

HEAT STRESS EVENTS & ELECTROCUTIONS

ADELAIDE FLYING-FOX COLONY



BOTANIC PARK

FAUNA RESCUE of SA

To monitor and support this newly arrived colony Fauna Rescue SA (FRSA) have maintained a detailed data base on all animals received since 2013.

They conduct monthly flyout counts and their documentation on Heat Stress Events (HSE) has provided invaluable information in understanding the impact of these events on the Adelaide colony.

The recording of electrocutions is again offering insight not only on locations and numbers but also the dispersal of juveniles.

This data supports the dispersal behaviour of juveniles, as observed from East Coast colonies over many years.



SUMMARY of ADELAIDE DATA

Heat Stress Events and Electrocutions

Over the past 8 years

3720 animals have been recorded

80% HSE

Of the remaining juveniles/sub-adults & adults

64% Electrocutions



SUMMARY of ADELAIDES HSE

Since 2013 Adelaide has recorded
45 high temperature days $\geq 40^\circ$
21 days over 42°
18 days resulting in deaths.

16,000 deaths estimated
790 animals rehabilitated

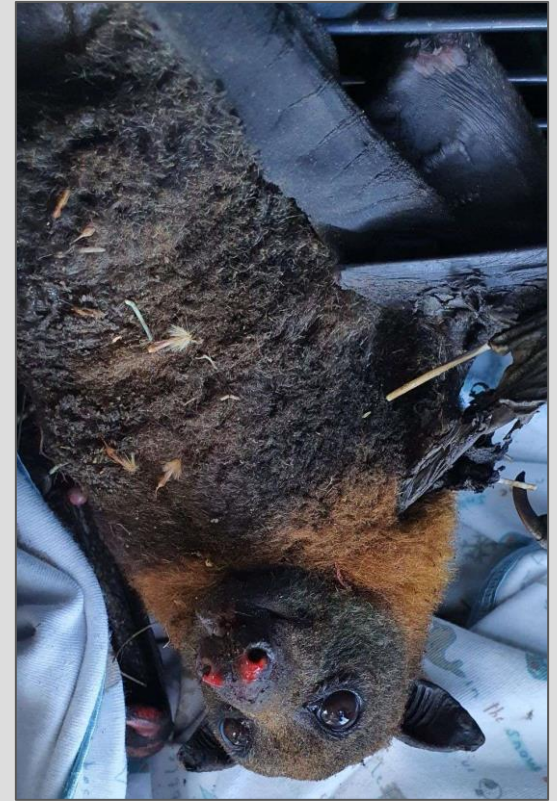
The colony did not reach 10,000 until April 2017

Since June 2018 the colony now fluctuates between 20,000 – 30,000

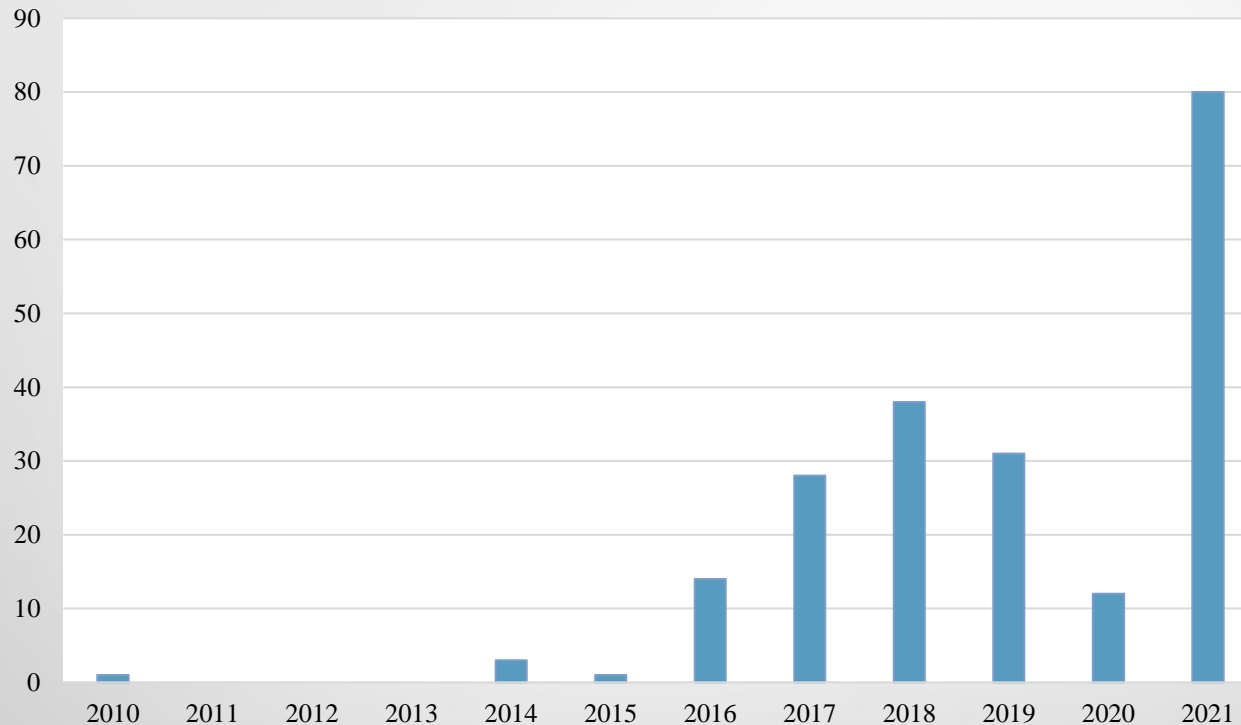


ELECTROCUTIONS

One of the most alarming problems associated with Adelaide's electrocutions is the high percentage of non-fatal - 40%



POWER INTERRUPTIONS



SA Power Networks standard powerline clearances (which have historically held up well to other animal activity) are compromised by the GHFF wingspan.

Stobie poles and cross-arms contain metal – unlike wooden poles interstate.

