

# Survey for the Presence of Striped Legless Lizard *Delma impar*

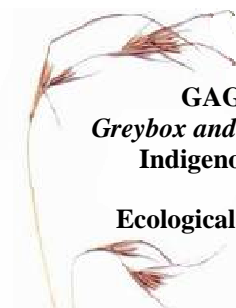
100 Vineyard Road Sunbury  
2009

Report Prepared For  
Keith Altmann & Associates



## Acknowledgements to the Authors and Contributors

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*February 2009*

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## **TABLE OF CONTENTS**

<b>1.0</b>	<b>BACKGROUND.....</b>	<b>1</b>
1.1	Objectives.....	2
1.2	Limitations.....	3
1.3	Significance of <i>Delma impar</i> .....	4
<b>2.0</b>	<b>METHODOLOGY.....</b>	<b>5</b>
2.1	Study Site.....	5
2.2	Previous Reports and Related Information.....	5
2.3	Survey Techniques.....	7
2.4	GPS and Mapping Capabilities.....	7
<b>3.0</b>	<b>RESULTS.....</b>	<b>8</b>
<b>4.0</b>	<b>IMPLICATIONS FOR DEVELOPMENT.....</b>	<b>9</b>
<b>5.0</b>	<b>REFERENCES.....</b>	<b>10</b>

### *Appendices*

<b>Appendix I</b>	Site Maps
<b>Appendix II</b>	Daily Weather Observations for January 2009

## **1.0            BACKGROUND**

Native Vegetation Management Services (NVMS), a division of Greybox and Grasslands Indigenous Nursery (GAGIN P/L), was commissioned by Keith Altmann in January 2005 to provide a botanical and habitat value assessment of the property 100 Vineyard Rd, Sunbury located within the City of Hume. This site is proposed for development and the intention of the preliminary report was to assess the site for habitat values and to locate, qualify and quantify these values according to Victoria's Native Vegetation Management Framework (DNRE, 2002). This assessment found that the property contained large areas dominated by *Austrodanthonia sp.* (Wallaby Grass). In addition to meeting requirements outlined by the Native Vegetation Management Framework, it was noted that the property contained suitable habitat for the EPBC listed species; Striped legless lizard *Delma impar*. A conformational-only survey was conducted from December 2006 to February 2007. The presence or absence of *D. impar* was not confirmed during this period. Due to the high potential of this property being considered suitable habitat for *D. impar*, a second presence/absence survey was conducted in January, 2009.

This report outlines the assessment that was undertaken to determine the presence or absence of *D. impar* within 100 Vineyard Rd, Sunbury.

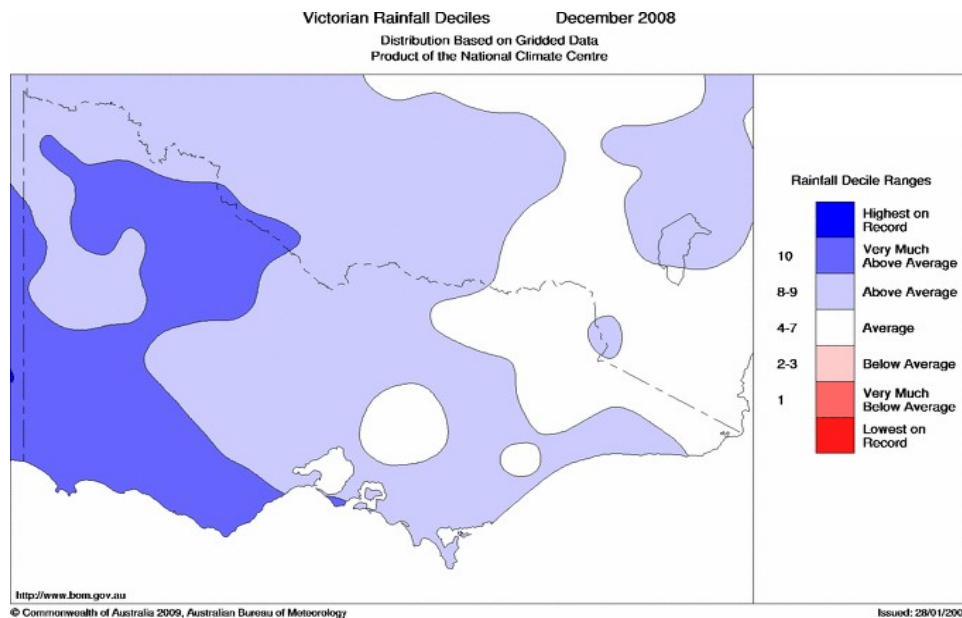
## **1.1 Objectives**

The objectives of this report are as follows;

1. Conduct a thorough 'Conformational-only' survey for *D. impar* within the seasonal constraints of the project.
2. Determine the presence or absence of *D. impar* within the property, 100 Vineyard Rd.

