

## P Day 2007

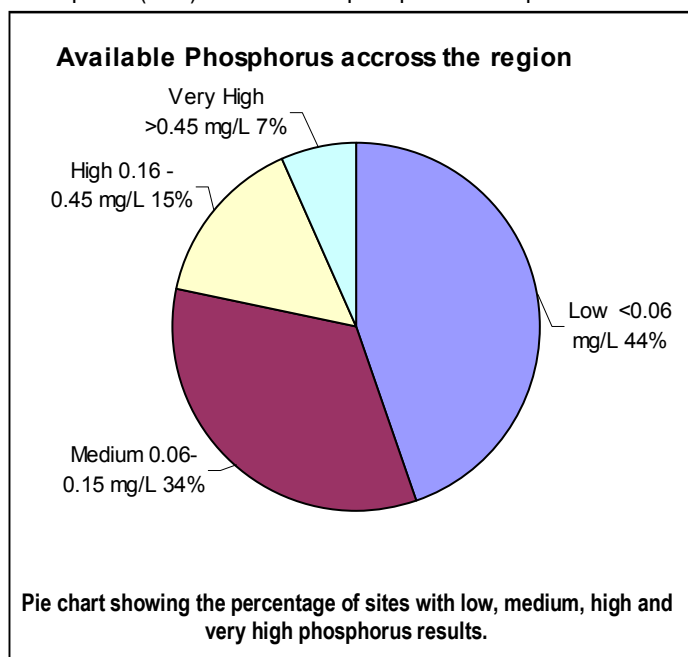
In November last year, Hunter-Central Region Waterwatch held our annual Phosphorus Awareness Day (P Day).

## Results Summary

The aim of P Day is to raise awareness in the community of excess nutrients in our waterways by taking a snapshot of phosphorus levels across the region. P Day is held in November each year, going into summer when water levels may drop due to increased evaporation. This may cause high nutrient levels to become more concentrated, leading to problems such as algal bloom outbreaks, which starves other aquatic plants, fish and water bugs of oxygen.

The three main plant nutrients are nitrogen, phosphorus and potassium. Nutrient levels in Australia are naturally low, however human impacts can lead to high levels resulting in algal blooms, excessive growth of water plants, fluctuations in dissolved oxygen levels and an increase in total organic load.

On P Day, available phosphate was measured by seventy six Waterwatch groups across the region at one hundred and thirty six sites. Phosphate (PO<sub>4</sub>) is a common phosphorus compound. Sources of phosphate entering waterways include fertilisers, animal wastes, decaying organic matter, industry, sewage, soil erosion and phosphate based detergents. Available phosphate refers to the amount of phosphate in the water freely available to plants.



As with other water quality parameters, phosphorus levels will be affected not only by pollutant levels but events that change stream velocity and volume such as rainfall events, dry periods, dam releases, including releases for environmental flows, and changes to the river bed.

The ANZECC Guidelines (2000) state that the recommended trigger value for Available Phosphate is 0.06 mg/L PO<sub>4</sub> for upland and lowland rivers in NSW. Forty four percent of P Day results were under the trigger value of 0.06 mg/L.

Any results above 0.06 mg/L may mean that nutrient levels are too high and indicate a current or future problem.

The highest results, (which were considerably higher than the next highest of 1.9 mg/L) were 3.14 mg/L at The Wetlands Centre and 3.98 mg/L at Nunn's Creek in Erina. The site at the Wetlands Centre is a favourite congregation point for many of the water birds and therefore

contains a lot of bird poo. The site at Nunn's Creek has been investigated by Waterwatch and Gosford Council. It is likely that the high phosphate levels are due to a nearby car wash and from cleaning products tipped down the drain by other local businesses. Council is looking at rectifying the problem with the car wash, and are looking at introducing a Clean Industries' campaign in the area.

## What can you do to reduce nutrients in our waterways?

### In & around the home...

- ◆ Wash the car on the lawn.
- ◆ Use lawn fertilisers efficiently by following the manufacturer's instructions.
- ◆ Use detergents containing little or no phosphorus. Look for the NP symbol on detergent packets.
- ◆ Sweep paths instead of hosing.
- ◆ Conserve water.
- ◆ Ensure septic tanks are checked and working effectively

### In your street...

- ◆ Don't put grass clippings, leaf litter or garbage into gutter or stormwater drains.
- ◆ Bury pet droppings or put them in the bin.

