

# thylacinus



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## FROM THE PRESIDENT Chris Dryburgh

Hi again everyone, and welcome to the weird new “normal” we find ourselves in at the moment.

As I write this, the zoos, fauna parks and aquaria that we all love in our Australasian Region, and beyond, are closed indefinitely until we can all resolve the overbearing and overwhelming pandemic that we have all had to adjust to. This, however, does not make our work and commitment to the precious wildlife in our care any less significant or critical... that is to say that while the world closes its doors to industry and travel – conservation, wildlife care and habitat preservation push on, and its our passionate community of zoo professionals that are at the front line of this continued fight.

While our industry is experiencing temporary, yet total closure, and regrettably, many staff of many facilities being stood down, it is critically important that we all look after ourselves, and our peers. This has been the manifestation of drastic and very difficult conversations affecting most, if not all, animal institutions across our region and is far-reaching, with some of my dearest and well-respected friends and colleagues affected.

Needless to say, COVID-19 has meant several significant disruptions on the annual ASZK calendar. You will have seen communication come out about the postponement of the annual Conference and AGM, which had been earmarked for late May. Further, while 2020 was to mark our shift of the annual ‘Bowling For’ campaign fundraiser from the typical March/April timeslot – we had already started preparations with this year’s recipient “Sumatran Sun Bear Team” for a Region-wide campaign around August/September as an ongoing annual adjustment to our calendar... but it appears COVID-19 and its widespread impacts are likely to negate that proposed timing for this year too. Stay tuned for more on all of our upcoming events as we share communication with our readership as soon as practical when we are in a position to make exciting announcements. Excitingly however, the Committee are currently exploring options to hold our 2020 AGM on a remote live stream platform and we invite as many of you to sit in and interact in this meeting, to be held in the coming few months. We’ll make announcements very shortly. Please do take care of yourselves, your families and those around you. It is all a very overwhelming and confronting situation facing everybody at the moment, with effects being far-reaching, and while we are all feeling it in different ways, we will come out the other side of the pandemic, and visitors will return to our fauna parks and aquaria, though the importance of our industry will have never wavered. Until then, please continue to observe health service guidelines, prioritise your own mental and physical health, and absolutely please do reach out for support wherever and however you may consider it.

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## 2020 Annual Conference Announcement re: Covid-19

As we are all aware, Australia and the rest of the world are experiencing health concerns with the Coronavirus pandemic. In an attempt to contain Covid-19, we are seeing tighter restrictions on social gatherings, causing major disruptions globally.

Health advice announced by the Australian Government has understandably put in place measures to restrict close contact between people, and in doing so, we regrettably will not be able to go ahead with our Annual Conference and AGM as scheduled for May 22-24, in Rockhampton, Queensland.

While it is hoped that we can all reach a safe and prompt resolution to the current situation, we will continue to work with our Conference hosts, Rockhampton Zoo and Botanic Gardens, and our Program to postpone until a time at which we can recommence planning, towards the end of 2020.

This is of course a very difficult decision to have made, as our Committee and our Members recognise the importance of our annual Conferences and AGMs, and the valuable platform they provide to animal care professionals representing the many zoos, wildlife parks and aquaria in our Region and beyond. We are taking every measure to be able to deliver this Conference with its full program, guest speakers and content at a more suitable time, so please stay tuned for further announcements as we learn more about the situation.

For those Members and institutions who have already registered for attendance at this May Conference, we have issued a full refund of the registration price, and we thank you for your understanding and patience during this busy and sensitive situation.

With regard to the other important ASZK events across the 2020 calendar, including several specialty workshops and our Bowling For Sunbears campaign, we anticipate we will be better informed of social restrictions that may have an effect on these events, a little closer to date.

Once again we thank you all for your ongoing support of the ASZK and your patience and understanding, and we hope you all stay safe. Should you have any enquiries, please feel free to contact us at [eo@aszk.org.au](mailto:eo@aszk.org.au) and we will get back to you as soon as we can.

Chris Dryburgh  
ASZK President



# The battery penguin. Developing systems for more natural rate of egg production.

**LIZ LIDDICOAT, MELBOURNE ZOO**

eliddicoat@zoo.org.au

Melbourne Zoo's Penguin exhibit currently houses a breeding colony of 15.15 Little penguins, 1.1 rescued Fiordland crested penguins and 1.0 Six-spined leather jacket. Our penguins are fed ad lib small pilchards twice daily or three times daily when chicks are present. There is approximately 1022m of land space, which is mostly deep sand substrate with some concrete rocks and shrubs. The exhibit is divided into three main areas: a Little penguin only area, a Fiordland only area, and a communal area, which has the pool in it. The pool is 140,000L of salt water with a maximum depth of 3m. The exhibit was purpose built for Little penguins but we have a few issues in managing the birds in this space.

Medically, we have a history of bumblefoot in our population and we get the rare case of aspergillosis. Bumblefoot is a bacterial infection in the foot pads, which can be caused by walking excessively on rough surfaces and being overweight exacerbates this condition. We do a yearly catch up to check for bumblefoot and if the birds have it they will require treatment and subsequent catching. Aspergillosis is a fungal infection generally in the respiratory system. It is a natural occurring fungi that usually only effects animals if they are stressed or compromised in some way.

In terms of husbandry for the Little penguins, they are difficult to weigh and they have a very long breeding season at the zoo. To weigh our penguins we have to catch them, and they can be quite difficult to catch given the layout of the exhibit and our inability to catch them if they go to the water. Catching Little penguins has also been shown to be very stressful for them. An increase in cortisol has been reported during the restraint process as well as a further increases with successive catch ups (Carroll et al. 2016). Captive Little penguins in Australia generally have an increased length of breeding season and increased egg/chick production compared to wild Little penguins. This is concerning as studies have shown this can be costly to the penguins. These costs include: reduction in chick provisioning ability, reduction in future fecundity, reduction in egg and chick viability and reduced survival (Williams T 2005). So, we don't want 'battery penguins', which pump out eggs and have a reduced welfare and life span.

Figure 1 shows the general yearly cycle for a wild Little penguin at Phillip Island Nature Park (PINP), Victoria. They are a good model for what we should see in a zoo setting. By comparison, at Melbourne Zoo we can have our first eggs being laid in April, with our last eggs hatching in January the following year. We try to limit breeding by closing access to boxes and separating males from females before breeding season. We also limit our chicks by using dummy eggs, but egg production in itself incurs many costs, particularly on the female. These strategies work to some extent but have their limitations and are time and resource demanding. Additionally, they don't address the underlying cause of why our penguins breed so much in the first place.

