Appendix 1

CROSS SECTION AND COVER CLASS PLOTS AT EACH SITE ON EACH SAMPLING OCCASION

<table>
<thead>
<tr>
<th>Key</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td></td>
</tr>
<tr>
<td>Riparian vegetation</td>
<td></td>
</tr>
<tr>
<td>Emergent/semi-aquatic vegetation</td>
<td></td>
</tr>
<tr>
<td>Aquatic macrophytes</td>
<td></td>
</tr>
<tr>
<td>Regenerating stands of macrophytes</td>
<td></td>
</tr>
<tr>
<td>Floating macrophytes (Azolla &amp; Lemna)</td>
<td></td>
</tr>
</tbody>
</table>
Appendix 1.1—Murrays Drain 12.5 m

Dominant plant species and approximate percent composition

<table>
<thead>
<tr>
<th>Date</th>
<th>LB In-stream</th>
<th>RB</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 Nov 01</td>
<td>95 Terrestrial grasses</td>
<td>5 Nasturtium sp.</td>
</tr>
<tr>
<td>10 Jan 02</td>
<td>95 Terrestrial grasses</td>
<td>5 Nasturtium sp.</td>
</tr>
<tr>
<td>22 Feb 02</td>
<td>95 Terrestrial grasses</td>
<td>5 Nasturtium sp.</td>
</tr>
<tr>
<td>30 Jul 02</td>
<td>95 Terrestrial grasses</td>
<td>5 Nasturtium sp.</td>
</tr>
</tbody>
</table>

Dominant plant species and approximate percent composition

<table>
<thead>
<tr>
<th>Date</th>
<th>LB In-stream</th>
<th>RB</th>
</tr>
</thead>
<tbody>
<tr>
<td>27 Nov 01</td>
<td>95 Terrestrial grasses</td>
<td>5 Nasturtium sp.</td>
</tr>
<tr>
<td>24 Jan 02</td>
<td>95 Terrestrial grasses</td>
<td>5 Nasturtium sp.</td>
</tr>
<tr>
<td>19 Apr 02</td>
<td>95 Terrestrial grasses</td>
<td>5 Nasturtium sp.</td>
</tr>
</tbody>
</table>

Dominant plant species and approximate percent composition

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<tr>
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<th>RB</th>
</tr>
</thead>
<tbody>
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<tr>
<td>10 Jan 02</td>
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<td>5 Nasturtium sp.</td>
</tr>
<tr>
<td>22 Feb 02</td>
<td>95 Terrestrial grasses</td>
<td>5 Nasturtium sp.</td>
</tr>
<tr>
<td>30 Jul 02</td>
<td>95 Terrestrial grasses</td>
<td>5 Nasturtium sp.</td>
</tr>
</tbody>
</table>
Appendix 1.2—Murrays Drain 25 m

Dominant plant species and approximate percent composition

<table>
<thead>
<tr>
<th>LB</th>
<th>In-stream</th>
<th>RB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unchanged</td>
<td>Unchanged</td>
<td>Unchanged</td>
</tr>
</tbody>
</table>

15 Nov 01

Dominant plant species and approximate percent composition

<table>
<thead>
<tr>
<th>LB</th>
<th>In-stream</th>
<th>RB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unchanged</td>
<td>Unchanged</td>
<td>Unchanged</td>
</tr>
</tbody>
</table>

95 Terrestrial grasses
5-A. sanguisorba
Sweet pea
80 Elodea canadensis
5 Callitriche stagnalis
5 Spirogyra sp.

10 Jan 02

Dominant plant species and approximate percent composition

<table>
<thead>
<tr>
<th>LB</th>
<th>In-stream</th>
<th>RB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Largely unchanged</td>
<td>Largely unchanged, Nasturtium spreading</td>
<td>Largely unchanged, Grasses dying back</td>
</tr>
</tbody>
</table>

