

**Legend**

Western Range Development Envelope Study Area

**Sampling Sites**

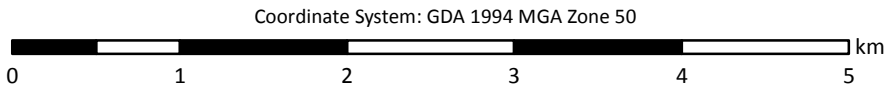
- Quadrat
- Relevé

Rio Tinto Iron Ore  
 Western Range – Desktop Flora and Vegetation Study, August 2018

**Figure F.1: Previous flora and vegetation sampling site locations**

Author: K. McMaster

Drawn: C. Dyde



Date: 08-10-2018

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Figure Ref: 14298-18-BIDR-1RevB\_181008\_FigF1\_Sites

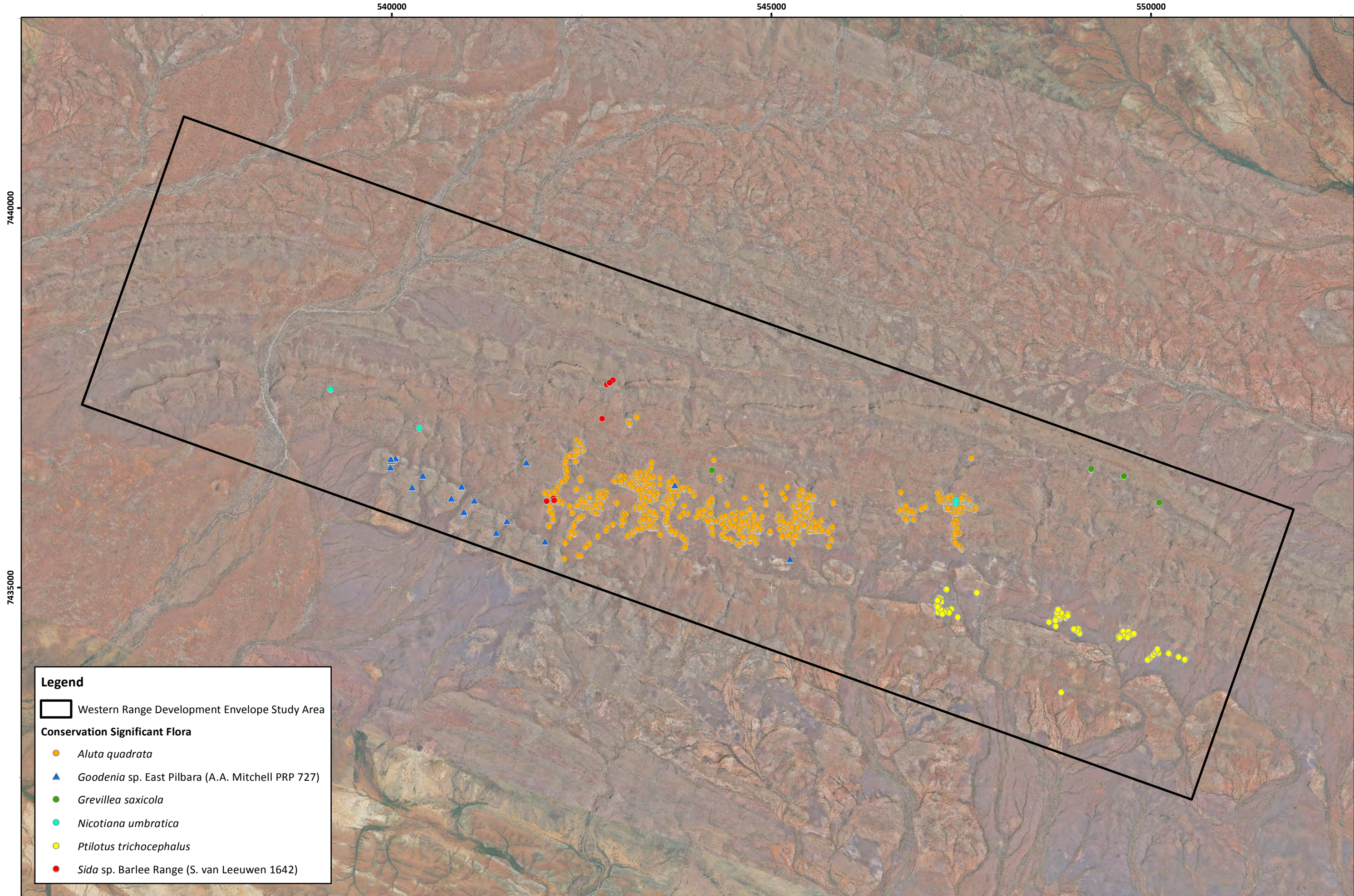


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## **Appendix G: Conservation Significant Flora Locations and Descriptions**

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**Legend**

-  Western Range Development Envelope Study Area
- Conservation Significant Flora**
-  *Aluta quadrata*
-  *Goodenia* sp. East Pilbara (A.A. Mitchell PRP 727)
-  *Grevillea saxicola*
-  *Nicotiana umbratica*
-  *Ptilotus trichocephalus*
-  *Sida* sp. Barlee Range (S. van Leeuwen 1642)

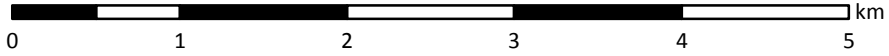
Rio Tinto Iron Ore  
 Western Range – Desktop Flora and Vegetation Study, August 2018

**Figure G.1: Conservation significant flora locations**

Author: K. McMaster

Drawn: C. Dyde

Coordinate System: GDA 1994 MGA Zone 50



Date: 08-10-2018










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Figure Ref: 14298-18-BIDR-1RevB\_181008\_FigG1\_CSFlora



Table G.1: Conservation significant flora recorded or likely to occur in the study area.

Species	Description <sup>1</sup>	Habitat <sup>1</sup>
<p><i>Aluta quadrata</i> T: Recorded</p> 	<p>Perennial shrub, 0.8 m to 2.6 m high. Flowers white, June.</p>	<p>Edge of creek beds, base of cliffs, rocky crevices, near crest of ridge.</p>
<p><i>Hibiscus campanulatus</i> P1: Likely to occur</p> 	<p>Large, erect perennial shrub to 3 m high. Flowers white to mauve, February.</p>	<p>Hill slopes, base of slopes, rocky gully areas, often on Canga detritals.</p>
<p><i>Goodenia</i> sp. East Pilbara (A.A. Mitchell PRP 727) P3: Recorded</p> 	<p>Open annual or biennial erect herb, to 0.2 m high. Flowers yellow, March to September.</p>	<p>Red-brown clay soil, calcrete pebbles. Low undulating plain, swampy plains, stony plains, hill slopes.</p>

Species	Description <sup>1</sup>	Habitat <sup>1</sup>
<p><i>Grevillea saxicola</i> P3: Recorded</p> 	<p>Erect perennial shrub to 2.5 m high. Flowers February, April, November.</p>	<p>Low rocky hill, red-brown sandy loam with ironstone pebble cover, steep scree slopes.</p>
<p><i>Nicotiana umbratica</i> P3: Recorded</p> 	<p>Erect, short-lived annual or perennial herb, 0.3 m to 0.7 m high. White flowers, April to June.</p>	<p>Shallow soils. Rocky outcrops</p>
<p><i>Sida</i> sp. Barlee Range (S. van Leeuwen 1642) P3: Recorded</p> 	<p>Spreading perennial shrub to 0.5 m high. Flowers yellow, August.</p>	<p>Skeletal red soils pockets. Steep slope.</p>

Species	Description <sup>1</sup>	Habitat <sup>1</sup>
<p><i>Ptilotus trichocephalus</i> P4: Recorded</p>  <p><i>Ptilotus trichocephalus</i>  <small>Photos: R. Davis</small></p> <p>(Western Australian Herbarium 1998-2018)</p>	<p>Prostrate, spreading perennial, herb.                      Flowers white, September.</p>	<p>Sandy soils. Colluvial plains.</p>

<sup>1</sup> – Florabase (Western Australian Herbarium 1998-2018).



Table G.2: Conservation significant flora recorded in the survey area (GDA94, Zone 50).

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
<i>Aluta quadrata</i> T	A	1000	547469	7435966
		1000	547668	7436029
		1000	547327	7436177
	B	1	543438	7436208
		1	544326	7436422
		1	544608	7435767
		1	542073	7435808
		1	542934	7436405
		1	542281	7436624
		1	544856	7435765
		1	544217	7435787
		1	543459	7436183
		1	543268	7436377
		1	543015	7436396
		1	542112	7436260
		1	542070	7436012
		1	542172	7436208
		1	542413	7436291
		1	543265	7436517
		1	543400	7436464
		1	544389	7435659
		1	543976	7436216
		1	542463	7436868
		1	543844	7435990
		1	543709	7436406
		1	542712	7435677
		1	543439	7436210
		1	543420	7436462
		1	545094	7435955
		1	543478	7435933
		1	543419	7436460
		1	542316	7436729
		1	544735	7435948
1	543469	7435975		
1	544126	7435900		
1	544635	7435897		
1	543344	7436057		
1	544215	7436175		
1	543601	7436142		
1	544216	7435785		
1	543473	7436263		
1	542411	7436743		
1	544516	7435861		
1	544985	7435745		
1	544617	7435984		
1	543176	7436458		
1	543433	7436356		
1	542650	7436103		
1	543624	7436185		
1	542963	7436121		



Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		1	542569	7436057
		1	545143	7436245
		1	542173	7436210
		1	544586	7435914
		1	543092	7436445
		1	543040	7435972
		1	544388	7435657
		1	544723	7435925
		1	542568	7436055
		1	542554	7436173
		1	544172	7435844
		1	542486	7436419
		1	542683	7436084
		1	543851	7436292
		1	543209	7436051
		1	543443	7435886
		1	543485	7435779
		1	543328	7436157
		1	543086	7435968
		1	542712	7436080
		1	542129	7436132
		1	543161	7436439
		1	547327	7436177
		1	543500	7436240
		1	544789	7435898
<i>Aluta quadrata</i> T	B	1	543646	7436327
		1	543852	7436294
		1	545361	7436215
		1	542434	7436873
		1	544625	7435670
		1	543103	7435678
		1	542113	7435972
		1	543482	7436183
		1	542801	7436231
		1	542840	7436262
		1	543611	7435854
		1	542085	7436069
		1	542649	7436101
		1	543733	7435705
		1	542190	7436147
		1	544351	7435702
		1	544927	7436103
		1	543232	7436424
		1	542935	7436407
		1	544926	7436101
		1	542014	7436245
		1	545285	7435592
		1	542515	7435939
		1	545112	7435768
		1	543610	7435852
		1	544712	7435610



Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		1	545113	7435770
		1	543580	7436138
		1	543357	7435822
		1	543314	7436517
		1	547469	7435966
		1	542410	7436741
		1	544432	7435780
		1	543238	7436297
		1	544431	7435778
		1	543273	7435872
		1	544556	7435577
		1	544195	7436038
		1	544425	7436093
		1	543160	7436437
		1	542467	7436918
		1	544719	7435658
		1	543060	7435882
		1	543785	7436258
		1	547668	7436029
		1	545203	7435664
		1	543581	7436140
		1	544125	7435898
		1	543843	7435988
		1	544214	7436173
		1	544194	7435975
<i>Aluta quadrata</i> T	B	1	543353	7436447
		1	542426	7436082
		1	544350	7435700
		1	544984	7435743
		1	543036	7435891
		1	543104	7435680
		1	544325	7436420
		1	543091	7436443
		1	543855	7435525
		1	543623	7436183
		1	542112	7435970
		1	545286	7435594
		1	544113	7436024
		1	543014	7436476
		1	545095	7435957
		1	544555	7435575
		1	545212	7436330
		1	542638	7436013
		1	543227	7436480
		1	544196	7436040
		1	544440	7435903
		1	543434	7436358
		1	544171	7435842
		1	544041	7436011
		1	542412	7436289
		1	542681	7435978



Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
<i>Aluta quadrata</i> T	B	1	543239	7436299
		1	542243	7436121
		1	543315	7436519
		1	543442	7435884
		1	543061	7435879
		1	543274	7435874
		1	542466	7436916
		1	543294	7435916
		1	545135	7435662
		1	544636	7435895
		1	542425	7436080
		1	543041	7435974
		1	544439	7435901
		1	542464	7436870
		1	543919	7436282
		1	543037	7435893
		1	542455	7436854
		1	544193	7435973
		1	543647	7436331
		1	542315	7436727
		1	542516	7435941
		1	544636	7435601
		1	543649	7436387
		1	542841	7435786
		1	542488	7436149
		1	543329	7436159
		1	543977	7436218
		1	542839	7436260
		1	543356	7435820
		1	542280	7436622
		1	545213	7436332
		1	542553	7436171
		1	543017	7436423
		1	544713	7435612
		1	543267	7436375
		1	542120	7435894
		1	542713	7436082
		1	542587	7436230
		1	545362	7436217
		1	543529	7436448
1	542586	7436228		
1	543470	7435977		
1	543343	7436055		
1	542423	7436808		
1	544924	7436237		
1	544424	7436091		
1	542485	7436417		
1	544772	7435651		
1	545136	7435664		
1	542940	7436411		
1	545404	7436284		



Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
<i>Aluta quadrata</i> T	B	1	543479	7435935
		1	543208	7436049
		1	543499	7436238
		1	542487	7436147
		1	542074	7435810
		1	543486	7435781
		1	544609	7435769
		1	542388	7435803
		1	543415	7435841
		1	543616	7435921
		1	542071	7436014
		1	543734	7435706
		1	542433	7436871
		1	542637	7436011
		1	544637	7435603
		1	543920	7436284
		1	544587	7435916
		1	543474	7436265
		1	542962	7436119
		1	543708	7436444
		1	542130	7436134
		1	542802	7436234
		1	543617	7435923
		1	543051	7435931
		1	543087	7435970
		1	545405	7436286
		1	544855	7435763
		1	542714	7435999
		1	544923	7436235
		1	543295	7435918
		1	544517	7435861
		1	543052	7435933
		1	543016	7436421
		1	543600	7436140
		1	544722	7435923
		1	543231	7436417
		1	544718	7435656
		1	542713	7435679
		1	543354	7436449
		1	543481	7436181
		1	544771	7435649
		1	544644	7436184
1	542454	7436852		
1	542121	7435896		
1	542084	7436067		
1	544765	7435793		
1	542713	7435997		
1	542784	7436256		
1	542941	7436413		
1	543458	7436181		
1	543013	7436474		



Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
<i>Aluta quadrata</i> T	B	1	542840	7435784
		1	543729	7436343
		1	543401	7436466
		1	545204	7435666
		1	542111	7436258
		1	544790	7435900
		1	543414	7435839
		1	543228	7436482
		1	542424	7436810
		1	542242	7436119
		1	543177	7436460
		1	544042	7435993
		1	543016	7436398
		1	543730	7436345
		1	544112	7436022
		1	542191	7436149
		1	542682	7435980
		1	544616	7435982
		1	544734	7435946
		1	542360	7435735
	1	542015	7436247	
	1	542682	7436082	
	1	543650	7436389	
	1	543528	7436446	
	1	544766	7435795	
	1	542649	7436101	
	1	544214	7436173	
	1	542315	7436727	
	1	544363	7435657	
	1	542070	7436012	
	1	545135	7435662	
	3	544325	7436420	
	1	543208	7436049	
	1	544516	7435861	
	1	543016	7436421	
	1	542962	7436119	
	1	542637	7436011	
	1	543708	7436444	
	5	542412	7436289	
	30	543086	7435968	
1	542425	7436080		
1	542682	7436082		
1	544855	7435763		
1	542120	7435894		
20	544984	7435743		
1	543328	7436157		
1	543091	7436443		
1	542681	7435978		
30	543051	7435931		
4	544555	7435575		
2	544722	7435923		
	D			



Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		1	545759	7435550
		1	542172	7436208
		15	543478	7435933
		1	543419	7436460
		1	543176	7436458
		1	542423	7436808
		1	543353	7436447
		1	543356	7435820
		1	542084	7436067
		1	543610	7435852
		1	543729	7436343
		4	542840	7435784
		1	542122	7436137
		1	545404	7436284
		1	542280	7436622
		1	542568	7436055
		1	543528	7436446
		1	544701	7435912
		1	543623	7436183
		1	543616	7435921
		50	543060	7435882
		3	544112	7436022
		1	543103	7435678
		1	544195	7436038
		1	547668	7436029
		1	543646	7436327
		1	543267	7436375
		1	544424	7436091
		1	544616	7435982
		1	542014	7436245
		100	545112	7435768
		1	544635	7435897
		1	547469	7435966
		5	542073	7435808
		1	543469	7435975
		1	544439	7435901
		1	543414	7435839
		1	543442	7435884
		1	544712	7435610
		1	543458	7436181
		1	542190	7436147
		30	543040	7435972
		1	542111	7436258
		1	542242	7436119
		1	543919	7436282
		1	542784	7436256
		1	542515	7435939
		2	544734	7435946
		1	543160	7436437
		1	543649	7436387
		1	544608	7435767
<i>Aluta quadrata</i> T	D			

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
<i>Aluta quadrata</i> T	D	1	543485	7435779
		1	544431	7435778
		1	544586	7435914
		15	545212	7436330
		1	542136	7436148
		5	543843	7435988
		1	543481	7436181
		1	543015	7436396
		1	543438	7436208
		1	542553	7436171
		1	544125	7435898
		1	543580	7436138
		1	542463	7436868
		2	544041	7436011
		1	543851	7436292
		1	542112	7435970
		1	545203	7435664
		1	547327	7436177
		1	542466	7436916
		1	543294	7435916
		1	542388	7435803
		1	542801	7436231
		10	542962	7436119
		1	543400	7436464
		5	545143	7436245
		1	544350	7435700
		1	543343	7436055
		1	544171	7435842
		3	544636	7435601
		1	543733	7435705
		1	545094	7435955
		1	545285	7435592
		2	542712	7435677
		1	542940	7436411
		1	544923	7436235
		1	542410	7436741
		1	542839	7436260
		50	543036	7435891
		1	547427	7436106
		1	543433	7436356
		1	542712	7436080
1	542433	7436871		
5	544718	7435656		
1	543227	7436480		
15	542485	7436417		
1	542713	7435997		
1	543273	7435872		
1	543600	7436140		
1	543231	7436417		
1	543013	7436474		
1	542586	7436228		



Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
<i>Aluta quadrata</i> T	D	1	543238	7436297
		1	544765	7435793
		1	543976	7436216
		1	545361	7436215
		1	544193	7435973
		1	542487	7436147
		5	543473	7436263
		10	544216	7435785
		1	543265	7436517
		1	542934	7436405
		1	542454	7436852
		1	544789	7435898
		20	543499	7436238
		1	542129	7436132
		500	544855	7435763
		1	543208	7436049
		1	543623	7436183
		1	547427	7436106
		1	543227	7436480
		1	544125	7435898
		1	542070	7436012
		5	542412	7436289
		1	542681	7435978
		1	543013	7436474
		1	542242	7436119
		1	544701	7435912
		5	543843	7435988
		1	542586	7436228
		1	543610	7435852
		30	544718	7435656
		1	542423	7436808
		15	542485	7436417
		5	545143	7436245
		1	543267	7436375
		1	542454	7436852
		1	542111	7436258
		1	542084	7436067
		1	543294	7435916
		1	543580	7436138
		1	542466	7436916
1	542553	7436171		
1	542934	7436405		
30	543051	7435931		
1	542568	7436055		
1	543265	7436517		
1	542410	7436741		
1	543356	7435820		
1	543419	7436460		
1	542682	7436082		
1	543328	7436157		
1	543091	7436443		

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		1	544171	7435842
		1	542190	7436147
		1	542801	7436231
		1	543016	7436421
		1	542433	7436871
		2	544722	7435923
		1	543485	7435779
		500	544765	7435793
		1	543015	7436396
		50	543060	7435882
		1	542120	7435894
		1	543851	7436292
		1	545361	7436215
		1	545285	7435592
		500	544789	7435898
		1	544701	7435912
		1	547427	7436106
		1	543458	7436181
		1	543442	7435884
		1	542515	7435939
		1	545094	7435955
		1	544193	7435973
		5	542073	7435808
		1	543729	7436343
		1	542172	7436208
		1	542463	7436868
		1	544516	7435861
		5	543473	7436263
		1	544635	7435897
		1	542129	7436132
		1	543433	7436356
		1	542713	7435997
		15	543478	7435933
		1	544586	7435914
		1	544616	7435982
		1	547469	7435966
		1	542425	7436080
		1	543103	7435678
		1	543176	7436458
		1	544350	7435700
		1	542280	7436622
		1	545203	7435664
		1	542712	7436080
		1	544926	7436101
		20	543499	7436238
		1	543231	7436417
		1	544431	7435778
		15	545212	7436330
		2	544041	7436011
		1	543708	7436444
		1	543400	7436464
<i>Aluta quadrata</i> T	D			



Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		30	543040	7435972
		1	543343	7436055
		1	544388	7435657
		100	545112	7435768
		1	542315	7436727
		1	543238	7436297
		1	542487	7436147
		1	544195	7436038
		1	542940	7436411
		1	545135	7435662
		2	544734	7435946
		2	542712	7435677
		1	542839	7436260
		1	544608	7435767
		1	542136	7436148
		1	544424	7436091
		1	543353	7436447
		1	543733	7435705
		1	543919	7436282
		1	545759	7435550
		1	542962	7436119
		3	544636	7435601
		1	544439	7435901
		1	547327	7436177
		1	543160	7436437
		1	542014	7436245
		1	542649	7436101
		1	544214	7436173
		1	543646	7436327
		1	543314	7436517
		1	543976	7436216
		4	544555	7435575
		1	547668	7436029
		1	543469	7435975
		4	542840	7435784
		1	542784	7436256
		30	543086	7435968
		3	544325	7436420
		1	544712	7435610
		3	544112	7436022
		1	545404	7436284
		1	543616	7435921
		20	544984	7435743
		1	543414	7435839
		1	542637	7436011
		5	544771	7435649
		1	543438	7436208
		1	543600	7436140
		1	542388	7435803
		1	542122	7436137
		1	543528	7436446
<i>Aluta quadrata</i> T	D			

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
<i>Aluta quadrata</i> T	D	50	543036	7435891
		1	543481	7436181
		1	543649	7436387
		10	544216	7435785
		12	542112	7435970
		1	544923	7436235
		1	543273	7435872
	E	16	543631	7436143
		1	547376	7436203
		10	545376	7435919
		3	543310	7436010
		11	545318	7436069
		21	544701	7435867
		6	543400	7436255
		7	545289	7435693
		17	545521	7436043
		26	543283	7436356
		6	545099	7435897
		8	543715	7435743
		1	544579	7435558
		6	547263	7436143
		5	544175	7436134
		14	545416	7435821
		5	545393	7435879
		22	545116	7435936
		12	547424	7435831
		11	545585	7435802
		17	543214	7436426
		24	543649	7436193
		4	545441	7436212
		3	547533	7436183
		25	542080	7436246
		32	542643	7436041
		15	542149	7436255
		8	545811	7435764
		11	545304	7435911
		25	542210	7436123
		25	542785	7436235
		8	545298	7435673
		12	546818	7435996
13	547327	7436154		
1	543566	7436047		
18	543083	7436432		
9	545385	7436067		
37	545301	7435887		
9	544747	7435695		
27	543706	7436193		
12	545365	7435851		
2	545508	7435743		
11	543703	7435745		
36	546812	7436004		



Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		20	543607	7436161
		3	544856	7435766
		20	543705	7436204
		3	543250	7436308
		12	544470	7435889
		13	542512	7436070
		10	542702	7436063
		41	544413	7435894
		15	546770	7435909
		31	543590	7436158
		18	547422	7435857
		8	545294	7435700
		17	542691	7436073
		1	544162	7435917
		2	543271	7435772
		15	544698	7435873
		39	544476	7435886
		5	543279	7436238
		1	542209	7436137
		14	547460	7436098
		51	546794	7435993
		15	543256	7436470
		15	547524	7436167
		5	545458	7436018
		28	543710	7436398
<i>Aluta quadrata</i> T	E	24	547331	7436077
		6	542432	7436781
		16	543406	7435854
		66	543296	7436407
		2	543243	7436412
		3	542292	7436677
		24	545299	7435812
		8	542550	7436057
		10	543708	7436264
		1	545363	7436121
		6	545602	7435809
		7	546799	7436009
		15	545519	7436204
		10	545350	7435971
		8	542957	7436436
		1	547374	7436202
		39	542127	7436213
		5	547418	7435723
		1	542439	7436873
		48	543122	7436409
		23	542105	7436260
		8	545541	7435824
		22	543683	7436279
		15	544844	7435756
		29	542060	7436236
		6	545491	7436004

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		18	545784	7435781
		3	542127	7436249
		14	543350	7436284
		1	547448	7436144
		20	542126	7436158
		5	545184	7435845
		8	545242	7435803
		13	542211	7436370
		11	543059	7435952
		6	545347	7435986
		5	542152	7436265
		23	545365	7435892
		61	545328	7435897
		17	543140	7436430
		32	547481	7435997
		16	542511	7436087
		37	542574	7436151
		3	545408	7436066
		2	545510	7436037
		21	543325	7436393
		12	542519	7436058
		38	543064	7436384
		30	542230	7436131
		20	543681	7436157
		6	547446	7436082
<i>Aluta quadrata</i> T	E	21	547507	7436168
		7	542292	7436691
		12	547471	7435874
		11	543300	7436045
		1	547448	7436144
		51	543312	7436380
		9	542050	7436202
		12	545629	7435802
		7	545351	7435949
		1	547476	7436124
		14	546807	7435987
		5	547358	7436128
		2	545332	7436017
		8	543604	7435864
		21	545559	7435871
		33	543298	7436021
		19	543626	7436133
		2	542596	7436228
		1	542912	7435837
		9	545517	7436203
		11	545443	7436165
		13	544698	7435846
		2	545516	7436184
		1	545113	7435926
		13	544680	7435860
		27	545264	7435839

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
<i>Aluta quadrata</i> T	E	3	544784	7435872
		25	543358	7436031
		8	545220	7435666
		48	543154	7436341
		9	544189	7435877
		21	542134	7436256
		1	544874	7436334
		5	545398	7436207
		1	547505	7435506
		7	544664	7435989
		6	545542	7436204
		6	545344	7436115
		25	546758	7436007
		1	547591	7436056
		23	543400	7436359
		9	544200	7435881
		2	544626	7435658
		9	545291	7435906
		7	544649	7435864
		64	543195	7436345
		3	547345	7436084
		10	544185	7436058
		8	543359	7435912
		10	543398	7435799
		21	545102	7435937
		13	545313	7435917
		21	543060	7435884
		10	544532	7435904
		3	547246	7436158
		1	547516	7436112
		27	543349	7435918
		6	545502	7436008
		1	545510	7436209
		21	542547	7436061
		22	543682	7436102
		21	547523	7436130
		23	547309	7436060
		3	543619	7435961
		16	543073	7435878
		30	542587	7436184
		15	547428	7435843
1	542600	7435584		
20	543319	7436415		
4	543330	7436185		
42	543099	7436441		
17	544568	7435775		
14	545408	7436204		
6	547227	7436169		
13	543308	7435924		
16	545244	7435835		
7	543220	7436424		



Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
<i>Aluta quadrata</i> T	E	8	542756	7436038
		12	544822	7435797
		9	542144	7436265
		20	547443	7435865
		7	543642	7435783
		1	544304	7435875
		2	545288	7435679
		1	547440	7435575
		11	543309	7436430
		3	545251	7435676
		7	547476	7436123
		22	542048	7436222
		26	543227	7436408
		7	545361	7436045
		18	544487	7435822
		5	543176	7435714
		3	543625	7435918
		32	542517	7436079
		13	545121	7435957
		7	544986	7435732
		1	543755	7436406
		15	547461	7436126
		6	544211	7436152
		37	544781	7435760
		23	545458	7436179
		1	544649	7435814
		10	546871	7435897
		7	542464	7436083
		15	543380	7436480
		10	545140	7435886
		11	545644	7435763
		19	544463	7435889
		21	542065	7436238
		41	543380	7436355
		6	542802	7436194
		11	544696	7435858
		16	544180	7436074
		4	545115	7435945
		9	544727	7435853
		1	544090	7435956
		12	542360	7436752
8	545102	7435887		
3	545418	7436243		
1	542455	7435419		
27	543258	7436376		
12	544783	7435822		
15	543633	7435853		
1	542351	7436740		
5	545735	7435741		
6	543184	7436436		
26	544784	7435837		

