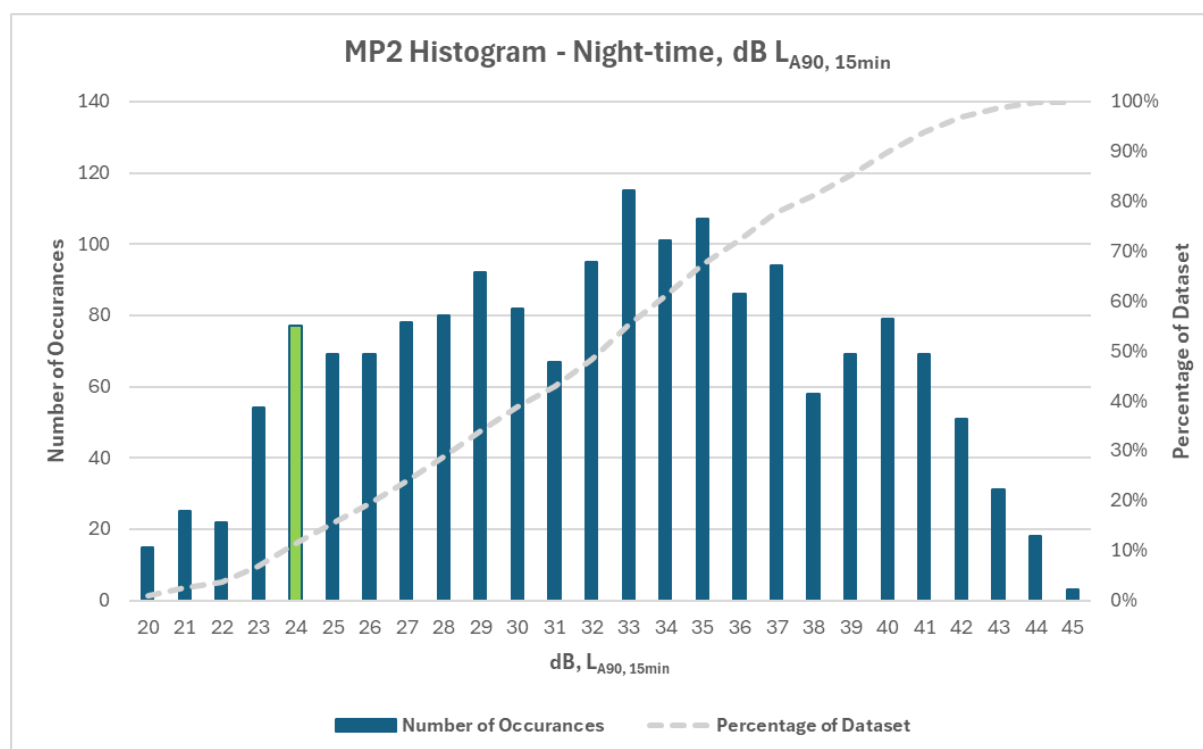


Figure 25 Statistical Analysis – MP2 Night-time



Measurement Position 3 – Pen-twyn

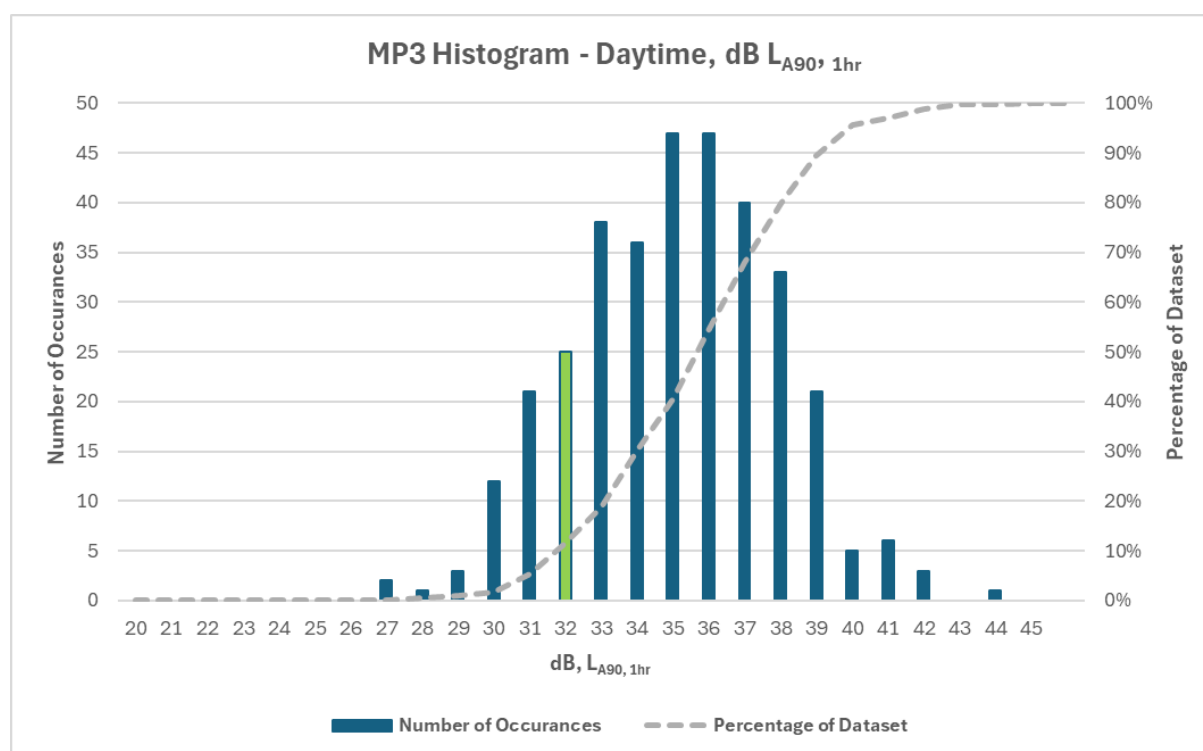


Figure 26 Statistical Analysis – MP3 Daytime

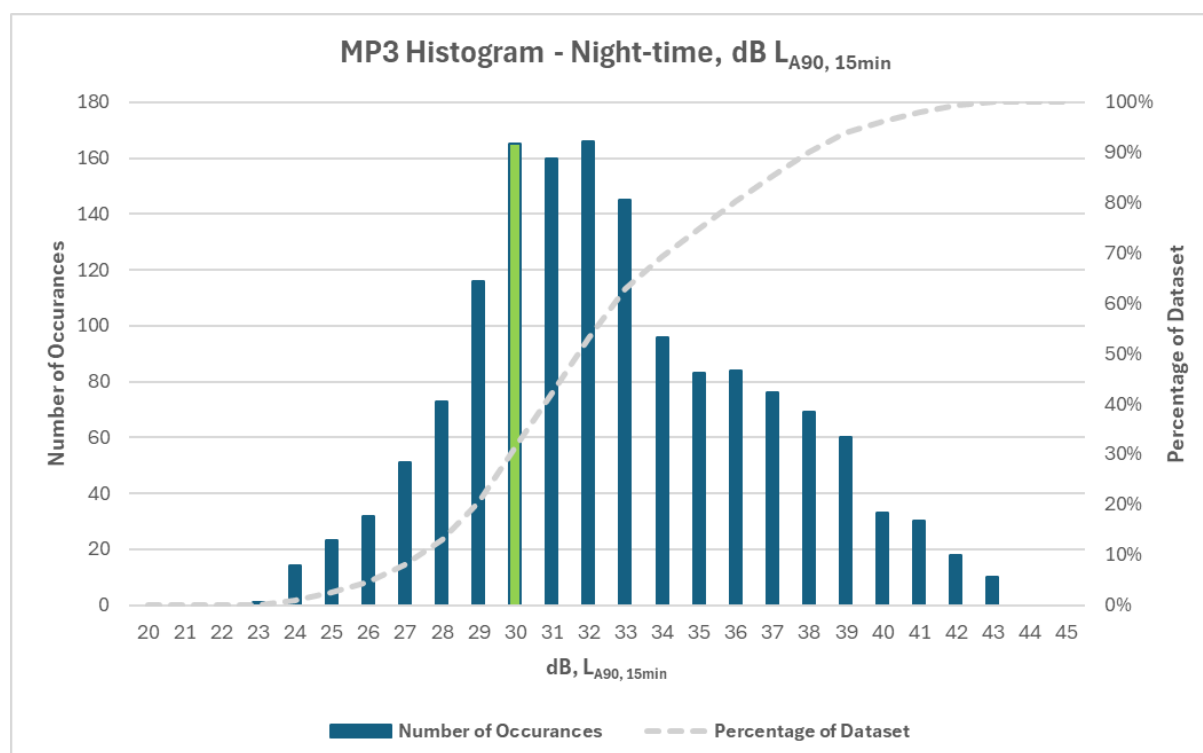


Figure 27 Statistical Analysis – MP3 Night-time



Measurement Position 4 – Baiden Farm

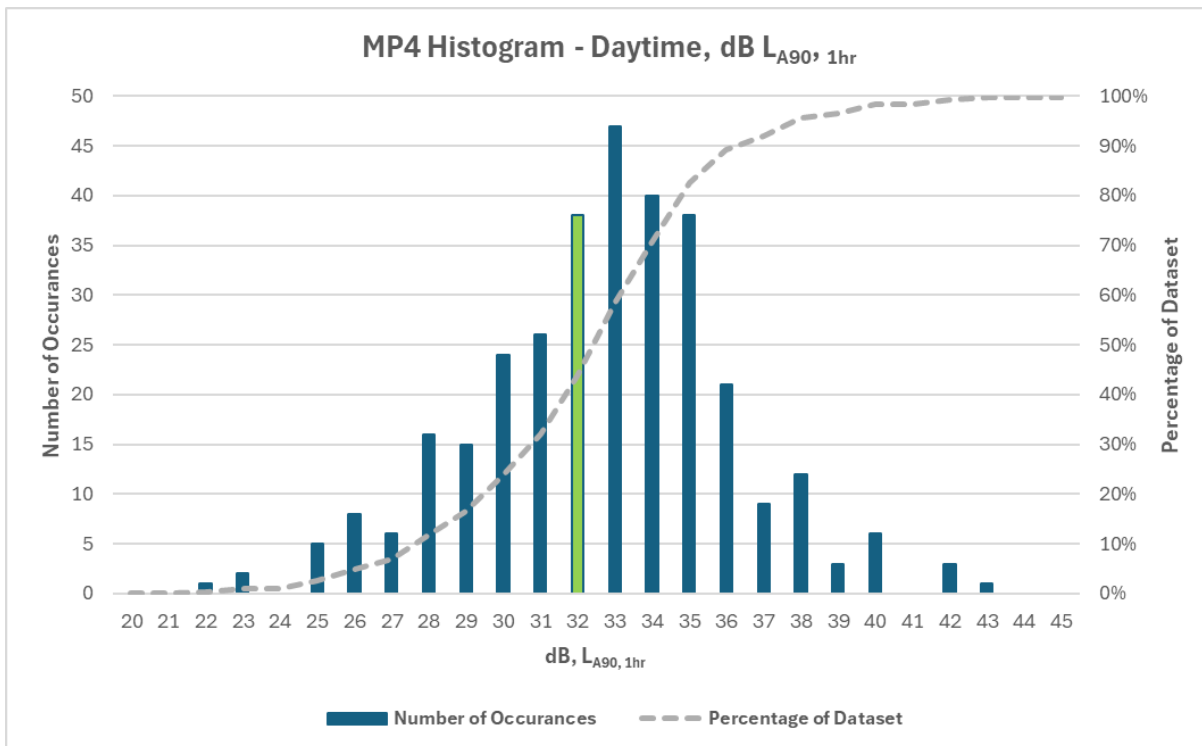


Figure 28 Statistical Analysis – MP4 Daytime

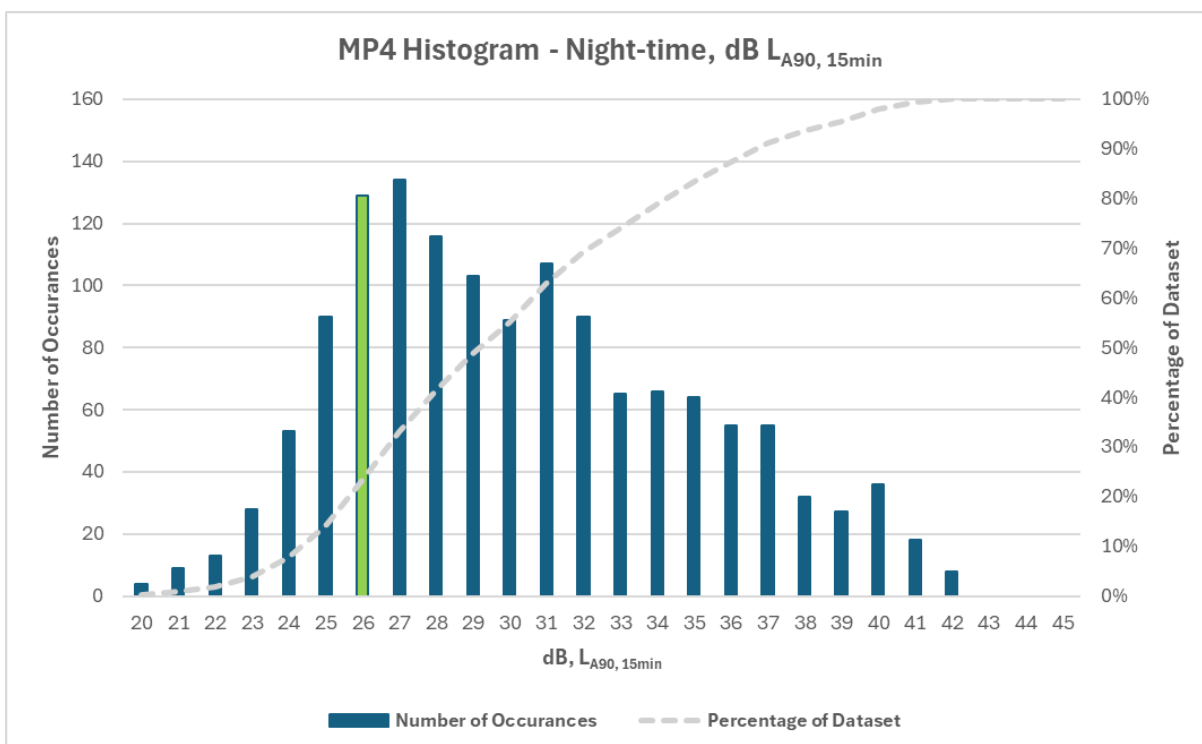


Figure 29 Statistical Analysis – MP4 Night-time



Measurement Position 5 – Pentyla Farm

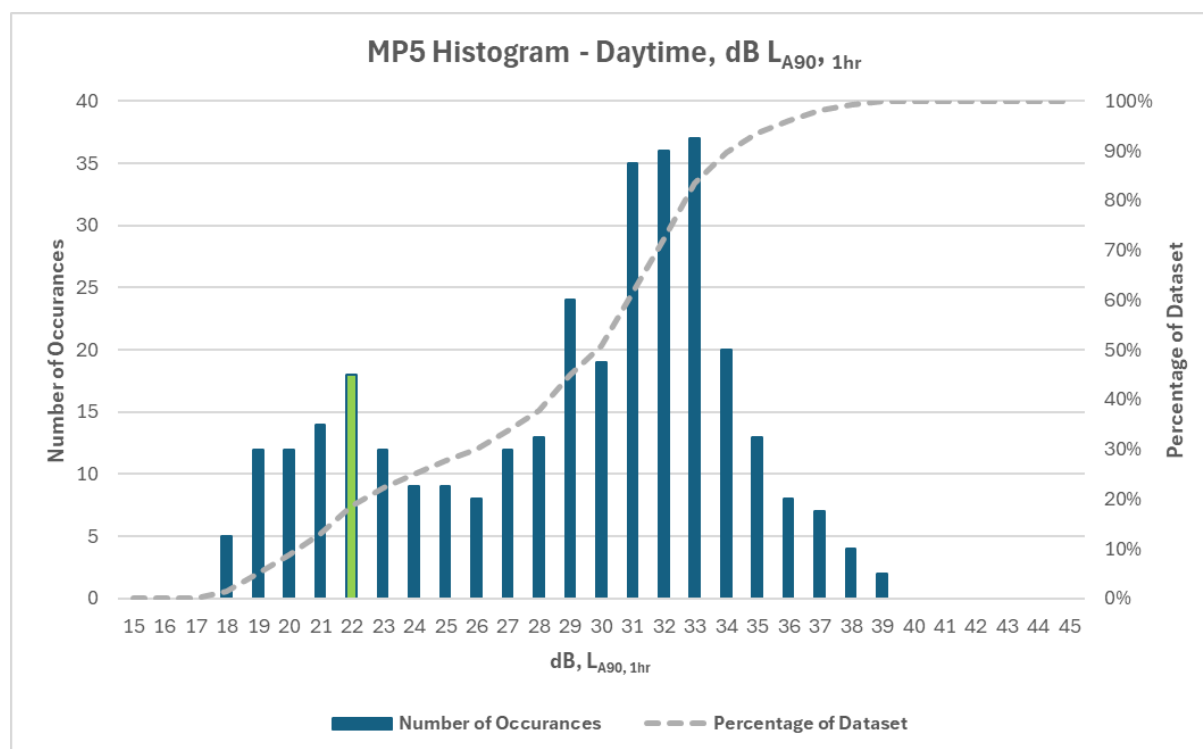


Figure 30 Statistical Analysis – MP5 Daytime

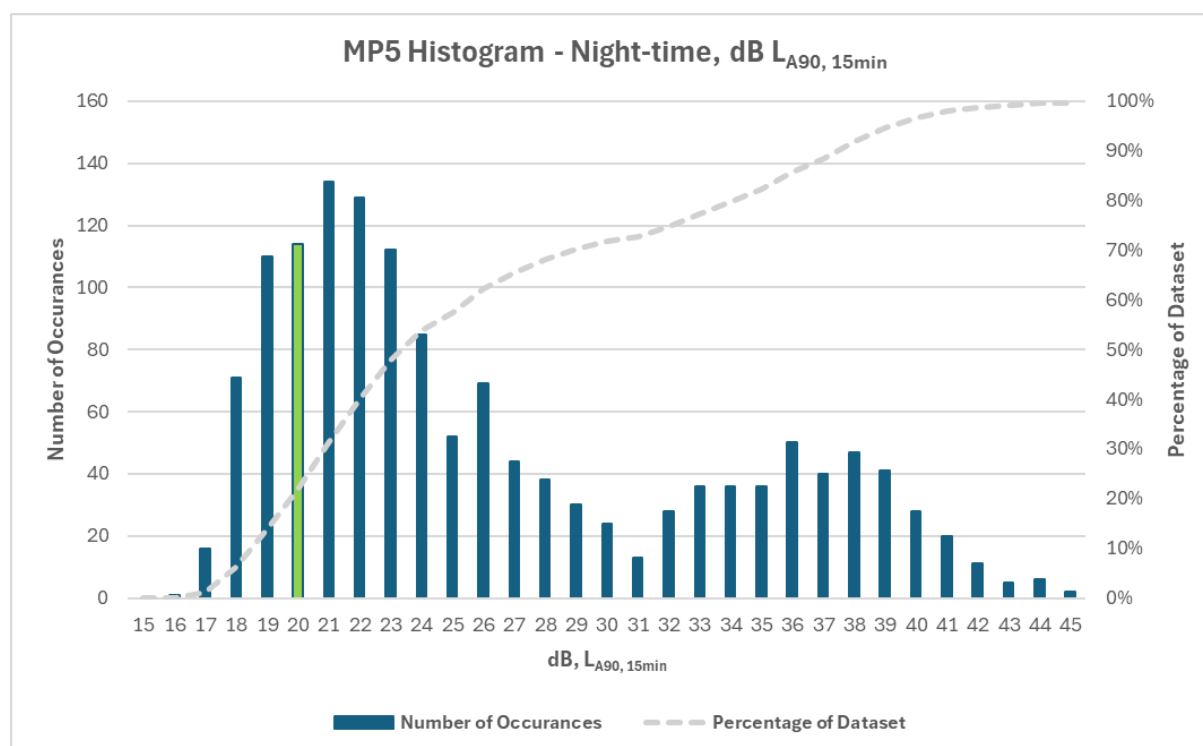


Figure 31 Statistical Analysis – MP5 Night-time



Measurement Position 6 – Land near Pentre Farm

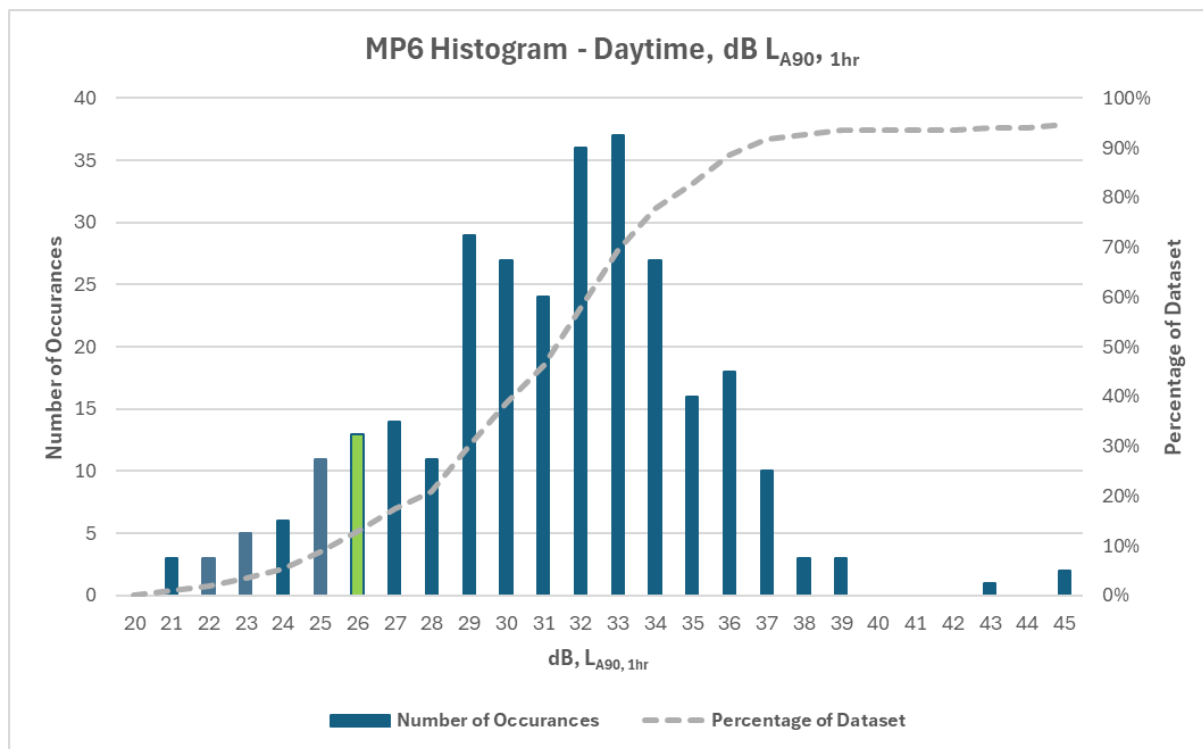


Figure 32 Statistical Analysis – MP6 Daytime

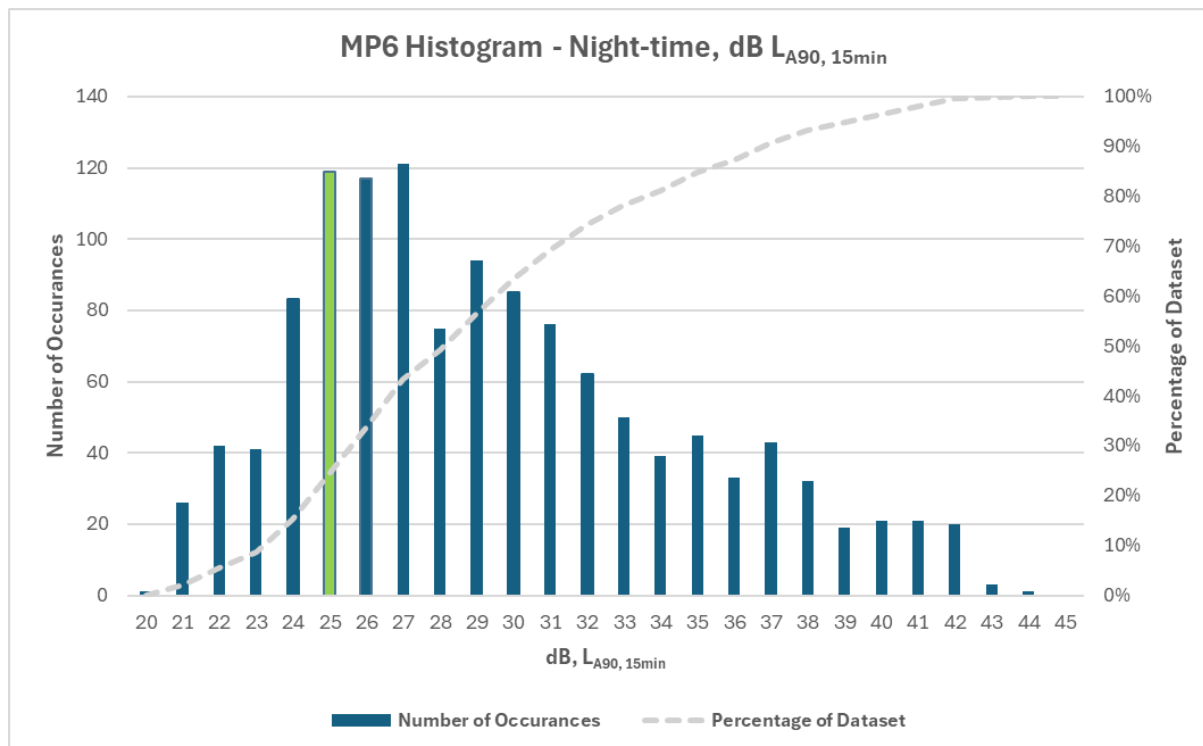


Figure 33 Statistical Analysis – MP6 Night-time



Measurement Position 7 – The Poultry Farm

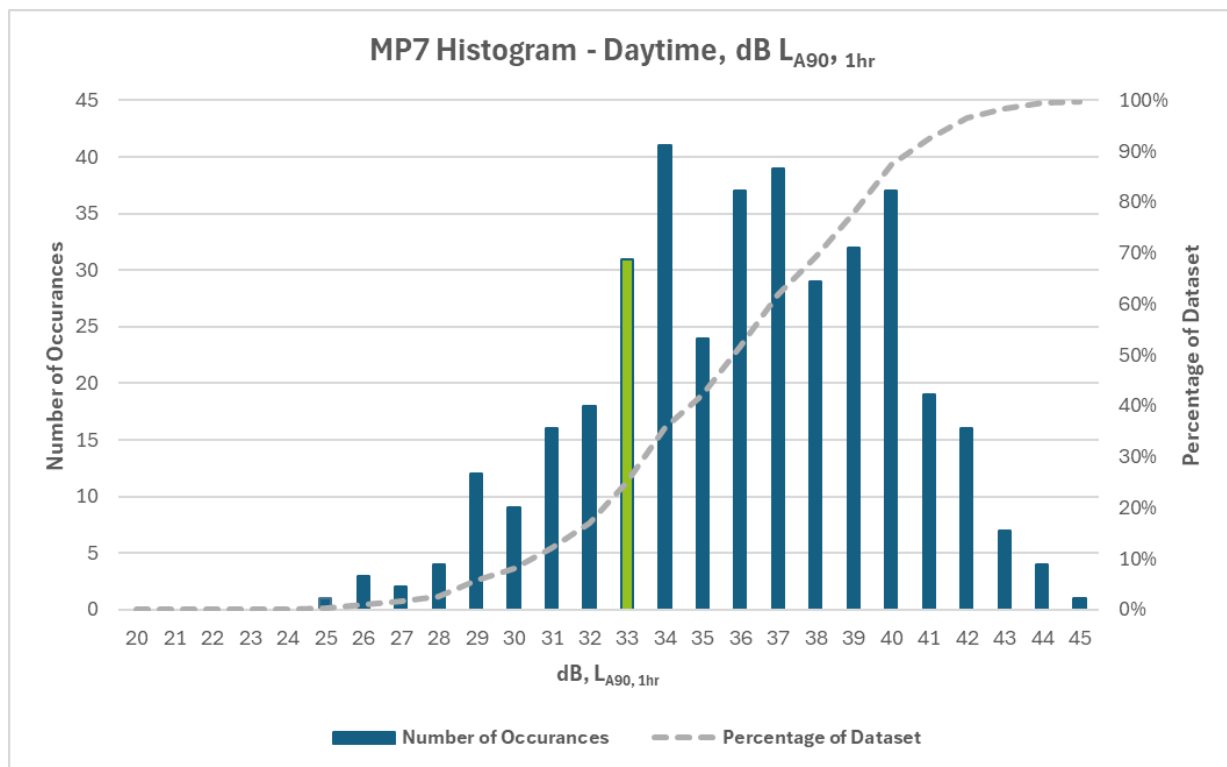


Figure 34 Statistical Analysis – MP7 Daytime

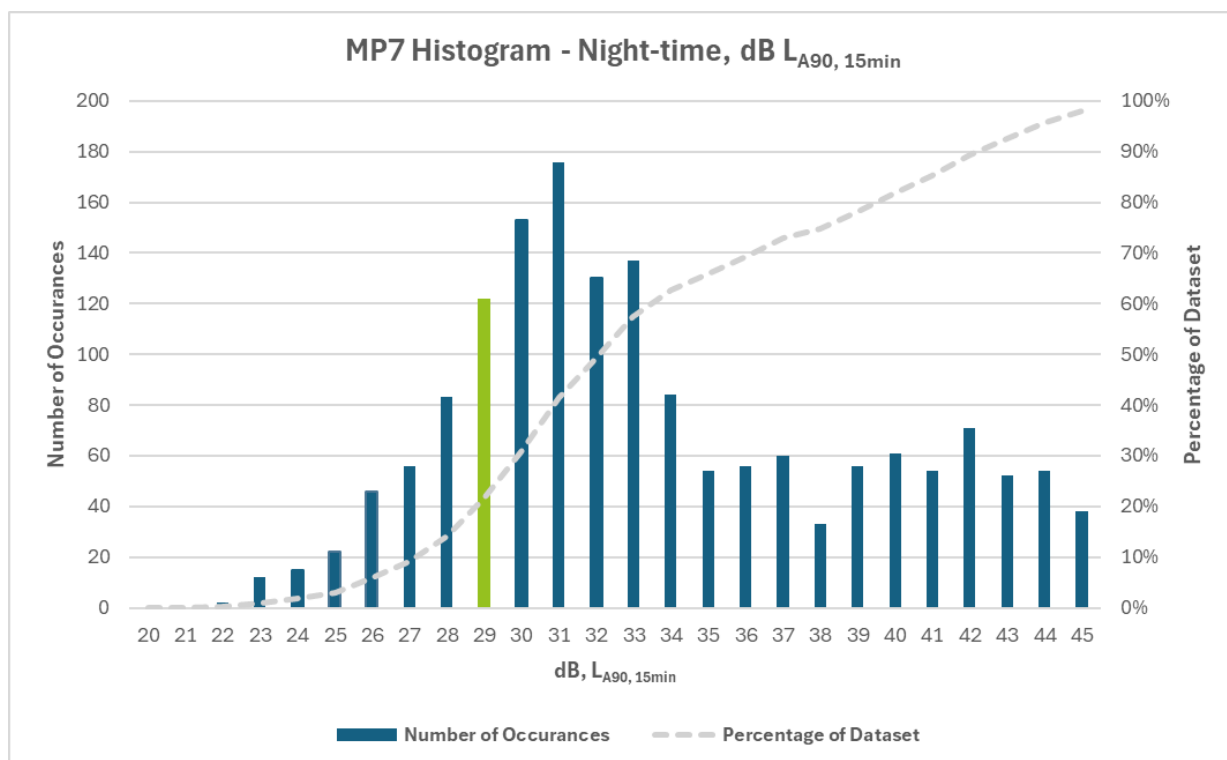


Figure 35 Statistical Analysis – MP7 Night-time





The time history graphs for each of the measurement positions are presented in the following figures.