22 Feb 02

Dominant plant species and approximate percent composition

<table>
<thead>
<tr>
<th>LB</th>
<th>In-stream</th>
<th>RB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Largely unchanged, spreading</td>
<td>Largely unchanged, Grasses dying back</td>
<td>Tall grasses dying back</td>
</tr>
</tbody>
</table>

24 Jan 02

Dominant plant species and approximate percent composition

<table>
<thead>
<tr>
<th>LB</th>
<th>In-stream</th>
<th>RB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unchanged</td>
<td>Unchanged</td>
<td>Unchanged</td>
</tr>
</tbody>
</table>

19 Apr 02

Dominant plant species and approximate percent composition

<table>
<thead>
<tr>
<th>LB</th>
<th>In-stream</th>
<th>RB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grasses died back</td>
<td>Elodea thickening</td>
<td>Tall grasses dying back</td>
</tr>
</tbody>
</table>

27 Nov 01

Dominant plant species and approximate percent composition

<table>
<thead>
<tr>
<th>LB</th>
<th>In-stream</th>
<th>RB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unchanged</td>
<td>Unchanged</td>
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</tbody>
</table>

30 Jul 02
Appendix 1.3—Murrays Drain 37.5 m

<table>
<thead>
<tr>
<th>Date</th>
<th>LB</th>
<th>In-stream</th>
<th>RB</th>
</tr>
</thead>
<tbody>
<tr>
<td>27 Nov 01</td>
<td>Unchanged</td>
<td>Unchanged</td>
<td>Unchanged</td>
</tr>
<tr>
<td>24 Jan 02</td>
<td>Unchanged</td>
<td>Unchanged</td>
<td>Unchanged</td>
</tr>
<tr>
<td>22 Feb 02</td>
<td>Unchanged</td>
<td>Largely unchanged</td>
<td>Unchanged</td>
</tr>
<tr>
<td>19 Apr 02</td>
<td>Unchanged</td>
<td>Grasses &amp; Nasturtium continuing to encroach</td>
<td>More die back</td>
</tr>
<tr>
<td>30 Jul 02</td>
<td>Unchanged</td>
<td>Grasses &amp; Nasturtium dying back</td>
<td>More die back</td>
</tr>
<tr>
<td>15 Nov 01</td>
<td>Unchanged</td>
<td>Elodea sparse</td>
<td>Cover of leaf litter</td>
</tr>
<tr>
<td>10 Jan 02</td>
<td>Unchanged</td>
<td>Unchanged</td>
<td>Unchanged</td>
</tr>
<tr>
<td>23 Apr 01</td>
<td>Unchanged</td>
<td>Unchanged</td>
<td>Unchanged</td>
</tr>
</tbody>
</table>

Dominant plant species and approximate percent composition

<table>
<thead>
<tr>
<th>LB In-stream RB</th>
<th>LB In-stream RB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terrestrial grasses 90% Cladium mariscus 10% Nasturtium sp.</td>
<td>Terrestrial grasses 90% Cladium mariscus 10% Nasturtium sp.</td>
</tr>
</tbody>
</table>

Bank collapsed
Appendix 1.4—Foots Drain 25 m

Dominant plant species and approximate percent composition

LB | In-stream | RB
---|------------|------------
90 Terrestrial grasses
Cutty grass
Clover
A. sanguisorbae
85 Nitella sp.
5 Vaucheria sp.
>1 Lemna minor
A. Sanguisorbae
95 Terrestrial grasses
5 Thistle
95 Terrestrial grasses
5 Thistle
A. sanguisorbae

Dominant plant species and approximate percent composition

LB | In-stream | RB
---|------------|------------
Unchanged
Lemna sparse
Otherwise unchanged
Unchanged

Dominant plant species and approximate percent composition

LB | In-stream | RB
---|------------|------------
Terrestrial grasses
(growing through mud)
50 Nitella sp.
20 Lemna minor
Terrestrial grasses
(growing through mud)

