



North Central  
Waterwatch



# catchment care

Autumn Edition # 4  
June 2011



## Regional Update

Dear Monitors,

Hope you are all well and staying warm in these very very cold Autumn months! Waterwatch has been busy over the last couple of months delivering activities across the North Central region. To name just a few; Waterwatch has taken part in Saltwatch Week engaging community monitors and River Detective schools raising awareness about the impact of salt on the environment, Waterwatch also held a special event in partnership with Bendigo Family nature Club and Northern United Forestry Group for Saltwatch Week, over 30 community families turned up to take part in this fantastic event.

Waterwatch held a macroinvertebrate workshop with Castlemaine Landcare Group; presented to Conservation and Land Management students at TAFE about water quality monitoring and how to interpret results; met with researchers from the Australian Freshwater Turtle Conservation and Research Association (AFTCRA), continued working on the Water Quality Data Report 2011; we are currently developing our very own Field Guide to Frogs of the North Central region, which is almost complete! If this isn't enough, we have also been working very hard to develop a new River Detectives resource manual! *The manual will be up and ready for schools in the New Year, I look forward to the publication of the manual and Field guide.*

WOW, that's a lot, I feel we have been very productive over the past few months, and we are currently planning a few special events for the coming months, one I would like to highlight will be a training day for community monitors to learn how to use the new Waterwatch Database which is almost ready! I will let you know the dates soon!

Please stay warm and take care for now

Cass Davis



NORTH CENTRAL  
Catchment Management Authority  
*Connecting Rivers, Landscapes, People*



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## *Landcare covers more ground*

The North Central Catchment Management Authority (CMA) is now calling for applications for the 2011-12 Victorian Landcare Grants. The grants program, funded by the Victorian Government, allows local groups to undertake projects that will benefit the health of the region’s land, water and biodiversity while focusing on local priorities.

There are two grant types available this year; maintenance and start up grants of up to \$1,000 and project grants of up to \$20,000. Project grants can fund projects that target onground works, capacity building activities, community engagement and innovation. The grant can fund a range of activities including revegetation, remnant protection, invasive plant and animal control, group action planning, workshops, field days, promotional materials, training and flora and fauna surveys.

The Maintenance and start up grants can fund activities such as incorporation fees, insurance, administration, meetings, newsletters and operational costs.

If you are interested in more information on the Victorian Landcare Grants program visit the Landcare page on the North Central CMA website ([www.nccma.vic.gov.au](http://www.nccma.vic.gov.au)) or contact Jodie Odgers, Regional Landcare Coordinator on 03 5440 1883 or email [jodie.odgers@nccma.vic.gov.au](mailto:jodie.odgers@nccma.vic.gov.au).





## Meet Miriam Rotstien

Hi, I'm Miriam, and I started Waterwatching about a year and a half ago. I've always appreciated the tranquillity and importance of creeks and rivers, but I didn't realise how complex they are until I was studying environmental science at uni. After a couple of water chemistry field trips I was hooked! I moved to near Trentham and decided I wanted to contribute to the knowledge of the lovely upland streams that we have here.

I've found that Waterwatch is a great way to learn about and get experience in water testing, plus it gets me looking at all the other stuff like macroinvertebrate sampling and SIGNAL scoring. Also, noticing and looking up plants and animals, and their signs while out there. I've learned to recognise wombat scats by their distinctive cubic shape, and that they are usually accompanied by scratch marks from their front legs, and in a prominent place on a track.

Waterwatch is also good because it connects you with other people involved in monitoring and looking after our waterways. There is a lot that we can learn from each other -I've written a couple of articles on waterways for my local environment group "Wombat Forest Care" (they have a great website: [www.wombatforestcare.org.au](http://www.wombatforestcare.org.au)).

I have two sites that I monitor; one at Trentham Falls and the other on Kangaroo Creek at Spring Hill. The Falls site has a lovely riffle section and of course after it's rained the falls are spectacular! The Kangaroo creek site is a lot narrower, with rocky pools and not much flow at the moment; however, there are piles of woody debris swept by high water to about 2.5 meters! Getting out there, even in cold weather, is always enjoyable because the places are so beautiful, and you get to experience the seasons coming and going.



