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Latest news from the REC

The NSW Roadside Environment Committee (REC) has again sponsored the NSW Roadside Environmental Management Award as part of the Local Government Excellence in the Environment Awards. This award is open to NSW local councils and council organisations.

The 2020 award submissions are currently being judged. Finalists will be announced mid August.

The award ceremony is planned for 13 October 2020 at Prince Henry Centre, Little Bay.

More details at <https://www.lgnsw.org.au/event/s-training/environment-awards>

Discovering Mahony's Toadlet – expanding the Hunter and Central Coast Roadside Environmental Marker Scheme

A new amphibian species, Mahony's Toadlet (*Uperoleia mahonyi*), was discovered in the Port Stephens Local Government Area in 2016 and was listed as a threatened species under the New South Wales *Biodiversity Conservation Act (2016)* on 10 March 2017.

Thanks to funding received through a Local Government NSW Council Roadside Reserves Environmental Grant, Port Stephens Council undertook ecological surveys of roadside environments within the Local Government Area to understand more about the Mahony's Toadlet habitat and other threatened amphibian species including the Wallum's Froglet (*Crinia tinnula*).

The amphibian surveys completed in March this year identified six roadside locations where threatened amphibian species are likely to be found within both breeding and foraging habitats.

Port Stephens Council collaborated with the Hunter Joint Organisation to ensure the findings were incorporated into the Hunter Regional Roadside Environment

Marker Scheme, which then saw a new marker category, standard operating procedures, and updated field guides created for amphibians.

These resources are now available for use by other road authorities across the Hunter Region.

For more details on this project contact Kirily Sheridan on 4988 0189

Kirily.Sheridan@portstephens.nsw.gov.au

For more information about the Hunter Regional Roadside Marker Program

<https://www.hccrems.com.au/roadside-environment-program/>



Hunter
Joint Organisation



This project has been assisted by the NSW Government through its Environmental Trust and supported by LGNSW

Finding a balance on Weed Control near Bathurst

The Central Tablelands Local Land Services (LLS) has continued to work with local government to protect roadside vegetation in the Bathurst Regional Council (BRC) area as part of the Driving Corridor Connectivity (DCC) project.



An eight kilometre section of Duramana Road and The Bridle Track was identified as an area of valuable roadside vegetation that could provide linkages and connectivity in a Box Gum Grassy Woodland community. This section of road was under threat from woody weed encroachment with species such as Willow, Pine, Apple, Prunus, Quince, Hawthorne, Privet, Boxthorn, Prickly Pear and Elm being the major species that had a foothold on the roadside.

Bruce Christie, project manager for the DCC project, said, "The weeds we targeted were invasive species rather than the usual suite of weeds that would be council's responsibility to control."

BRC began community engagement with the response being mostly positive to the removal of the weeds; however, there was some community concern over the removal of mature fruit trees, namely quince and apple trees. The nearby landholders stated there was value to these trees as they are used for roadside harvest of fruit. To accommodate their concern it was decided to leave some mature fruit trees (around a dozen) with all the young trees removed.

BRC engaged Skillset Landworks to remove the weeds either through cut and paint or stem injection with herbicide. Treated vegetation was left in suitable locations in the road reserve as habitat.

Joel Little from BRC said, "We were very satisfied with the outcome of this project. The vast majority of woody weeds have been removed which has reduced the threat to the Box Gum Grassy Woodland Community."



The Driving Corridor Connectivity project is funded through the Australian Government's National Landcare Program.

For more details contact Bruce Christie (LLS) email: bruce.j.christie@lls.nsw.gov.au

New Signs to Help Identify Weeds

New weeds signs have been installed across the Hilltops region.

Hilltops Council was successful in the 2019 small grants round from the South East Regional Weed Action Program administered by Local Land Services and the NSW Department of Primary Industries.

With this funding, Council was able to install seven new weed signs within the Hilltops area.

"These signs are a valuable asset for the region and have interchangeable inserts which will be rotated throughout the year," says Hilltops Council Bio-security Weeds Officer Tom Pickering.



From the left Megan Wyllie, Tom Pickering and Ben Mott.



