A survey for the presence of Striped Legless Lizards *Delma impar* along the eastern bank of Jones Creek, St Albans

Friends of Iramoo

An Interim Report 2010

Prepared by Megan O’Shea
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Introduction

The Striped Legless Lizard *Delma impar* is recognised as a threatened species under both the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 and the Victorian Flora and Fauna Guarantee Act 1988 (Robertson & Smith 1999). It is a species of conservation significance, with strongholds in several grassland remnants, throughout the municipality of Brimbank (Muir *et al.* 1997).

*Delma impar* has been recorded in several remnants of Temperate Grassland of the Victorian Volcanic Plains within the Jones Creek catchment area, including the Iramoo Wildlife Reserve (O’Shea 2005), Victoria University Grassland (O’Shea 1996), Denton Avenue Grassland (West 1998), Pimelea Grassland (van Keulen pers. comm.), Reid Street Grassland (Ecology Partners 2010) and Jonesfield Corner Grassland (Ecology Partners 2010).

The species is usually associated with remnant habitat that has a history of infrequent soil disturbance (Dorrough & Ash 1999) and supports native temperate grassland vegetation dominated by tussock-forming species, such as Kangaroo Grass *Themeda triandra* (Coulson 1990). *Delma impar* has also been recorded in stands of the introduced tussocking weeds, such as Serrated Tussock *Nassella trichotoma* (O’Shea 1996), a species which is also associated with remnant vegetation in the Jones Creek catchment area.

Along the eastern bank of Jones Creek itself, there are tracts of highly disturbed and modified vegetation, which at the time of the commencement of this project were in the ownership of VicUrban and scheduled to be handed over to Brimbank City Council. This area is a roughly linear strip, approximately 50m in width and forms the bulk of the study area for this project. The vegetation along this tract is dominated by a range of weeds that are commonly associated with low quality remnant grasslands, as well as a range of weeds that are associated with urban waterways. Typical species include Toowoomba Canary Grass *Phalaris aquatica*, Chilean Needle Grass *Nassella neesiana*, Cane Needle Grass *Nassella hyalina*, Wild Turnip *Brassica rapa* and a range of species of flatweed. Some indigenous species persist along this area but mostly with very low cover-abundances. Prior to the commencement of this study there were several large Weeping Willows *Salix babylonica* which had recently been removed and patches of the vegetation had undergone biomass reduction burns.

Given the weediness of the vegetation along Jones Creek and that the Creek regularly breaches its banks during period of high rainfall, it was questionable as to whether *D. impar* would utilise or persist in this habitat. However, the area was considered to be significant in terms of its potential connectivity between many of the grassland remnants within the Jones Creek catchment area. Hence, it was necessary to determine whether *D. impar* utilises the habitat in this area.
Methods

Surveys for *D. impar* were conducted using roof tiles arranged in grids (10 tiles x 5 tiles) at five metre intervals. Tiles grids were established at four points along the eastern bank of Jones Creek between the Iramoo wetlands and Furlong Road, on 29 and 30 July 2009. Grids were located in what was considered to be the most likely available habitat for *D. impar*, based on vegetation characteristics. Another grid was established in the remnant grassland under the Howardson Circuit powerline easement and in the southwest corner of the Victoria University grassland (figure 1).

Surveys were conducted by systematically turning each tile. All vertebrate animals present under the tiles were recorded without being captured, except *D. impar*. Attempts were made to capture any *D. impar* under the tiles for the purposes of collecting individual identification and morphometric data (O’Shea 2005). Animals were immediately returned to the tile under which they had been captured. The presence of *D. impar* sloughs was also recorded. Sloughs with head scales present were collected for individual identification purposes.

*Figure 1:* The location of tile survey grids. Map sourced from Google Earth (2010).
Survey for Striped Legless Lizard along Jones Creek

Results

Surveys were conducted on seven occasions over Spring 2009 and Summer 2009/2010. Two individual *D. impar* were captured, with a further three sightings and the collection of two sloughs (Table 1). One-hundred and eight observation of Tussock Skink *Pseudemoia pagenstecheri* and one observation of Common Froglet *Crinia signifera* were also recorded.

### Table 1. Observations of Striped Legless Lizards *Delma impar*

<table>
<thead>
<tr>
<th>Survey date</th>
<th><em>Delma impar</em> observations</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>26 August 2009</td>
<td><em>D. impar</em> (sighted)</td>
<td>Grid ATile 8</td>
</tr>
<tr>
<td>23 September 2009</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>28 October 2009</td>
<td><em>D. impar</em> (sighted)</td>
<td>Grid A Tile 8</td>
</tr>
<tr>
<td></td>
<td><em>D. impar</em> (sighted)</td>
<td>Grid C Tile 48</td>
</tr>
<tr>
<td>11 November 2009</td>
<td><em>D. impar</em> (slough – JC3)</td>
<td>Grid A Tile 8</td>
</tr>
<tr>
<td>25 November</td>
<td><em>D. impar</em> (JC1)</td>
<td>Grid D Tile 45</td>
</tr>
<tr>
<td></td>
<td><em>D. impar</em> (JC2)</td>
<td>Grid D Tile 48</td>
</tr>
<tr>
<td>9 December 2009</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>28 January 2010</td>
<td><em>D. impar</em> (slough – JC4)</td>
<td>Powerlines Tile 47</td>
</tr>
</tbody>
</table>

Both of the *D. impar* captured were adults, one male and one female (Table 2). Data cards for these individuals are presented in Appendix 1.