SA POWER NETWORKS RESPONSE

Daily review and analysis of all GHFF outages

Daily patrols of GHFF momentary interruptions to check and collect information (e.g. equipment type, nearby vegetation)

Implementing Network improvements:

Upgrading old devices to modern surge arrestors (100s of jobs completed, 100s more scheduled)

Installing insulation and animal guards

Research undertaken with DEW and University of Adelaide



WORKING WITH SA POWER NETWORKS

Athelstone	Holden Hill	Ridgehaven
Athelstone	Holden Hill	Ridgehaven
Athelstone	Holden Hill	Ridgehaven
Athelstone	Holden Hill	Ridgehaven
Athelstone	Holden Hill	Ridgehaven
Athelstone	Holden Hill	Ridgehaven
Athelstone	Klemzig	Ridgehaven
Athelstone	Klemzig	Ridgehaven
Athelstone	Klemzig	Ridgehaven
Athelstone	Klemzig	St Peters
Christie Downs	Plympton	St Peters
Christie Downs	Plympton	St Peters
Christie Downs	Plympton	St Peters
Christie Downs	Plympton	Torrensville
Christie Downs	Plympton	Torrensville
Christie Downs	Plympton	Torrensville
Dernancourt	Plympton	Torrensville
Dernancourt	Prospect	Wayville
Dernancourt	Prospect	Wayville
Dernancourt	Prospect	Wayville
Dernancourt	Prospect	Wayville
Felixstow	Prospect	West Hindmarch
Felixstow	Prospect	West Hindmarch
Felixstow	Prospect	West Hindmarch
Felixstow	Prospect	West Hindmarch

Example
Reoccurring
Suburbs

WORKING WITH SA POWER NETWORKS

20 Mander Road	15/09/18
20 Mander Road	15/09/18
20 Mander Road	15/09/18
20 Mander Road	15/09/18

49 Thompson Avenue	30/09/18
49 Thompson Avenue	30/09/18
49 Thompson Avenue	30/09/18

22 Arthur Street	10/02/20
22 Arthur Street	13/02/21
22 Arthur Street	15/02/21
22 Arthur Street	24/02/21

O.G Road Bus Interchange	22/02/21
O.G Road Bus Interchange	27/02/21

253 Anzac Highway	20/04/21
253 Anzac Highway	20/04/21
264 Anzac Highway	23/04/21
264 Anzac Highway	23/04/21

6 Ozone Parade	05/04/19
6 Ozone Parade	04/05/19

9 Gladys Crescent	03/04/19
9 Gladys Crescent	06/04/19
9 Gladys Crescent	06/04/19
9 Gladys Crescent	06/04/19
9 Gladys Crescent	25/04/19
9 Gladys Crescent	25/02/21

Example
Reoccurring
Addresses

ELECTROCUTIONS

Year	Juv/Sub	Adult	Unknown	Total		
2014	1	2	1	4		
2015	0	1	0	1		
2016	2	0	2	4		
2017	10	12	0	22		
2018	22	20	8	50		
2019	12	8	8	28		
2020	9	18	6	33		
2021	94	14	4	112		
TOTAL	150	75	29	254		

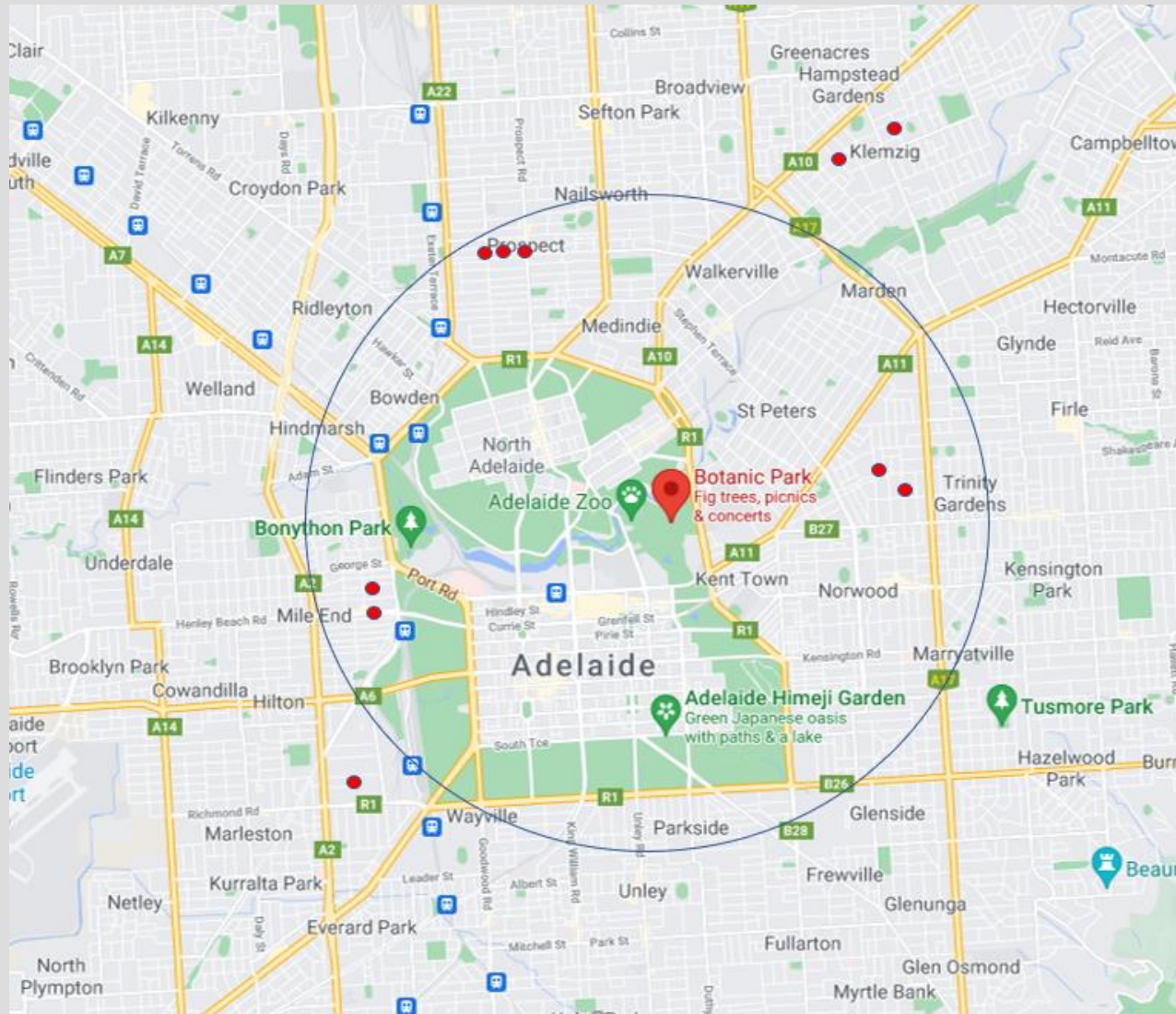
ELECTROCUTIONS

Year	Juv/Sub	Adult	Unknown	Total	Colony Size at Time of Juvenile Dispersal	
2014	1	2	1	4	1,500	
2015	0	1	0	1	3,500	
2016	2	0	2	4	4,000	
2017	10	12	0	22	8,000	
2018	22	20	8	50	11,000	
2019	12	8	8	28	18,000	
2020	9	18	6	33	28,000	
2021	94	14	4	112	29,000	
TOTAL	150	75	29	254		