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		25	545180	7435791
		19	545162	7435846
		15	545153	7435772
		24	542454	7436781
		12	542099	7436194
		32	543743	7436306
		28	546758	7436014
		21	544747	7435821
		19	544383	7435875
		6	543649	7436121
		1	547542	7436188
		1	545531	7436157
		14	542969	7436422
		6	545302	7435952
		2	542378	7435799
		2	545327	7435793
		1	544194	7436013
		32	542489	7436094
		21	544408	7435785
		5	545350	7436108
		12	545298	7435950
		14	542744	7436033
		6	544718	7435882
		10	543261	7436368
		9	543298	7436272
<i>Aluta quadrata</i> T	E	3	543080	7436454
		6	543227	7436416
		6	545423	7436200
		7	544734	7435684
		12	544747	7435859
		7	544813	7435803
		7	547465	7435722
		5	545115	7435774
		28	543311	7436296
		8	544241	7435891
		7	545245	7435796
		14	543680	7436386
		15	542454	7436846
		57	545206	7435795
		9	545458	7436040
		7	547264	7436155
		11	547325	7436154
		10	545134	7435907
		1	544738	7435631
		22	545128	7435935
		5	544574	7435700
		3	544802	7435668
		3	543346	7436406
		22	543285	7435873
		1	547558	7436165
		2	544484	7435626

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		3	543666	7435741
		8	542135	7436260
		8	543042	7435969
		2	545790	7435615
		21	543272	7436399
		5	542061	7435819
		27	547442	7435822
		7	543225	7436385
		21	545579	7435832
		7	546762	7435914
		1	544659	7435616
		15	543688	7436357
		1	542957	7436111
		13	545107	7435902
		1	543876	7435587
		21	544513	7435881
		4	547240	7436159
		1	543417	7436632
		14	545671	7435770
		6	547308	7436039
		15	545268	7435826
		9	544408	7435795
		21	544229	7435877
		5	545268	7435876
		10	544487	7435861
		15	544709	7435853
		2	542560	7435537
		2	543719	7436395
		19	543653	7436138
		17	544756	7435874
		6	543041	7436429
		12	545119	7435891
		15	544588	7435866
		5	545233	7435782
		1	547430	7436097
		5	544384	7435643
		24	543577	7436130
		28	543410	7436214
		14	546748	7435927
		1	547446	7436142
		26	543635	7435827
		9	545308	7436065
		1	542496	7435930
		7	545350	7435956
		6	545552	7435824
		2	547407	7435672
		6	543625	7435807
		6	543310	7436471
		16	545611	7435751
		13	542491	7436120
		28	543021	7436407
<i>Aluta quadrata</i> T	E			



Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
<i>Aluta quadrata</i> T	E	8	543270	7436310
		20	543499	7436252
		33	543299	7435924
		15	544730	7435852
		17	545336	7435918
		6	545320	7435961
		15	543734	7435715
		1	545555	7436203
		4	545404	7436241
		14	544645	7435873
		16	543701	7436220
		26	542792	7436219
		11	543627	7436183
		16	542558	7436175
		1	547400	7436071
		19	545336	7435868
		16	547373	7436009
		18	543277	7436258
		4	545098	7435931
		5	543222	7436456
		17	545386	7436037
		1	542202	7436344
		11	546760	7435912
		13	543252	7436406
		11	547524	7436143
		16	545660	7435777
		52	543309	7436381
		34	543365	7436191
		10	545333	7435781
		5	543892	7435976
		14	543392	7435854
		5	545446	7436183
		19	547450	7435811
		16	545385	7435803
		9	544540	7435927
		14	543223	7436393
		18	545128	7435922
		12	545324	7435892
		1	543975	7436251
		12	543734	7435738
3	547304	7436135		
1	547432	7435927		
21	547264	7436164		
12	542573	7436091		
17	545403	7436006		
8	544177	7435901		
11	545236	7435809		
9	545612	7435820		
37	543369	7436191		
12	544540	7435915		
5	547462	7435797		

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
<i>Aluta quadrata</i> T	E	2	547492	7435524
		30	543592	7436144
		6	544444	7435802
		28	543702	7436228
		12	545349	7435852
		12	544180	7436110
		17	546685	7436009
		6	544184	7436079
		13	544676	7435848
		1	547627	7436049
		7	547495	7436136
		1	543702	7436121
		53	543173	7436368
		3	543731	7436374
		66	545297	7435888
		36	544208	7436100
		8	547425	7435802
		8	544543	7435976
		4	543443	7436001
		4	547450	7435978
		15	544619	7435872
		21	545268	7435806
		16	543660	7436060
		13	543381	7435914
		25	543875	7436317
		38	543104	7436378
		6	546747	7435926
		1	547376	7436203
		3	542665	7436053
		6	545546	7435842
		2	544202	7435982
		17	543272	7436349
		15	547478	7436121
		3	545403	7435861
		2	543359	7435838
		28	545356	7435903
		14	545304	7435911
		8	547520	7436171
		10	546796	7436009
		3	545477	7436154
		15	544766	7435851
		27	542771	7436185
		2	547412	7435802
1	547240	7436180		
24	547415	7435998		
2	544221	7436149		
3	545437	7436171		
15	543272	7436364		
2	543903	7436307		
13	544172	7435878		
9	542455	7436888		

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
<i>Aluta quadrata</i> T	E	1	543297	7436332
		14	544851	7435816
		5	543230	7436336
		22	543695	7436263
		18	545111	7435909
		2	544645	7435854
		31	544835	7435741
		2	544731	7435652
		13	543613	7435866
		27	543372	7436480
		1	543720	7436412
		7	545372	7435845
		7	543391	7436229
		5	543289	7435938
		15	543613	7436167
		5	543314	7436290
		6	544176	7435913
		3	542121	7436143
		17	543415	7436371
		2	543755	7436311
		22	543677	7436389
		8	547357	7436123
		29	543178	7436405
		36	542080	7436227
		8	547225	7436176
		20	545326	7435910
		8	545149	7435864
		4	545514	7435905
		7	547313	7436072
		6	547450	7435866
		6	542504	7436118
		20	546799	7435985
		5	545305	7435922
		24	542100	7436206
		10	543730	7436331
		36	543664	7436199
		1	547559	7436063
		39	542158	7436173
		21	544631	7435894
		10	545267	7435897
8	545304	7435671		
22	545325	7435886		
14	543731	7436345		
10	544752	7435763		
100	547643	7436037		
10	543684	7436117		
18	543260	7436326		
20	543399	7435869		
1	545426	7435808		
3	542686	7436052		
6	544845	7435825		



Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		1	544747	7435758
		44	543383	7436269
		62	543370	7436492
		37	547546	7436121
		2	542468	7435909
		24	545119	7435864
		13	544189	7436084
		5	545100	7435902
		6	546765	7435906
		1	545252	7435697
		3	542343	7436074
		19	544559	7435802
		11	545482	7436046
		7	545351	7435868
		5	545269	7435877
		8	547304	7436060
		2	543626	7436000
		6	546745	7435933
		1	547254	7436174
		21	544368	7435811
		4	545111	7435941
		22	543467	7435797
		4	543710	7436196
		9	545489	7436174
		28	545310	7435989
<i>Aluta quadrata</i> T	E	14	543395	7436173
		33	545470	7436018
		16	543380	7436175
		37	543303	7436041
		14	545336	7436010
		1	547400	7435624
		2	546780	7435889
		27	542580	7436142
		17	547214	7436177
		27	543455	7435976
		36	542068	7436201
		27	545200	7435779
		1	546756	7436017
		1	542482	7436143
		9	544216	7436123
		5	546824	7435997
		12	544456	7435869
		16	543853	7436318
		12	542451	7436835
		9	543331	7435887
		34	545320	7435899
		26	542497	7436869
		7	543634	7435796
		8	545536	7436206
		11	545549	7436203
		1	543870	7435594

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		2	544793	7435668
		2	546735	7435981
		11	543682	7436371
		56	547313	7436072
		11	544224	7435765
		4	542527	7436112
		4	543765	7436295
		20	545165	7435767
		4	544690	7435779
		21	543403	7436465
		21	547537	7436124
		12	544394	7435849
		4	545384	7436088
		6	544401	7435775
		3	545378	7435798
		4	547333	7436058
		4	544727	7435656
		1	545506	7436217
		21	543252	7436394
		6	543627	7435865
		1	545139	7435803
		8	542525	7436088
		11	542587	7436182
		7	544714	7435845
		16	545094	7435872
<i>Aluta quadrata</i> T	E	2	545375	7436088
		31	543669	7436305
		5	546743	7435936
		16	544633	7435873
		8	543405	7436346
		14	543020	7436452
		61	544186	7436130
		17	545127	7435884
		10	543866	7436319
		17	542958	7436422
		9	545538	7436158
		4	545306	7435942
		2	543332	7436457
		9	545319	7435901
		13	542638	7436063
		1	545542	7436157
		6	542543	7436117
		35	543345	7436319
		3	542733	7436161
		3	543326	7436071
		15	542697	7436095
		3	546760	7435925
		4	547453	7435795
		26	544482	7435885
		6	545363	7436131
		6	547509	7436007

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
<i>Aluta quadrata</i> T	E	8	543283	7436156
		8	543723	7436271
		1	545480	7436195
		3	543695	7436149
		16	545390	7436060
		8	543252	7436473
		3	542479	7436823
		5	545295	7435692
		67	543215	7436382
		1	547351	7436129
		4	543316	7435916
		8	545128	7435952
		21	545122	7435908
		2	545098	7435876
		17	545158	7435842
		22	545305	7436063
		17	545337	7435950
		8	544551	7435790
		1	545491	7436217
		5	543728	7436360
		32	545327	7435953
		1	545541	7436162
		3	545099	7435964
		7	543237	7436066
		9	545650	7435789
		22	543713	7436377
		1	547374	7436202
		32	543356	7436293
		9	542950	7436413
		3	545124	7435856
		9	545307	7435882
		1	545549	7436202
		13	544253	7435881
		12	543677	7435731
		17	542492	7436818
		9	545100	7435922
		19	545406	7436044
		1	542295	7436563
		12	545319	7435926
		34	545322	7435904
		8	543151	7436328
		7	543369	7435850
10	546796	7435983		
9	544731	7435878		
1	543280	7436214		
11	542093	7436244		
7	542998	7436413		
28	542068	7436245		
22	542592	7436055		
1	547266	7436174		
27	542440	7436085		

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		7	543837	7435652
		15	545352	7436076
		13	544763	7435870
		14	545393	7436079
		1	547424	7435757
		13	543623	7435973
		8	544853	7435772
		38	543201	7436416
		1	547473	7435547
		3	543272	7436164
		2	544549	7435758
		23	545263	7435846
		15	545464	7436041
		8	542668	7436080
		9	545207	7435758
		14	546773	7436015
		14	544720	7435753
		1	547552	7436063
		1	542496	7436911
		5	545199	7435846
		1	547453	7435734
		10	545280	7435870
		21	543152	7436344
		1	546757	7436083
		1	545429	7436172
<i>Aluta quadrata</i> T	E	6	542716	7436099
		2	547418	7435690
		18	545315	7435958
		31	543103	7436407
		23	544733	7435827
		9	544485	7435922
		44	545228	7435753
		1	547460	7436103
		12	545259	7435812
		4	544198	7436082
		20	544548	7435809
		8	542816	7436199
		12	545229	7435788
		27	543376	7435894
		11	543276	7436024
		1	545373	7435806
		16	543500	7436255
		15	543058	7435968
		10	545353	7435926
		10	547406	7435843
		9	544369	7435890
		6	542558	7436196
		11	545101	7435918
		4	545519	7436189
		12	545415	7436216
		15	544165	7435874



Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		7	543724	7436333
		9	545155	7435865
		3	545513	7436064
		1	542281	7435591
		15	543255	7436385
		5	544783	7435871
		2	543206	7436302
		8	543203	7436440
		1	545362	7435776
		9	544661	7435899
		1	545482	7436202
		38	544558	7435801
		2	545458	7436149
		10	543218	7436385
		33	546742	7436001
		15	547492	7436113
		3	543412	7436341
		17	543294	7436418
		2	543432	7435781
		2	545408	7436203
		9	544224	7435891
		26	544758	7435834
		11	543216	7436058
		3	542586	7436097
		3	545101	7435785
		3	545283	7435665
		19	543287	7436036
		7	544682	7435890
		14	545255	7435858
		44	543219	7436366
		3	543186	7436315
		11	545304	7435897
		10	545371	7435786
		1	544803	7435906
		8	545504	7436011
		6	547463	7435991
		3	547357	7436051
		10	542774	7436207
		1	545361	7435753
		29	545323	7435926
		6	545403	7436213
		1	543213	7436492
		32	547312	7436080
		16	544192	7435894
		31	543662	7436210
		12	547476	7436008
		3	542476	7436136
		8	542714	7436088
		4	542230	7436393
		11	543192	7436428
		3	546721	7436002
<i>Aluta quadrata</i> T	E			

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
<i>Aluta quadrata</i> T	E	12	545620	7435852
		28	543689	7436321
		4	544798	7435876
		7	547345	7436165
		37	543384	7436485
		15	545540	7436167
		8	545599	7435787
		3	542657	7436094
		8	543682	7436145
		2	544199	7435787
		2	543296	7436009
		5	545519	7436194
		6	544759	7435884
		19	547437	7435802
		2	544761	7435705
		1	545424	7436171
		4	543796	7435695
		1	543343	7435951
		8	544662	7435887
		18	542582	7436080
		10	543366	7435928
		3	547323	7436166
		11	542058	7436233
		3	543293	7435911
		1	543849	7436081
		7	545138	7435897
		22	544793	7435809
		14	544161	7435906
		9	544598	7435744
		1	545501	7436217
		13	544198	7435867
		16	547479	7436062
		39	543137	7436401
		1	543031	7435829
		43	542122	7436223
		2	543082	7435968
		1	542402	7435702
		48	543110	7436353
		21	547420	7435845
		5	542484	7436864
		2	547402	7435652
23	544827	7435837		
19	542130	7436149		
5	544780	7435802		
21	545221	7435815		
23	545312	7435990		
5	543236	7436397		
5	544534	7435771		
12	544766	7435821		
5	542175	7436198		
17	542056	7436254		