Dominant plant species and approximate percent composition

LB | In-stream | RB
---|------------|------------
Terrestrial grasses
regrowing
70 Nitella sp.
(re-established)
80-100 Lemna minor
Terrestrial grasses
regrowing
Appendix 1.5—Foots Drain 50 m

<table>
<thead>
<tr>
<th>Date</th>
<th>In-stream</th>
<th>LB</th>
<th>RB</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 Nov 01</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 Jan 02</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22 Feb 02</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 Jul 02</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19 Apr 02</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27 Nov 01</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix 1.6—Foots Drain 75 m
Appendix 1.7—Pa Drain 25 m

Dominant plant species and approximate percent composition

<table>
<thead>
<tr>
<th>LB</th>
<th>In-stream</th>
<th>RB</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 Cutty grass</td>
<td>Grass roots</td>
<td>90 Cutty grass</td>
</tr>
<tr>
<td>10 Terrestrial grasses</td>
<td>Unchanged</td>
<td>Unchanged</td>
</tr>
</tbody>
</table>

0123456
-2.5 -2 -1.5 -1 -0.5 0 0.5 1 1.5

15 Nov 01

Dominant plant species and approximate percent composition

<table>
<thead>
<tr>
<th>LB</th>
<th>In-stream</th>
<th>RB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unchanged</td>
<td>Grass roots</td>
<td>Unchanged</td>
</tr>
</tbody>
</table>

0123456
-2.5 -2 -1.5 -1 -0.5 0 0.5 1 1.5

10 Jan 02

Dominant plant species and approximate percent composition

<table>
<thead>
<tr>
<th>LB</th>
<th>In-stream</th>
<th>RB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grasses, blackberry desiccated</td>
<td>Collapsing into stream</td>
<td>Carex least affected</td>
</tr>
</tbody>
</table>

0123456
-2.5 -2 -1.5 -1 -0.5 0 0.5 1 1.5

24 Jan 02

Dominant plant species and approximate percent composition

<table>
<thead>
<tr>
<th>LB</th>
<th>In-stream</th>
<th>RB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unchanged</td>
<td>Grass roots</td>
<td>Unchanged</td>
</tr>
</tbody>
</table>

0123456
-2.5 -2 -1.5 -1 -0.5 0 0.5 1 1.5

22 Feb 02

Dominant plant species and approximate percent composition

<table>
<thead>
<tr>
<th>LB</th>
<th>In-stream</th>
<th>RB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obvious die back line</td>
<td>Most plant collapsed into stream</td>
<td>Filamentous algae profusely (Vaucheria, Spirogyra dom.)</td>
</tr>
</tbody>
</table>

0123456
-2.5 -2 -1.5 -1 -0.5 0 0.5 1 1.5

19 Apr 02

Dominant plant species and approximate percent composition

<table>
<thead>
<tr>
<th>LB</th>
<th>In-stream</th>
<th>RB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Die back complete</td>
<td>Decaying matter on bottom = detritus</td>
<td>Sparce cover of Nitella on stream bed</td>
</tr>
</tbody>
</table>

0123456
-2.5 -2 -1.5 -1 -0.5 0 0.5 1 1.5

30 Jul 02

Dominant plant species and approximate percent composition

<table>
<thead>
<tr>
<th>LB</th>
<th>In-stream</th>
<th>RB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unchanged</td>
<td>Grass roots</td>
<td>Unchanged</td>
</tr>
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0123456
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15 Nov 01

Dominant plant species and approximate percent composition

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<td>Grass roots</td>
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0123456
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27 Nov 01

Dominant plant species and approximate percent composition

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<tbody>
<tr>
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24 Jan 02

Dominant plant species and approximate percent composition

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<tbody>
<tr>
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22 Feb 02

Dominant plant species and approximate percent composition

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<th>RB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obvious die back line</td>
<td>Most plant collapsed into stream</td>
<td>Filamentous algae profusely (Vaucheria, Spirogyra dom.)</td>
</tr>
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19 Apr 02

