

.... about the Estuary



Swan Estuary Reserves Action Group Inc.

VOLUME 14, ISSUE 2
Birak – Bunuru 2023/24

We acknowledge the Whadjuk Noongar People as the Traditional Owners of the Derbal Yerrigan and surrounding country in which we are privileged to work. We pay our respects to their Elders who have handed down and continue to hand down their deep connection to country to future generations.

Djinang Djidimya ~ Look, the home of many birds!

These beautiful seats were recently installed by the City of Melville, overlooking the foreshore and Derbarl Yerrigan at Attadale. They are a wonderful work of art in themselves, as well as inviting us all to sit and enjoy the birdsong and the sparkling waters of the Estuary.



The artist, Carol Stevens of Artforms, based the designs on the Rainbow Bee-eater and the Australasian Shelduck which grace this area and breed there in season, whilst partner Albert De Boer brought the designs to fruition.

The seats complement the ongoing revegetation of the foreshore in which SERAG has been actively involved for fourteen years, allowing a myriad of birdlife to hold on in this urban setting as well as enhancing the water quality of the Marine Park and its fauna.

SERAG's founding Chairperson, Cathie O'Neill, would be delighted that such a lovely addition to the foreshore will soon become surrounded by native vegetation and even more birdlife in the next year or so, as the Attadale Alfred Cove Foreshore Master Plan continues to be implemented by the City of Melville.

It is also timely that this seating artwork coincides with the approval by Council of the Melville Bird Sanctuary, and who knows but that maybe the City might support more of these beautiful seats being installed in other nooks of the Sanctuary as the revegetation continues.

Article and Photograph - M Matassa

Season of Birak-Bunuru - December - March (1st and 2nd Summer)

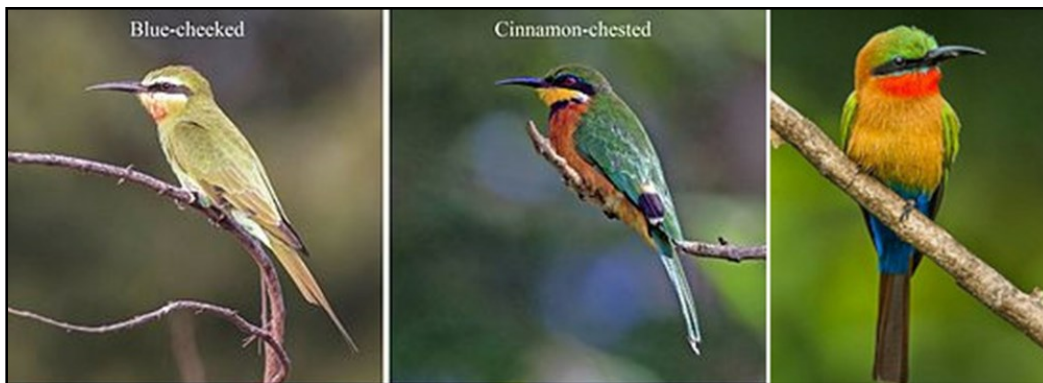
This Noongar Season is represented by the colour red/orange. It symbolises the season of the young and adolescence.

Spring Colour in the Air, the Arrival of Rainbow Bee-eaters

August to November is the Noongar season of Kambarang - the season of birth and the emergence of colourful wildflowers across Western Australia. A fitting time then for the Birin-Birin, or Rainbow Bee-eater, to arrive each year in Perth for breeding and nesting.

Rainbow Bee-eaters are most well known and admired for their bright, colourful plumage, with shades of blue, green, yellow, orange and black. Males and females are similarly coloured, though can be distinguished by their tail streamer – in females it is shorter and thicker. The juvenile birds are more green, and lack the black band on their neck.

Merops ornatus (their scientific name) are also found In Eastern Indonesia, Papua New Guinea and throughout Australia (except Tasmania) but more sparsely in desert areas. The Rainbow Bee-eaters we see in Perth have travelled from the Kimberley region of WA and from Indonesia, where they spend the winter. Indeed all the populations which breed across southern Australia have migrated from northern tropical areas. Those birds which reside year round in the tropics still often travel short distances to breed from open, dryer areas, to areas close to water.