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
<i>Aluta quadrata</i> T	E	7	543648	7435792
		23	543280	7436394
		3	547412	7435604
		11	543649	7435774
		6	543816	7435674
		7	544718	7435897
		11	544821	7435767
		16	543210	7436435
		4	544427	7435833
		12	543154	7436343
		12	543410	7436577
		9	543370	7435810
		6	545583	7435782
		16	544194	7436094
		15	545595	7435843
		7	545503	7436063
		57	543044	7435889
		1	544615	7435692
		41	542470	7436853
		30	545335	7436041
		27	543460	7435805
		27	542056	7436209
		22	547429	7435898
		2	547303	7436125
		17	544436	7435896
		9	545155	7435789
		11	542943	7436419
		18	547446	7435983
		3	543256	7436049
		19	543378	7436500
		3	542092	7436042
		11	542090	7436210
		18	543707	7436382
		26	542627	7436057
		7	547450	7436079
		61	543653	7436181
		32	542183	7436127
		7	545366	7435926
		21	542779	7436242
		5	545341	7436054
2	544522	7435991		
11	543727	7436281		
13	545346	7436086		
8	542297	7436523		
4	542422	7436663		
14	545349	7435861		
14	543409	7435796		
6	543121	7435686		
13	544243	7435875		
8	543634	7435840		
2	543398	7435787		

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
<i>Aluta quadrata</i> T	E	1	542371	7436740
		13	545343	7435899
		13	543663	7436218
		27	545599	7435828
		4	543302	7435938
		1	543366	7436030
		27	542152	7436209
		8	544189	7435864
		19	544175	7436104
		10	543279	7436324
		7	544557	7435915
		8	545167	7435853
		9	545316	7435969
		11	542529	7436095
		13	545443	7436189
		11	543855	7436303
		6	543419	7435887
		3	542455	7436108
		27	547452	7436117
		6	544517	7435923
		67	544403	7435891
		6	543736	7436180
		12	545135	7435949
		1	542374	7435987
		4	542521	7436143
		15	544206	7436143
		2	545293	7435706
		7	543410	7435878
		24	544733	7435842
		4	543430	7436158
		8	544711	7435814
		1	544753	7435748
		22	543473	7435930
		34	545322	7435933
		10	543035	7436416
		19	542579	7436075
		14	544196	7436135
		8	542690	7436065
		27	543633	7436200
		1	543717	7436407
17	542495	7436074		
13	543724	7436387		
19	544791	7435826		
6	546827	7435998		
2	543427	7436372		
2	544681	7435614		
3	543673	7436080		
28	547316	7436094		
1	547233	7436187		
5	547467	7436017		
10	544211	7436115		



Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		6	542178	7436185
		5	543725	7436232
		24	543422	7436193
		1	543337	7436252
		6	543263	7436476
		19	545315	7435898
		15	543408	7436194
		14	545355	7435983
		8	545094	7435952
		2	543399	7435909
		1	547363	7436155
		1	545522	7436156
		5	546788	7436014
		9	545191	7435842
		25	547555	7436122
		6	543334	7436285
		4	545256	7435680
		15	544586	7435772
		3	545337	7435806
		39	547440	7435928
		12	545112	7435938
		25	543718	7436391
		12	543618	7435826
		4	543668	7436098
		3	545210	7435671
<i>Aluta quadrata</i> T	E	13	543277	7436476
		7	542783	7436265
		4	543390	7435904
		1	545529	7436161
		4	545218	7435826
		9	543843	7436317
		8	545330	7435981
		8	543130	7436333
		17	542102	7436222
		21	545335	7435943
		5	543711	7436214
		10	545329	7435681
		7	545139	7435941
		22	544191	7436115
		68	543162	7436366
		1	542454	7435903
		37	546745	7436004
		1	543307	7435980
		9	544767	7435867
		12	545321	7435936
		7	545647	7435774
		16	545213	7435821
		13	545248	7435785
		1	542109	7436012
		1	543266	7436266
		14	547481	7436016

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
<i>Aluta quadrata</i> T	E	10	545338	7435941
		2	547242	7436159
		47	544190	7436099
		6	543023	7436462
		5	543220	7436070
		10	545389	7436063
		5	545382	7436076
		17	542486	7436840
		3	545331	7435667
		17	547423	7435868
		27	547447	7435913
		25	543368	7436459
		11	542764	7436239
		27	543091	7436382
		1	547249	7436176
		4	545476	7436051
		2	542650	7436013
		2	543737	7435706
		6	545305	7435952
		25	545393	7436201
		13	543636	7435809
		1	544873	7435934
		8	544575	7435890
		27	545290	7435852
		24	544432	7435876
		2	542731	7436069
		36	543059	7436385
		18	543289	7436051
		1	547462	7435558
		3	542958	7436119
		8	543825	7436301
		7	545675	7435763
		1	542444	7435892
		4	542991	7436413
		1	543692	7436130
		22	544729	7435865
		11	545367	7435785
		11	543649	7436058
		13	545358	7435985
		23	547507	7436117
1	544423	7436108		
37	543222	7436379		
15	543429	7436213		
16	544194	7435882		
5	543248	7436039		
7	545431	7435934		
56	546708	7436010		
25	545333	7435967		
40	545288	7435790		
12	543447	7435781		
15	544209	7435864		

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		2	543343	7435931
		2	545204	7435725
		39	543719	7436370
		38	542794	7436241
		3	543122	7436442
		20	545252	7435684
		18	543653	7436134
		1	543401	7435949
		14	544568	7435886
		37	544571	7435763
		12	544719	7435839
		26	544205	7436133
		7	545493	7435995
		7	546757	7436075
		1	547525	7436167
		13	545245	7435671
		6	545355	7436105
		18	542682	7436093
		11	546762	7435915
		32	542560	7436131
		2	543073	7435955
		15	543694	7436391
		3	542842	7435787
		27	545234	7435696
		7	546811	7435991
<i>Aluta quadrata</i> T	E	2	543656	7436041
		3	547334	7436147
		19	545505	7436181
		1	543334	7436124
		2	543406	7436397
		9	545262	7435677
		10	545177	7435822
		5	542712	7436152
		18	545263	7435848
		1	542259	7436398
		10	542400	7436733
		9	543445	7436463
		1	544764	7435744
		5	544787	7435856
		29	542481	7436102
		15	542455	7436097
		13	545308	7435899
		7	543811	7436312
		4	545230	7435784
		10	545336	7435928
		8	543373	7435909
		30	544500	7435917
		32	543325	7435900
		21	542116	7436259
		17	543316	7436309
		4	545290	7435899

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
<i>Aluta quadrata</i> T	E	2	545329	7436127
		20	546785	7435993
		14	545109	7435918
		12	543688	7436179
		19	543684	7436292
		12	543051	7435971
		45	547498	7436097
		3	544630	7435652
		35	544584	7435748
		2	543182	7435738
		11	543161	7435708
		71	544828	7435760
		1	545267	7435665
		26	543688	7436191
		2	542634	7435999
		8	545367	7435881
		61	544539	7435779
		23	547431	7435833
		14	542121	7436265
		41	545331	7435909
		5	543245	7436384
		6	544650	7435877
		9	542477	7436445
		8	544716	7435870
		15	545553	7435753
		13	542734	7436046
		8	542716	7436050
		1	543636	7435852
		12	542718	7436068
		26	544846	7435778
		5	544170	7435864
		11	543469	7436230
		12	543651	7436029
		27	544507	7435797
		9	542662	7436079
		5	545313	7435843
		1	543726	7436256
		19	543687	7436312
		15	545132	7435780
		1	544218	7435775
		18	545218	7435807
15	545417	7436193		
7	545349	7435948		
1	542404	7435842		
14	547270	7436171		
21	543379	7435821		
35	543666	7436182		
11	544609	7435777		
6	544172	7435880		
6	543385	7435795		
21	543320	7435907		



Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		14	543382	7435880
		7	545234	7435803
		2	542770	7436157
		5	544865	7435768
		9	543447	7435818
		10	542547	7436091
		1	547214	7436202
		5	543066	7436357
		9	544801	7435766
		1	546707	7436255
		7	545338	7435830
		7	543409	7436458
		16	545113	7435891
		10	545346	7435947
		1	545217	7435840
		9	543192	7436417
		30	547499	7436160
		2	547469	7435722
		2	544127	7436027
		15	542089	7436088
		33	543611	7436131
		8	547440	7435962
		1	542699	7436084
		1	542458	7436880
		3	542700	7436079
<i>Aluta quadrata</i> T	E	3	543271	7436415
		1	547258	7436158
		7	545657	7435887
		15	544442	7435871
		5	545383	7436257
		4	543421	7435830
		1	547541	7436147
		17	542373	7436752
		11	544572	7435874
		17	542155	7436283
		21	545399	7436045
		18	544774	7435762
		1	547580	7436109
		41	545308	7435883
		11	543700	7436243
		18	545116	7435942
		27	544446	7435810
		26	542419	7436762
		28	543196	7436364
		25	545328	7436003
		12	543352	7436446
		12	545509	7435986
		14	543748	7435734
		44	546687	7436004
		5	543257	7436308
		12	543265	7436241

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		4	544685	7435790
		10	547422	7435754
		11	542745	7436186
		5	543184	7436442
		7	543183	7436426
		2	543283	7435885
		4	545327	7436083
		13	544535	7435872
		9	545289	7435863
		11	545350	7435932
		5	544613	7435676
		5	543333	7435892
		16	542571	7436140
		31	542150	7436200
		11	547475	7436122
		4	545375	7435815
		2	543438	7436344
		6	545340	7435890
		4	544469	7435872
		11	544710	7435745
		1	542709	7436179
		1	547471	7436063
		41	544836	7435756
		1	544576	7435571
		7	542500	7436067
<i>Aluta quadrata</i> T	E	42	543326	7436033
		7	544643	7435979
		4	544587	7435822
		29	543368	7435904
		1	544727	7435902
		7	545402	7436226
		8	544735	7435855
		14	545133	7435875
		1	547457	7436077
		5	545573	7435855
		19	545370	7436200
		34	545180	7435806
		42	544728	7435836
		41	543379	7436486
		2	545297	7435670
		7	543727	7436410
		7	545313	7435674
		19	544185	7436143
		11	542703	7436131
		7	543317	7436302
		24	543229	7436049
		7	545097	7435944
		3	542489	7436902
		3	544609	7435682
		9	542449	7436808
		8	545075	7435899

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		3	545534	7435793
		21	547349	7436154
		1	542235	7436382
		3	542118	7435938
		10	542094	7436224
		46	543144	7436351
		6	545565	7435802
		13	543694	7436164
		21	543374	7436002
		22	542043	7436245
		2	543714	7436212
		7	543079	7435964
		1	545547	7436165
		8	543897	7436314
		1	543363	7435926
		19	543364	7436525
		7	545112	7435908
		12	547344	7436107
		18	542806	7436248
		32	545296	7435845
		4	542743	7436137
		2	544979	7435724
		10	544581	7435812
		8	542510	7436128
		6	543704	7436238
<i>Aluta quadrata</i> T	E	27	543336	7436009
		2	542286	7436616
		1	543867	7435628
		7	545279	7436082
		37	544406	7435865
		7	542989	7436431
		37	542517	7436183
		5	542948	7436425
		27	544561	7435777
		28	543289	7436354
		18	544749	7435808
		2	542385	7436740
		5	545229	7435709
		14	543698	7436233
		7	542761	7436224
		16	542488	7436844
		13	544544	7435984
		3	542707	7435675
		17	544230	7435896
		5	542501	7436808
		1	543614	7435895
		14	543203	7436417
		3	543262	7436249
		7	545310	7436016
		18	542580	7436167
		39	543023	7436423

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		13	545103	7435946
		14	547311	7436148
		1	545336	7435799
		16	542994	7436428
		1	547538	7436185
		2	545133	7435922
		2	543813	7436298
		6	542634	7436069
		22	545107	7435933
		20	543430	7436200
		19	543155	7436400
		31	545285	7435817
		25	544552	7435791
		12	542636	7436061
		9	544489	7435868
		5	545618	7435799
		18	542479	7436847
		23	545237	7435688
		6	545158	7435812
		3	542812	7436273
		9	542553	7436149
		25	547530	7436125
		31	544452	7435892
		2	545346	7435663
		14	543394	7435833
<i>Aluta quadrata</i> T	E	1	545790	7435787
		10	543636	7435817
		22	544172	7435891
		1	543297	7435993
		17	542134	7436162
		9	547535	7436154
		33	547426	7435948
		5	543705	7436356
		34	543066	7436416
		19	542460	7436794
		5	545258	7435668
		10	544536	7435946
		6	544740	7435878
		14	544460	7435889
		56	543695	7436296
		4	543378	7435844
		21	543357	7436460
		55	545252	7435745
		9	547427	7435993
		8	545401	7436062
		13	543661	7435761
		11	543375	7435929
		12	544610	7435752
		3	543265	7436343
		23	545190	7435829
		1	543385	7436329



Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		16	546753	7435918
		2	545242	7435694
		6	543386	7435846
		30	545335	7435994
		11	545499	7436051
		6	544790	7435858
		4	547236	7436158
		4	545354	7436108
		28	543383	7436188
		6	543688	7435726
		25	544703	7435852
		1	544778	7435923
		6	544820	7435851
		3	543605	7435845
		14	546699	7436030
		15	545337	7435978
		4	543067	7436461
		18	542781	7436225
		1	547549	7436090
		13	544714	7435854
		41	543401	7436190
		6	543649	7436033
		26	547403	7435842
		15	543077	7436458
		3	543005	7436403
<i>Aluta quadrata</i> T	E	11	542619	7436068
		15	547511	7436165
		9	545103	7435927
		18	545261	7435684
		7	545781	7435756
		1	542116	7435973
		1	547336	7436109
		14	544836	7435772
		11	545518	7436198
		1	545434	7435813
		24	543311	7436478
		18	543417	7436213
		5	542409	7436745
		7	544514	7435935
		6	545560	7435878
		15	547319	7436147
		8	545418	7435945
		4	543682	7436133
		34	544189	7436126
		24	542156	7436137
		17	544822	7435837
		39	543286	7436397
		11	542213	7436134
		23	546742	7436018
		12	545315	7435996
		10	547354	7436117

