

## ENGAGE YOUR COMMUNITY - RUN A PHOTO COMPETITION & EXHIBITION

By Fiona Audcent-Ross and Vicki Caulfield

In 2020 we, the **Friends of Jirdarup Bushland** (FoJB: formerly the Friends of Kensington Bushland), ran our inaugural photo competition and exhibition, *Images of Jirdarup 2020*. It was a resounding success, engaging our local community like never before!

### *Why run a photo competition and exhibition?*

We were looking for ways for the community to engage with their local bushland. It worked! We received over 750 photos and our judges chose 60 to display at the Kent Street Art Gallery in the Town of Victoria Park. The exhibition broke attendance records! There were many new visitors to the Jirdarup Bushland Precinct and an increased appreciation for how important our urban bushland is.

### *What did the competition involve?*

FoJB Events Coordinator, Vicki Caulfield, led the team that made it all happen. Having decided on our entry categories (flora, fauna, landscape, junior and people's choice) we needed prizes and judges. Member Steve Bethell, single-handedly found 32 sponsors for the event, generating new connections between the Friends and the local community as well as a \$3,000 prize pool! Young committee member and keen photographer, Robert Audcent, invited renowned and prize-winning photographer, Georgina Steytler to be a judge and she very generously said "yes"! Retired profes-

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330 visitors voted in the People's Choice Award.

"Winter morning" by Jon Young won 1st place as well as 2nd in the 'Landscape/habitat' category.

### KEY FACTS for *Images of Jirdarup 2020*

- Over 750 photos entered!
- 32 local sponsors (businesses/politicians/community groups)
- \$3,000 prize pool
- 8000 accounts reached via Instagram and followers increased: up 77 (and 217 for FaceBook)
- 85 new members added to our mailing list
- Record-breaking attendances at the community's art gallery!
- Enhanced community engagement and huge support to make the *Images of Jirdarup* competition a regular event!

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# Editorial

Congratulations to the Premier and State Government for the appropriate weighting and respect they gave (and continue to give) science during the Covid-19 pandemic.

Now there is an opportunity for the science of climate change with its impacts on biodiversity to be promoted to candidates before the State election to be held on 13<sup>th</sup> March. Our bushland needs much more protection and on-ground management. Clearing of our unique bushland, patch by patch, here in the south west biodiversity hotspot must be halted.

Land clearing is an important climate change issue-and is nowhere near adequately addressed in the *Western Australian Climate Policy*, released in November 2020. WA needs to shift from a net loss of vegetation cover to a net gain as a matter of urgency.

Each of us is encouraged to visit our local electoral offices of our State Members of Parliament – both Lower House (MLA), and Upper House (MLC). Indeed it is the composition of Upper House members that will be significant in determining the balance of power. More MLCs who could and will likely hold the government to account on bushland conservation and climate change action are needed.

The best way to engage is to invite local MPs and candidates to visit their local bushland with you (*early morning before it gets too hot!*) to show them the flora and fauna wonders. They can help to save our iconic Carnaby's Cockies! The benefits to human health for connecting people with nature by visiting local bushland and/or by joining a friends group to help with bushcare are well known. Being in nature is both enjoyable and rewarding and is known to reduce anxiety and stress. But many urban bushland sites do not have a friends group, or they

need more help. Local tourism and guided bushwalks would benefit from funding and promotion to local residents, families and children. Also explain on site what extra government funding is needed to monitor flora and fauna, for bushcare, to properly control invasive species, and to improve fencing, signage, paths to make sites visitor friendly.

For the bigger picture, ask your local MPs and candidates to commit to *greatly increased funding to government for bushcare*. There is a great opportunity to provide jobs and community benefits as outlined in [UBC's Science and Conservation Jobs Stimulus](#) proposal which to date has been ignored by the Government. DBCA especially needs much more funding to manage all the Bush Forever sites which are to be transferred to the conservation estate for their management.

At the government action level, ask your MPs for their commitment to:

- complete Bush Forever implementation;
- stop clearing our precious Banksia Woodlands TEC and Tuart Woodlands TEC;
- stop the net loss of bushland (by clearing and poor management), and increase carbon sequestration by bushland restoration and planting local native species
- invest in research and actions to manage impacts of climate change on biodiversity;
- Adopt a state wide strategy for native vegetation and biodiversity conservation; and
- greatly reduce Greenhouse gas emissions *by 2030*.

It is also time to remind the Government of the need for urgent action on initiatives that have been supported but not actioned such as the proposal for Becher Science Park as recently described in the letter to the Premier by A/Professor Margaret Brocx. (see below)

Letter to Premier Hon Mark Mc Gowan BA LLB MLA and Hon Paul Papalia CSC MLA, Minister for Tourism and Member for Warnbro:

*Dear Premier Mc Gowan, (and Paul),*

*Being a forward thinking Government, there is still time to support the much needed establishment of the proposed Becher Science Park, with or without a financial contribution. It just requires the political will.*

*The WAPC supports the establishment of the Becher Science Park, but successive changes in government, and a change in the development foot print of the Port Kennedy Development Plan, have stalled obtaining the land required to establish the infrastructure required for the Science Park Education Centre and tourist hub. The Centre was also regarded by the former Chief Scientist Peter Kinken as a gap that WA had in the arena of conservation, education, and tourism and Peter advised me that he had included this in a Report that the State Government had commissioned him to do, and there are a number of Earth Science Primary School, High School Postgraduate and NGO teaching partnerships that would be easy to develop. The building itself is planned on being iconic and is somewhere that the CCWA can be based.*

*All in all, it the proposed centre is unique in Australia, as it is to be developed in accord with internationally established Geopark principles, and cutting edge "creative placemaking," to develop a place where people want to come and thereby develop economic opportunities in:*

*Education and Training programmes to enhance awareness and appreciation of the Earth Sciences, i.e., geology, soils and landforms fundamentally underpin the development of ecosystems, i.e., the development of Becher Point is a page in the history of the Earth, and the template upon which the biodiversity developed. Schools programmes, with outside activities including the putting children back in touch with nature programmes,*

*Environmental Management - Community programmes will be developed as the first step. To protect and respect the environment, people have to be aware of its value. We believe that local vandalism to the Site will significantly decrease once the values of the site are known and the area is used for family and visitor recreational activities.*

*Recreation, Tourism and Local Business development – using Geopark principles, the Science Park will be financially self-supporting as it will generate business by drawing in a diverse range of people from families, to schools and tertiary institutions to citizen scientists to the Science Park, and Wetland Education Centre by clever integration of the Earth Sciences with the arts, nature play, and cultural activities.*

*I put it to you both, that with an upcoming election, this is an ideal time to announce Government support for this venture, and to make it happen.*

*Kind regards  
A/prof. Margaret Brocx  
18 December 2020*



## Artificial Light at Night has an Ecological Cost

By Robyn Murphy, Friends of Trigg Beach

The State Government has released a Draft Dark Sky and Astro-tourism Position Statement and is seeking comment on a policy to “minimise light and dust pollution across WA’s dark night skies”.