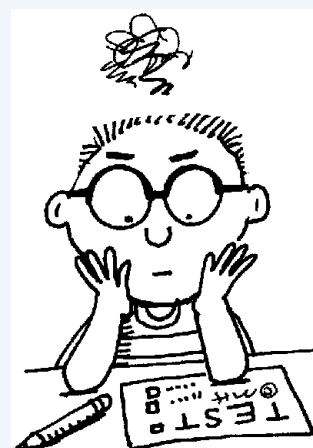
Photo by Miriam Rotstien at Trentham Falls August 2010

## Quality Assurance and Quality Control 2011 (QA/QC)

That's right QA/QC is fast approaching again! Although, thankfully, we have a little more time up our sleeves this year; QA/QC week will be delivered from Sunday 28 August to Saturday 3 September 2011.

Each year Waterwatch Victoria provides chemical 'mystery samples' which are distributed to regional Waterwatch programs during QA/QC week. The mystery samples are standard solutions carefully prepared in a lab, with certain levels for pH, Electrical Conductivity, Reactive Phosphorus and Turbidity.

During QA/QC week monitors and Waterwatch staff are tested to ensure the accuracy of their testing methods and equipment, which ensures data that is being collected is of the highest quality.



Source: [school.discoveryeducation.com](http://school.discoveryeducation.com)

Last year the Victorian Waterwatch team was very impressed with North Centrals mystery sample results.

There were only a few errors in our testing, this was mostly due to the Ortho phosphate sample which was designed for Colourimeters and NOT Colour Comparators (this made testing the phosphate very difficult as the blueness was very different to the blue in the charts we use). Waterwatch Victoria recognised this and are doing their best to develop a new mystery sample that can be tested using the Colour Comparators.

*I will let you know in the coming months where and when North Central QA/QC events will happen during 2011.*





## Waterwatch Data Management System

A very exciting new project has been developed by Waterwatch Victoria. The project is a Waterwatch Data Management System; this system is for community volunteers who will have access to a website which is designed for entering their quality data. This data can then be viewed and analysed by all website users.

The interface web page means that anyone can view a monitored site to see the data that has been collected. It also means that Waterwatch volunteers (those who feel comfortable with this system) will be able to directly enter their own data into the data management website.

After a monitor has entered their data a notification is sent to the Regional Waterwatch Coordinator for approval.

*Data will not become available unless it has been approved by a coordinator.*

North Central Waterwatch hopes to have information and training available in the coming months to help volunteer's better use and understand how the overall system works.

### *In your local stream, Blue-green is sometimes seen....*

After the floods this year, people may have seen scums on some wetlands in the north of the region. Some of these were blooms of azolla, a common floating water plant with small fern-like leaves, and some were the more troublesome blue-green algae.

Blue-green algae, or 'cyanobacteria' are microscopic organisms that grow as colonies of cells. In fact, they were one of the first multi-celled organisms on earth. They are somewhere between a plant and an animal, in that they have characteristics of both.

They photosynthesise like a plant, but are really bacteria that can fix nitrogen from the atmosphere using special modified cells. Other modified cells called vacuoles contain gas that allows the organisms to move up and down the water column.

All this gives them a great competitive advantage when conditions are right.

The flood waters contained a high level of nutrients (phosphorus, nitrogen). The drought over the past decade meant that the catchment accumulated a range of nutrient-rich materials, including organic matter, household and farm waste, fertilisers and animal faeces.

These were all washed into the flood waters as they spread out onto the floodplain. Septic tank and sewer overflows may also have contributed to the nutrient load as systems became swamped or overloaded.

All this, combined with sunny weather through late summer and autumn and warm, still water as it stood in the wetlands, and there we have the perfect conditions for algal growth!

Several species of blue-green algae can be toxic, and herein lies the greatest concern for water users. Toxins can be hepatotoxins, which damage the liver, neurotoxins that affect the central nervous system, and allergens that can produce skin rashes and eye irritations.

These toxins can make humans quite sick and sometimes kill people, and can also kill stock or wild animals. Toxins are mainly released into the water column when cells breakdown.

The photographs below were taken at Lake Boort in March, and clearly show what a blue green algal bloom can look like. This was a bloom of *Anabaena circinalis*, a form which can be toxic (its toxin is a hepatotoxin). Blooms are generally characterised by bright green or yellowish scum with a consistency like paint. They can also look blue as they dry out on the water's edge. They also often have an unpleasant earthy or musty smell which intensifies as the bloom breaks down and cells die.

In our region, Goulburn-Murray Water (G-MW) is the main contact when an algal bloom is observed. G-MW staff will visit the site and take some samples to identify what it is and whether it is toxic. Usually if there is a significant problem in recreational or water supply water bodies they will issue an alert and close the effected waterway.

In farm dams, limiting access to the dam by catchment nutrients (e.g. fertilisers), minimising stock access (e.g. using troughs for watering) and vegetating around the dam and inflows are longer term solutions, but in the short term allowing a bloom to run its course and keeping stock and domestic animals away from the water is the best bet.