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
<i>Aluta quadrata</i> T	E	11	544416	7435868
		2	542276	7436406
		1	545439	7436115
		2	543429	7436336
		31	544195	7436113
		1	547194	7436244
		13	545112	7435881
		42	544433	7435895
		29	545338	7436060
		24	545375	7436041
		13	545379	7436047
		4	544642	7435625
		36	546757	7435921
		20	542080	7436245
		32	545324	7436002
		25	543676	7436091
		9	542305	7436523
		4	544766	7435731
		31	547482	7436110
		25	543399	7436220
		4	545482	7436176
		12	543373	7435814
		2	543272	7436025
		15	545378	7435986
		13	542815	7436252
		9	545514	7435983
		10	547475	7436126
		41	545248	7435792
		36	543051	7436380
		22	542649	7436069
		12	544741	7435760
		14	543254	7436416
		2	545509	7436050
		14	542760	7436174
		4	542737	7436125
		5	543247	7436482
		15	543265	7436474
		2	544745	7435909
		14	545230	7435808
		26	543297	7435872
17	544508	7435887		
11	547492	7436134		
13	543340	7436204		
27	543165	7436346		
32	542128	7436178		
8	544557	7435815		
3	545101	7435913		
2	542123	7435903		
5	544486	7435976		
8	545790	7435796		
15	547427	7435806		

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		6	545353	7435798
		9	544216	7436140
		9	542488	7436146
		6	544548	7435905
		28	547561	7436137
		42	542136	7436227
		7	545345	7435795
		1	545346	7436125
		10	542748	7436047
		19	545366	7436077
		32	543358	7436344
		14	542585	7436214
		10	543152	7436344
		28	542493	7436859
		4	543705	7436184
		30	542568	7436129
		28	542442	7436872
		9	544535	7435935
		4	545380	7435964
		7	542098	7436101
		1	547482	7436045
		36	547561	7436128
		16	545323	7435992
		1	542452	7436874
		3	543627	7435947
<i>Aluta quadrata</i> T	E	5	545356	7435880
		15	545111	7435917
		10	543704	7436167
		18	543298	7436072
		17	545291	7435876
		7	546816	7436000
		1	545290	7435628
		14	545384	7436060
		7	544176	7436046
		1	547357	7436133
		2	546880	7435995
		51	543609	7436153
		4	543747	7436392
		15	545434	7436185
		1	547609	7436047
		2	546700	7435996
		3	543298	7436177
		26	544563	7435744
		40	547506	7436138
		30	547484	7436123
		1	545140	7435952
		7	545209	7435818
		5	543300	7436328
		20	542147	7436243
		7	543349	7435804
		12	543251	7436365

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		2	542492	7435924
		18	545592	7435840
		10	542789	7436252
		1	542125	7435882
		5	545110	7435954
		23	543408	7435821
		10	543296	7435865
		6	545792	7435760
		1	545540	7436168
		15	542787	7436186
		2	545791	7435777
		12	545426	7436187
		26	545191	7435814
		6	546768	7435907
		7	545798	7435792
		6	544781	7435858
		29	547510	7436135
		11	542117	7436129
		36	547444	7435923
		22	545339	7435886
		17	543382	7435830
		21	545316	7435897
		3	545461	7436048
		3	544653	7435989
		4	546778	7435982
<i>Aluta quadrata</i> T	E	3	542682	7436035
		16	547430	7435903
		35	547428	7435881
		4	545485	7435778
		5	547532	7436172
		15	547321	7436159
		19	547496	7436125
		21	544490	7435912
		59	543215	7436396
		10	546811	7435999
		6	544366	7435891
		7	544711	7435880
		8	547296	7436167
		39	544426	7435894
		44	544189	7436096
		10	545429	7436194
		4	545369	7435907
		10	545407	7435815
		26	542455	7436862
		4	543686	7436067
		32	545280	7435750
		2	544218	7435896
		4	545431	7435934
		5	545273	7435870
		9	547306	7436074
		13	543675	7436346

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		3	545453	7436166
		6	543353	7436308
		4	543235	7436384
		2	543297	7435930
		18	542479	7436839
		37	543626	7436169
		18	546740	7435996
		11	543411	7436247
		22	545306	7435675
		1	545531	7436206
		3	542798	7436261
		6	547356	7436160
		52	544815	7435761
		1	542570	7436119
		27	546800	7435984
		6	545225	7435775
		1	543025	7436370
		25	542553	7436082
		1	543196	7435753
		12	543206	7436344
		21	545340	7436071
		6	543241	7436044
		1	543761	7435722
		15	545475	7436057
		11	542680	7436101
<i>Aluta quadrata</i> T	E	4	544530	7435891
		11	542750	7436202
		21	542982	7436420
		17	543263	7436473
		8	542543	7436176
		9	545247	7435826
		4	544544	7435994
		8	545317	7435936
		18	542699	7436108
		41	543687	7436216
		18	545278	7435854
		24	545506	7436181
		24	542564	7436058
		64	543292	7436364
		2	543291	7435893
		9	545293	7435970
		8	545592	7435805
		17	542568	7436072
		13	543177	7436342
		8	542483	7436883
		6	545315	7436016
		8	545298	7435980
		9	542129	7436260
		9	543671	7436295
		20	542527	7436090
		8	543272	7436348



Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
<i>Aluta quadrata</i> T	E	1	545776	7435766
		3	542446	7436086
		9	545570	7435772
		8	543632	7436003
		21	545300	7435848
		23	545212	7435781
		18	545320	7436001
		2	543665	7436071
		15	547327	7436143
		63	547491	7435999
		60	544826	7435762
		8	547253	7436169
		15	545286	7435861
		4	545310	7435979
		2	545301	7435676
		25	544745	7435872
		28	542762	7436200
		1	542524	7436811
		4	545115	7435935
		21	543360	7435875
		13	543262	7436374
		14	544464	7435820
		17	542792	7436230
		2	546972	7436037
		21	544732	7435758
		2	545241	7435860
		23	542519	7436063
		1	545113	7435952
		8	543708	7436392
		14	546788	7436008
		6	545583	7435751
		12	543398	7436382
		24	542548	7436079
		19	543361	7436254
		7	543295	7435916
		32	543293	7436362
		36	545302	7435861
		13	544790	7435756
		2	546726	7435988
		11	547267	7436140
		7	542734	7436196
		28	544701	7435821
20	542499	7436844		
10	543296	7436471		
12	543391	7436244		
26	543684	7436327		
5	545366	7436124		
33	543195	7436424		
3	542970	7436433		
1	547667	7436036		
27	545301	7436068		

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
<i>Aluta quadrata</i> T	E	1	542110	7436240
		7	543378	7435907
		5	545406	7436054
		1	547512	7436114
		48	543381	7436271
		2	545498	7435766
		8	545478	7436177
		12	544599	7435773
		13	547501	7436122
		11	543837	7436301
		29	545278	7435804
		6	547249	7436159
		2	544192	7436029
		11	545527	7436204
		9	543256	7436349
		3	545226	7435830
		7	547509	7436164
		14	543885	7436315
		3	542102	7436023
		40	546725	7436002
		13	543285	7436166
		8	542573	7436200
		2	543234	7436421
		4	545205	7435712
		4	543711	7436400
		4	542723	7436045
		14	547467	7436127
		20	546789	7436023
		9	544207	7436106
		21	543438	7435811
		23	543164	7436441
		21	543013	7436430
		3	545178	7436177
		20	547416	7435821
		20	547455	7435822
		18	546848	7436021
		9	547352	7436168
		65	543140	7436371
		4	547296	7436131
		26	544398	7435865
18	545125	7435917		
29	543695	7436305		
10	545358	7435885		
6	546767	7435985		
16	543478	7435789		
31	545605	7435852		
20	547672	7436041		
19	543705	7435717		
38	545179	7435832		
14	545116	7435952		
16	543454	7435794		

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
<i>Aluta quadrata</i> T	E	3	547465	7436028
		14	542470	7436877
		3	546691	7435999
		6	545464	7436008
		6	543279	7435873
		5	547343	7436042
		1	547431	7436097
		26	547320	7436054
		36	543039	7436382
		12	542705	7436169
		7	544739	7435859
		10	544214	7436133
		1	547443	7436097
		9	545724	7435748
		2	543310	7436304
		42	542565	7436186
		1	546828	7435998
		39	547472	7436111
		38	542571	7436163
		2	544227	7435711
		1	544796	7435587
		30	542588	7436054
		3	547410	7435689
		3	542261	7436115
		7	545114	7435953
		6	545564	7435824
		1	545815	7436123
		7	545335	7435965
		22	545264	7435682
		29	542789	7436206
		9	544193	7436076
		25	547417	7435819
		46	547447	7435900
		7	545352	7436075
		31	545317	7435934
		5	543253	7436049
		13	545187	7435761
		5	545350	7436100
		9	545114	7435948
		3	545373	7436273
		2	545288	7435601
		72	545097	7435903
8	545369	7436015		
16	543343	7436386		
2	542184	7436306		
1	545378	7436123		
1	547246	7436179		
21	542671	7436092		
5	546764	7436016		
7	544829	7435771		
35	542121	7436255		

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		18	542061	7436226
		3	547204	7436181
		13	544854	7435806
		47	543655	7436171
		6	545246	7435852
		18	543701	7436253
		3	544388	7435756
		20	544160	7435888
		10	544852	7435778
		3	544748	7435785
		40	542584	7436190
		43	543281	7436379
		3	547457	7435869
		3	543301	7436068
		16	544208	7435896
		6	542415	7436295
		18	547426	7435805
		7	545169	7435720
		1	547374	7436202
		10	545392	7435810
		7	544451	7435819
		1	547267	7436134
		13	544410	7435799
		22	545140	7435869
		25	545281	7435840
<i>Aluta quadrata</i> T	E	19	543376	7436226
		7	545345	7435923
		3	544320	7436432
		35	545202	7435824
		8	547453	7436078
		28	543363	7436462
		9	543319	7436439
		21	545190	7435794
		8	543107	7436343
		9	543328	7436261
		41	543701	7436308
		3	545435	7436218
		8	542565	7436088
		20	545179	7435773
		3	545450	7436144
		22	542610	7436065
		6	545273	7435877
		7	542717	7435981
		37	544804	7435761
		1	547421	7435595
		7	543043	7435959
		19	543354	7435892
		12	545253	7435776
		6	544541	7435817
		16	544797	7435829
		28	544395	7435873

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		1	544198	7435994
		4	543278	7436453
		5	545529	7435871
		6	545272	7435722
		1	544141	7435904
		1	545773	7435752
		5	544565	7435812
		8	543301	7436306
		25	545339	7435972
		1	544655	7435885
		2	542468	7435918
		13	544543	7435968
		11	545112	7435925
		36	542586	7436211
		16	547460	7436128
		16	545346	7435914
		1	545497	7436217
		1	544565	7435570
		10	547484	7436130
		18	544760	7435754
		1	546762	7436085
		26	545267	7435858
		13	543677	7436143
		9	543258	7436317
		34	547413	7435820
<i>Aluta quadrata</i> T	E	21	543039	7436395
		8	543699	7436334
		26	545368	7435908
		7	543297	7436424
		34	543363	7436001
		11	545188	7435775
		24	545325	7435915
		19	545174	7435766
		2	543800	7435939
		6	547444	7435721
		4	544459	7435639
		11	547410	7435997
		5	542727	7436107
		10	542662	7436095
		17	544724	7435867
		17	545257	7435817
		27	542464	7436870
		1	544591	7435703
		15	543696	7436355
		20	545160	7435855
		4	545174	7435852
		19	542707	7436071
		1	546765	7436080
		13	545316	7435914
		3	543705	7436173
		16	543378	7436281



Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		7	545492	7435757
		32	544677	7435869
		2	543359	7435919
		4	545131	7435938
		1	543764	7436217
		12	542583	7436164
		14	543274	7436505
		16	545407	7436193
		1	547368	7436202
		8	542664	7436072
		4	545339	7435986
		6	543291	7436011
		8	545663	7435757
		7	544384	7435861
		26	544450	7435868
		11	544769	7435880
		5	542680	7436066
		26	544574	7435767
		4	545257	7435877
		1	545540	7436163
		15	544491	7435798
		37	543409	7436147
		5	543696	7436186
		13	542148	7436271
		1	542306	7436461
<i>Aluta quadrata</i> T	E	12	545316	7435917
		1	543625	7435870
		19	545618	7435821
		11	547494	7436151
		7	545347	7435942
		3	543274	7436485
		2	547424	7436055
		8	547296	7436153
		26	542710	7436106
		2	543285	7436011
		1	543675	7436062
		45	543079	7436414
		4	546678	7435999
		4	545137	7435673
		6	542525	7436092
		6	544534	7435909
		11	542714	7436125
		26	543039	7436397
		6	543247	7436397
		19	545343	7436097
		8	547454	7435990
		22	545257	7435852
		5	543796	7436295
		19	545385	7436016
		18	542616	7436057
		21	543441	7435987

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		2	543397	7436162
		48	543671	7436228
		14	542600	7436065
		42	544489	7435906
		4	545238	7435671
		1	543851	7435642
		10	542542	7436062
		12	545747	7435739
		2	543647	7435828
		3	546697	7436022
		8	547325	7436042
		11	544189	7435918
		2	545330	7435671
		12	542725	7436060
		18	542069	7436253
		8	547463	7436005
		39	543104	7436357
		25	543731	7436400
		6	542108	7436260
		2	542682	7436111
		19	543340	7436303
		12	544387	7435867
		12	543721	7436356
		2	545396	7435811
		2	545391	7435864
<i>Aluta quadrata</i> T	E	32	542180	7436146
		6	542451	7436770
		9	547488	7436142
		2	542725	7436128
		2	543244	7436298
		11	544777	7435878
		2	546853	7435993
		9	544642	7435813
		26	543321	7436377
		11	545770	7435749
		9	545096	7435892
		7	543428	7435792
		22	542690	7436090
		15	542105	7436234
		14	544925	7436121
		15	543712	7436318
		25	545184	7435779
		8	544541	7435953
		24	542132	7436190
		1	543638	7435851
		1	547635	7436706
		3	545467	7436179
		4	542774	7436249
		4	542299	7436705
		2	543407	7436328
		12	545545	7436205