## 1.2 Limitations

The main limitations imposed upon this survey were that of weather and seasonal constraints. The spring of 2008 brought with it several extremely hot days in November followed by extensive rainfall in December (**Fig. 1.0**). The indigenous vegetation also responded to the unusually long spring and dropped seed in most areas 4-8 weeks later than previous years. Although the optimum survey period is often considered to be November-December it was decided that due to the unusual weather experienced during this period that the survey would be conducted in January.



**Figure 1.0** Rainfall deciles for the month of December 2008.

Other limitations imposed upon the survey include the breakage of tiles. Over the entire 450 tiles were placed in nine (9) quadrats. Approximately 20-25% of the tiles were found to be broken during the January survey. The quadrats varied in the number of tiles broken with some quadrats comprised of 80% broken tiles whilst others only had 2-3% broken.

### 1.3 Significance of *Delma impar*

#### Federal Significance

*D. impar* is listed as **vulnerable** under the *Environment Protection and Biodiversity Conservation (EPBC) Act, 1999*.

#### State Significance

The conservation status of *D. impar* in Victoria is **endangered** and it is also considered to be **threatened** under the *Flora and Fauna Guarantee (FFG) Act, 1988*.

## 2.0 METHODOLOGY

### 2.1 Study Site

The study site is located at 100 Vineyard Rd. Sunbury. Details of this property location and description of the vegetation and habitat zones are contained within the preliminary botanical and habitat significance report (Wlodarczyk & Williams, 2005) and addendums to this report are listed in the following section.

### 2.2 Previous Reports and Related Information

The previous related reports regarding 100 Vineyard Rd are as follows;

Wlodarczyk, P. & Hatt, T. (April 2008) **Flora and of Habitat Hectare Assessment for the area of the Retarding Basin - 100 Vineyard Road.** A report to Keith Altmann & Associates. Gagin Pty Ltd.

Wlodarczyk, P., Williams, L. & Hatt, T. (2007) **Targeted Fauna Search, *Delma impar*- Striped Legless Lizard at 100 Vineyard Road, Sunbury, City of Hume.** A Report for Keith Altmann & Associates. Gagin Pty Ltd.

Wlodarczyk, P. & Williams, L. (January 2005) **A botanical assessment and habitat significance of 100 Vineyard road, city of Hume.** A report to Keith Altmann & Associates. Gagin Pty Ltd.

Wlodarczyk, P. & Williams, L. (June 2005) **A short report into the habitat hectare value and net gain analysis of habitat zone PG4. Addendum to – Botanical assessment and habitat significance of 100 Vineyard Road, Sunbury.** For Keith Altmann & Associates. Gagin Pty Ltd.



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Włodarczyk, P. & Williams, L. (June 2005) **A botanical assessment and habitat significance of 100 vineyard road, city of Hume. Addendum 2.** A report to Keith Altmann & Associates. Gagin Pty Ltd.

### **2.3 Survey Techniques**

The details of the survey design and technique are described in the preliminary report Targeted Fauna Search, Striped Legless Lizard-*Delma impar* (Wlodarczyk, Williams & Hatt, 2007). The survey was conducted by qualified Gagin personnel on 3 separate occasions over a 3 week period from the 9<sup>th</sup> till the 21<sup>st</sup> of January. The surveys were conducted between the hours of 0730 - 1400hrs on days which were predicted to reach a maximum temperature of 20°C. Active searching for *D. impar* was also conducted during the survey, by searching among rocks which were located within the quadrats and were able to be turned by hand.

### **2.4 GPS and Mapping Capabilities**

The location of each section of habitat where amphibian species were found to be present was recorded using a Magellan eXplorist 600 handheld GPS receiver. The Magellan eXplorist 600 has an accuracy of <7m and uses multiple satellites which provide a 3D position fix. Thus recording the altitude, longitude and latitude of each position.