ELECTROCUTIONS

Year	Juv/Sub	Adult	Unknown	Total	Colony Size at Time of Juvenile Dispersal	No of Juvenile Deaths Prior to Dispersal
2014	1	2	1	4	1,500	248
2015	0	1	0	1	3,500	580
2016	2	0	2	4	4,000	0
2017	10	12	0	22	8,000	80
2018	22	20	8	50	11,000	120
2019	12	8	8	28	18,000	3,000
2020	9	18	6	33	28,000	8,700
2021	94	14	4	112	29,000	140
TOTAL	150	75	29	254		

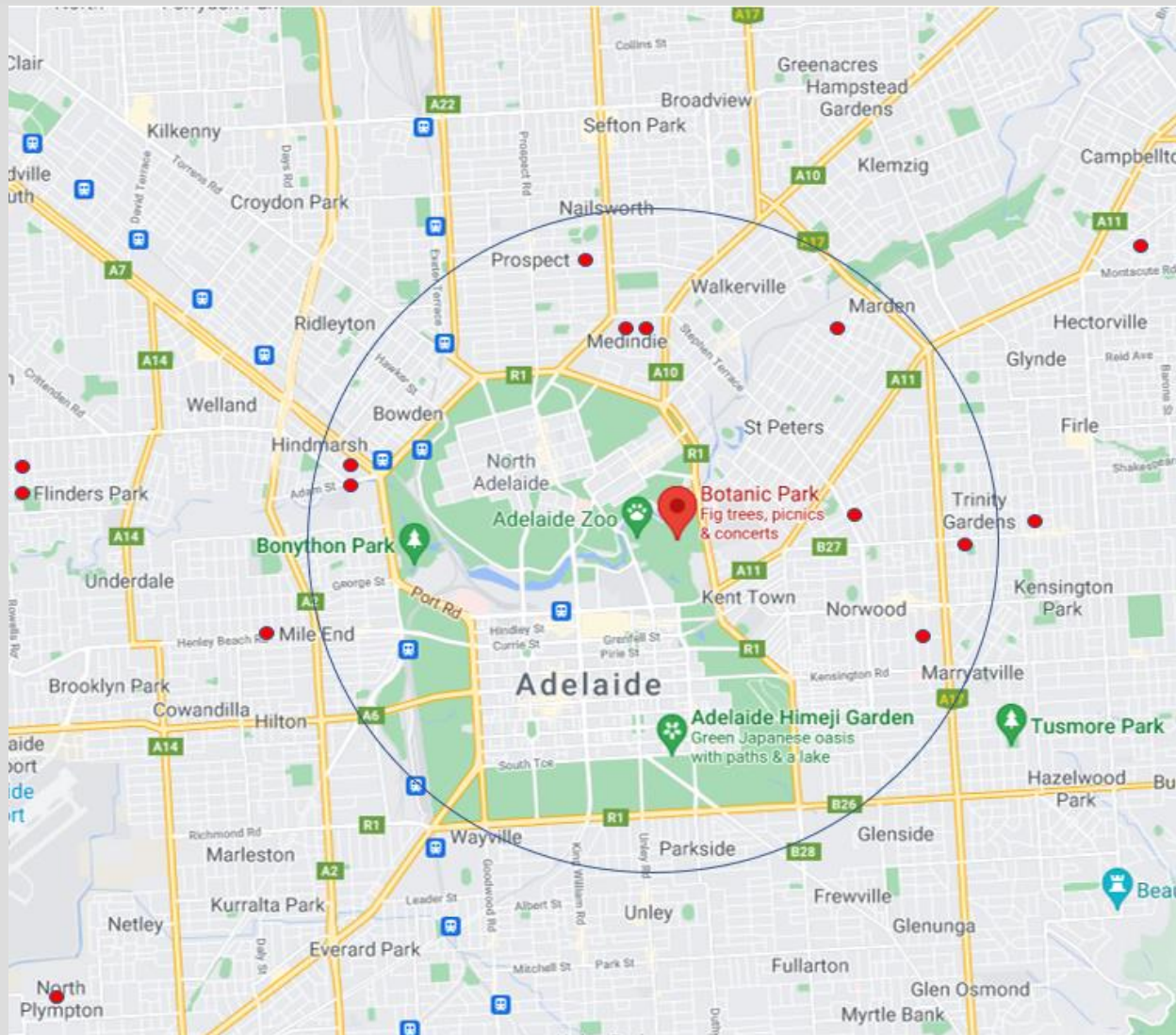
2017 JANUARY TO MAY



16/02/17
16/02/17
20/02/17
23/02/17
05/03/17
10/03/17
10/03/17
10/04/17
21/04/17
23/04/17

≤ 5kms = 7 > 5kms = 3

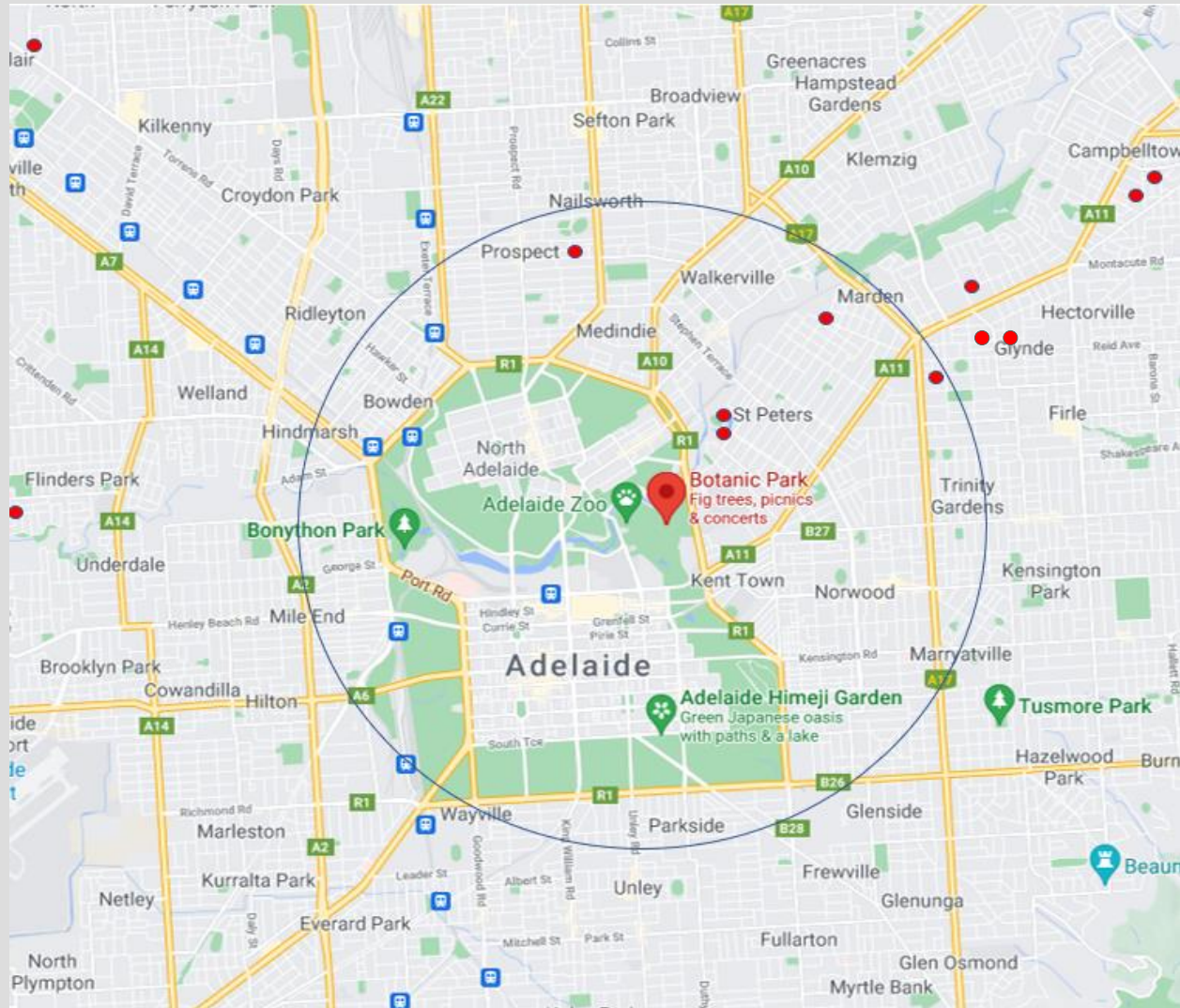
2018 JANUARY TO MAY



16/02/18
16/02/18
18/02/18
07/03/18
07/03/18
11/03/18
11/03/18
11/03/18
18/03/18
01/04/18
08/04/18
24/04/18
05/05/18
08/05/18
12/05/18
18/05/18

≤ 5klms = 9 > 5klms = 6

2019 JANUARY TO MAY

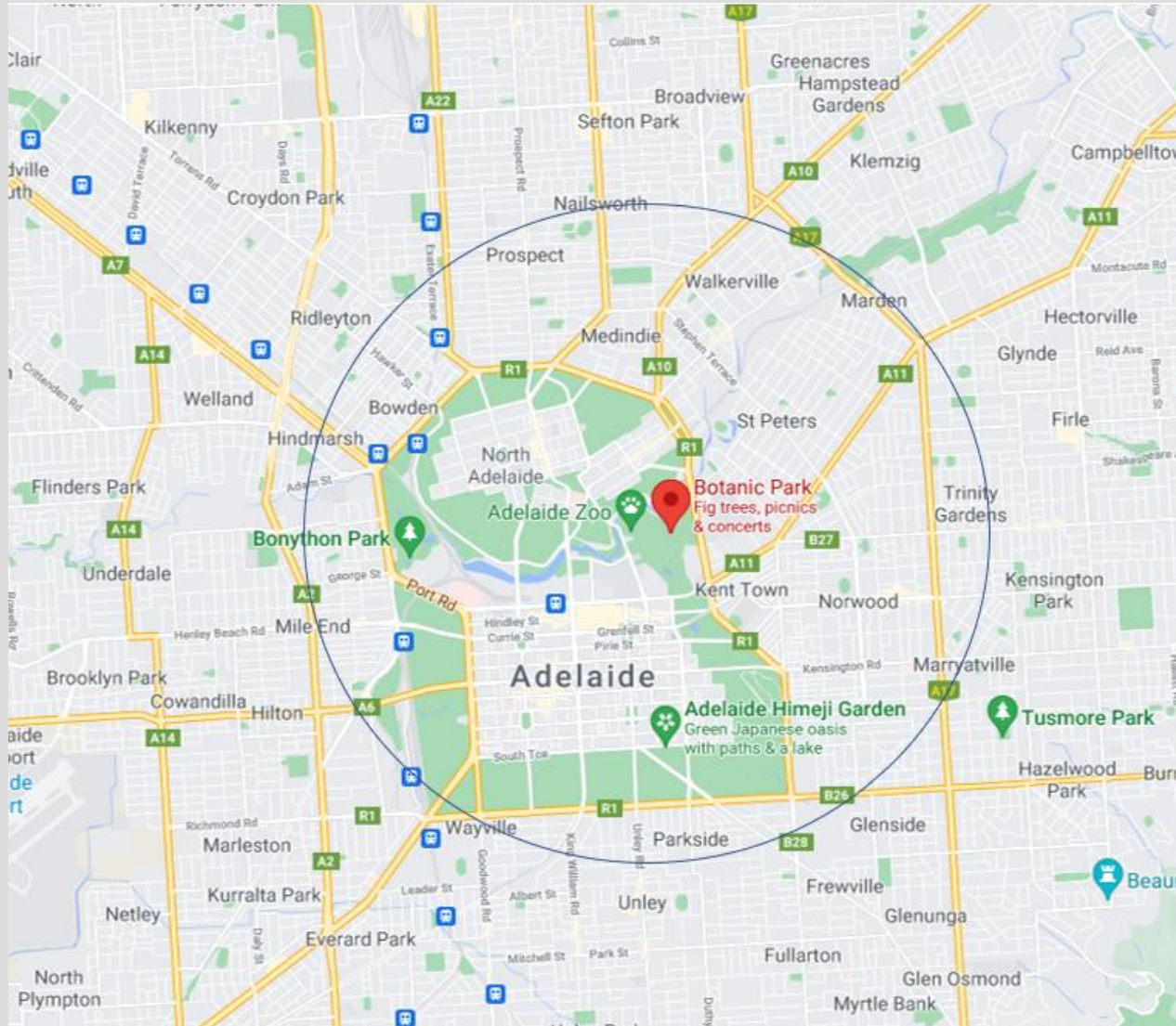


17/02/19
17/02/19
18/02/19
24/02/19
13/03/19
28/03/19
29/03/19
31/03/19
03/04/19
05/04/19
14/05/19
20/05/19

