



STUDENTS GATHER TO HELP THE RIVER

Over recent months, well over seventy enthusiastic students from Curtin University and The University of Western Australia have contributed hours of their spare time to river-care.

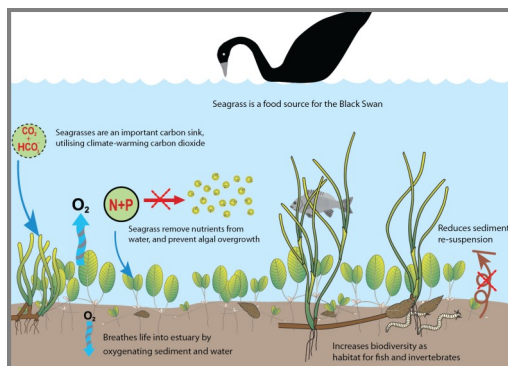
Hundreds of seedlings have been planted in three important locations along the Swan River Estuary foreshore to strengthen the resilience of the unique flora and fauna of the River's riparian zone.



Students caring for the River (Photographs courtesy M Matassa and Z Mitchell)

Riparian vegetation contributes to the health of the River in many ways, including through bio-filtration. This process prevents sediments, contaminants (heavy metals, pesticides etc) and nutrients from entering the River, which in turn prevents turbidity and toxic events that result in algal blooms and fish deaths.

ESTUARY SEAGRASSES & RIVER HEALTH



Seagrasses are some of the most productive organisms in the world, with productivity rates that can be twice that of forests.

As this diagram from the publication *Monitoring seagrass extent and distribution in the Swan-Canning estuary* summarises, they play a role in maintaining oxygen levels at the sediment/water interface, support diverse and productive faunal assemblages, and are an important food source for animals, including the iconic black swan.

Unfortunately, seagrass habitat in the Swan-Canning estuary appears to have diminished by almost one-third since the early 1980s, when the total area estimated in the estuary was nearly 600 ha.

The WaterScience Branch (Department of Water) and Swan River Trust are currently exploring local seagrasses as indicators of general Estuary health, carefully implementing a monitoring program over a number of years. This research will be the focus of a presentation by one of the team at our forthcoming Annual General Meeting, to be held on the evening of Thursday 13th October.



This year, World Rivers Day takes place on September 25th. An annual global celebration of the world's waterways, the Day highlights the many values of rivers, alerts communities to the increasing threats to river health, and encourages our active involvement in improved stewardship.

SERAG will acknowledge World Rivers Day by supporting a challenging 'Bush to Beach Walk' being organized by the *Friends of Shenton Bushland*. The walk will meander along pathways bordering the beautiful Swan River Estuary.

WORK MATES JOIN IN

Earlier in the planting season, one of our wonderful supporters arranged for a number of his work mates to assist SERAG volunteers and DPaW staff at a *Saturday Morning at the Cove* event.

The morning's task was to re-vegetate a barren and difficult area of Alfred Cove A-Class Nature Reserve where previous efforts had met with limited success.

Without canopy vegetation, the site is exposed to the extremes of direct sun and wind and the soil is very poor and water resistant, being the spoil from past river dredging.

Using the site as a trial plot, volunteers took great care to ensure the seedlings were given the best possible start, and with good follow-up rains and regular weeding we are hopeful of positive results in the longer term.



Some of the volunteers hard at work
(Photograph courtesy M Matassa)

CATCHING THE SUN



One of the many pleasures of early morning strolls along bushland pathways after light rain- or dew-fall is contemplating the delicate and masterful intricacies of spider-webs.

This jewel-like construction (left) was among dozens discovered on one such occasion, adorning the sedge-banks of Pelican Point.

Fossil records indicate that spider-webs have existed for at least 100 million years. They enable an efficient method of gathering food, allowing a spider to catch prey without having to expend energy running it down.

However, constructing the web is in itself an energy-costly process, because of the large amount of protein required in the form of silk.

Dew-laden web (Photograph courtesy J Leahy-Kane)

TOUR OF BUSH FOREVER SITE 402

SERAG recently hosted a tour of Bush Forever Site 402 for members and friends of the Urban Bushland Council.

Bush Forever is the strategic plan for the conservation of bushland on the Swan Coastal Plain. Aiming to secure long-term protection of biodiversity and associated environmental values, Bush Forever policy recognises the protection and management of significant bushland areas as a fundamental consideration in planning processes.

The Plan was adopted in December 2000, providing for a comprehensive, adequate and representative reserve system to protect a minimum (where possible) of 10% of each of the twenty-six vegetation complexes of the Swan Coastal Plain portion of the Perth Metropolitan Region. At this stage, regrettably, its implementation is incomplete.

The principal management objective for Bush Forever Sites is for the conservation of flora and fauna; however, in protecting these values, protection is also given to the areas' geology, soils, landform, hydrology, Aboriginal and European cultural values (Government of Western Australia, 2000).

Bush Forever Site 402 includes part of Matilda Bay Reserve, Pelican Point Marine Park and JH Abrahams Reserve in Crawley.

It protects some of the last $\leq 1\%$ of the *Vasse* vegetation complex remaining in the Region, including a federally listed threatened coastal saltmarsh community.

As well, it provides important habitat for a host of significant species of fauna.