Maps were created using the mapping program TumAus. TumAus is a vector based map of the state of Victoria, Australia which provides a 1:25, 000 topographical vectorised data set (Sourced from VicMap, Department of Natural Resources and Environment). TumAus allows for the addition of information including uploading data from the handheld GPS receiver and the production of locally specific maps.

### 3.0 RESULTS

Nine (9) quadrats consisting of 50 tiles were surveyed for the presence of *D. impar* (**Map 1.0**). During the three survey efforts conducted in January 2009 no sightings or evidence of *D. impar* utilising the tiles were observed including a complete lack of skins which may have been shed (**Table 1.0**).

**Table 1.0** The number of *D. impar* observed within each of the quadrats during the three survey efforts.

	Date:	9 January 2009	14 January 2009	21 January 2009
		No. observed	No. observed	No. observed
<b>Quadrat Number</b>	<b>1</b>	0	0	0
	<b>2</b>	0	0	0
	<b>3</b>	0	0	0
	<b>4</b>	0	0	0
	<b>5</b>	0	0	0
	<b>6</b>	0	0	0
	<b>7</b>	0	0	0
	<b>8</b>	0	0	0
	<b>9</b>	0	0	0

The property was surveyed in temperatures equal to or greater than 20°C and less than 35°C on days which had winds of less than 35km/h during the survey period (**Table 1.1**).

**Table 1.1** Daily temperatures and rainfall for each of the days that the survey was conducted sourced from the Bureau of Meteorology.

<b>Date</b>	<b>Weather Conditions</b>			
	<b>Temperature</b>		<b>Rain (mm)</b>	<b>Wind Speed at 9am (km/h)</b>
	<b>Min (°C)</b>	<b>Max (°C)</b>		
9/1/09	10.2	20	0.0	19.0
14/1/09	24.9	34	0.0	35.0
20/1/09	12.8	29	0.0	9.0

During the survey period there were also no sightings of any other species of reptiles within the property.

#### **4.0            IMPLICATIONS FOR DEVELOPMENT**

Despite being unable to detect the presence of *D. impar* during the survey period there is still a potential for this species to be present within 100 Vineyard Rd. Although during the initial fauna record search in 2007, the Viridans Biological Database (based upon the 2004 edition of the Atlas of Victorian Wildlife) had no previous recordings of *D. impar* within a 10km radius of the site.

In order to clarify legal obligations in relation to the *D. impar* it is advised that the client to continue to submit a referral under the EPBC Act regarding this matter of National Environmental Significance. Though the survey failed to locate any *D. impar* individuals, the limitations imposed on the survey by unusual seasonal conditions and timing may mean that Department of Environment and Heritage will require an additional and more intensive survey effort before a decision can be made.