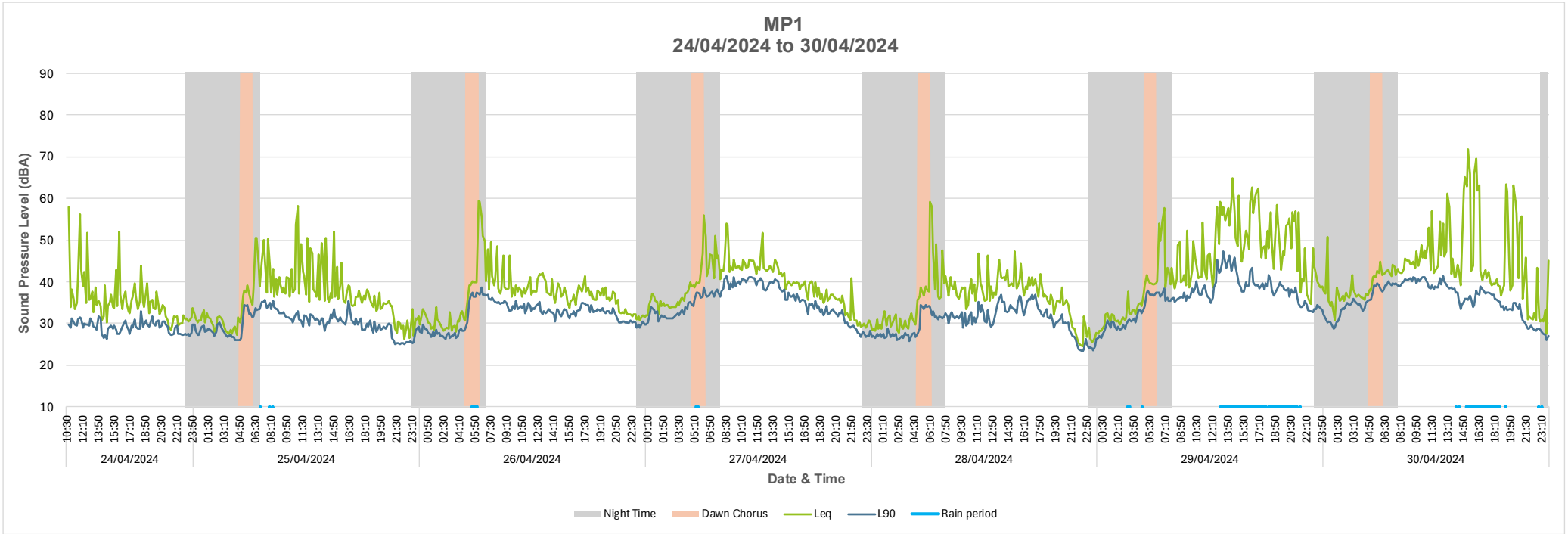


Figure 36 MP1 Time history (24/04/2024 – 30/04/2024)



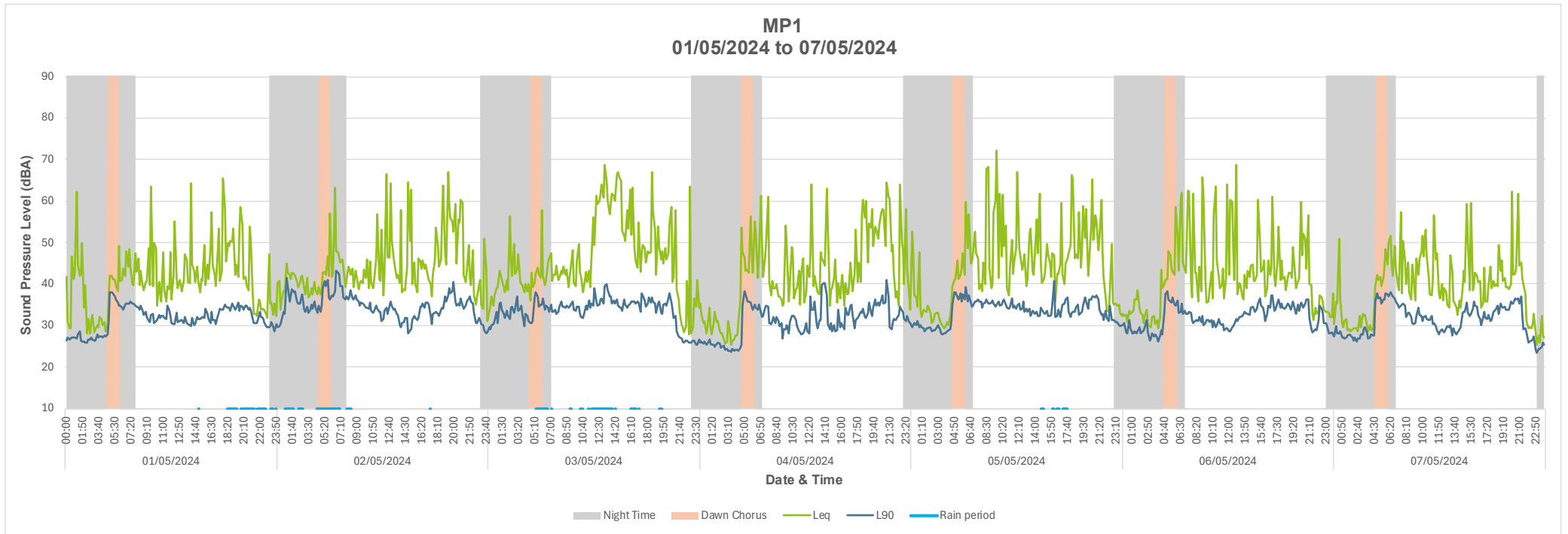


Figure 37 MP1 Time history (01/05/2024 – 07/05/2024)



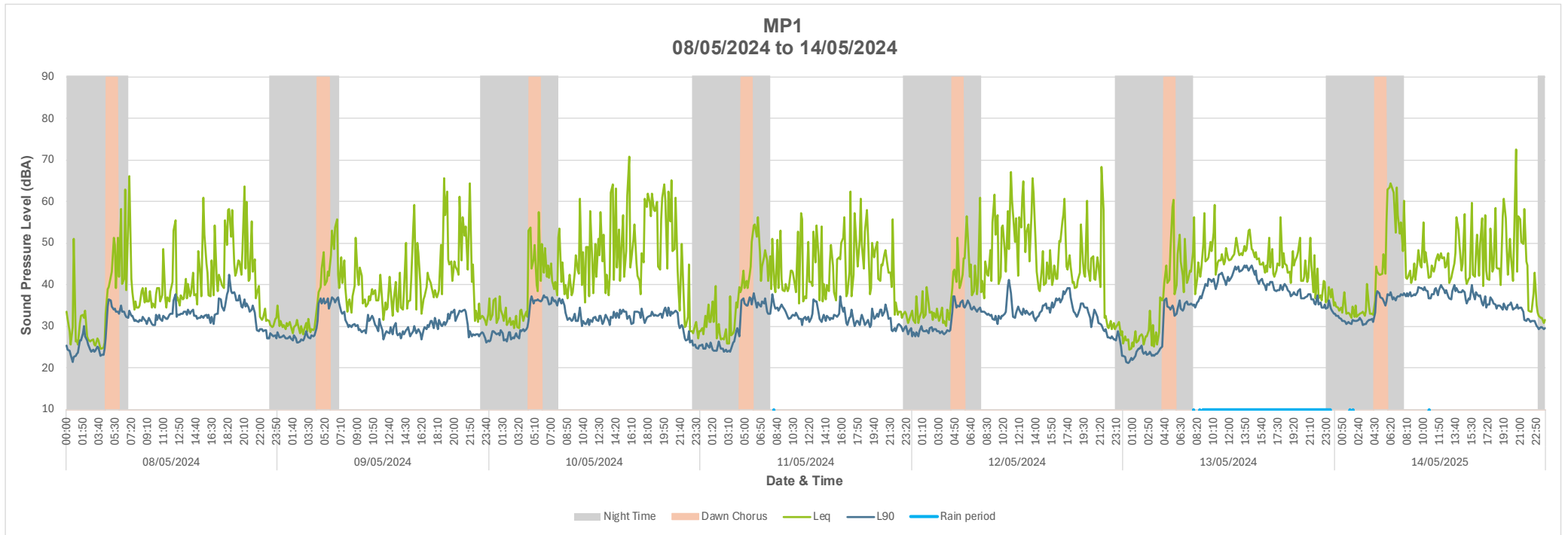


Figure 38 MP1 Time history (08/05/2024 – 14/05/2024)



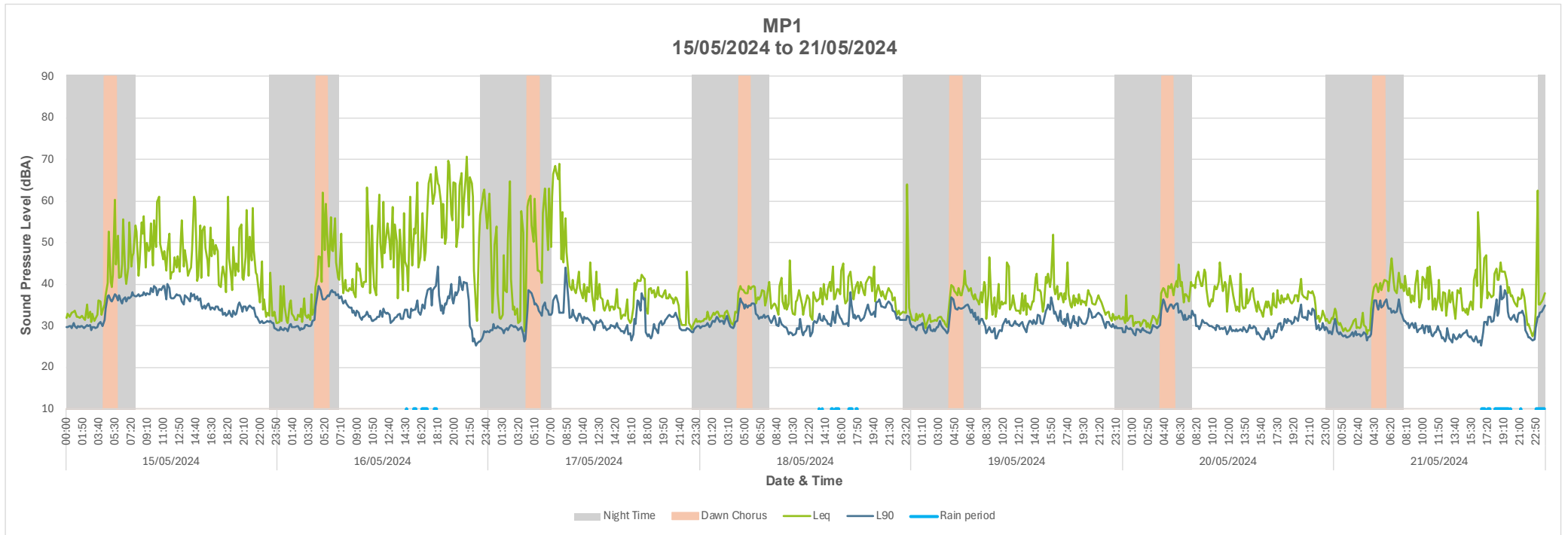


Figure 39 MP1 Time history (15/05/2024 – 21/05/2024)



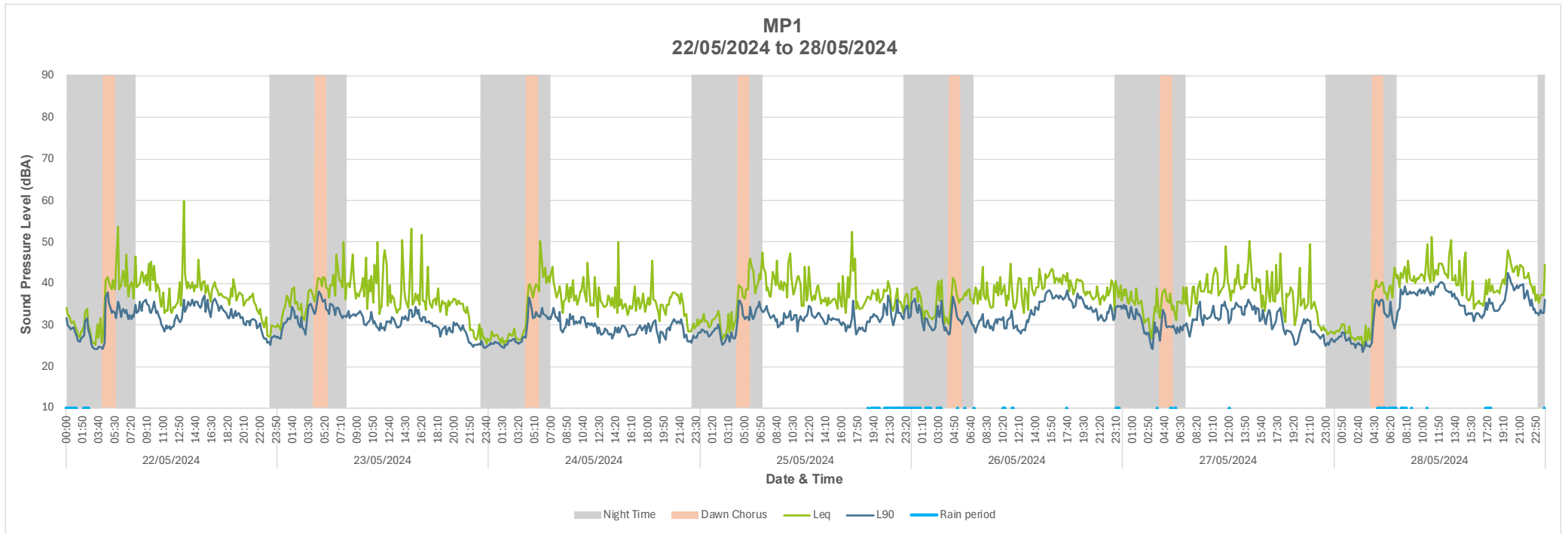


Figure 40 MP1 Time history (22/05/2024 – 28/05/2024)



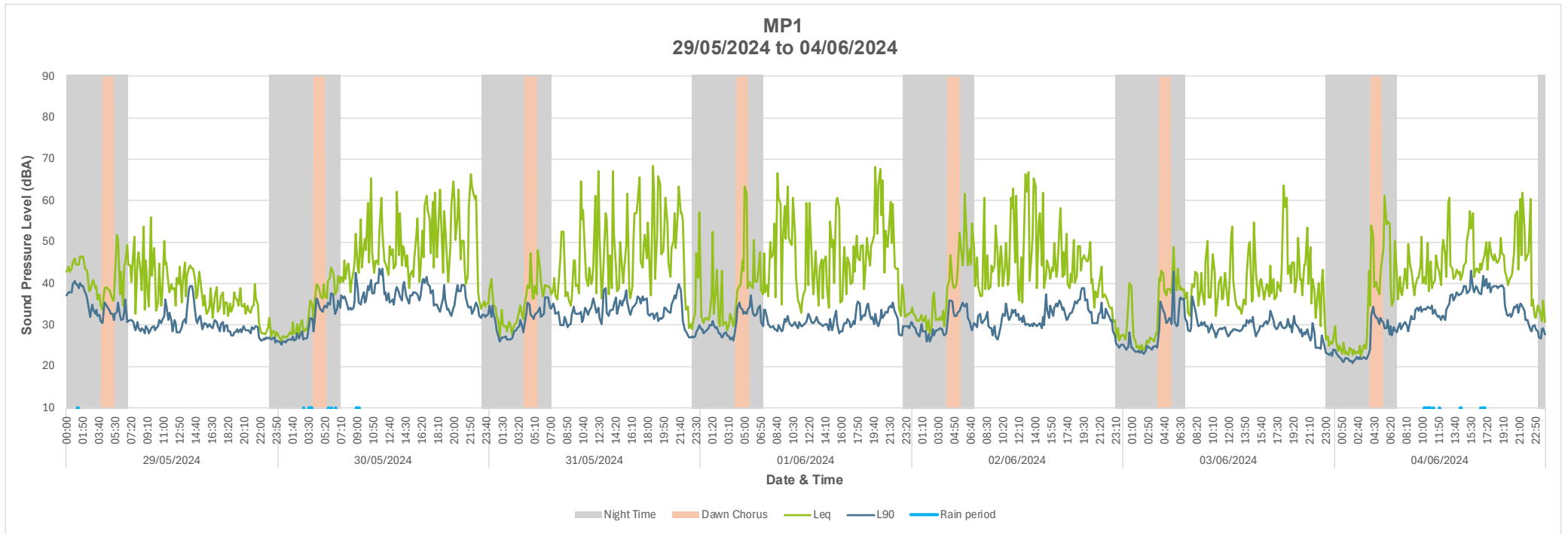


Figure 41 MP1 Time history (29/05/2024 – 04/06/2024)



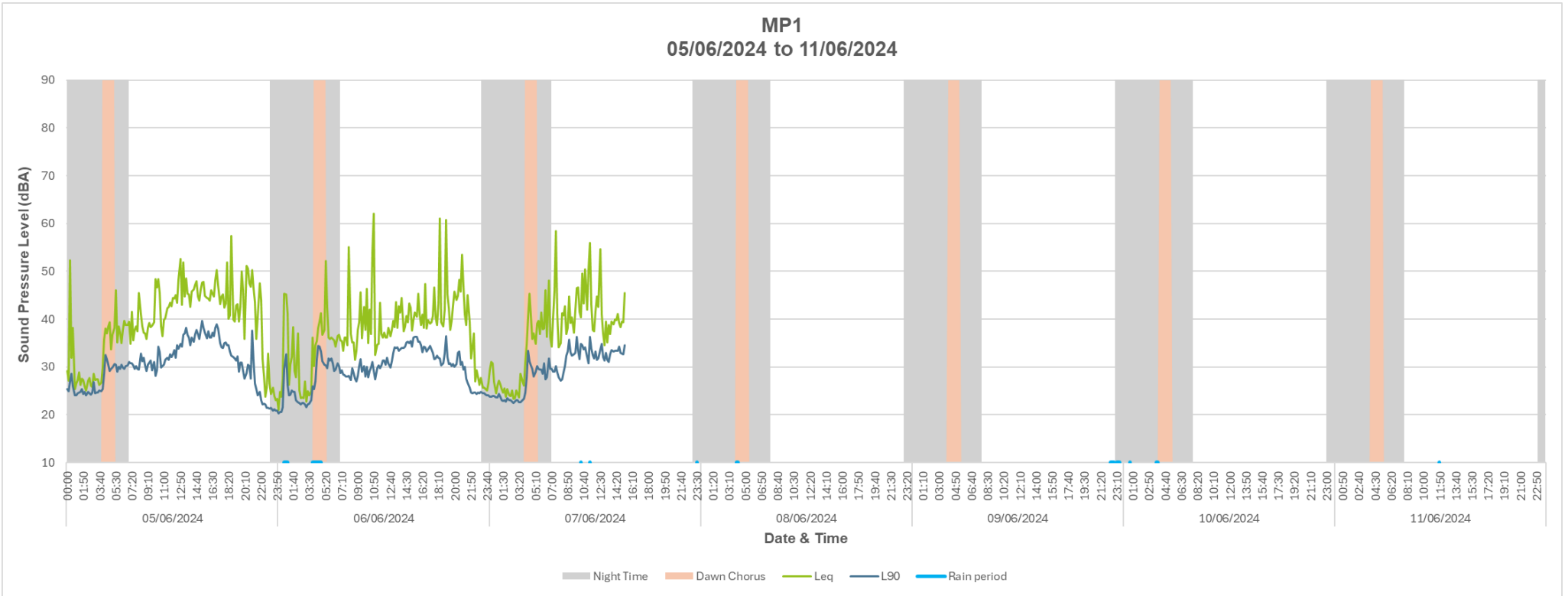


Figure 42 MP1 Time history (05/06/2024 – 11/06/2024)



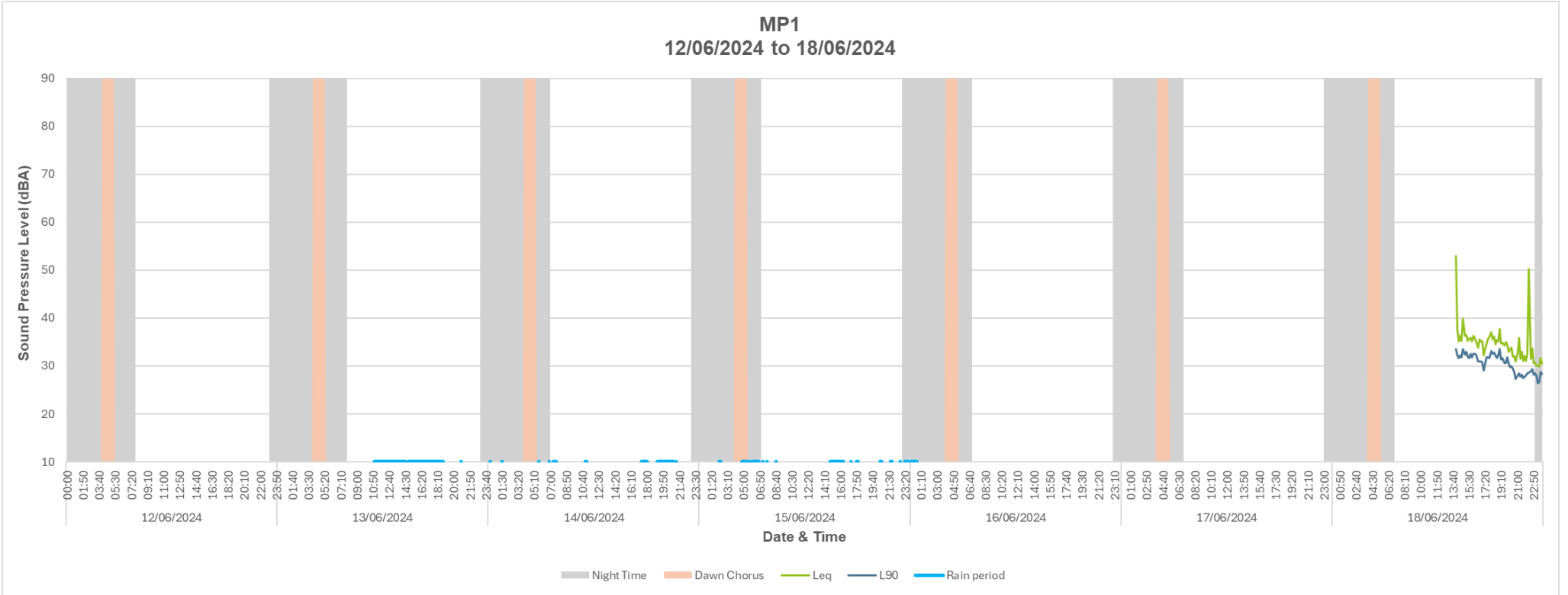


Figure 43 MP1 Time history (12/06/2024 – 18/06/2024)



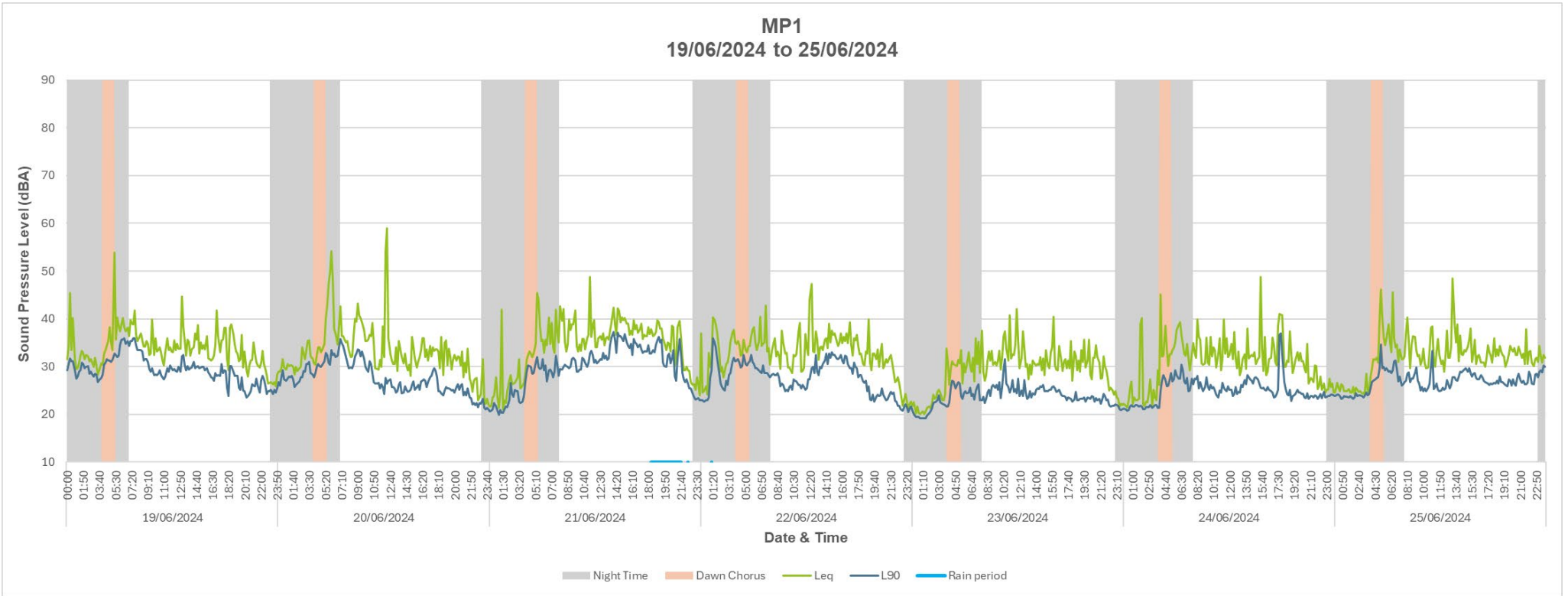


Figure 44 MP1 Time history (19/06/2024 – 25/06/2024)



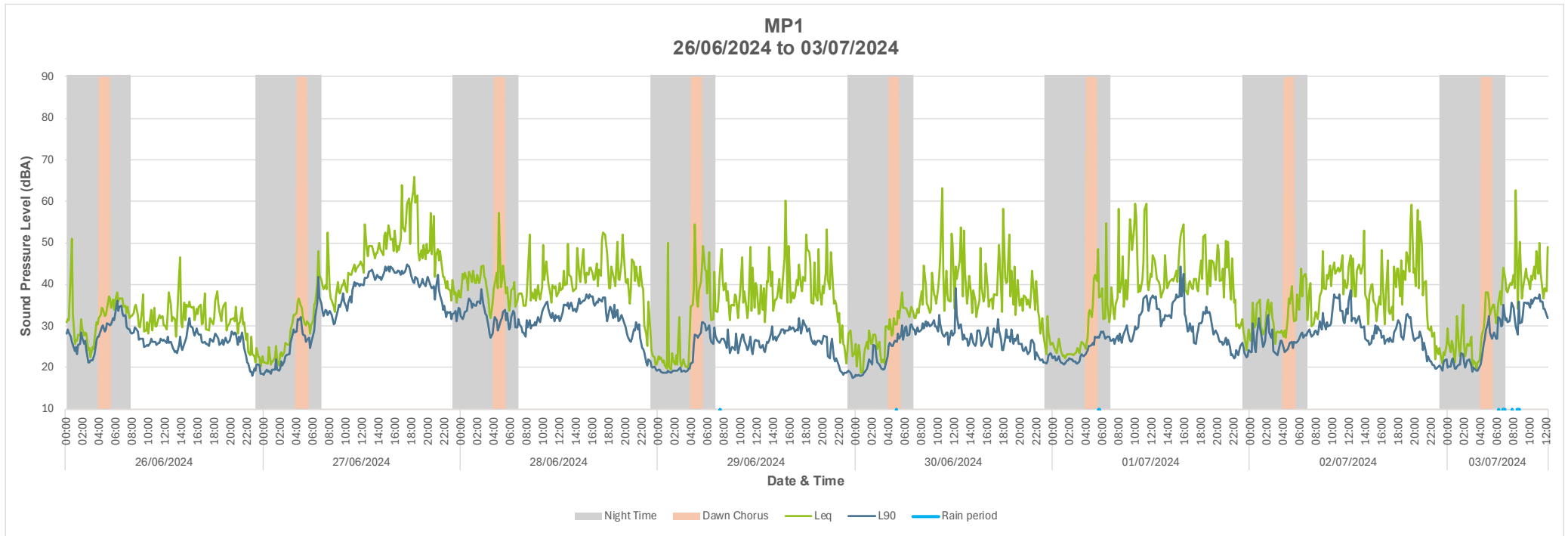


Figure 45 MP1 Time history (26/06/2024 – 03/07/2024)



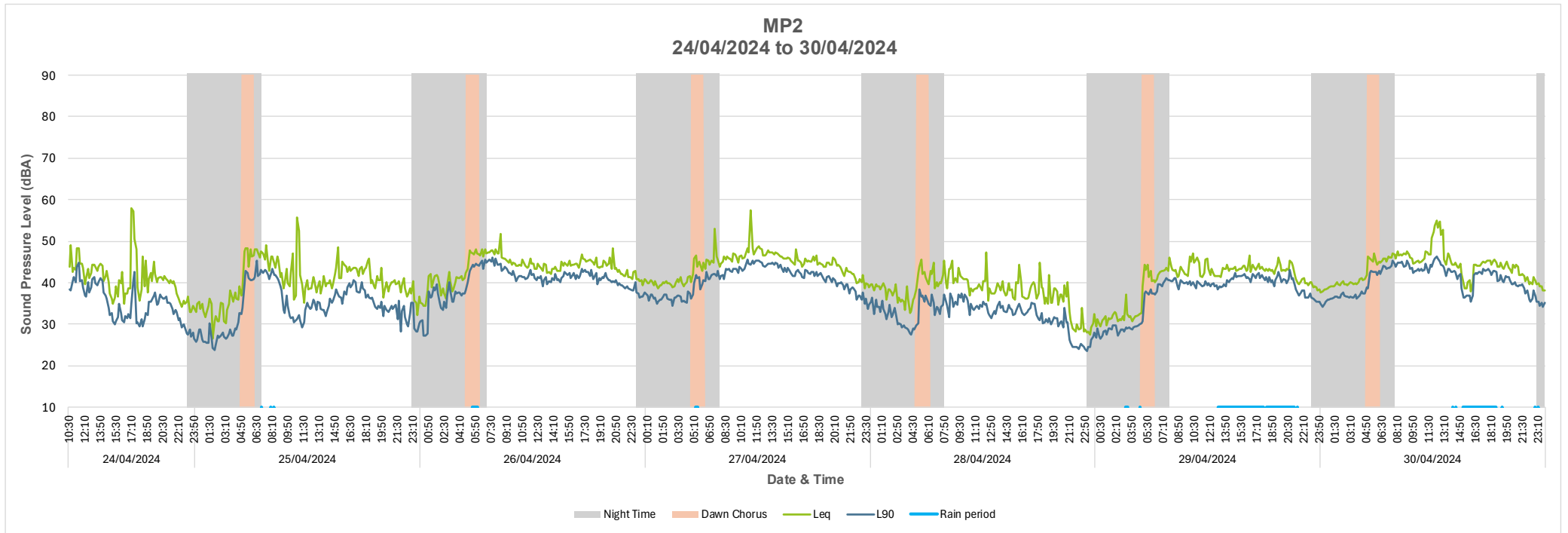


Figure 46 MP2 Time history (24/04/2024 – 30/04/2024)



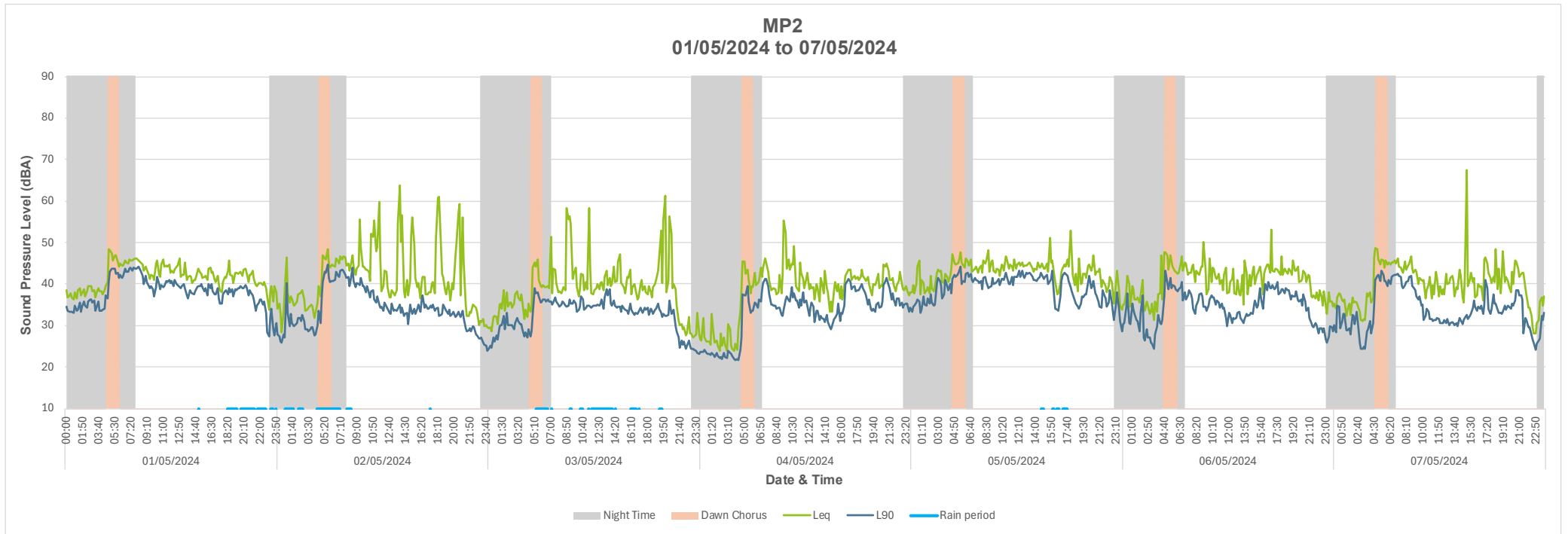


Figure 47 MP2 Time history (01/05/2024 – 07/05/2024)



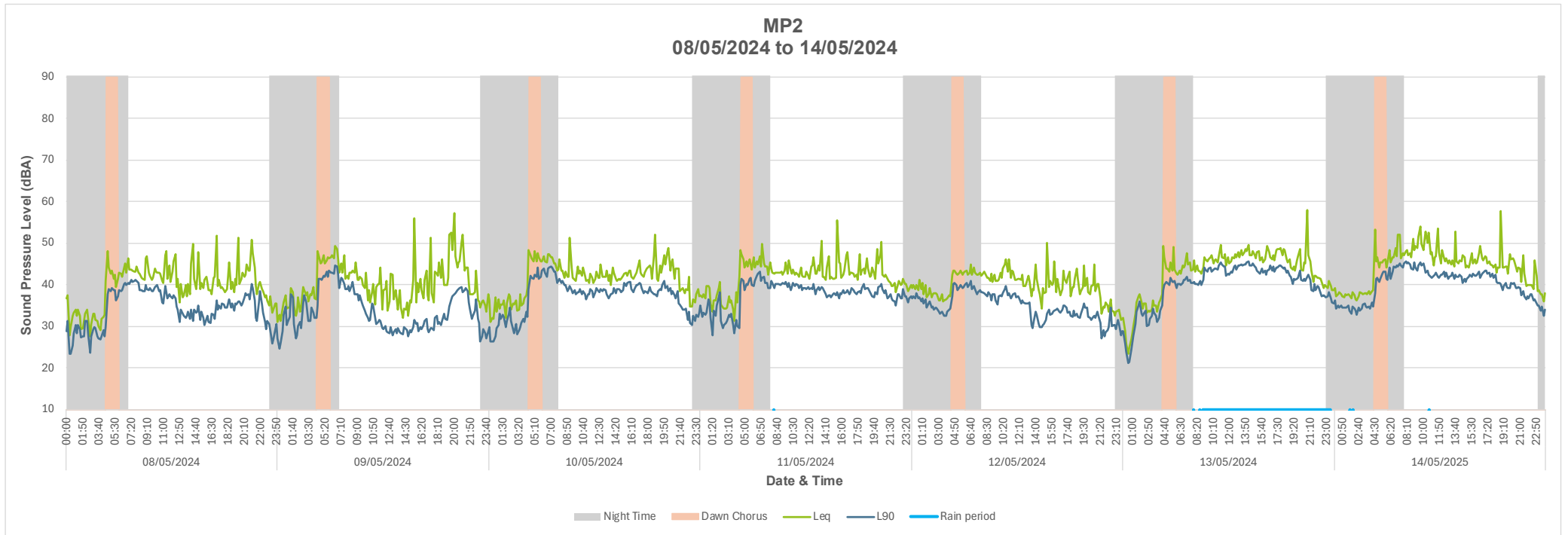


Figure 48 MP2 Time history (08/05/2024 – 14/05/2024)



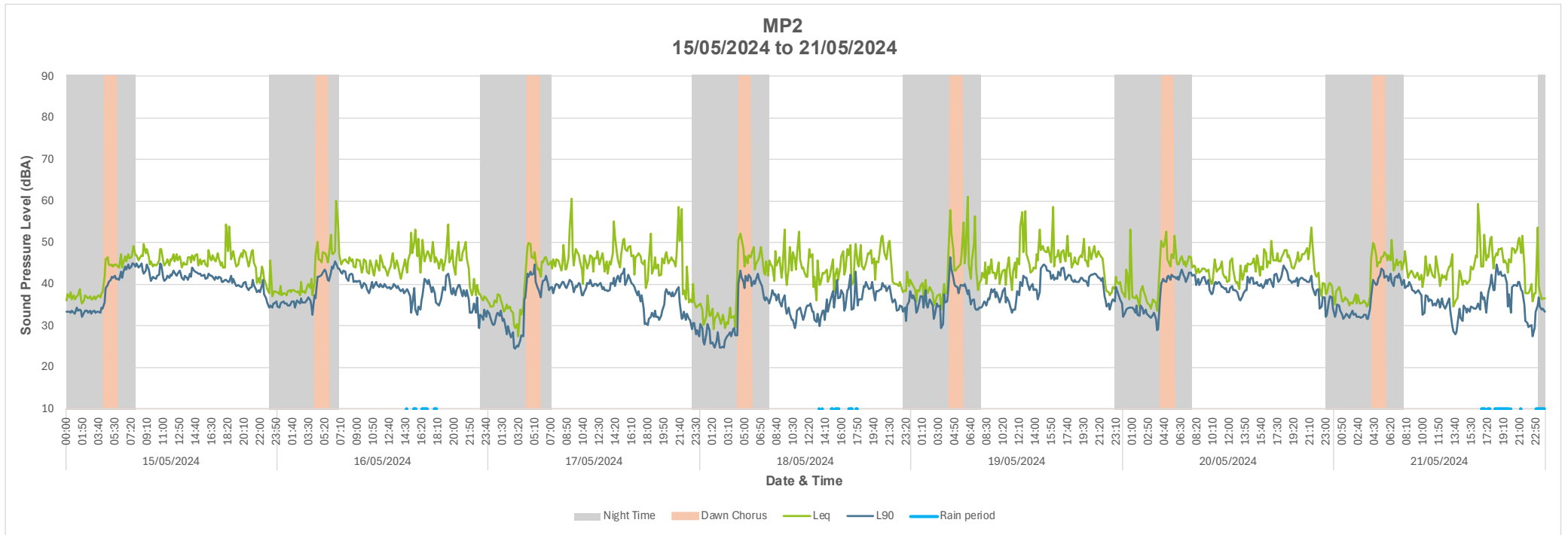


Figure 49 MP2 Time history (15/05/2024 – 21/05/2024)



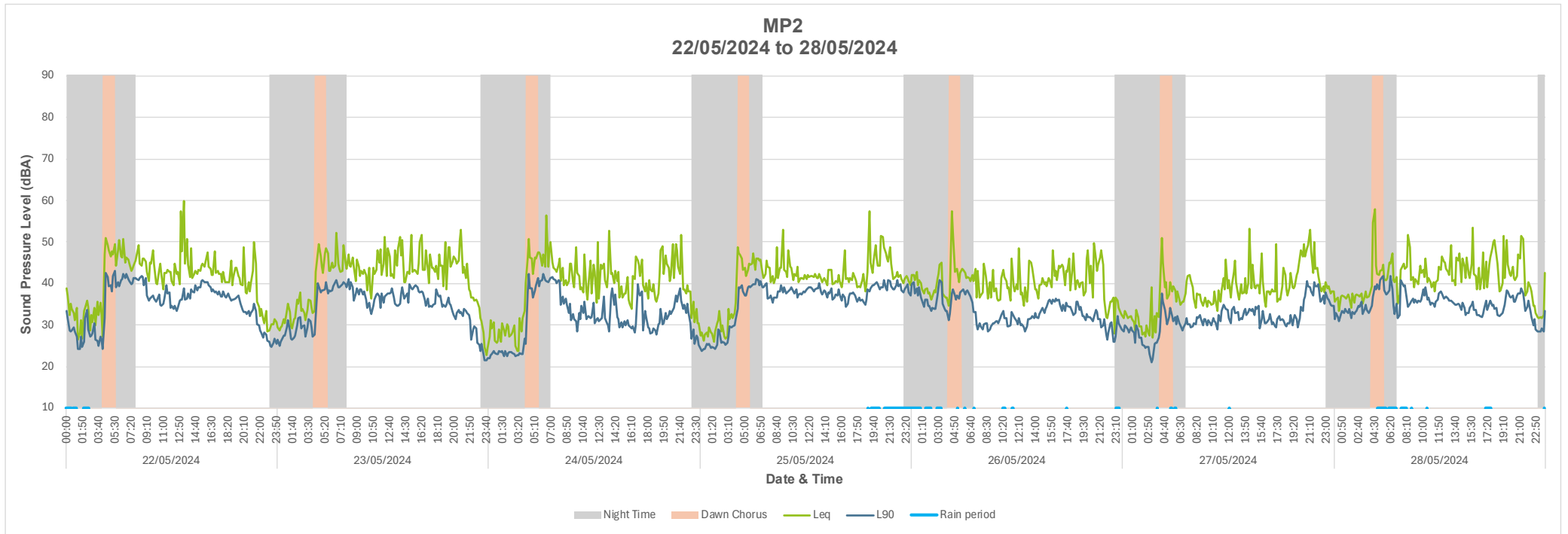


Figure 50 MP2 Time history (22/05/2024 – 28/05/2024)



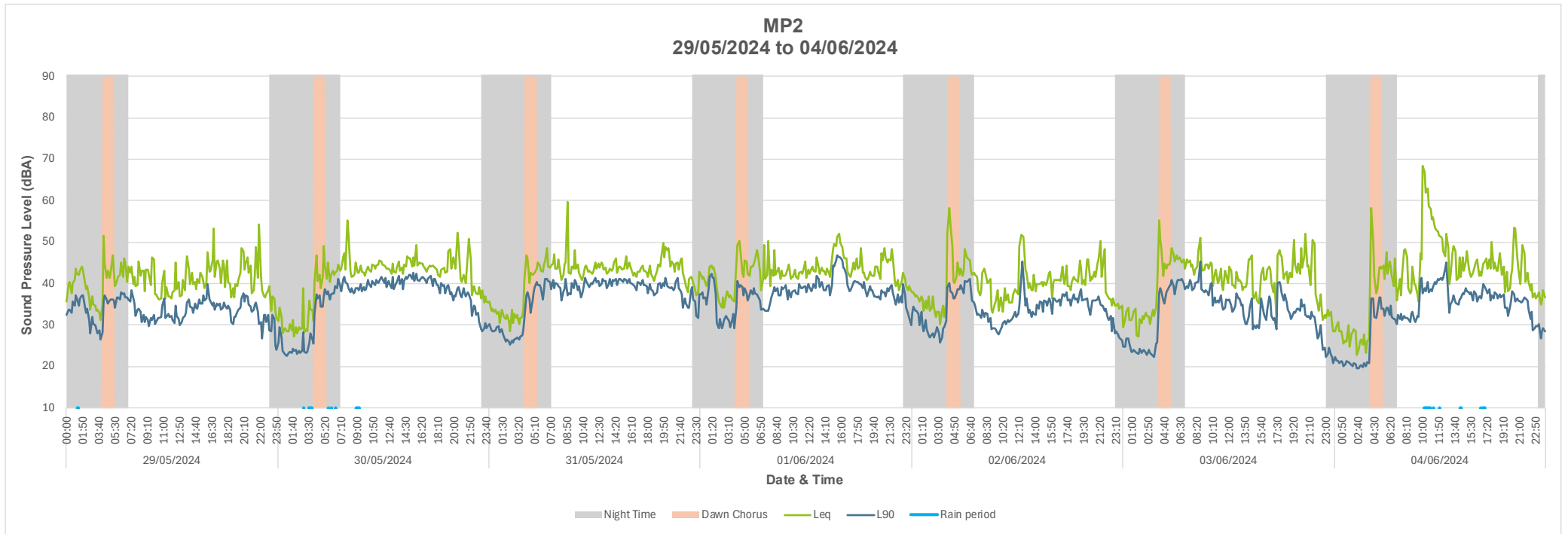


Figure 51 MP2 Time history (29/05/2024 – 04/06/2024)



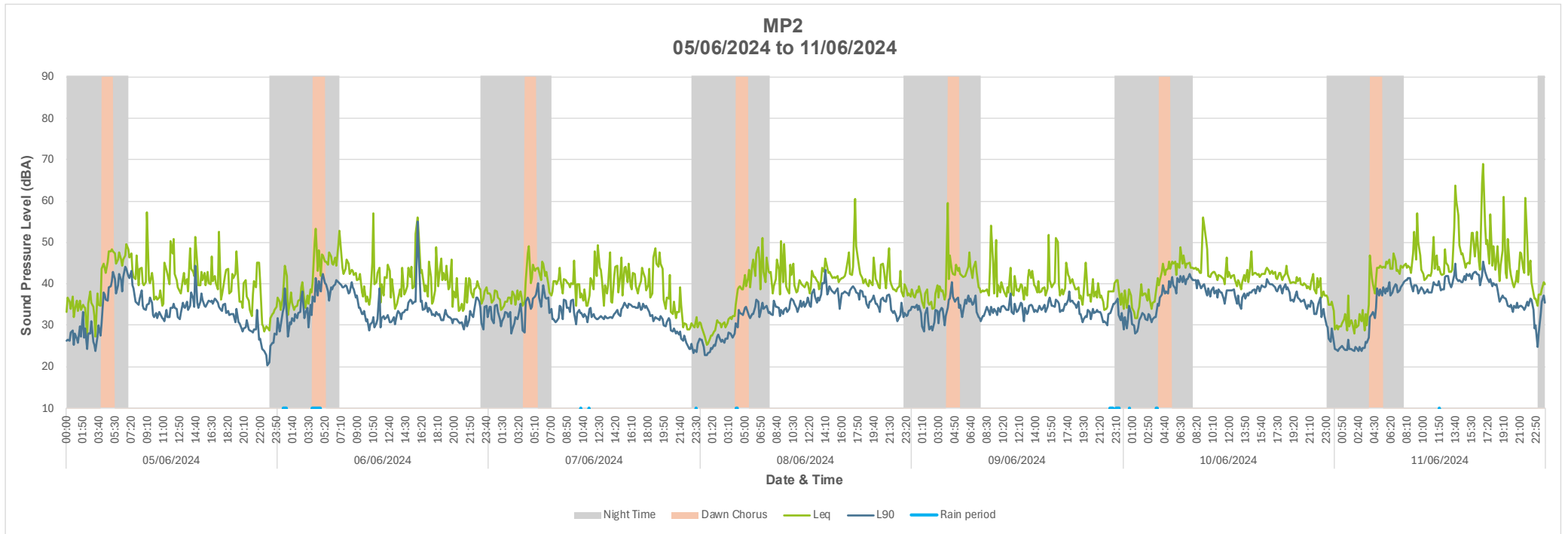


Figure 52 MP2 Time history (05/06/2024 – 11/06/2024)



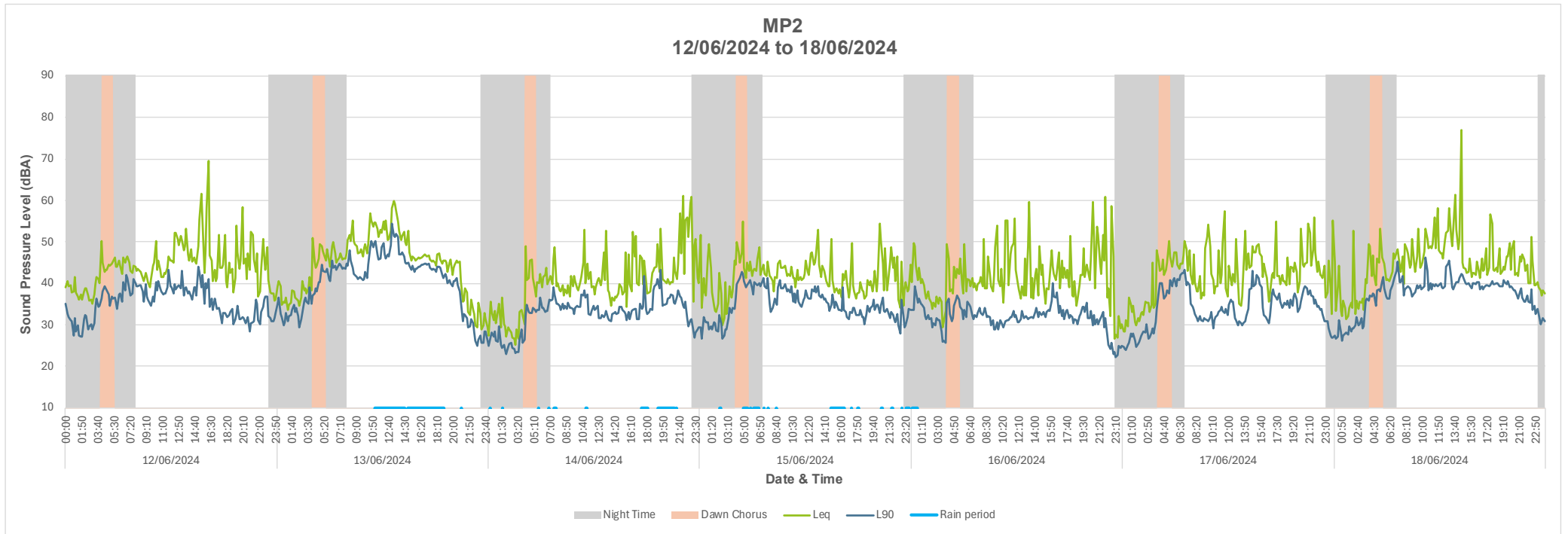


Figure 53 MP2 Time history (12/06/2024 – 18/06/2024)



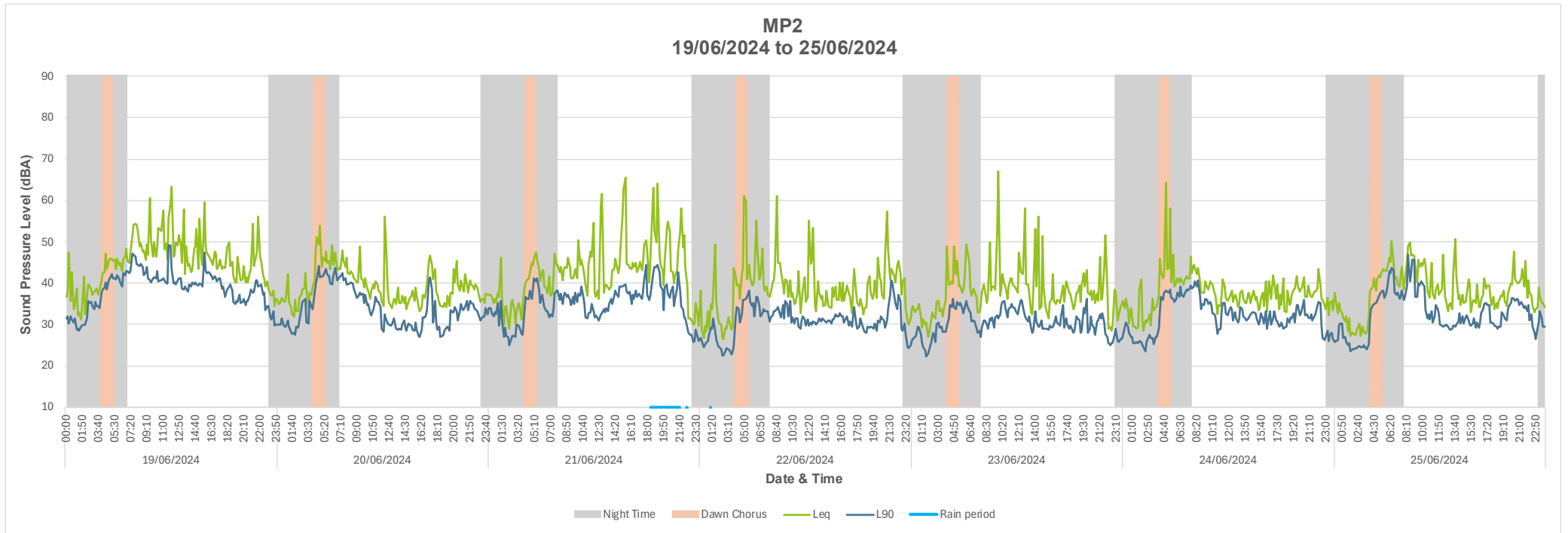


Figure 54 MP2 Time history (19/06/2024 – 25/06/2024)



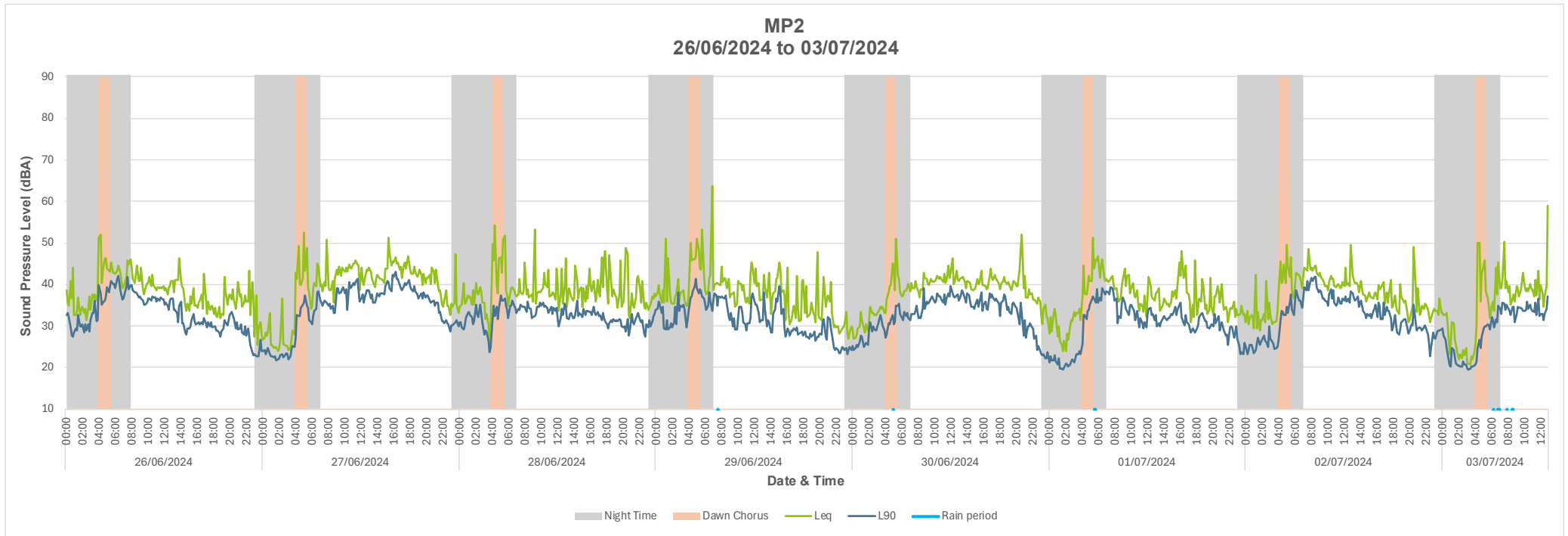


Figure 55 MP2 Time history (26/06/2024 – 03/07/2024)



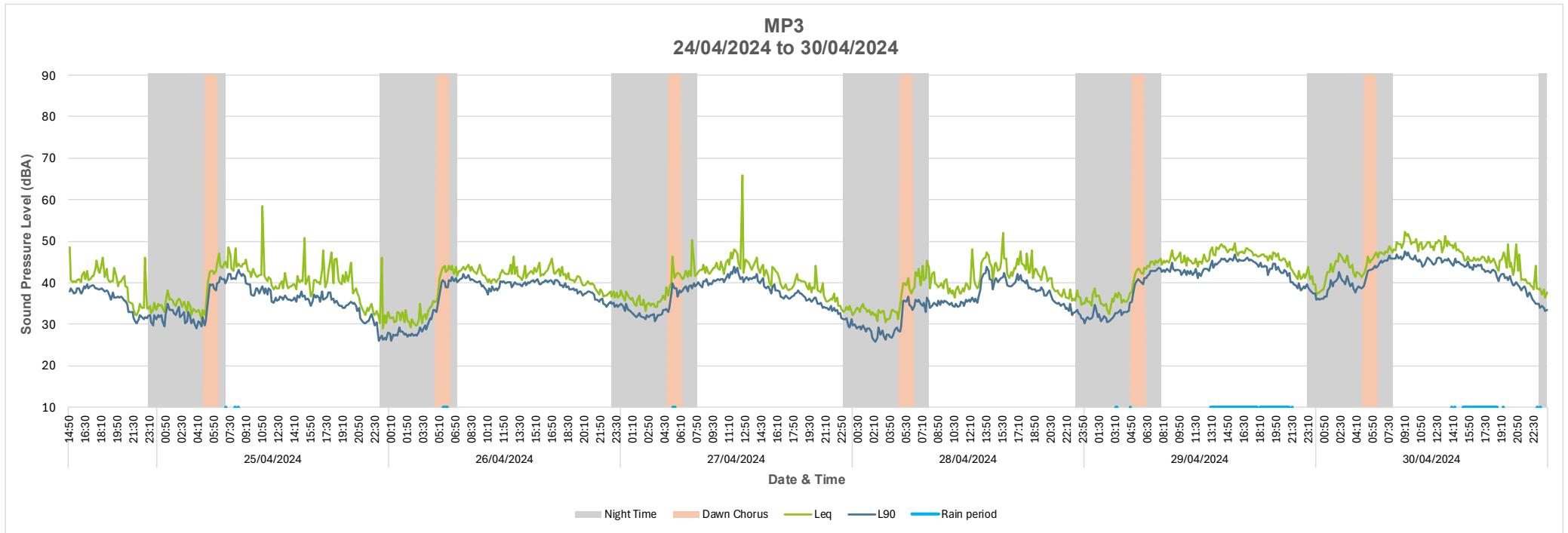


Figure 56 MP3 Time history (24/04/2024 – 30/04/2024)



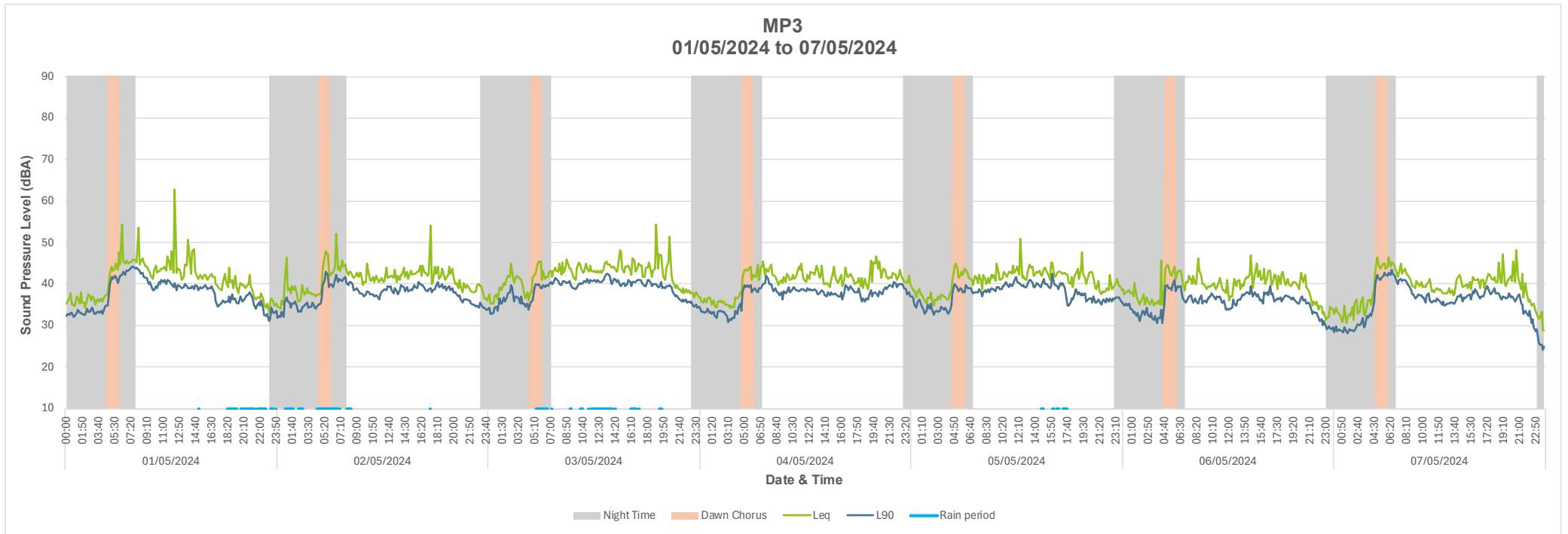


Figure 57 MP3 Time history (01/05/2024 – 07/05/2024)



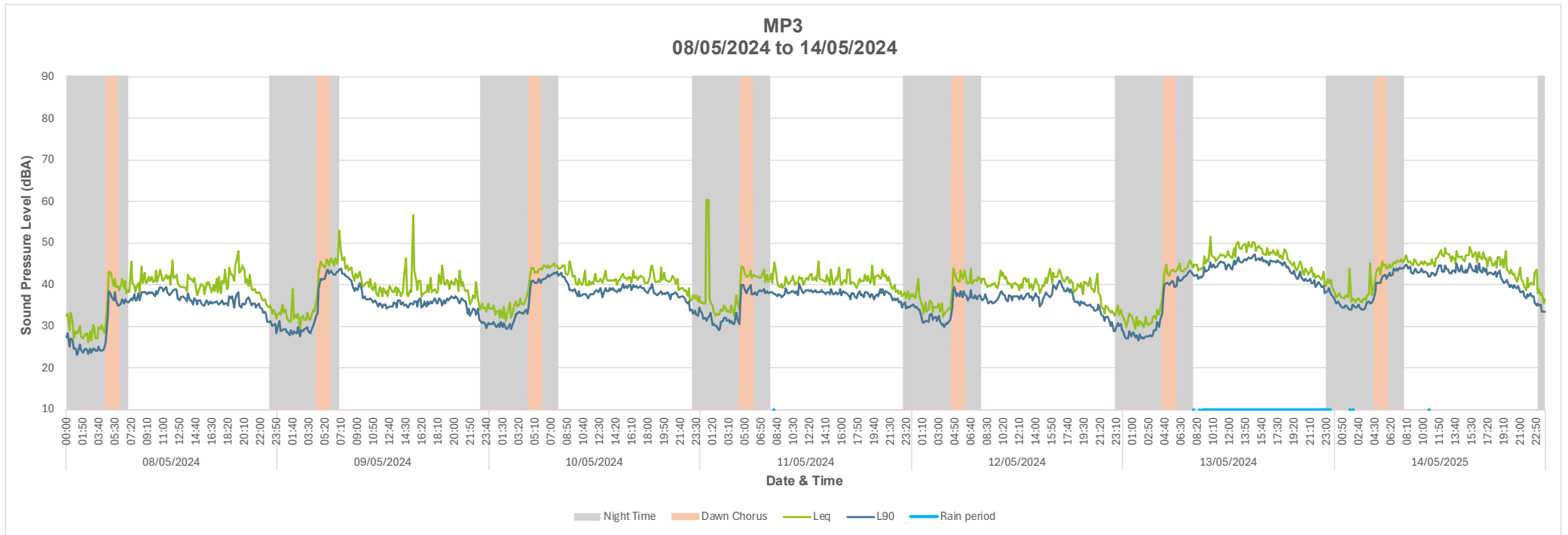


Figure 58 MP3 Time history (08/05/2024 – 14/05/2024)



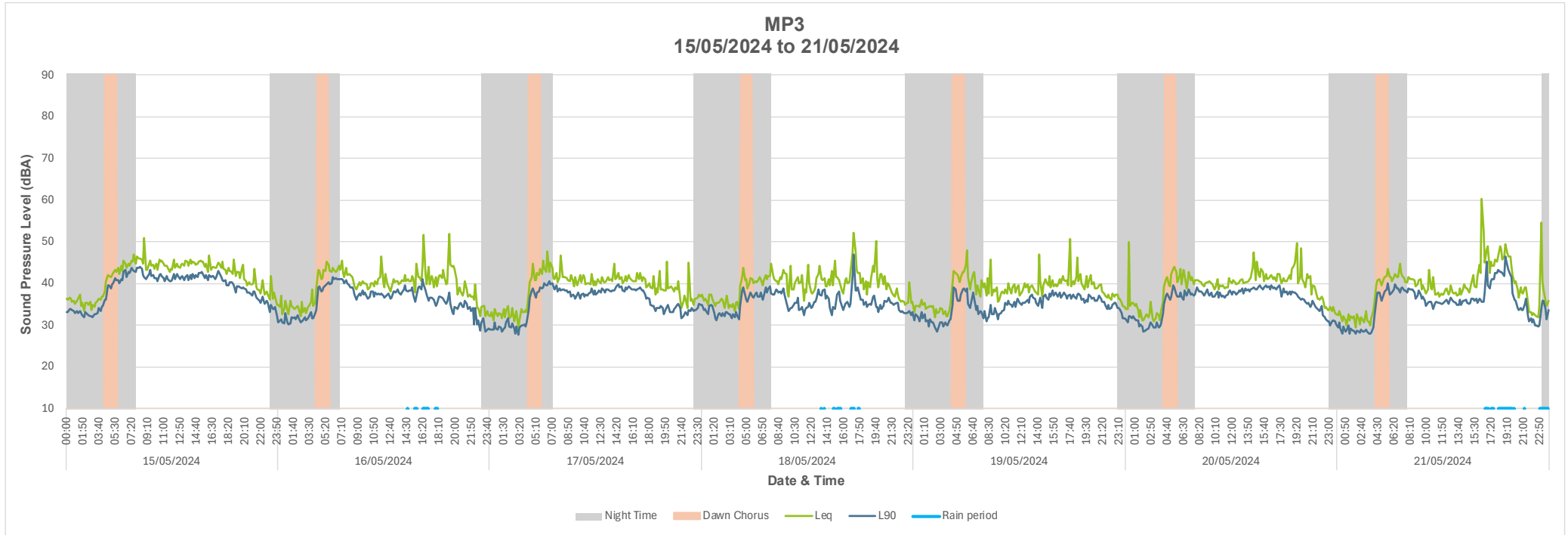


Figure 59 MP3 Time history (15/05/2024 – 21/05/2024)



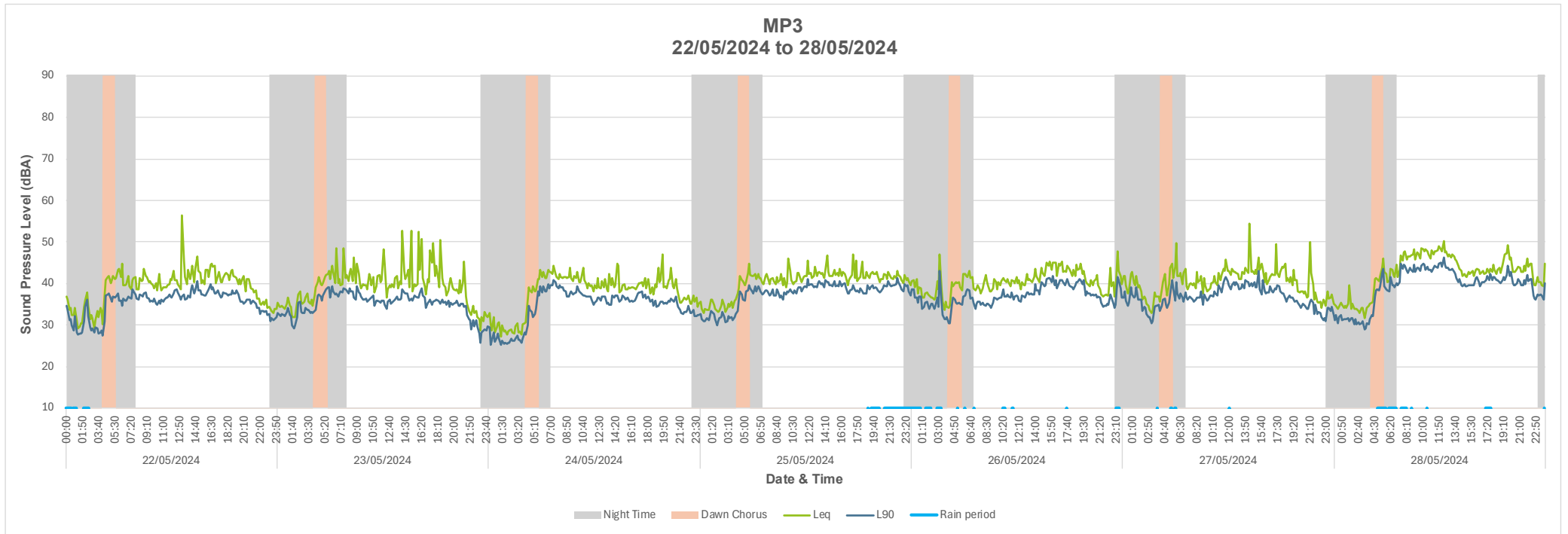


Figure 60 MP3 Time history (22/05/2024 – 28/05/2024)



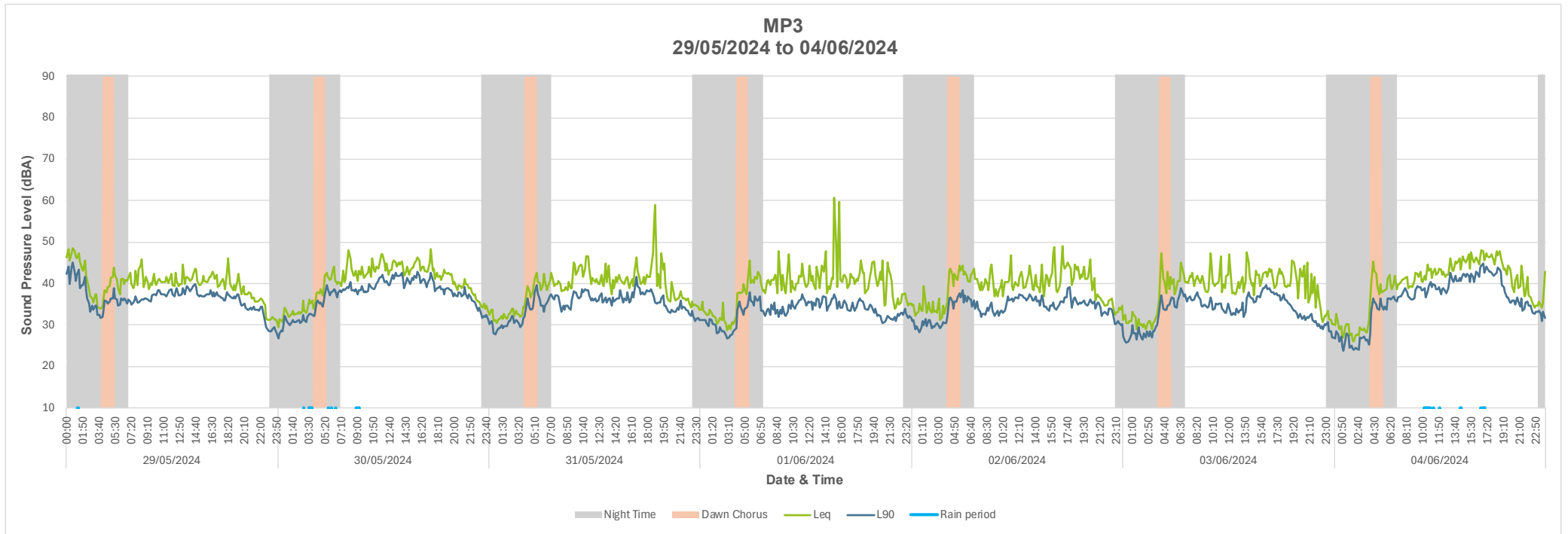


Figure 61 MP3 Time history (29/05/2024 – 04/06/2024)



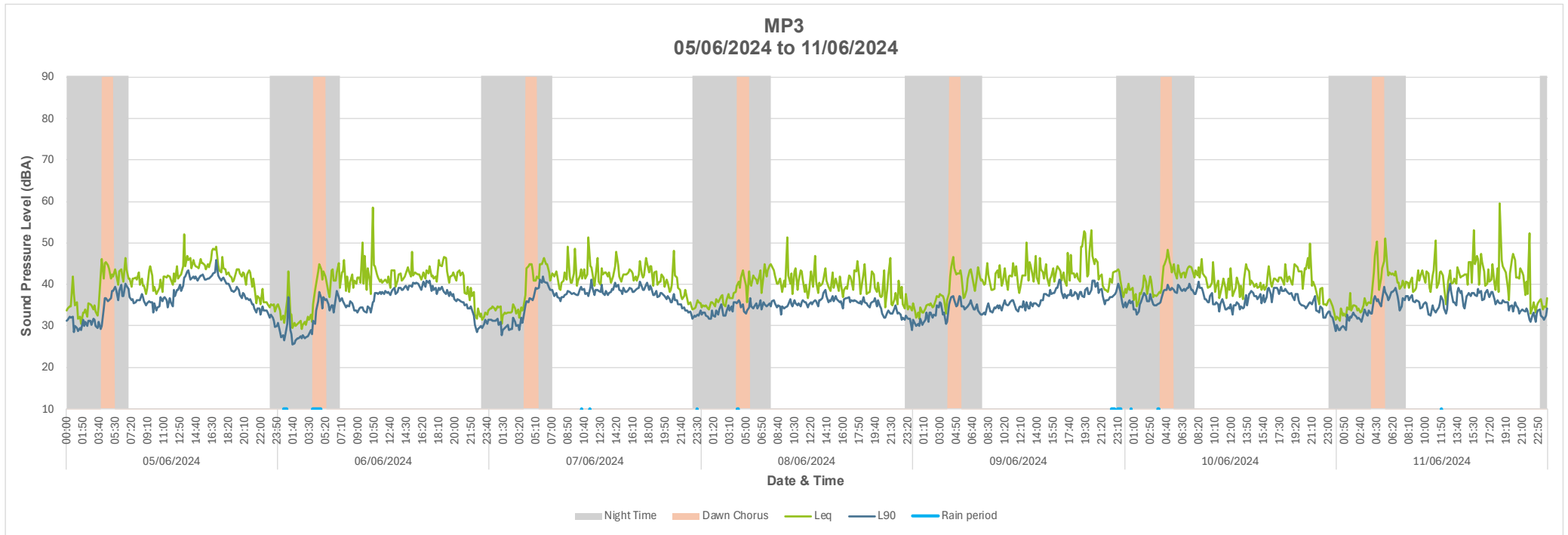


Figure 62 MP3 Time history (05/06/2024 – 11/06/2024)



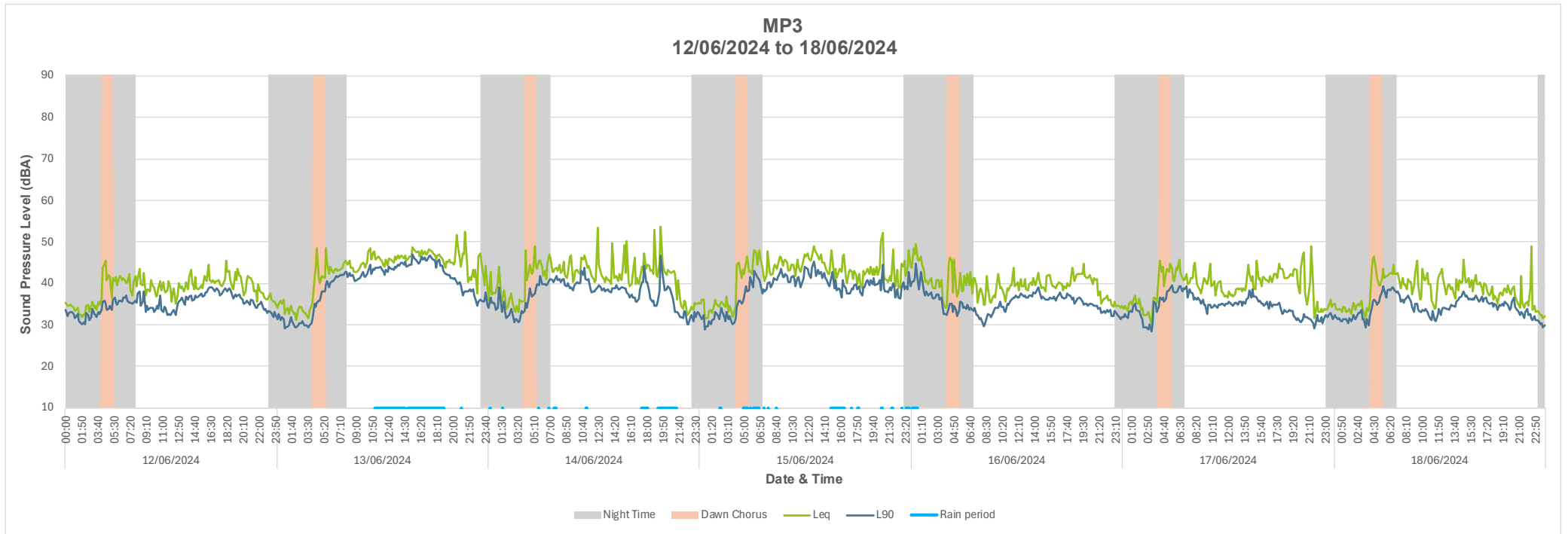


Figure 63 MP3 Time history (12/06/2024 – 18/06/2024)



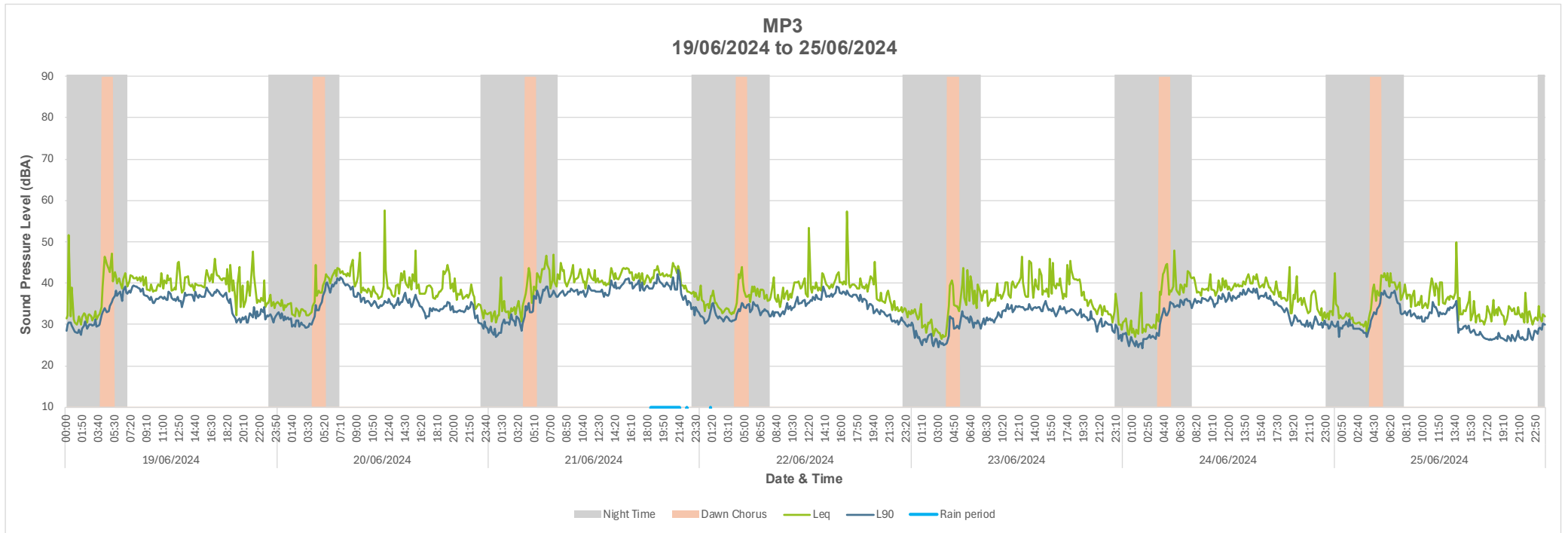


Figure 64 MP3 Time history (19/06/2024 – 25/06/2024)



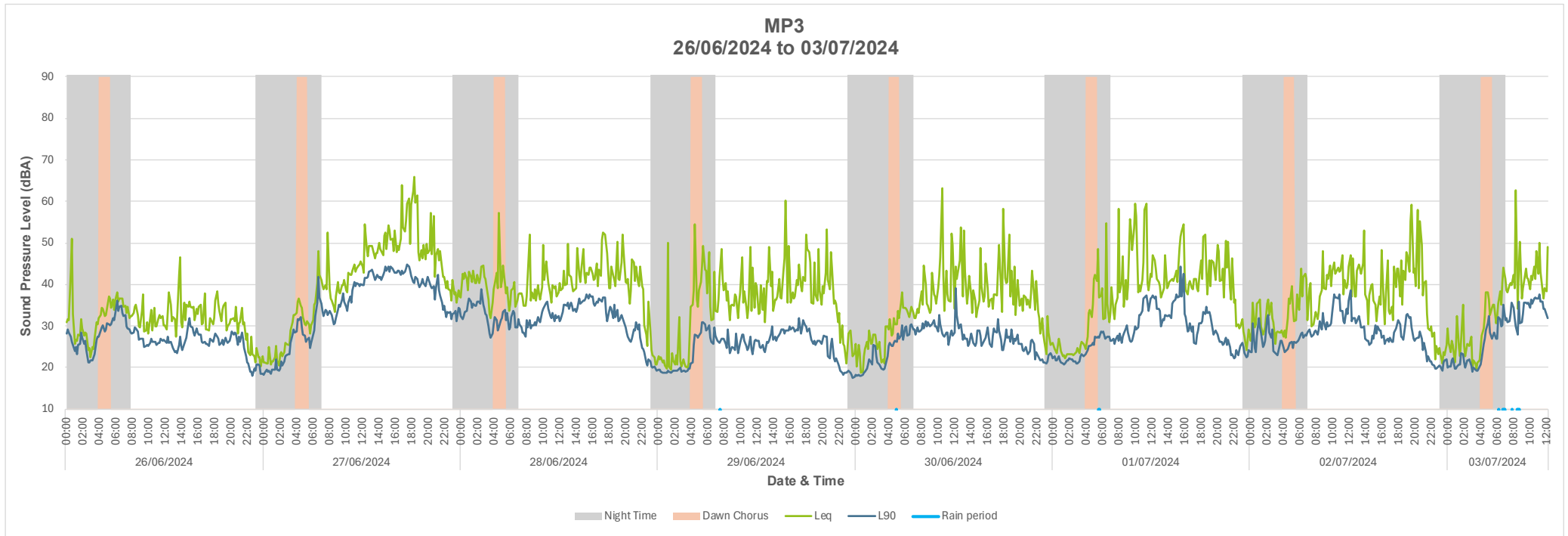


Figure 65 MP3 Time history (26/06/2024 – 03/07/2024)



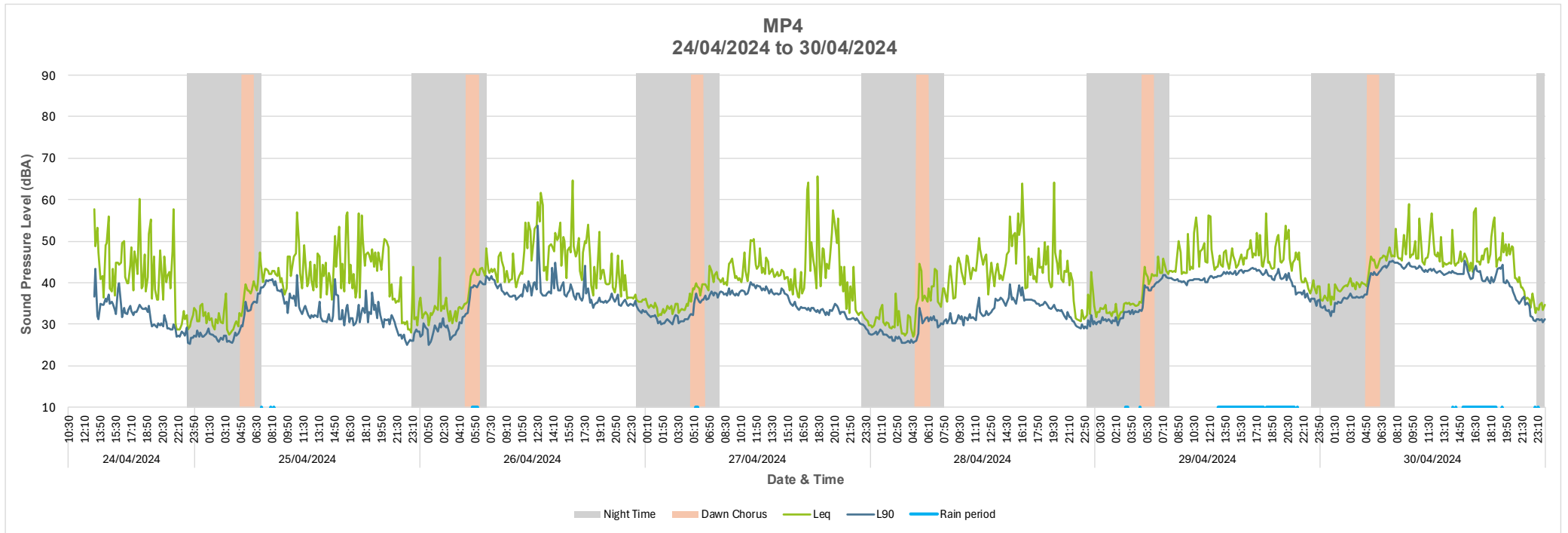


Figure 66 MP4 Time history (24/04/2024 – 30/04/2024)



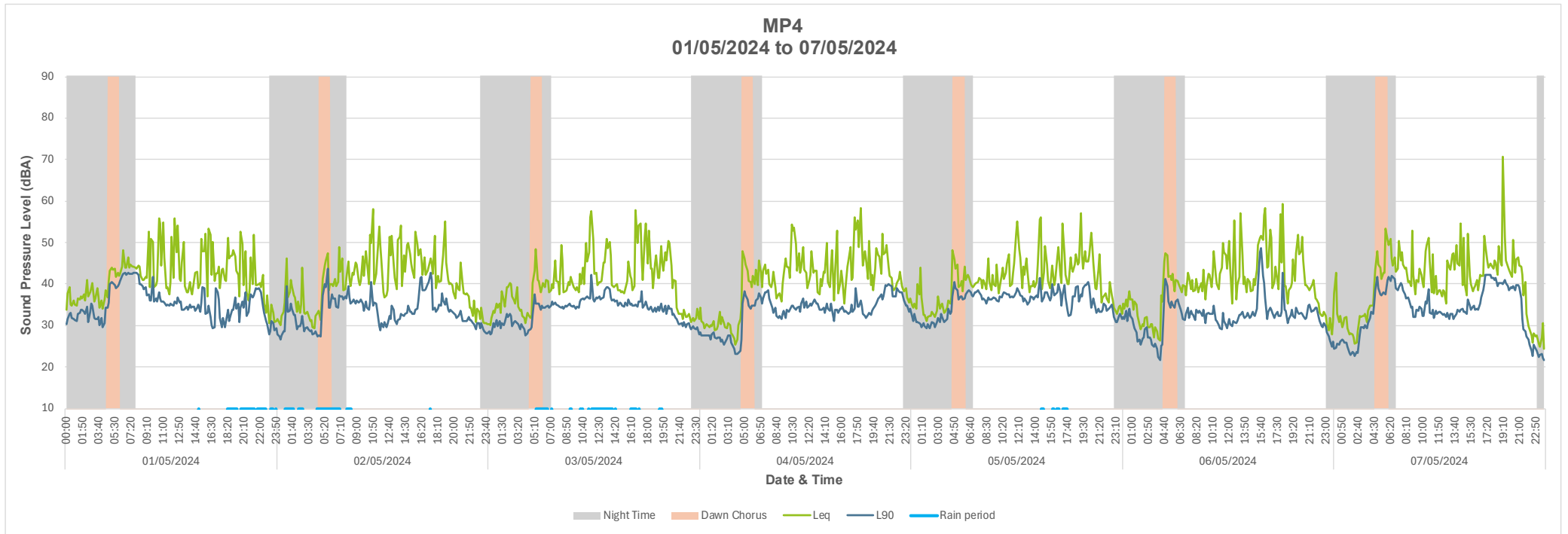


Figure 67 MP4 Time history (01/05/2024 – 07/05/2024)



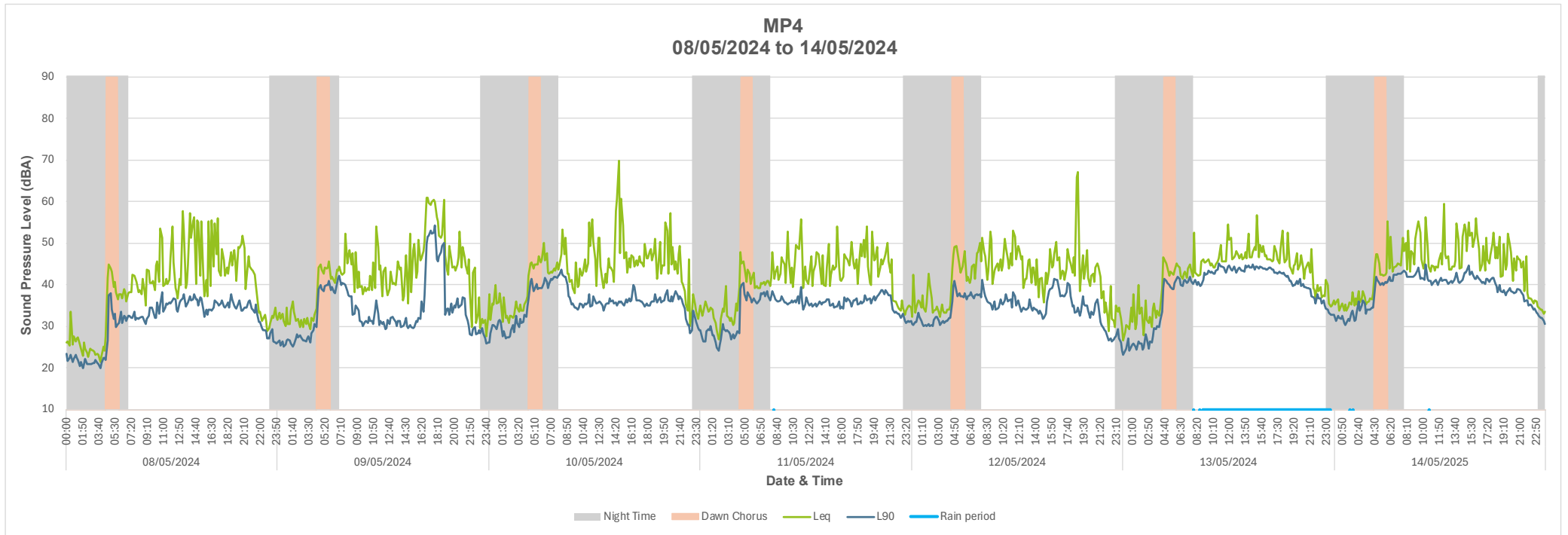


Figure 68 MP4 Time history (08/05/2024 – 14/05/2024)



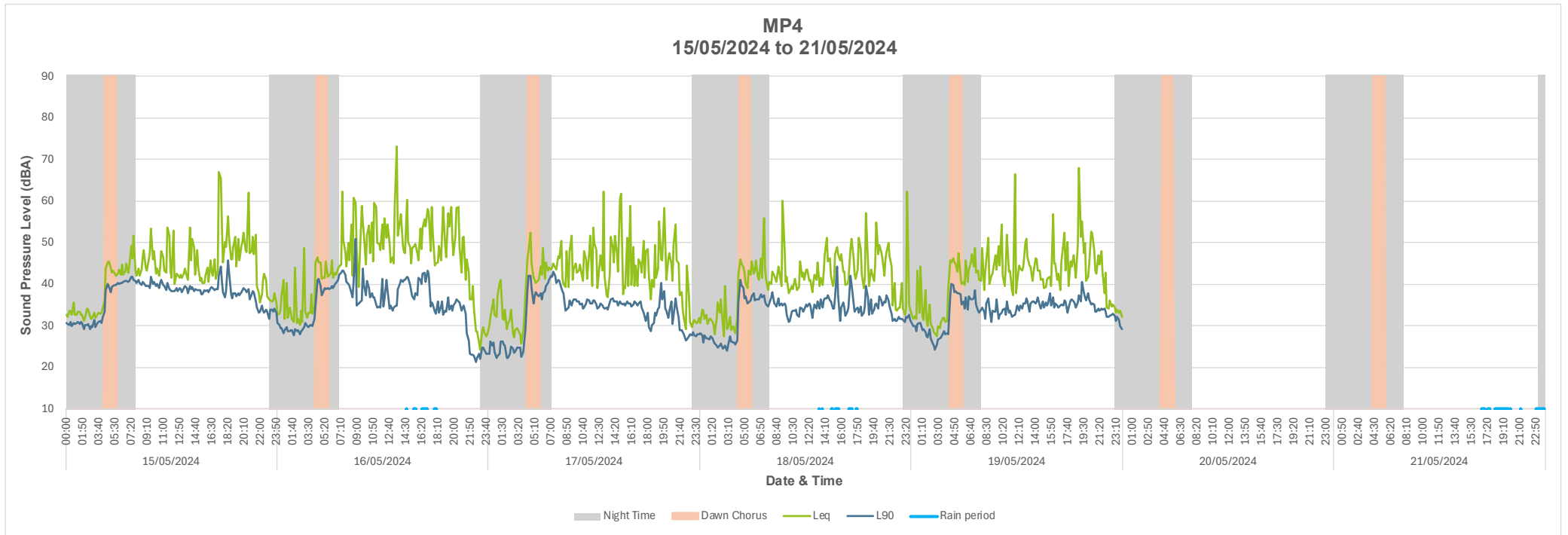


Figure 69 MP4 Time history (15/05/2024 – 21/05/2024)



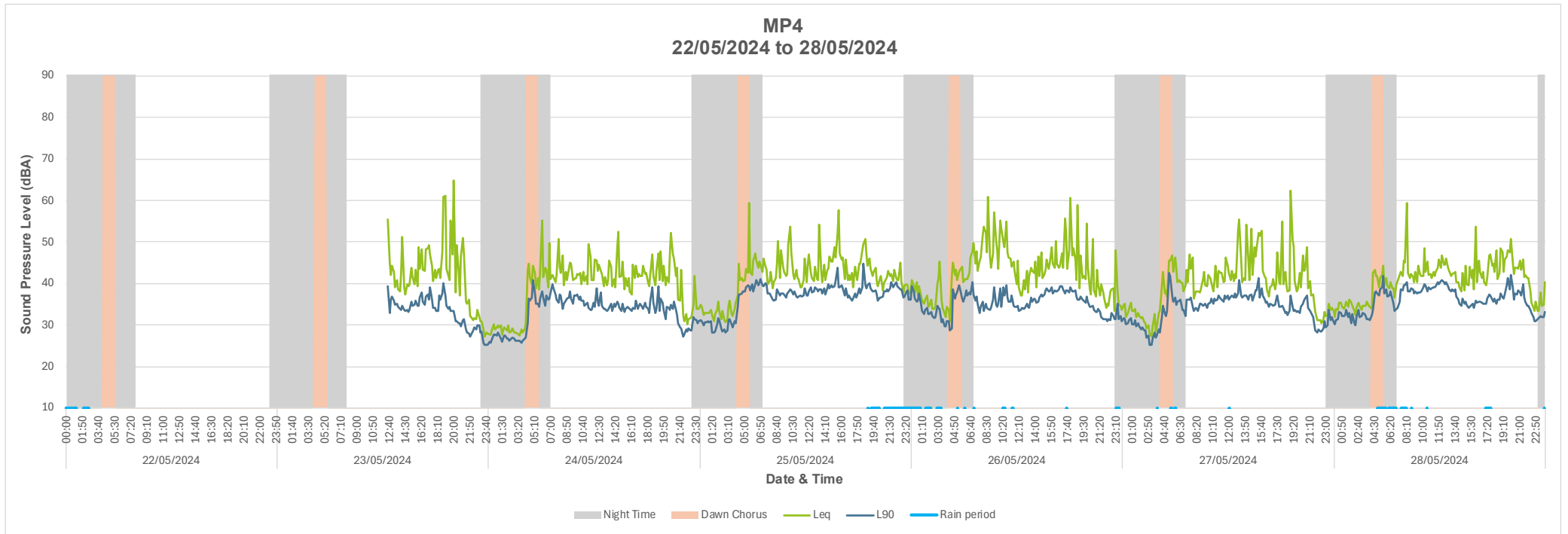


Figure 70 MP4 Time history (22/05/2024 – 28/05/2024)



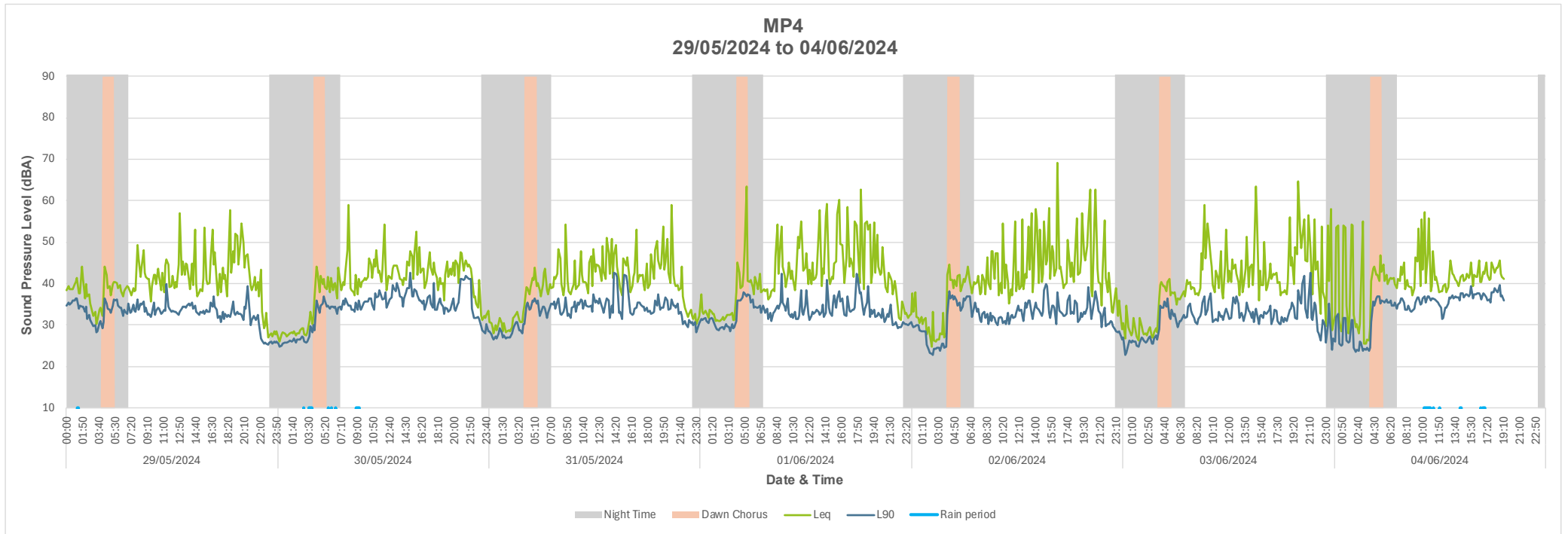


Figure 71 MP4 Time history (29/05/2024 – 04/06/2024)



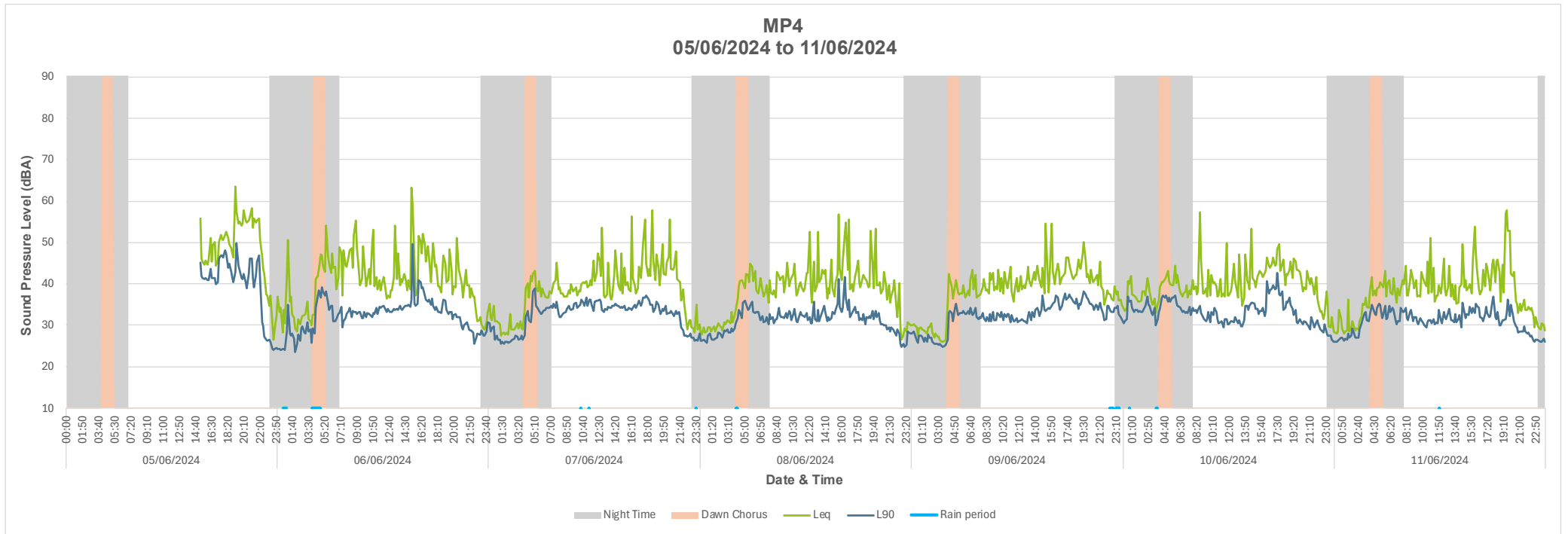


Figure 72 MP4 Time history (05/06/2024 – 11/06/2024)



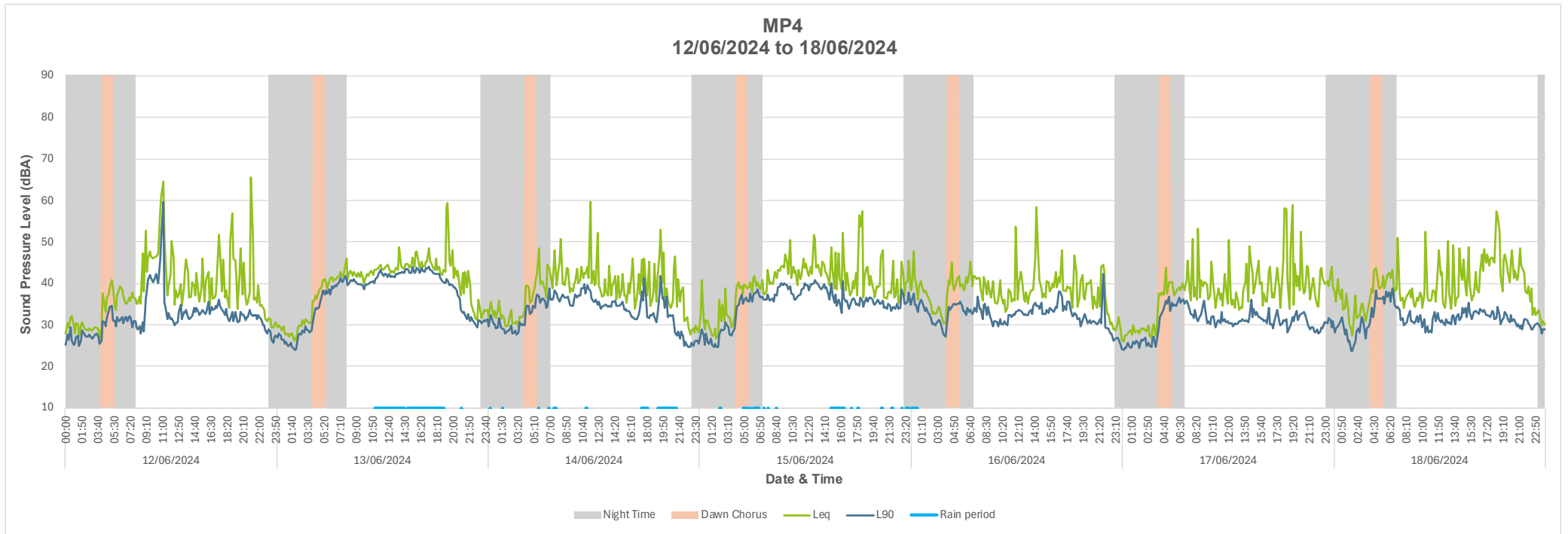


Figure 73 MP4 Time history (12/06/2024 – 18/06/2024)



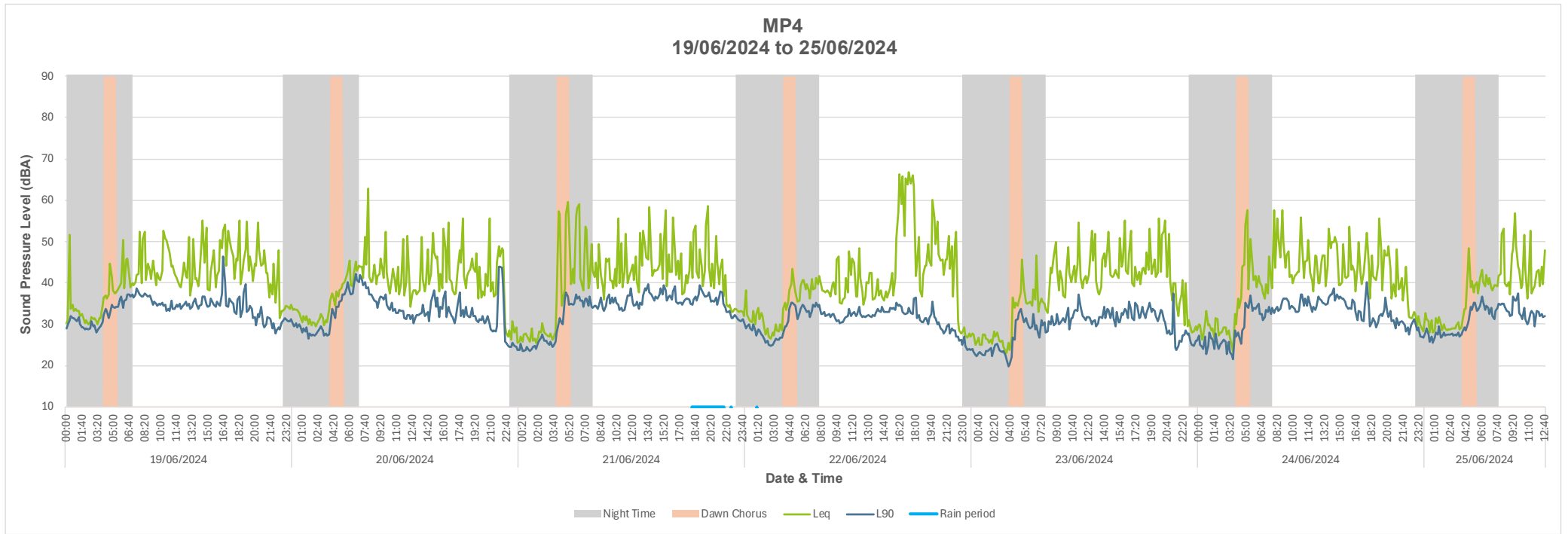


Figure 74 MP4 Time history (19/06/2024 – 25/06/2024)



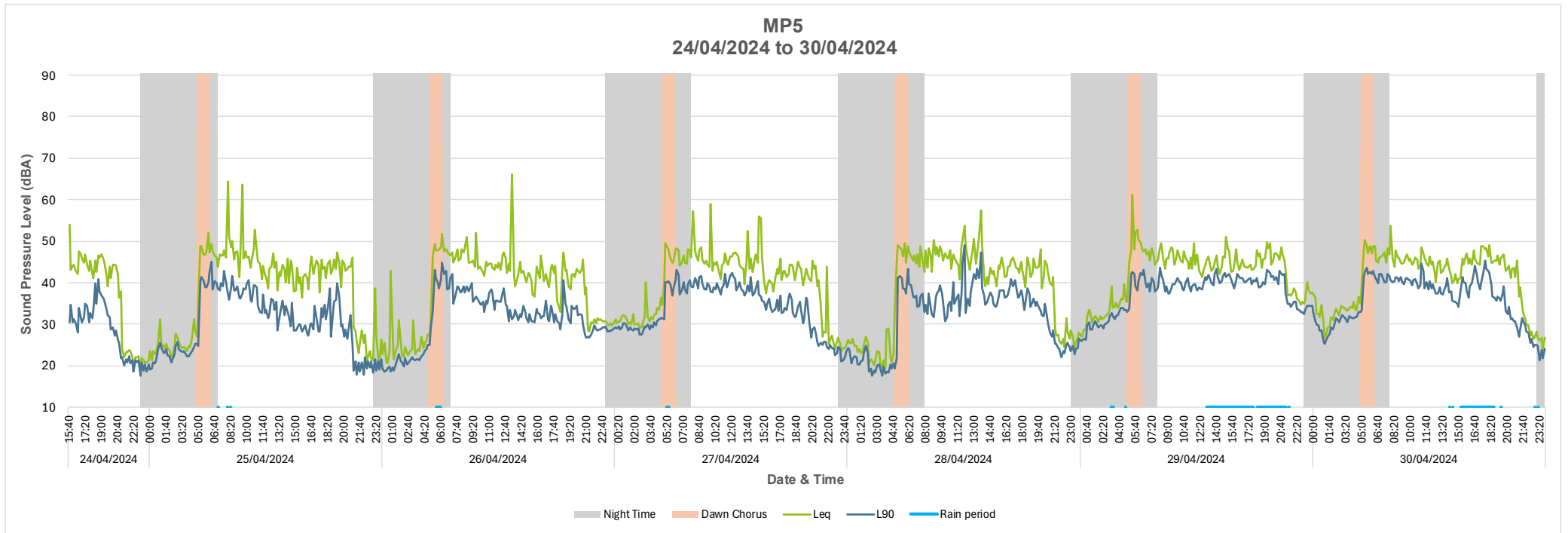


Figure 75 MP5 Time history (24/04/2024 – 30/04/2024)



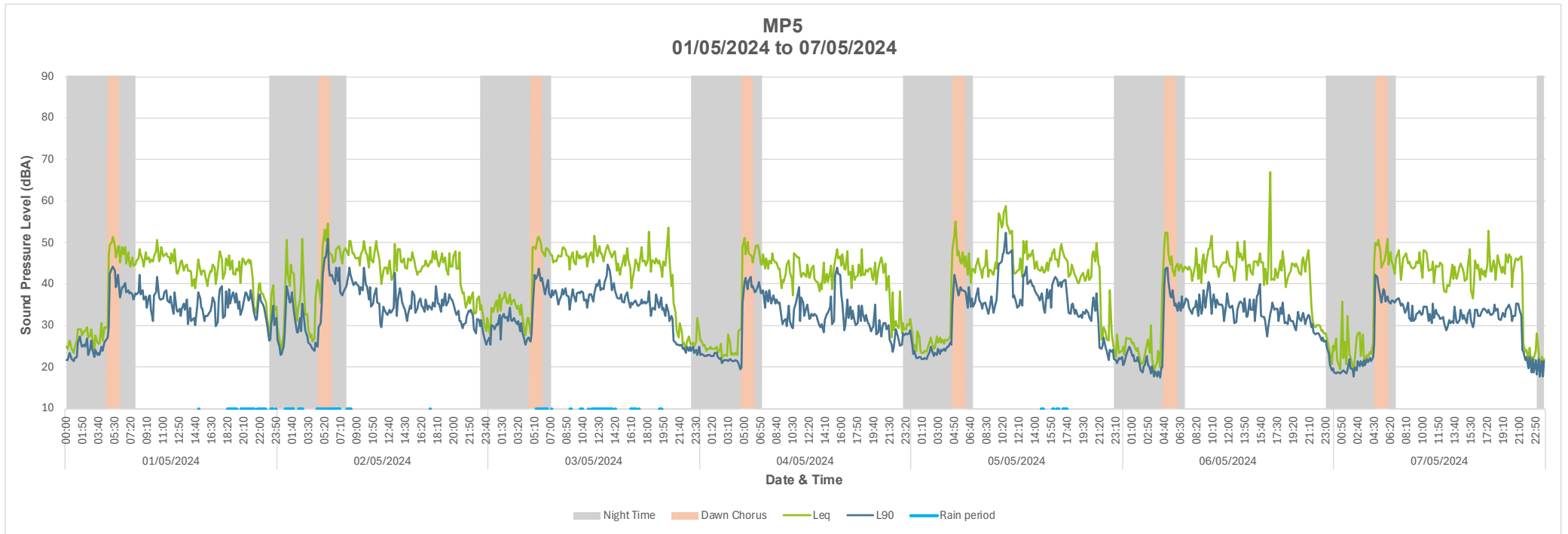


Figure 76 MP5 Time history (01/05/2024 – 07/05/2024)



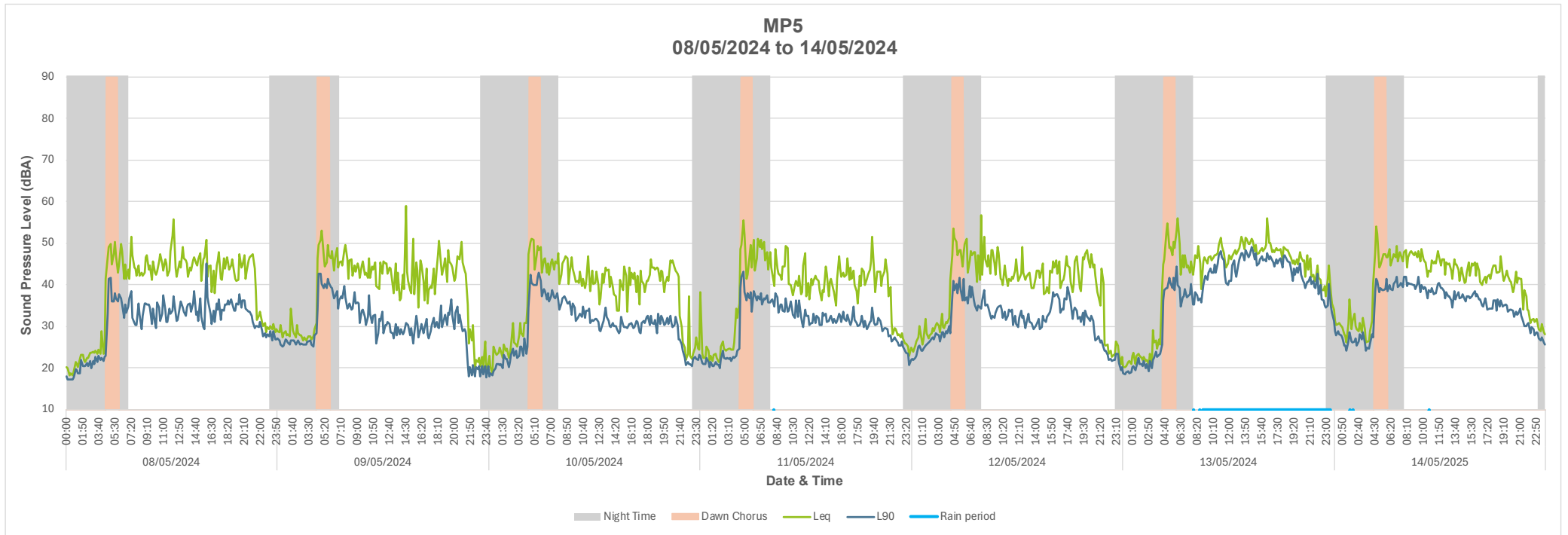


Figure 77 MP5 Time history (08/05/2024 – 14/05/2024)



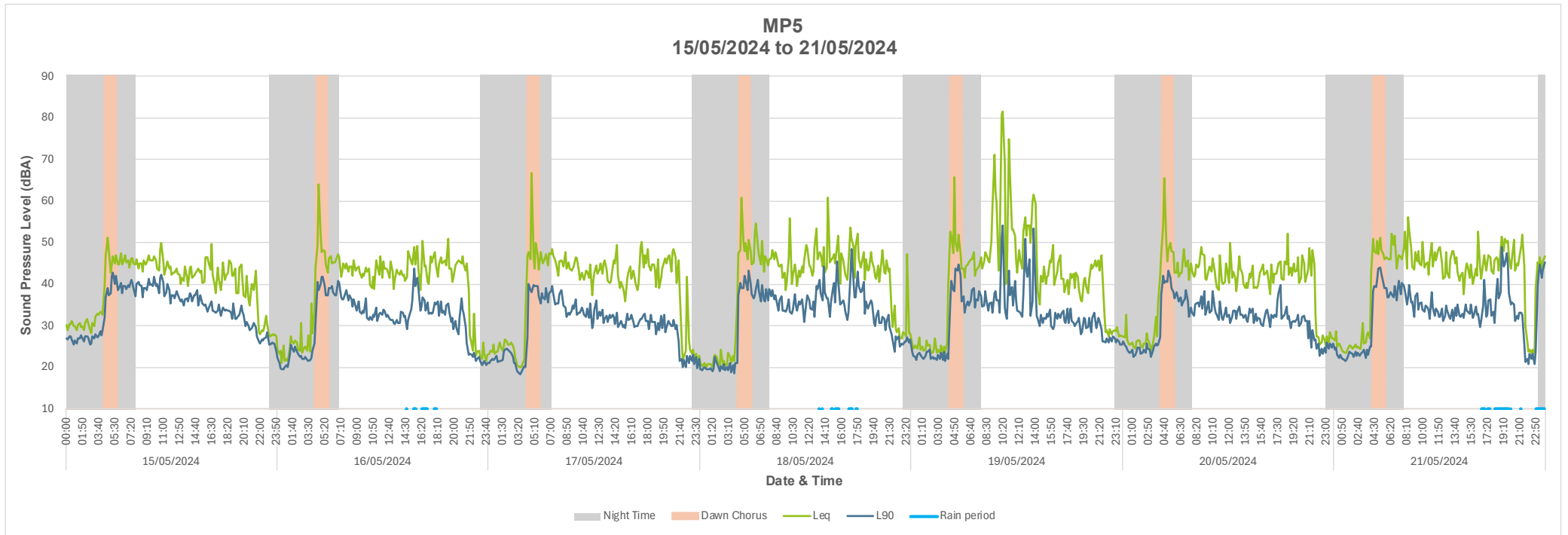


Figure 78 MP5 Time history (15/05/2024 – 21/05/2024)



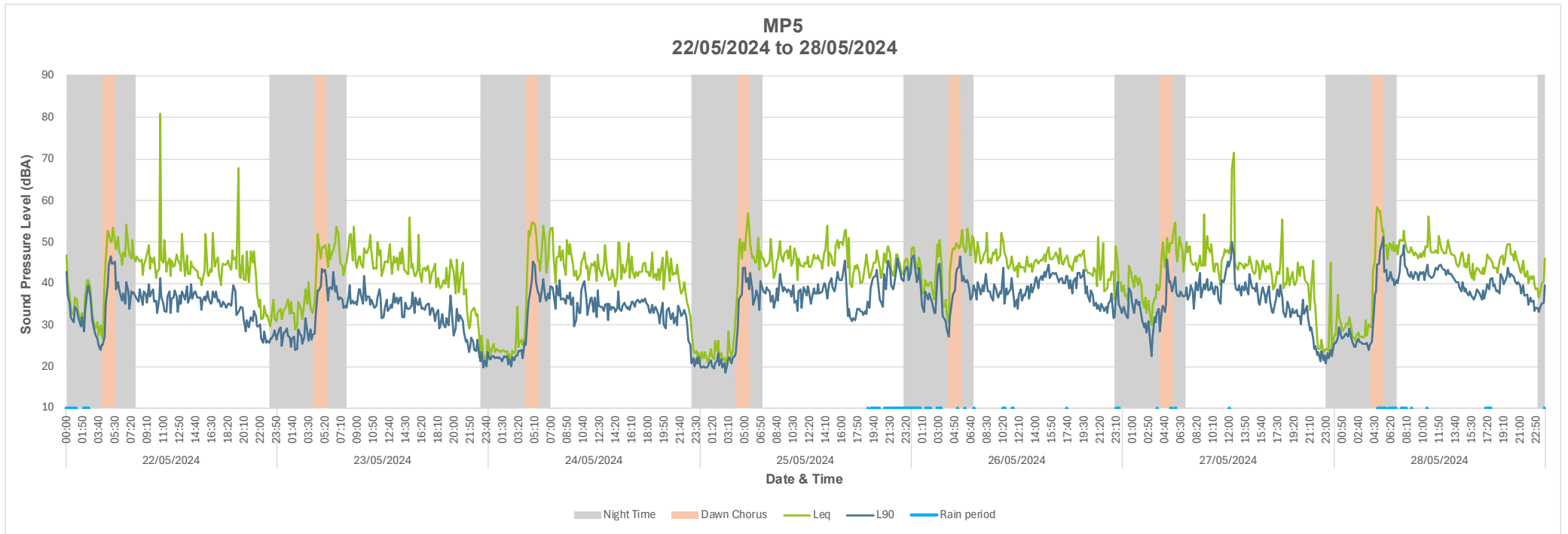


Figure 79 MP5 Time history (22/05/2024 – 28/05/2024)



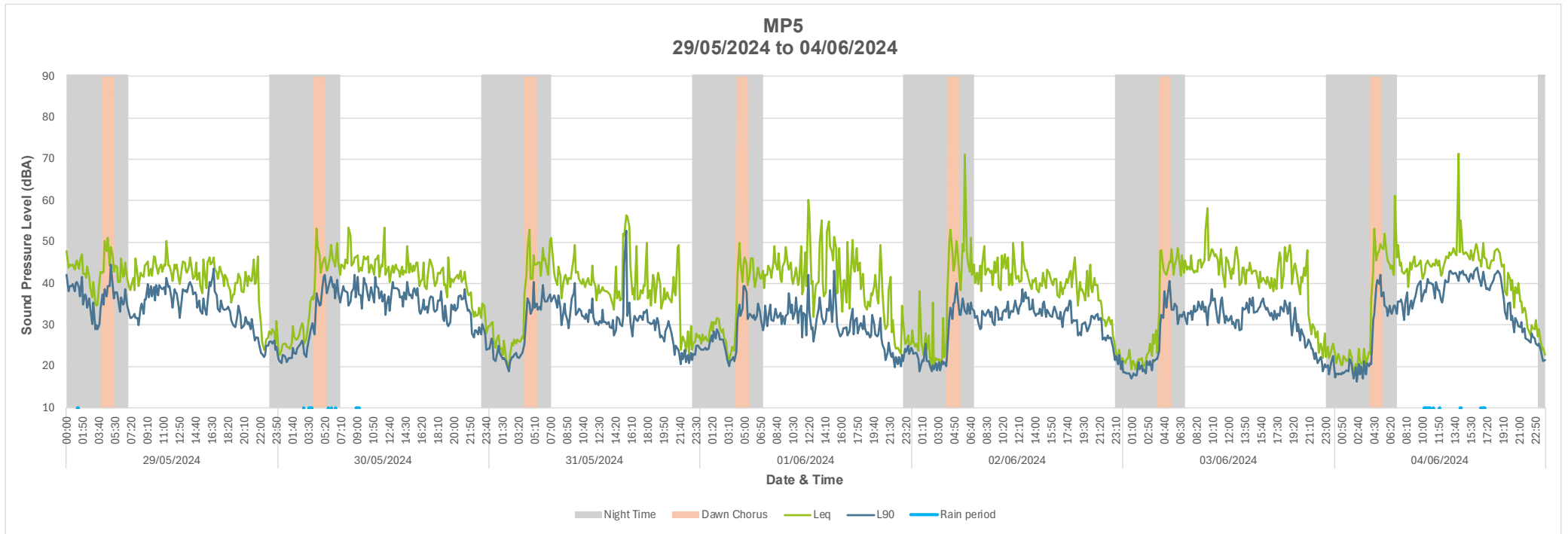


Figure 80 MP5 Time history (29/05/2024 – 04/06/2024)



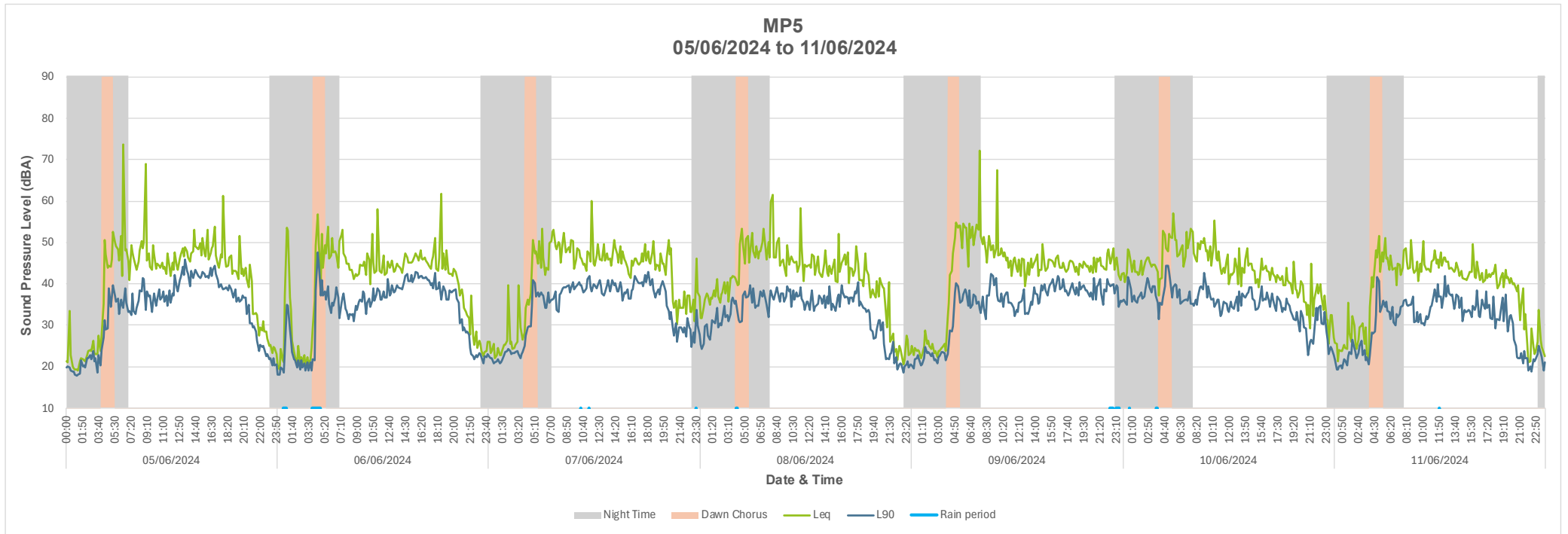


Figure 81 MP5 Time history (05/06/2024 – 11/06/2024)



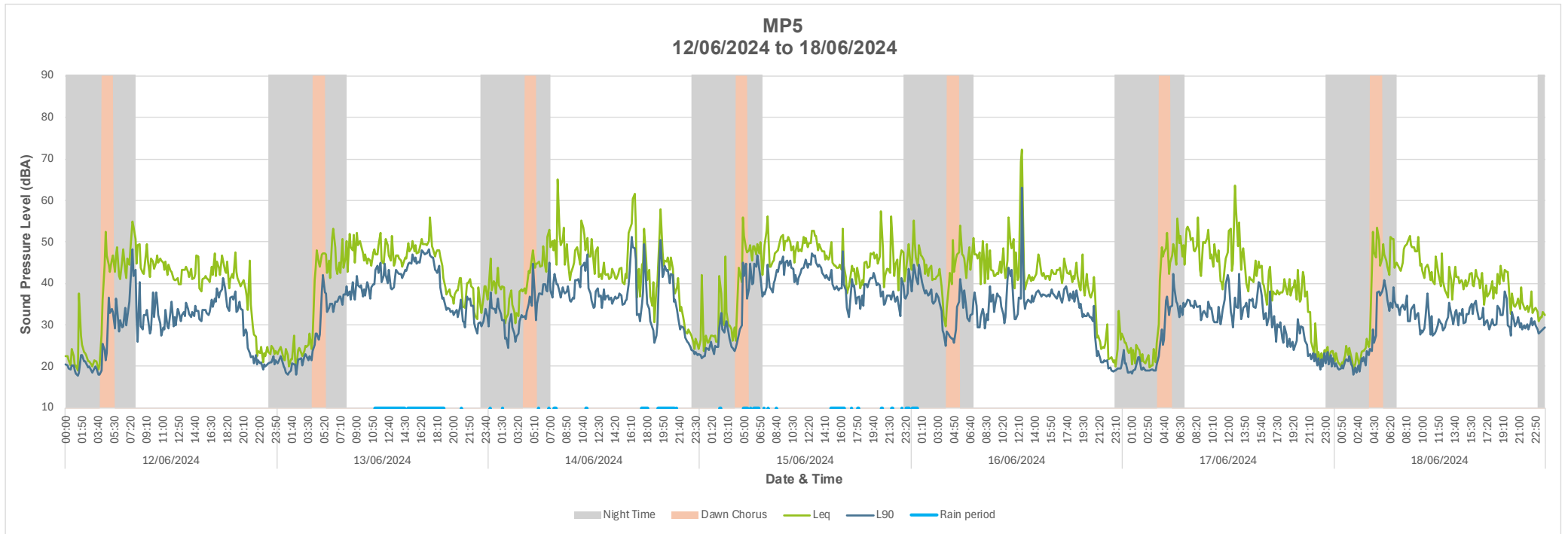


Figure 82 MP5 Time history (12/06/2024 – 18/06/2024)



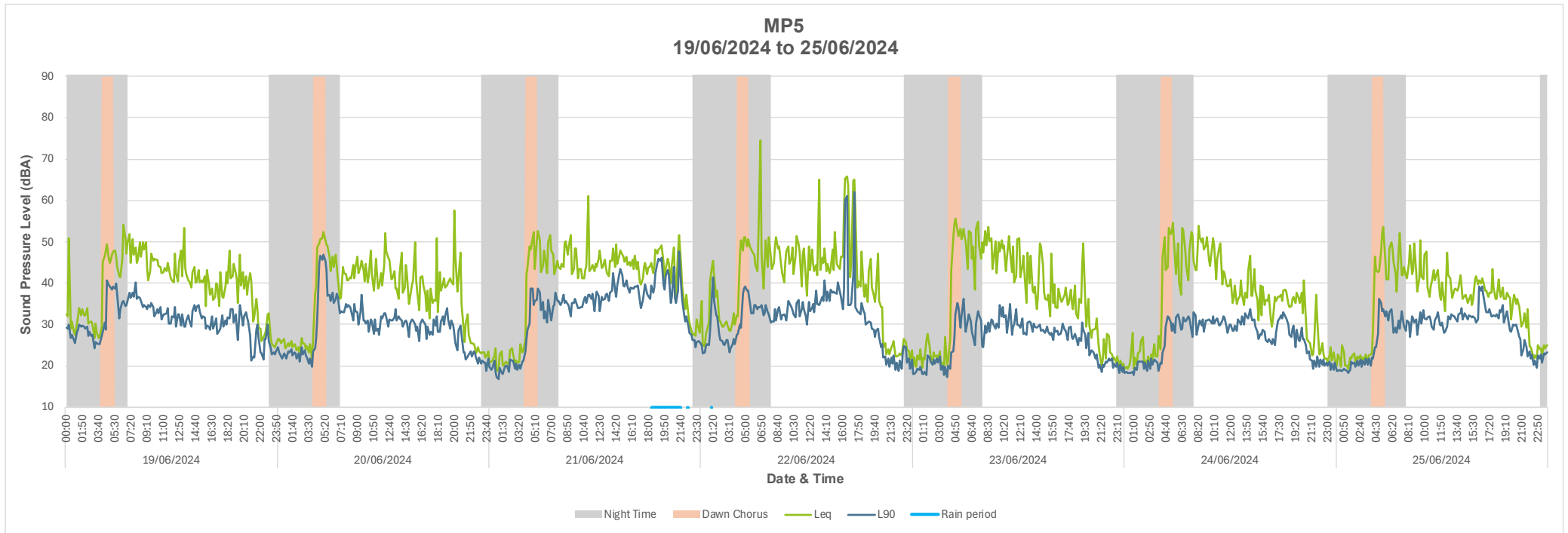


Figure 83 MP5 Time history (19/06/2024 – 25/06/2024)



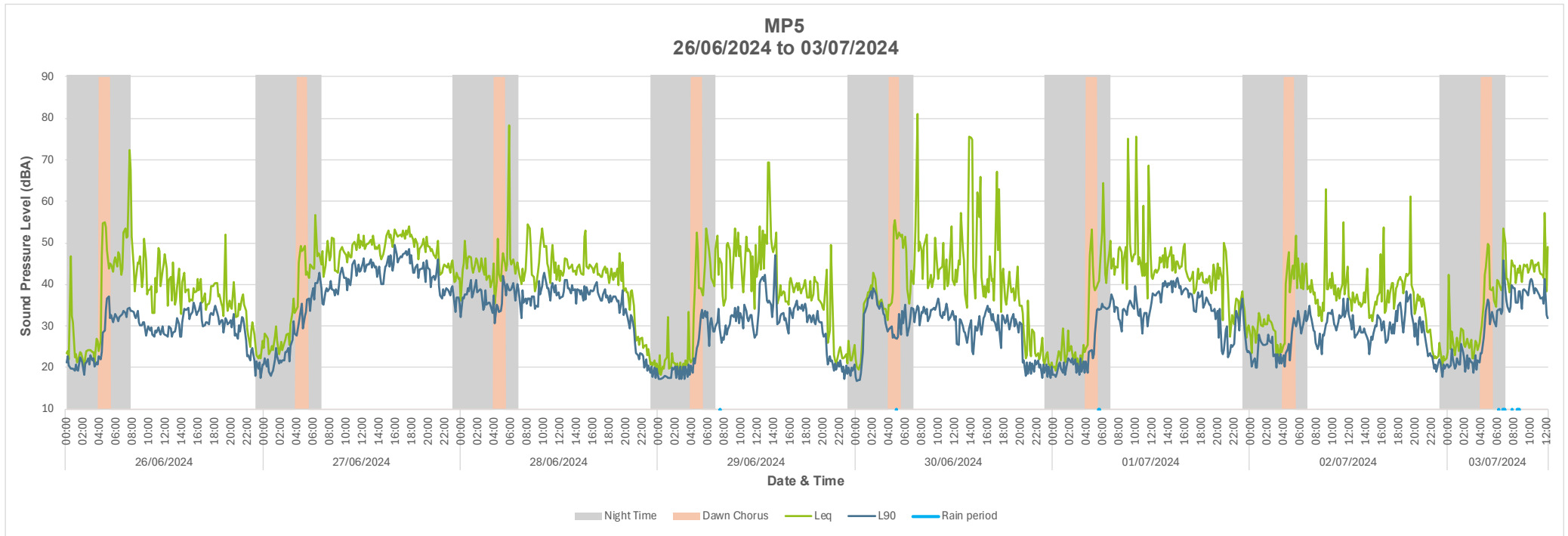


Figure 84 MP5 Time history (26/06/2024 – 03/07/2024)



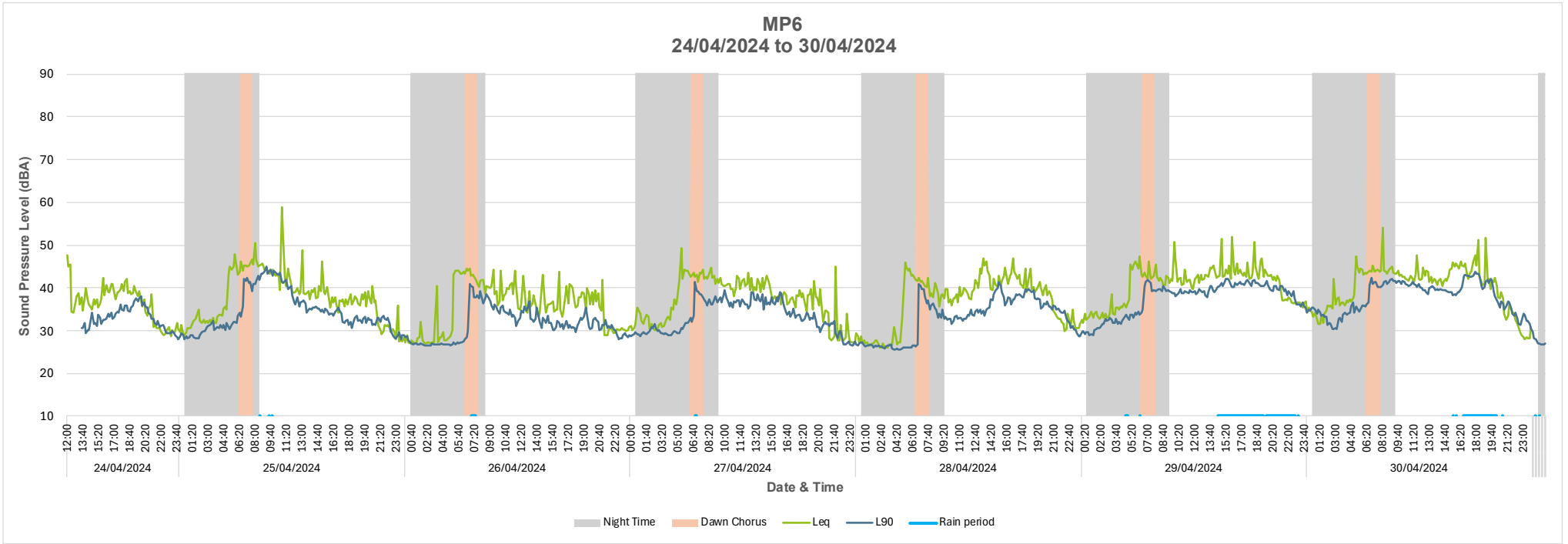


Figure 85 MP6 Time history (24/04/2024 – 30/04/2024)



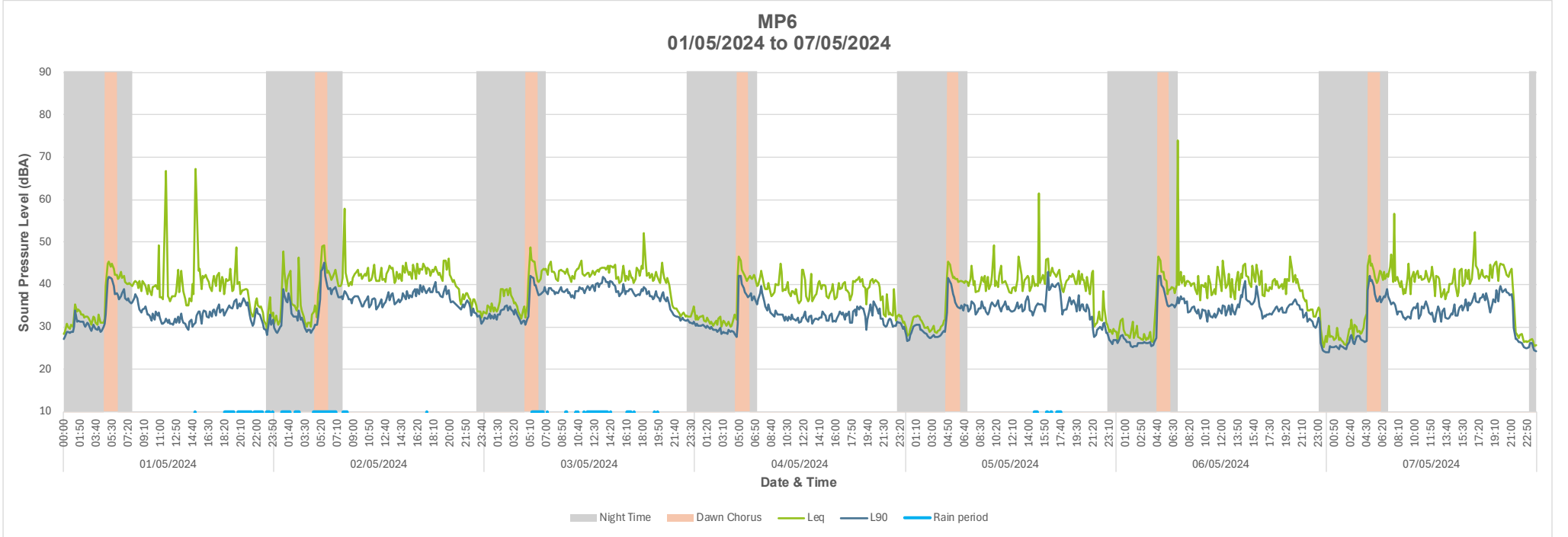


Figure 86 MP6 Time history (01/05/2024 – 07/05/2024)



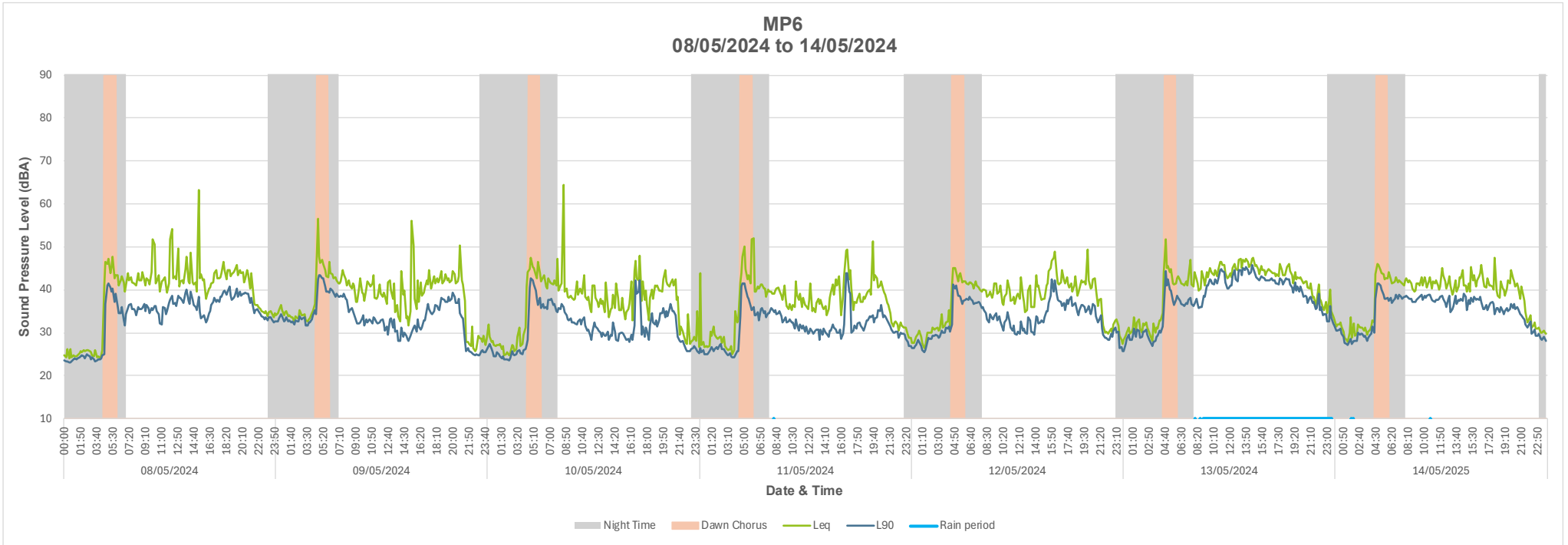


Figure 87 MP6 Time history (08/05/2024 – 14/05/2024)



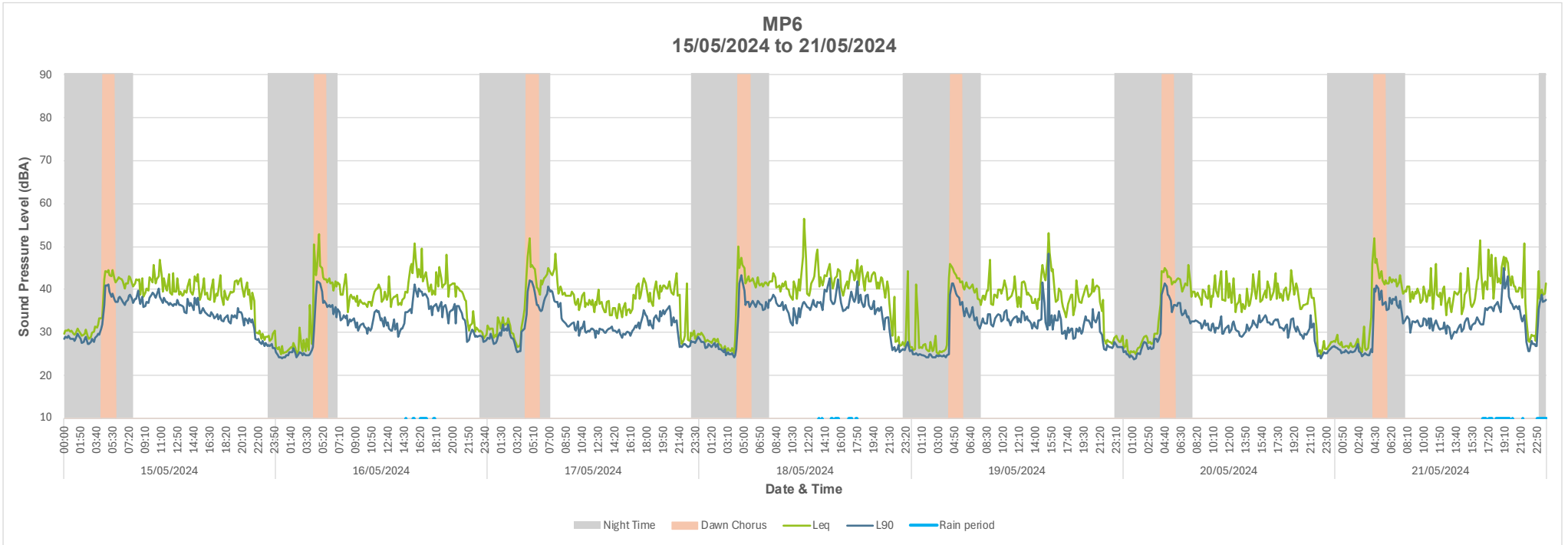


Figure 88 MP6 Time history (15/05/2024 – 21/05/2024)



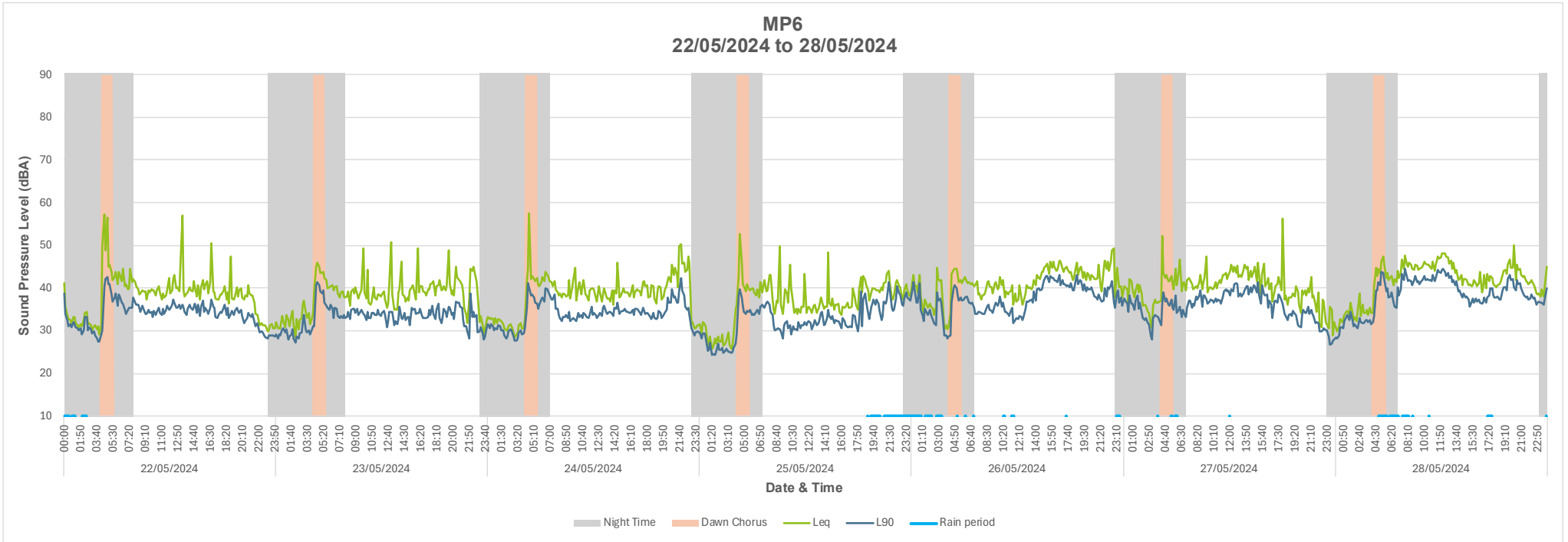


Figure 89 MP6 Time history (22/05/2024 – 28/05/2024)



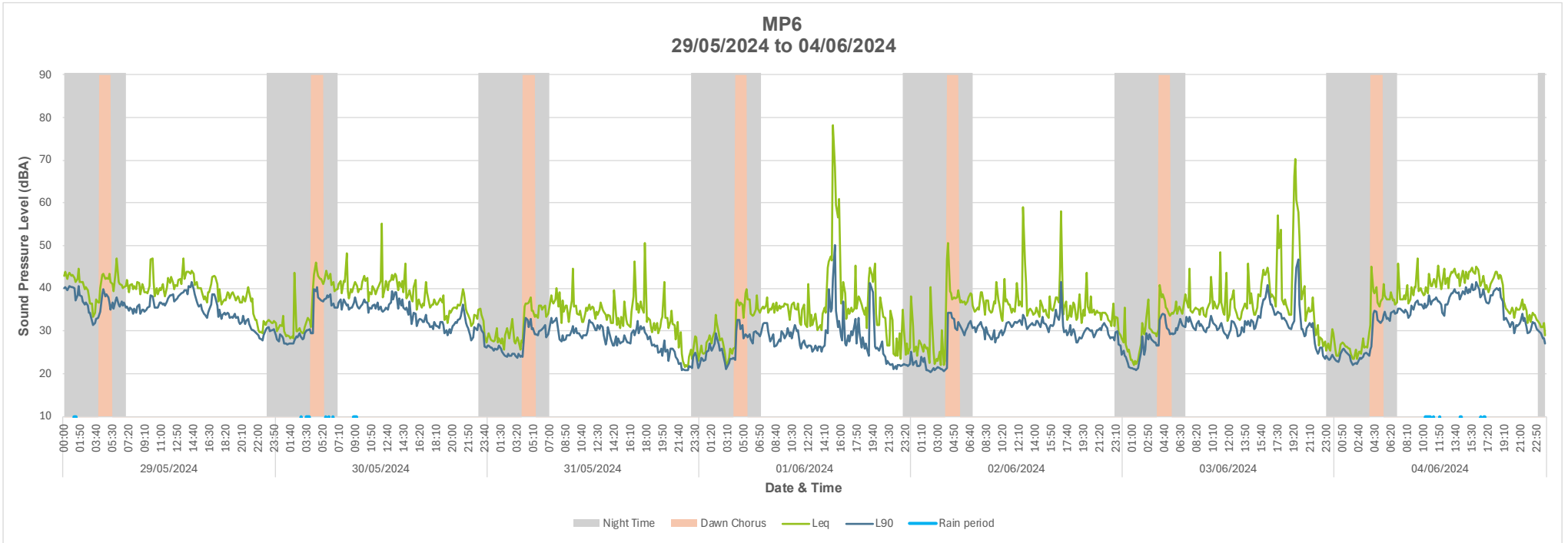


Figure 90 MP6 Time history (29/05/2024 – 04/06/2024)



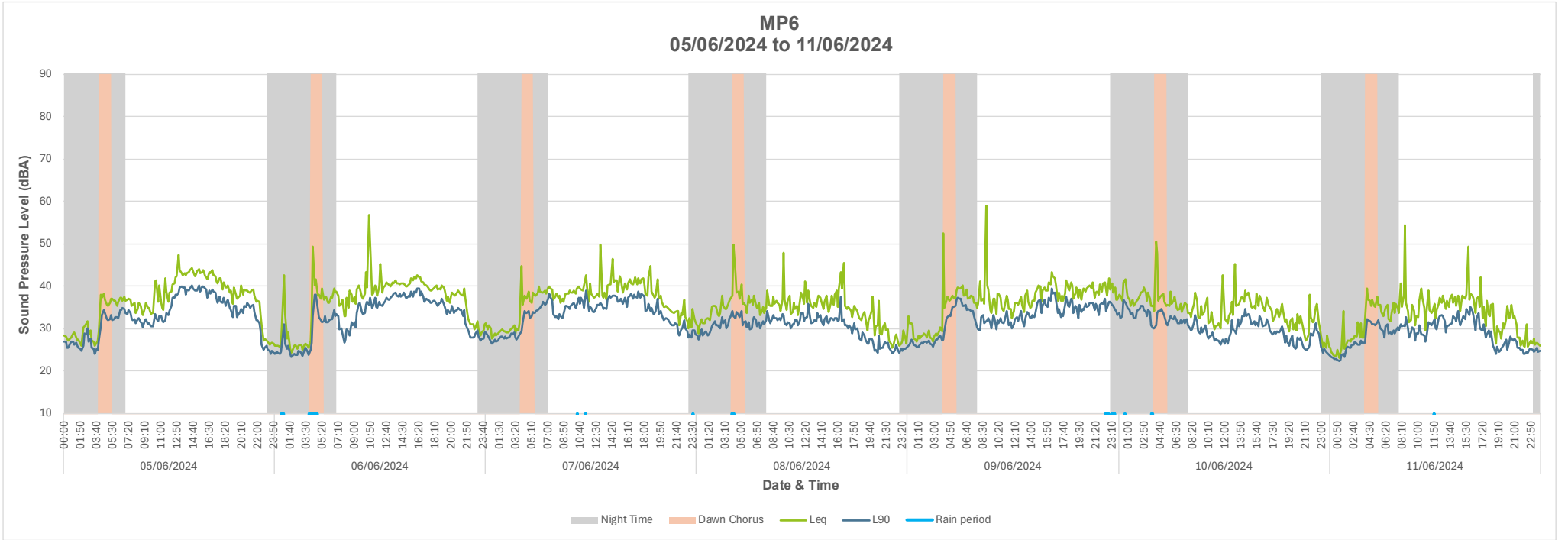


Figure 91 MP6 Time history (05/06/2024 – 11/06/2024)



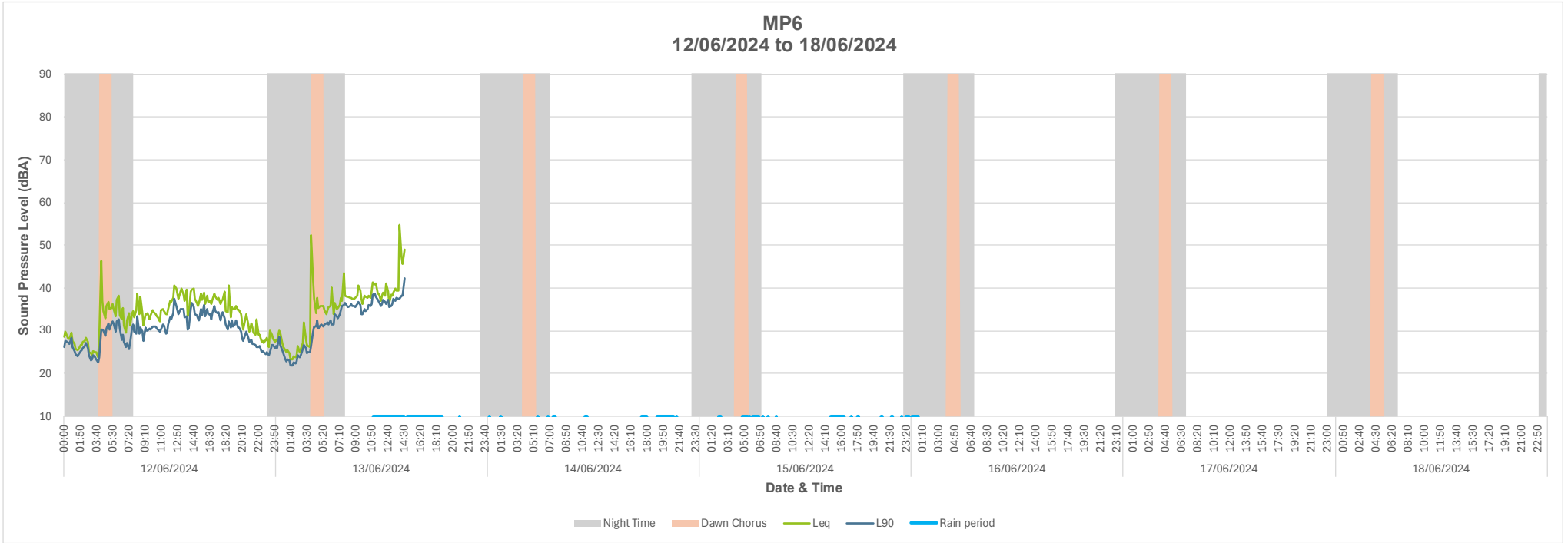


Figure 92 MP6 Time history (12/06/2024 – 18/06/2024)



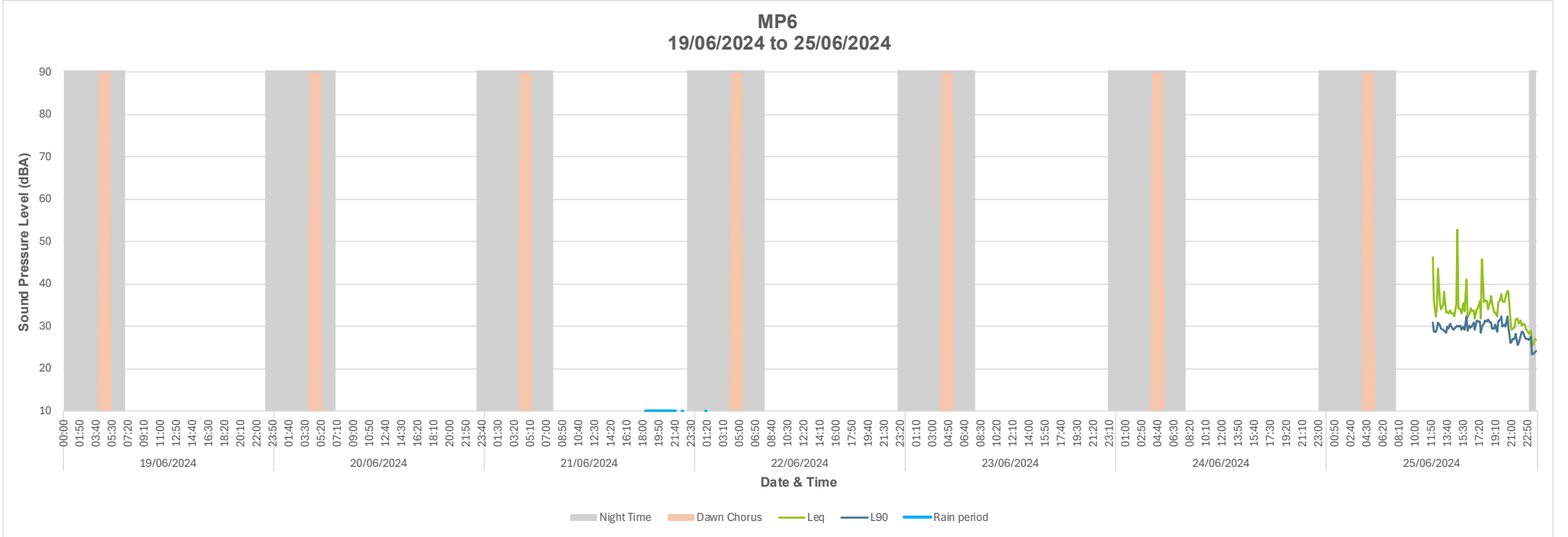


Figure 93 MP6 Time history (19/06/2024 – 25/06/2024)



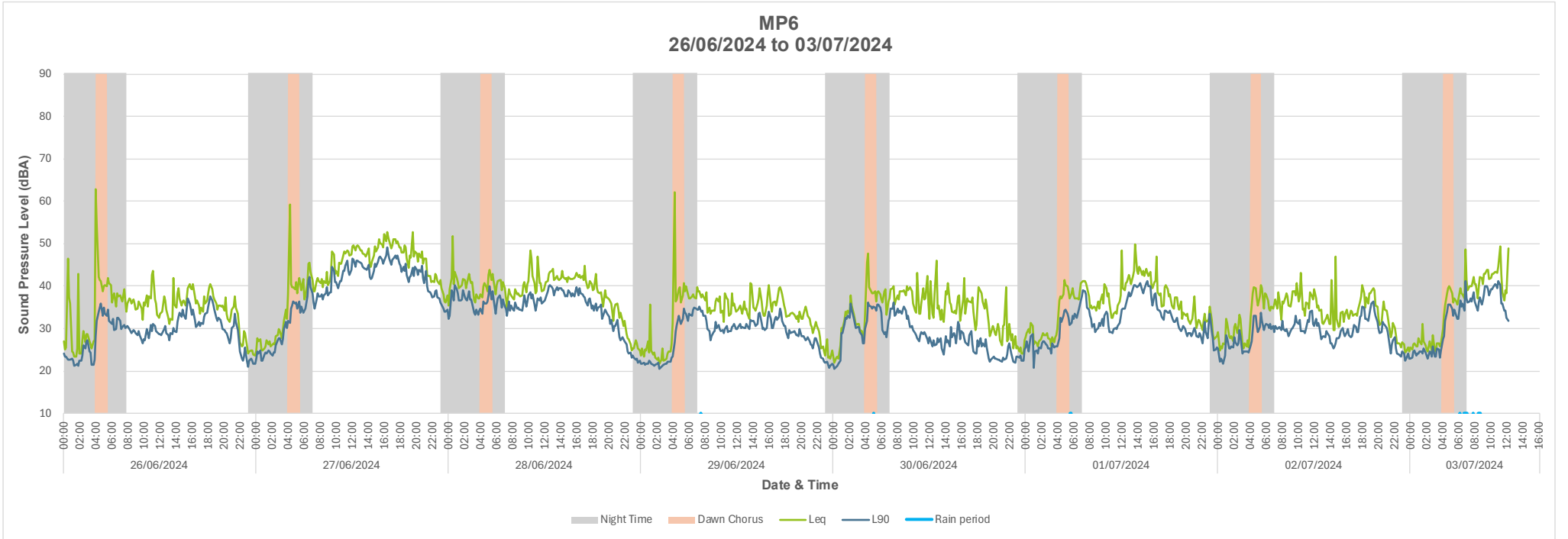


Figure 94 MP6 Time history (26/06/2024 – 03/07/2024)