Visitors at Bush Forever Site 402
(Photograph courtesy M Owen)

‘FLYING FOR YOUR LIFE’

Every year, millions of birds make a monumental journey between their breeding grounds in Arctic tundra and their wintering grounds in Australasia. Shockingly, however, shorebird populations are plummeting disastrously, so in a co-operative Radio National/BBC World Service production called *Flying for Your Life*, Ann Jones endeavoured to find out why.

This excellent four-part series was aired recently on Radio National’s weekly program *Off Track*. It explained:

The populations of the eastern curlew and the curlew sandpiper have declined by more than 80 per cent in the last 50 years, and seven of Australia’s 37 migratory wader species are edging towards extinction.

Shorebirds are not seabirds, they are waders—without webbed feet, they only go into the water as long as they can touch the bottom. So they survive in a place in between the sea and the land: the area revealed each day between high and low tide.

This type of habitat exists all along the East Asian-Australian Flyway, the migratory shorebird highway that 8 million birds use to travel from Australia to the Arctic Circle. It takes in 22 countries, from Bangladesh and Myanmar in the west; to Australia and New Zealand in the south; and Russia, Alaska and Korea in the north.

And all along this route, intertidal zones are under threat. The flyway is on the brink of collapse.

The full program can be accessed by opening this hyperlink:

<http://www.abc.net.au/news/2016-06-17/flying-for-your-life-ann-jones/7459288>



Migratory waders at Pelican Point
(Photograph courtesy T Graham-Taylor)

SCHOOLS’ TREE DAY

Students from Santa Maria College celebrated Schools’ Tree Day on the Swan River foreshore, just a short distance from their classrooms.

Appreciating the natural beauty of the Swan River and keen to understand the value of re-vegetating areas that are at risk of being lost, especially in their local area, the ‘Eco-Sisters’ joined City of Melville staff and SERAG and other local volunteers to plant a variety of native species in an area destroyed by vandalism last year.

OH OHH! ~ WE’VE BEEN SPRUNG!

This photograph is of an Australian Raven (*Corvus coronoides*), a very intelligent resident of Alfred Cove A-Class Nature Reserve.

Captured on one of our fauna-monitoring cameras, by now it is sure to have spread the word that we are on the look-out!

The cameras are installed for various lengths of time at various ‘hidden’ locations throughout the Reserve, to collect both day and night data on native fauna using Reserve.

The Australian Raven’s preferred habitats are open woodlands and transitional zones. However, being an opportunistic and omnivorous feeder, it has adapted well to urban areas where food waste is prevalent. Hence, in recent years its populations have increased greatly in built-up locations where litter is prevalent.



An Australian Raven spies our ‘hidden’ camera!

TACKLING *FUMARIA* AND OTHER WINTER WEEDS

Keeping up with hand-weeding has been very challenging over recent months, with good rains resulting in bumper crops of seasonal weeds for our various teams of volunteers to tackle. Fortunately, we received some generous help from Conservation Volunteers Australia, which eased the work-load significantly.



Tremendous Tuesday volunteers at work & *Fumaria capreolata*
(Photographs courtesy M Matassa & FloraBase)

Among the principal weeds targeted has been *Fumaria capreolata*.

Native to Europe, western Asia and northern Africa and commonly known as 'Climbing Fumitory', it is regarded as an environmental weed in South Australia, Victoria and Western Australia. Unlike the other fumitory species in Australia, which are primarily weeds of crops and agricultural areas, this species is mainly a weed of creek-banks and riparian areas, urban bushland, coastal sites and disturbed sites.

Fumaria capreolata prefers partially shady, wetter habitats where it can form a dense ground cover. With stems to one metre long it can climb over lower-growing vegetation, smothering it, while its strongly persistent soil seed bank makes it difficult to eradicate.

PLANTING AT MILYU

On a 'brisk' winter morning, after a weekend of soaking rains, fifteen hardy SERAG volunteers joined DPaW staff at Milyu A-Class Nature Reserve to replace recently-removed date palms with a diversity of local native dry-land seedlings.

Then late in August, students from Curtin University came to assist us in planting hundreds of sedges, to support erosion-mitigation at the site.

Adjacent to the Kwinana Freeway and between pedestrian overpasses, Milyu is a rather difficult place to access, requiring a reasonably long walk and equipment to be wheel-barrowed in along a busy dual-use pathway.



At Milyu (Photograph courtesy C O'Neill)

A quick litter clean-up of the Reserve - always a productive exercise at that exposed site - was included on both occasions, with many bags of rubbish removed.



FOR YOUR SEPTEMBER CALENDAR

- TREEmendous Tuesdays: Alfred Cove 7.00am - 9.00am
- 03 (Sat) UWA@PP / Bushcare's Major Day Out 9.00am - 11.00am
- 05 (Mon) Bushcare Alfred Cove 8.45am - 2.30pm
- 07 (Wed) National Threatened Species Day Bushcare Alfred Cove 8.45am - 2.30pm
- 10 (Sat) Curtin Weekend Pelican Point 9.00am - 2.00pm
- 12 Monthly Monday at Milyu 8.30am - 10.30am
- 14 (Wed) Earth Assist After-School Activity
- 24 Saturday Morning at the Cove 8.30 am - 10.30am
- 25 (Sun) World Rivers Day Bush to Beach Walk

Please register your interest if you would like to participate in any event.

AGM! Members and friends are warmly invited to our **Annual General Meeting**, to be held on **Thursday 13th October**. It will start at **6.00pm** and finish at **8.00pm**, after light refreshments.



Swan Estuary Reserves Action Group Inc.

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