### On the farm...

- ◆ Control livestock access to riverbanks and where possible, use off-stream stock watering.
- ◆ Revegetate riverbanks and gullies. Plants act as nutrient filters.

- ◆ Prevent erosion and sedimentation on your land.
- ◆ Use fertilisers efficiently to minimise waste.
- ◆ Take action in drought to prepare for rain and to minimise run-off of animal waste and soil.

### In your catchment...

- ◆ Be aware of water quality and other environmental issues within your catchment.
- ◆ Encourage friends and family to be aware of nutrient pollution and ways in which they can help solve the problem.
- ◆ Report sewage surcharges and overflows to your water authority or local council

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# Spotlight on: Riparian land

What is riparian land? In simple terms, it is the land along the banks of a water course, including creeks, rivers, lakes, wetlands and estuaries.

Land and Water Australia defines riparian land as 'any land which adjoins, directly influences, or is influenced by a body of water'. With this definition, riparian land includes:

- ◆ Land immediately alongside small creeks and streams (even if they flow only occasionally), including the bank itself
- ◆ Land alongside major rivers including the bank
- ◆ Gullies and dips which sometimes run with surface water that finds its way into a nearby watercourse
- ◆ Areas surrounding lakes, and large farm dams
- ◆ Wetlands on river floodplains which interact with the river in times of flood

The relationship between riparian land and the water body it joins is very complex. It is a very productive part of the landscape, both in terms of potential agricultural production and as a natural ecosystem. It often has a deeper and better quality soil than surrounding land due to past river deposition and movement of soils with runoff from nearby slopes. It also often retains moisture over a longer period than surrounding soils due to its lower position in the landscape.

The fertile nature of the soil in riparian land makes it a desirable area for agriculture. Clearing the vegetation from the riparian land can lead to a dramatic decrease in water quality and loss of aquatic plants and animals.

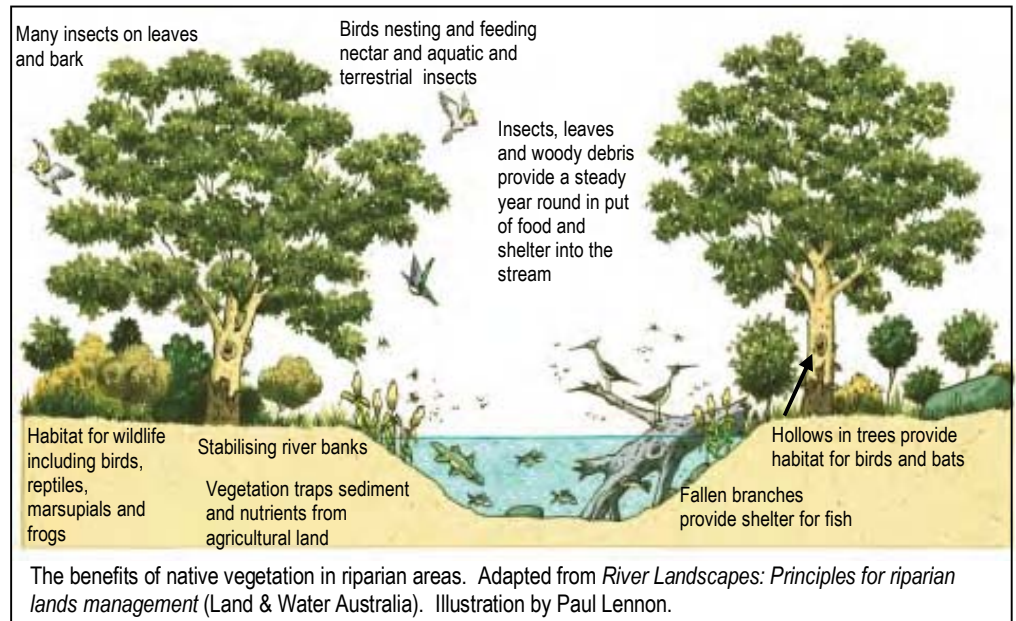
Riparian vegetation plays a crucial role in stream health, including:

- ◆ Lowering water tables
- ◆ Providing a buffer for streams from sediments and nutrients and other contaminants washing off agricultural land
- ◆ Refuge for native plants animals in times of stress, such as drought or fire
- ◆ Regulates in-stream plant and algae growth by reducing light and lowering water temperature, through shading
- ◆ Supplies energy and nutrients, in the form of leaf litter, fruits and other organic matter
- ◆ Provides essential aquatic habitat in the form of branches that fall into the stream and tree roots
- ◆ Reducing rate of bank erosion, through tree root systems, reeds and grasses

Riparian land generally supports a higher diversity of plants and animals than surrounding hill slopes, because of the wide range of habitats and food types, and it's proximity to water.

**The following websites were used as research for this article and contain further information:**

- ◆ <http://www.rivers.gov.au/>
- ◆ [http://www.hcr.cma.nsw.gov.au/wlmw\\_download.php3](http://www.hcr.cma.nsw.gov.au/wlmw_download.php3) (*Where land meets water*)



## Where land meets water - Giveaway

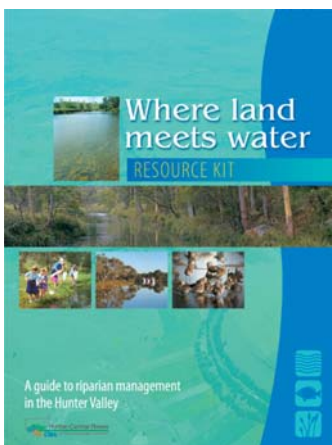
*Where land meets water* is a new Hunter-Central Rivers Catchment Management Authority (CMA) publication that provides practical information for landholders on managing riparian lands - the land adjoining rivers, creeks, billabongs, wetlands, lakes, farm dams, drainage lines and floodplains.


**We have five copies (value \$22.00 each) to giveaway to groups who send in 200-400 words on what their group has done or would like to do in riparian lands in their catchment, or any other interesting projects your group has worked on. Contributions will be used in future editions of The Water Watcher. Please include photos of your group in action, if possible.**

Send to Margo Slaven at

Hunter-Central Rivers CMA, Private Bag 2010, PATERSON NSW 2421

or email [hcr.waterwatch@cma.nsw.gov.au](mailto:hcr.waterwatch@cma.nsw.gov.au) (with 'Water Watcher Giveaway' as the subject).



Close Window 

**Upload Sample Data**

NAME: Hunter-Central Rivers Waterwatch

Sample Date: Year Month Day Hour

Comment:

Select Location:

## New EC data upload instructions

Dissolved Oxygen	null	mg/L
Percent Dissolved Oxygen	null	%
Biochemical Oxygen Demand	null	mg/L
Water Temperature	null	C
pH	null	pH
Electrical Conductivity (Surface Water Salinity)	null	µ Siemens / cm
Total Dissolved Solids	null	mg/L
Turbidity	null	NTU
Available Phosphate	null	mg/L (PO <sub>4</sub> )
Total P	null	mg/L (PO <sub>4</sub> )
Nitrate as N	null	mg/L of ni
Faecal Coliforms	null	Colonies per 100ml
Electrical Conductivity (Estuary)	null	Microsiemens/cm
Electrical Conductivity (Groundwater Salinity)	null	µ Siemens / cm

load into database

View all editable samples      View sample data

Keep entering data here for all creeks, rivers, streams unless you are told to use the estuary or groundwater box by your Waterwatch Coordinator.

Only enter data here if you have been told to by your Waterwatch Coordinator.

There are now three options for entering your EC data. Most groups will need to enter their result in the usual spot, but this is now called **Electrical Conductivity (Surface Water Salinity)**. 'Surface Water' means all creeks, rivers, brooks etc.

There are two new categories at the bottom of the list. These are **Electrical Conductivity (Estuary)** and **Electrical Conductivity (Groundwater Salinity)**. 'Groundwater' means a ground water bore or piezometer. This only applies to you if you have been instructed to enter your data here by your coordinator.

**The 2008 Australian Green Grants Guide is now available.**



Listing over 300 environment and heritage grants, this book is a useful tool for any school or community group looking for funding to help turn their environment improvement ideas into reality.