This is relevant to urban bushland and is an important conservation measure if adopted.

In our submission, the Friends of Trigg Beach has requested the Position Statement be expanded to include the effects of artificial light at night on the natural environment and animal habitats e.g. birds, insects, reptiles and nocturnal marsupials, bats etc in and around nature reserves, bushland corridors, vegetated coastal sand dunes and shorelines, and public open spaces in urban environments.

We referenced an excellent article published in *Australasian Science* in July/August 2019: “[The Ecological Cost of Artificial Light](#)” by Kyra Xavia, the general secretary of the Light and Lighting Research Consortium.

The article states “Public lighting must be reimagined so it is both functional and safe, has less impact on ecological systems and allows visibility of the stars again.”

If you make a submission, we encourage you to read this article which references scientists, ecologists and academics who have studied the effect of ALAN (artificial light at night) on the environment and have recommended significant changes to the way artificial lighting is used in Australia.

The negative impact of ALAN on living organisms, whose biological rhythms and processes are fundamentally linked to the presence, intensity and spectrum of natural light and the consequences of this, are examined in the



Photo by M Wilson

*An evening at Trigg Beach.*

article. For example, University of Melbourne study showed that the effect of artificial light on habitat is similar to deforestation, causing fragmentation and barriers that animals are required to negotiate. Other biological effects include the alteration of behavioural patterns of animals such as foraging, courtship, mating, navigation and migration.

Another study recorded a 75% decrease in flying insects over 30 years due to the disruption caused by ALAN. Negative impacts were also demonstrated in aquatic areas because artificial lighting near waterways draws insects up from the surface towards lighting sources which disrupts food chains and weakens the ecosystem.

**The Draft Position Statement is available online at <https://consultation.dplh.wa.gov.au/> and submissions close on Friday 26th March 2021.**

*(Continued from page 1)*

sional photographer and local councillor, Wilf Hendricks, and an art gallery staff member completed our quartet of hard-working judges. Next we needed a way to receive the entries. Rather than using email, the committee decided on a website and suitable interface and two weeks later we had these (see [www.fojb.org.au](http://www.fojb.org.au)), courtesy of James Audcent!

Entries were open from July until early October and cost \$10 for up to 3 photos per entry. To help boost entries we had early bird prizes and did lots of marketing: Instagram and Facebook posts (by Laura Jung and Fiona Audcent-Ross, respectively), posters, flyers, radio and press articles. The local high school photography classes requested a guided tour from us and community photography classes had excursions to Jirdarup Bushland too.

Entries poured in during the final weeks so the hardworking judges were kept busy afterwards selecting 60 finalists from over 750 photos!

### **What did the exhibition involve?**

Perth Pro Lab did an amazing job printing the photos. Some Friends, led by member Leon Tang, hung the pictures so artistically that the gallery rooms were ever so colourful and eye-catching! Members also volunteered so the gallery could be opened at weekends over the three-week exhibition period and lots of folks came to see (and buy) the photos. Some finalists generously donated their sale proceeds to the Friends and we are very grateful for their kindness. We’re also grateful to the sponsors, Town of Victoria Park Mayor (Karen Vernon) and the



Photo by J Hawes

*Five finalists in the Junior category came from Kent Street Senior High School, shown here with proud teacher Stacey Tylor*

councillors who presented prizes at Awards Night. With a lovely venue and delicious catering, the event was enjoyed by all.

The committee thanks everyone who helped make the event possible and is now reviewing the project to look at improvements for next time, building on the success of 2020. The response to *Images of Jirdarup 2020* was overwhelming! It was a lot of work for everyone involved, but the quality of photos, the enthusi-

# Evaluating Connectivity and Ecological Linkages Between Perth and Peel's Protected Areas to Support Biodiversity

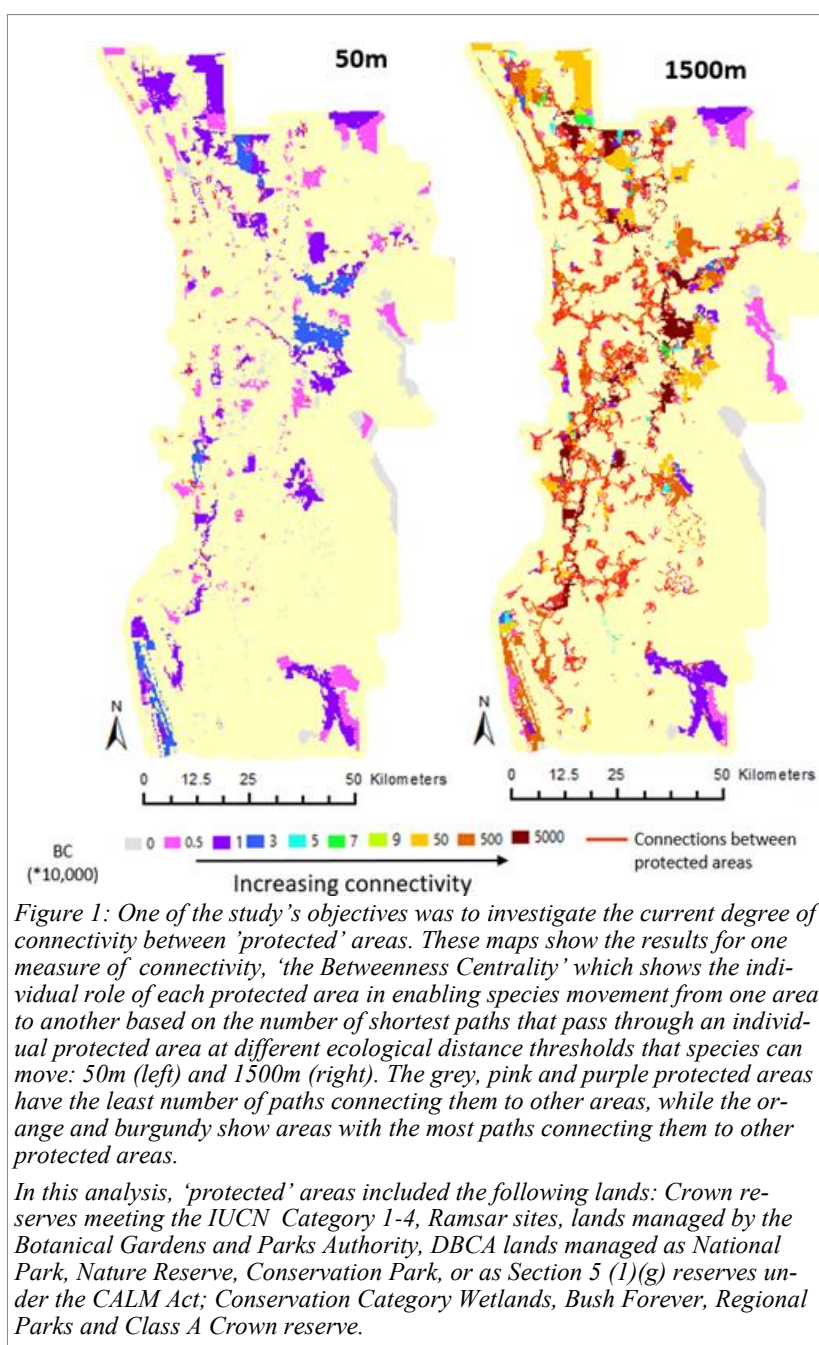
By Christina O'Donnell, Murdoch University

Rapid urbanisation in the Perth and Peel region of Western Australia is fragmenting the natural landscape causing significant habitat loss, endangering the area's unique biodiversity. To sustain biodiversity, native species need to be able to move between remaining sources of food and shelter to maintain healthy populations. The distance wildlife or plant seeds can travel through an urban matrix differs between species. Man-made urban infrastructure can be hostile, exposing individuals to a range of hazards such as: traffic, loss of available food and water resources, and increased risk of predation. Linkages connecting protected natural areas are thereby important to sustain biodiversity.

A study was undertaken to assess the current degree of connectivity between protected areas (wetlands and bushlands) in the Perth and Peel region; and to investigate effective placement of ecological linkages to create a connectivity network of natural area. The placement of ecological linkages considered the opportunities and constraints of the current land use and ecological perspectives. A computer model based on least-cost principles was used to identify paths between protected areas that pose the least risk to species movement. Results of the least-cost path modelling were compared with the findings of previous studies on ecological linkages in the Perth and Peel region, showing that improving connectivity between protected areas is still feasible in the urbanised landscape.

## Key findings:

- Literature review demonstrated the significant differences in the dispersal abilities of Australian Plants and animals, with a reported average distance of 100m.
- Connectivity for most local plant and animal species is poor (Figure 1).
- Connectivity between protected areas increases when species can move greater distances (Figure 1).
- Bush Forever sites play a pivotal role in connecting protected areas, by improving the number of protected areas connected to another by 25% at 50m, and at 1000m increasing the number of protected areas that are connected to each other by 60% compared to when Bush Forever areas are not included in the modelling.
- Results of the least-cost path modelling help identifying places to break barriers, enhance green spaces and protect native vegetation.
- The least-cost paths in highly dense urban areas rely heavily on small parks, bike routes, vegetated gardens, and verges.
- Paths between protected areas in less urbanised areas rely on natural areas, vegetated gardens and roadsides.
- Marinas form barriers for species movement along the coast.
- Paths between protected areas identified by the least-cost modelling follow a similar trend or directions to ecological linkages identified in previous studies but identify more specific routes or alternative routes where the landscape has changed, and opportunities still exist.





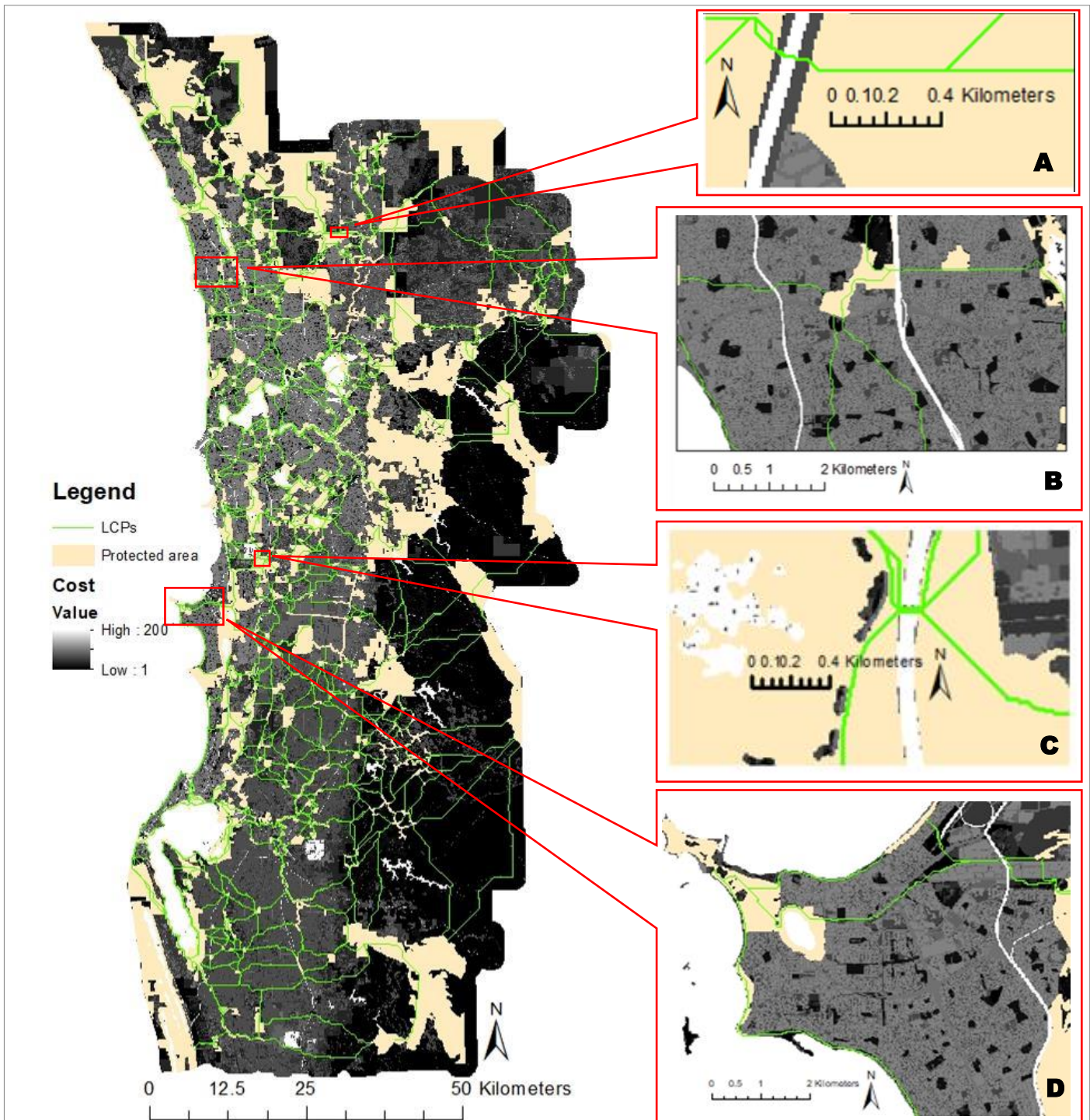


Figure 2: The least-cost path (LCP) analysis results between protected areas identified 1269 LCP linkages in the Perth and Peel region.

Insert A shows an example where the LCP crosses Tonkin Highway using a recently built fauna bridge, connecting two parts of a Class A Conservation Reserve which is part of Bush Forever (BF) area 300.

Insert B is an example of a LCP using a vegetated cycle path to connect protected areas (Lake Joondalup Nature Reserve BF299, through Shepherds Bushland BF39 to Hepburn Heights bushland BF303). It also shows a chain of small parks aiding connectivity.

Insert C demonstrates the potential role of fauna underpasses in reducing barriers presented by roads. In this example, several LCPs are utilising a culvert to cross Kwinana Freeway between Bush Forever areas 269 and 270 in the City of Kwinana.

In insert D, LCPs are using vegetated small parks, road verges and the coastal foreshore reserves to connect protected areas (Point Peron bushland BF355 and Lake Richmond BF358 to Woodman Point BF377 and the Rockingham Lakes Regional Park).

To conserve biodiversity in urban environments, land use planners and managers need to go beyond protecting small areas of habitat in isolation, to providing opportunities for species to move between them. Tailored recommendations which include ways to break barriers, enhance appropriate green spaces, and provide adequate protection to natural areas between protected areas have been created from this research's findings, with acknowledgment to previous connectivity frameworks within the region to ensure their economic and social relevance.

The full report will be available from 31<sup>st</sup> January at <https://researchrepository.murdoch.edu.au>.

# Group News Group News Group News

## Community action in South Perth

By Warwick Boardman

Environmental groups in the City of South Perth met early in 2020 to plan the year and get strategic about collaboration on a variety of bush care and sustainability projects. SUN, COSPEA, Millennium Kids Inc and a City of South Perth officer worked together to shape a plan for bush care of local schools and environmental experiences in education.

SUN and Millennium Kids Inc both received Federal CEP Environment Grants through the Swan Federal Electorate Office to support local bushland and education programs for local schools and community projects. In addition, Millennium Kids received a three-year State Natural Resource Management Community Grant to sup-



Photo by W Broadman

Winter –waterlogged area now planted with reeds at Sandon Park, Salter Point.

In 2021 the team will continue collaboration on a range of programs. With the beginning of the UN Decade of Ecosystem Restoration it is the perfect time to develop a ten-year plan to support long term sustainability of local bush sites.

The group sent an email to the City requesting that it consider formulating and implementing a biodiversity strategy as already exists in the adjoining City of Canning. We were advised that the City's [Urban Forest Strategy](#) will be updated in the next couple of years, subject to budget. Apparently WALGA no longer gives technical support to develop a strategy. It seems to us that a Biodiversity Strategy would be more complete but we will do our best to ensure that the budget is made available to at least advance existing plans.

The City of South Perth has planted additional reeds to the reed beds at Sandon Park on the Canning River Estuary east of the Salter Point spit and lagoon. This is a Bush Forever site. Except for an area sprayed by the council, a member of the COSPEA group has weeded all visible stems, before they set seed, of various weeds that are prolific seeders, both within the new plantings and in amongst the natural reeds. The new reeds replace grass that tended to get inundated in winter (see photo).

The City also has a typha problem in Sandon Park freshwater wetland areas. The City has made the considerable effort required to apply for a clearing permit to allow it to control it. The City had it under control prior to the government's rule change that required it to get a permit. It is only since the recent appointment of a full-time mem-

port Perth schools through Green Lab 2030 to protect, monitor and increase canopy to cool the planet.

COVID-19 interrupted the flow of regular face to face meet ups but the team successfully managed to support local schools including Wesley College, Manning and Curtin Primary Schools and Como Secondary College with a variety of planting, weeding and education programs at their designated bushcare sites. Check out the new Green Lab site for up-to-date information about school progress: [www.greenlab.org.au](http://www.greenlab.org.au)

At Manning Primary School 220 seedlings were planted including plants provided under the SUN grant. We've been delighted by the presence of at least 6 rainbow bee-eaters sighted feeding and making nests in the bushland from November onwards.



Photo by B Carr

Rainbow bee-eater flying upside down in courtship at Manning Primary School.

ber of staff that the permit has now been applied for. Since the pollen-producing parts are now active it presumably won't be long before they are flowering. One of our group attempted to cut the heads off but it proved too difficult to access them – much easier to cut the entire stem!

## FRIENDS OF PAGANONI SWAMP

By Leonie Stubbs

2021 is already shaping up to be a busy year for members of our friends group. In 2020 with Grazyna Paczkowska from Urban Nature, DBCA, we mapped the eastern section of Paganoni Swamp Reserve for weeds. Apart from mapping over 100 weedy wattles, a number of olive trees and patches of gladioli, the bushland is in excellent condition. It was a wonderful experience. We then followed that up with mapping weeds in the central wetland. Again, lots of standing water still present, very few weeds and a fantastic wetland.

Whilst undertaking the weed mapping, we also took the opportunity to ascertain the boundaries of the Tuart (*Eucalyptus gomphocephala*) Woodlands and Forests of the Swan Coastal Plain ecological community present in the reserve. This was part of our group's in-kind contribution to the Perth NRM Regional Landcare Partnerships grant: *Living Landscapes* to improve the condition of threatened ecological communities. The grant, under the auspices of SERCUL, has enabled ongoing feral animal control; seed collection using the expertise of Andrew Crawford from DBCA's Western Australian Seed Centre, Kensington; and provenance seeds grown up by a



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local nursery, Nuts about Native, which we then planted out into disturbed areas and on the reserve's boundaries. As the grant is over a five year period it has allowed us to plan which leads to more effective outcomes for the reserve.

This year we will map the western section of the reserve for weeds. As we have done a lot of work from the group's inception weeding through this area it will be interesting to see how effective we have been when compared to our previous weed maps. Our SALP grant enables us to use the services of a herbicide contractor to control Dune onion weed, Cape Tulip and Fumaria. Our group follows up a couple of months later, weeding the plants that might have been missed or weeding patches where only a few weeds are present.

We will also continue dieback control made available through our State NRM grant. Injection and spraying of phosphite on susceptible plants will be undertaken this year by a dieback specialist working along the active front present on the reserve's eastern boundary. We look forward to the day when a more effective control method has been identified but in the meantime we are thankful that State NRM funds have enabled us to continue to this invaluable work to limit the spread of dieback within Paganoni Swamp Reserve.



Photo by L. Stubbs  
Erica Dearla, Friends of Paganoni Swamp volunteer with Grazyna Paczkowska, DBCA undertaking vegetation condition assessment.

## Efforts to save Conservation of Banksia Woodland, Wetlands and Aboriginal Heritage sites at Perth Airport

By Steve Gates, Nature Reserves Preservation Group

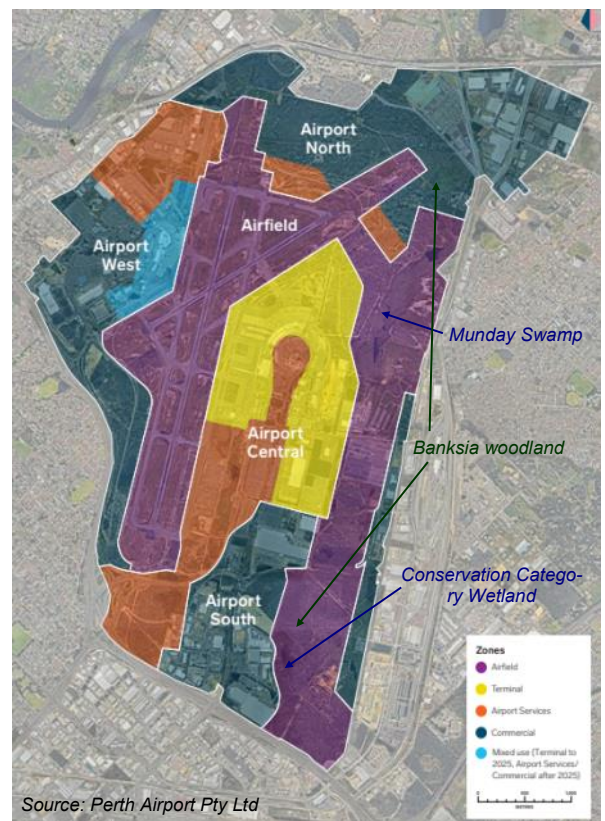
**The Commonwealth government can enter into a “Conservation Agreement” with Perth Airport Pty Ltd to protect these assets for the term of the Lease, and we have requested that Perth Airport Pty Ltd enters into such an agreement, with all remaining native vegetation and Munday Swamp be included for “protection in perpetuity”.**

Perth Airport originally had large areas of the nationally-recognised Banksia Woodlands (of the Swan Coastal Plain), wetlands and culturally significant sites:

- *Threatened Ecological Communities* (TEC) listed as **endangered** under the *Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act)*, and which make up only a few percent now remaining from before European settlement, placing them in danger of extinction
- *Feeding habitat for the endangered Carnaby's Cockatoo* (a “*Matter of National Environmental Significance*”) under the *EPBC Act 1999*
- WA Government “*Bush Forever Site*” and *Aboriginal Heritage sites, including Munday Swamp and surrounds.*

After Perth Airport was privatised by the Commonwealth government, the first Master Plan in 2004 designated “*Conservation Precincts/Natural Environment Priority Areas*” and “*Heritage Listed Areas*” to be preserved from development, which was considered cutting edge responsible land management.

In 2005, Environment Minister Ian Campbell acknowledged that areas of significant environmental value on the Airport site were to be protected. **Perth Airport's 2009-14 Environmental Strategy** assured that “...at the expiration of the lease in 2006, the estate retains the key environmental attributes existing today.”



Source: Perth Airport Pty Ltd  
Perth Airport 2020 Master Plan Planning Precincts & Land Use



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However each of the successive Master Plans have re-zoned Conservation Precincts for development, resulting in clearing of most of these biodiverse natural areas.

Submissions by conservation groups on Master Plans and Major Development Plans over the past 15 years, have failed to save them, to the detriment of Perth's biodiversity and Australia's environmental targets and obligations.

Now Perth Airport has federal government approval under the 2020 Master Plan and *EPBC Act* to develop "Airport North", "Airport West (South)" and the "New Runway". This will destroy most of the last remaining 'Conservation Precincts', clear **endangered Banksia Woodlands**, remove **aviation safety buffers**, and impinge on the "**Munday Swamp**" significant Aboriginal Heritage site. These sites are irreplaceable, and like the Juukan Gorge rock shelters, have been known about and recognised as extremely significant sites for decades. Furthermore, the federal Environment Minister Hon. Sussan Ley MP has refused to list Munday Swamp and surrounds under the *Aboriginal and Torres Strait Islander Heritage Protection Act*.

Much of the problem lies with both the federal 'Airport Lease Agreement' (which requires that the Lessee 'maximise the productivity of the airport estate'), and with the shortcomings of the *EPBC Act*. Notably the recent Interim Report of the Independent Review of the *EPBC Act* says that the Act has failed to protect the Environment and Aboriginal heritage, and states that the *EPBC Act* is "ineffective", "not fit", "requires fundamental reform" and, "Given the state of decline of Australia's environment, restoration is required...". Unfortunately, while the Commonwealth has a duty to correct the failures of the *EPBC Act*, (as we Petitioned to Parliament in October 2020) any reform will be too slow to protect the remaining native vegetation and Aboriginal Heritage areas at Perth Airport. We expect the Minister's response to the Petition in January 2021.

Given the issues with the Lease Agreement and *EPBC Act*, we believe that another option is for Perth Airport Pty Ltd and Shareholders to exercise their corporate duty and social responsibility to align both financial objectives with environmental and Aboriginal heritage protection.

We have requested that they not invest in the developments above, but instead embrace their new "re-branding" of Perth Airport, indicating an appreciation for the natural assets (<https://www.perthairport.com.au/Home/corporate/about-us/our-new-brand>) which states:

*"The imagery draws its inspiration from a compass:*

- *Something that guides visitors to the wonders of our State*
- *Something that guides travellers from our State on their journeys and brings them home safely*
- *And something that guides our airport as we move into the future.*

*The colours reflect our natural environment - the desert landscapes, the sandy beaches, the ocean, **our unique wildflowers.***

*We've also **engaged with both indigenous and non-indigenous artists** to capture their perspectives of Western Australia."*

We have suggested an alternative future vision of Perth Airport as an '**Eco-tourism gateway to WA**' which protects and showcases the remaining, incredibly biodiverse flora and fauna species in our globally recognised biodiversity hotspot and Aboriginal culture and heritage on the Perth Airport estate.

Tourism is one of WA's largest industries, and the first point of entry and 'first impression' to most visitors is Perth Airport. Visitors to WA are looking for a unique experience in a pristine environment and the intrigue of an Aboriginal heritage-rich welcome. The protection and showcasing of our unique natural and cultural assets provides a prime opportunity to attract tourism and are of great value to future generations.

## Friends of Sorrento Beach & Marmion Foreshore

By Mike Norman

In 19/20, "Friends of Sorrento Beach & Marmion Foreshore" (FoSB-MF) continued our big effort to restore 2.5km long coastal strip through the suburbs of Sorrento and Marmion, as well as helping to maintain the native plant gardens at Sorrento Beach and undertaking landscaping along West Coast Drive! A total of 1,324 of volunteer hours were spent on-ground and an estimate of approximately 300 hours in the office. We also supervised 176 hours of contractor time. The total value to the community (using the Volunteering WA "Volunteer Benefits Calculator") was \$128,660. COVID-19 troubles had virtually no impact on the progress of this project, other than having no Corporate Service Days during the 19/20 financial year, nor the remainder of 2020.

The total number of seedlings planted since inception of the project is 29,816 seedlings (average survival rate estimated from on-site monitoring to be approximately 80%).



Photo by M Norman

*FoSB-MF Christmas celebration at a volunteer's home overlooking Sorrento Beach.*



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The project continues in 2021, with one to two visits per week watering some of the seedlings, and getting on top of the fleabanes.

In 2019 Sorrento and Marmion "Flora and Vegetation Condition Assessments" were completed by Emerge Associates, contracted by the City of Joondalup. These assessments show that virtually all of the Sorrento Beach and Marmion foreshore reserves are now in "good" to "very good" condition, which is a great result given 70% of it was originally "degraded" when we started the project. Our aim now is to see if it is possible to get the whole of the Sorrento and Marmion foreshore reserves back into "excellent" condition. At least 5 weed species no longer appear on the whole strip, and there are more species very close to being totally eliminated.