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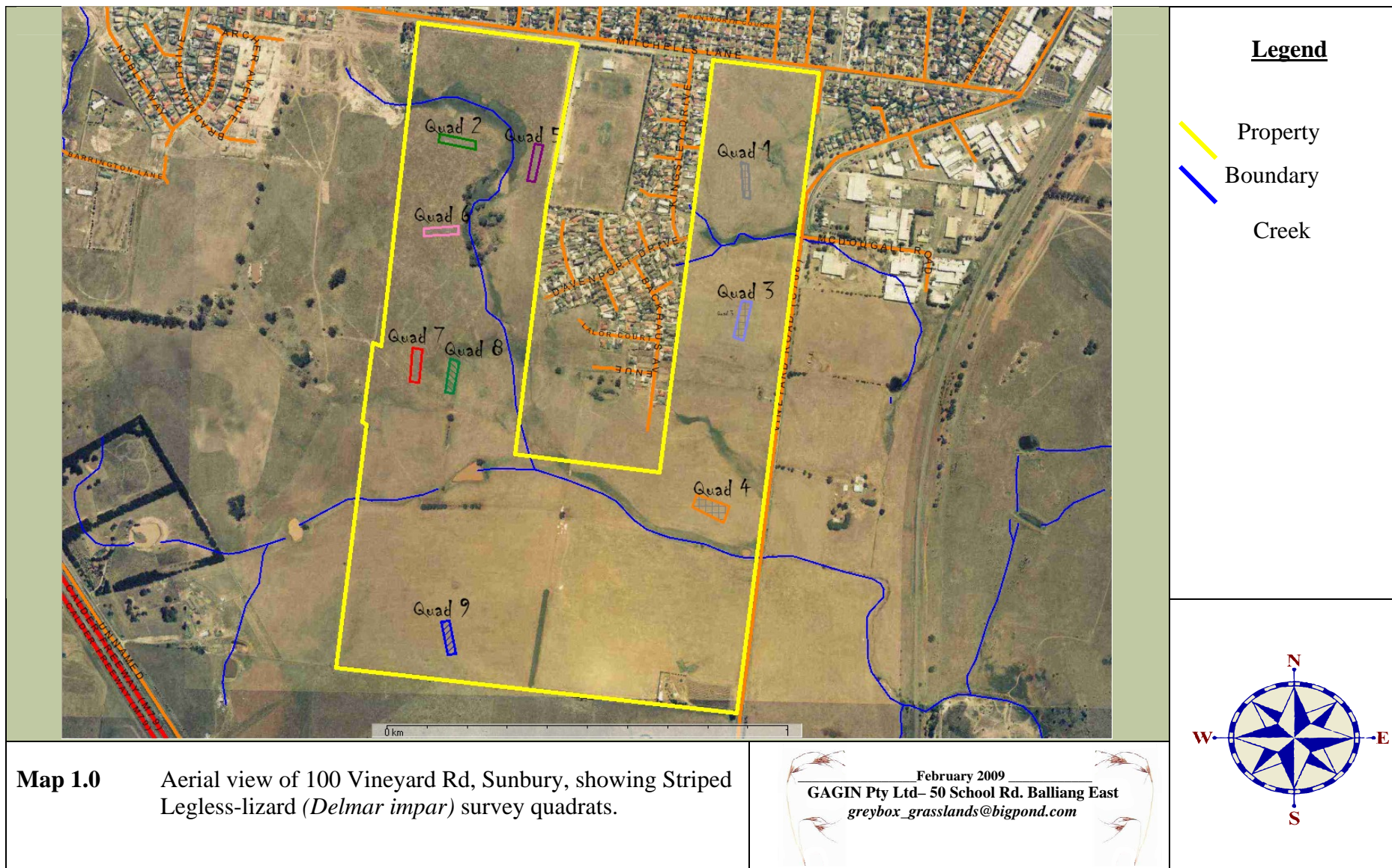
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# *Appendix I*