*In your local stream, Blue-green is sometimes seen.. Continues to page 5...*



Some useful links –

[www.g-mwater.com.au/news/blue-green-algae-alerts](http://www.g-mwater.com.au/news/blue-green-algae-alerts)

[www.wgra.com.au/dyn/media/r385/system/attrib/file/326](http://www.wgra.com.au/dyn/media/r385/system/attrib/file/326)

[www.derm.qld.gov.au/factsheets/pdf/water/w3.pdf](http://www.derm.qld.gov.au/factsheets/pdf/water/w3.pdf)

[www.health.vic.gov.au/environment/water/bluegreenalgae.htm](http://www.health.vic.gov.au/environment/water/bluegreenalgae.htm)

**Story by Phil Slesser  
Environmental Flows Officer  
North Central CMA**



Picture: Azolla bloom in Lake Yando, Dec 13th 2010

## Autumn Waterwatch Activities

### Saltwatch Week 2011

First of all, I would like to say a **BIG thank you** to all those who took part in organising, planning and volunteering their time to help educate and raise awareness in the community about the impacts of salt on the environment as part of National Saltwatch Week.

On Sunday 22 May, the day began with a boom of thunder and a clap of lightning, however, this did not stop 28 community members meeting at the North Central CMA car park! The Bendigo Advertiser turned up to snap some shots of the children tucking into some saltbush before we went on our way in convoy to the Northern United Forestry Group site of Kamarooka.

After introductions and a warm thank you to Andy Hay and family, the group was split into two groups; Group 1: Salt Bush, Group 2: Salt Bores.

Salt Bush began on their journey with Phil Dyson to Bore 4. Participants had the opportunity to check the depth of the Bore using a special whistle and tape measure, learning about the history of the site and how it was once a salt infested wasteland. Followed by a taste of the water (a few screwed up faces to follow!) then learnt

about saltbush and how they can tolerate high levels of salt in the groundwater by storing salt in their leaves.

Salt Bores began with a story from Robyn McKay who talked about trees; how they grow and how they suppress groundwater. Robyn explained how the leaves have valves on them that open throughout the day so trees can let the water out and take in carbon dioxide to produce oxygen. She also explained how the probes in the trees measure the flow of water up the stem from the roots to the leaves.

The children had fun on a treasure hunt using their imaginations to find things at Kamarooka that has; three sides, is soft, is yellow, something alive, something dead, and so on! Kids came back to the picnic area with their bags exploding with goodies!! After a wet lunch (rain, rain, rain!), provided and prepared by the NUFG, kids got the chance to sit down and talk about what they had found and learnt for the day. There were some interesting things found on the treasure hunt, a snake skin, grass hoppers, ants, puff mushrooms, leaves, wattle flowers, clay and even some poo! Unfortunately, this time was limited, as it started to rain again!

All in all we had a very successful day at Kamarooka. Waterwatch would like to continue this partnership into the future as it was a pleasure working with the Bendigo Family Nature Club and the Northern United Forestry Group, there was plenty of feed-back from participants, with one participant saying; *'My son and I both learnt things we didn't know about the impact that salt has on the environment, ground water and trees'*

A big thank you again to all those who participated on the day!

- Cass Davis -

**Some Photo's from Saltwatch Week 2011:**





## catchment care

### Chasing turtles

In April, Kelly Dunn, Waterwatch facilitator, and myself had the opportunity to head up to Gunbower Island with Heidi Kleinhert, Kerang and Gunbower Wetlands Enhancement Program Project Officer. Once there, we met up with four volunteers from the Australian Freshwater Turtle Conservation and Research Association (AFTCRA) who were carrying out surveys on the Broadshelled Turtle, *Chelodina expansa*.

The volunteers arrived on March 25 and stayed until April 18, spending ten days on site at Gunbower Island. The volunteers were amazing, taking their holidays from normal work life to coincide with the Broadshelled Turtles' nesting season. Their day involved monitoring known sites and identifying potentially new sites that needed to be protected from predation.

There is very little scientific information about the Broadshelled Turtle. Identifying the age of a turtle for one is very difficult. More research needs to be done on the turtles however it can be difficult to obtain the appropriate permits to conduct detailed surveys involving tagging and/or recording the turtles laying eggs. What is known is that their greatest threat is the fox, their nests are particularly vulnerable to predation by foxes and their hatchlings make easy prey.

In the 10 days that the volunteers were at Gunbower Island they recorded 70 raided nests and protected a further 13 nests with wire mesh to deter foxes from digging up the eggs. By collecting local knowledge and gaining support from the community, these dedicated volunteers are ensuring that there is a bright future for the turtles of Gunbower Island.

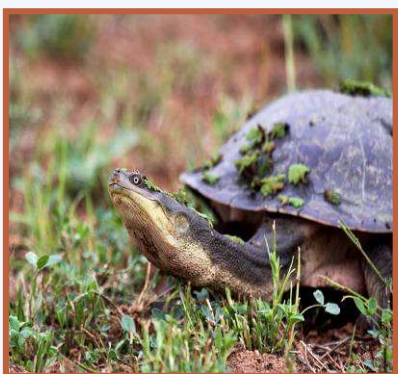


Photo by David Kleinhert

### Catchment Care Features

#### River Detectives Get Wet...

The year has been very busy for students involved in the River Detectives program. Our Waterwatch facilitators have been kept on their toes with ten primary schools on board - visiting students and assisting in their water testing activities.

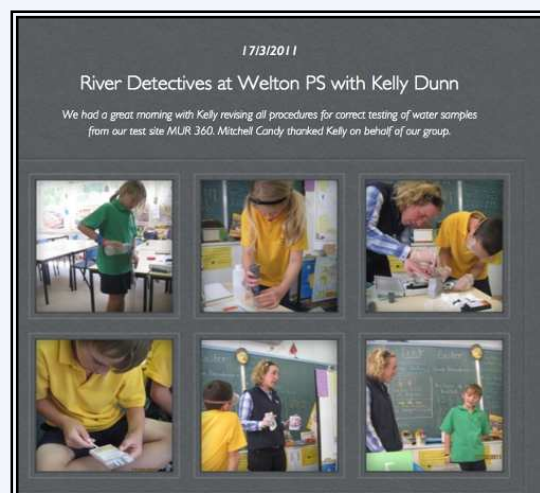
Students or 'River Detectives' are encouraged to collect a sample of water from a local waterway each month to test the chemical and physical parameters such as; Salinity, Turbidity, Reactive Phosphorus, pH and air and water temperature.

Results from River Detectives monitoring is placed in the state-wide database.

While learning all about the River Detectives program I have been involved in developing, updating and creating a new River Detectives Resource Manual. This manual is aimed at providing a resource to schools which aligns activities directly with the National Curriculum. It will enable teachers to directly link learning outcomes such as; Auditory, Visual and Kinaesthetic with Victorian Education Learning Standards.

By making integral links between the students and their local environment, a sense of ownership and pride is created amongst these fantastic young people and their inspirational teachers. I am looking forward to working with this group of River Detectives and their very enthusiastic and supportive teachers throughout 2011.

**Story by Kelly Dunn**  
**Waterwatch Facilitator**  
**North Central CMA**



Picture: Jan Meakes – Teacher at Welton Primary School



## Water Weed of the Quarter

### Alligator Weed

#### *Alternanthera philoxeroides*

Alligator Weed is state prohibited listed as a Weed of National Significance (WoNS 2003). Recently, there have been sightings of the weed occurring along the Bendigo Creek, appearing from Bendigo to Huntly, which potentially means it may be further downstream as far as Kow Swamp.

Alligator Weed is regarded as one of the worst weeds in Australia because of its invasiveness, potential for spread, and economic and environmental impacts while invading both land and water, and it is very hard to control. It can grow with the roots embedded in the bank, on the bottom of shallow water bodies, or float freely on the water surface. It spreads its leaves across the water surface, forming dense mats.

The long spreading stems are hollow, helping it to float. The roots are thin and stringy, and trail in the water from the joints between plant segments (the nodes).

Early detection is the most cost effective method to manage this invasive plant. It has rarely, if ever, been successfully eradicated from a water body once it has commenced its infestation.

Currently the Department of Primary Industries (DPI) is managing this weed along the Bendigo Creek and has employed a contractor to survey sites further downstream. It is recommended if you see this weed (picture below) that you notify the DPI on: (03) 5430 4444 or the North Central CMA on: (03) 5448 7124.

**Story by Kelly Dunn**  
**Waterwatch Facilitator**  
**North Central CMA**



Photo: [www.weeds.gov.au](http://www.weeds.gov.au)

Information for this article was sourced from:  
[www.weeds.gov.au](http://www.weeds.gov.au)

## Creature Feature

### Red-capped Robin

#### *Petroica goodenovii*

While I was mountain bike riding at One Tree hill, I spotted what I initially thought was a Crimson Rosella. However, after a closer look, I realised that it was a bit too small to be a Rosella. So I took a photo and found out that it was actually a Red-capped Robin.



