

Welcome to Term 2

At the moment no one is really sure what schooling in Term 2, 2020 is going to look like? It is unlikely it will be business as usual even when children return to the classroom. If children continue to do their schooling from home, will teachers have the ability to teach fully online or will it be a mixture of online learning, Zoom or Webex meetings, and paper resources compiled and sent home?

These are questions and challenges facing not only teachers and parents, but organisations such as SERCUL and its Phosphorus Awareness Project (PAP) team of environmental educators. At PAP we normally focus on community and school based face-to-face teaching opportunities as a way of getting our environmental messages across. Already this year we have delivered 41 incursions to over 830 students and attended 8 community events where we interacted with over 700 people! At the moment it is no longer possible to deliver our programs in this way, so like everyone else we will be adapting how we operate until things get back to "normal" (whatever and whenever that will be)!

I have set up a YouTube channel (<https://www.youtube.com/channel/UCAhS10VvIZ9GBrAMJhw2mmQ>) where I have already posted some presentations and will continue to add more over the coming weeks. The presentations will be aimed at all ages from early learners through to adults. They won't be a replacement for the great hands-on, interactive activities we provide through our incursions and community events, but hopefully they - along with the resources we offer on our website (<https://www.sercul.org.au/publications/>) - will go some way towards helping you deliver environmental education in the meantime!

Regards,

Natasha Bowden
Phosphorus Awareness Project

SERCUL Educators Newsletter

If you would like to receive our newsletter sign up here
www.sercul.org.au/signup/



Bushfires, Pandemics...what else does 2020 have in store for us?!

This year is certainly one you will be talking about with your grandkids...however far grandkids may be in your future! The country was battered by bushfires at the beginning of the year and just as we were getting our heads around the economic, social and environmental effects of that, we heard whisperings of a strange new virus infecting people in other countries. COVID-19 is now a global health emergency and is having economic, social and environmental effects of its own.

While the social and economic effects have been devastating, it appears that the silver lining of this virus is that it has forced us to stop doing some of the activities that cause untold damage to our environment. Less cars on the roads, flights in the air and factories open means less air pollution. Whilst these gains may only be short-term, perhaps its a good time for us to consider how we can go about making changes to the way we live, work and play in "normal" times to have less of an impact on the environment. Is working from home a viable option? Are all of those trips in your car really necessary? Should some types of wild animals really be on the menu? Can you survive using less toilet paper?!

Climate change is a long-term issue. Humans have caused untold damage to our environment since the start of the Industrial Revolution and that is not going to be easily or quickly fixed. It is unrealistic to think that we can go back to living how we did before the 18th century, but we need to make changes to our 21st century way of life to ensure humans and the environment survives and thrives in the 22nd century! Maybe this time of social-isolation is the time to contemplate how we can do just that?

Below: New Dehli's India Gate War Memorial in Oct 2019 (left) and April 2020 (right)



Source: <https://www.theguardian.com/environment/2020/apr/11/positively-alpine-disbelief-air-pollution-falls-lockdown-coronavirus>

SERCUL's Phosphorus Awareness Project is on YouTube

SERCUL's Phosphorus Awareness Project (PAP) has created a YouTube channel (<https://www.youtube.com/channel/UCAhS10VvIZ9GBrAMJhw2mmQ>) so that you can access powerpoint presentations/videos on a range of environmental topics from anywhere with internet access!

Currently, there are videos relating to keeping our rivers and wetlands healthy, including the topics covered in our Algae Busters and River Food Web incursions, with different presentations for adults/high school students, upper primary school students (Years 4 - 6) and early years students (Kindy to Year 3). Over the coming weeks (and months) we aim to add presentations on a range of topics, including those we would usually deliver as part of our school incursions and community presentations.

So let me know at natashabowden@sercul.org.au what you would like to see made into a YouTube presentation and I'll see what my team and I can do!



SERCUL Schooling Resources

SERCUL has a lot to offer teachers and homeschoolers

SERCUL Free Resources

SERCUL has lots of FREE resources you can access online or from our office.