≤ 5kms = 5 > 5kms = 7

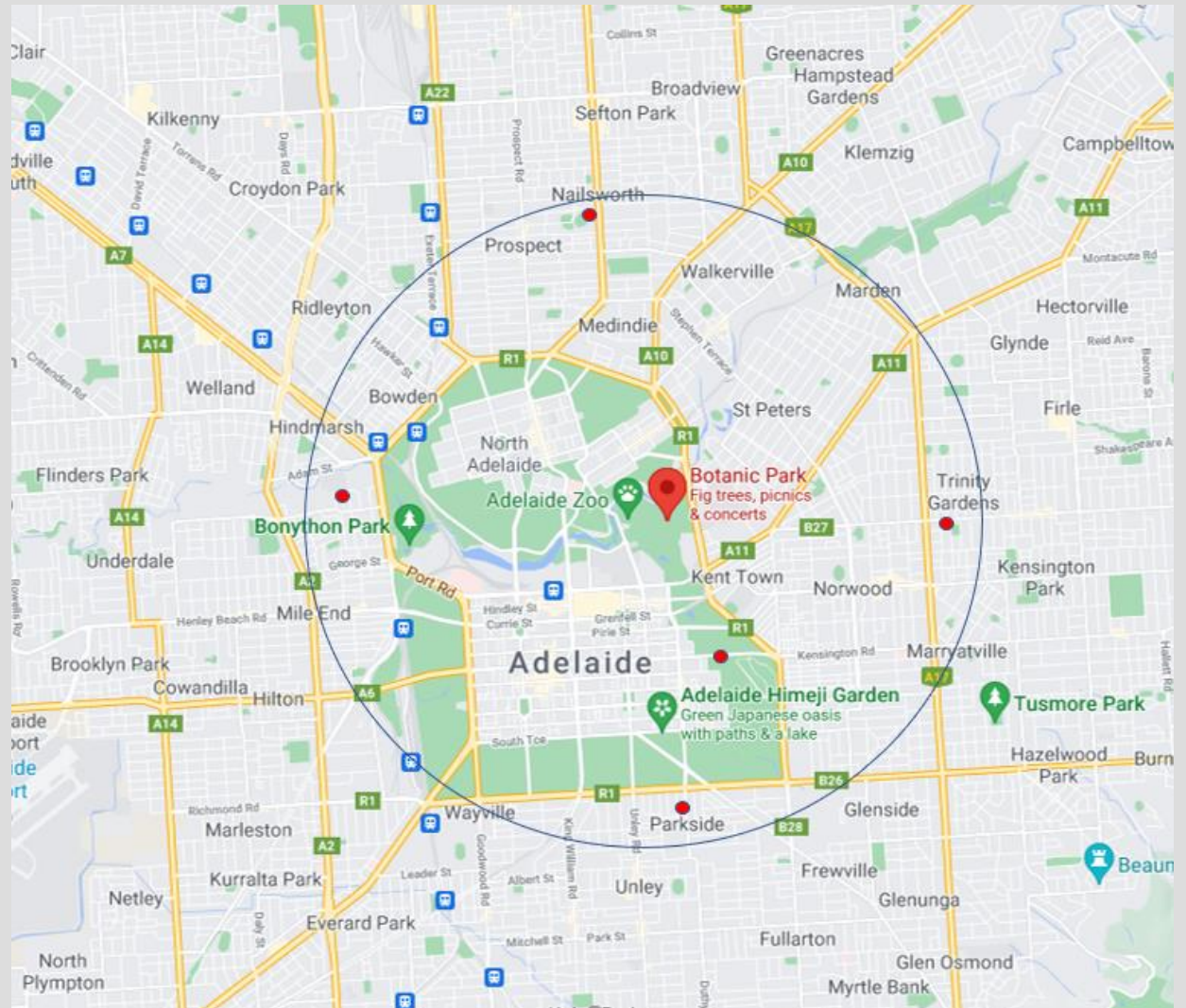
2020 JANUARY TO MAY

20/09/20



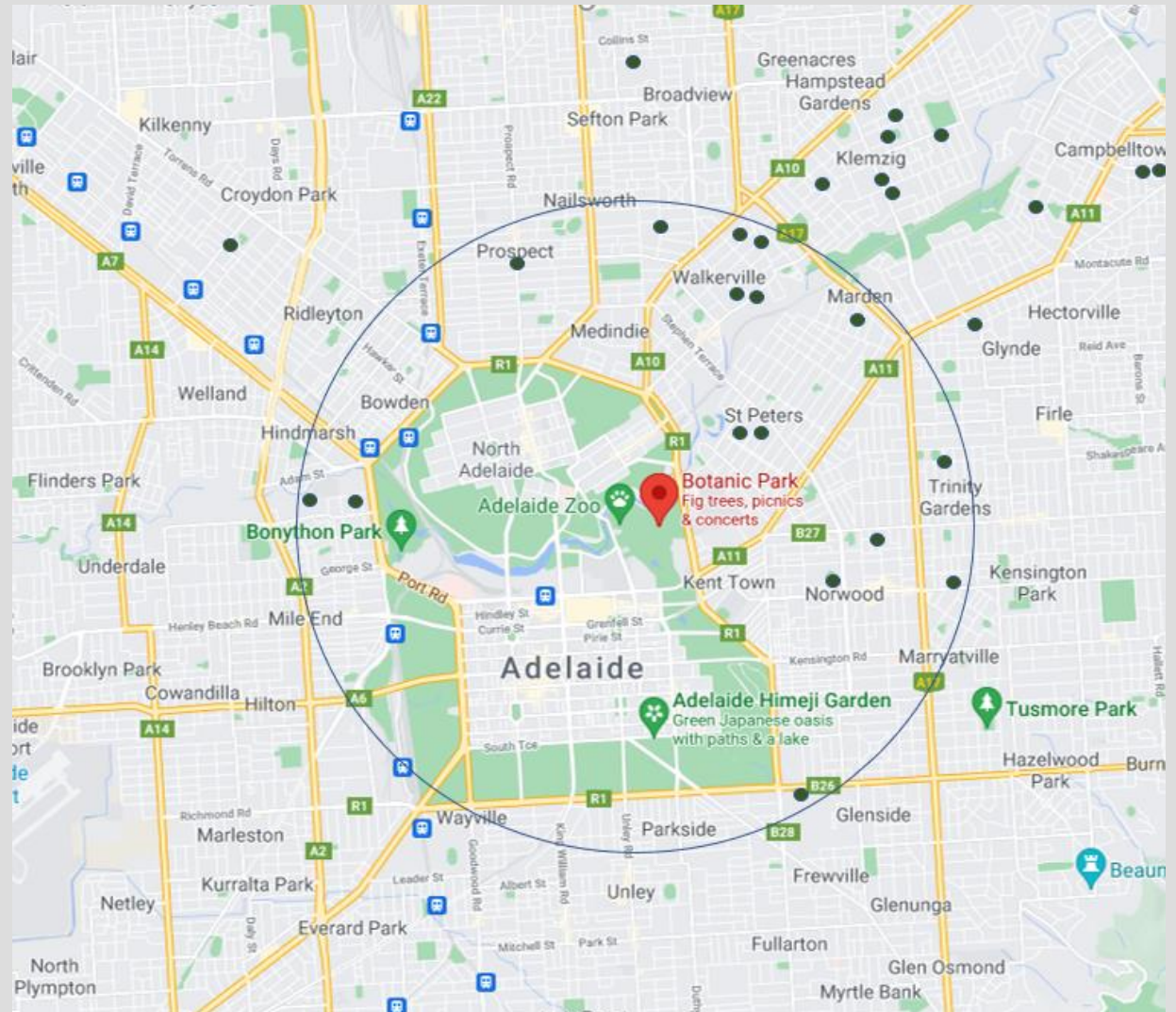
2021 JANUARY

Month	≤ 5kms	> 5kms
January	5	0



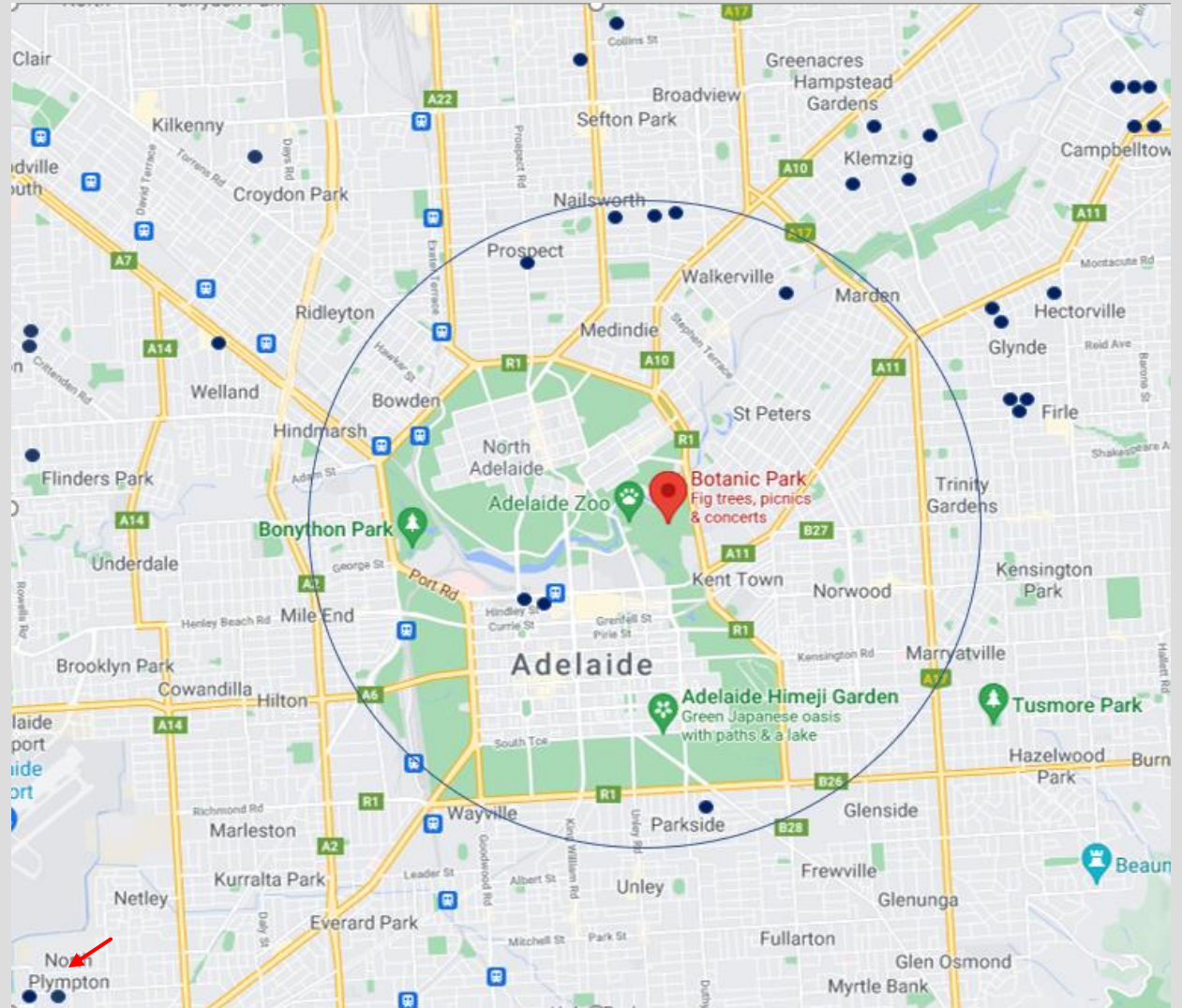
2021 FEBRUARY

Month	≤ 5kms	> 5kms
January	5	0
February	16	12



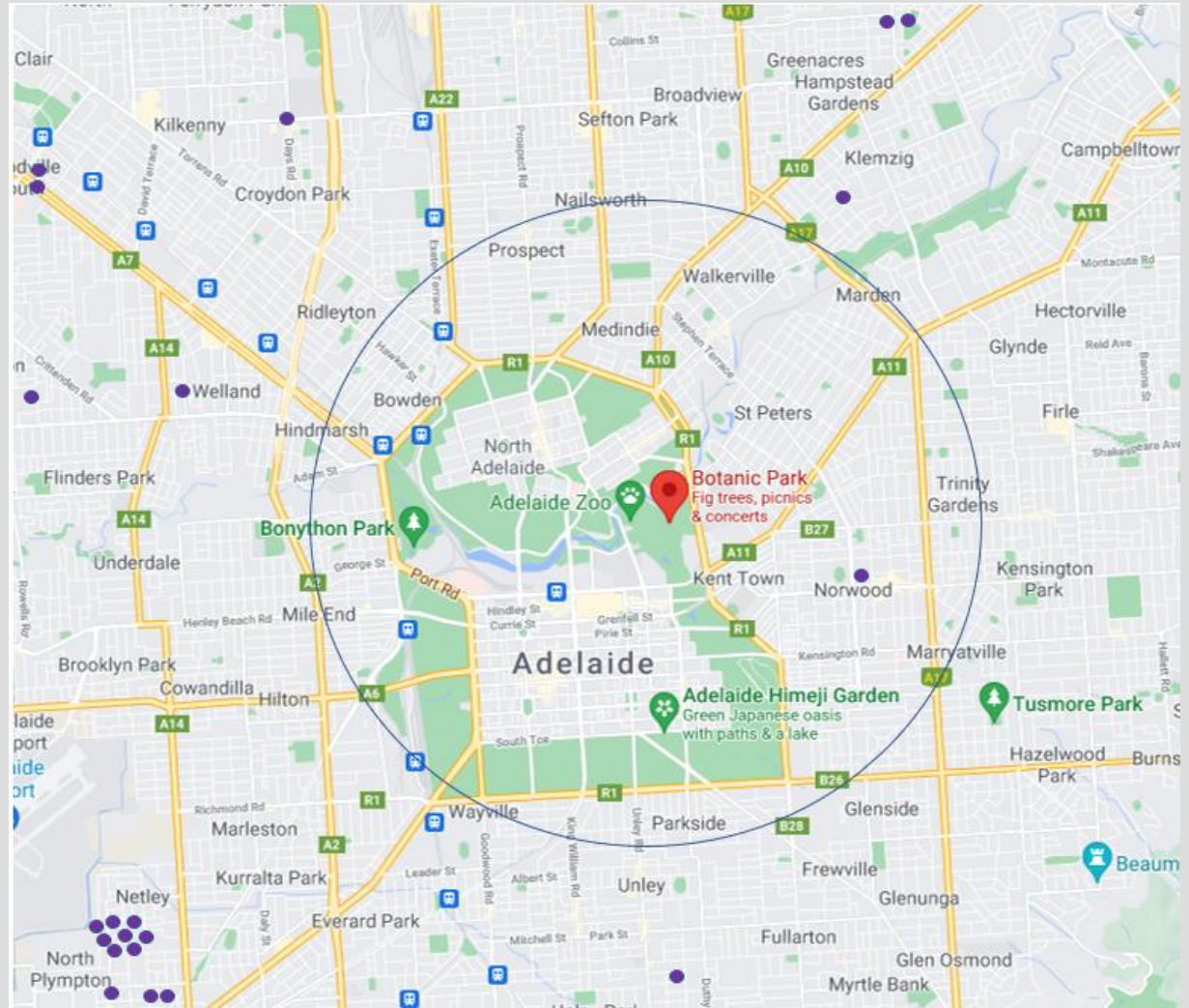
2021 MARCH

Month	≤ 5kms	> 5kms
January	5	0
February	16	12
March	8	24



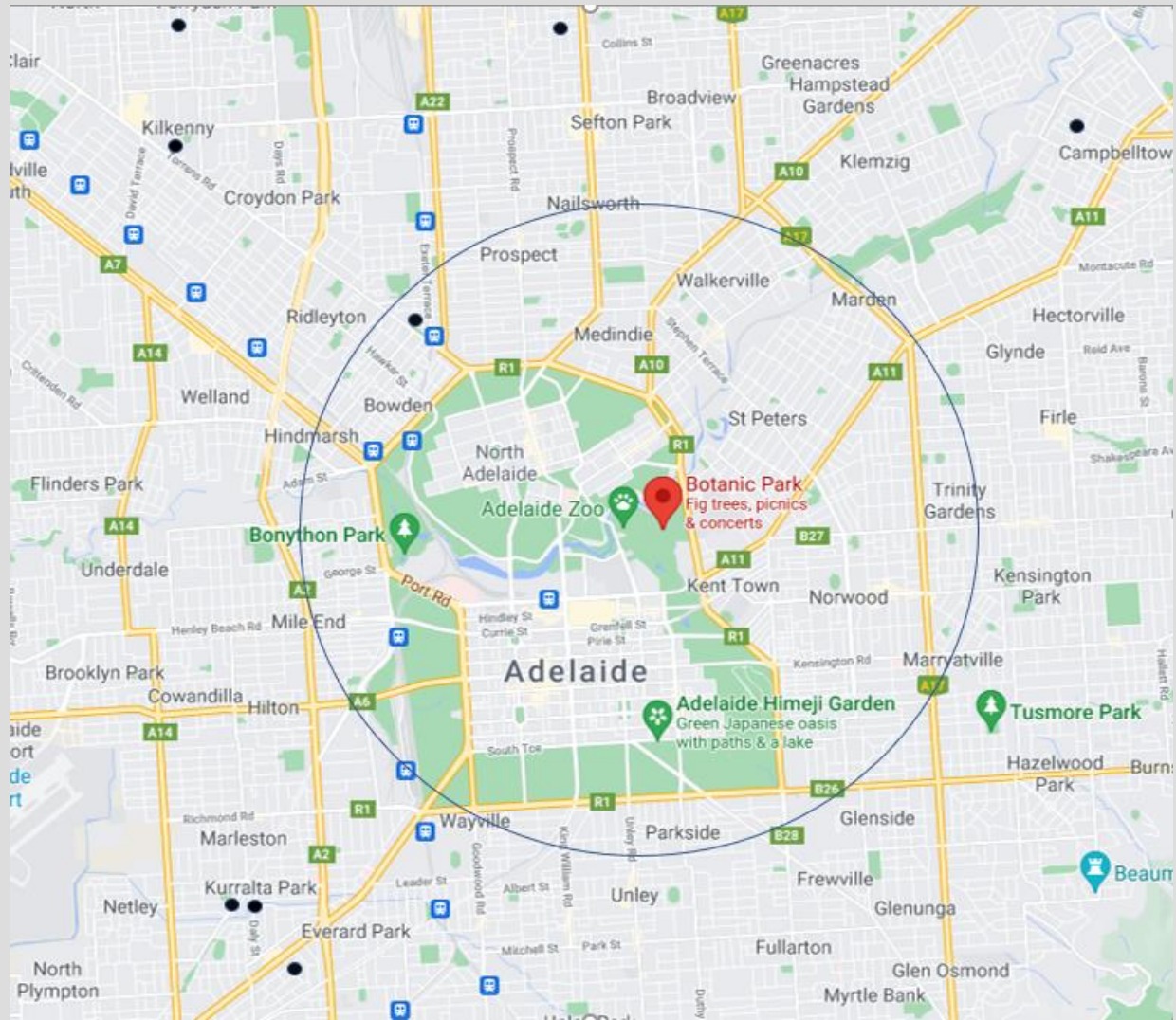
2021 APRIL

Month	≤ 5klms	> 5klms
