

Welcome to Term 1

We hope you have enjoyed the holidays and are ready to launch into an exciting new year of environmental education!

We start this edition by recapping another successful Catchments, Corridors and Coasts event.

We highlight the myriad of opportunities to get yourself and your students involved in environmental education in our What's Happening in Term 1 and Did You Know sections and our write ups on the Earth Day Expo, Rio Tinto Earth Assist and our very own Phosphorus Awareness Project (PAP).

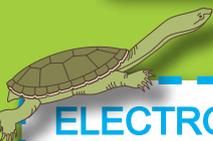
Our Algae Busters page showcases some of the great resources SERCUL's PAP has to offer with regards to incursions/excursions, professional learning opportunities and teacher materials and explains why the PAP is so important!

So take some time out of your hectic first week to read through our first newsletter of the year and start planning how you and your students can get involved in environmental education!

Natasha Bowden

Phosphorus Awareness Project

facebook



ELECTRONIC NEWSLETTER

If you would like to receive this valuable resource straight into your Inbox early each term, please go to www.sercul.org.au/signup/ and subscribe to the Education Newsletter.

Please pass this information onto your colleagues. The more environmental educators we have, the happier our planet will be!

Catchments, Corridors and Coasts

Wrap Up
2019

Catchments, Corridors and Coasts (CCC) is a practical program, which focuses on learning through experience and skill development, while also reflecting on the synergies between the environmental education practitioners in WA. It provides a 'snapshot' of environmental education in WA from its enormous catchments through its narrowing corridors to the beautiful coast.

This annual event is proudly presented by the Australian Association for Environmental Education WA Chapter with support from many organisations including SERCUL. This year's three day workshop took place from the 16th to 18th January 2019 with a total of 15 participants, who visited many educational sites including a waste management facility, wildlife rehabilitation centre, university, bushland, wetlands and the coast. Not only did the participants experience amazing activities they met environmental education professionals from the Perth Region during the presentations and at the Expo on the Friday.

This event could not happen without our sponsors the Department of Biodiversity, Conservation and Attractions Parks and Wildlife Service and the City of Cockburn. If you missed out on this year's CCC, it will be held again in January 2020. For more information go to www.aaeewa.org.au/ccc.html.



What's Happening in Term 1?

PALMS Kindergarten Package Launch - Teacher Workshop

6th March 2019 4:00pm - 5:30pm

The Primary Australian Literacy Mathematics & Science (PALMS) Program is launching its new kindergarten package!

PALMS aims to enrich and support the teaching of earth science from Kindergarten to Year 6 across Australia by providing curriculum based hands-on activities integrating aspects of Chemical Sciences, Physical Sciences and Biological Sciences as well as relevant components of English, Mathematics and other subjects into teaching packages that can be easily accessed by teachers.



The launch session will be hands-on, allowing participants to have a go at many of the activities from the new package. You will be given a print copy of the resources as well as goodies to take back to your classroom.

Launch Location: Australian Resources Research Centre, 26 Dick Perry Ave, Kensington. To register go to <https://www.eventbrite.com/e/kindergarten-palms-launch-teacher-workshop-tickets-54511857433>

Scitech Professional Learning Opportunities

Scitech's Professional Learning Team models the latest in pedagogy and can provide support to teachers with interactive workshops and events. In Term 1 they are offering Primary Science Lab Teacher Support Programs, all day STEM Learning Project Workshops (K - Yr12) and 2hr STEM Learning Project Workshops (K - Yr12) all around the state. Get more information and register at <https://www.scitech.org.au/education/professional-learning>.

Nearer to Nature Schools Education Program

Nearer to Nature Schools provide opportunities for students of all ages to take part in hands-on, experiential learning in the natural environment. The excursions build concepts, skills, values and the ability to make environmentally responsible decisions. All excursions are linked to the State and National Curriculum. Get more information at <https://www.dpaw.wa.gov.au/get-involved/nearer-to-nature/schools>.



Microscopes in the Classroom Professional Learning Course

18th March 2019, 9:30am - 3pm
East Maddington Primary School

This course will give teachers the skills to use compound light microscopes to view soil microbiology, identify and understand the role of organisms in the soil, make links with how they benefit us and take away practical ways to use microscopes in the classroom. The cost is \$250 per participant and you must register by March 11th by going to <https://bit.ly/2sDdDKs> or searching EarthWhile Australia on Eventbrite. Enquiries to Georgina Marsh on 0434 972 824.