The cost is \$54.95 + \$9.95 postage and handling per copy.

To download an order form, go to [http://www.molinstewart.com.au/Green\\_Grants\\_Guide.htm](http://www.molinstewart.com.au/Green_Grants_Guide.htm)

**Dilmah**

**Dilmah Water Quality Funding**

Funds will be used to provide access to water quality monitoring kits and training, as part of community Landcare plans to improve water quality.

Grants of up to \$1650 (including GST) are available for schools and community groups. Applications close 30 May 2008. Ingrid will be happy to assist you in completing your application 02 4930 1030. Application forms are available on [www.landcareonline.com](http://www.landcareonline.com)



**Junior Landcare Grants Program**

The program funds local projects through schools and/or youth groups across Australia.

The program targets major issues relevant to our natural environment. Round two closes 16 May 2008. For more information: [www.landcareonline.com](http://www.landcareonline.com)



**Australia Post / Landcare Community Development Grants Program**

Community groups can now receive financial assistance to help them make a difference to their environment and community. This program provides funds of up to \$3300 (including GST) for local community projects across Australia. Round one closes 24th April 2008. For more information: [www.landcareonline.com](http://www.landcareonline.com)

## WaterWhat?

### Waterwatch Trivia

1. What percentage of sites had a low phosphorus result in P Day 2007?
2. Which months are the Spring and Autumn Water Bug Surveys held each year?
3. What is the trigger value for available phosphorus (in milligrams per litre)?
4. Which month is P Day held in the Hunter-Central Rivers region?
5. Order Ephemeroptera is the scientific name for which group of aquatic water bugs?

Answers: 1. 44%, 2. March (Autumn) and October (Spring), 3. 0.06 mg/L, 4. November, 5. Mayflies

Funding Opportunities



### Let's go paperless...

If you receive this newsletter by mail, we would like start sending it to you by email. We understand that not everyone has an email address, but if you do we would love you to help us save some paper. Please call or email us with your email address. Call Margo Slaven on 02 4930 1030 or email [hcr.waterwatch@cma.nsw.gov.au](mailto:hcr.waterwatch@cma.nsw.gov.au) (with 'Water Watcher Newsletter' in the subject)



# Important Waterwatch Dates

## March 2008

12 **Autumn Water Bug Survey**  
www.bugsurvey.nsw.gov.au  
Waterwatch  
Ingrid Berthold 02 4930 1030

16 - 6 **Annual Frog and Reptile Expo**  
Apr Society of Frogs and Reptiles  
Tammy Bazley 0416 421 455

## April 2008

3-9 **Lake Macquarie Schools Environment Awards**  
Expressions of interest close  
Lake Macquarie City Council  
Pamela Baker 02 4921 0144

## May 2008

21 **Waste as Art**  
Entries close  
Hunter Waste Education Group  
Linda Hunter 02 4908 6848

## June 2008

4 - 5 **Planet Savers**  
Wetlands Environment Education Centre  
Christine Prietto 02 4955 8673

## June 2008 continued

5 **World Environment Day**  
Local Councils

4 - 13 **Waste as Art**  
July Exhibition opens at Honeysuckle Railway Workshops  
Department of Environment and Climate Change  
Linda Hunter 02 4908 6848

6 **Catchment Connections Carnival**  
Lake Macquarie City Council  
Margo Smith 02 4921 0702

## August 2008

tba **Quality Assurance**  
Waterwatch  
Ingrid Berthold 02 4930 1030

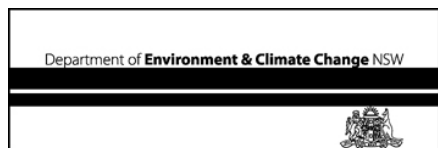
## October 2008

22 **Spring Water Bug Survey**  
www.bugsurvey.nsw.gov.au  
Waterwatch  
Ingrid Berthold 02 4930 1030

## November 2008

16-22 **Phosphorous Awareness Week**  
Waterwatch  
Ingrid Berthold 02 4930 1030

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[www.waterwatch.nsw.gov.au](http://www.waterwatch.nsw.gov.au) *Have you logged on?*



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