The attraction of living close to water is not just for the views. Permanent water enables greater numbers of larger insects, due to denser vegetation and a place to breed, such as with dragonflies, damselflies and wasps. Insects such as these are most common during late spring and summer when the Bee-eaters need to feed their chicks, as are their other prey such as moths, butterflies and grasshoppers. In addition to catching prey in the air Bee-eaters also forage on the ground, on foliage, and in shallow water, catching food such as earthworms, beetles, ants, spiders and tadpoles.



But what about eating bees? With such a varied diet, how did they get their name? One of Birin-Birin's distant relatives is a northern hemisphere bird, whose bright colours and preference for eating bees caused it to be mentioned in Greek and Hindu mythology, and by Ancient Egyptians. In fact Aristotle's love of honey led him to recommend killing the birds, which became known as Bee-eaters. Then in 1815 Frenchman Constantine Samuel Rafinesque-Schmaltz created the taxonomic family Meropidae for Bee-eaters and similar birds. The Rainbow Bee-eater is so named for its relationship to this family. Bee-eaters have a technique for removing the sting from bees and wasps by rubbing it against a branch. Birds in Meropidae can be found throughout Sub Saharan Africa and in a broad band stretching from Southern Europe, through the Middle East and South East Asia to Australia. They all look much like our friend Birin-Birin, but with different coloured plumage.

Like many insectivorous species, Rainbow Bee-eaters have a wide range of habitats. While their most common habitat is open forests close to permanent water, it is also possible to find them in shrublands, grasslands, floodplains, wetlands, arid areas, sand dune systems and areas cleared by humans, such as farmland and urban areas. SERAG members will be familiar with Birin-Birin nesting along the Alfred Cove - Attadale foreshore and in other areas of Melville Bird Sanctuary, such as Blackwall Reach and Point Walter. The author has even observed a pair nesting successfully on a grass bank next to the busy pick up/drop off area of Santa Maria College.



Nest burrow - Photograph - J R McPherson

The nesting habits of Rainbow Bee-eaters are distinct from most other Australian birds, but are common amongst its Meropidae family. Bee-eaters dig a long tunnel into the ground with a small nesting chamber at the end. The tunnels average 90cm deep and are as narrow as the bird, such that the movement of the parents along the tunnel acts as a siphon, pushing fresh air in and stale air out. For an excellent *YouTube* video showing nesting and feeding behaviour, search "*Rainbow Bee-eater nest colony by Nature Diary*".

After laying 4 to 5 eggs on average, the young emerge from the nest after about 2 months. Data from Queensland found only 1 to 2 young will survive from this clutch size. This low survival rate is attributed to a range of threats to eggs and young including heavy rain, malnutrition, desertion by adults, destruction by livestock, and predation by foxes, cats, dingoes, cane toads, reptiles, raptors, magpies and small marsupials.

Friends of Lake Gwelup have observed a decline in nesting Bee-eaters over the last 5 years, theorising it may be due to a lack of food, as well as cats, foxes and dogs off the leash. Alternatively, studies in other parts of Australia suggest that geographic distributions of Bee-eaters change over time, while the overall population size remains the same. Whether this is the case in Perth is unclear.



Juvenile Bee-eater

Photograph - L Hartmann

SERAG's monthly bird count at Alfred Cove has recorded Rainbow Bee-eaters in seven surveys over the last 5 years as well as many incidental observations whilst working in the area. There has been no significant pattern of population increase or decrease. However members have observed flocks of them at both Alfred Cove and Pelican Point after significant summer rain led to an explosion in insect numbers. We look forward to continue seeing these wonderful birds whose flash of colour always brings excitement to onlookers.