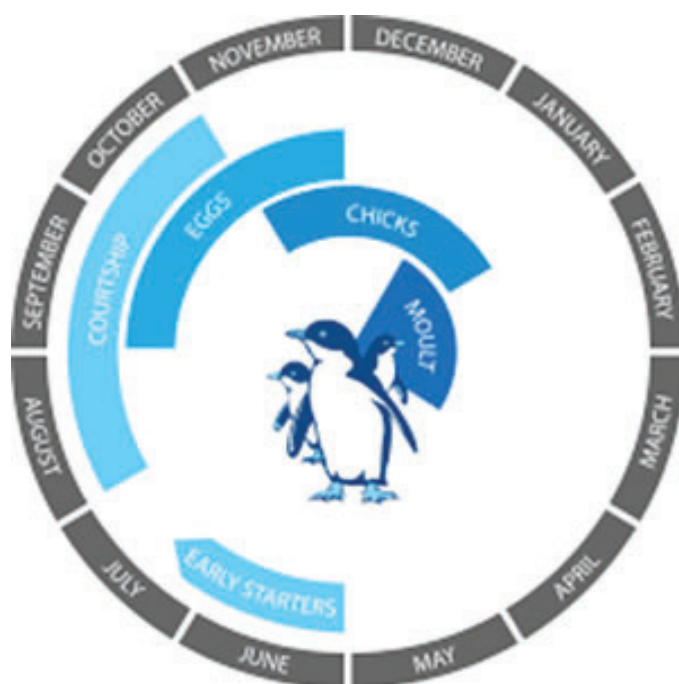
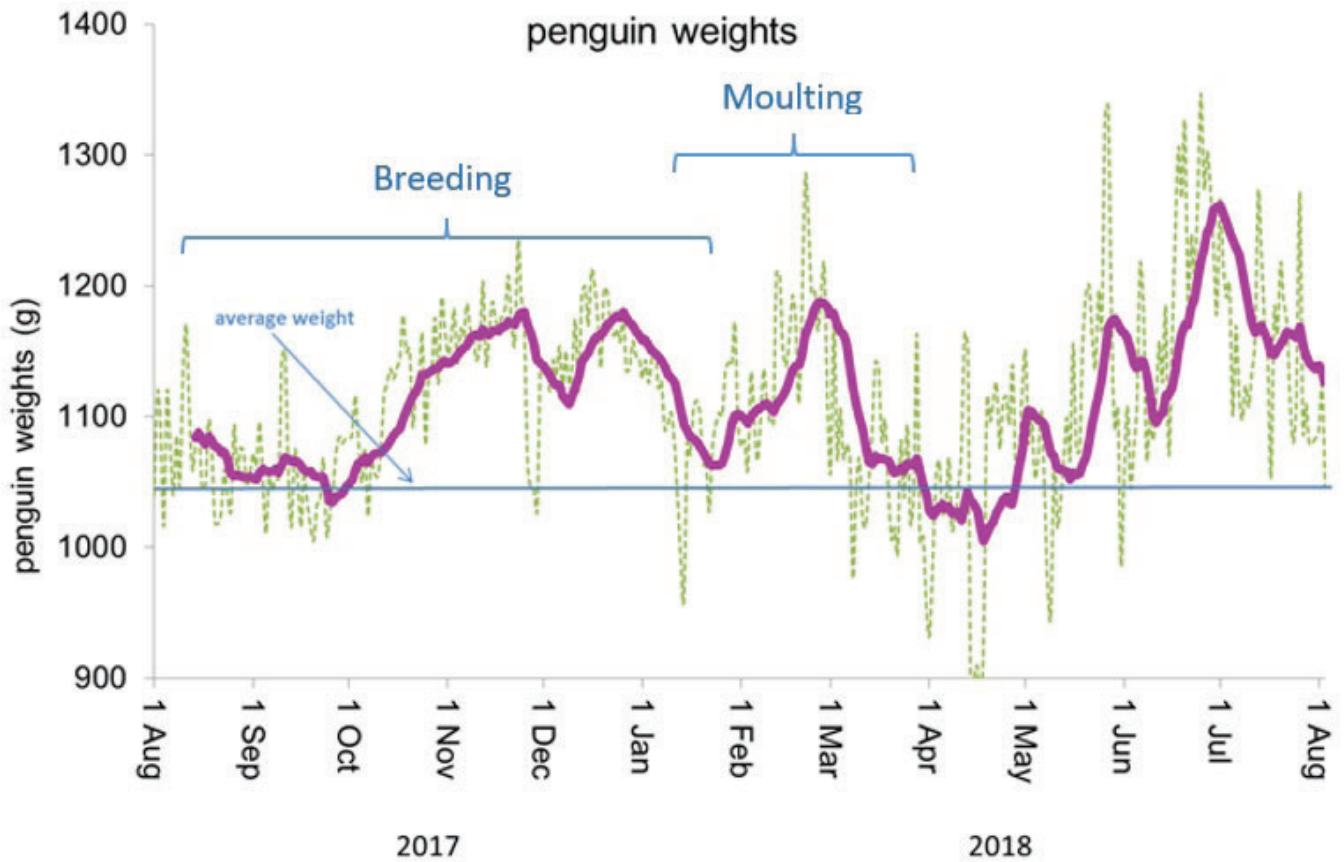


Figure 1. Phillip Island Nature Park's Little Penguin yearly cycle.

Tied closely with the yearly breeding cycle is the yearly weight cycle. Weight has been shown to align with body condition in Little penguins (Robinson S 2002). It is therefore a good indicator of a penguin's energy stores and general health. The graph in Figure 2 shows Little penguin weight at PINP over a year. It contains 34,740 data points from over 200 individuals. From this data we





Salton et al. 2015

Figure 2. Yearly Little Penguin weights at Philip Island Nature Park.

can see the penguins build up resources/weight during the beginning of the breeding season. By the end of the breeding season weight drops, presumably due to the cost of laying eggs and raising chicks. The penguins then build up their weight again and dramatically lose it during moult. Little penguins undergo a catastrophic moult. This is a very resource depleting time as they lose and regrow all their feathers during a period of about three weeks. During this time they are unable to swim, so are confined to land and unable to forage. By the end of moult, around April/May, penguins at PINP are at their lowest weight at around 1kg. Following this, they slowly build up weight over many months and the cycle repeats.

At Melbourne Zoo we do our yearly catch up in April and we frequently have birds weighing 1.4kg. Research shows that Little penguins with higher body mass in winter are more likely to breed early (Salton et al. 2015). We hypothesise that the largest contributing factor for this increase in breeding seen in captivity is high quality ad lib food. This availability means our captive penguins are not going through the natural peaks and troughs like their wild counterparts. Or if they do experience a weight drop (e.g. after moulting), they can gorge feed and very quickly

recover the weight making them ready to breed again. Unfortunately, because of the difficulties in obtaining weights on our penguins we don't have good data on this. It is not uncommon for us to only have one weight per year for our adult penguins.

The first step in managing breeding was to design and implement the Penguin Training Area (PTA) see Figure 3. One of the main goals for us was to be able to set up a situation that would allow the penguins to actively participate in their own health care as well as to provide us with the data we needed. Compare the PTA with our previous free feeding penguin arrangement in Figure 4.

In just three months we trained all our Little Penguins to enter the PTA from the far end through the corralling area. One at a time they are then let through a slide and into the main area. They wash their feet in a shallow foot bath, step onto the scales, then stand on the podoscope (a device with a mirror in it that allows us to observe and take images of the bottom of their feet), all while being positively reinforced with fish. We are now able to monitor bumblefoot and take weights daily without restraint. If we really need to catch the penguins we

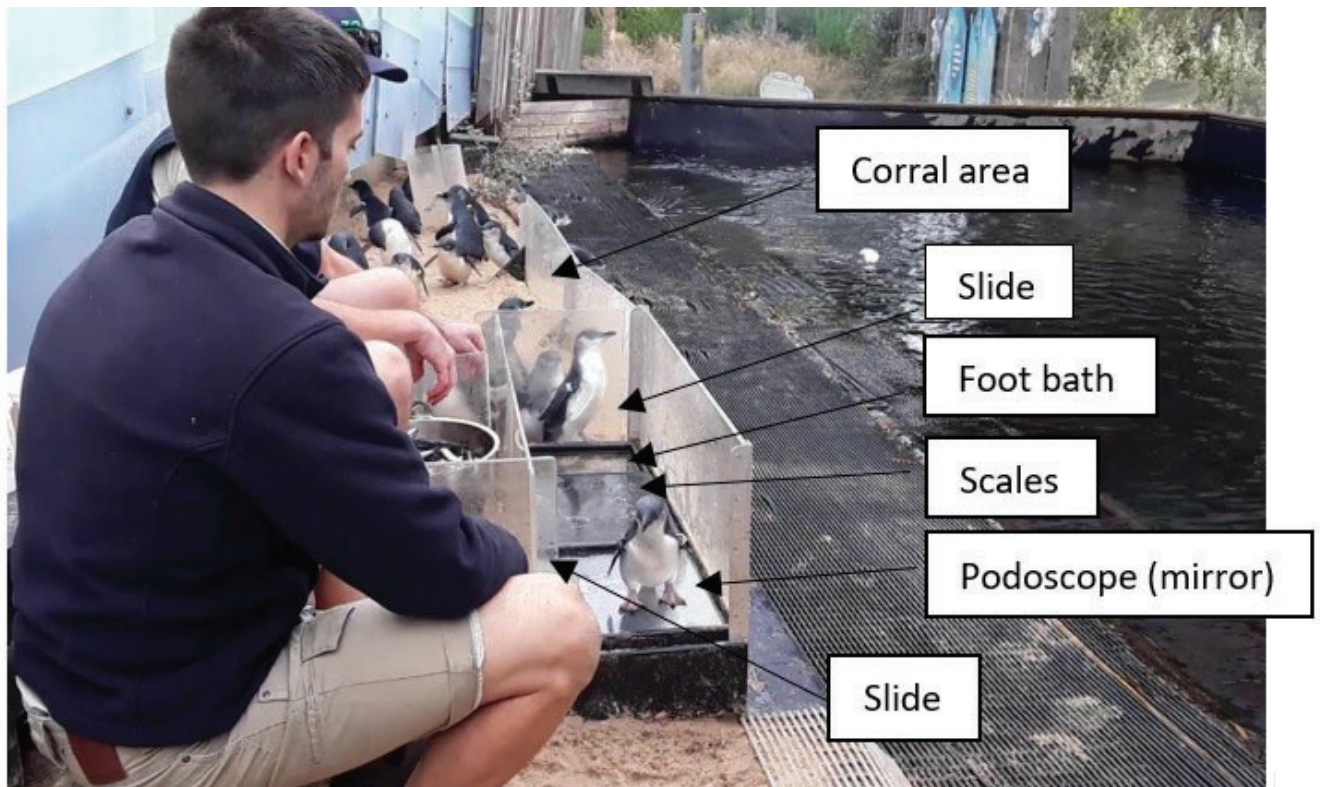


Figure 3. The Penguin Training Area at Melbourne Zoo.