- **SERCUL PAP YouTube Channel**

SERCUL's PAP team have a new YouTube Channel that will have presentations about many of our incursion topics posted in the weeks and months to come. Check it out or subscribe at <https://www.youtube.com/channel/UCAhS1OVvIZ9GBrAMJhw2mmQ>.

- **Kits and Files**

SERCUL has a number of kits and files that schools and community groups can borrow including the Senior and Junior Frog Kits and Macroinvertebrate Kit. Go to <https://www.sercul.org.au/for-educators/kits-and-files/> for more information and contact Natasha (natashabowden@sercul.org.au) to arrange pickup.

- **Downloadable Resources**

SERCUL has downloadable resources on our website at <https://www.sercul.org.au/publications/>. Look under:

- **Phosphorus Awareness Project (PAP) School Resources** for worksheets and activities;

- **Phosphorus Awareness Project (PAP) Publications** for information about nutrients and algae;

- **Fertilise Wise Guides** for information about how to fertilise your lawn according to your soil type;

- **Grow Local Plants Guides** for information about growing plants suited to your soil type;

- **Bush Tucker Brochures and Factsheets** for information on bush tucker plants;

- **Perth Frog Information Sheets** for facts about frogs in the Perth region and establishing frog friendly habitats;

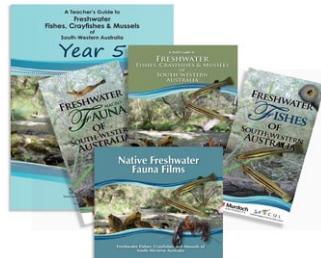
- **Freshwater Fauna Project Brochures** for posters and brochures on freshwater macro-fauna, mussels, fishes and turtles;

- **Canning River Birds Brochures** for information on the bush and water birds of the Canning River.

For more information contact Natasha
natashabowden@sercul.org.au
9458 5664

Freshwater Fauna Teacher Guides and Resources

Order Yours Today!



SERCUL has a number of education resources available relating to the freshwater fishes, crayfishes and mussels of South-Western Australia. These include the:

- Teacher's Guide to Freshwater Fishes, Crayfishes and Mussels of South-Western Australia, which has separate booklets for each year level from Years 1 - 10;
- A Field Guide to Freshwater Fishes, Crayfishes and Mussels of South-Western Australia; and the
- Native Freshwater Fauna Films DVD, all of which are

available for purchase individually (from \$5.50 incl GST) or as a package online at <http://www.sercul.org.au/for-educators/fteacherguide/>.

The Teacher's Resource was written to provide teachers with activities which link directly to the National Science Curriculum and have a local focus. The activities provided within each booklet are designed to suit the specific year level. Each booklet also contains teacher notes and student information pages with detailed information about the specific freshwater fauna species highlighted. For each of these species, the page where it can be found in the Field Guide and whether film footage is available to view is also included.

A number of brochures and posters relating to the freshwater macro-fauna, mussels, fishes and turtles of South-West Australia are also available for free from SERCUL or online at <http://www.sercul.org.au/our-projects/ffp/>.

These resources enable students to develop an understanding of the importance of our native fish and other fauna and the problems they face in our waterways.

Noongar Posters

SERCUL have a variety of Noongar posters available, including a set of six Noongar Symbols and Language posters and a Noongar Seasons poster that complements our Bush Tucker program.



The Noongar Symbol and Language A2 posters (left) are based on the themes of Tracks (Bidi), People (Noongar), Land (Boodjar), Tools (Boya & Boorn), Plants and Animals and the Sky (Worl). The Noongar Seasons A2 poster (right) showcases the six Noongar seasons (Birak, Bunuru, Djeran, Makuru, Djilba and Kambarang) and some of the local plant species used during those seasons. The posters costs \$5 inc GST each or \$26 for the set of six Symbol and Language Posters plus postage and can be ordered on our website at <https://www.sercul.org.au/noongarposters/>.



Get Your FREE Plants!!

