



BUSHLAND NEWS

*KATANDRA BUSHLAND SANCTUARY NEWSLETTER
Winter 2020*

Katandra's Open Season has begun. The easing of the Covid-19 virus restrictions over the past month has meant that the Sanctuary has been able to open to visitors. In fact, a gentle stroll around the sanctuary's 2.5 km bush track is an ideal activity for these unusual times. Katandra is open every Sunday from 10am to 4pm during the months from July to October. Visitors are required to follow the government's social distancing rules and only one group of visitors will be able to be in the yurt at a time. Visitors are also encouraged to use the hand sanitizer provided at the yurt door before entry.

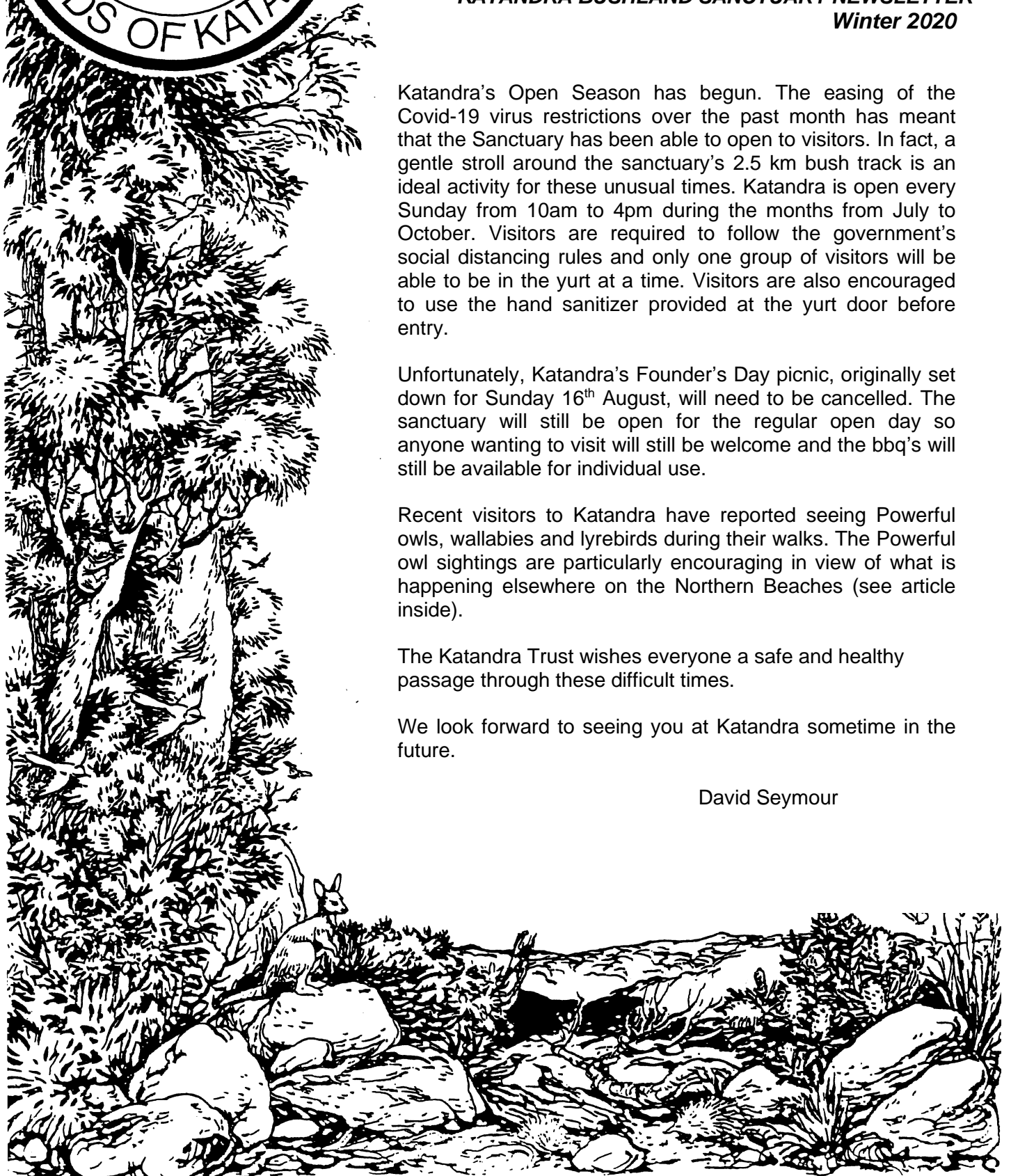
Unfortunately, Katandra's Founder's Day picnic, originally set down for Sunday 16th August, will need to be cancelled. The sanctuary will still be open for the regular open day so anyone wanting to visit will still be welcome and the bbq's will still be available for individual use.