Figure 4. Past free feeding method at Melbourne Zoo.



can do it out of this area more reliably and with less chasing. Given that we no longer need to catch them due to them weighing voluntarily and showing us their feet themselves, we are providing a more stress-free environment and will hopefully see a reduction in aspergillosis cases. The PTA also gives the penguins more choice and control over their environment. Even when the penguins have had enough to eat they will often exit the PTA and comeback through multiple times, without accepting the fish reinforcer. We speculate that there might be something in the process that they find reinforcing besides the food.

This new training area allows us to collect the data we need to manage weight. We aim to weigh our Little penguins every two weeks and compare our yearly data to PINP. We can then give each penguin an individual weight range based on yearly cycle and a coinciding daily food intake. If our hypothesis is correct we should see a reduction in breeding season length, a reduction in egg production and an increase in health/wellbeing. Stay tuned to see if this works.

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## • ASZK • NEW MEMBERS

*The ASZK Committee  
would like to  
welcome the following  
new members*

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CHANTELLE LEHMANN  
Raptor Domain

JOANNA O'BOYLE  
Sydney Zoo

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PAOLA DIAZ-WILLIS



# BEHAVIOUR matters

## YOU'LL NEVER NEVER KNOW, IF YOU DENVER DENVER GO:

### ATTENDING THE AZA 'ANIMAL TRAINING APPLICATIONS IN ZOO & AQUARIUM SETTINGS' COURSE AT DENVER ZOO THANKS TO THE ASZK ANIMAL TRAINING SUBCOMMITTEE

PHOEBE ALLEN, ZOOS VICTORIA

In 2019, for the very first time, the Animal Training subcommittee of the ASZK announced a scholarship which allowed one member of our community to travel to Colorado, USA and attend the AZA 'Animal Training Applications in Zoo & Aquarium Settings' course, hosted by Denver Zoo.

I wrote and submitted an application, and was completely stunned and overjoyed when I got the call to say that I would be visiting Denver Zoo.

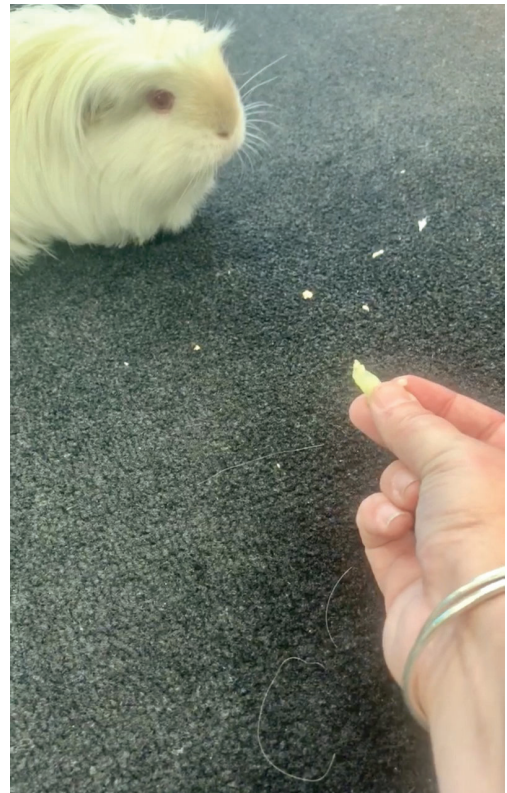
I travelled to Colorado in September of 2019 for this incredible opportunity.

#### **Overview – American Zoo Association 'Animal Training Applications in a Zoo Setting'**

The AZA 'Animal Training Applications in Zoo & Aquarium Settings' (ATA) course is held each year over the course of 5 days, and is an intensive workshop with the intention of providing zoo staff with a background in training theory and an understanding of the skills necessary to train animals (AZA website).

We were extremely lucky to have an incredible calibre of animal training professionals who had volunteered their time to be our teachers and mentors;

- Ken Ramirez- VP and Chief Training Officer of the Karen Pryor Clicker Academy
- Emily Insalaco- Curator of Behavioural Husbandry at Denver Zoo
- Heather Genter- Assistant Curator of Behavioural Husbandry at Denver Zoo
- Tim Sullivan- Curator of Behavioural Husbandry at Brookfield Zoo
- Lisa Davis- Zoological Manager of Behavioural Husbandry at Disney's Animal Kingdom



*The Phoebes- building a trust account*

#### **Animal Training Practical:**

On the first day of the course, I was introduced to our instructors, and also my training partner/project. We were broken into multiple groups that represented; Rats, Lorikeets, Sunfish, Guinea Pigs, and Tenrecs, and much to my delight, I was allocated to the Guinea Pig group. My animal training history has a heavy focus working with large animals in a protected contact setting, and I was perhaps not prepared for how much I would learn from a small domestic animal, aptly named Phoebe- to avoid confusion, from here on out I will call her GP Phoebe. It became apparent early on in the piece that GP Phoebe was



fairly heavily conditioned, and some exercise might be to her benefit. Together with my mentor, the wonderful Tim Sullivan of Brookfield Zoo, Chicago, we determined that an 'A to B' behaviour, shifting from one hide to another would fit the bill, and thus, I put together a training plan.

The very first session would consist purely of me offering food that is not contingent on behaviour, and 'building the bridge' in the hope of building a trust account with GP Phoebe. From there I would reinforce small approximations out of the first hide, before introducing the second hide and reinforcing movement towards it, and eventually, adding the cue of two fingers pointed at the desired hide with the verbal 'shift'. Whilst the plan seemed sound, anyone who has trained an animal will know that 'the best laid plans of mice and men will often go awry', and GP Phoebe had other ideas!



*Team Guinea Pig with our Mentor- Tim Sullivan, Curator of Behavioural Husbandry, Brookfield Zoo, Chicago.*

We were given the opportunity to conduct two training sessions a day, over the five days of the workshop. These sessions involved watching the other members of our group undertake their training and offering feedback and support. This was a fabulous mechanism for troubleshooting, and for facilitating great conversations around training and the motivating operations of animals.

I also decided to film my sessions with Phoebe on my phone, as I found it really helpful to be able to review what happened in the session, and ensure I was offering the clearest communication I could.

It became clear quite early on that GP Phoebe was highly food motivated, however, given her condition she was on reduced rations. This saw her have a higher amount of watery greens, such as lettuce, and a small portion of vegetables for each day. She was also quite a confident individual, regularly leaving our sessions to go and investigate some other stimuli that had caught her eye, especially if I had little food on offer. Initially I had decided that I would like a higher number of repetitions, for a smaller amount of reinforcer, as we know that repetition builds behaviour. GP Phoebe had other ideas, and it became evident that I would need to offer her a higher amount of reinforcer, for larger approximations.

It was really special to watch the line of communication begin to open up, as I learnt to navigate our newly formed partnership. I suspect I had often taken this for granted when training. Whilst we had early success moving between hides, and got to a point where GP Phoebe would 'shift' out of one hide on cue and move towards the other, she would almost always wander off in the middle of the behaviour. I tried shifting the context of the behaviour by moving the hides on different surfaces, in different positions, changing the lighting, changing my reinforcers, changing my own body position, and nothing seemed to work.

It was during one of our sessions on the second last day that I noticed that one of the other members of Team Guinea Pig was having success using woodchips to define a station. As it turned out, the Guinea Pigs were housed on this substrate in their behind the scenes housing, so it was extremely familiar. I decided to use a path of this substrate to see if it helped GP Phoebe by setting the scene for the behaviour, and lo and behold, it worked! Over the next couple of sessions we thinned out the trail until there were no shavings left, but the 'shift' behaviour remained fluent. I was really proud to have worked out the most effective way to communicate with GP Phoebe, and set her up to succeed.



*Success! A simple change in antecedent, the path of shavings that facilitated a successful two-way dialogue between GP Phoebe and me.*

### Theory:

As well as the animal training sessions we undertook with our training projects, we were also undertaking theory lectures and workshops that covered a vast array of topics with a central theme- positive reinforcement as a powerful motivator for behaviour change.

We practiced functional assessment as a tool, really breaking behaviour down to the most basic units of A-B-C; Antecedent, Behaviour, Consequence. Antecedent being the prompt or catalyst, Behaviour described by what we could observe, Consequence as the outcome for the animal. Whilst I had used this model before in Susan Friedman's Living and Learning with Animals course, I found putting it into practice with a group of people that could discuss what they were seeing extremely valuable, and it really allowed for some fantastic discussion between the other attendees and our instructors.