January	5	0
February	16	12
March	8	24
April	1	20



2021 MAY

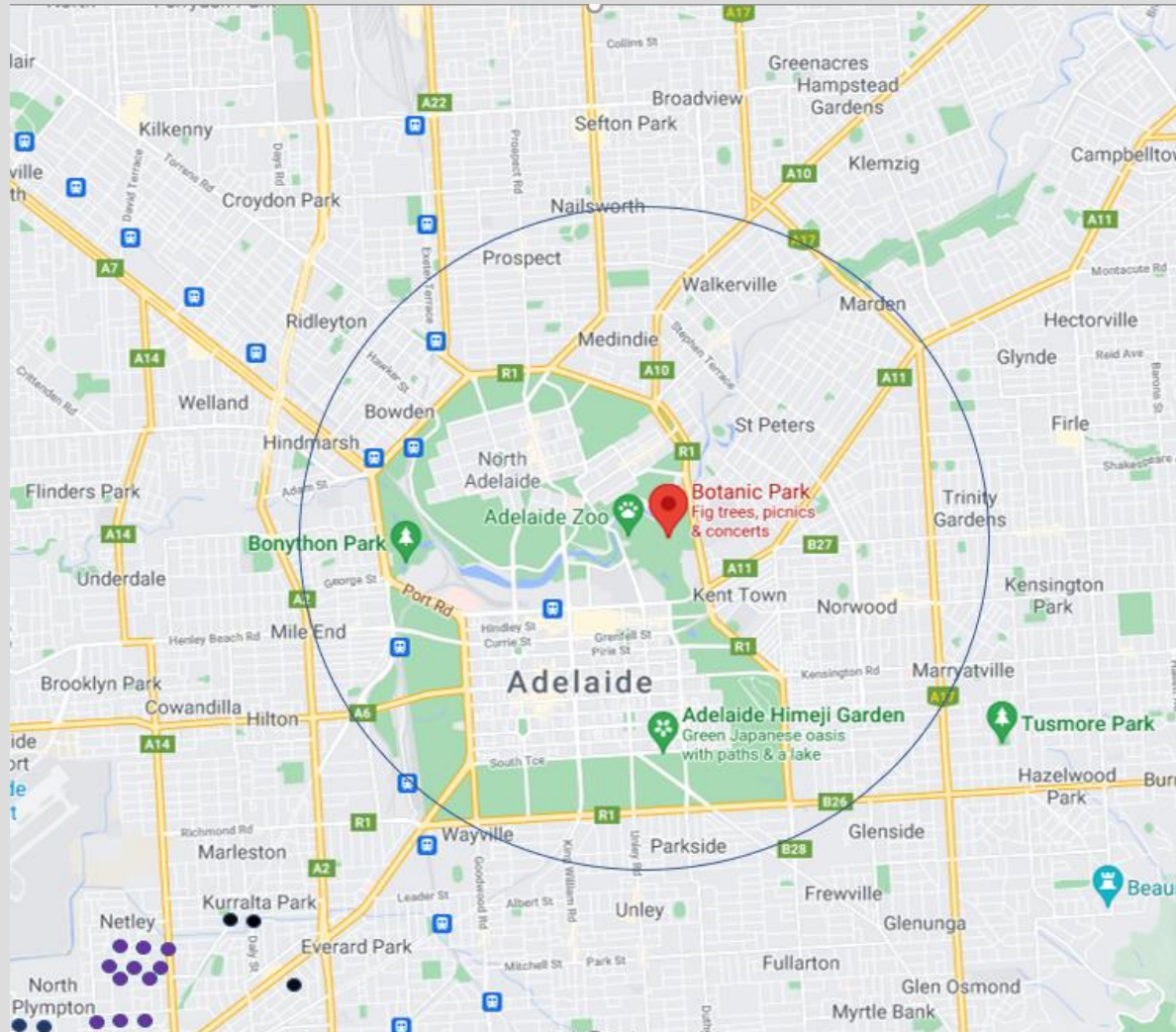
Month	≤ 5kms	> 5kms	Total
January	5	0	5
February	16	12	28
March	8	24	32
April	1	20	21
May	1	7	8
Total	31	63	94



USING ALL RESOURCES - STREAM COUNTS



STREAM COUNTS MARCH - MAY



27/03/21	5,000
18/04/21	5,000
29/05/21	1,400

STREAM COUNTS

DATE	STREAM 2
02/08/14	900
06/09/14	200
04/10/14	200
01/11/14	46
23/05/15	19
19/09/15	0
24/10/15	47
21/11/15	11
16/12/15	60
30/01/16	105
27/02/16	91
26/03/16	178
24/04/16	52
21/05/16	161
18/06/16	73
24/09/16	2
29/10/16	84
26/11/16	146
18/12/16	258
21/01/17	92
26/02/17	195
08/04/17	442
13/05/17	611
24/06/17	950
12/08/17	3430

DATE	STREAM 2
13/09/17	55
28/10/17	112
18/12/17	28
24/02/18	426
08/04/18	95
19/05/18	2300
23/06/18	445
25/07/18	2760
19/08/18	1500
28/09/18	50
27/10/18	110
15/12/18	605
31/03/19	560
28/04/19	155
30/06/19	9650
08/08/19	5000
12/10/19	23
17/11/19	25
02/02/20	160
28/06/20	470
01/08/20	310
10/10/20	305
15/11/20	800
16/01/21	100
27/03/21	535

IN CONCLUSION - FRSA

Working together with SAPN and University of Adelaide

- Using all the data previously collected for pre-warning
- Continue recording all required data on electrocutions
- Identify the number of surviving juveniles prior to dispersal
- Timing of births as this will alter the time of dispersal
- Stream counts - direction and numbers
- Education - enlisting councils & MOP support

