



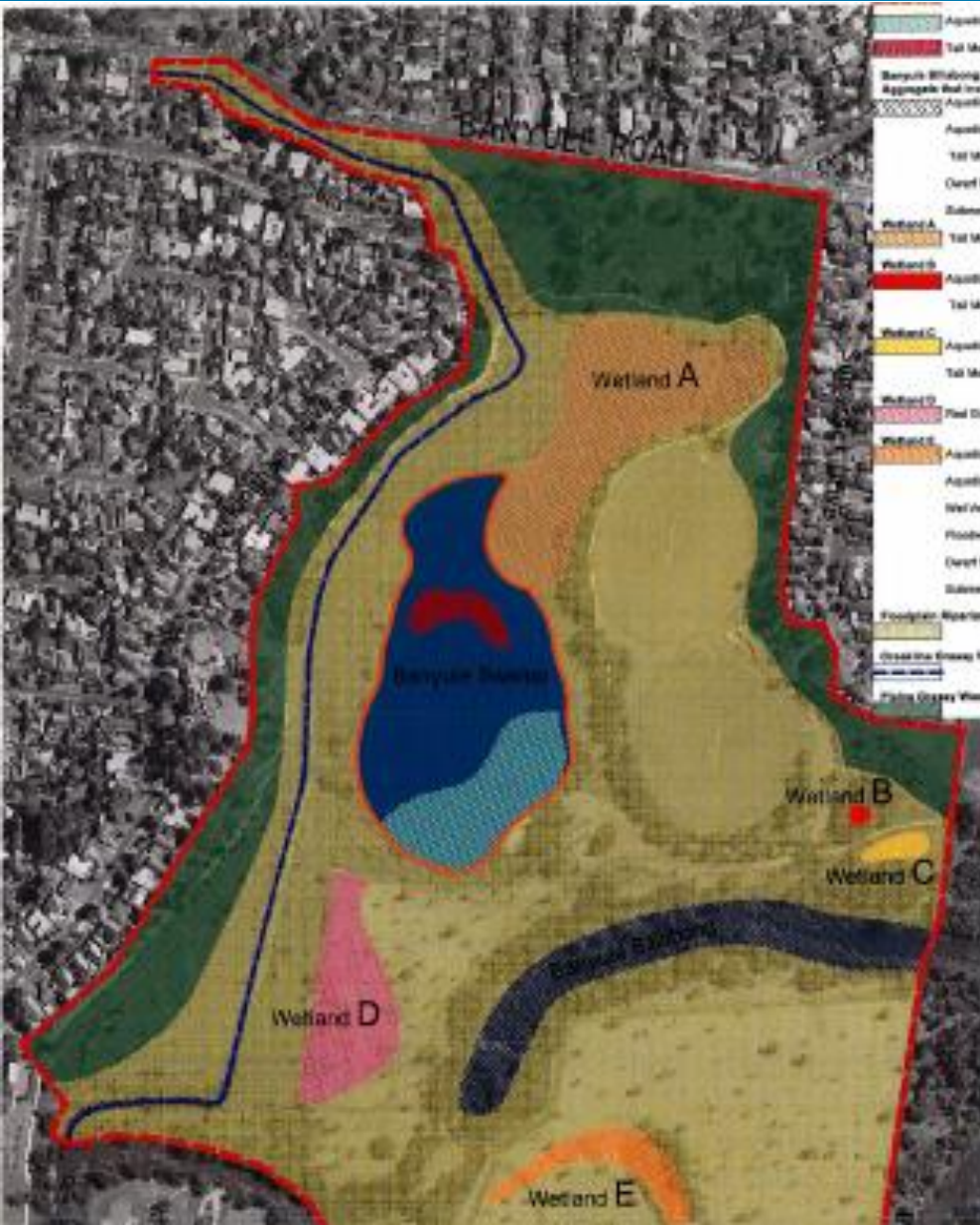
Banyule Swamp, my
neighbour, will you
give me a glass of
water?

Stormwater Victoria, June 2019

Banyule Flats



Let's Colour Code



A number of EVCs present, including

- Red Gum Swamp (dark blue)
- Tall Marsh (dark red)
- Aquatic Herbland (light blue)

They are within Banyule Swamp, the focus of our study.