The Red-capped Robin is the smallest red robin. It can be distinguished from other red robins by the unique red cap in the male, and by the dull red cap in the female.

The male Red-capped Robin is black above and white below with a distinctive scarlet-red cap, white shoulders, and a red breast that contrasts strongly with a black throat. The black wing is barred white and the tail is black with white edges.

Females are quite different in appearance; grey-brown above and off-white below, with a reddish cap, brown-black wings barred buff to white, and some have faint red on the breast. Young birds are similar to females but are streaked white above; have a pale buff wing bar and their breast and sides are streaked or mottled dark-brown.

The Red-capped Robin feeds on insects and other invertebrates. It forages on the ground or in low vegetation, and will often perch on a stump or fallen branch, darting down to take insects from the ground.

This little Aussie battler can withstand cold climates and I actually spotted another one whilst camping up at Mt Buffalo over the weekend. Keep an eye out for this beautiful bird on your farm, vineyard or orchard.

**Story by Kelly Dunn**  
**Waterwatch Facilitator**  
**North Central CMA**

Photo: [birdsaustralia.com.au](http://birdsaustralia.com.au)

Simpson, K and Day, N. 1999. Field guide to the birds of Australia, 6th Edition. Penguin Books, Australia.





## catchment care

### What Frog am I?

I generally have a dark brown or cream back,  
I have the ability to change colours during the day,  
I am usually found near wet and dry forest, woodlands,  
shrub lands and open areas; often long distances from  
the water where I spawn during breeding season,  
I have a very distinct call which increases in loudness –  
“cra-ah-ah-ah-ah-ah-ah-ahhk”.



I am A P----- T--- F----

### North Central CMA projects

#### Protecting the York Plains Wetlands

Having spent twelve years living and working in the Wimmera, I have probably driven past the York Plains hundreds of times on my frequent journeys back to Bendigo to visit family and friends. Admiring them from afar, but never having full appreciation of what they are.

Now that I'm working at North Central CMA and managing the York Plains project, I've quickly been brought up to speed on this special area of our catchment!

Driving through the flat, largely cleared agricultural landscape that is typical of the west of our region, the biodiversity value of the York Plains remnant redgum and buloke stands around the series of wetlands and the adjacent Avon River is obvious. What isn't so obvious to those passing through are the remnant grassland and wetland species that have survived in and around the wetlands and the significant cultural sites scattered throughout the area. It's also a surprise to learn that these special features are mostly located on private property.

Of course, the local landholders aren't surprised by any of this, and are working with North Central CMA to protect and enhance this special place. Many have signed on with North Central CMA to protect these assets by undertaking fencing, revegetation where required and in many cases working to place covenants on the wetland areas to ensure they are protected for perpetuity. Once complete the project will have seen over 400ha of new covenants put in place.

The adjacent Avon River has also been a focus of riparian fencing efforts and substantial areas of perennial pastures are being established in surrounding paddocks to help manage groundwater recharge to protect the wetlands from rising saline watertables.

The York Plains is a great example of an integrated project, which will protect this special place for generations to come.

Story by Greg Barber



### Message from our Sponsors

#### Coliban Water – Rob Krober

During March and April our School Focus was on junior primary level with the grade two students at Girton Grammar.

Preliminary work had been done by the students on the water cycle, rivers, dams and water treatment. Following the inquiry process, students were asked in class to consider where their tap water comes from.

We visited the school presenting a slide show which featured the engineer Joseph Brady and the history of Coliban System of Waterworks.

An activity using models of buckets to demonstrate the amount of water used in an average North Central Victorian home reminded students that even though our storages are full, we must still avoid wasteful use. Sand shower timers were provided for each of the students to use at home. By reducing the time spent under the shower all students can make contribution to conserve water, save energy and provide a benefit to the environment.

Students watched an experiment showing how a syphon works and were shown 3D maps in preparation for an excursion to the Coliban storages.

On the excursion the forty students, some of their parents and their teachers stopped in Harcourt to pick up a box of apples for morning tea. This gave the students a taste of some local produce grown with water supplied to their own local area.

Coliban Water continues to Page 9...







At Lauriston our Reservoir Controller explained his role and the purpose of our three dams on the Coliban River.

The group also visited Malmesbury Reservoir where we had lunch before returning to Bendigo.



Above: Locating Malmesbury Reservoir on a 3D map during an excursion for Grade 2 Girton Grammar students.

### Partner Agencies