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
<i>Aluta quadrata</i> T	E	1	547342	7436158
		17	542571	7436054
		10	545338	7435981
		3	544744	7435885
		4	545495	7436178
		4	543290	7435775
		1	542768	7436140
		10	543352	7436190
		1	545804	7435802
		20	542045	7436224
		33	543122	7436354
		46	543708	7436308
		31	544508	7435825
		6	544723	7435810
		16	545265	7435859
		10	543708	7436204
		13	544166	7436095
		21	542041	7436216
		78	543197	7436378
		15	543285	7436405
		7	542668	7436099
		15	543167	7436325
		22	543356	7436502
		2	545534	7435820
		1	547551	7436152
		5	543625	7435960
		20	545219	7435782
		4	547305	7436151
		21	543080	7436384
		4	543423	7436650
		3	544726	7435668
		17	543360	7436216
		14	542758	7436159
		2	543288	7436199
		21	542115	7436191
		44	547451	7435883
		8	545361	7436100
		16	545151	7435846
		4	547261	7436149
		6	545078	7435893
		5	542727	7436173
		15	544513	7435819
2	545512	7435792		
5	547497	7436147		
11	543641	7435818		
60	545332	7435848		
5	543454	7436238		
1	543338	7436149		
26	546763	7435906		
12	544358	7435831		
22	543737	7435724		

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
<i>Aluta quadrata</i> T	E	6	543347	7436436
		1	545747	7435734
		18	547528	7436171
		1	545393	7435811
		11	543014	7436411
		10	543307	7436436
		1	542297	7436575
		48	545292	7435848
		5	544692	7435883
		10	544543	7435961
		9	545206	7436327
		1	543618	7435839
		8	545100	7435950
		12	543386	7435861
		12	545548	7435866
		6	547236	7436151
		15	542824	7436261
		8	547243	7436143
		12	547534	7436137
		14	545136	7435848
		7	543777	7436294
		3	543748	7436301
		3	542338	7436734
		3	543290	7436086
		10	546779	7436014
		6	542113	7436234
		9	543271	7436519
		15	545500	7436036
		13	543445	7436206
		7	544828	7435862
		10	544259	7435878
		1	543744	7436394
		24	543166	7436401
		9	545328	7436071
		13	543604	7436119
		2	543366	7435941
		12	543773	7436315
		7	545368	7436119
		9	542657	7436052
		6	544530	7435948
		16	543271	7436400
		4	547447	7435790
		6	542746	7436168
11	543440	7436200		
3	545100	7435906		
28	543686	7436202		
12	542471	7436836		
1	542190	7436166		
2	542396	7435830		
43	545201	7435808		
4	544776	7435817		

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		6	542697	7436075
		1	547418	7435724
		7	545285	7435861
		15	545372	7436033
		4	542776	7436169
		17	543636	7436193
		11	545478	7436006
		7	545368	7435883
		30	545312	7436064
		6	543273	7436028
		7	542820	7436217
		7	545436	7435817
		10	543379	7436244
		16	542719	7436145
		3	545446	7435822
		10	543306	7435909
		16	545356	7435788
		5	542301	7436541
		16	543302	7436414
		3	542283	7436413
		21	545114	7435872
		18	543404	7436450
		3	543331	7435949
		10	545208	7435847
		15	543615	7435847
<i>Aluta quadrata</i> T	E	2	542349	7435668
		22	545359	7436084
		1	544013	7435933
		10	545294	7435674
		17	544445	7435869
		1	542403	7435718
		43	543355	7436349
		1	543229	7435769
		26	543114	7436364
		41	544513	7435809
		1	543325	7436104
		16	545451	7436185
		1	545387	7435940
		16	543311	7436388
		3	545245	7435790
		21	545160	7435844
		1	543052	7435940
		42	545158	7435837
		4	545220	7435849
		9	543391	7436157
		15	543627	7436161
		16	543730	7436318
		11	546807	7436005
		1	545342	7436128
		11	544657	7435872
		7	543843	7436301



Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
<i>Aluta quadrata</i> T	E	1	542270	7435382
		20	542650	7436081
		15	545360	7435860
		14	545336	7435915
		3	544635	7435635
		6	545226	7435692
		32	543386	7436371
		18	545573	7435850
		25	543720	7436398
		1	542708	7435990
		6	545343	7435785
		3	545289	7435899
		13	543055	7436420
		4	544851	7435778
		22	545266	7435796
		12	545313	7436010
		12	545349	7435962
		15	543633	7436121
		6	543705	7436109
		1	542289	7436671
		11	546755	7435920
		1	542944	7436401
		3	544220	7435864
		3	542822	7435757
		22	542153	7436164
		3	545578	7435780
		1	545505	7436217
		8	545459	7436028
		4	543609	7435873
		2	545321	7435701
		25	544603	7435871
		2	543532	7436364
		1	545752	7435546
		8	543297	7436051
		5	542777	7436179
		5	543394	7435893
		13	542808	7436213
		6	543669	7436296
		4	543295	7436294
		12	545322	7435690
		13	545369	7435951
12	544520	7435903		
4	543638	7436011		
13	545292	7436078		
4	547423	7436096		
2	543627	7435937		
56	544753	7435847		
8	542138	7436252		
12	544709	7435809		
6	545322	7435865		
11	543394	7435818		

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
<i>Aluta quadrata</i> T	E	8	543334	7435908
		3	544469	7435828
		3	544624	7435660
		2	547297	7436158
		13	547431	7435888
		2	544223	7435880
		21	542609	7436054
		11	543826	7436316
		31	545321	7435892
		4	545156	7435861
		1	542482	7435419
		19	545307	7435952
		3	545457	7436185
		4	545342	7436102
		25	544198	7435888
		6	543628	7435988
		23	543259	7436060
		61	544793	7435763
		4	545358	7436117
		17	542488	7436876
		6	544152	7435875
		5	545379	7436098
		10	543682	7435750
		12	547488	7436151
		8	543432	7436265
		24	547409	7435853
		1	545294	7435877
		16	543681	7436378
		19	544178	7436130
		18	542651	7436053
		4	542706	7436054
		25	542778	7436194
		3	545367	7436094
		26	542558	7436141
		8	543292	7435860
		34	543127	7436363
		4	546770	7435895
		8	542240	7436394
		7	542745	7436107
		10	545466	7436176
		1	543697	7436158
		2	542079	7436210
		23	543340	7436191
6	544748	7435758		
15	543278	7436468		
8	545427	7435823		
31	543733	7436294		
10	543240	7436487		
10	547486	7436052		
32	543685	7436169		
27	545485	7436059		

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
<i>Aluta quadrata</i> T	E	7	544387	7435788
		11	543327	7436415
		27	545311	7435999
		45	545265	7435799
		11	545311	7435915
		5	543450	7436219
		28	544770	7435845
		23	543387	7436008
		5	545370	7436090
		4	544768	7435905
		22	542450	7436829
		25	544809	7435824
		3	543321	7435889
		9	547241	7436172
	22	543397	7436263	
	H	1	543108	7437177
		1	543110	7437192
		1	543111	7437174
		1	543111	7437174
		1	543113	7437181
		1	543113	7437181
		1	543113	7437181
		1	543113	7437181
		1	543114	7437181
		1	543114	7437181
		1	543116	7437183
		1	543116	7437181
		1	543116	7437182
		1	543116	7437183
		1	543119	7437153
		1	543119	7437154
		1	543121	7437184
		1	543121	7437183
		1	543123	7437149
1		543123	7437149	
1	543123	7437181		
1	543123	7437181		
1	543124	7437174		
1	543124	7437171		
1	543124	7437162		
1	543124	7437162		
1	543124	7437171		
1	543124	7437173		
1	543124	7437161		
1	543124	7437162		
1	543124	7437180		
1	543124	7437162		
1	543125	7437180		
1	543125	7437168		
1	543125	7437162		
1	543126	7437177		

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		1	543126	7437153
		1	543126	7437167
		1	543126	7437153
		1	543126	7437166
		1	543126	7437168
		1	543127	7437193
		1	543127	7437166
		1	543127	7437193
		1	543128	7437150
		1	543129	7437166
		1	543129	7437153
		1	543129	7437190
		1	543130	7437153
		1	543130	7437166
		1	543131	7437165
		1	543132	7437183
		1	543132	7437164
		1	543132	7437149
		1	543133	7437156
		1	543133	7437157
		1	543133	7437158
		1	543133	7437162
		1	543133	7437156
		1	543134	7437161
		1	543225	7437245
<i>Aluta quadrata</i> T	H	1	543226	7437247
		1	543116	7437182
		1	543124	7437161
		1	543124	7437171
		1	543125	7437162
		1	544242	7436686
		1	544313	7436429
		1	544314	7436427
		1	544314	7436431
		1	544315	7436455
		1	544317	7436454
		1	544318	7436434
		1	544318	7436434
		1	543207	7436457
		1	543208	7436458
		1	543215	7436443
		1	543223	7436463
		1	543224	7436508
		1	542600	7436178
		1	542601	7436204
		1	542601	7436210
		1	542601	7436177
		1	542602	7436198
		1	542602	7436198
		1	542602	7436199
		1	542605	7436187

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		1	542702	7436204
		1	542708	7436179
		1	542715	7436252
		1	542739	7436234
		1	542740	7436234
		1	542436	7436940
		1	542436	7436940
		1	542450	7436882
		1	542450	7436879
		1	542451	7436885
		1	542453	7436887
		1	542453	7436887
		1	542453	7436885
		1	542453	7436887
		1	542458	7436890
		1	542459	7436894
		1	542464	7436899
		1	542465	7436902
		1	542465	7436899
		1	542472	7436904
		1	542474	7436903
		1	545197	7436321
		1	545197	7436322
		1	545198	7436322
		1	545198	7436322
		1	545198	7436322
		1	545198	7436322
		1	545201	7436324
		1	545205	7436324
		1	545205	7436324
		1	545206	7436326
		1	545208	7436325
		1	545208	7436324
		1	545208	7436327
		1	545208	7436331
		1	545208	7436325
		1	545208	7436327
		1	545208	7436327
		1	545172	7436175
		1	545174	7436174
		1	545176	7436175
		1	545176	7436173
		1	545176	7436173
		1	545177	7436176
		1	545179	7436177
		1	544760	7435965
		1	544763	7435959
		1	544763	7435958
		1	544764	7435958
		1	544333	7435942
		1	544334	7435941

*Aluta quadrata* T

H

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
<i>Aluta quadrata</i> T	H	1	544336	7435942
		1	544336	7435942
		1	544348	7435933
		1	544395	7435943
		1	544712	7436039
		1	547018	7436066
		1	547502	7436168
		1	547505	7436173
		1	547505	7436176
		1	547511	7436178
		1	547513	7436177
		1	547519	7436183
		1	547519	7436183
		1	547534	7436220
		1	547546	7436191
		1	547567	7436163
		1	547581	7436121
		1	547589	7436116
		1	547589	7436109
		1	547590	7436110
		1	547593	7436153
		1	547594	7436158
		1	547594	7436151
		1	547594	7436151
		1	547595	7436157
		1	547596	7436140
		1	547597	7436166
		1	547597	7436140
		1	547599	7436139
		1	547602	7436132
		1	547604	7436135
		1	547605	7436088
		1	547612	7436086
		1	547615	7436087
		1	547627	7436087
		1	547629	7436091
		1	547631	7436089
		1	547640	7436087
		1	547648	7436084
		1	547648	7436073
		1	547649	7436073
		1	547651	7436077
1	547660	7436073		
1	547671	7436065		
1	547675	7436062		
1	547683	7436061		
1	547692	7436049		
1	542418	7436296		
1	542421	7436284		
1	542421	7436285		
1	542421	7436284		



Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)	
<i>Aluta quadrata</i> T	H	1	542425	7436298	
		1	542429	7436300	
		1	542429	7436300	
	I	11000	543534	7435703	
		1000	547327	7436186	
	J	1	545793	7435632	
		100	547523	7436176	
		100	547505	7436177	
		100	547221	7436145	
	<i>Hibiscus campanulatus</i> P1	J	-	554383	7432623
<i>Goodenia</i> sp. East Pilbara (A.A. Mitchell PRP 727) P3	B	4	540407	7436471	
		1	541774	7436643	
		1	545243	7435370	
		2	540920	7436325	
		5	541513	7435873	
		20	541089	7436146	
		1	543730	7436345	
	D	4	540269	7436318	
		21	542019	7435601	
		1	540951	7435993	
		1	541375	7435720	
		2	540782	7436172	
	F	15	540048	7436700	
		2	540003	7436676	
		5	540003	7436667	
		6	539986	7436666	
		1	539986	7436687	
		10	539988	7436694	
	G	5	539984	7436580	
	<i>Grevillea saxicola</i> P3	F	1	550108	7436120
			1	549211	7436559
1			549638	7436467	
1			549639	7436462	
H		1	544214	7436545	
<i>Nicotiana umbratica</i> P3	D	1	547427	7436106	
	F	15	540363	7437102	
		50	539193	7437612	
	G	50	539193	7437612	
	J	-	547432	7436148	
<i>Sida</i> sp. Barlee Range (S. van Leeuwen 1642) P3	D	6	542127	7436171	
		5	542037	7436130	
		3	542136	7436148	
		6	542127	7436171	
		5	542037	7436130	
		3	542136	7436148	
		3	542136	7436148	
	F	1	542862	7437680	
		1	542911	7437734	
		15	542847	7437671	
		5	542832	7437670	
		9	542874	7437689	
		2	542866	7437695	
		2	542866	7437695	

