This document is to be read in conjunction with “Waterloo Wind Farm Survey April 2012 – Select Committee“ by M Morris which can be found on line at: www.wind-watch.org/news/wp-content/uploads/2012/07/Waterloo-Wind-Farm-Survey-April-2012-Select-Committee.pdf

These graphs serve to demonstrate the extent of noise disturbance, sleep disturbance and self described adverse effects from the Waterloo wind farm in SA.

Method and Results
An anonymous self reporting survey and letter of introduction explaining why the survey was being conducted, was posted or delivered to all households within or near a 10 kilometre zone of the Waterloo Wind farm. Of the 230 surveys delivered 93 households returned completed surveys. 40% response rate.
For the 93 households located approximately within a radius of 10 kilometres of the Waterloo Wind farm, 49% were disturbed by impacts including noise, visual flicker or television reception.
Daytime Noise disturbance, which in some cases varied with weather, was reported in 39% of households surveyed.
Night time noise disturbed 40 % of households and of those surveyed, 27 households or 29% of households surveyed reported sleep disturbances.
Upon examining the responses from within 5 km of the turbines, 56 % of households were disturbed by day time noise, 56 % disturbed by night time noise and 39 % experienced sleep disturbance.

Morris, M. Waterloo Wind Farm Survey April 2012 Part 2 – Graphs v2
Question 6 (i)  0 – 10 + km from the wind farm

Does the wind farm generate noise disturbance during the day?

Figure 6A Does the wind farm generate noise disturbance during the day? 0 - 10+ km

Yes 39%
No 61%

Total of 93 households  Yes 36 households  39%
                      No 57 households  61%
Question 6 (ii) 0 – 5 km from the wind farm

Does the wind farm generate noise disturbance during the day?

Figure 6B. Does the wind farm generate noise disturbance during the day? 0 - 5 km

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>23</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>56%</td>
<td>44%</td>
</tr>
</tbody>
</table>

0 - 5 km away  Total of 41 households  Yes  23 households  56%
                No     18 households  44%

Morris, M. Waterloo Wind Farm Survey April 2012 Part 2 – Graphs v2
Question 7 (i) 0 – 10 + km from the wind farm

Does the wind farm generate noise disturbance during the night?

Figure 7A. Does the wind farm generate noise disturbance in the night? 0 - 10+ km

Yes 40%

No 60%

0 – 10 + km away Total of 93 households Yes 37 households 40 %%

No 56 households 60 %
Question 7 (ii) 0 – 5 km from the wind farm

Does the wind farm generate noise disturbance during the night?

Figure 7B. Does the wind farm generate noise disturbance during the night? 0 - 5 km

- Yes: 23 households (56%)
- No: 18 households (44%)

0 – 5 km away  Total of 41 households

Morris, M. Waterloo Wind Farm Survey April 2012 Part 2 – Graphs v2
Questions 6 & 7 (iii) Does the Waterloo wind farm generate noise in the day? night?

How does it disturb your household during the day & night? 93 households

21 households described being disturbed by vibration type noise

11 households described being disturbed by sounds like a vehicle or storm approaching

19 households described being annoyed by droning, humming, throbbing, whining, drumming, thumping, grinding type noises

5 households were annoyed by vibration of their sheds/farm buildings/fences making it impossible or unpleasant or difficult to work there at times.
Question 8 (i). 0 - 10 + km from the Waterloo wind farm

Are there any particular weather conditions that create more noise disturbance?

Figure 8 A. Are there any particular weather conditions that create more noise disturbance? 0 - 10+ km

<table>
<thead>
<tr>
<th>Response</th>
<th>Number of Households</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>29 households</td>
<td>31%</td>
</tr>
<tr>
<td>No</td>
<td>64 households</td>
<td>69%</td>
</tr>
</tbody>
</table>

0 – 10 + km away  
Total of 41 households

Morris, M.  Waterloo Wind Farm Survey April 2012 Part 2 – Graphs v2
Question 8 (ii). 0 - 5 km from the Waterloo wind farm

Are there any particular weather conditions that create more noise disturbance?