Recent visitors to Katandra have reported seeing Powerful owls, wallabies and lyrebirds during their walks. The Powerful owl sightings are particularly encouraging in view of what is happening elsewhere on the Northern Beaches (see article inside).

The Katandra Trust wishes everyone a safe and healthy passage through these difficult times.

We look forward to seeing you at Katandra sometime in the future.

David Seymour





This Powerful owl has recently been seen on numerous occasions in Katandra, even giving us a good look at his / her eyelids. (see "The eyes have it!" below). This sighting is encouraging considering the recent report in the Pittwater On-line News about a Powerful owl nest being abandoned due to poor land management (*PON 5-18 July 2020 – Pittwater Powerful Owl Nesting Site Razed: Chicks No Longer Present*). This report states that there are 30 registered with Council Powerful owl nesting sites on the Northern Beaches and that this season the Powerful Owl Project has already recorded three Powerful owl families having moved away from nest trees.

We have been unaware of any Powerful owl nests within Katandra in recent years, maybe a family has found a new home.

The eyes have it!

Owl eyes are huge. The eyes of some smaller species can account for up to 3% of their entire body weight. (Eyes account for about 0.03% of a human's body weight.)

Most birds have two eyelids, an outer one for

sleeping and an inner eyelid for cleaning the eye. Owls have three eyelids. A lower one for sleeping, an inner one for cleaning and an upper eyelid just for blinking (as seen in the pictures below).

The eyes of an owl are not true "eyeballs", they are more tube shaped. This shape means that the eyes are completely immobile and cannot move or roll relative to the skull. They are held rigidly in place by "sclerotic rings", rings of bone in the skull acting as eye-sockets.

This inability to move their eyes is compensated for by the owl's ability to rotate their necks 270 degrees. Their very flexible necks have 14 cervical vertebrae and allows them to see more than a full circle of vision without moving their



The shape of an owl eye (left and centre) compared to that of a spherical human eye

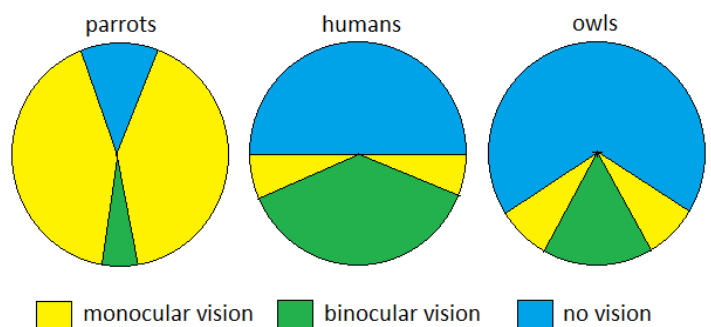
shoulders. A blood-pooling system collects blood to power their brains and eyes when neck movement cuts off circulation. This neck movement also compensates for the owls rather narrow field of vision. Many birds with eyes on the side of their head such as parrots and pigeons have primarily monocular vision (each eye focused on different objects), but they have a field of view of about 300 degrees and so can see things almost behind them.

Because the eyes in an owl are forward-facing, they have binocular vision similar to humans, meaning they can see an object with both eyes at the same time. This gives owls a great ability to judge height, weight and distance. However, while humans have a 180-degree field of view with about 140 degrees of it being binocular, owls only have a 110 degree field of view with about 70 degrees of binocular vision.



Open

Shut



Approximate relative field of monocular and binocular vision of parrots, humans and owls.

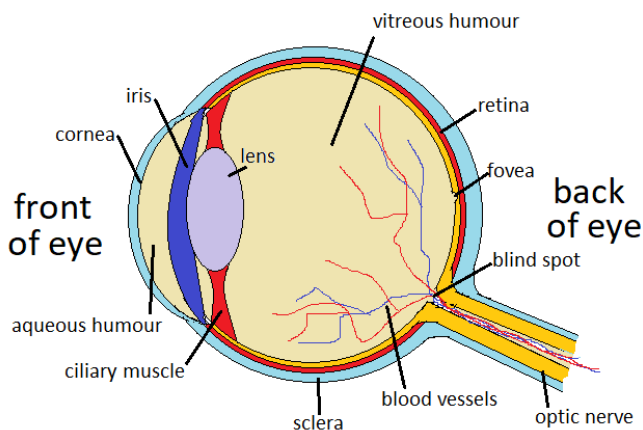
Lack of eye movement contributes to the fact that owls are quite far-sighted (they cannot focus well on objects close-up). Small hair-like feathers on the owl's beaks and feet, called filoplumes, help them feel out their caught prey to help cope with this far-sightedness.

The retina is the light sensitive layer at the back of the eye containing the light detecting vision cells called cones and rods. Cones function best in bright light and are responsible for colour vision. Rods are much more sensitive and function best in dim lights.