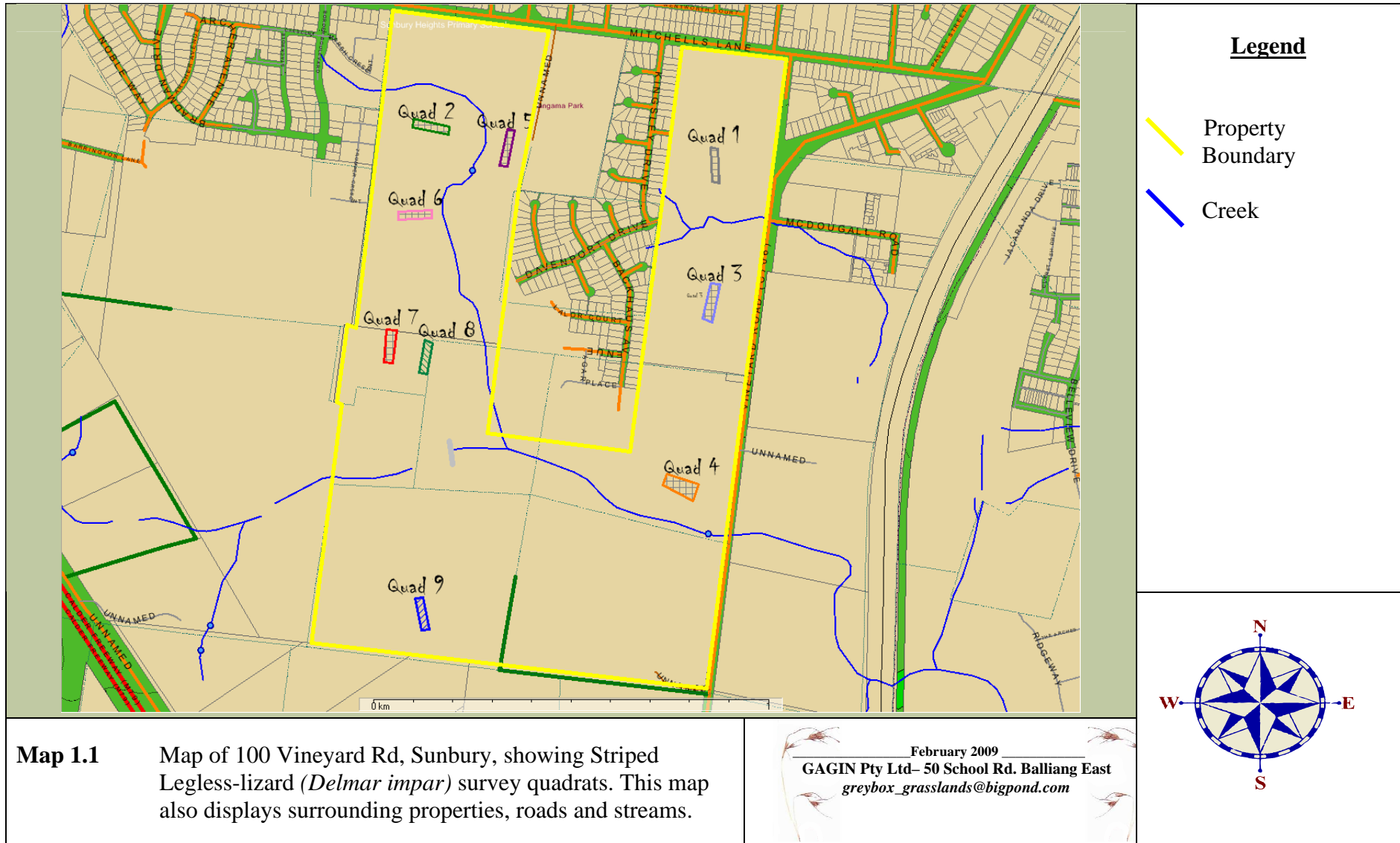
**Site Maps**

Survey for the Presence of Striped Legless Lizard *Delma impar*  
 100 Vineyard Road, Sunbury