Figure 8B. Are there any particular weather conditions that create more noise disturbance? 0 - 5 km

0 – 5 km away   Total of 41 households   Yes 22 households  54 %

No 19 households  46 %
Question 8 (iii) For households who answered yes to Question 8 - Are there any particular weather conditions that create more noise disturbance? What happens?

![Figure 8 C. weather conditions described as creating more noise disturbance 0 - 10 km](image)

- **Wind Direction**: 33 households
- **Barometer (low/change)**: 8 households
- **Wind Speed Ridge (high)**: 6 households
- **Wind Speed Ground (low)**: 17 households
- **Cloud Cover (low, frosty)**: 10 households

Morris, M. Waterloo Wind Farm Survey April 2012 Part 2 – Graphs v2
Question 9 (i) Is your household’s sleep disturbed? 0 – 5 km

<table>
<thead>
<tr>
<th>Sleep Disturbed</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>16</td>
<td>39%</td>
</tr>
<tr>
<td>No</td>
<td>25</td>
<td>61%</td>
</tr>
</tbody>
</table>

0 – 5 km away    Total of 41 households    Yes 16 (39%)    No 25 (61%)

Question 9 (ii) How many nights per week is your sleep disturbed? 0 – 5 km

Difficult to quantify – varies with the weather    1 – 7, up to 7.
Question 9 (i) Is your household’s sleep disturbed?  0 – 5 km

<table>
<thead>
<tr>
<th>Distance (km)</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>1 - 2</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>2 - 4</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>4 - 5</td>
<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>

Total 41  
Yes 16  (39%)  
No 25  (61%)

Question 9 (ii) How many nights per week is your sleep disturbed? 0 - 5 km
Difficult to quantify – varies with the weather 1 – 7, many up to 7.
Question 9 (iii) How is your household disturbed? 0 – 5 km

Figure 9C  Affected householder descriptions of how sleep is disturbed

0 - 5 km

<table>
<thead>
<tr>
<th>km to nearest turbine</th>
<th>Number of households</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 1</td>
<td>2</td>
</tr>
<tr>
<td>1 - 2</td>
<td>11</td>
</tr>
<tr>
<td>2 - 4</td>
<td>3</td>
</tr>
<tr>
<td>4 - 5</td>
<td>3</td>
</tr>
</tbody>
</table>

- Wake up
- Can’t get to sleep
- Ear pain/pressure
- Headache
- Sweating
- Tinnitus
- Panic
- Broken sleep
- Blood pressure
- Move away to sleep
- Vibration
- Nausea

Morris, M. Waterloo Wind Farm Survey April 2012 Part 2 – Graphs v2
Question 9 (iii) How are your household disturbed? 0 – 10 km

Figure 9D. Affected Householder descriptions of how sleep is disturbed
0 - 10+ km
Question 9 (i) Is your household’s sleep disturbed? 0 – 10 km

Figure 9E Is your household's sleep disturbed? 0 - 10 km

Total 93  Yes 27  (29%)  No 66  (71%)

Question 9 (ii) How many nights per week is your sleep disturbed? 0 - 10 km

Difficult to quantify – varies with the weather 1 – 7, many 3 - 7.
Question 9 (i) Is your household’s sleep disturbed? 0 - 10 km

<table>
<thead>
<tr>
<th>Distance (km)</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 1</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>1 - 2</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>2 - 4</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>4 - 5</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>5 - 7.5</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>7.5 - 10</td>
<td>6</td>
<td>19</td>
</tr>
<tr>
<td>10+</td>
<td>1</td>
<td>9</td>
</tr>
</tbody>
</table>

Total 93      Yes 27 (29%)  No 66 (71%)

Question 9 (ii) How many nights per week is your sleep disturbed? 0 - 10 km

Difficult to quantify – varies with the weather 1–7, many 3–7.