Banyule Flats

Banyule Swamp Timeline (1931 to 2012)



Contains Vicmap Information © State of Victoria 2018

0 50 100 150 200 250 m

Banyule Swamp

Historic Imagery



2018-08-01T14:01:01

Banyule Flats



Yarra River



Source:

<http://www.bom.gov.au/water/nwa/2017/melbourne/regiondescription/geographicinformation.shtml>

Yarra River



Banyule Flats

Legend

Water Summary Filtered

Percentage of clear observations where water was observed and Confidence is at least 1% (percent)



Water not detected.

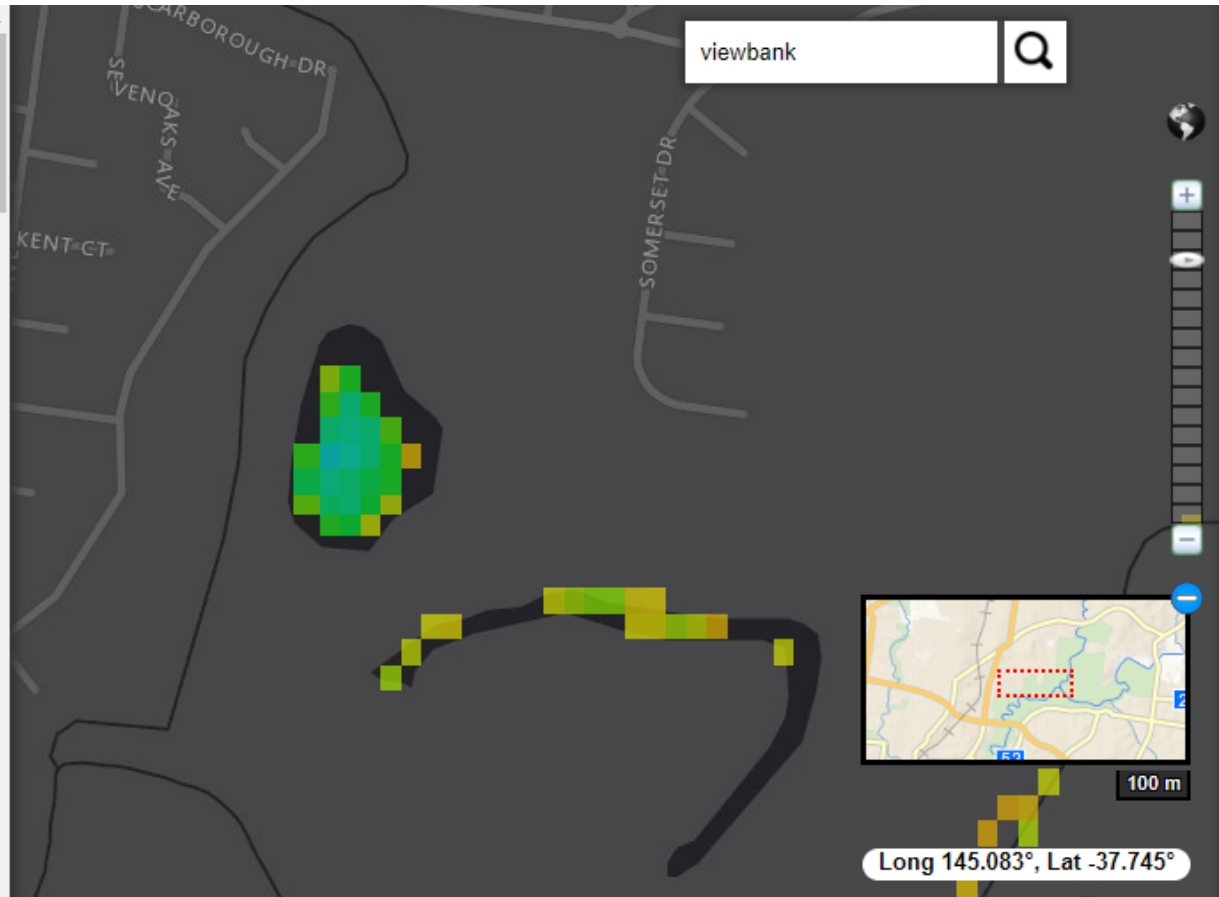


Water detected in 1% of observations
(includes flooding and misclassified shadows).