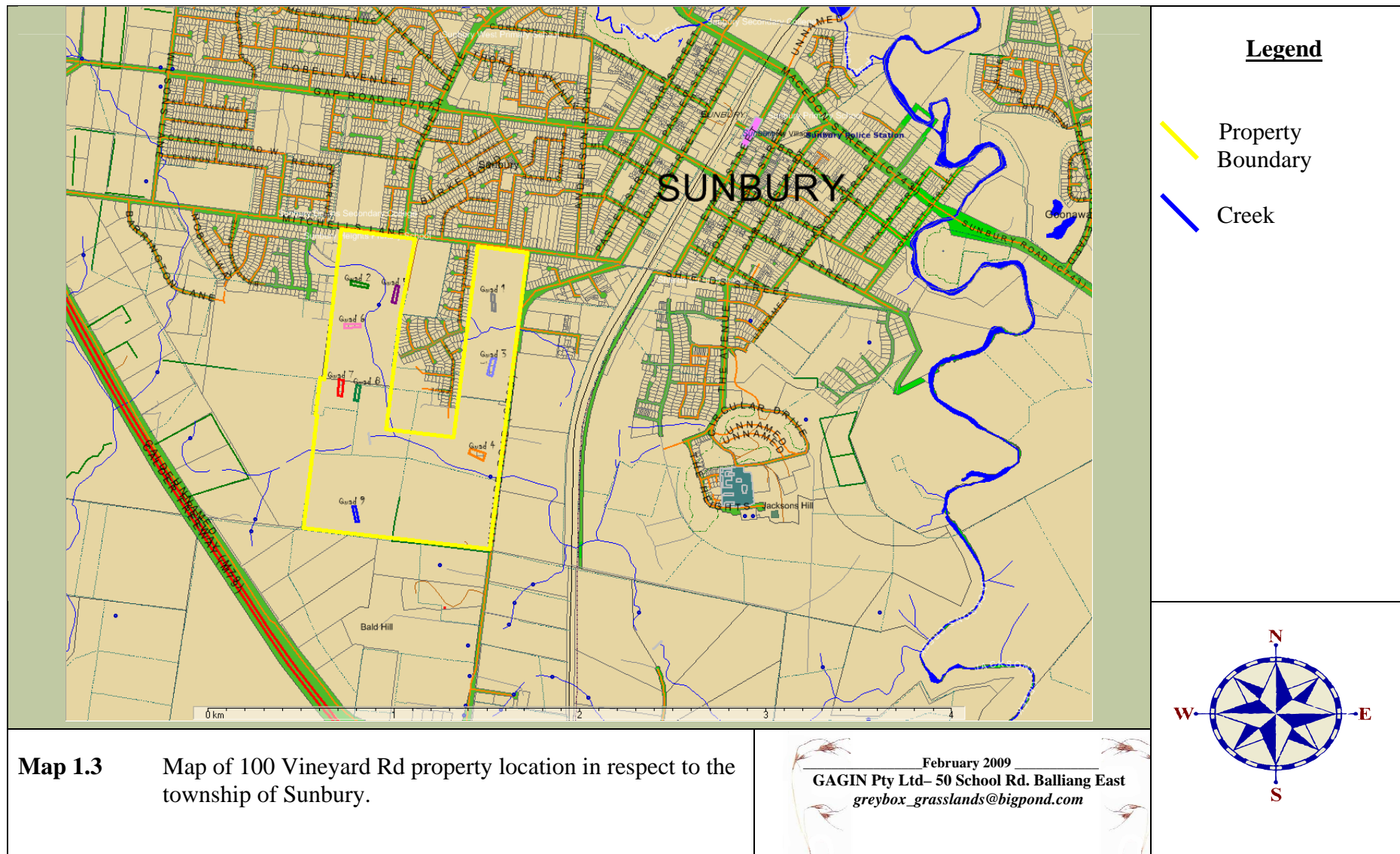




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**Map 1.3** Map of 100 Vineyard Rd property location in respect to the township of Sunbury.

February 2009  
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# *Appendix II*

**Daily Weather Observations  
for January 2009  
Melbourne Airport, Victoria**

Survey for the Presence of Striped Legless Lizard *Delma impar*  
100 Vineyard Road, Sunbury