Ken Ramirez spoke about 'Animal Training basics', 'Reinforcement strategies', and 'Training in social groups'. He also delivered an astonishing and incredibly inspiring presentation on training for conservation outcomes that I was absolutely stunned by. The applications for training when applied in a creative way really are boundless, and it was a great reminder for me that when I am feeling stuck, often the best solutions are found outside the square.

Tim Sullivan's topics included 'Motivation', 'Training safely' and a presentation that resonated with me deeply- 'Training and the effects of self-fulfilling prophecy'.

As well as learning the theories behind learning, and the value of positive reinforcement, we were treated to training demonstrations with Elephants, Sea Lions, and free flight birds. After each demonstration we were given the opportunity to speak with the trainers about the difficulties and successes they had encountered throughout the training process. One thing that struck me was the amazing culture the team at Denver had built around having open and effective conversations. Emily Insalaco and Heather Genter spoke to our class about the importance that partnership and communication between people have in animal training, and it was evident from their staff that it was something that they heavily valued. Each trainer that I met was welcoming and open in their discussions, and also actively looking for feedback and ideas from others.

### Conclusion:

The AZA 'Animal Training Applications in Zoo & Aquarium Settings' course was an incredible learning opportunity, that I am so grateful to have been able to experience. The one on one time we were offered with the instructors was invaluable, as it gave us an opportunity to trouble shoot both our experiences at the course, as well as discussing animals and challenges we were experiencing day to day.

I am so grateful to the ASZK Animal Training subcommittee for their support and would highly encourage any keepers with a keen interest in animal training to apply for the 2020 scholarship.

After my attendance at this workshop, I have committed to challenging myself to find creative ways to offer the most positive, least intrusive training techniques that I can, and to find ways that offer the animals that I work with as much choice and agency as possible. My eyes have also been opened to the enormous importance that people, partnership and collaboration share in the animal training process. So much of our success hinges on our ability to effectively communicate, workshop the challenges and celebrate the successes- together.

This amazing trip to Denver has fortified my opinion that positive reinforcement training is a powerful tool for increasing the welfare of animals under human care- which is ultimately, what we are all striving for.



*ATA Class of 2019, Denver Zoo.*

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# ASZK Bushfire Relief Funding

**CHRIS DRYBURGH, PRESIDENT ASZK**

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While fire has been a normal part of most Australian habitats and landscapes for Millennia, undoubtedly, the 2019-2020 bushfire season has been particularly harsh, and severely destructive.

As we are all well aware, dozens of out of control bushfires have ravaged many parts of Australia over the last few months, destroying fragile habitats, communities and, terribly, claiming fatalities.

It goes without saying that these fires have put serious strain on all affected communities, and countless ecosystems and their wildlife populations.

In an effort to assist in the many worthy recovery and rebuilding efforts, The Australasian Society of Zookeeping has chosen to direct aid to an urgent program, streaming funding of \$2,300 to the recovery effort of the endemic and Critically Endangered Kangaroo Island Dunnart, *Sminthopsis aitkeni*, restricted to healthland of the western end of Kangaroo Island in South Australia. The funding will be handled by Kangaroo Island Land for Wildlife, who are, with their partners and volunteers, undertaking a huge recovery effort of these cryptic marsupials.

Kangaroo Island Land for Wildlife reports that recent fires have destroyed over 200,000 hectares of remnant bushland, taking with it the entire known range of the Dunnarts, and all monitoring sites. With very few sightings of Dunnarts following the fires, and with the habitat now opened up for increased Dunnart predation by feral cats, the timing and effectiveness of the in-situ recovery efforts could not be more urgent with the fate of an entire species at dire risk of extinction. Encouragingly, restoration of habitat and cat exclusion fences will protect not only the Dunnarts, but will have an umbrella effect in protecting a number of other native species at risk following habitat loss to fires.

This funding will assist Kangaroo Island Land for Wildlife in the protection of these unique Dasyurids through four key areas;

- Locate remnant patches of unburnt vegetation and survey for the species through camera trapping.
- Replace the lost valuable survey equipment from the fires (cameras, fencing materials).

- Find the last few individual Kangaroo Island Dunnarts and protect them from feral predators and further wild fire events.
- Protect the other Endangered species devastated by these fires, including Heath Monitors, Kangaroo Island Echidna, Southern Brown Bandicoot, Bassian Thrush and the Southern Emu-wren.
- Secure the ongoing management of the Western River Refuge property for conservation of Dunnarts and other threatened species within.

If you would also like to provide funding to this cause, you can at [www.gofundme.com/f/saving-the-kangaroo-island-dunnart-from-extinction](http://www.gofundme.com/f/saving-the-kangaroo-island-dunnart-from-extinction)

We understand that there are many very important recovery efforts for so many different species and projects in need of assistance after the devastating fires, and many of our Australian zoos and wildlife parks that have been under very real threat. We'd like to acknowledge all who have been affected by the countless fires across Australia, and the Fire Services and volunteers selflessly fighting around the clock in dangerous and severe conditions to control them.

Our sincere kind thoughts and wishes go out to all who have been personally or distantly affected by these fires, and hope for a safe and rapid reprieve very shortly.

Photographs and details kindly provided under permission by Kangaroo Island Land for Wildlife, 2020.





## Holly Adam

CARNIVORE KEEPER  
WELLINGTON ZOO

### • MEET AN ASZK MEMBER •

#### **For how long, and whereabouts, have you worked in the Zoological/Aquarium Industry?**

I have been working in the zoo profession for the last four and a half years, I am from the UK originally where I started my zookeeping journey at Longleat Safari Park in the 'Animal Adventure' section. This included working with a large variety of species including Fennec foxes, Humboldt penguins & Rock Hyrax. I was at Longleat for two and a half years before I saw an opportunity to work at Wellington Zoo pop up, I have now been working as a Carnivore Keeper here for the last two years and I have loved every second of it!

#### **What is your favourite animal, and why?**

Lions are my favourite animal (this was such a hard decision; Fennec foxes are right up there too!). Since taking care of sisters Djane and Zahra at Wellington Zoo my passion for Lions has grown exponentially, I have learnt new skills as a Keeper but I have also learnt about them as individuals and as a species. Lions are iconic, they are intelligent, they have a fascinating social dynamic, and nothing beats hearing that roar!

#### **What is your favourite thing about Wellington Zoo?**

My favourite thing about Wellington Zoo is its passion for sustainability and spreading that message to the wider community. One of my first days at Wellington Zoo consisted of planting native trees at the Zoo's ongoing restoration project to enhance Wellington's biodiversity. Wellington Zoo is the world's first carboNZero certified zoo, it is committed to reduce, reuse, recycle and use/promote the use of FSC certified wood products, I really admire this and I am excited to be a part of it!

#### **What changes or improvements would you like to see in the future of zookeeping/aquarists?**

I would like to see even more collaboration between zoos in the future with a greater exchange of knowledge and skills, so that we can all provide the very best welfare for the animals that we take care of by sharing our experience.

#### **What is your greatest animal achievement thus far?**

My greatest animal achievement would be at Longleat Safari Park when I station trained two Fennec foxes to allow keepers to obtain weekly weights from them. Prior to this training the foxes would hide when Keepers cleaned their habitat and would not eat when Keepers were present. It took a few months before they would eat with me in the same habitat as them but slowly the trust grew and they learnt the

station behaviour. This was the first behaviour I had trained in a zoo animal and was a huge learning curve for me but, more importantly as the training progressed it had a positive impact on the foxes welfare. The foxes became confident and inquisitive around the Keepers during the daily cleaning of their habitat, which also made daily visual health checks a lot easier to complete!

**What is your most memorable experience with wildlife?**

My most memorable experience with animals in the wild would be the very beginning of this year on New Year's Day: my husband and I were walking along the beach and we saw a pod of Orca swimming out of Wellington harbour as the sun was setting. I feel so unbelievably lucky to have witnessed that, I will never forget that afternoon!!

**What is your most embarrassing zoo/Aquarium moment?**

My most embarrassing moment occurred at Wellington Zoo, it was a very wet and windy Wellington day and I was doing the daily cleaning in our Sumatran Tiger habitat before the 11am Tiger talk, a crowd was gathering at the front of the habitat glass as it was nearing this time. I was heading to clean out the cave (bed area) and with me I had a large wheelie bin, in order to get to the cave I had to go up a slight hill (directly in front of the habitat glass), as I was half way up the hill it turned out that the hill was very muddy and slippery. At this point I lost my balance and to the amusement of every visitor stood outside of the habitat, they witnessed my wheelie bin and I slide all the way back down through the mud! I got straight back up, ignored the fact that my waterproofs were now completely covered in mud and continued cleaning as if nothing had ever happened... thankfully I was not on the Tiger talk that day!