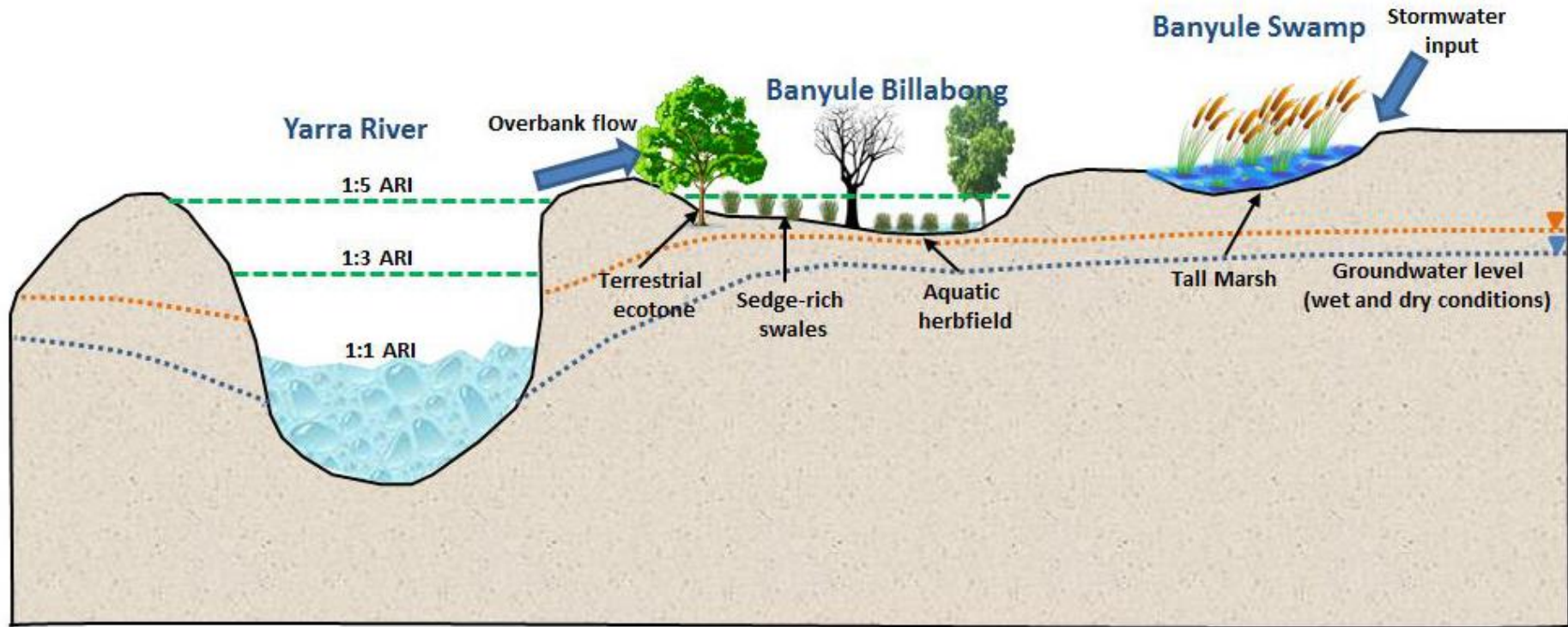
Water detected in 5% of observations
(includes intermittent water bodies).

Water detected in 20% of observations
(includes water bodies that often dry out).

Water detected in 50% of observations.