Each year, SERCUL provides local native plants to schools as part of the Phosphorus Awareness Project (PAP) grant it receives from the Department of Biodiversity, Conservation and Attractions (DBCA). The PAP grant is used to educate the community about the environmental impacts of too many nutrients entering our waterways. One way we can reduce the amount of nutrients entering our waterways is to plant local native plants that are adapted to our soil's low nutrient levels and thus do not require the addition of large amounts of fertiliser. If your students are interested in creating a frog habitat, establishing a Bush Tucker Garden, adding native plants to the school garden or revegetating remnant vegetation on their school grounds or in local bushland, then register NOW at natashabowden@sercul.org.au to receive some native plants in May/June 2020.



Sustainability for Students

More online resources, competitions and giveaways available for teachers and homeschoolers

Earth Science WA

Earth Science WA has responded to the COVID-19 crisis through increased use of technology and remote ways of working. Until further notice, they will not be delivering their programs face-to-face, but will instead offer:

- Incursions (and teacher professional development) for schools through Microsoft Teams. For schools in the metropolitan area, ESWA's dedicated staff will deliver cleaned equipment to the school's front office and then work with your class/es via Microsoft Teams to deliver the incursion remotely. Priority will be given to schools with existing bookings. For schools unable to access the materials for hands-on incursions, modified (shorter) online incursions (and teacher professional development) can be delivered through Microsoft Teams. Contact info@earthsciencewa.com.au to arrange an incursion.

- A new AusEarthEd blog (<https://auseartheed.blogspot.com/>). On the blog you'll find lesson ideas, background information and links to videos demonstrating hands-on activities to try at home (all featured on their new [YouTube channel](#)). They also have at [home learning plans](#) with links to their WASP resources.

They are adding new content frequently so remember to sign up for blog updates using the subscribe button under the homepage banner or follow them on their social media channels (Facebook - @earthsciencewa and Twitter @EarthScienceWA) for updates!

Switch Your Thinking Young Re-Inventor of the Year

Imagine the future of food... Less waste. Less packaging. Less environmental damage. Find a solution and you could share in \$2000 worth of prizes!



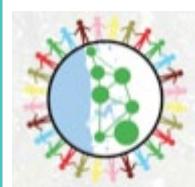
Switch your thinking's Young Re-inventor of the Year competition has launched online, challenging young people to create future food. The competition is looking for inventions and creations made from recycled materials that reduce the environmental impact of food. Get creative and invent a new recipe using scraps or leftovers, make an upcycled worm farm, grow a food garden with homemade compost or create an ingenious way of storing food.

Make sure to register at www.switchyourthinking.com, then take a couple of pictures of your invention and enter online. Switch your thinking is a local government sustainability initiative founded by the Cities of Gosnells and Armadale and Shire of Serpentine Jarrahdale, but anyone in Perth can enter the Young Re-Inventer of the Year Competition. For more information, visit the [Switch your thinking](#) website.

The City of Rockingham's Castaways Sculpture Awards is Rockingham's signature arts and culture event, celebrating artistic innovation and environmental awareness. The outdoor sculptural exhibition showcases sculptural artworks from Western Australian artists created from recycled and repurposed materials at the newly revitalised Rockingham Foreshore. Both primary and secondary schools have the opportunity to design and create a sculpture from recycled or repurposed materials for public exhibition alongside emerging and professional artists. Entries open Tuesday 2 June and close Friday 14 August 2020. To enter go to <https://rockingham.wa.gov.au/events-culture-and-tourism/competitions/castaways-sculpture-awards>.

Backyard Biodiversity Blitz

Nature Link Perth is a 'community of practice' of diverse stakeholders, working together to integrate nature into our city, to conserve and enhance our internationally-recognised biodiversity and provide a healthy, liveable city benefiting the economy, the environment and people.



In light of COVID-19, Nature Link Perth has developed **Backyard Biodiversity Blitz** (<http://www.naturelinkperth.org/1370-2/>), a website designed to help kids, adults and families connect with nature, whether in their backyard or local bushland. This website provides a wealth of things to engage and inspire you and help you collect some critical information through "citizen science" to sustain the native plants and animals that share our city.