# Is a budget-friendly, comprehensive animal welfare program possible?

*Rebecca McLean, Currumbin Wildlife Sanctuary*

Continued advancements in scientific knowledge have resulted in significantly improved animal care and welfare standards in zoos over the past few decades – we know better, therefore we have an ethical obligation. Societal pressure has also driven change – the community and visitors want to know that our animals are happy.

A few good zoos are leading the way in terms of developing comprehensive animal welfare programs, but in reality, many zoos are not as good as they could or should be. Often smaller, non-government funded zoos face the challenge of limited resources. So how do you overcome some of these challenges? At Currumbin Wildlife Sanctuary, we are committed to the continuous improvement of welfare for all of our animals and this is what we have achieved so far and plans for the future.

As a not for profit wildlife park one of the biggest challenges we face are budget challenges. Everyone has budget challenges – some more than others. Budget challenges can result in heavy workloads and limited resources. Keepers with heavy workloads may only have time to meet the basic needs of the animals in their care. There is limited time allocated for behavioural observations, enrichment and training – and what does get done is often unstructured and not standardised.

It is also easy to become overwhelmed. Conferences, workshops or even visits to other zoos can be a source of inspiration and often we want to achieve the same successes straight away. The reality is that trying to achieve too much in an unrealistic time frame with limited resources can be overwhelming and often result in failure.

So what initiatives have we taken to address these challenges to improve animal welfare at CWS:

- We have established an Animal Welfare Committee
- We are bridging the welfare knowledge gap with all staff and volunteers
- Keeper rounds are being assessed for efficiencies

## *Animal Welfare Committee*

The formation of the Animal Welfare Committee at the beginning of 2019 has been a fundamental step in our mission to promote positive welfare opportunities for every animal in our park. It was a keeper-driven initiative supported by management, in particular our General Manager. Committee members are representative of various departments (including non-animal departments) to ensure a diversity of background and knowledge. Committee members volunteer their time and it functions as a working group to develop policies, procedures and plan projects. Our role is “to serve as an internal advisory committee that, in consultation with department stakeholders, will make recommendations pertaining to all animal welfare matters at CWS.” We maintain respect and credibility by using the latest science-based evidence to make recommendations.

## *Bridging the welfare knowledge gap*

Through multiple presentations and talks conducted by members of the Animal Welfare Committee, we are improving animal welfare knowledge and understanding throughout the organisation. Each presentation has been geared towards various groups of staff and volunteers depending on existing welfare knowledge. For an animal welfare program to truly succeed, we all need to work together.

## *Assessing keeper rounds for efficiencies*

As keepers we take great pride in the presentation and cleanliness of our enclosures. I mean, who hasn't stood back and took the time to really admire some fine raking? But what's important to your welfare might not be important to the animals. Raking every single leaf up might make you feel good but does it really matter to the animal?

Inspired by initiatives some other zoos have taken to improve animal welfare, our supervisor is in the process of tagging along with keepers on their rounds to look for ways to make the rounds more efficient. In consultation with our veterinary team the idea is to look at what husbandry jobs are a priority and the amount of time and frequency each of these jobs requires to still maintain high





*In the early stages keepers participated in an animal welfare brainstorming session. Information from this session was used to help develop goals for the Animal Welfare Committee.*

animal welfare standards. From this we will hopefully be able to create more time for keepers to be able to complete behavioural observations, enrichment as well as training and conditioning.

**So where to from here?** Some of the projects currently in the early stages of being developed by the Animal Welfare Committee are; an animal training and conditioning working group, an enrichment working group and an animal welfare reporting system for staff and volunteers.

The biggest piece of advice I could give anyone is to set achievable goals with realistic time frames. For some zoos or parks this might mean that it will be a really slow process. You are going to have to put in the hard work and be prepared for setbacks. Just make sure you set yourself up to succeed.

Networking is also key. There is no need to try and reinvent the wheel. Reach out to other zoo's and ask for advice. We can learn a lot from zoo's that have well-

established welfare programs as well as those just starting up. They are usually more than happy to help and it can save you a lot of time especially in the initial development phase. You can then modify and tailor ideas to suit your situation.

It's important to realise that every situation is different and we are all at various stages of achieving our animal welfare goals. One thing we all have in common though, is that no matter which stage we are at we still need to strive to do better. We need to be pushing boundaries and continuously reassessing goals as welfare knowledge continues to improve.





# The First Successful Breeding of Alligator Snapping Turtles (*Macrochelys Temminckii*) in Australia in Twenty-Five Years

ARTICLE BY MITCHELL D’COSTA

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## *Introduction*

Alligator Snapping Turtles (*Macrochelys Temminckii*) (above) are a species listed as threatened under the IUCN red list (1996). Populations are at risk due to the illegal pet trade, hunting, habitat loss and degradation. To ensure the survival of the species, Alligator Snapping Turtles are currently a protected species throughout the United States. The Wild Cat Conservation Centre in Wilberforce, NSW, has become the first facility to successfully breed Alligator Snapping Turtles in over 25 years. The breeding of Alligator Snapping Turtles has proven to be quite the challenge in Australia due to the capacity for individuals to sustain significant injury when housed together or introduced for breeding, the unpredictability of the females laying requirements and the display of the species within an environment that doesn't allow for egg-laying (large fish tanks).

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## MANAGEMENT

### *Enclosure Design*

Our enclosure is designed to closer mimic the natural environment of the turtles. The design of the exhibit was solely based around providing our turtles with the opportunity to display as much natural behaviour as possible within a captive setting.

Firstly, and most importantly, the exhibit is outside with our turtles experiencing a full range of weather types and changes in barometric pressure. The pond is a large concrete pool painted with a darker shade waterproof paint, algae has been allowed to grow on the concrete surface to aide in the turtles movements throughout the pond and to avoid health issues by walking upon a concrete surface. The pond has an arc shape with a depth of 700mm in its deepest point and gradually becoming shallower toward ground level.

Large rocks and logs break up the swimming area and provide the opportunity for our pair of turtles to rest out of sight of each other and human gaze. Aquatic plants also grow on the surface of the pond.

The turtles can choose to exit the pool whenever they so choose to bask, which they do on occasion, walk on the surrounding grass or choose a suitable nesting site.

### *Diet*

Alligator Snapping Turtles are a carnivorous species, in the wild their diet consists of mainly of fish however as opportunistic ambush predators they have been known to prey on frogs, smaller reptiles, birds, molluscs and crayfish. The captive diet of our turtles includes red spot whiting, day old chicks, chicken necks, and rodents of varying sizes. Frequency and amounts is varied through the year based upon the seasons and the turtle's activity levels.

## BREEDING HISTORY/ TIMELINE

### *2017 – Unsuccessful*

2017 was the first year the turtles were paired up in their current enclosure, and was unsuccessful in that the turtles never successfully bred. In summary the main decisions we deduced that led to an unsuccessful season was some of the husbandry decisions made during that year.

The main decision being to heat the turtle's pond over the winter months. Our turtles had originated in Qld and as such we didn't want them to potentially suffer through a Wilberforce winter. The pond was kept at a minimum of 16 degrees for the entire winter, however we found that keeping the turtles warmer over the winter led to heightened mating behaviour from the male, who was attempting to mate the female through spring and summer, which in turn led to the female sustaining mating induced injuries due to the intensity



*Our Alligator Snapping Turtle Habitat at Wild Cat Conservation Centre*



and frequency of the mating attempts. This resulted in the animals being separated.

During 2017, the water in the pond was also kept clear so visitors could easily view the turtles within their pond.

### 2018 - Unsuccessful

On March 15 2018 the female turtle was moved back into the exhibit with the male and a removable dividing fence was installed down the centre of the pond, so both turtles could coexist in the pond without the male being able to attempt mating. Extra-large sandstone boulders were also added to the pond to provide an additional visual barrier between the turtles, water changes were also reduced to allow the clarity within the pond to be diminished, guests could no longer easily view the turtles, though the turtles seemed to be more relaxed.

This year the heater in the pond was turned down, with the minimum pond temperature reduced to 12 degrees.

The dividing fence was removed from the exhibit in early August and immediately following the removal the male was attempting to mate the female again which continued through the month. However the mating seemed as though it became too much for the female again so in September we returned the dividing fence to the pond to separate the turtles again.