One of the effects of the revegetation has been to create a good habitat for quendas (they have returned) and many reptile species, but also rabbits! The impact of rabbits was evident in the assessments, and it is going to be difficult to achieve "excellent" condition without a very serious rabbit control program. The City of Joondalup commenced another round of rabbit control in August 2020, with 33 rabbits trapped using cage traps. The RHDV biological control was released following that, so currently there are very few rabbits present with many sectors of the coast now free of them.



Photo by A Shaw

*A pink fairy orchid in Marmion only 20m from the ocean.*



Photo by A Shaw

*A rocky section of the Marmion foreshore reserve being restored by the Friends of Sorrento Beach & Marmion Foreshore.*

## Friends of Manning Park Ridge

By Robyn College

I am so lucky to have a wonderful view from my front door. I look Westward and see Beiliar Regional Park. This inspired me to become involved in saving Manning Park Ridge, and with Friends of Manning Park Ridge. As a long term recreational user I have seen the Ridge go through many ups and downs. Many years of neglect, fires, 4-wheel drives, off road motor bikes, and now we have been confronted with the possibility of 21kms of mountain bike tracks throughout.

City of Cockburn (COC), put forward the Manning Park Mountain Bike Trail Network Concept Plan (May 2020). This Concept Plan emerged from the Manning Park Master Plan (2017 and further revised in 2018). COC state this Plan was formed with consultation with members of the community. Viewing initial documents, the Concept Plan has grown 100 fold with no consideration of local residents. It appears mountain bikers were consulted possibly from 2015-2020.

The significant factors emerging from the Plan include:



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- The Plan was to be implemented in a Bush Forever area 247;
- This area has many threatened species throughout the area, including the Carnabys Black Cockatoo and large stands of Tuart as well as *Banksia sessilis* and *Eucalyptus decipiens*;
- A majority of Park users and local residents believe they were not engaged and consulted adequately enough during the formative stage;
- No consideration of the number of trails, and size, having a negative impact on the future of the flora and fauna which would come under significant pressure from mountain bike riders.
- The development is to result in moving soil, importation of soil; concreting of tracks;
- The final mountain bike trail is much larger than initially put forward;
- The Plan does not follow the Mountain Bike Guidelines in relation to the size of area;
- The Plan asks “to formalise a trail network that is of a scope and scale which is big enough and technical enough to respond to the demand that local riders are seeking” but does not consider the fragility of the Ridge;
- No formal assessment by EPA; DWER or DBCA;
- No analysis of soil suitability and lack of evidence to identify environmental hazards and pollution from asbestos and many years of dumped materials throughout the Park.
- Recreational users might be cut off from using ‘sanctioned bike trails’. These areas have been used by myself and many others over a long period of time.

From the Concept Plan it can be read that “There is approximately 15kms of existing trail in Manning Park that is unsanctioned or informal.” The tracks have been illegally built over the last 4 years with no active intervention of involvement from COC. COC have actually encouraged and allowed the mountain bikers to use the Ridge and state “cycles are permitted in the Regional Park”.

There appears to be other Parks in the metropolitan area, as well as country areas where the community are experiencing similar problems. Could there be a wider discussion started in relation to mountain bikes – is it a sport or a recreational activity?

Due to the development of mountain bike tracks, there is now an increasing demand being shown by other groups like runners and running groups (upwards of 50), orienteering groups, Hash House Harriers, dog walkers, local walkers as well as the occasional off road motor bike riders.

So, we are extending our hand out to those who wish to support us in preserving the richness of Beeliar Regional Park. We have formed Save Manning Park, and Friends of Manning Park Ridge (FoMPR) ([Facebook](#)). The first step to supporting our cause would be to drop a line to the City of Cockburn and by leaving your email address on our Facebook page to keep informed of future campaign and developments.

The City of Cockburn are pushing strongly to form 21kms of mountain bike trails, establishing it as a main tourist attraction. Recreational users will have specific areas to walk, i.e. north - south, with little or no access in east - west direction.



Above: Manning Park Ridge at America's Cup time in 1983.

Below: Since then the Ridge's vegetation has been recovering.

From left: One of the informal bike trails formed in Manning Park. Flora of Manning Park include *Banksia sessilis*, providing food to the threatened Black Cockatoos and mature Tuarts.

All photos by R. Colledge

In February, an independent facilitator will select ‘stakeholders’ who would like to be involved in reassessing the Mountain Bike Concept Plan. This will be advertised via the COC website. Hopefully, as ‘stakeholders’ FoMPR are determined to be a party to this discussion. Sadly mountain bikers are setting up trails and tracks throughout other Shires and Towns. This sport is growing rapidly, highly organised and a strong group with a voice that State Governments are listening to and supporting. Due to COVID there has been a huge push for people to “get healthy” with \$18m set aside to create more mountain biking facilities throughout the metropolitan and country areas.



## Significance of Ocean Reef to Aboriginal Heritage Dismissed by Developers! Can new discoveries and dogged persistence by community save bushland at Ocean Reef from a housing development?

A highly valued natural coastal landscape at Ocean Reef will be imminently destroyed. Aboriginal heritage will be dealt another blow. This rich and unique heritage has already been severely eroded because of over-clearing in the Perth Metropolitan Region and past policies.

To visit the site, allows you to imagine how fantastic this area would have been to the traditional owners. The abundance of food plants, animals and medicine with a reef that you can walk out on to collect abalone, crabs, shellfish and to spear fish. The beautiful limestone cliffs backing the beach with caves for shelter, rocks that tell stories to Aboriginal people, to Wadjela (white person) through 120,000 year old coral fossils. You can't help but think that arriving at the coast, at Ocean Reef after winter, the Whadjuk Noongars would have celebrated the abundance and change of food, surroundings and season.

The best of the ancient Quandongs have been cleared by DevelopmentWA. We only have left a few old friends, the Tuarts. They are soon to go as they were not considered worth saving by the regulators.

Native grapes in the limestone cliffs have been producing delicious fruit since November. Large juicy sweet Carpobrotus fruit are ready to eat and will be for some time. The native blue berries are not ripe yet but with the bunches of Rhagodia will be a late summer treat.

Osprey still soar the cliff tops majestically, perching to eat their fish catch. The white winged wrens who greet us on our daily walks seem not to understand what is about to happen. The Carnaby cockatoos squawked, perched on lamp posts but refused to fly down to the shrubs after the bulldozers moved in. They have not returned.

The dugites knew something was up when the excavators moved in. They were out of their homes, up on the dunes away from the tremors. DevelopmentWA were able to move on 42 animals, 300m away but what is their future sharing food?

All the bush animals must know something is up. How fast can the echidna move, the bobtails, even the quenda didn't know which way to go, running out onto busy Ocean Reef Drive.

The sea dragons are breeding in the safety of the reef now. They came in as they do each year in November, taking their young back out to deeper water in March. "Salty" the resident sea lion, entertainer of surfers, were will he go?

