

**T2: Classic Sample Site along already upgraded highway**

Time Interval	Avg Ambient (LA90)		Diff Max to Eq	Diff Max to Amb	Diff Eq to Amb
	Avg Leq	Avg Lmax			
Average 9-10	38.4	46.4	58.4	20.1	12.1
Average 10-12	37.4	47.9	57.9	20.6	10.0
Average 12 - 5	36.9	48.2	56.9	20.1	8.7
Average 5 - 7	42.5	49.1	59.8	17.4	10.7
<b>Avg Night 9 hr</b>	<b>38.9</b>	<b>48.3</b>	<b>57.8</b>		

Diff Max to Amb	and Avg Leq GT	Or	Avg Leq
15.0	45.0		50.0

**This is a classic example of the sleep disturbance issue on the NSW North Coast.**

Geography: road is slightly below house, bush between house and road as ground rises up from road to house.

House is to east of highway. Note that all the differences Max to Amb are of similar magnitude across the time periods.

Clearly there are problems; look at Lmax consistently 20 dB(A) above elevated ambient level.

**Passes existing RMS, but fails WHO 2018 guidelines.**

**This time period is equivalent to 5 trucks passing / 5 mins each taking 50 seconds.**

Ambient level rises here due to birds in the 5 - 7 am time period, dragging down the Ambient to Max difference.

**13 of the 118 periods have at least 1 event with Lmax greater than the rule exception of 64.9.**

Do we just continue to repeat the same mistakes?

Residents have continually complained that the problem really only started with the highway upgrade.

**T4A: Ambient Measurements - NCA13 Adjacent to Coramba interchange**

Time Interval	Avg Ambient (LA90)		Diff Max to Eq	Diff Max to Amb	Diff Eq to Amb
	Avg Leq	Avg Lmax			
Average 9-10	25.8	52.2	68.5	42.6	16.2
Average 10-12	22.4	46.3	62.0	39.6	15.6
Average 12 - 5	26.2	44.2	53.4	27.2	9.2
Average 5 - 7	37.2	55.6	69.8	32.6	14.2
<b>Avg Night 9 hr S1</b>	<b>31.6</b>	<b>50.2</b>	<b>58.9</b>	EIS model Leq <b>60,64</b> sth façade	
<b>Avg Night 9 hr S2</b>	<b>31.7</b>	<b>48.6</b>	<b>60.6</b>	EIS model Leq <b>60,64</b> sth façade	

Equivalent to 6 cars, 2 vans, and a small truck.

1 car 20 metres away.

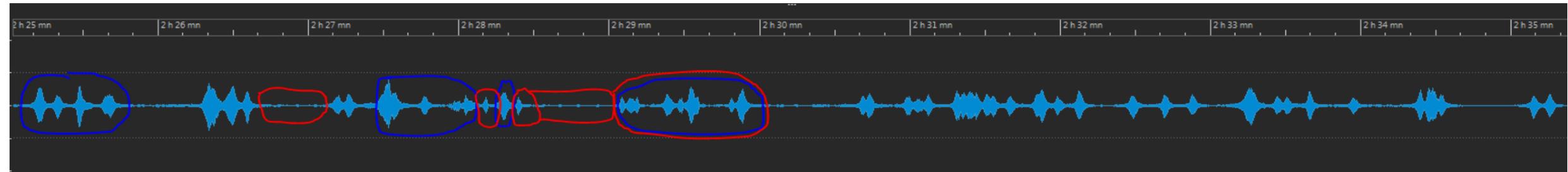
The avg Leq is 34.6 until 4 am. Noise ramps up from 4.15 am.

For transitional comparison need to compare this time interval with the same from Birugan Close.

There is some bird noise in this period, though nowhere near the extent as residences in quiet areas, see typical noise profile visual.

Nobuild 2024: S 60- 64; target 60/55 2nd measurement is a Saturday night

20 metres from Coramba Road, 382 metres from centre of planned Coramba Interchange (eastern side) and 440 metres from the centre of the new Bypass (near interchange)



Above is a noise profile of a typical 10 minute noisy period, commencing around 6:10 am. The Leq's are 56.2 for each 5 minute period. Traffic events are circled in blue, birds in red, and often both, red and blue at 2 hours 29 minutes.

**21 Safrano Place. Coffs Harbour (Leq0029) - NCA13**

Row 1224

Time Interval	Avg Ambient (LA90)		Diff Max to Eq	Diff Max to Amb	Diff Eq to Amb
	Avg Leq	Avg Lmax			
Average 9-10	27.8	44.6	56.8	29.1	12.2
Average 10-12	23.5	38.7	54.4	31.0	15.7
Average 12 - 5	22.3	35.7	48.5	26.2	12.8
Average 5 - 7	38.1	49.1	62.9	24.8	13.7
<b>Avg Night 9 hr</b>	<b>32.0</b>	<b>43.4</b>	<b>53.0</b>	EIS model Leq <b>53,54</b> west façade	

82 metres from Coramba Road, 323 metres from centre of planned Coramba Interchange (eastern side) and 405 metres from the centre of the new Bypass;