Dominant plant species and approximate percent composition

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<tbody>
<tr>
<td>Die back complete</td>
<td>Decaying matter on bottom = detritus</td>
<td>Sparce cover of Nitella on stream bed</td>
</tr>
</tbody>
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30 Jul 02

Dominant plant species and approximate percent composition

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<th>RB</th>
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<tbody>
<tr>
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<td>Grass roots</td>
<td>Unchanged</td>
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15 Nov 01

Dominant plant species and approximate percent composition

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<th>RB</th>
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<tbody>
<tr>
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<td>Grass roots</td>
<td>Unchanged</td>
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27 Nov 01

Dominant plant species and approximate percent composition

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<tr>
<th>LB</th>
<th>In-stream</th>
<th>RB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grasses, blackberry desiccated</td>
<td>Collapsing into stream</td>
<td>Carex least affected</td>
</tr>
</tbody>
</table>

0123456
-2.5 -2 -1.5 -1 -0.5 0 0.5 1 1.5

24 Jan 02

Dominant plant species and approximate percent composition

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<tr>
<th>LB</th>
<th>In-stream</th>
<th>RB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unchanged</td>
<td>Grass roots</td>
<td>Unchanged</td>
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</table>

0123456
-2.5 -2 -1.5 -1 -0.5 0 0.5 1 1.5

22 Feb 02

Dominant plant species and approximate percent composition

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<tr>
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<th>In-stream</th>
<th>RB</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Most plant collapsed into stream</td>
<td>Filamentous algae profusely (Vaucheria, Spirogyra dom.)</td>
</tr>
</tbody>
</table>

0123456
-2.5 -2 -1.5 -1 -0.5 0 0.5 1 1.5

19 Apr 02

Dominant plant species and approximate percent composition

<table>
<thead>
<tr>
<th>LB</th>
<th>In-stream</th>
<th>RB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Die back complete</td>
<td>Decaying matter on bottom = detritus</td>
<td>Sparce cover of Nitella on stream bed</td>
</tr>
</tbody>
</table>

0123456
-2.5 -2 -1.5 -1 -0.5 0 0.5 1 1.5

30 Jul 02
**Appendix 1.8—Pa Drain 50 m**

![Graphs and tables showing changes in plant species and composition over time.](image)

<table>
<thead>
<tr>
<th>Date</th>
<th>LB</th>
<th>In-stream</th>
<th>RB</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 Nov 01</td>
<td>Unchanged</td>
<td>Unchanged</td>
<td>Unchanged</td>
</tr>
<tr>
<td>27 Nov 01</td>
<td>Unchanged</td>
<td>Unchanged</td>
<td>Unchanged</td>
</tr>
<tr>
<td>10 Jan 02</td>
<td>Unchanged</td>
<td>Unchanged</td>
<td>Unchanged</td>
</tr>
<tr>
<td>24 Jan 02</td>
<td>Unchanged</td>
<td>Unchanged</td>
<td>Unchanged</td>
</tr>
<tr>
<td>22 Feb 02</td>
<td>Unchanged</td>
<td>Unchanged</td>
<td>Unchanged</td>
</tr>
<tr>
<td>19 Apr 02</td>
<td>Unchanged</td>
<td>Unchanged</td>
<td>Unchanged</td>
</tr>
<tr>
<td>30 Jul 02</td>
<td>Unchanged</td>
<td>Unchanged</td>
<td>Unchanged</td>
</tr>
</tbody>
</table>

Dominant plant species and approximate percent composition:

- **LB**
  - Terrestrial grasses recovering
  - Nasturtium filling 75% of stream profile
  - Traces of *L. minor*
  - Cutty grass recovering on RB

- **In-stream**
  - Further die back; Nasturtium decaying in stream
  - Filamentous algae common; Nasturtium recovering Calothrix algae developing
  - New grass growing through on banks