Sources:

https://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=670

<https://birdlife.org.au/bird-profiles/rainbow-bee-eater/>

<https://en.wikipedia.org/wiki/Bee-eater>

https://en.wikipedia.org/wiki/Rainbow_bee-eater

Friends of Lake Gwelup, Facebook post 16 October 2023

Article - P Seebeck

Other photographs - Wikipedia

World Migratory Bird Day 2, 2023

This year, SERAG celebrated World Migratory Bird Day (WMBD) on Saturday October 14th, by running a collaborative event with the Friends of Melville Bird Sanctuary (FoMBS) on the Attadale foreshore, adjacent to the Swan Estuary Marine Park. With this year's WMBD slogan being "Water: Sustaining Bird Life", the venue was very appropriate.

During the week leading up to the 14th October FoMBS had put out signs along Burke Drive, with the message '*They're on Their Way*', designed to pique the interest of the passing public. The evening before, the signs changed to '*They're Here!!*', indicating the way to the site of the event.

Visitors were first greeted by our "flock", which consists of around 100 life size cut-outs of the migratory shorebirds that visit our shores and these led on to our gazebo, with educational posters, photographs and information about the birds.

SERAG and FoMBS had a good supply of binoculars plus two 'scopes', so that visitors were able to see the visiting migratory shorebirds and locals in wonderful detail.

During the morning, we saw two Grey Plovers, a Common Greenshank and a Black-tailed Godwit. It was so exciting to see these early arrivals.

Margaret Matassa led a bird walk for about 15 people and they saw many resident shorebirds, including Fairy Terns, 3 species of Cormorants and Pelicans along with Red Tailed and Carnaby's Cockatoos.



It was estimated that we had around 70 visitors to our display during the course of the morning and we were extremely happy with that outcome. It was great to be able to impart knowledge about these amazing birds to more people.

Many thanks to Jenny and Tom from FoMBS for their great signage, tremendous input and support.



AGM Report

SERAG's AGM was held on 18 October 2023 and it was encouraging to see the usual high turnout of members.

The guest speaker was Dr Cosgrove who is an Environmental Officer in DBCA's Rivers and Estuaries Science Program. Dr Cosgrove spoke on "Seagrasses in Alfred Cove and the Swan Estuary Marine Park – what they tell us about its health" – a topic particularly relevant to SERAG which is doing its best to maintain the health of the estuary through its planting and advocacy programs. Some of the key points from Dr Cosgrove's address are set out below.

The water in the Swan and Canning Rivers is monitored on a weekly basis. In the Swan River the main aspects which are monitored are:

- the water quality
- the sediment quality
- the seagrasses.

Overall, the water quality, involving measurement of nitrogen and phosphorus levels, is good in the SEMP. There are certain events which impact on the water quality in different years (e.g. the flooding in the middle and upper Swan in 2017).

Testing at various sites has shown low contamination levels in the sediment. At Lucky Bay in Alfred Cove there were higher levels of zinc and arsenic probably due to the test location in the river being near to the old rubbish tip site.

Physical and chemical data is collected weekly in relation to seagrasses. Seagrasses are sensitive to changes in the water and sediment quality. Overall, the health of the seagrasses in the SEMP is good. The qualification on that concerns the seagrasses in Lucky Bay which did not perform well in the period between 2015 and 2017 – there were no flowers or fruit. The rhizomes are fragile and Lucky Bay is particularly affected by temperature changes due to the shallowness of the water.



Halophila ovalis

In response to questions on the impact of people fishing in the SEMP at key seagrass locations, Dr Cosgrove said that there was no data on the issue. He said that the SEMP Management Plan was now well out of date and it would be preferable for no fishing zones to be included as part of a review of the Management Plan.

The usual AGM formalities ensued and the following members were elected to the Committee:

Chairperson	Margaret Matassa
Deputy Chairperson	Geoff Webster
Treasurer	Nicole Elischer
Secretary	Alison Bullock
General Committee members	Julie Ginbey
	Michael Paterson
	Robert Harvey
	Kim Robinson
	Rosemary Peek



It is heartening to have Alison and Kim as new members of the Committee. New Committee members help to ensure reinvigoration of the Committee through new ideas. A huge thank you to Yvonne Fong for her work on the Committee over the last year – we are glad that Yvonne’s involvement will continue through her role in organising SERAG’s social media posts.

We are also pleased to advise that, in response to our request at the AGM for members with skills that could benefit SERAG to indicate if they would be willing to serve on the Committee, Tim Graham-Taylor did just that! As not all the Committee positions had been filled at the AGM, Tim has been appointed to fill one of the vacancies. Tim brings a wealth of experience having been a long-term volunteer at Pelican Point as well as an outstanding photographer and that doesn’t include his engineering skills! Thanks and welcome to the Committee Tim.

Thank you!

A special thank you to those who made some wonderful donations at and immediately after the AGM. We will certainly make sure those funds are put to good use.

Article - R Peek

Photograph - www.habitatnews.nus.ed.sg

The interesting lives of our Volunteers

I am Kautilya Srivastava. I am originally from Madhya Pradesh in central India. I completed my Bachelors degree in Biotechnology at Vellore Institute of Technology which is in southern India. I chose Biotechnology because it showed the potential to solve world problems like environmental issues and hunger. I have been fascinated with science and I thought this would be a good opportunity to contribute to it and do my part in making the world more sustainable.

I came to Perth for my Masters degree in Biotechnology (specialization in Environmental and Agricultural Biotechnology) at UWA. After graduating in January, 2023, I now am a PhD student at UWA and CSIRO. I am working on '*Plastics in aquatic ecosystems of Perth and their microbial biodegradation*'.



My plan is to analyse the plastic problem in Perth by doing some qualitative and quantitative research of plastic in various aquatic ecosystems like estuaries, coastal regions, wetlands and nearby islands. Further I will be looking at the microbial communities in high and low plastic concentration regions. Then I will be looking at various microbial communities and determine their plastic degradation potential. This research will help understand what happens to the plastic once it enters the natural environment. It will help us understand the potential impact of plastics in our environment. Although the sites for my project haven't been finalised, they may overlap with areas where SERAG works.

Article - K Srivastava Photographs - R Peek

Mud Flats, Foreshores and our Swan River Estuary

Congratulations in Order to Residents of Melville City

Ask any Perth dweller and even any Perth visitor what they love most about our city, and the answer comes without hesitation – our beautiful river. It is our sense of place.

Who doesn't smile when they reach Canning Bridge and see the pelicans sitting atop the light fixtures, or glimpse a pair of dolphins hunting fish in Alfred Cove or cruising along beside the freeway?

Yet it hasn't always been so these past years!

Indeed, our beautiful Swan River Estuary has only recently been able to justify its name again, since the swans have begun returning in numbers since the early 2000's.

And Melville residents can take a lot of credit for this!

Why? Because in the first place, they accepted a low fence being erected along the Attadale & Alfred Cove foreshore which is allowing the foreshore vegetation to recover and is protecting the adjacent river flats from roaming dogs and the trampling effects of water sports and human activity in this most critical part of the Swan River Estuary.

On these river mudflats grows the amazing seagrass paddle weed – *Halophila ovalis*. Unseen to us, it is capturing CO2 from the atmosphere, converting it to oxygen, and pumping it into the waters of the Swan, into the air above us and into the mudflats below, at 30 – 40 times greater efficiency than rainforest, literally breathing life back into our River Estuary!

Melville waters have the largest remaining seagrass meadows of the whole of the lower Swan River Estuary, and it is these seagrasses that also nurture the swans and ducks, provide a nursery for the fish and crustaceans, and at the top of the chain, ensure enough fish for the dolphins, pelicans, cormorants and of course the ospreys.

Then at low tide in summer, the river flats are a welcome sight for the incredible migratory birds that arrive here after their 12,000 kilometre migration from the lower Arctic every year. How vital it is that they find enough food in healthy mudflats to recover their strength and body weight, and that there is an undisturbed place to rest by day and safe roosts among the samphire and sedges at night.

The swarms of small fish in the shallows are also vital food for the colony of Fairy Terns that successfully nested this year on the Point Walter Spit Island – Dr Claire Greenwell counted 120 to 130 pairs on the Point, so their uninterrupted access to the shallows of the Marine Park are vital to their breeding success.