### Table 2. Morphometric data of captured Striped Legless Lizards *Delma impar*

<table>
<thead>
<tr>
<th>ID Number</th>
<th>SVL (mm)</th>
<th>TL (mm)</th>
<th>Weight (g)</th>
<th>Sex</th>
</tr>
</thead>
<tbody>
<tr>
<td>JC1</td>
<td>103</td>
<td>320</td>
<td>-</td>
<td>Female</td>
</tr>
<tr>
<td>JC2</td>
<td>75</td>
<td>245</td>
<td>-</td>
<td>Male</td>
</tr>
</tbody>
</table>

**Discussion**

Striped Legless Lizards *Delma impar* were recorded in highly disturbed and weedy vegetation above the eastern banks of Jones Creek. Apart from expanding the known area of occupation for this species in the Jones Creek catchment area, these observations are significant in that they represent potential connectivity for the species between remnant grasslands in this area.

There is potential for the upper banks of Jones Creek to managed sympathetically to *D. impar* and the other terrestrial vertebrates recorded in this survey. Management actions could include the control of weeds, revegetation using a mix of tussocking grasses and other native grassland species, and limited or appropriate use of shrub and trees species which may represent a vantage point for potential predators. Management actions should seek to limit activities that disturb the soil structure or increase compaction.

Efforts should be undertaken to increase the connectivity of *D. impar* habitat between grassland remnants in the Jones Creek catchment area. In the longer term, management activities impacting on *D. impar* should be coordinated across these remnants and corridors, to provide the best possible conservation outcome for the species.
Acknowledgements

This work was conducted with Victoria University Animal Ethics and Experimentation Approval (AEETH 08/09) and Department of Sustainability and Environment Wildlife Act 1975 Research Permit (PN: 10005063).

Funding for this project was provided by the Threatened Species Network Community Grants.

Rick van Keulen and volunteers from the Friends of Iramoo assisted with setting out the tile grids and conducting surveys.
Survey for Striped Legless Lizard along Jones Creek

References


Personal Communication

Rick van Keulen, Ranger Iramoo @ VU, Victoria University, St Albans Campus
### Striped Legless Lizard Data Card
**Jones Creek Survey**  
**Friends of Iramoo**

**ID Number:** JC1  
**Sex:** Female

<table>
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<tr>
<th>Date</th>
<th>Location</th>
<th>SVL (mm)</th>
<th>Total L (mm)</th>
<th>Weight (g)</th>
<th>Comments</th>
<th>Signature</th>
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</thead>
<tbody>
<tr>
<td>25 Nov 09</td>
<td>D45</td>
<td>103</td>
<td>320</td>
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<td>M. O’Shea</td>
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...
Striped Legless Lizard Data Card  
Jones Creek Survey  
Friends of Iramoo

ID Number:  JC2  
Sex: Male

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<th>Date</th>
<th>Location</th>
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<th>Total L (mm)</th>
<th>Weight (g)</th>
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<th>Signature</th>
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<tbody>
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<td>75</td>
<td>245</td>
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<td></td>
<td>M. O’Shea</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
<th>SVL (mm)</th>
<th>Total L (mm)</th>
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</thead>
<tbody>
<tr>
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<td>A8</td>
<td></td>
<td></td>
<td></td>
<td>slough</td>
<td>M. O'Shea</td>
</tr>
</tbody>
</table>
## Striped Legless Lizard Data Card

**Jones Creek Survey**  
**Friends of Iramoo**

### ID Number: JC4  Sex:

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<th>Date</th>
<th>Location</th>
<th>SVL (mm)</th>
<th>Total L (mm)</th>
<th>Weight (g)</th>
<th>Comments</th>
<th>Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>28 Jan 10</td>
<td>P47</td>
<td></td>
<td></td>
<td></td>
<td>slough</td>
<td>M. O'Shea</td>
</tr>
</tbody>
</table>

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**Note:** The data card includes information about an individual Striped Legless Lizard collected during the Jones Creek Survey. The ID number is JC4, and the sex is not specified. The date of collection is 28 Jan 10, and the location is P47. The SVL and total length are not provided. The lizard was observed to be sloughing, and the signature is M. O’Shea.