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
<i>Sida</i> sp. Barlee Range (S. van Leeuwen 1642) P3	H	1	542771	7437225
	J	-	542037	7436139
<i>Ptilotus trichocephalus</i> P4	C	10	548743	7434493
		1	547372	7434720
		50	548784	7434677
		1	547192	7434678
		30	547230	7434708
	D	1	549954	7434050
		1	548750	7434596
		1	549038	7434460
		9	549058	7434397
		2	549020	7434434
		1	549575	7434355
		1	549734	7434377
		1	548768	7434585
		9	547186	7434744
		2	547202	7434832
		2	549633	7434423
		2	547226	7434700
		1	548770	7434662
		2	547200	7434741
		1	547209	7434865
		1	549983	7434068
		1	549669	7434373
		1	548740	7434569
		11	547310	7434697
		1	550444	7434053
		1	550233	7434134
		2	547703	7434932
		1	548980	7434453
		1	548813	7434600
		1	547257	7434667
		2	547230	7434851
		1	550085	7434191
		1	548876	7434606
		1	548907	7434652
		28	547180	7434760
		1	549579	7434328
		1	548752	7434595
		2	547223	7434708
		12	547222	7434716
		1	548818	7433620
		1	550026	7434110
		1	547307	7434977
1	548749	7434598		
1	550361	7434088		
6	549702	7434421		
50	548907	7434632		
2	548655	7434548		
1	547456	7434612		
2	547221	7434854		

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		1	548779	7434691
		1	550099	7434137
		7	548798	7434607
		1	548791	7434668
		18	549591	7434342
		1	548808	7434640
		1	548833	7434639
		27	547184	7434830
		1	549665	7434355
		1	550051	7434144
		15	547171	7434764
		1	550077	7434167
		1	548819	7434667
		2	549633	7434423
		1	547236	7434814
		6	549702	7434421
		5	547325	7434692
		10	549774	7434393
		3	547334	7434682
		1	547341	7434667
		4	547254	7434673
		1	547274	7434672
		1	549650	7434363
		1	549711	7434374
		1	548806	7434612
<i>Ptilotus trichocephalus</i> P4	D	2	548787	7434625
		15	547178	7434739
		1	547279	7434678
		1	549690	7434344
		4	547194	7434825
		10	549774	7434393
		115	547210	7434739
		1	548760	7434670
		1	547188	7434829
		5	547247	7434654
		2	547230	7434851
		1	548749	7434598
		2	547221	7434854
		1	550051	7434144
		6	549702	7434421
		1	548833	7434639
		1	548813	7434600
		1	550077	7434167
		1	548750	7434596
		27	547184	7434830
		1	549038	7434460
		1	549579	7434328
		1	550444	7434053
		1	547279	7434678
		7	548798	7434607
		1	549983	7434068

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
		1	549650	7434363
		1	550099	7434137
		1	550233	7434134
		1	548806	7434612
		1	547209	7434865
		1	548808	7434640
		1	548876	7434606
		1	549711	7434374
		1	548907	7434652
		15	547178	7434739
		2	547223	7434708
		9	549058	7434397
		1	550026	7434110
		1	547236	7434814
		2	549633	7434423
		1	549669	7434373
		1	548760	7434670
		1	549702	7434421
		4	547254	7434673
		2	548787	7434625
		5	547325	7434692
		12	547222	7434716
		1	548770	7434662
		28	547180	7434760
		5	547247	7434654
<i>Ptilotus trichocephalus</i> P4	D	2	548655	7434548
		2	549020	7434434
		1	548752	7434595
		1	549774	7434393
		1	549665	7434355
		2	547226	7434700
		1	548980	7434453
		1	547456	7434612
		2	547202	7434832
		15	547171	7434764
		1	548779	7434691
		10	549774	7434393
		1	549575	7434355
		1	549633	7434423
		1	548768	7434585
		2	547200	7434741
		30	548791	7434668
		1	547341	7434667
		1	548740	7434569
		3	547334	7434682
		1	547257	7434667
		11	547310	7434697
		1	549954	7434050
		115	547210	7434739
		1	550361	7434088
		1	548818	7433620

Species	Project <sup>1</sup>	Abundance	Easting (mE)	Northing (mN)
<i>Ptilotus trichocephalus</i> P4	D	1	549690	7434344
		1	549734	7434377
		1	548791	7434668
		4	547194	7434825
		1	547307	7434977
		1	547274	7434672
		50	548907	7434632
		1	550085	7434191
		1	548819	7434667
		18	549591	7434342
		1	547188	7434829
		9	547186	7434744
		2	547703	7434932
	J	-	548775	7434709

<sup>1</sup> Project Source

- A 36\_44\_50\_Western Ranges 2002 drilling (Hamersley Iron 2002)
- B 66 West (Western Ranges) Rare Flora Survey (Biota Environmental Sciences 2003)
- C Western Range Additional Area: Vegetation and Flora Report (Biota Environmental Sciences 2012a)
- D Western Range Phase 2: Vegetation and Flora Report (Biota Environmental Sciences 2012b)
- E Metadata Statement Western Range Targeted Survey for *Aluta quadrata* (Rio Tinto 2012)
- F Assessment to meet Conditions of CPS4594/1 for AR-11-8367 (Astron Environmental Services 2013a)
- G Western Ranges Level 1 Vegetation, Flora and Fauna Survey (Astron Environmental Services 2013b)
- H Metadata Statement for: Systematic Rare Flora Survey at Western Range AR-15-13509 (Rio Tinto 2017)
- I Threatened and Priority Flora Database (TPFL) (Department of Biodiversity, Conservation, and Attractions 2018c)
- J Western Australian Herbarium Flora Database (Department of Biodiversity, Conservation, and Attractions 2018e)

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## **Appendix H: Threatened and Priority Flora Species Likelihood of Occurrence within the Survey Area**

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Table H.1: Likelihood of occurrence of threatened and priority flora recorded within 40 km of the survey area (NatureMap (Department of Biodiversity, Conservation and Attractions 2018b), TPFL (Department of Biodiversity, Conservation and Attractions 2018d), TP List (Department of Biodiversity, Conservation and Attractions 2017e), WA Herbarium (Department of Biodiversity, Conservation and Attractions 2017f)). The TP List database is searched using place names. As a result, many of the records obtained from this database may occur beyond 40 km of the survey area.

Species	Habit and flowering information	Life form	Habitat	Likelihood of occurrence
<b>Threatened</b>				
<i>Aluta quadrata</i>	Shrub, 0.8-2.6 m high. Flowers white, June.	Perennial	Edge of creek beds, base of cliffs, rocky crevices, near crest of ridge.	Previously recorded
<b>Priority 1</b>				
<i>Eremophila</i> sp. Hamersley Range (K. Walker KW 136)	Erect shrub. White-cream-yellow-pink-purple flowers, August to September.	Perennial	High in the landscape, cliff tops, gorge tops, steep rocky slopes, skeletal red-brown soils.	Potential
<i>Dicrastylis mitchellii</i>	Shrub, to about 0.3m high. White or cream flowers, with dots or stripes in throat of corolla.	Perennial	Sand or clay soils. Around dunes.	Unlikely
<i>Goodenia pedicellata</i>	Single-stemmed perennial herb, (with dense cottony and strigose hairs), to 0.25 m high. Yellow flowers.	Perennial	Rocky, clayey soils on rocky slopes and crests of small hills.	Unlikely
<i>Helichrysum oligochaetum</i>	Erect herb to 0.25 m high. Flowers August to November.	Annual	Floodplains, creek lines, red-brown clays and loams.	Potential
<i>Hibiscus campanulatus</i>	Large, erect shrub to 3 m high. Flowers white to mauve, February.	Perennial	Hill slopes, base of slopes, rocky gully areas, often on Canga detritals.	Likely
<i>Hibiscus</i> sp. Mt Brockman (E. Thoma ET 1354) PN	Shrub to 3 m high. Flowers purple, February - August.	Perennial	Hill summit, gorge, red - brown sand, skeletal soils.	Unlikely
<i>Indigofera roseola</i>	Erect shrub, 0.6–1.3 m high with woody rootstock. Flowers pink. Timing not known.	Perennial	Red sandy loams and the upper parts of sand dunes near to Nanutarra	Unlikely
<i>Sida</i> sp. Hamersley Range (K. Newbey 10692)	Semi-prostrate to upright shrub to 2 m high. Flowers September - October.	Perennial	Gorges, base of cliffs, rocky breakaways.	Potential

Species	Habit and flowering information	Life form	Habitat	Likelihood of occurrence
<i>Uvedalia clementii</i>	Herb 0.1-0.2 m, leaves 10-20 mm long 3-5 mm wide.	Annual	No information available.	Unlikely
<b>Priority 2</b>				
<i>Eremophila pusilliflora</i>	Low spreading shrub. Flowers purple, July-April.	Perennial	Alluvial plain.	Unlikely
<i>Hibiscus</i> sp. Gurinbiddy Range (M.E. Trudgen MET 15708)	Spindly upright shrub to 3 m high. Flowers May-July.	Perennial	Near summit of hill, high in landscape, skeletal red-brown stony soil over massive ironstone of the Brockman Iron Formation.	Potential
<i>Oxalis</i> sp. Pilbara (M. E. Trudgen 12725)	Herb. Flowers May.	Annual/ephemeral	In gullies and on gully walls.	Unlikely
<i>Rhodanthe frenchii</i>	Upright herb to 0.35 m high. Flowers August-October.	Annual	Stony hills, rocky river banks and outcrops.	Unlikely
<i>Scaevola</i> sp. Hamersley Range basalts (S. van Leeuwen 3675)	Shrub, to 1 m high. Flowers July-August.	Perennial	Skeletal, brown gritty soil over basalt. Summits of hills, steep hills.	Potential
<i>Solanum octonum</i>	Erect shrub 0.8-1.5 m high. Flowers purple, June to September.	Perennial	Gorge tops, red sandy soil with <i>Triodia</i> , steep hillslopes with skeletal soil and riverine areas with gritty sand.	Potential
<b>Priority 3</b>				
<i>Dampiera anonyma</i>	Multi-stemmed herb, to 1 m high. Flowers June - September.	Perennial	Skeletal red-brown to brown gravelly soil over banded ironstone, basalt, shale and jaspilite. Hill summits, upper slopes (above 1,000 m).	Unlikely
<i>Eremophila coacta</i>	Spreading shrub to 3 m high. Flowers blue-purple, September.	Perennial	Ironstone hills, creeklines, on laterite and shale soils.	Potential
<i>Eremophila magnifica</i> subsp. <i>velutina</i>	Shrub, 0.5-1.5 m high. Blue-purple flowers, August to September.	Perennial	Skeletal soils over ironstone. Summits.	Unlikely
<i>Eremophila rigens</i>	Shrub or tree, 1.5-3.5 m high. Flowers white-blue, September.	Perennial	Clay flats, stony slopes.	Unlikely
<i>Eremophila shonae</i> subsp. <i>diffusa</i>	Erect, open, straggly shrub approximately 0.4 m high. Flowers purple, August to October.	Perennial	Stony yellow or red sandy soils.	Unlikely

Species	Habit and flowering information	Life form	Habitat	Likelihood of occurrence
<i>Goodenia</i> sp. East Pilbara (A.A. Mitchell PRP 727)	Open, erect herb, to 0.2 m high. Flowers yellow, March - September.	Annual or biennial	Red-brown clay soil, calcrete pebbles. Low undulating plain, swampy plains, stony plains, hill slopes.	Previously recorded
<i>Grevillea saxicola</i>	Erect shrub to 2.5 m high. Flowers February, April, November.	Perennial	Low rocky hill, red-brown sandy loam with ironstone pebble cover, steep scree slopes.	Previously recorded
<i>Gunniopsis propinqua</i>	Prostrate herb to 0.10 m high. Flowers August-September.	Annual or perennial	Lateritic outcrops, winter-wet sites, stony sandy loams.	Unlikely
<i>Nicotiana umbratica</i>	Erect, herb, 0.3-0.7 m high. White flowers, April to June.	Short-lived annual or perennial	Shallow soils. Rocky outcrops.	Previously recorded
<i>Olearia mucronata</i>	Densely branched, unpleasantly aromatic shrub, 0.6-1 m high. Flowers white and yellow, August to December or January.	Perennial	Schistose hills, along drainage channels.	Potential
<i>Pilbara trudgenii</i>	Gnarled, aromatic shrub, to 1 m high. Flowers September.	Perennial	Skeletal, red stony soil over ironstone. Hill summits, steep slopes, screes, cliff faces.	Potential
<i>Ptilotus subspinescens</i>	Compact shrub, to 0.8 m high. Flowers February, July, September.	Short-lived perennial	Gentle rocky slopes, screes and the bases of screes, particularly on calcareous substrates.	Unlikely
<i>Rostellularia adscendens</i> var. <i>latifolia</i>	Herb or shrub, 0.1-0.3 m high. Flowers blue-purple-violet, April to May.	Short-lived perennial	Ironstone soils. Near creeks, rocky hills.	Unlikely
<i>Sida</i> sp. Barlee Range (S. van Leeuwen 1642)	Spreading shrub to 0.5m high. Flowers yellow, August.	Perennial	Skeletal red soils pockets. Steep slope.	Previously recorded
<i>Solanum kentrocaule</i>	Shrub 0.5-1.5 m high. Flowers mauve or purple.	Perennial	Hamersley ranges between 700 m to 1,250 m altitude. Hillsides and mountaintops, or occasionally creek beds, in skeletal red-brown soil over ironstone or on basalt scree.	Potential