Backyard Biodiversity Blitz is supported by a team of nature-based experts and organisations collaborating to bring you quality on-line material while you're in self-isolation at home. So turn off the news, click on the [link](#), immerse yourself in nature and have some 'me' time!

Jane Goodall Roots & Shoots Giveaway

The Jane Goodall Institute of Australia has created the Roots & Shoots Resource Box for Schools. It is a FREE curriculum linked and action based program that aims to engage and educate students and the community about our wildlife and natural



environment. The goal is to promote optimism about our future by encouraging young people to become environmental champions! The Resource Box is designed for use by teachers and students in primary schools to learn life-long lessons and is full of fabulous resources, including an:

- Amazing Australia Wildlife book;
- Local Safari book;
- Incredible Earth book;
- Information about the WOODiWILD project; and a
- A Teachers Guide on how to get involved.

This offer is limited to the first 4000 schools to register (one box per school). Boxes will be delivered to schools in term 3. Register NOW at <https://rootsandshoots.org.au/resourcebox/>.



Castaways School Competition



Important Dates

Term 2, 2020



29 February	First Day of Term 2
3 - 9 May	International Composting Awareness Week https://www.compostweek.com.au/
9 May	World Migratory Bird Day http://www.worldmigratorybirdday.org/
18 - 24 May	National Volunteer Week https://www.volunteeringaustralia.org/update-on-national-volunteer-week-2020/#/
22 May	International Day of Biodiversity https://www.cbd.int/idb/2020
23 May	World Turtle Day https://www.worldturtleday.org/
5 June	World Environment Day https://www.worldenvironmentday.global/
8 June	World Oceans Day https://worldoceansday.org/
15 June	Global Wind Day https://globalwindday.org/
17 June	World Day to Combat Desertification and Drought https://www.un.org/en/events/desertificationday/
3 July	Last Day of Term 2

Did You Know...

The term "blue carbon sink" describes ocean and coastal ecosystems, which can include seagrasses, mangroves and salt tidal marshes, that absorb more carbon than they release, thereby lowering the concentration of CO₂ from the atmosphere and helping to reduce the Greenhouse Effect. In Perth, the ocean is a blue carbon sink but we also have another often overlooked blue carbon sink in salt marshes. Salt marshes are important intertidal wetlands, frequently or sometimes flooded and drained by salt water brought in by



Salt Marshes are Blue Carbon Sinks

How do Salt Marshes act as Carbon Sinks?

Plants take in CO₂ from the atmosphere through photosynthesis during the day. Plants lose some CO₂ to the atmosphere through respiration at night. The carbon not lost through respiration is turned into sugars that become the leaves, stems and roots of the plant. The intermittent tides that occur in Salt Marshes result in saline, oxygen-poor soils, which slow the decomposition of dead halophyte plant material. Carbon from the decomposed plant is then stored in the soil where it can remain for thousands of years!

tidal movements. The salt marsh ecological community is inhabited by a wide range of specialized plants and animals. The vegetation is halophytic (salt tolerant)

and has adapted to the harsh conditions such as changing salinity and low levels of oxygen in the soil and includes succulents (such as the Samphire pictured in the above right corner), sedges, grasses and algae. Plants play a crucial role in the stability of the salt marsh as they trap and bind sediments. They also have a significant influence on the aquatic food web, supporting estuarine food chains and regulating nutrients to coastal water bodies. Salt marshes have the ability to capture and store large amounts of carbon in their plants and sediments. They are considered the *highest carbon sequesters of all known vegetation* and can store carbon for thousands of years! Canning River Regional Park (CRRP) contains some of the few remaining areas of estuarine salt marsh vegetation in the Swan-Canning River system, with estuarine salt marsh habitats recognised nationally since 2013 as a Threatened Ecological Community. We need to protect our salt marshes for the important ecological communities they contain and their ability to help prevent climate change!



Adenia Lagoon, CRRP

For further information contact:

Natasha Bowden
Education and Promotion Manager
natashabowden@sercul.org.au

P| 9458 5664
W| www.sercul.org.au

1 Horley Road, Beckenham, WA

SERCUL is a proud member of:



SERCUL's PAP program is funded by:

