

# WILDLIFE DIARY

August 2017



## Great Finds

**Osprey**, *Pandion cristatus*, are coming to the end of their breeding season. Mobile towers and navigation beacons make great nesting sites. Some are used for many years.

**Eastern Sedgefrog**, *Litoria fallax*, have started to become active callers during the day.

## POPULATION MATTERS

Studies of cities around the Baltic Sea (Folke et al. 1997) suggest that on average around 1,000 km<sup>2</sup> of forests, arable land, wetlands, and inland and marine waters are required to provide natural resources and assimilate carbon, nitrogen and phosphorus wastes per km<sup>2</sup> of city. Over 80 per cent of the area was required for assimilation of carbon and other wastes. Extrapolating the analyses to the 744 largest cities in the world, it was estimated that the world's need for carbon sequestration already outstrips capacity substantially (Folke et al. 1997).

<http://www.environment.gov.au/system/files/resources/11543d24-9f2c-44ee-a52c-83dfa6adb7d9/files/ecosystem-services.pdf>

### World population clock

<http://www.worldometers.info/world-population/>

## Urgent: Hands Off Our ABC!

The Australian Institute shows that the ABC is Australia's most trusted broadcaster [1]. At a time when so-called 'fake news' is at an all time high and journalism jobs are being cut across the country, has there ever been a greater need for a strong, independent and trusted national broadcaster?

The Federal Government has proposed legislation to relax restrictions on who can own and operate newspapers, TV and radio stations in Australia. Pauline Hanson's One Nation party has reportedly proposed that ABC funding should be cut as a condition of its support for the legislation.

[http://nb.tai.org.au/hands\\_off\\_abc?utm\\_campaign=abc\\_fundraise&utm\\_medium=email&utm\\_source=theausinstitute](http://nb.tai.org.au/hands_off_abc?utm_campaign=abc_fundraise&utm_medium=email&utm_source=theausinstitute)

## Flowers & Fruit

**Eprapah Wattle**, *Acacia fimbriata* var. *perangusta*, continues to flower prolifically throughout the region.

## Did You Know?

Did you know the Weberian apparatus of otophysine fishes (carps and minnows, catfishes, characins, knifefishes) facilitates sound transmission from the swimbladder to the inner ear to increase hearing sensitivity. It has been of great interest to biologists since the 19th century. No studies, however, are available on the development of the Weberian ossicles and its effect on the development of hearing in catfishes. These Weberian ossicles enable otophysines to detect sound pressure and extend their hearing range to lower sound intensities and to sound frequencies of up to several kHz. Source: Ladich, F (2012). Bioacoustics journal.



### Great Walks

Join us for a walk around Days Road Reserve. 6:30am start, 19th August. Travel to the end of Days Road and park. Open forest, billabongs and bushland birds.

## WWW

Australian government to roll back marine protections

<https://tinyurl.com/ya2nkc7l>

Toondah harbour & political donations

<https://tinyurl.com/jnbqqgk>

Observing fires from space

<http://www.firenorth.org.au/nafi3/>

Wildlife Matters: Climate Change

<http://wildlife.org.au/whats-on-page/>

Save Birkdale Bushland

<http://www.savebirkdalebushland.com/>

# Fire

Fire can be a very destructive force. Bushfires can be chaotic events that cause much panic and concern among the community. Much of the concern is for the welfare of the animals that live in the bush. It is important to remember that while some fauna will be directly killed by fire, many native fauna species are actually very dependent on fire and certain fire intervals for their long-term survival.

SEQ Fire & Biodiversity CONSORTIUM have put a factsheet together that presents some information on the role of fire in the Australian landscape and how many animals adapt to a particular 'regime' of fire.

<http://www.fireandbiodiversity.org.au/publications.html>

- Some species are avoiders, staying alive by moving out of the area or taking shelter underground or in hollow logs.
- Other species lose individuals in a fire, and recolonise from unburnt areas.

Bushland goes through various stages of recovery after a fire. Initially undergrowth and shading are bare. The first stage after a fire grasses, orchids and short lived herbs grow and flower. After a few years the shrub layer gets thicker, shrubs start flowering and their fruits become readily available.

Smaller plants such as grasses and herbs now become shaded out. Many years after a fire the country opens out again as short lived shrubs die off. These stages of vegetation recovery after fire provides a range of diverse habitats for many animal species. Not enough fire: In areas that have been unburnt for many decades, intense wildfires can occur resulting in the local extinction of fauna populations due to the loss of all individuals.

Too much fire: Areas burnt too frequently can have a loss of species due to reduced habitat complexity.

The response of bird species after a fire has been well studied. Being highly mobile, many birds can avoid fire and some species of birds are observed returning to burnt areas within a few hours following the passing of a fire front. Large scale, high intensity fires can result in high mortality rates through the fire itself and reduced food availability immediately after the fire. Low to medium intensity fires result in lower mortality rates, with populations moving to adjacent unburnt areas. Starvation may occur when competition for food with birds in adjacent territories is high.

There have been few studies on the impacts of fire on invertebrates but studies have shown that fire has a large impact. There are often very high mortality rates, particularly when all ground litter is consumed by the fire. One study showed a very high recovery rate following fire, mainly in species with low numbers at unburnt sites. The recovery of invertebrates is closely connected with vegetation complexity during the regeneration process. Ants are often used as indicators of recovery following a fire. Levels of leaf litter and debris increase over time and allow opportunities for many species to return. The retention of unburnt areas is very important for maintaining healthy invertebrate populations.

In general, amphibians are immediately impacted less than other fauna, due to their preference for wet habitats. Intense fires that burn these wet habitats will have a direct impact in mortality and they may also suffer from reduced food availability. Burning these areas in a mosaic pattern should ensure that species can persist in the long term.

**Conclusion:** Animal species respond in numerous ways to fire and this complexity means there is no simple rule for managing fire to conserve fauna. Ensuring that sufficient areas remain unburnt is vital for allowing fauna to recolonise areas as they regenerate. Applying a range of fire frequencies throughout the landscape can increase habitat diversity and in turn the diversity of fauna populations.

*Never doubt that a small, group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has.* Margaret Mead.



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