In mid-December the female turtle was sighted out of the water, digging test nest sites in the soil surrounding their pond. She continued to do this over multiple mornings, however she did not lay any eggs. During this period the female turtle dug over a dozen test sites, all within a similar area of the exhibit. The decision was made to loosen up the soil of her test site in an attempt to persuade her to lay and to make the digging easier for her, however after this decision she didn't attempt to dig any more sites or lay at all. An x-ray was performed on the female and it revealed that she did have eggs present however she just wasn't laying, so in February 2019 the female was injected with 20mL of oxytocin solution in an attempt to assist her in passing the eggs, however this proved unsuccessful with the female aborting her eggs within the pond.

### 2019 – Successful

After the early failure of the female aborting her eggs in mid-February, we reassessed what decisions led to the failure and decided to change our management of both turtles that year.

We made the conscious decision that this year we wouldn't use a pond heater at all, so the turtles could cool

down naturally with the weather in an attempt to reduce the effect of the males excessive mating and to also give the turtles a more natural seasonal change.

In May as the weather began cooling we removed the dividing fence so both turtles had full access to the exhibit and each other, we noticed a few mating attempts throughout that month though due to the cooling weather they were not as regular or intense as in previous years, and this continued throughout the winter months. The female turtle did not sustain any injuries so the two animals could remain together with access to the entire pond.

On November 20 the female turtle was observed digging a nest site within the exact same location as late 2018, though this time she only dug the single site and that morning laid 18 eggs. Once the female turtle had re-entered the pond after a period of 30 minutes the decision was made to remove the eggs and artificially incubate them.,



*The nest site*

### Conclusion

The success of breeding our Alligator Snapping Turtles related heavily to the husbandry/management of the physical aspects of the enclosure and to the health management of the turtles themselves. The first key factor was to allow the turtles too cool down naturally over the winter months, which in a cohabitation environment, ensures that the male is not overly aggressive when mating, and ensures the animals have a natural seasonal



*Collecting the eggs from the nest*



*Eggs beginning to hatch after 78 days of incubation*

cycle. Another factor was altering the clarity of the pond and leaving the nest site unaffected so the site is firmer for the female to lay in which we believe is what female alligator snappers prefer to dig their nests in. The incorporation of visual barriers such as rocks and aquatic plants can assist with alleviating potential stress on both animals by giving them more hiding places which assisted in encouraging both mating and confident laying.

We believe the key to our success was creating a natural, secluded environment for the Alligator Snapping Turtles all year round.



*Hatchling Alligator Snapping Turtles*

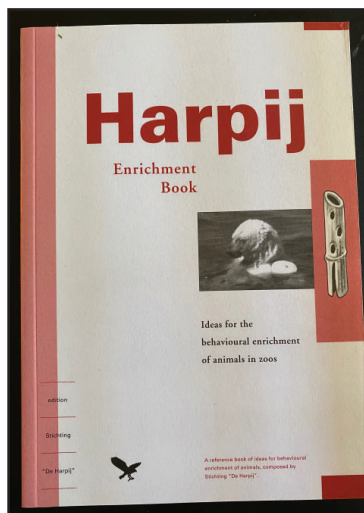


## BOOK REVIEW BY KAREN JAMES ENRICHMENT BOOK

### *Ideas for Enrichment of animals in Zoos by Harpij*

At the 2018 ASZK Conference the committee raised money to support De Harpij, the organisation for Dutch and Belgian Zoo employees create an enrichment pictorial guide that transcends language barriers. This book has now been released and distributed to Zookeepers looking to improve husbandry for non-domestic animals using enrichment ideas. It makes enrichment accessible and more visual, with each page displaying pictures of different species interacting with very detailed enrichment concepts.

The enrichment is broken into chapters, encouraging natural behaviours including grooming, exploring and playing. For each enrichment idea it lists a range of species that would benefit for that enrichment. It also gives a description of what items you will need to develop each enrichment item. The index allows for the reader to search for different species in both English and Latin, with 235 species available.



## • ASZK • MEMBERSHIP STATISTICS

**236** FULL MEMBERS

**3** FULL PARTNERS MEMBERS

**38** ASSOCIATE MEMBERS

**0** ASSOCIATE PARTNERS

**8** RECIPROCAL

**21** CORPORATE

**13** LIFE MEMBERS

**2** OVERSEAS

**3** OVERSEAS CORPORATE

**TOTAL 324**



## HALLS GAP ZOO

Over the last few months Halls Gap Zoo has been kept busy with incoming animals, births and training plans. We welcomed a Serval, Keta, from Canberra National Zoo in November. He has become a neighbour for our existing male, Hasani. Keta is a full contact serval, allowing keepers to easily increase his activity level via play behaviour and other interaction.

With the aid of Werribee Open range zoo, we were able to complete a Rhino swap between our facilities. The young male Kifaru, 10, has entered the breeding program whilst the older male Kapamba, 24, has now retired at Halls Gap Zoo. Transferring the two Rhinos on the same day was a terrific experience for all keepers, especially new staff learning and assisting with the transfer.

We would like to thank Werribee for their support and assistance throughout this transfer.

In March we welcomed a female Ring-Tailed Lemur 'Asha.' Asha has been partnered with our male Dodi, with hopes of a successful breeding season in the future. The introduction between the two went smoothly, with both lemurs showing positive behaviours.

Due to the position of our enclosure, it was necessary for the Black and White Ruff lemurs and Ring-Tailed lemur to switch enclosures. With the use positive reinforcement training and persistence, we were able to successfully pet-pack train our lemurs.

Two Darwin Carpet Pythons were also added to our collection. Coming from Healesville, the young pythons will eventually become encounter animals, enabling us to educate the public with a hands on experience.

With successful breeding seasons, we were able to welcome numerous new individuals to our facility. Starting with our Bilbies effectively breeding again, producing two offspring (1.1) Tanami and Gibson (above).

With another breeding recommendation for the next season, we are hoping for yet another successful year.

The Elk family have welcomed two new females to the group, the females are now coming up to the feeders, allowing visitors to see them (below).



Throughout the zoo, the birds have completed a great breeding season. The more exciting breeding occurred with our Red-Tailed Black Cockatoo's, successfully raising one male chick, and currently sitting. The Chattering Lorries have raised a chick, sex currently unknown. Bush-Stone Curlews have raised five chicks this season, all of which will go into the release program.

**Veronica Gordon**

## MELBOURNE ZOO *Bushfire Update*

A number of staff, especially Vets have been deployed out in the field to help with the Bushfire Crisis. The makeshift Mallacoota triage Animal Hospital was the main base of operation. There were two triage centres that were set up in Bairnsdale and Corryong to help treat rescued wildlife. It was a massive joint operation with the zoo, local vets & volunteers, the Department of Environment, Land, Water & Planning (DELWP) and the Australian Defence Force.

The days were long for all staff and volunteers...physically and mentally challenging being immersed in the devastation. Witnessing firsthand the effects on wildlife and treating them accordingly as they were brought into the triage centres. Many of which were koalas with varying intensities of burnt hands and feet, with months of healing ahead of them. Many others were not so lucky, for instance, larger animals such as kangaroos and wallabies had to be euthanized out in the bush as they were too badly injured. Our Head Vet, Michael Lynch said that after more than two weeks without food and water,

it's a race against time to save animals who survived the fires before they starve or die of thirst, with much of their habitat wiped out. It was a real community effort as DELWP staff and locals brought up to 70 injured, dehydrated and starving Koalas in around the edge of the fires at Mallacoota and some even with military escort. Our teams from the zoo were moved by the endeavours of the local volunteers from the effected community, doing the washing, cutting gum leaves and even animal observations, watching how much the rescued Koalas were eating.

Once some of the animals were healthy enough to transport, they were flown out on military aircraft along with rotating teams of vets and zoo staff who were swapping out every .5-7 days, pending if conditions were safe enough to fly. The animals flown back were housed at one of our three properties; Melbourne Zoo, Werribee Zoo Open Range Zoo and/or Healesville Sanctuary where we made room for them. Some animals were also taken to Wildlife Carers.

On another note, Melbourne Zoo have also offered shelter to some of the Eastern Bristlebird population from Mallacoota. An evacuation was deemed necessary as the fires threatened to burn through their habitat on Howe Flat, which would wipe out one of just three populations of Bristlebirds on Australia. Unfortunately, one of the other populations (on the NSW-Queensland border) were hit by the fires and their numbers are unknown.