For all these reasons, the Perth community legislated in the 80's that these shallows be recognized as the Swan Estuary Marine Park and their adjacent foreshores as A-Class Nature Reserves.

Godwits and a Greenshank probe for food in the shallows.



And now Melville residents are again coming to the rescue of our Swan River Estuary when they recently expressed their wish to see the widening of the foreshore buffer of native vegetation on these critical foreshores including the planting of trees for shelter and shade along these buffers, during a consultation process for the Attadale Alfred Cove Foreshore Master Plan held by the City of Melville.

The expanded buffer will counteract the erosive effects of the slowly rising water levels by allowing fall-back along a naturally vegetated shoreline, hence ensuring the continued protection of the health of the seagrass and mudflats. The native understory and trees can also help reverse the slow loss of our river creatures and birds that we so love, and protect Melville residents from the misery of smelly algal-bloom filled summers, as well as protecting homes from inundation by lowering the water table.

An added bonus to this is the bountiful bird life that we all enjoy and that has now been recognized by the declaration of the Melville Bird Sanctuary

These vital foreshore protections are not necessarily required of other municipalities around the Swan Estuary, yet they serve everyone in protecting the health of the river and its creatures that we all love.

Melville residents – You Are To Be Congratulated!!

Article - M Matassa

Photograph - T Graham-Taylor

UWA Student Volunteers at Pelican Point

This year has seen ongoing interest from UWA volunteers to engage with bush care activities at Pelican Point, as well as a swelling of numbers of new SERAG volunteers. This has meant a big plus for the environment as the planting and weeding activities have resulted in the extension of bushland in Bush Forever Site 420 and the Saltmarsh community on Pelican Point, as well as maintaining those areas planted in previous years.

The students have enjoyed seeing their plantings flourish and in learning how valuable weeding is to the improvement of the native vegetation. In one case Pink Fairy Orchids (*Caledonia latifolia*) have appeared after the careful weeding of last year's plantings and self-sown Berry Saltbush plants (*Rhagodia baccata*) have appeared where birds have dropped the seeds onto cleared ground.



Out on the Point itself, the sedges have established well and now it is a matter of watering them all in for their first long, hot summer.

We are grateful to Student Volunteer Leader, Warin Chotirosniramit for his dedication and his friendly yet professional management of the students coming each week, and to the UWA Guild Volunteer Hub for their ongoing support.

Article - M Matassa

Photograph - W Chotirosniramit

Attadale Alfred Cove Foreshore Master Plan

In October, SERAG was invited by the City of Melville to make a submission on the draft Atwell Precinct Layout Plan. The main points made in our submission were aimed at ensuring that, whilst making the path at the back of the Atwell Precinct and in front of the Melville Bowling Club safer for pedestrians and cyclists, the realignment of the shared path and the construction work that would entail, was done with minimal impact on the environment. The foreshore area is within the Swan Estuary Marine Park and has a high environmental value due to:

- the most extensive seagrass meadows in the lower Swan estuary;
- subtropical and temperate coastal saltmarsh communities protected by federal legislation and classified as vulnerable;
- trans-equatorial and other migratory bird species feeding in the shallows and resting along the shoreline over summer.

We continue to advocate for Crown Land Lot 9789, an area of land between the river and the Melville Bowling Club boundary and on up to Ness Rd, to be brought within the A-Class Nature Reserve, with the re-alignment of the path routed along the southern edge of the Crown Land as closely as possible. Members will recall that this was the crucial piece of land that prevented the construction of the wave park.

Article - R Peek

The SERAG ute now has a companion!

Thanks to a grant from *Lotterywest*, SERAG was able to purchase a trailer to take on site to its many volunteering events throughout the year. From feedback we have received, the trailer has certainly made a difference as it means we can keep all those items which are used on a regular basis in the trailer, saving time packing and unpacking the ute after each session.

The trailer has been fitted out to meet our needs by several of our very handy volunteers.

SERAG is grateful to all those volunteers who have contributed to this project:

- Tony Symes for his initial advice on the essential requirements for the trailer;
- Kim Robinson and Trevor Richards for keeping the construction of the trailer on track and then fitting it out, which no doubt involved a few trips to a particular hardware store;
- Kim for organising the *Lotterywest* and SERAG logos to be affixed to the trailer; and last but by no means least
- All those members of the community who have purchased a Lotto ticket which made this funding possible!

