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healthy Waterways Waterwatch Program

Come along to these FREE Waterwatch events! Bookings essential.

Waterwatch websites:
www.waterwatchmelbourne.org.au
www.vic.waterwatch.org.au
Also check your Council website



Sunday 23 October 2011

10am-5pm
Edendale, Gastons Road, Eltham
(Melway 22 A1)
FREE EVENT!
www.nillumbik.vic.gov.au

See the very best in sustainable building technologies and green trader's displays. Get practical ideas to help you and your family live sustainably – all in a fun festival-atmosphere complete with food, children's entertainment and music.

Mudbrick building - music - renewable energy - waste water treatment - free event - rainwater tanks - indigenous plant sale - solar - food & drink - landscaping - composting - sustainable living - family fun!

Malahang Community Festival 2011

Sunday 13 November, 11am – 4pm
Malahang Reserve Corner of Southern Rd and Oriel Rd,
Heidelberg West VIC 3081 Melway 31 F1

Everyone is invited to Malahang Reserve to enjoy a free, family event celebrating diversity, local talent, local identities and the community. The festival is a celebration of Malahang Reserve, and the local community of West Heidelberg. There will be lots of exciting activities, stage performances and plenty of outdoor fun and games taking place! you can download the full program at www.banyule.vic.gov.au/events



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Northern Waters:

The Newsletter of the North East Melbourne



healthy Waterways Waterwatch Program

**Spring 2011
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Monitor News.

David Barr, of the Friends of Wilson Reserve Waterwatch Group, with Margaret Fievez, has been collecting Waterwatch water quality data in the billabongs and wetlands of Wilson Reserve, Ivanhoe, for the past 10 years. Here is a recent new discovery that his sampling has uncovered:

Yellow Water at Wilson Reserve ,Ivanhoe. Written by David Barr

Reedy Billabong is one of the three billabongs at Wilson Reserve, Ivanhoe. It is fed by a stormwater drain which runs in between the boulevard and Chelsworth Park, and flows into the Yarra River via a drain we call Reedy Creek.

In June 2010 Friends of Wilson Reserve noticed that the northern most reach of Reedy creek was clogged up with a rusty colored floc. Although we have only been aware of it since last year, Martha Ragg, a former leader of the bush crew, said she had seen it at least five years ago. It was recently identified for us as algae by Di Crowther, a Freshwater Ecologist at the Arthur Rylah Institute and it is not uncommon. In response to our newsletter item last year, we were told of similar material in Westbreen Creek, Pascoe Vale, where it occurs in pools when the creek dries out in summer. In Reedy Creek North it seems to be more common when rainfall is low, possibly because rain dilutes the material and flushes it down the creek.

The northern most reach of Reedy Creek is very straight and deep and may not be natural (i.e. it is possibly an old drain). It lies about a metre below the reed bed and erosion has occurred where the reed bed overflows into the gully. Melbourne Water has cut down the bank in several places to disperse the overflow from the reed bed and reduce the erosion. At these overflow points the bank of Reedy Creek North becomes coated with the algae (see photo to the right) although there is no sign of the algae in the reed bed above.



Foam and rusty coloured algae has been a curious feature of Reedy Creek at Wilson Reserve for a number of years.
Photo by D.Barr

Since September last year we have analysed seven water samples from the upper part of Reedy Creek North. Our results indicate Reedy Creek is mildly acidic (pH ~ 6.5-6.9, moderately salty (EC ~ 620-690uS/cm), fairly clear (Turbidity), nutrient rich (Phosphate ~ 0.37– 0.9mg/L; Ammonium ~ >4.0mg/L) and anoxic (Dissolved Oxygen ~ 0mg/L). Because of the unusual nature of the material it has been reported to both the Council and the EPA. However, as the material is so diluted by the main Reedy Creek flow before it reaches the Yarra River it has little affect on the river and no further investigation has been made.

To find out more about David's 10 years of Waterwatch, turn to page 3.

Many thanks to Emma Brent, North East Melbourne's volunteer extraordinaire, for editing this edition of Northern Waters. Emma has been volunteering weekly since July and has achieved a huge amount in a small space of time. Thanks again Emma!

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Platypus observations: Comparing the Yarra River with the Bombala River. Article provided by the Australian Platypus Conservancy (APC)

Over 2009 and 2010, the number of Platypus' at Bombala River (in south-east New South Wales) and at the Yarra River in Melbourne have been counted quarterly. These counts were completed to investigate how broad seasonal patterns of platypus sightings vary in different river systems. Along the Yarra, the seasonal variation was consistent, with most sightings occurring in winter, followed by spring, summer and autumn. 4.1 times more platypus were seen in winter than in autumn. Along the Bombala river there was less of a seasonal variation. There was also a difference in sightings. Most platypus sightings occurred in summer and spring, with less sightings in winter and autumn.



Platypus photo by Bou Peters.

So how can this variation in number of sightings be explained? It is actually quite simple. The number of platypus seen foraging during the day is predicted to increase disproportionately with population density. If there are more platypus some will go out when it is not the 'normal' time for them to do so. This decreases the relative impacts of seasonal factors.

It is possible that the number of platypus found in an area could also affect seasonal highs and lows in platypus sightings. The longer answer is that it will reflect the strength of the relationship between platypus population density and sex ratio, with females predicted to make up a greater proportion of high density as compared to lower density populations.

A male's territory will ideally overlap with those of many females but no other males, improving his chances of fathering many offspring. Males are therefore always expected to do their best to reduce the number of other males found in the vicinity. In contrast, there is no reason for a female to waste time fighting with her neighbours, as long as she can find enough food to support herself and raise her offspring. This means that females will tend to pack together more closely in more productive, food-rich habitats, whereas males will try to exclude other males regardless of how much food is present.

Given that a spike in winter platypus sightings is believed to at least partly reflect increased activity by males in relation to breeding - whereas summer sightings are more likely to reflect increased foraging activity by lactating females – it makes sense that summer sightings should increasingly tend to predominate as population density increases.

Whilst this article suggests spring might be the best time to spot platypus in the Yarra, it is important to continue monitoring throughout the year to assess how different flow regimes affect local platypus populations.

Australian Platypus Conservancy



Don't miss our Spring Outdoors session on the Platypus:

Platypus: presented by Australian Platypus Conservancy (APC)

The Platypus is well loved but rarely seen. Geoff Williams from the APC will talk about their work monitoring Platypus and the types of habitats that allow their survival in the urban environment. Geoff will also discuss a neighbour of the platypus, the Water-rat or Rakali.

Date and Time: Monday 24 October, 7.00-9.00pm

Location: Old Shire Offices, Beverley Road, Heidelberg (Melway 32 3D)

Bookings essential: Banyule City Council, Belinda Moody 9457 9821, belinda.moody@banyule.vic.gov.au (Limited to 20 people)

10 Years of Monitoring at Wilson Reserve. Written by David Barr.

The Friends of Wilson Reserve, sampling headed by David Barr and Margaret Fievez, have been sampling the two main water bodies (Baileys and Reedy Billabongs) of Wilson Reserve since July 2000. Now they are able to provide some observations and conclusions to this edition of Northern Waters.

Water Quality of Baileys Billabong.

The water of Baileys Billabong meets the SEPP (The EPA's State of the Environment Protection Policy– guidelines for Victoria's water quality) criteria for water quality for 'Urban Waterways' for electrical conductivity (salinity), pH and turbidity. However, the water frequently exceeds the criteria for reactive phosphate and almost never reaches the desirable levels for dissolved oxygen. High levels of phosphorus are to be expected in an urban drain environment because of run-off from residences, gardens, drains and bare ground and lead to a vigorous growth of aquatic plants. In the case of Baileys Billabong the floating plants, duckweed and azolla have, in recent years, frequently formed a thick blanket on the surface of the water. (a sign of ample nutrients.)



Baileys Billabong with 50% cover of duckweed. October 2010. Photo by D.Barr

Consistently low levels of dissolved oxygen are due to a lack of absorption of oxygen by the water. This is probably the result of a lack of movement or agitation in the still waters of the billabong and in addition, the consumption of oxygen by the decay of organic material on the bed of the billabong. In the case of Baileys, the blanket of floating plants reduces the agitation by wind movement on the surface of the water, although the floating plants do photosynthesize oxygen. However, the floating plants restrict sunlight reaching other submerged or partly exposed aquatic plants reducing their ability to also photosynthesize and produce oxygen.

Water Quality of Reedy Billabong

The Boulevard Drain feeds directly into Reedy Billabong. In February 2006, Melbourne Water undertook remedial earthworks on the drain and these, in general, improved the test results for both the drain and the billabong. However, for the billabong, the results for reactive phosphorus regularly exceed the desirable levels set by SEPP. By contrast, dissolved oxygen levels almost never reach the level of 60% saturation needed to consistently support aquatic life especially fish (although, unfortunately mosquito fish seem to survive and thrive at low levels).



Reedy Billabong, Photo by D.Barr

Baileys Billabong versus Reedy Billabong

The results for Reedy Billabong for electrical conductivity, reactive phosphorus, turbidity and dissolved oxygen are all poorer than for Baileys Billabong. There is little doubt that the better quality water in Baileys is due to the filtering of the drain water through the siltation ponds along the edge of the golf course before it reaches the billabong. It is interesting to note that although Reedy Billabong has higher levels of the nutrient, phosphorus, it generally has much less floating weed.

Consideration should be given to improving filtering and settling of water as it passes through Reedy Billabong, and this will be discussed in a later newsletter.