Banyule Billabong



Source: Jacobs 2017

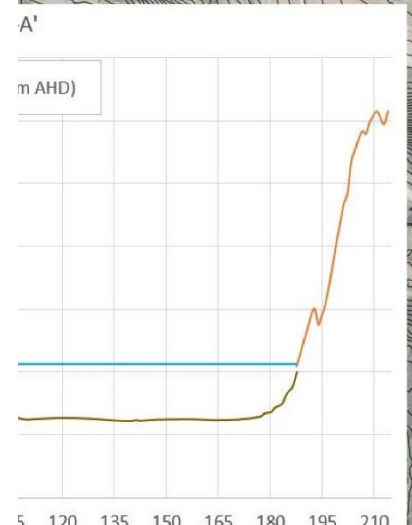
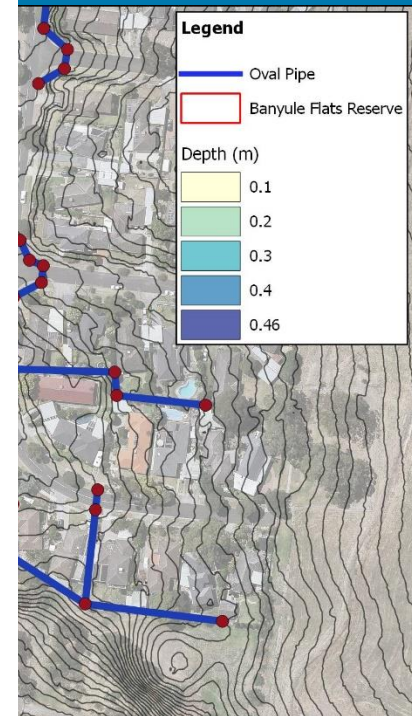
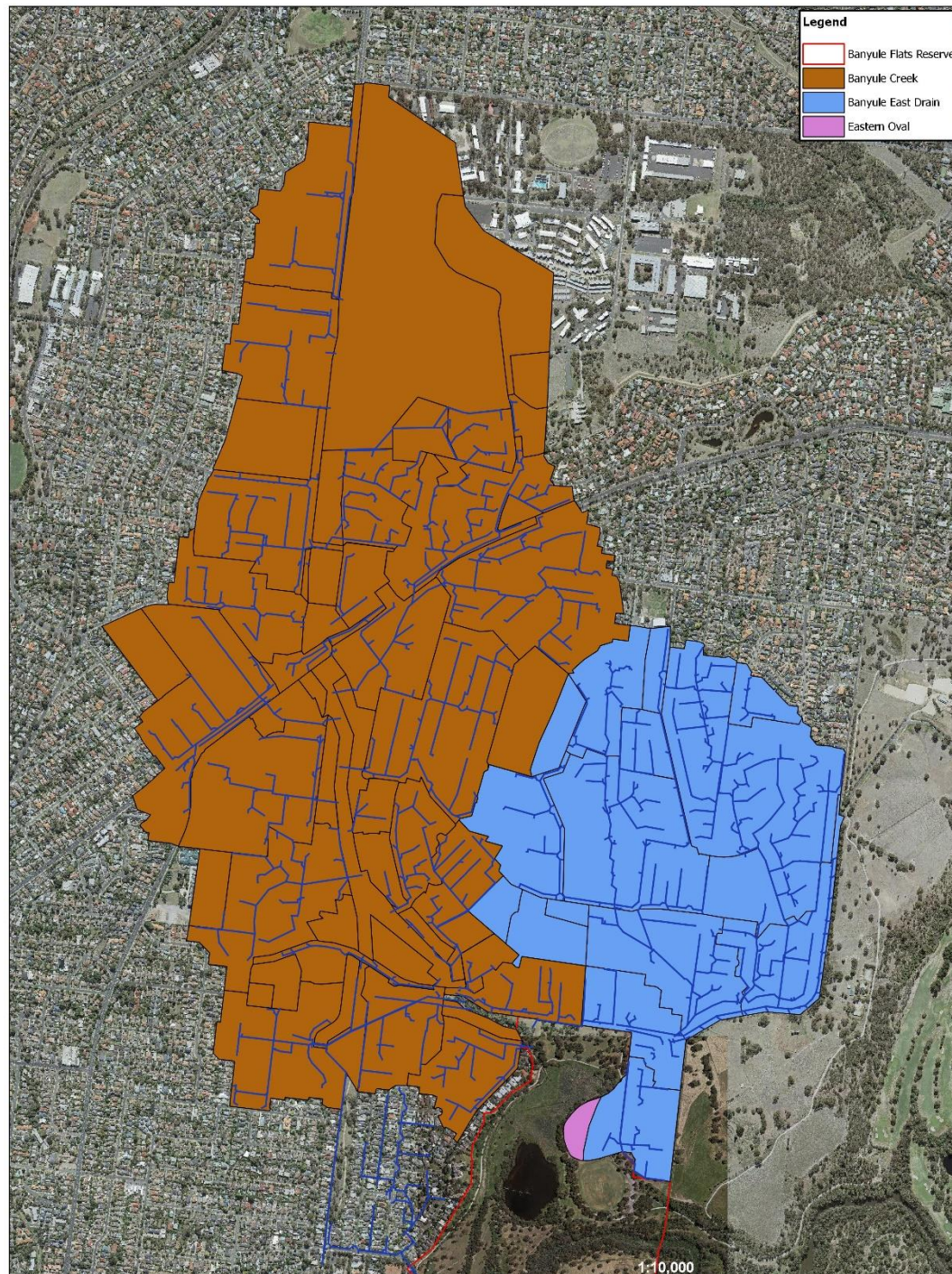
Banyule Billabong