Melbourne Airport, Victoria  
January 2009 Daily Weather Observations



Australian Government  
Bureau of Meteorology

Date	Day	Temps		Rain mm	Evap mm	Sun hours	Max wind gust			9am					3pm						
		Min °C	Max °C				Dirn	Spd km/h	Time local	Temp °C	RH %	Cld eighths	Dirn	Spd km/h	MSLP hPa	Temp °C	RH %	Cld eighths	Dirn	Spd km/h	MSLP hPa
1	Th	11.2	19.9	0	5.6	8.8	SW	69	14:09	15.9	55	7	W	33	1005.1	18.1	37	7	SW	43	1006.4
2	Fr	7.8	17.8	1.0	7.2	12.9	SSE	56	15:09	12.5	50	6	SW	31	1018.0	15.8	43	7	SSE	26	1019.3
3	Sa	6.3	21.1	0	6.2	10.5	SSE	31	17:27	13.4	51	1	E	13	1020.8	19.6	35	7	S	19	1017.6
4	Su	8.1	29.2	0	6.4	12.5	SSE	35	14:48	16.0	67	5	NE	2	1016.2	26.2	23	4	SSE	20	1012.8
5	Mo	9.7	29.0	0	7.4	12.3	SE	33	13:20	19.4	51	6	SW	9	1011.9	27.1	31	2	SSE	20	1010.3
6	Tu	13.5	31.7	0	7.2	13.7	SSE	50	16:39	21.3	50	0	NNE	11	1010.7	29.8	34	1	S	28	1007.7
7	We	15.8	21.4	0	8.8	4.4	S	46	14:31	16.0	98	8	SSW	17	1010.0	19.9	67	7	SSE	28	1009.9
8	Th	9.7	18.4	0.2	5.2	11.5	SE	56	13:48	14.5	51	2	SSW	28	1017.4	17.7	42	5	SSE	35	1018.9
9	Fr	10.2	19.7	0	5.6	12.6	S	43	14:23	14.2	51	2	SSE	19	1021.4	19.3	42	7	S	28	1018.0
10	Sa	10.7	23.6	0	7.2	10.2	S	43	17:02	14.5	76	7	WSW	7	1013.8	21.8	46	1	S	24	1010.3
11	Su	10.7	23.5	0	6.6	10.2	S	41	17:46	14.8	77	8	SW	9	1012.0	23.0	52	1	SSE	17	1009.7
12	Mo	10.4	25.1	0	5.2	7.8	SSE	26	17:48	15.3	73	8	SSW	11	1016.6	22.4	47	5	SE	17	1017.4
13	Tu	11.5	37.1	0	6.8	13.5	N	52	09:48	25.0	39	0	N	35	1013.8	35.1	12	0	NNW	22	1010.0
14	We	24.9	33.5	0	18.6	12.3	N	57	00:15	31.2	12	3	N	35	1007.5	24.8	45	4	S	24	1009.4
15	Th	13.8	23.1	0	9.2	10.1	SW	44	22:57	16.5	56	7	SW	28	1015.8	21.4	44	5	SE	22	1014.5
16	Fr	12.7	21.6	0	8.6	9.9	WSW	61	11:22	15.5	59	7	SW	28	1017.4	19.8	33	6	S	28	1018.4
17	Sa	12.5	19.8	0	8.8	12.1	S	41	13:16	14.5	50	4	SSE	28	1022.7	18.8	44	2	S	26	1022.7
18	Su	7.5	26.3	0	6.6	13.0	SSE	31	14:24	14.7	67	1	SE	7	1021.9	24.5	32	0	SSE	20	1019.0
19	Mo	11.9	37.0	0	7.8	13.4	N	54	13:56	26.3	22	1	N	28	1013.6	35.3	7	1	WNW	22	1009.0
20	Tu	18.4	40.2	0	15.8	12.0	SW	100	13:36	29.5	18	1	N	37	1005.6	29.3	26	3	SSE	37	1006.0
21	We	12.8	28.8	0	14.4	10.9	S	37	16:34	17.6	73	7	NE	9	1010.4	27.3	40	6	SSE	24	1006.6
22	Th	15.1	35.6	0	8.0	7.6	W	94	14:57	27.1	57	8	NNW	41	998.1	34.7	9	7	NW	48	994.2
23	Fr	9.8	32.3	0	15.6	12.3	WNW	59	15:24	16.7	46	3	N	9	1008.1	28.9	11	2	NW	24	1002.9
24	Sa	15.3	24.2	0	12.8	11.4	WSW	54	05:50	17.1	55	6	WSW	30	1008.1	22.7	24	2	WSW	30	1011.6
25	Su	9.2	29.0	0	8.0	13.3	S	39	15:39	16.9	54	0	NNE	7	1018.3	28.0	18	0	SE	24	1016.4
26	Mo	11.4	24.8	0	7.2	12.7	SSE	46	13:28	16.7	72	7	SSE	13	1022.3	23.8	46	1	SSE	26	1020.8
27	Tu	14.9	36.0	0	7.6	12.3	N	37	10:34	19.1	71	1	NNE	7	1017.8	34.2	22	1	SSE	26	1014.0
28	We	16.6	43.1	0	12.0	13.4	N	50	09:04	31.2	18	0	N	24	1012.3	41.6	7	1	NNW	15	1009.3
29	Th	30.5	44.2	0	20.4	10.3	N	59	11:14	35.4	15	1	N	39	1011.2	42.4	10	4	N	26	1009.6
30	Fr	23.9	44.2	0	18.6	12.8	N	50	14:04	33.9	23	1	N	15	1012.2	42.9	8	1	N	22	1009.3
31	Sa	19.6	31.6	0	14.2	10.8	SSW	46	15:36	25.0	52	1	SW	7	1013.7	30.9	39	6	S	26	1014.3

Statistics for January 2009

Mean	13.4	28.8		9.7	11.3					19.9	51	3		19	1013.8	26.7	31	3		25	1012.1
Lowest	6.3	17.8		5.2	4.4					12.5	12	0	NE	2	998.1	15.8	7	0	NNW	15	994.2
Highest	30.5	44.2	1.0	20.4	13.7	SW	100			35.4	98	8	NNW	41	1022.7	42.9	67	7	NW	48	1022.7
Total			1.2	299.6	351.5																

Observations were drawn from Melbourne Airport (station 086262)

IDCJDW3048.200901 Prepared at 13:16 GMT on 14 Feb 2009  
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Users of this product are deemed to have read the information and  
accepted the conditions described in the notes at  
<http://www.bom.gov.au/climate/dwo/IDCJDW0000.pdf>