The developer didn't have to by law undertake a study of significance of the development site for the Traditional Owners. During pre-approvals, they dismissed the concerns of Noongar people they spoke to. The consultant said there were no registered sites on the development footprint and that the bush was too thick to look for any artefacts. The consultant said there was no fresh water but they didn't look like an Aboriginal person would look.

The site is on a limestone cliff. The reef below is the richest in WA for abalone which live in the pockets formed by fresh water seeping through limestone. The Gngangara Mound flows out to the sea here. This would have been an ideal landscape to find freshwater.

Locals have come forward with their knowledge of Aboriginal aspects. This strengthens the case for conserving this area and to respectfully acknowledge and maintain local Aboriginal culture.



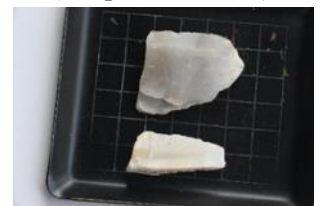
Significantly, Gnamma Holes have been discovered within the Ocean Reef Marina development footprint (see photo left). The newly discovered Gnamma Holes have not previously been reported or recorded as a registered site. The Gnamma Holes are an important reminder of the significance of our coastal area to

the Whadjuk people. High in the cliff top lies their freshwater source in an orchard of bush tucker and medicine. According to Nyungar law, springs and gnamma holes could not be drained as it was believed that this would kill the guardian Waugal spirit and cause the water source to dry up permanently.

Search of the Aboriginal Heritage [website](#) shows that many registered sites surrounding Ocean Reef. Yet, only one of these was noted in the development site's Environmental Management Plan, then dismissed as not being in the direct development footprint.

**Aboriginal Heritage is not just dots on a map, it's the stories between.**

Two Aboriginal implements have been found by a local geologist and a bushcare volunteer (see photos below).



One is a dark smooth rock found in one of the gnamma holes which can fit nicely into a woman's hand. Was it used for smashing shell fish, grinding wattle seeds? Was it placed there for next time they came which didn't happen because of the arrival of Europeans changing their land and way of life?

It is the eleventh hour, the final clearing permits have been granted! 45ha of A class Marine reserve and 47ha of coastal foreshore, until recently, Bush Forever to go! We're coming to an election!

Can Aboriginal Heritage Save Ocean Reef?

*Acknowledgements to campaigners, Friends of North Ocean Reef and Iluka, Mullaloo Beach Community Group*

*Reference <http://anthropologyfromtheshed.com/project/aborigines-and-the-cottesloe-coast/>*

## What high tech monitoring reveals about our coastline

Article and photos by Meg Anklesaria, Chair, Cambridge Coastcare

In 2019, Cambridge Coastcare (CCC) managed a trial to determine how high precision aerial surveying technology could improve coastal dune monitoring. We acknowledge that the coastline is constantly moving with the tides, wind, waves and weather systems and we wanted to ‘measure’ the patterns of sand movement, vegetation success rates and other factors to be considered in the management of coastal dunes and adjacent infrastructure.

### Background

The area of monitoring (300 metres along the coast X 134 metres wide) included an area of dunes with significant dune blowouts (degradation) between Floreat Coastal Paths CMB12 and CMB14, north of Floreat Surf Life Saving Club. Floreat beach, being a wave-dominated beach, is exposed to significant natural sand movement – accretion of sand with the strong SSW winds in summer, and erosion with strong NW winds and winter storms.

CCC volunteers had undertaken matting, planting and fencing of these areas since 2016. However, up to 45% of our efforts had been adversely impacted by sand deposition and some public vandalism during summer followed by erosion (with loss of fences, matting and plants) as a result of the severe winter storms of June 2018.

Funding from WA Coastwest in 2018-19 was critical for the aerial monitoring trial together with a ‘treatment’ trial of lateral fencing, at the dune base, in an effort to moderate sand movement. Both projects complemented our infill planting in the dune areas subject to erosion.

### Data outputs

A total of 250 images were taken per flight to capture the area. At least three flights were conducted per survey - one looking directly down, others at a camera angle of 30 degrees from directly down – which helped to add depth and height data for processing. Each flight took approximately 12 minutes flying in a grid pattern.

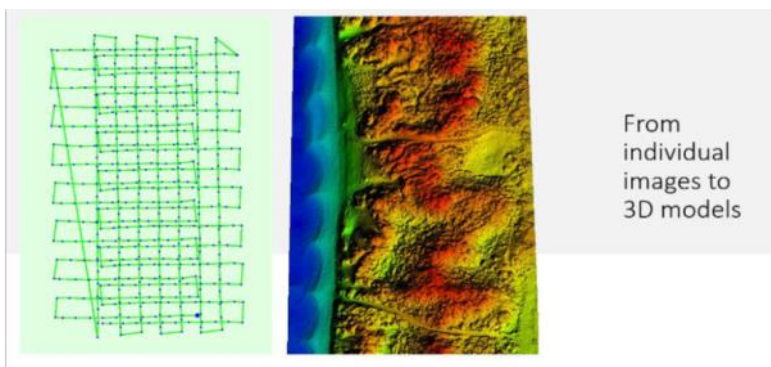
An image of a specific location may be compared across the 4 aerial surveys.

### Methodology

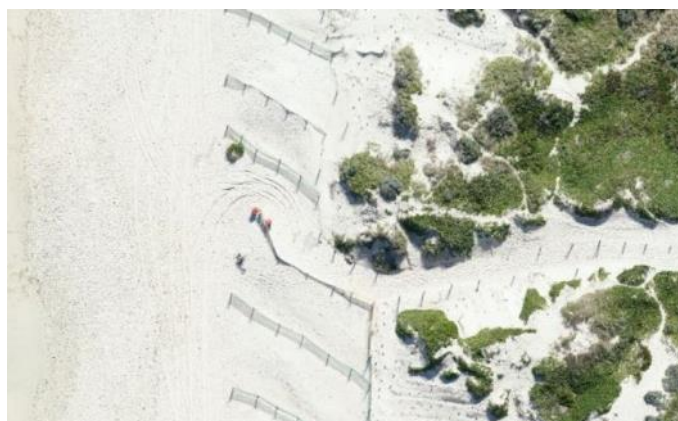
The monitoring trial was conducted over 12 months with four aerial surveys to capture seasonal variations from spring (2018) to summer, autumn and winter of 2019. The camera used to capture the images – a SONY A7RII 42MP - provided an image resolution of 1 cm (on the ground) per pixel.



Flights were programmed to be fully autonomous at an altitude of 60 m AGL, travelling at 9m/sec, allowing the flights to be replicated to provide consistent data capture. The drone used to carry the camera was a DJI M600 using PPK GPS, recording the exact location of each image taken – the latitude, longitude and height.



Oct 2018 – Before lateral fencing



Feb 2019 – After lateral fencing



# Group News Group News Group News

Using Pix4D software, up to 1250 images from one survey can be processed to create a large orthomosaic image of the total area - a 2D coloured map with uniform scale of the mapped area.