VICTORIAN
ENVIRONMENTAL
WATER HOLDER

Banyule Flats





Banyule Swamp



Source:

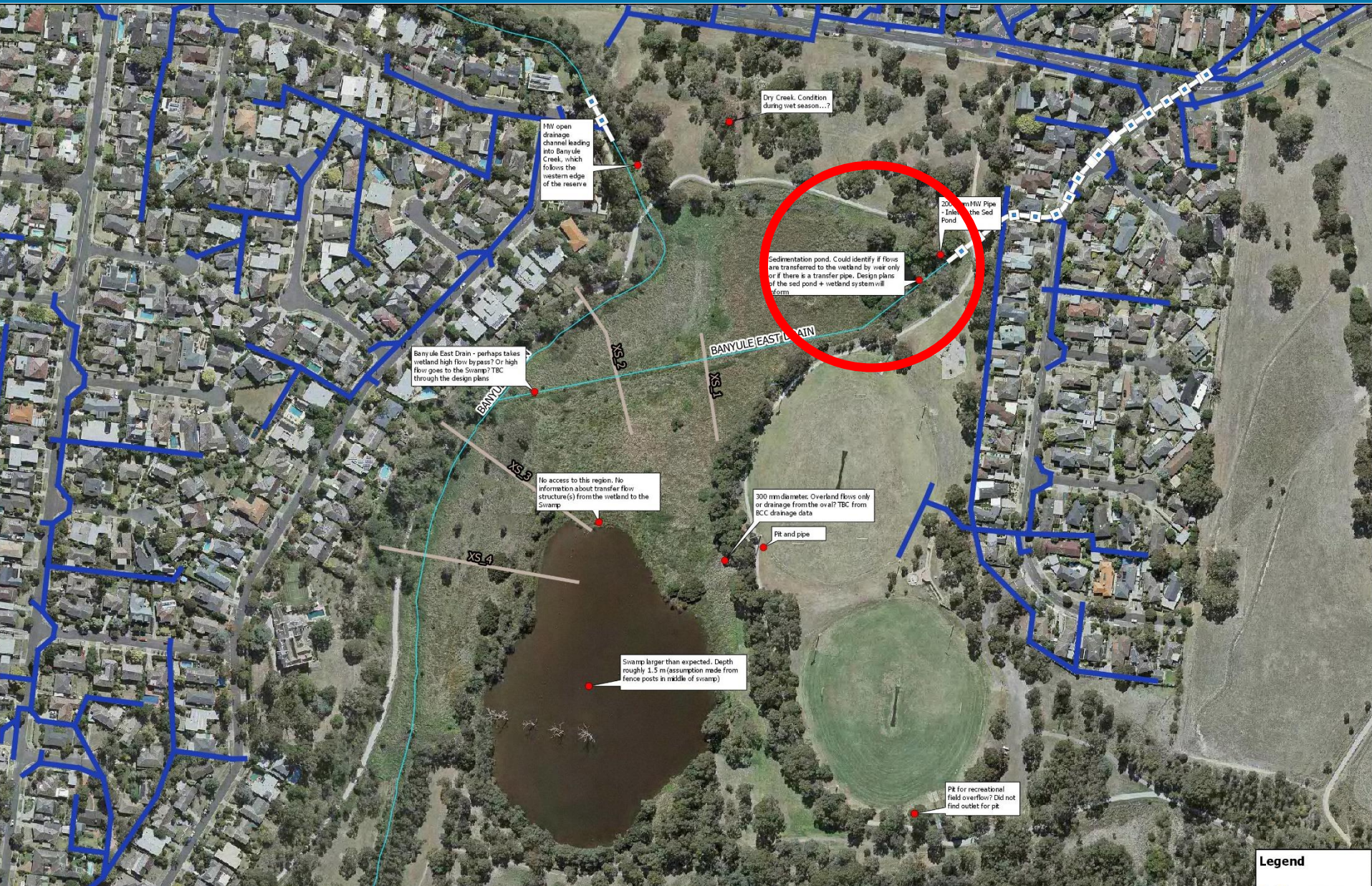
https://www.allaboutbirds.org/guide/Great_Egret/id