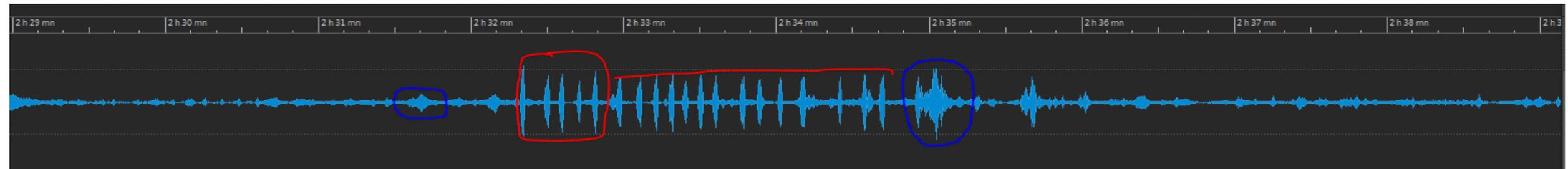
Relatively quiet. Equivalent to 2 or 3 cars per 5 minutes.

This is quiet with say 1 car 80 metres away / 5 minutes.

This is substantially impacted by bird noise; the further from Coramba Road the more significant the bird noise in this time period;

and the less significant the road traffic.

Nobuild 2024: W 51- 54; target 59/53

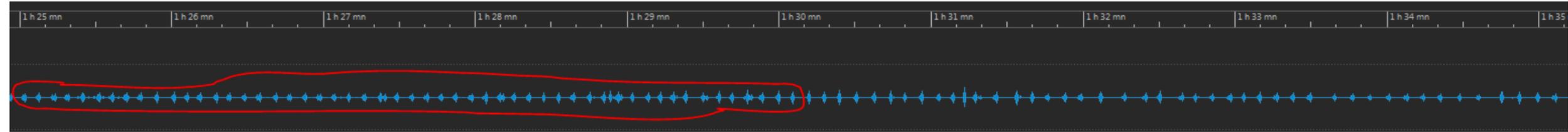


Above is a noise profile of a typical 10 minute noisy period, commencing around 6:15 am. The Leq's are 54.5 & 53.5 for the 5 minute periods. Traffic events are circled in blue, birds in red. This is mostly bird noise.

All of the short sharp peaks are bird noise, as highlighted above by the red. If you want to understand the source of the noise you only need to listen to some of the audio that matches the NPM noisy periods.

Time Interval	Avg Ambient (LA90)	Avg Leq	Avg Lmax	Diff Max to Amb	Diff Max to Eq	Diff Eq to Amb
<b>23 Roselands Ave, Coff's Harbour (Leq0028) - NCA13</b>						
Average 9-10	32.4	40.8	51.5	19.0	10.7	8.3
Average 10-12	31.0	38.3	46.6	15.6	8.4	7.3
Average 12 - 5	28.5	35.5	43.9	15.4	8.3	7.0
Average 5 - 7	42.7	49.2	58.2	15.5	8.9	6.6
<b>Avg Night 9 hr</b>	<b>36.8</b>	<b>43.4</b>	<b>47.7</b>	EIS model Leq 44 west façade		

293 metres from centre of Bypass, 226 metres from centre of eastern interchange, Bypass will circle this property, and add a service road  
 We measured on the western façade, just out from the front balcony, right next to a creek.  
 This period has traffic in the background, but it is all creek noise, a bird that goes every 5 seconds and doesn't stop, and then house chimes.  
 Again the creek noise doesn't stop.  
 This is all bird and creek, the traffic has picked up but it is nothing.  
**A site within a few houses needs to be found; not alongside a creek. It will prove that the existing traffic is nothing. It will also prove that 5-7 am is all birds.**  
 There are multiple SW and NW façades. The noisiest increase by only 3 to 4 dB (44 to 47 and 44 to 48)?  
 There is no way that this is 44 dBA (as modelled in the EIS). We measured at 43.4 but it is all noise from the creek alongside.



Above is the profile for a noisy 10 minute period from 11 pm. It is a couple of creek birds that do not stop, plus house chimes, and creek noise.  
 The RMS modelled traffic noise figure of 44 to 47 decibels is ridiculous. An independent body just needs to go to a nearby house, without the creek, measure, record and listen.

**T4B: Ambient Measurements - NCA16 Adjacent to railway line & Shepherds Lan**

Time Interval	Avg Ambient (LA90)	Avg Leq	Avg Lmax	Diff Max to Amb	Diff Max to Eq	Diff Eq to Amb
<b>26 Brennan Court, Coffs Harbour (Leq0031, 2nd Leq0039) - NCA16</b> Row 3558						
Average 9-10	26.1	36.3	49.2	23.4	16.0	7.4
Average 10-12	24.0	33.1	46.8	23.2	16.4	6.8
Average 12 - 5	26.8	37.0	50.9	24.4	18.0	6.5
Average 5 - 7	30.8	43.0	55.6	26.2	17.0	9.2
<b>Avg Night 9 hr S1</b>	<b>27.7</b>	<b>38.9</b>	<b>51.0</b>	EIS model Leq 36 sthwest façade		
<b>Avg Night 9 hr S2</b>	<b>32.5</b>	<b>39.9</b>	<b>43.6</b>	EIS model Leq 36 sthwest façade		