*Aerial survey October 2018*

*Aerial survey August 2019*

## Conclusions

The data outputs provide a range of ways to document, analyse and visually present the natural sand movement (accretion and erosion) along the shoreline and the dunes, the positive impact of treatment measures (lateral fencing), vegetation success rates and the adverse impact of uncontrolled public access.

During the 12 months of the trial we experienced a mild winter which limited the extent of sand erosion, but the effectiveness of the lateral fencing and mature vegetation in trapping sand was able to be measured.

The real benefit of aerial monitoring would be in annual or biennial measurement of sand movement and vegetation over 5-10 years to observe coastline trends and interpret coastal management pressures. This could complement biannual on-ground photo monitoring before and after significant storm events

◇ What's new? ◇ What's new? ◇ What's new? ◇ What's new?

## 2021/22 COASTWEST GRANTS

### Open for Applications till midday on Wednesday 31 March

Grants between \$5,000 and \$60,000 are available from a total pool of \$475,000 for community groups and coastal managers (local governments or Aboriginal land councils) to undertake project that implement coastal plans and strategies to address these challenges. Projects may involve site or local area planning; on-ground action; identification and monitoring; capacity building or any combination of these activities, and must be completed within 12 months.

Projects that encourage and support actions to reduce exposure to coastal hazards to preserve WA's beaches, particularly within [coastal erosion hotspots or watchlist sites](#), will be favourably considered.

Application guidelines and forms are available at [www.dplh.wa.gov.au/coastalgrants](http://www.dplh.wa.gov.au/coastalgrants)

If you have any questions or would like to discuss project eligibility please contact Christopher Lukes, Coastal Zone Management Coordinator on 6551 9349 or [coastwest@dplh.wa.gov.au](mailto:coastwest@dplh.wa.gov.au)

In addition to high quality photographs and video animations (flyovers), other outputs included:

- LAS files presented as densified point clouds and 2.5D digital surface models – to view with spatial software such as QGIS, Cloud Compare
- Geotiff files presented as digital terrain models & orthomosaics – to view in QGIS, ER Viewer
- Contour lines – shape files to view in any GIS software
- 3D triangle mesh files – to view in Sketchfab
- HTML and KML files to enable orthomosaics to be viewed in Google Maps/Google Earth respectively
- Analysis of sand volume movement (cu metre) per unit of area (square metre) – Excel
- Green index (vegetation) analysis – Excel

The outputs are accessible to all via the WA government database: <https://www.data.wa.gov.au/home> and search for “Cambridge Coastcare”.

## Acknowledgements:

This aerial monitoring trial was made possible by the collaboration and contribution of people from several organisations including:

- Western Australian Department of Planning, Lands & Heritage – Coastwest grant funding
- Professional and in-kind contribution from Remsense with Steve Brown's digital aerial imaging specialists who flew the drones and captured the data;
- Dr Russell Teade (Rustee) who undertook the geospatial analysis and who patiently inducted me into the spatial analysis possibilities;
- Simon Abbott – who assisted Rustee particularly with vegetation analysis ;
- Jenny Smith from Landgate who arranged to make the data outputs available on Data WA;
- Dr Cordelia Moore – a geospatial data analyst who provided guidance and support; and
- Cambridge Coastcare volunteers (including my partner Peter Olden) who gave unfailing support and assistance.

**Congratulations** to community volunteers and UBC members recently recognised for their ongoing contribution to the environment:

**Angela Carr's** significant contribution to the community was recognised by the City of South Perth with the City's 2020 Citizenship Award. Among numerous initiatives that had a lasting impact in the City, as President of the UBC Angela successfully lobbied many politicians to ensure that regionally significant bushland was retained in the Metropolitan Perth. The bushland program, adopted by Government in 2000 was called Bush Forever.

In December 2020, **Swan Estuary Reserves Action Group** was announced as the winner of the Conservation Council's Len Howard Community Group Award.

## ANNUAL GENERAL MEETING

**When: Tuesday 2<sup>nd</sup> March**, 6pm for light refreshments, meeting starts 6.30pm

**Where: City West Lotteries House, 2 Delhi St West Perth.**

Free parking in Delhi St from 6pm

RSVP to [ubc@bushlandperth.org.au](mailto:ubc@bushlandperth.org.au) Please make sure your group is represented.

If unable to attend, you can join the AGM by zoom: please advise name and email for zoom.

**Guest speaker: Emeritus Professor Philip Jennings,  
Wetlands Conservation Society Inc**

### *What is happening to our environment?*

We are fortunate to live in a region of mega-biodiversity. It is one of only 35 biodiversity hotspots on our planet. For more than 50,000 years the Noongar nation successfully managed this precious ecosystem through major changes in the Earth's climate. However, since the arrival of the new settlers, nearly 200 years ago, irreversible damage has been done to our environment, due primarily to inappropriate planning and land use practices. The results of this mismanagement are now apparent in the form of salinization, weeds, feral animals, bush fires and plant diseases. In recent years, some attempts have been made to address these problems and this talk will discuss the successes and failures of our response.

### BirdLife Western Australia's 2021 GREAT COCKY COUNT Registrations are now open.

This year the Count will be held on **Sunday, March 28, at sunset.**

BirdLife Western Australia need your help to make it bigger & better than last year.

Register online by March 7 at: <https://forms.gle/rwaocc7PTBW5Ejhm8>.

If you know of any areas where black-cockatoos roost overnight, please let BirdLife Western Australia know at [greatcockycount@birdlife.org.au](mailto:greatcockycount@birdlife.org.au) so that that can be included in this year's count.



### SUPPORT THE URBAN BUSHLAND COUNCIL - JOIN OR RENEW YOUR MEMBERSHIP

#### Groups:

Membership with voting rights is available to groups committed to the protection of urban bushland for \$60 a year (GST included). A growing membership strengthens the cause and groups benefit from the network.

#### Individuals:

Supporter membership is only \$50 per year (GST included). Supporters can attend meetings and receive copies of the "Urban Bush Telegraph"

The annual membership fees include an electronic copy of the *Urban Bush Telegraph* (currently published quarterly). Printed copies can be ordered at a cost of \$15.00 per annum for four editions.

Join or renew on-line (<https://www.bushlandperth.org.au/membership/>) or send your name, address and cheque to:

Treasurer, Urban Bushland Council WA Inc, PO Box 326, West Perth WA 6872

#### Office:

URBAN BUSHLAND COUNCIL WA Inc

Lotteries House 2 Delhi Street West Perth WA 6008

Postal address: PO Box 326 West Perth WA 6872

Ph 9420 7207 E-mail: [ubc@bushlandperth.org.au](mailto:ubc@bushlandperth.org.au)



Urban Bushland Council WA Inc



<http://twitter.com/#!/UrbanBushlandWA>

#### NEWSLETTER ITEMS

Compiled by: Renata Zelinova  
PLEASE SEND CONTRIBUTIONS TO:  
[ubc@bushlandperth.org.au](mailto:ubc@bushlandperth.org.au)

Copy deadline - 15 March 2021