Banyule Swamp



Source: <https://australianmuseum.net.au/learn/animals/birds/azure-kingfisher/>
[http://orientalbirdimages.org/search.php?Bird_Image_ID=83081&Bird_ID=1180&Bird_Family_ID=](http://orientalbirdimages.org/search.php?Bird_Image_ID=83081&Bird_ID=1180&Bird_Family_ID=&Location=)
[&Location=](#)

Banyule Swamp



East Banyule Drain



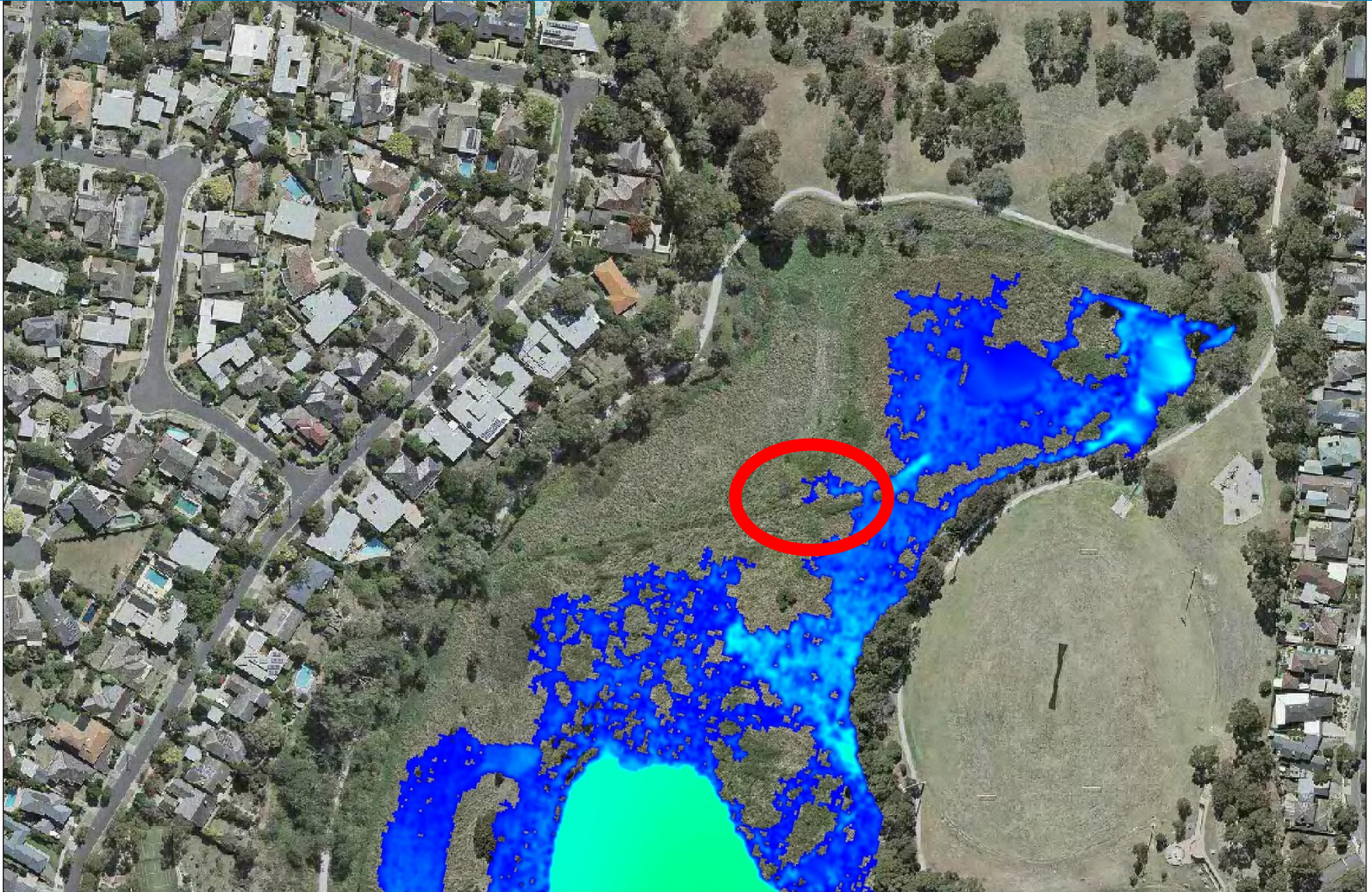
Data sources:
Contains Vicmap Information © State of Victoria 2015
Imagery date:

0 50 100 150 200 m

Banyule Swamp
East Banyule Drain - ~0.5cumecs



East Banyule Drain



Data sources:
Contains Vicmap Information © State of Victoria 2015
Imagery date:

0 50 100 150 200 m

Banyule Swamp
East Banyule Drain - ~1.5cumecs

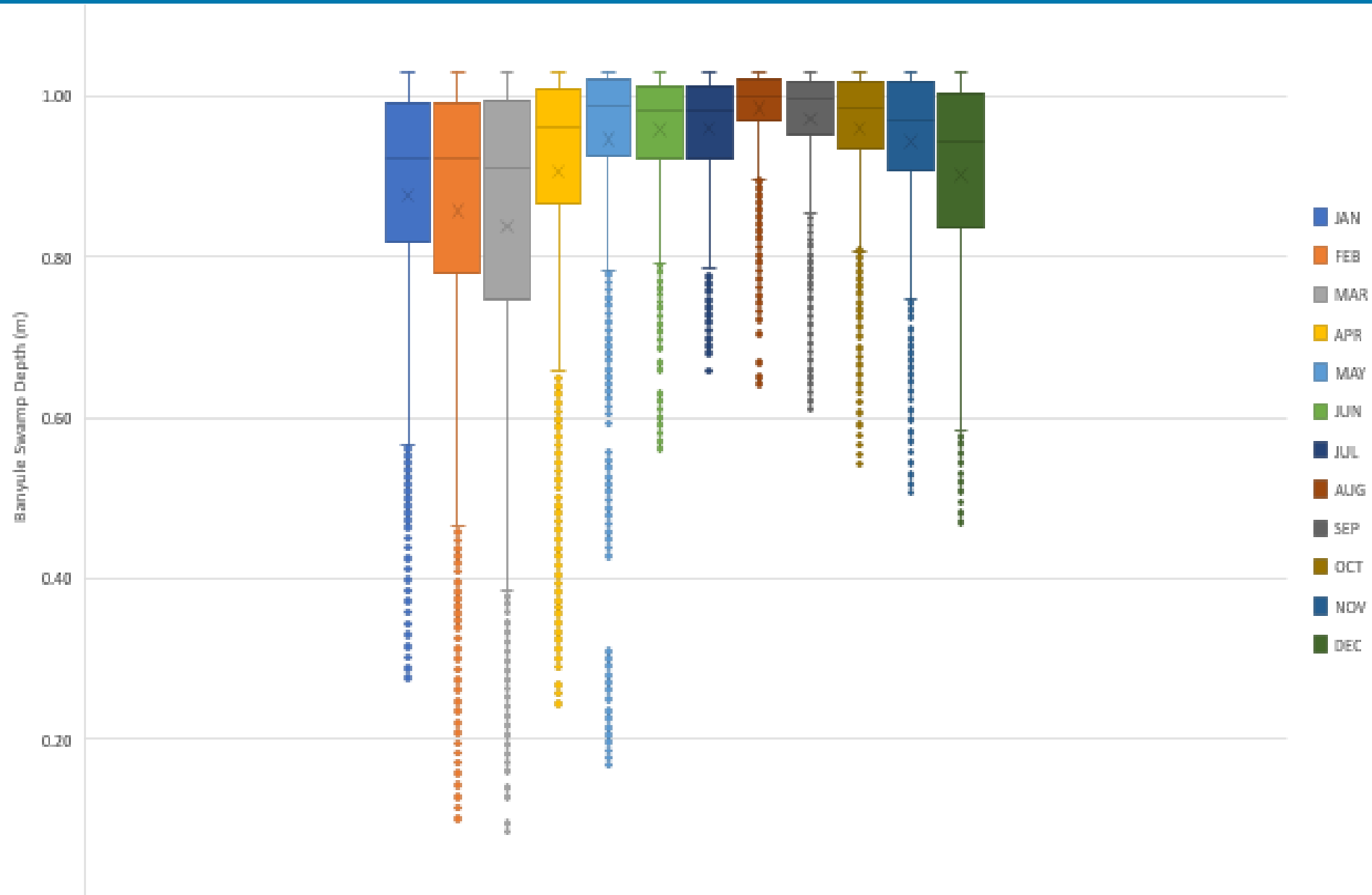


Banyule Swamp

Water Regime Characteristics	Scenario B	Scenario C
Description	High Flow Bypasses: ■ 0.5 m³/s for Banyule Creek ■ 0.2 m³/s for Banyule Eastern Drain	■ No flow from Banyule Creek; ■ All Flows from Banyule Eastern Drain
Total Inflow (ML/year)	505.5	275.0
From Banyule Creek (ML/year)	351.5	0.0
From Banyule Eastern Drain (ML/year)	153.5	274.5
From Oval (ML/year)	0.5	0.5
Rainfall over the Swamp (ML/year)	14.9	14.9
Loss (Evaporation + Seepage) (ML/year)	103.6	103.6
Difference/ Overflow (ML/year)	416.8	186.4
Average Banyule Swamp Depth	0.93	0.92



Banyule Swamp



Water Quality								
Analytes		Ammonia as N	Nitrate as N	Nitrite as N	Nitrite + Nitrate as N	Total Kjeldahl Nitrogen as N	Total Nitrogen as N	Total Phosphorous as P
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Limit of Reporting		0.01	0.01	0.01	0.01	0.1	0.1	0.01