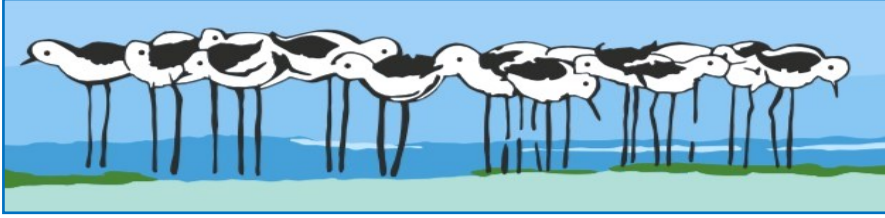
Thanks *Lotterywest*



Article - R Peek

Photograph - R Peek

Pied Stilt or Black Winged Stilt?



I tell of that elegant black and white bird
Wading our local marshes on Red Stilts
with red eye and needle-like bill probing mudflat and silt,
for aquatic insects, small crustacean and algae
specifically equipped for such delicacies

Roaming mostly saline marshes and shallow river shorelines
In small flocks or duos until it's mating time,
No difference in male and female colouring at any age,
nor breeding plumage at any stage,
Nest making is an insubstantial scrape on the sand with a few reeds.
Sufficient for the laying of 2 to 4 umber coloured, blotched eggs
is all it needs
Incubating done by both parents for about 3 weeks,
The hatchlings take off early to explore, requiring diligent protection
by male and female, who explode into a startling flap
and Puppylike barking to create distraction.

The juveniles are given oversight for about a month
Their colouring more brown, and nape dusky.
Increasing in depth of colour and size until between 35- 38 cm at maturity
These birds are known worldwide and listed conservation status is "secure"
But with climate ever changing
And human recreational pursuits ever increasing
What does secure actually mean?

Surely there must be sanctuary for these our feathered friends,
whose vulnerability is disturbance to feeding and breeding habitats.



Poem - J Ginbey

Artwork - Lynn Barry

Photograph -T Graham-Taylor

Chance Encounters

The value of incidental conversations with people whom you chance to meet whilst walking or working in the Marine Park should not be underestimated.

At Pelican Point a paddler was enjoying seeing the birds on the shoreline, whereas the birds were flying up, showing they were feeling disturbed. As the paddler came closer, it provided an opportunity to speak to him about keeping a safe distance from birds:

'if a bird moves away or flies up, then you know you are getting too close'.

In the conversation that followed, this person became very interested to hear about the revegetation that SERAG was doing, and just a few weeks later he made contact and has been volunteering at Pelican Point ever since. This practical experience complements his post-doctoral research in environmental management!

Meantime in Alfred Cove, SERAG has been very fortunate to gain the help of several visitors to Perth, who volunteered weekly for the length of their stay. They were interested enough to ask our volunteers what they were up to as they were walking by and then asked if they could help too.

We welcome interest from passers-by, as these incidental conversations can help people understand the importance of having healthy riparian vegetation along the Marine Park foreshores, and when it leads to new volunteers, that is a real bonus.

So thank you to our visitors for sharing your time with us, and to all we say, please feel free to stop and say hello next time you come across SERAG volunteers at work.

Article and photograph - M Matassa



Mark the Date !

International Volunteer Day 5th December

Special thanks to SERAG's volunteers who have contributed
2,500 hours over the past year!



*Wishing everyone a safe and happy Christmas
and New Year!*

Regular Events for Your Calendar

- **TREEmendous Tuesdays** - Alfred Cove - Weeding 6:30am - 8:30am
- **Monthly Saturday Bird Count** - Alfred Cove 6:30am - 8:30am
- **Monthly Mondays at Milyu** - Foreshore Rubbish Clean-Up 7:00am - 9:00am
- **Watering** - Alfred Cove and Pelican Point

Please contact SERAG to register your interest in any of our events.

Contact SERAG -

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