381 metres from closest point to highway (viaduct); 405 metres from western entrance to tunnel; 500 metres to Shepherds Lane overpass.  
 2nd measurement with 39.9: The average Leq from 10 pm until 5 am drops from 35.7 to 30.4 if the 4 periods impacted by the train are left out. Total of 84 periods measured.  
 Other than 6 trains per night this is very quiet.  
 Just the occasional car. SW GF predicted to peak at 43 and SW 1F at 44.  
 By 5:15 am, as much birds as local traffic We measured this place on the SW façade closest to existing local traffic.  
 Nobuild 2024: all but SW 30 - 32; target 46/44 Southwest is predicted to be the noisiest; why should the southwest be the noisiest now  
**Pre-existing traffic noise: 30.4 dB first 7 hours + estimated 33-35 dB last 2 hours (dependent on impact of birds)**

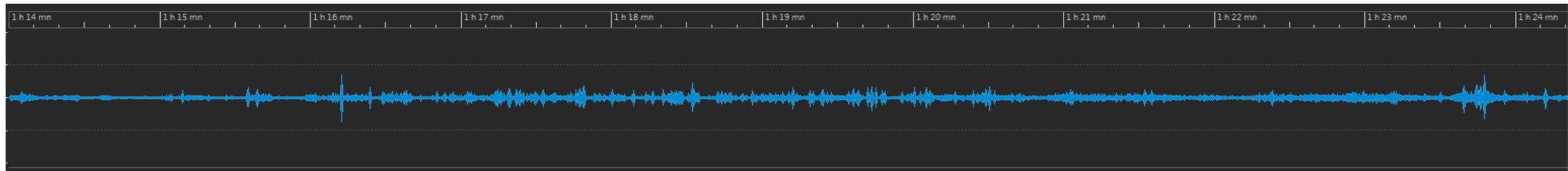
Time Interval	Avg Ambient (LA90)	Avg Leq	Avg Lmax	Diff Max to Amb	Diff Max to Eq	Diff Eq to Amb
<b>19 Rigoni Cres, Coffs Harbour (Leq0045) - NCA16</b> Row 3277						
Average 9-10	26.5	41.3	42.4	16.4	8.3	8.1
Average 10-12	28.3	51.6	43.2	15.4	7.2	8.2
Average 12 - 5	26.0	58.8	40.0	15.4	7.5	7.9
Average 5 - 7	35.8	53.9	65.2	31.1	16.1	15.0
<b>Official averages</b>	<b>30.8</b>	<b>57.1</b>	<b>46.3</b>	EIS model Leq 30 northern façade		

700 metres from viaduct on western side of tunnel; 519 metres from eastern entrance to tunnel; 556 metres to western entrance to tunnel.  
 The average Leq from 10 pm until 5 am drops from 57.7 to 31.5 if the 8 periods impacted by the train are left out.  
 We measured this place on the northern façade away from the local traffic, same façade as in EIS.  
 More birds than local traffic, plus a train.  
 EIS neasured this place at Leq 53 overnight Noisiest nobuild façade is south at 32.  
**Pre-existing traffic noise: 31.5 dB first 7 hours + estimated 33-35 dB last 2 hours (dependent on impact of birds)**

**T5: Ambient Measurements - Korora**

Time Interval	Avg Ambient (LN90)	Avg Leq	Avg Lmax	Diff Max to Amb	Diff Max to Eq	Diff Eq to Amb
<b>1b Breakers Way, Korora (Leq0052) - NCA24</b> Row 1666						
Average 9-10	35.4	40.7	51.1	15.6	10.3	5.3
Average 10-12	36.7	42.8	50.8	14.0	8.0	6.0
Average 12 - 5	34.9	40.2	47.6	12.7	7.5	5.3
Average 5 - 7	47.0	50.1	58.6	11.5	8.5	3.0
<b>Avg Night 9 hr</b>	<b>41.5</b>	<b>45.1</b>	<b>50.8</b>	EIS model Leq 50-52 GF west:		

410 metres from highway at nearest point; within a 90 degree arc ranges from 522 m to the north to 463 m to the south (which is at the Korora interchange)  
 RMS model has the 'to be' level unchanged from today.  
 This period is mostly bird noise with just a traffic hum in the background, would suggest the traffic is little changed from the 10 pm - 5 am 7 hour average of 41.1 dB  
**Significant difference in baseline, needs to be investigated**



Above is a noise profile of a typical 10 minute noisy period, commencing around 5:00 am. The ambient noise, shown between all the peaks is the hum of constant traffic, just about every peak is bird noise.  
 Note that the bird noise, taken just before the move to daylight saving, is shown here at 5 am, right at the start of the time-slot.  
 Again, one just needs to listen to the audio that matches the relevant NPM periods, in this instance we selected a typical noisy period for the 5 - 7 am time period.