- **RB**
  - Unchanged
  - Terrestrial grasses recovering
  - Nasturtium (Trace)
  - *L. minor* cutty grass recovering on RB

**Dominant plant species and approximate percent composition:**

- *Carex*
- *Nasturtium* (Trace)
- 90% Terrestrial grasses

**Notes:**

- Most plant collapsed in sprayed area
- Plant beginning decay in stream
- Filamentous algae proliferated (*Vaucheria*, *Spirogyra* dom.)
- New grass growing through on banks
Appendix 1.9—Pa Drain 75 m

Dominant plant species and approximate percent composition

<table>
<thead>
<tr>
<th>Date</th>
<th>LB</th>
<th>In-stream</th>
<th>RB</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 Nov 01</td>
<td>80</td>
<td>Terrestrial grasses</td>
<td>80  Terrestrial grasses</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>Carex sp.</td>
<td>10  Carex sp.</td>
</tr>
<tr>
<td></td>
<td>90</td>
<td>Nitella sp.</td>
<td>90  Nitella sp.</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>Nasturtium</td>
<td>10  Nasturtium</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>Rubus fruticosus</td>
<td>10  Rubus fruticosus</td>
</tr>
<tr>
<td>27 Nov 01</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24 Jan 02</td>
<td>Largely unchanged</td>
<td>Largely unchanged</td>
<td>Largely unchanged</td>
</tr>
<tr>
<td>22 Feb 02</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19 Apr 02</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 Jul 02</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Continued dieback
Plants collapsing into stream

More growth
Largely unchanged

More growth
Largely unchanged

More growth
Largely unchanged

More growth
Largely unchanged

More growth
Largely unchanged

More growth
Largely unchanged

More growth
Largely unchanged

More growth
Largely unchanged

More growth
Largely unchanged

More growth
Largely unchanged

More growth
Largely unchanged

More growth
Largely unchanged

More growth
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More growth
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More growth
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More growth
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More growth
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More growth
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More growth
Largely unchanged

More growth
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Appendix 2

AVERAGE DENSITY OF MACROINVERTEBRATES IN CORE SAMPLES FROM EACH DRAIN ON EACH SAMPLING OCCASION
<table>
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<tr>
<th>Taxon</th>
<th>MURRAYS DRAIN</th>
<th>PA DRAIN</th>
<th>FOOTS DRAIN</th>
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<td>Pa Drain</td>
<td>Foots Drain</td>
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<td>0.7 0.0 0.0 0.0 0.0 0.0 0.0</td>
<td>0.0 0.0 0.0 0.3 0.0 0.0 0.0</td>
<td>0.0 0.0 0.0 0.0 0.0 0.0 0.0</td>
</tr>
<tr>
<td>Total taxa</td>
<td>6.7 6.7 8.3 10.7 13.7 6.7 6.3</td>
<td>4.0 7.0 6.3 7.0 7.3 14.0 6.7 6.3 15.7 10.7 12.0 15.3 14.0</td>
<td></td>
</tr>
<tr>
<td>Total individuals</td>
<td>244 254 308 203 499 556 683</td>
<td>164 72.7 167 83.3 281 377 602 519 200 630 250 700 715 602</td>
<td></td>
</tr>
<tr>
<td>Density (m⁻²)</td>
<td>18099 18840 22790 15037 36938 41161 5062</td>
<td>12173 18519 51877 52963</td>
<td></td>
</tr>
</tbody>
</table>

1. Bold in columns used to distinguish Pa Drain entries from Murrays Drain and Foots Drain entries.
2. Sampling periods are as follows: 1 = 15 Nov 2001
   2 = 27 Nov 2001
   3 = 10 Jan 2002
   4 = 24 Jan 2002
   5 = 22 Feb 2002
   6 = 19 Apr 2002
   7 = 02 Aug 2002