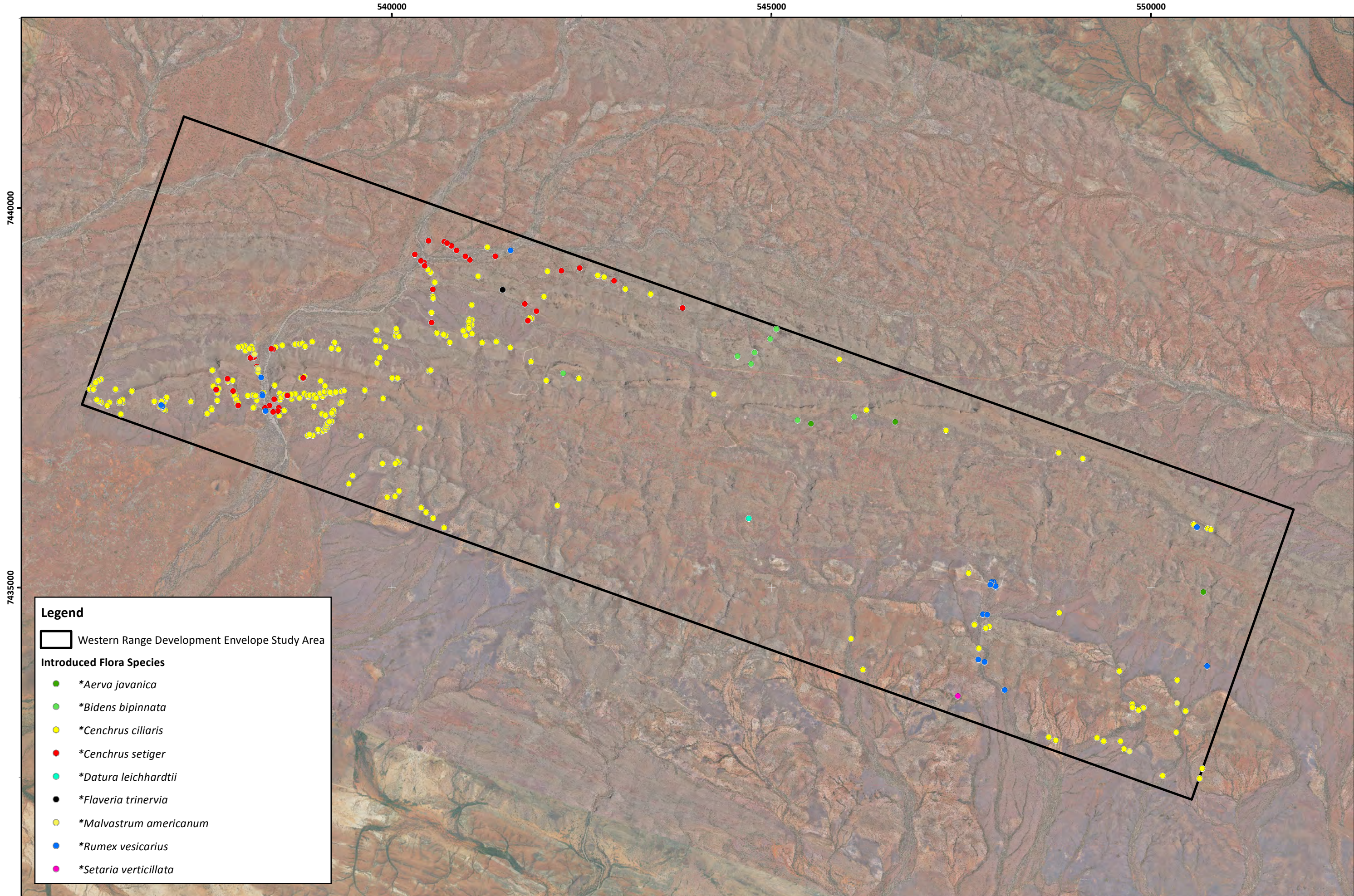
Species	Habit and flowering information	Life form	Habitat	Likelihood of occurrence
<i>Swainsona thompsoniana</i>	Prostrate herb to 0.1 m. Flowers mauve-cream-yellow, August to September.	Annual	Open flood plains on heavy clay soils.	Potential
<i>Themeda</i> sp. Hamersley Station (M.E. Trudgen 11431)	Tussocky grass, 0.9-1.8 m high. Flowers August.	Perennial	Red clay. Clay pan, grass plain.	Potential
<b>Priority 4</b>				
<i>Bulbostylis burbidgeae</i>	Tufted, erect to spreading sedge, to 0.25 m high. Brown flowers, March or June to August.	Annual	Granite outcrops, cliff bases.	Unlikely
<i>Eremophila magnifica</i> subsp. <i>magnifica</i>	Shrub, 0.5-1.5 m high. Flowers blue, August to November.	Perennial	Skeletal soils over ironstone. Rocky screes.	Potential
<i>Eremophila youngii</i> subsp. <i>lepidota</i>	Dense, spreading shrub, (0.2-) 1-3 m high. Flowers purple-red-pink, January or March or June or August to September.	Perennial	Occurs on stony red sandy loam, flats, plains, floodplains and sometimes semi-saline, clay flats.	Potential
<i>Ptilotus mollis</i>	Compact shrub, to 0.5 m high, soft grey foliage. Flowers white/pink, May or September.	Perennial	Occurs on stony hills and screes.	Potential
<i>Ptilotus trichocephalus</i>	Prostrate, spreading herb. Flowers white, September.	Short-lived perennial	Sandy soils, colluvial plains.	Previously recorded
<i>Rhynchosia bungarensis</i>	Compact, prostrate shrub, to 0.5 m high. Flowers May - November.	Short-lived perennial	Pebbly, shingly coarse sand amongst boulders. Banks of flow line in the mouth of a gully in a valley wall.	Unlikely



## **Appendix I: Introduced Flora Species (Weed) Locations and Descriptions**

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**Legend**

Western Range Development Envelope Study Area

**Introduced Flora Species**

- \**Aerva javanica*
- \**Bidens bipinnata*
- \**Cenchrus ciliaris*
- \**Cenchrus setiger*
- \**Datura leichhardtii*
- \**Flaveria trinervia*
- \**Malvastrum americanum*
- \**Rumex vesicarius*
- \**Setaria verticillata*

Rio Tinto Iron Ore  
 Western Range – Desktop Flora and Vegetation Study, August 2018

**Figure I.1: Introduced flora species locations**

Author: K. McMaster

Drawn: C. Dyde

Date: 08-10-2018

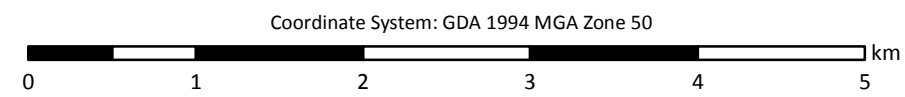








Figure Ref: 14298-18-BIDR-1RevB\_181008\_FigI1\_Weeds






Table I.1: Weed species recorded in the survey area.

Species	Description <sup>1</sup>	Habitat <sup>1</sup>
<p><i>*Aerva javanica</i> (kapok bush)</p> 	<p>Erect, much-branched perennial, herb, 0.4 m to 1.6 m high. Flowers white, January to October.</p>	<p>Often on sandy soils. Along drainage lines.</p>
<p><i>*Bidens bipinnata</i> (bipinnate beggartick)</p> 	<p>Erect annual, herb, 0.1 to 0.9(-1.5) m high. Flowers yellow, March to September.</p>	<p>Alluvium, clay, loam over sandstone, limestone. Along rivers and creeks, coastal areas, rocky hillsides.</p>
<p><i>*Cenchrus ciliaris</i> (buffel grass)</p> 	<p>Tufted or sometimes stoloniferous perennial, grass-like or herb, 0.2 m to 1.5 m high. Flowers purple, February to October.</p>	<p>White, red or brown sand, stony red loam, black cracking clay.</p>

Species	Description <sup>1</sup>	Habitat <sup>1</sup>
<p><i>*Cenchrus setiger</i> (birdwood grass)</p> 	<p>Erect, tussocky, stoloniferous perennial, herb or grass-like, to 0.5 m high. Flowers cream-purple, April to May.</p>	<p>Brown sands, red loam, pindan soils. Sand dunes, plains, rangelands, stony hillsides, floodplains.</p>
<p><i>*Datura leichhardtii</i> (native thornapple)</p> 	<p>Stout annual, herb, 0.2-1 m high. Flowers white, June to October.</p>	<p>Alluvium. Along watercourses.</p>
<p><i>*Flaveria trinervia</i> (speedy weed)</p> 	<p>Erect annual shrub. Flowers yellow, May to July.</p>	<p>Sandy flat, along watercourses.</p>



Species	Description <sup>1</sup>	Habitat <sup>1</sup>
<p><i>*Malvastrum americanum</i> (spiked malvastrum)</p> 	<p>Erect perennial, herb or shrub, 0.5 m to 1.3 m high. Flowers yellow-orange, April to July.</p>	<p>Orange/red/yellow sands, gritty alluvial sand, black/brown clay, alluvial cracking clays, limestone, calcrete. Stony ridges and hillsides, floodplains, along drainage lines.</p>
<p><i>*Rumex vesicarius</i> (ruby dock)</p> 	<p>Erect, stout, fleshy, hollow-stemmed annual, herb, 0.2 m to 1 m high. Flowers red-pink, July to September.</p>	<p>Sandy alluvial soils, gravelly ironstone soils. Along roadsides, in disturbed areas.</p>
<p><i>*Setaria verticillata</i> (whorled pigeon grass)</p> 	<p>Loosely tufted annual, grass-like or herb, 0.1 m to 1.3 m high. Flowers December or January to June.</p>	<p>Sand, clay, loam.</p>

<sup>1</sup> – Florabase (Western Australian Herbarium 1998-2018).

Table I.2: Locations of weed species recorded in the survey area (GDA94, Zone 50).

Species	Project <sup>1</sup>	Cover (%)	Abundance	Easting (mE)	Northing (mN)
<i>*Aerva javanica</i>	B	-	1	550688	7434942
	C	-	1	546628	7437183
		-	1	545519	7437159
<i>*Bidens bipinnata</i>	B	-	-	544551	7438048
		-	-	544730	7437949
		-	-	544983	7438278
		-	-	544779	7438096
		-	-	545063	7438408
		-	1	545063	7438408
		-	1	544779	7438096
		-	1	544983	7438278
		-	1	544730	7437949
		-	1	544551	7438048
		-	1	544551	7438048
		C	-	1	546089
	-		25	545343	7437206
	-		10	542255	7437823
	<i>*Cenchrus ciliaris</i>	A	-	1	539917
-			1	539484	7436474
-			2	550673	7432617
-			1	543408	7438866
-			1	541188	7438227
-			1	540056	7438361
-			1	547732	7434199
-			1	542927	7439042
-			1	541360	7439365
-			1	548744	7432988
-			7	542048	7439168
-			1	540480	7439569
-			1	541906	7438641
-			3	549645	7432875
-			1	549718	7432845
-			10	540525	7438623
-			1	540524	7438491
-			1	547673	7434510
-			1	541789	7438515
-			50	547870	7434488
-			5	550640	7432486
-			1	541052	7438722
-			1	540724	7439534
-			1	541752	7438737
-	1	549581	7433901		



Species	Project <sup>1</sup>	Cover (%)	Abundance	Easting (mE)	Northing (mN)
		-	1	546048	7434329
		-	50	540040	7436201
		-	1	542474	7439208
		-	1	547455	7433571
		-	15	539802	7437960
		-	1	540301	7439390
		-	1	540853	7439439
		-	1	549749	7433462
		-	1	539595	7436998
		-	1	548071	7433650
		-	1	540965	7439362
		-	1	547783	7434646
		-	1	550154	7432521
		-	1	540432	7439242
		-	20	541376	7438237
		-	1	539431	7436368
		-	10	540508	7439154
		-	1	542235	7439175
		-	1	543076	7438934
		-	3	549377	7432977
		-	2	542712	7439113
* <i>Cenchrus ciliaris</i>	A	-	1	549754	7433423
		-	1	550334	7433092
		-	1	541844	7438549
		-	1	547843	7434641
		-	1	549288	7433019
		-	1	548654	7433031
		-	1	549901	7433417
		-	1	540450	7435992
		-	15	540538	7438833
		-	1	540544	7435915
		-	1	550455	7433377
		-	1	540782	7439499
		-	10	541457	7438924
		-	50	540566	7439022
		-	1	541817	7438550
		-	1	540538	7438930
		-	1	540475	7439189
		-	1	550344	7433780
		-	1	549596	7432977
		-	100	542004	7438834
		-	2	546203	7433918
		-	1	540544	7438813

Species	Project <sup>1</sup>	Cover (%)	Abundance	Easting (mE)	Northing (mN)
<i>*Cenchrus ciliaris</i>	A	-	1	540093	7436272
		-	1	541030	7439316
		-	1	540688	7439556
		-	5	541135	7439104
		-	1	549834	7433388
		-	1	540380	7439301
		-	20	547824	7434466
		-	20	542797	7439093
		-	1	547807	7434020
		-	10	540591	7438351
		-	1	541258	7439487
		-	1	540422	7439284
		-	1	540689	7435789
		-	1	540384	7436053
		-	10	539938	7436190
		-	1	543828	7438685
		-	1	541564	7439440
		-	5	540763	7438230
	B	-	20	548791	7434668
		-	2	547597	7435192
		-	1	545893	7438007
		-	1	541558	7438161
		-	1	548791	7434668
		-	1	542178	7436081
		-	1	550738	7433966
		-	1	550738	7433966
		-	1	542178	7436081
		-	1	541830	7437977
		-	1	541831	7437977
	C	-	1	547299	7437071
		-	1	546252	7437340
		-	2	544242	7437548
		-	2	540365	7437102
		-	10	540093	7436651
		-	10	540073	7436661
		-	2	540497	7437853
-		1	538889	7437006	
-		4	538959	7437006	
-		1	542035	7437731	
-		1	542461	7437757	
-		5	548783	7436778	
-		5	549102	7436699	
-	3	550562	7435830		

Species	Project <sup>1</sup>	Cover (%)	Abundance	Easting (mE)	Northing (mN)
<i>*Cenchrus ciliaris</i>	C	-	1	550746	7435777
		-	3	550786	7435765
		-	15	538914	7437018
		-	6	540044	7436636
		-	1	540490	7437855
		-	6	540510	7437865
	D	-	75	541053	7438527
		-	50	541052	7438465
		-	10	539800	7438391
		-	5	539832	7438248
		-	1	539885	7437493
		-	3	539319	7437426
		-	7	539336	7437447
		-	1	539643	7437602
		-	3	540004	7437759
		-	5	540075	7437760
		-	5	540060	7438309
		-	20	540048	7438317
		-	10	536144	7437730
		-	2	536280	7437439
		-	25	536251	7437401
		-	20	537016	7437339
		-	10	536987	7437390
		-	15	536972	7437390
		-	5	536979	7437426
		-	5	536998	7437447
		-	10	537036	7437495
		-	8	537035	7437506
		-	2	536461	7437443
		-	5	536452	7437456
		-	3	536452	7437471
		-	50	538527	7437473
		-	10	538681	7437484
		-	10	538902	7437511
		-	10	538976	7437499
		-	10	539088	7437518
-	25	539128	7437558		
-	100	539209	7437560		
-	50	538844	7437556		
-	1	538695	7437539		
-	20	538678	7437532		
-	10	538620	7437541		
-	3	538457	7437665		