ANZECC 2000		0.9 ¹	0.7 ¹	0.01 ⁴	0.01 ³	NA	0.35 ³	0.01 ³
Sample Date	Sample Location							
13-02-19	Site A	0.08	0.01	<0.01	0.01	6.1	6.1	0.96
13-02-19	Site B	0.22	<0.01	<0.01	<0.01	4.4	4.4	0.76
26-02-19	Site A	0.13	<0.01	0.02	0.02	9.5	9.5	1.04
26-02-19	Site B	0.22	<0.01	0.02	0.02	5.6	5.6	1.05
14-03-19	Site A	0.77	<0.01	<0.01	<0.01	12.6	12.6	2.11
14-03-19	Site B	1.03	<0.01	<0.01	<0.01	9.7	9.7	2.84
28-03-19	Site A	2.00	<0.01	<0.01	<0.01	16.9	16.9	2.57
28-03-19	Site B	1.64	0.05	<0.01	0.05	23.7	23.8	3.66

Water Quality

Analytes		Chlorophyll a	Suspended Solids	Escherichia coli (Colilert)	Total Coliforms (Colilert)	Enterococci
Units		mg/m ³	mg/L	orgs/100mL	orgs/100mL	orgs/100mL
Limit of Reporting		1	5	1	1	1
ANZECC 2000		0.005 ³	40 ⁴			
Sample Date	Sample Location					
13-02-19	Site A	161	112	690	>24000	590
13-02-19	Site B	76	116	1200	>24000	760
26-02-19	Site A	326	<5	280	>24000	640
26-02-19	Site B	491	<5	450	>24000	6100
14-03-19	Site A	249	274	2800	>240000	3100
14-03-19	Site B	180	350	3200	>240000	2000
28-03-19	Site A	1210	623	7700	110000	3400
28-03-19	Site B	2000	812	19000	98000	26000

Acknowledgement