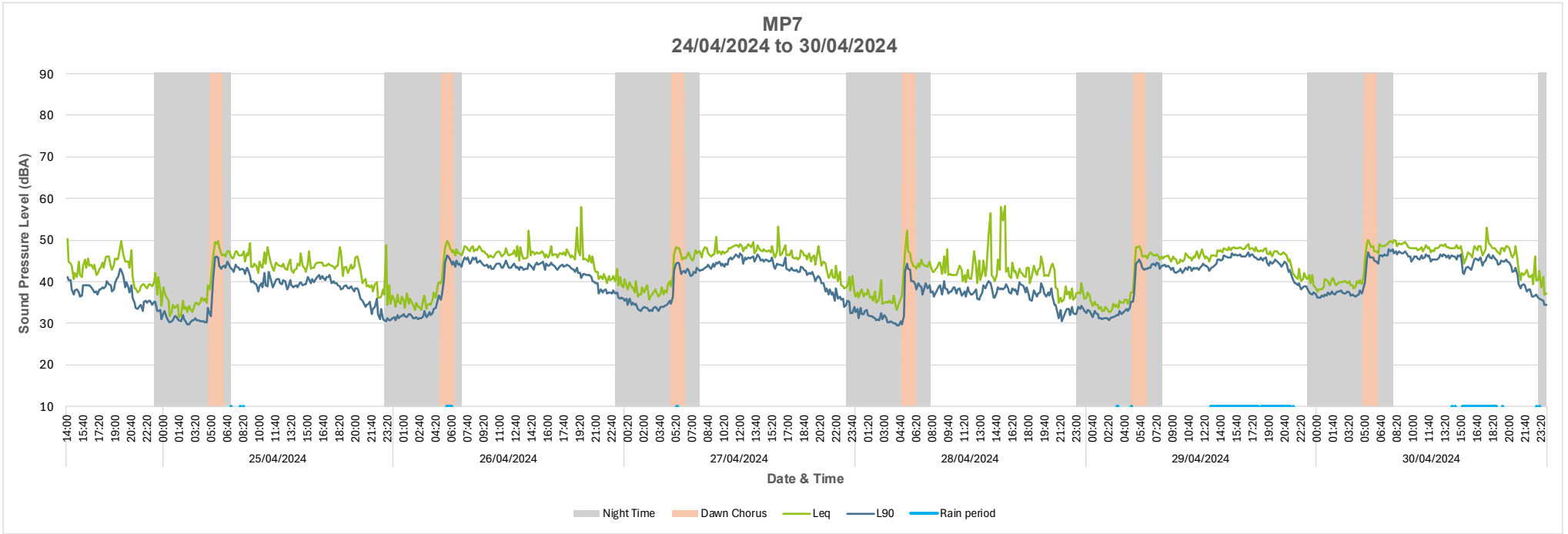


Figure 95 MP7 Time history (24/04/2024 – 30/04/2024)



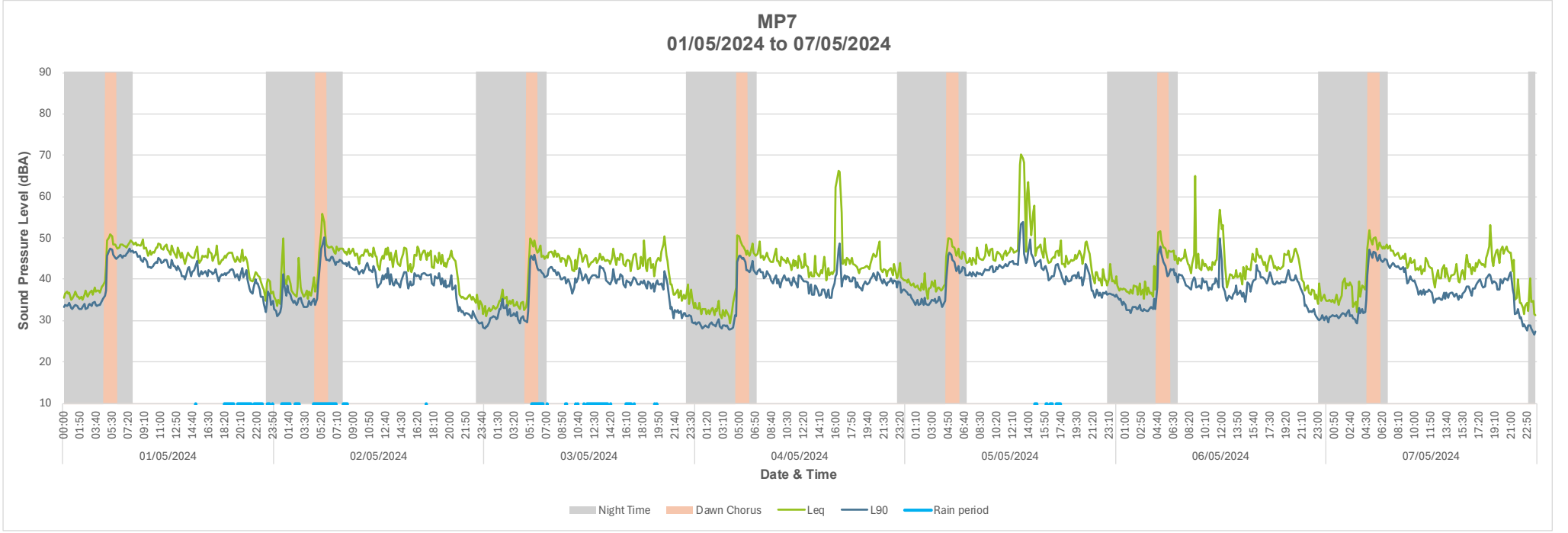


Figure 96 MP7 Time history (01/05/2024 – 07/05/2024)



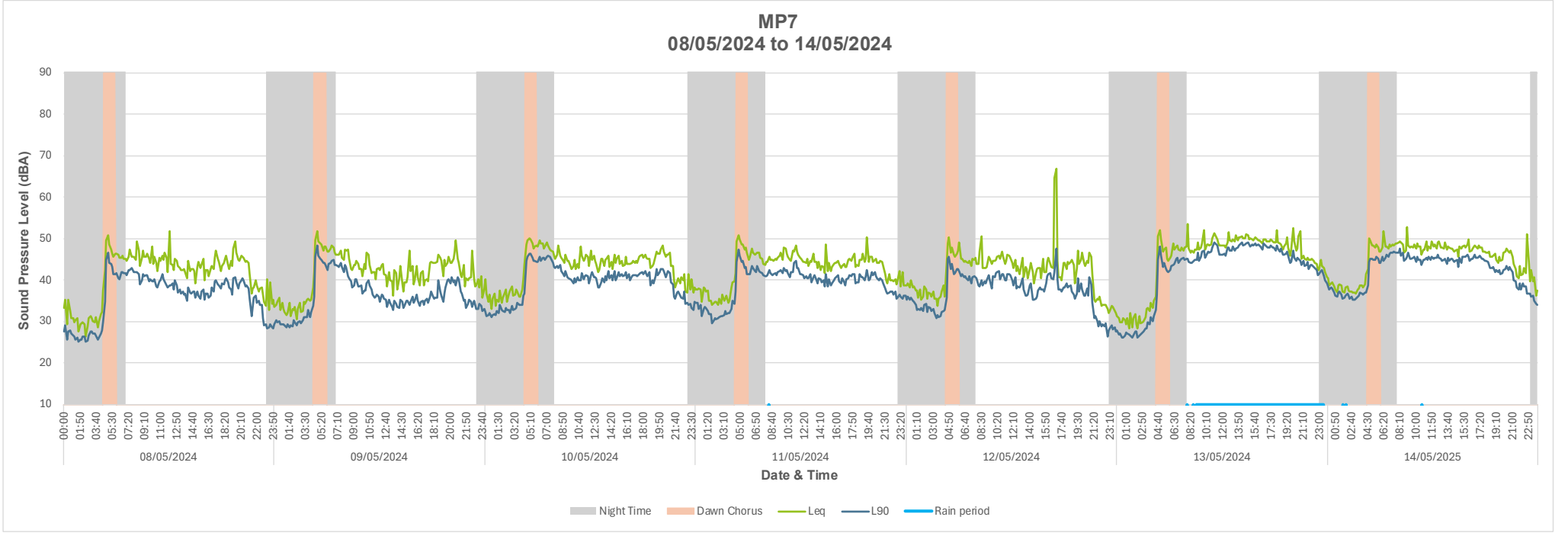


Figure 97 MP7 Time history (08/05/2024 – 14/05/2024)



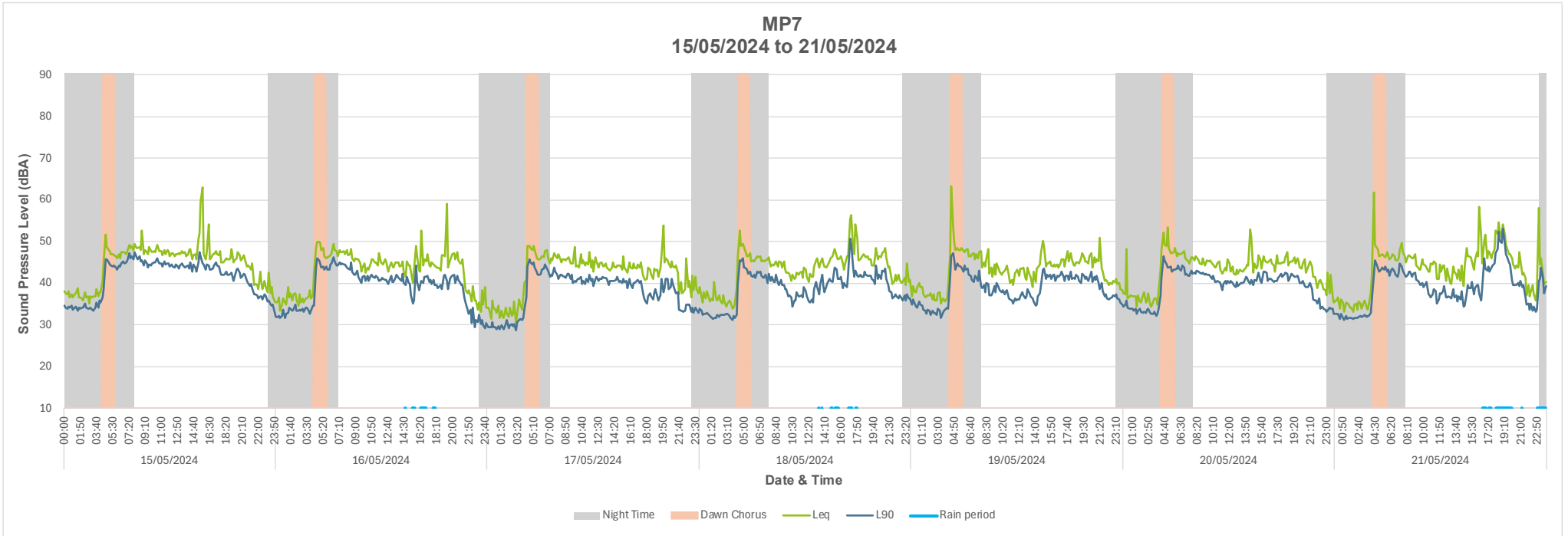


Figure 98 MP7 Time history (15/05/2024 – 21/05/2024)



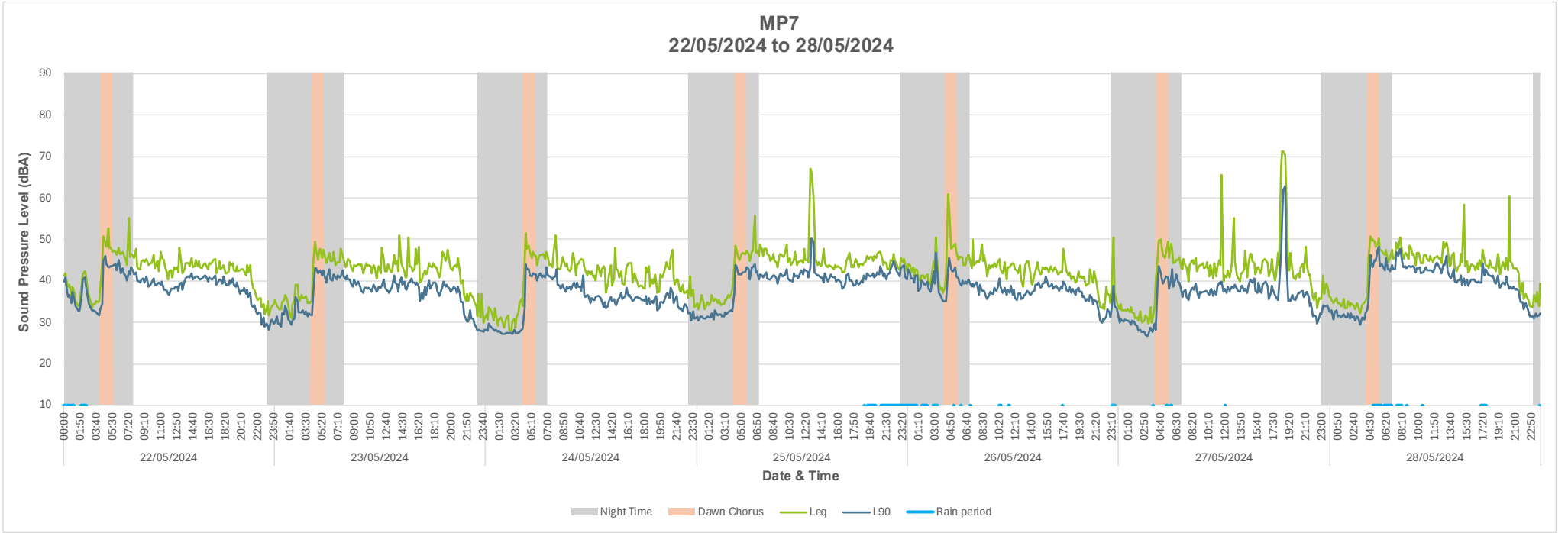


Figure 99 MP7 Time history (22/05/2024 – 28/05/2024)



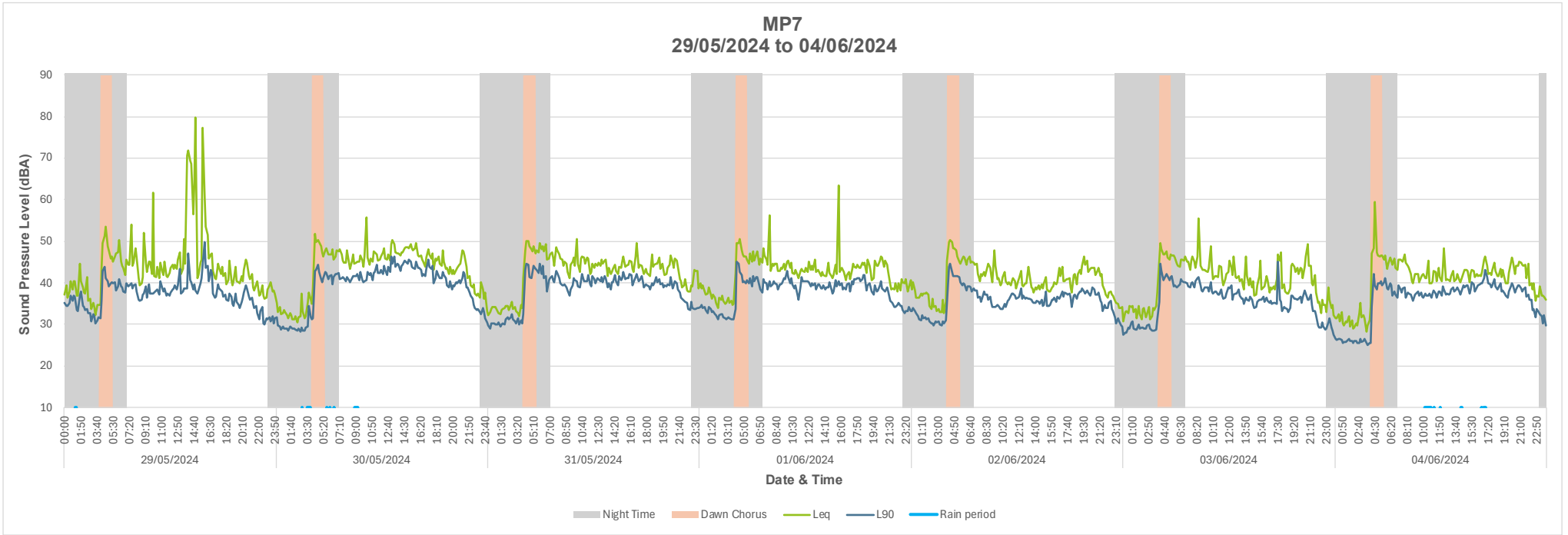


Figure 100 MP7 Time history (29/05/2024 – 04/06/2024)



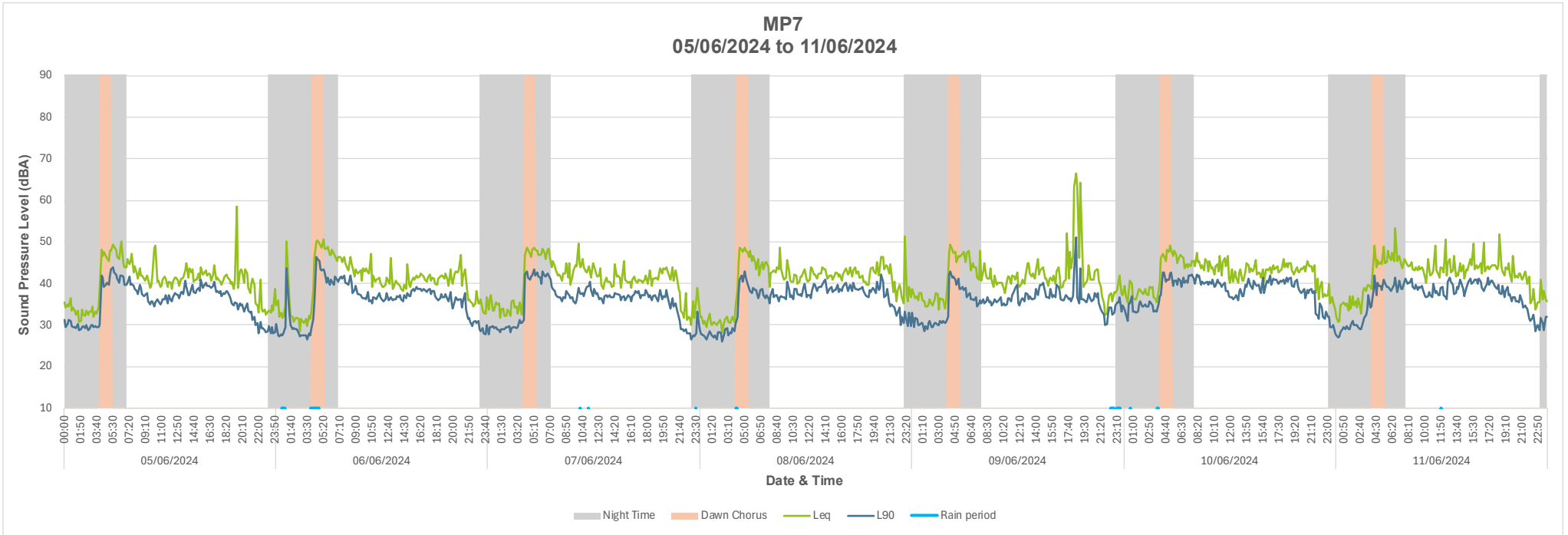


Figure 101 MP7 Time history (05/06/2024 – 11/06/2024)



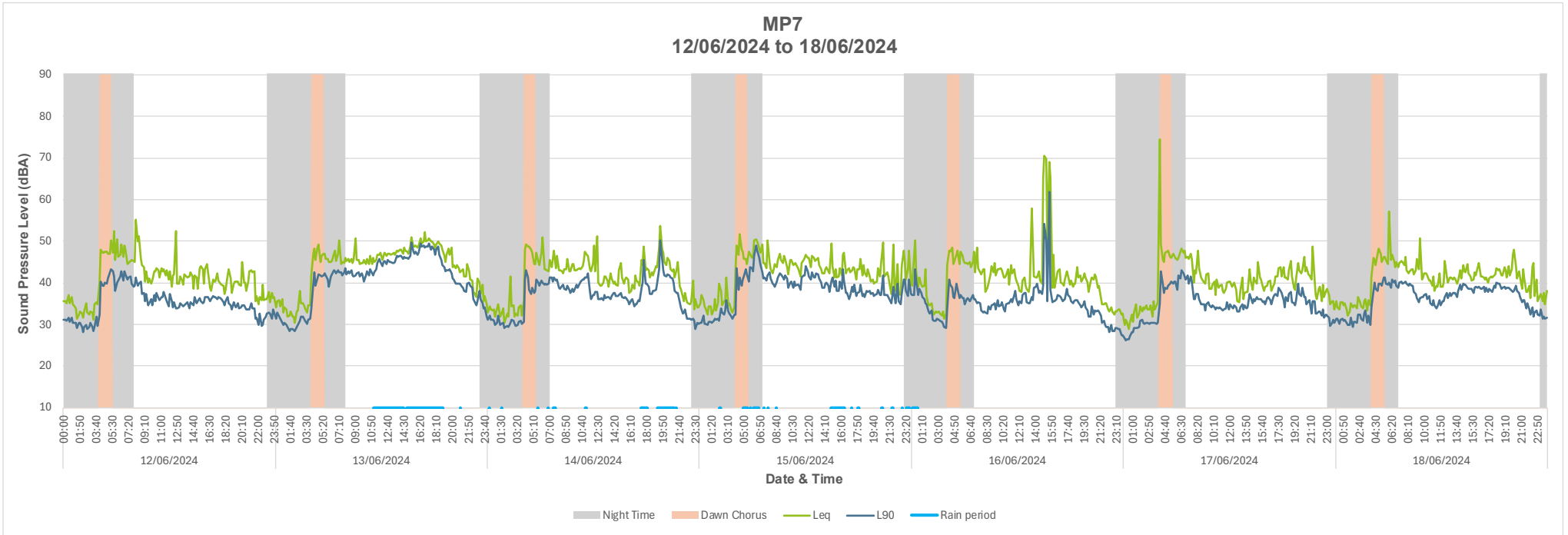


Figure 102 MP7 Time history (12/06/2024 – 18/06/2024)



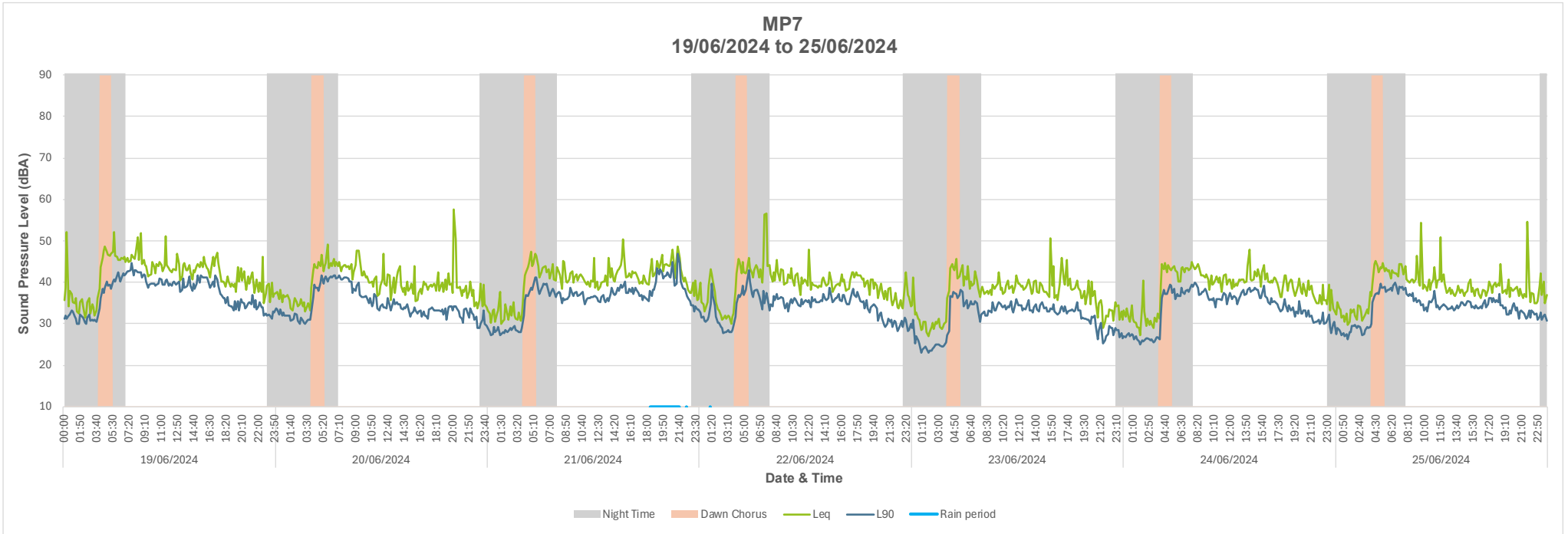


Figure 103 MP7 Time history (19/06/2024 – 25/06/2024)



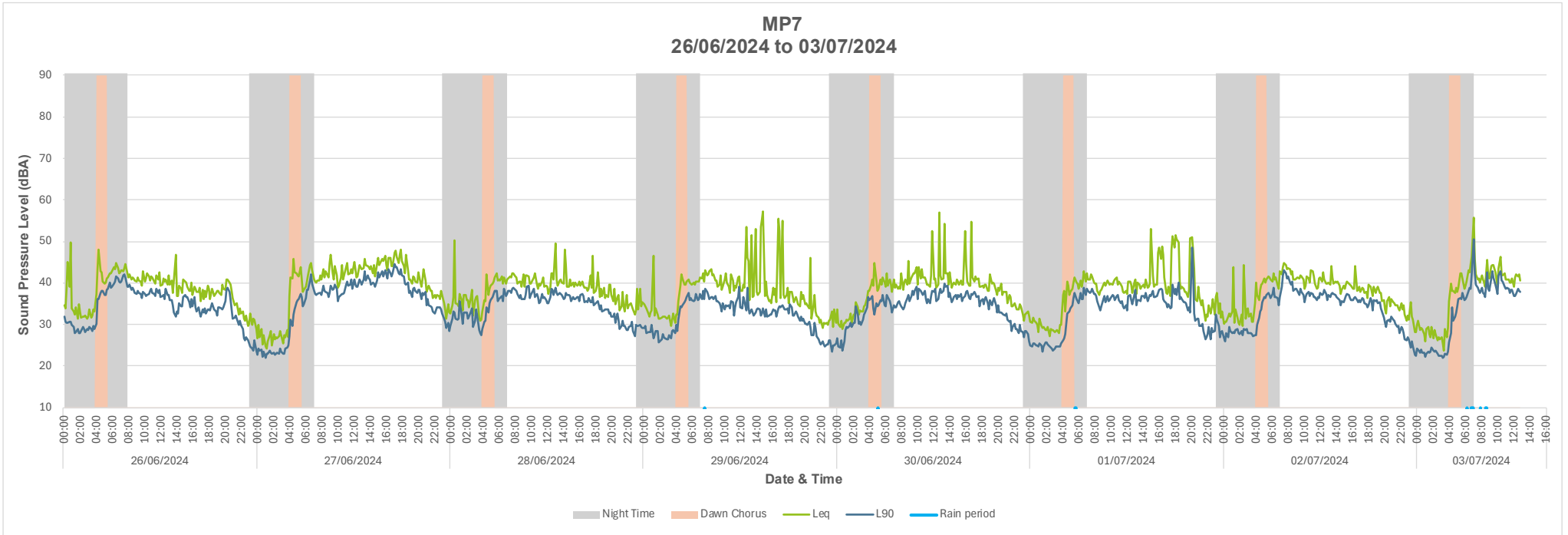


Figure 104 MP7 Time history (26/06/2024 – 03/07/2024)