While hawks, eagles and falcons have exceptional daytime vision, they cannot see as well at night. Owls large eyes with a wide opening iris and large number of densely packed rods (above five times per square millimetre more than human eyes) allows them to see exceptionally well at night.

Owls can see quite well in the daytime, although they don't see colours well. Their pupils don't get as small as ours in bright light, so to block out the extra light, they often close their eyes half-way or more. They may look sleepy or even half asleep when really they are wide awake and alert.

Birds and primates (including humans) have a special area in the retina called the fovea where these vision cells are especially concentrated. In hawks and owls, the fovea is on the upper part of the retina, so things below the owl appear exceptionally clear. This helps them hunt on the ground. When owls close their eyes half-way, they block out the sky and some of the sunlight, but can still see the ground below perfectly well.



The structure of a human eye showing the fovea almost directly in the middle of the retina behind the lens

Owls and other animals with excellent night vision have a reflective surface behind the retina known as the *tapetum lucidum* (humans don't). This thin layer allows light to reflect back through the animal's eye after it's already passed through the retina, giving the animal two chances to collect an adequate amount of light. This reflection is directly back along the light path serving to match

the original and reflected light, thus maintaining the sharpness and contrast of the image on the retina.

When light shines into the eye of an animal having a tapetum lucidum, the pupil appears to glow. This "eyeshine" can occur in a wide variety of colours including white, blue, green, yellow and red. As the eyeshine is a type of iridescence produced by thin-film interference, the colour varies with the angle at which it is seen and the minerals which make up the reflective tapetum lucidum crystals.



Eyeshine can appear in different colours (from left a Powerful owl, possum, domestic cat)

Owls don't only use their eyesight to detect prey, they also have exceptional hearing. The facial disk helps collect sounds by funnelling them to ears hidden beneath the feathers in the disk. Some owls have ear tufts—soft feathers that stick up and look like ears. Owl's ears are asymmetrical in shape, size, and placement. One ear is higher than the other so it can hear noises from above; the other is lower to hear noises from below. This placement allows the owl to pinpoint the direction and location of sounds. Owls can hunt by sound alone, easily locating prey under leaf litter or snow.

Yurt repairs

The front verandah section of the yurt in Katandra has recently been replaced. This yurt was built in the early 1980's and survived the 1994 fire despite the overhanging trees being burnt. The yurt contains numerous displays for visitor interest



Repair work in progress

Katandra website: www.katandra.org

KATANDRA BUSHLAND SANCTUARY

Foley's Hill, Lane Cove Rd, Ingleside NSW
Department of Lands Reserve No 86487
Founder: the late Harold Alfred Seymour
Managed by Katandra Bushland Sanctuary Trust.
Phone: 0431857407

OPEN: Every Sunday: July, August, September, October

HOURS: 10 am — 4 pm

ADMISSION: \$3 donation

KATANDRA BUSHLAND SANCTUARY TRUST PO Box 365 Mona Vale NSW 1660

President: David Seymour
Vice-President: David James
Secretary: (acting) David Seymour
Treasurer: Peter Hammond
Minutes Secretary: David Malin
Bushland News Editor: Marita Macrae

(Cover Design by the late Walter Cunningham)

**Enquiries: phone 0431857407 or by email
information@katandra.org**

Volunteers are needed

If you can assist on maintenance days or with welcoming visitors to Katandra on open days, please phone 0431857407

DIARY DATES 2020 – TO BE REVIEWED

SAUSAGE SIZZLE - CANCELLED

~~Sunday 3rd May, 12 noon~~

~~Enjoy a sausage sandwich and drinks provided by the Trust.~~

FOUNDER'S DAY – CANCELLED

~~Sunday 16th August, 12 noon~~

~~Bring your lunch to cook on the wood burning BBQs. The trust will provide 'dessert', drinks, tea and coffee.~~

CHRISTMAS PARTY– SUBJECT TO REVIEW

~~Sunday 6th December, 4.30 pm~~

~~Cold meats, drinks and salads are provided, but please feel free to bring along some sweets or savouries to share before or after. Also enter the raffle to win one of Ruth's sort-after Christmas cakes.~~

SANCTUARY MAINTENANCE 2020

(3rd Sunday March–November)

~~9 am Sunday 15 March~~

~~9 am Sunday 19 April~~

~~9 am Sunday 17 May~~

~~9 am Sunday 21 June~~

~~9 am Sunday 19 July~~

~~9 am Sunday 20 September~~

~~9 am Sunday 18 October~~

~~9 am Sunday 15 November~~

**CANCELLED UNTIL
FURTHER NOTICE**

PUBLIC OPEN DAYS 2020

Each Sunday of July–October

10 am – 4 pm

Katandra Bushland Sanctuary Trust
PO Box 365 Mona Vale NSW 1660