Phosphorus Awareness Project Resources for Schools

The Phosphorus Awareness Project (PAP) is concerned about the high levels of nutrients that are causing algal blooms in the Swan and Canning Rivers and associated wetlands. PAP offers incursions, excursions and resources to school and community groups concerning this issue and how we can look after our waterways and the animals and plants that live there, including:

- **Algae Buster Incursions** are interactive, fun programs where students learn about catchments, nutrients and algae through a catchment story or river food web.
- **Building a Frog Habitat** is a must have incursion if a school is considering building a frog habitat. Students learn about the frogs of the Perth Region and listen to their calls. All the essential elements in constructing a frog habitat are also covered.
- **Go Fish!** allows students to learn about the diversity of fish that live in our local waterways and what we can do to protect our native fish.
- **Turtle-ology!** teaches students about the life cycle of the Long-Necked Turtle and the various impacts humans have on them at each stage.
- **Macroinvertebrates and Minibeasts** gives students the opportunity to observe the little creatures that live in our waterways or on land up close and personal.
- **Bush Tucker** allows students to learn about the Noongar seasons and how the traditional owners used a range of native plants at different times of the year.
- **Life Cycles: Frogs, Mistletoe or Dragonflies** gives students the opportunity to learn about the life processes of these plants and animals.
- **Aquatic Weeds** informs students about the environmental problems that occur when plants from ponds and aquariums are released into drains and waterways to become weeds!



Depending on your school location one day of incursions may be free! To find out visit <http://www.sercul.org.au/wp-content/uploads/2018/12/SERCUL-PAPSchoolChargeMap.pdf>

For further information or to book an incursion to your school please contact: Natasha Bowden on 9458 5664 or email natashabowden@sercul.org.au

Phosphorus Awareness Project Resources for Schools

The Phosphorus Awareness Project (PAP) and SERCUL have a number of initiatives and resources to help teachers with environmental, and more specifically, catchment education in the classroom. See below and column on left for further information.

Canoeing on the Canning

This Professional Learning (PL) Day for Teachers will be held again this year on the 25th October 2019. This will be the fifteenth year this popular PL Day has been held. By canoeing on the river you will experience first-hand the Canning River ecosystem and its associated problems. Mark it in your diaries and keep an eye out for the Term 2 and 3 Catchment Education Newsletters for more details and registration information for this PL opportunity.



FREE Native Plants

Planting opportunities are available during the winter and spring months. This is a great way to get students involved in on-ground action that has wonderful benefits for the environment, students and local community. PAP will have local native plants available in winter that can be planted in bushland or wetland areas in or near your school grounds or in bush tucker or frog friendly gardens.

Register your interest in receiving a selection of native plants in winter by emailing:

natashabowden@sercul.org.au

and indicating how many plants you would like (actual numbers received will depend upon a range of factors) and the planting site (school gardens, frog pond, bush tucker garden, revegetation site).



Noongar Seasons Poster

SERCUL have a Noongar Seasons Poster that complements our Bush Tucker program.

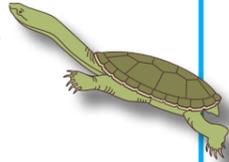
The Noongar Seasons A2 poster showcases the six Noongar seasons and some of the local plant species used during those seasons. The poster costs \$5 inc GST if picked up from SERCUL or \$15 inc GST if you would like one posted to your school.

Email Natasha at natashabowden@sercul.org.au or call her on 9458 5664 to order one now!

Catchment Incursions and Excursions

PAP have some exciting incursions/excursions on offer. Our most popular include (refer to column on left for description):

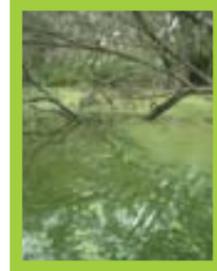
- Bush Tucker! (K – Yr 12)
- Building a Frog Habitat (K – Yr 12)
- Turtle-ology! (K – Yr 6)
- Algae Busters Catchment Story (K – Yr 6)
- River Food Web (Yr 3 – Yr 12)
- Life Cycles: Frogs, Mistletoe or Dragonflies (Yr 3 – Yr 12)



All incursions have a science focus and have been developed to meet the requirements of the WA Science Curriculum. A teacher pack of information and resource sheets will be left for the class after the incursion/excursion. Depending on your school location one day of incursions may be FREE! To find out more visit <http://www.sercul.org.au/wp-content/uploads/2018/12/SERCUL-PAPSchoolChargeMap.pdf>

SERCUL Website

Our website has an education section containing a wealth of information and resources. Visit www.sercul.org.au/for-educators/edu/



Why P in our Rivers is a Problem?

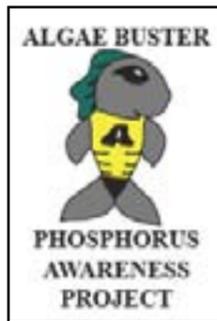
When we are talking about P in our rivers we are not just referring to the liquid yellow stuff - although there is plenty of P in that!! P is the symbol for the chemical Phosphorus, which is one of the main nutrients, along with Nitrogen, that supports that growth of algae and aquatic plants that in turn provide food and habitat for other organisms that live in the water.

Phosphorus and Nitrogen are natural parts of aquatic ecosystems, but excess nutrients mean excess algae, which puts the ecosystem out of balance and can lead to algae blooms.

Algae blooms covering the surface of a water body reduce the amount of sunlight that can reach submerged aquatic plants and therefore restricts their ability to photosynthesise, grow and be a food source and habitat for other organisms. This then has impacts further up the food chain. During the night and when algae starts to die and decompose, it uses up the dissolved oxygen in the water and in the instance of an algae bloom it can lead to the death of fish and other animals that rely on dissolved oxygen from the water to survive. Certain types of algae blooms are harmful to humans and other animals, such as dogs, as they produce elevated toxins and bacterial growth that can cause illness if a person or animal comes into contact with or drinks water polluted with algae or consumes tainted fish or crustaceans. Algae blooms also look and smell bad and prevent recreational use of the water body.

But why, you may ask, is any of this important to me and my students? I don't go P'ing in the rivers?! Well actually, we all do...maybe not directly with the liquid yellow stuff, but by way of the fertilisers we put on our lawns and gardens, bread fed to water birds, leakages from septic tanks, use of detergents (particularly when washing cars) and incorrect disposal of dog poo, soil, grass clippings and leaves! Phosphorus and Nitrogen are present in each of these and the nutrients they contain will dissolve easily into water and be carried over land via erosion and runoff, through soil by leaching to groundwater, through smaller creeks, streams and street drains, before ending up in our rivers. Intensive agricultural and industrial practices that supply us with the food we eat and products we use, also contribute to the nutrient load of waterbodies. So it is up to all of us to ensure that we reduce the amount of P in our rivers through the actions we take around our homes, schools, workplaces and in the community!

Phosphorus Awareness Project (PAP)



The Phosphorus Awareness Project (PAP) is an education campaign that educates the general community about the impact of too many nutrients in the Swan and Canning River systems and wetlands and advises on how to reduce those levels. PAP has been working with community, government, businesses and schools since 1998 to reduce the amount of nutrients entering our waterways. We do this by:

- Making the connections for people between their backyards, the stormwater drainage and groundwater systems, and waterbodies such as the Swan and Canning Rivers;
- Promoting appropriate fertiliser practices for the soils of the region through the Fertilise Wise campaign;
- Educating householders to use P-free detergents, particularly in unsewered areas of the catchment, and to consider the contribution of pet faeces and bread fed to water birds to nutrient loads in the catchment;
- Educating the community, schools, local government and industry to encourage them to decrease their nutrient outputs.

The PAP incursions and excursions offered to school and community groups are designed to fulfill many of these objectives. Check out the SERCUL/PAP School Charge Map (<http://www.sercul.org.au/wp-content/uploads/2018/12/SERCUL-PAPSchoolChargeMap.pdf>) to see if your school resides within the zone to receive one day of FREE incursions and then email PAP Project Coordinator, Natasha Bowden, at natashabowden@sercul.org.au to organise a suitable date.



Canning River Eco Education Centre

CREEC offers a number of K-Yr 12 programs which allows students to learn about the local natural environment in interactive ways.

Early Childhood

Bush Detective

Many of our native animals are very secretive and can be difficult to find. Students use puzzles and examples of animal evidence such as skulls, feathers and nests to investigate what lives in and around the Canning River Regional Park. Students apply their detective skills on a nature walk and record their observations by making a model of their own to take home.

\$7 per student (1.5 hours)

Middle Childhood

Weir-1 Science

The Kent Street Weir on the Canning River provides a unique location to compare two river ecosystems. Students have the opportunity to investigate the role of the Weir, how it has altered the river system and how plants and animals have adapted to changes in the physical environment.



\$7 per student (1.5 hrs)

Early Adolescence

Rivers at Risk

Students are introduced to natural and ecological hazards associated with river systems within an urban catchment such as drought, introduced species and eutrophication.



\$7 per student (1.5 hrs)

Contact CREEC on 9461 7160 or creec@canning.wa.gov.au to book your excursion now!

SERCUL

South East Regional Centre for Urban Landcare

ALGAE BUSTER



PHOSPHORUS
AWARENESS
PROJECT

The SERCUL Educators wish to thank our major sponsor.



Department of Biodiversity,
Conservation and Attractions



SERCUL is a proud member of:



SUSTAINABLE
SCHOOLS WA



AUSTRALIAN ASSOCIATION
FOR ENVIRONMENTAL EDUCATION
(VIA CHAPTER)

For further information please contact:

Natasha Bowden

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natashabowden@sercul.org.au

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1 Horley Road, Beckenham, WA

Important Dates – Term 1, 2019

4 February	First Day of Term 1
11 Feb	International Day of Women and Girls in Science https://womeninscienceday.org/
1 March	Schools Clean Up Day https://www.cleanup.org.au/your-school-clean-up-day
3 March	United Nations World Wildlife Day - Life Below Water http://www.undp.org/content/undp/en/home/news-centre/news/2018/focusing-on-marine-species-for-the-first-time--the-next-world-wi.html
	Clean Up Australia Day https://www.cleanupaustraliaday.org.au/
21 March	International Day of Forests http://www.un.org/en/events/forestsday/
22 March	World Water Day http://www.worldwaterday.org/
23 March	World Meteorological Day https://public.wmo.int/en/resources/world-meteorological-day
29 March	Earth Hour Schools Day https://www.earthhour.org.au/Get-Involved/schools
30 March	Earth Hour (8:30 - 9:30pm) https://www.earthhour.org.au/
5 April	Earth Day Expo http://www.aaeewa.org.au/events.html
12 April	Last Day of Term 1
22 April	Earth Day 2019 - Protect Our Species https://www.earthday.org/campaigns/endangered-species/earthday2019/



Earth Day Expo



Join the Canning River Eco Education Centre (CREEC) and the Australian Association for Environmental Education (AAEE WA) in celebrating this international event that is recognised by more than 150 countries worldwide.

The Earth Day Expo is a whole day excursion for Years 2 - 6 filled with fun, interactive education for sustainability activities presented by environmental organisations that are passionate about a sustainable future for our planet. Get more information at <http://www.aaeewa.org.au/events.html> and register your interest at creec@canning.wa.gov.au

When: Term 1 Week 9, 5th April 2019, 9:30am - 2:00pm

Cost: \$9 per student (inc GST)

Where: CREEC, cnr of Kent Street and Queens Park Road, Wilson

Rio Tinto Earth Assist

Rio Tinto Earth Assist (RTEA) is an environmental education and student volunteering program for primary and secondary school students, developed and delivered by Conservation Volunteers Australia in partnership with Rio Tinto, WA Department of Education and WA Department of Biodiversity, Conservation and Attractions.

It aims to reconnect young Australians to their natural surrounds, by immersing them in hands-on environmental education experiences. RTEA offers schools FREE curriculum based excursions, incursions and booklets and provides team leader guidance and supervision, transport to and from project sites, personal protective equipment, tools and equipment, and program management and insurance to enable students to easily step outside the classroom to enhance their schools natural environment or assist local conservation projects happening in their area. For more information, go to <https://conservationvolunteers.com.au/what-we-do/earth-assist/> or contact the Program Coordinator at info@earthassist.org.au.

Did You Know?



Earth Hour is a worldwide movement organised by the World Wide Fund for Nature (WWF) that started as a lights-off event in Sydney, Australia in 2007. It now involves more than 7,000 cities and towns across 187 countries and territories and is used to raise awareness about energy consumption and its effects on the environment. This year, Earth Hour is being held on Saturday 30th March from 8:30 - 9:30pm. Individuals, schools and businesses are encouraged to get involved. Earth Hour Schools Day is being held on Friday 29 March 2019. Teachers can download free, curriculum-aligned lessons to teach students about environmental sustainability or get their students involved with the Earth Hour Solar Lights Program. Students get to learn about renewable energy and assemble solar-powered lights that will be delivered to school children living in remote areas of Papua New Guinea. For more information go to <https://www.earthhour.org.au/Get-Involved/schools>.