As a result, the rescue efforts were commenced by the Environment Department, Parks Victoria, Zoos Victoria, Monash and Wollongong Universities, Currumbin Sanctuary and the Orbost Incident Management Team. The aim was to capture & save as many birds as possible and fly them to Melbourne Zoo where they can be safely housed until the area was deemed safe for them to return. One of the reasons for this was because they are not as mobile as expected, predominantly being ground dwelling birds. The rescue team managed to catch four pairs of Bristlebirds and a single bird, they are all being cared for with extreme delicacy and minimal disturbance by our Australian Bush team and Currumbin Wildlife Sanctuary keepers too. So amazing to see so many organisations coming together with these collaborative efforts in times of need.

“The extent of the damage of these fires is still unknown. But the Bushfire Emergency Wildlife Fund is pooling donations to ensure long-term plans and immediate action can be taken to ensure our wildlife, including endangered species, can recover from these heartbreaking and ongoing fires – Zoos Victoria.”

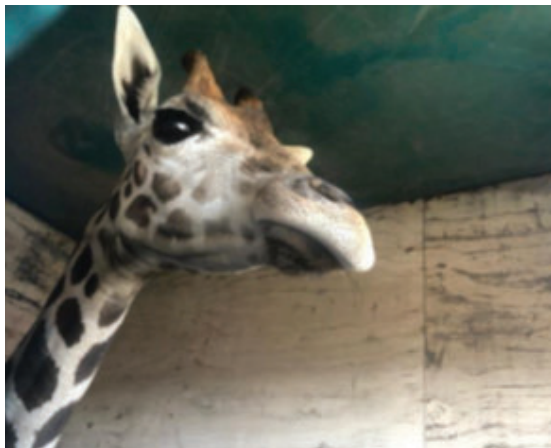


## Zoo news

Due to the need for social distancing and working from home (for some), Zoos Victoria are Live Streaming some animal cameras for you to enjoy. It's called Animal House: we're bringing the zoo to you, just jump onto our website or use the #AnimalsAtHome. We have Lions, Penguins, Giraffes, Zebras and two Snow Leopard Cub Cams, it's addictive! You might even see dancing Zoo Keepers too!

## Carnivores & Ungulates

The team had a bittersweet experience in the last few months... We had to say goodbye to Twiga our beautiful Giraffe at 23 years old, after losing Mukulu last year it really was hard times for the team, she will be missed. However, in the same week the team also had to plan to welcome 15-month-old Giraffe Klinton (pronounced Klinton), from Altina Wildlife Park in NSW. He certainly did bring a smile to everyone's face and did peak our resident girl Nakuru's interest. The arrival of Klinton (below) continues to capture hearts.



## Primates

More sad news dawns upon our Primate team with a heartbreaking goodbye to our beloved Gibbon, Tieu at 46 years old. He lived at the zoo for 40 years with partner Vang and the whole zoo will miss their duets. Furthermore, they also had to say goodbye to Fi our Black & White Ruffed Lemur at 21 years old after losing her sister to the same liver condition earlier this year. This sadly marks the end of an era for this species at Melbourne Zoo. Thought are with the team...



In other news, more Hamadryas Baboon babies! This little one is doing well and can be seen on display with the troop! (Right)



In more exciting news, the team help celebrate Kanzi's, our Western Lowland Gorilla, 5th birthday! She is still her playful self as always and loved annoying Yuska, her beautiful and caring grandmother figure. (below)



## Ectotherms

Our six Green Crested Basilisks and three Royal/ Ball Pythons have arrived from Singapore Zoo! It has been a long and extensive road to get the paperwork, preparations and necessary permits for these reptiles to be imported internationally. They will now spend some time in Quarantine before being able to go on display in the Reptile House.

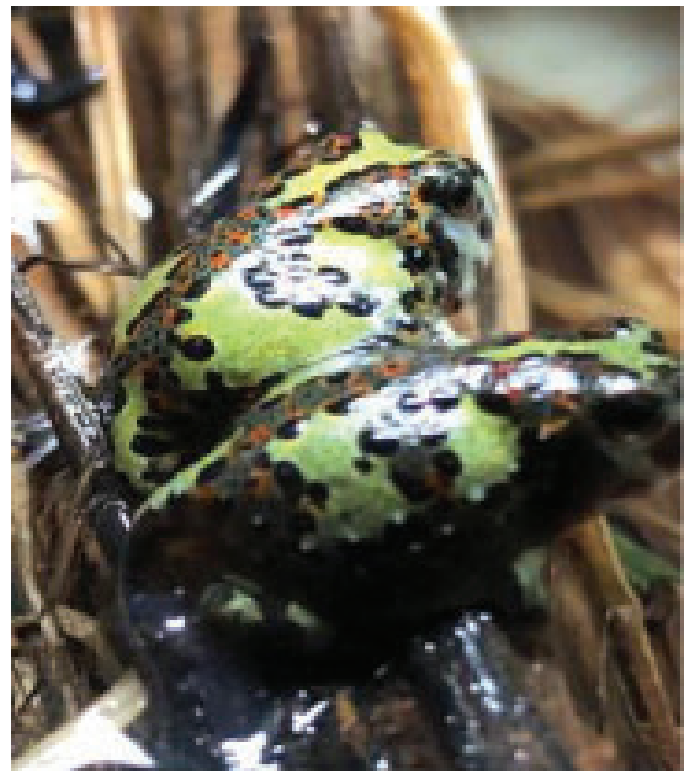
It's been a great season for the team with numerous egg laying and hatchings. With Boyd's Forest Dragon, Black Headed Phytons and Blood Phytons. The Blood Pythonons were quite impressive little replicas of the adults, with remarkable patterns.



Our Southern Corroboree Frogs have also commenced laying eggs (below) and our Baw Baw Frog tadpoles from eggs laid at MZ in November have begun metamorphosing, so far, we have 12 metamorphosed (picture far below on spoon).



Probably one of the most exciting thing that as happen on our department this year is the ground-breaking breeding of the Crucifix Frogs! After a few years of trying and working out the required breeding husbandry, we were finally successful! There were three clutches of eggs laid and to our knowledge, this is the only ever recorded breeding of this species in captivity. This is a huge breakthrough in the knowledge gap of desert species in captivity! Here are some ridiculously cute little “hot cross bun” metamorphs pictured below.



Our Aldabran Giant Tortoise voluntary Blood Draw training is progressing really well. It's our second round of quarterly blood draws in order to get baseline data on their bloodwork. Our male, Little John can be seen below participating in his own healthcare.





After a major refurbishment and a period of being held off-limits, the adult pair of Rhinoceros Iguana have moved back into their home (above). The newly renovated enclosure has major improvements in heating, useable space and lighting which will all lead to improved welfare outcomes for these lizards.

Last but not least, the newly added Key's Matchstick Grasshopper to our Fighting Extinction list was believed to have suffered the effects of the Bushfire. A trip to Omeo, to a search for them where they were rediscovered last year, was needed to see if they had survived. To our relief all sites were unburnt, and their number were strong, they were even found in a couple of new sites! These sites had less grazing by Rabbits and young fresh growth of the daisies that the grasshopper feeds on. The grasshoppers were only kept in the bag temporarily during collecting data on them (below).



## *Trail of the Elephants*

Mali our Asian Elephant turned 10 years old in January. She along with the herd were spoiled with frozen ice block cake and special enrichment activities.

Following her closely behind is younger brother, Man Jai at six years old. Man Jai has reached adolescence and was permanently separated from the family unit, especially mum Dokkoon and his sister Mali. This was to simulate natural order in the wild, as young males are driven out of the female herd unit when they start exhibiting an increase in breeding behaviour as well as dominance, particularly towards younger females in the herd. This process was many months of planning, training and hard work. Man Jai's separation plan went very well, as the team help him build his confidence up by spending time away from the herd each day. He had the support of Kulab & Numoi overnight who are unrelated heavily bonded females while he adjusted to the separation.

After all this and when Man Jai had settled into his new lifestyle, he had to undergo a tusk extraction procedure, as he had damaged his tusk. The Trail, Vets and Assets team came up with an extensive plan to tackle this pickle. The team trained him three times a day to prepare him for his general anaesthetic procedure which was scheduled for the end of February. By the end he progressed even further with his approximations in his training plan than the team first thought for this procedure. As a result, the

procedure went smoothly, and the entire left tusk was extracted. Big thank you to all areas that were involved in helping with the successful outcome including Specialist Gerhard Steenkamp (left) and equine dentist Paul Owens (right) came out to perform the surgery. He recovered well from the 5-hour procedure and was straight back into his training with the team. Well done to all that was involved in this mammoth procedure!



Compiled by Melvin Nathan

## Moved??

Please let us know your new details so you don't miss out on your membership benefits.

Email [memberships@aszk.org.au](mailto:memberships@aszk.org.au)

## WELLINGTON ZOO TRUST

We have had an exciting summer with the birth of two Squirrel Monkey infants to our group, after the successful introduction of two new adult males to our established group of females earlier in 2019.

We have had a Cotton Top Tamarin infant born to our breeding pair. So far the infant has been doing well and both parents are doing a great job of rearing.

Early design plans have started for the return of Snow Leopards to Wellington Zoo. We are currently putting together the habitat design to ensure that all aspects of welfare for these beautiful animals are met including habitat size, complexity, diversity, climate suitability both in the outside habitat and den/housing areas, keeper needs for positive and successful management. The Snow Leopards also have an excellent conservation connection for our visitors to the story of climate change and the effect this is having on them and their natural habitat as with many other species.

Construction has begun of our new Tuatara management area. The new facility has been designed to encompass best management practice of this native species including correct level of sunlight for optimum UV and light, shade, planting, soil depth for burrows and digging. The position of the new facility has been deliberately chosen to accommodate the many needs of this amazing species. Another example of a species where climate change is having an impact and this facility will be an example of what this species require to thrive.

**Jo Thomas, Animal Care Manager**

### From the president - continued

Finally, our Secretary Brit Hides has had to announce stepping down from Committee recently. Brit has been a very active and engaged Committee members for several years and has consistently maintained hardworking contributions to the Committee and broader Membership throughout her term. We wish her all the very best, and hope to see her at a Conference or Workshop in the near future. We know she'll stay deeply connected to habitat preservation and wildlife care in whichever direction she travels.

Looking forward to a much more comfortable and "normal" situation with you all again shortly,

Stay healthy! Chris

## MONARTO ZOO Natives

It was a brutal start to summer at Monarto Safari park with temperatures soaring well into the forties for long periods with very hot, dry and windy conditions making things even more pleasant.

Thankfully the recent rain and milder temperatures has brought some relief and enabled everyone to get stuck in again.

We have recently introduced two groups of female Mainland Tammar to breeding males, resulting in 1.3 and 1.6.

The ambassador Warru joeys are travelling well and have started training for weighing and stationing. They have been slowly introduced to tour guest and all appear to have taken well to it, albeit in slightly different ways due to their differing personalities.

The population of Greater stick nest rats is starting to produced offspring with four pups born to three pairs.

One of our male Brush tailed bettong is recovering well post surgery after he was found to have had injured it's eye. An eye specialist was consulted and the eye deemed irreparable so the decision was made to remove it. On a lighter note a recently deceased male BTB has sired yet another joey making the last six months to a year of his life one of the more productive of his sixteen years on earth.

Devil breeding is in full swing with eight breeding intros seen as successful and four females appearing to have birthed recently. The process of transferring two male devils to Fort Wayne zoo in Indiana is moving forward. Both has been given their per-transfer health checks and are good to go.

The Bilbies have joeys both in and out of pouch. At this stage we have 2.0.1. With any luck the .1 will be a female to even things up a bit.

The Native fauna section is also responsible for the Cape porcupine and Meerkat populations at MSP. The team have been working with the Cape Porcupine in developing their training and conditioning plans and behavioural repertoire. Currently keepers are working with the female Rita to collect urine samples in order to map her oestrus cycle. This will help inform decisions relating to breeding and assist with observation of these predominately nocturnal beasts.

The team is also working toward bringing a new Meerkat tour on line. This will be with the breeding group in addition to the the one being offered with the bachelor group, such is the popularity of Meerkats.

By far the biggest score of recent times is the construction of purpose built facility to house Plains Wanderers. MSP is joining the Plains Wanderer recovery effort and keeping staff have recently spent a three days with the team at Werribee open plains zoo. Invaluable time was spent learning about the husbandry and behavioural quirks and requirements of this odd ground dweller. A huge thank you goes out to Werribee and the Natives team for accommodating our visit.



*Plains Wanderer aviaries at Monarto Zoo*

The Rufous crowned emu wrens continue to be perplexing and keep us guessing. Female Dusty has starting collecting web and other nesting material again (below). This has



happened a number of times over the last couple of years and each time we learn a little more about their behaviour and possibly requirements to achieve a positive breeding outcome. But to date only partially finished nests have been found, well after all nesting behaviour has ceased.

It is looking like a very exciting and busy time in the immediate future for the Native fauna at Monarto Safari Park. What could possibly go wrong.

## Carnivores

There has been a lot happening on the Carnivore section this year with plenty of change in a very short period of time. Firstly, the team had a huge success introducing our 4.2 African painted dogs together in a second attempt to establish a breeding pride. Initial introductions went very smoothly with all dogs interacting well and even displaying some mating behaviours. Interestingly the pack has had a few changes in hierarchy, at times switching on a daily basis, still trying to establish an alpha pair. An injury sustained during this time resulted in one of the males requiring a leg amputation. His recovery was impressive really demonstrating the resilience of African painted dogs as he was able to be up and running with the pack the same day his leg was removed (below left).



Tensions in the hyena clan dynamics eventually resulted in the separation of two young males from the rest of the clan. Plans are now in place to swap these two males with our two breeding males currently housed at Adelaide Zoo. Crate training has been relatively simple with both males spending time comfortably sitting in the crate ready for the transfer.

Management of the lion pride has been busy as keepers closely monitored the progress of two pregnant females, Nia and Husani. After the success of blood-draw training to reliably take blood from all eight adults, vets were also able to clearly track hormone trends during this time. The

installation of a new camera system provided extremely important and detailed information ensuring the team was able to watch remotely as both females went into labour. Husani was first to give birth to four healthy cubs proving to be a very proficient mother. At three weeks of age, these cubs are walking and are starting to emerge from the den. Nia sadly in a prolonged labour gave birth to two deceased cubs and then required vets to intervene and perform a caesarean section to remove a further three. Despite the team's best efforts these cubs were also unable to be revived. Nia is recovering well and moving forward our breeding males, females and eventually the surviving cubs will all be introduced back together to form a cohesive pride of ten.

Two female cheetah were selected to be the first of their species at Tasmania Zoo (below). Keepers were careful to choose two, two and a half year olds from a litter of five, whose personalities best suited new situations. Two Tasmanian keepers also came to Monarto to spend three days getting to know these individuals and learning more about their husbandry. These cheetah then spent a month being crate trained before they were accompanied by a Monarto keeper to their new home. Two more female cheetah, from the same litter, are planned to be heading to Mogo zoo in the near future.



## Primates

As our two infants steadily grow and learn we are seeing some beautiful new behaviours. In the afternoon our dayroom becomes the crèche with six month old Zola, one year old Hope and four year old Enzi playing happily together with both mothers close by. Younger females

Zuri, Lani and Galatea watch on from afar or sometimes take on the baby sitting role to give mum a break and to start training for their future.

The highly anticipated DNA results for Hope confirmed our suspicions that Tsotsi our alpha male had finally fathered his first infant. Tsotsi's genetics are valuable within this region so Hope is not only important to our troop but also the Australasian population.



Our new lemur exhibit at our Wild Africa site is progressing quickly. The internal night quarters are almost complete and we are eagerly awaiting the arrival of ring tail lemurs for the US mid this year. We are taking advantage of the ample space available to create a huge walk through exhibit.

## WILD CAT CONSERVATION CENTRE



## WILD CAT CONSERVATION CENTRE

The residents of the Wild Cat Conservation Centre have been excited by the recent completion of our new Aghajan Savanna, the largest single cheetah habitat in Australia! Our philosophy at our centre is to provide our cats with the opportunity and choice to exhibit as many natural behaviours as possible within a captive environment. The goal is to ensure that, as in a natural environment, no two days are ever the same! We achieve this in a number of ways, including: no set feed times or routine activities for our cats and moving our cats between different habitats instead of living in the one single exhibit.

Another unique element of the management of cats at the Centre are the daily enrichment walks, where each of the servals, caracals and cheetahs is provided with the opportunity to explore and investigate beyond their enclosures, offering unparalleled stimulation to our cats. It is always rewarding to see the cats engaging with their surroundings, whether it be sniffing and scratching at particular trees, or displaying their unique hunting behaviour as they investigate the vegetation. The Savanna expands this horizon, as it provides a secure 2.2-hectare extension to the available area. With this comes a range of new foliage, differing vantage points from which to view the surrounding region and a broad variety of new smells. Guests joining us on some of these walks provides another point of difference, adding variety is to their day: the cats come across you just as they would other animals within their environment!

As keepers, it is satisfying to see our animals displaying this behaviour, though the true reward comes when visitors to the centre gain a greater appreciation for these unique cats and become more engaged with their conservation needs as a result. While our focus to this time has been upon African species, supporting our conservation work in Botswana, we are also looking towards future opportunities with our neighbouring Asian wild cat species.

**Stephen Dalleywater**



*Presents*

# BOWLING



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