Hilltops Council would like to thank Megan Wyllie, South East Regional Weeds Coordinator, for her help and assistance in securing this funding.

These signs will assist farmers and local residents in identifying Council's priority weeds, and the seasons in which they grow.

For more details contact Tom Pickering, Hilltops Council email: Thomas.Pickering@hilltops.nsw.gov.au

Lachlan Valley sculpture trail installed on Travelling Stock Reserves

Twenty new large-scale sculptures are being installed on a Travelling Stock Reserve (TSR) in the Lachlan Valley as part of an initiative by the Forbes Art Society, Evolution Mining and the Forbes and Lachlan Shire Councils.

It is hoped that the project will inject much needed tourism dollars into communities of the Lachlan Valley. The project received state government funding in 2019 from the NSW Regional Growth – Tourism and Environment Fund. The 100km art trail is being installed over the next 18 months.

“Our vision is that the trail will become an inland ‘Sculptures by the Sea’” said Forbes Art Society Sculpture Committee Chair and co-creator of the trail, Dr Keith Mullette.

The overall project will also see improvements at Gum Swamp, where, in addition to sculptures, three new bird hides will be constructed and a fourth improved. The site, already a popular one for ornithologists, will see the experience for these visitors vastly improved, with board walks and walking tracks constructed.

More details at <https://www.forbes.nsw.gov.au/news/july-2020/lachlan-valley-sculpture-trail-is-expanding>



Installation of Goanna named Varanus (Gugaa) crafted by northern NSW sculptor Glen Star (source: Forbes Shire Council)

Virtual Fence Success in Victoria

City of Casey Council in Victoria last year installed a virtual fence with the aim of reducing kangaroo mortality along a one kilometre stretch of road.

The virtual fence, produced by Wildlife Safety Solutions, is a system of bollards (see image below) activated by approaching headlights, which cause it to emit a combination of sound and light stimuli that alert and repel animals from the road side.



A local wildlife shelter 'Sue's Roos Kangaroo Rescue-Rehab-Release' has reported a significant decrease in kangaroo fatalities and injuries on Facebook. From this section of road alone they would usually be caring for an influx of orphaned joeys between March and May, however this year they have not had a single orphaned joey. Sue also reported that there has been a decrease in the number of injured kangaroos along this stretch of road, and that of the 12 she has attended, five were in daylight hours and five where a sensor was missing. She would in previous years have attended an average of 79 injured kangaroos on this stretch of road.

Draft State Strategic Plan for Crown land on Exhibition



Crown land is highly valued and enjoyed by individuals and diverse communities across the state. It is used for a wide variety of purposes, from farms, parks, reserves, roads and cemeteries, to showgrounds, campgrounds, surf clubs, community halls and industrial sites. It also may have significant environmental values including threatened species and threatened ecological communities.

Under the *Crown Land Management Act 2016* the NSW Government is required to create a State Strategic Plan for Crown land. The State Strategic Plan will set the vision, priorities and overarching strategy for the management of Crown land and outline timeframes and outcomes.

Feedback on the draft State Strategic Plan for Crown land can be provided until **midnight Thursday 20 August 2020**.

For more details and how to make a submission:

<https://www.industry.nsw.gov.au/lands/public/on-exhibition/draft-state-strategic-plan-for-crown-land>

The Australian Roadkill Reporting Project



Australia has no national roadkill monitoring scheme. To address this gap in knowledge, a roadkill reporting application (app) was developed by researchers at the University of Sydney, to allow members of the public to join professional researchers in gathering Australian data.

The app is used to photograph roadkill and simultaneously records the GPS location, time and date. These data are uploaded immediately to a website for data management.

To illustrate the capacity to facilitate cost-effective mitigation measures a recent article in the journal *Animals* focuses on two roadkill hotspots in Queensland and Tasmania. In total, 1,609 reports were gathered in the first three months of the project. They include data on mammals (75% of the reports), birds (7.8%), reptiles (4.9%), amphibians (0.025%), unidentified (11.8%) and unserviceable ones (n = 9).

According to the researchers, "A significant finding is variance in the distribution of mammals and birds at different times of day. These findings reflect diurnal variation in the activity levels of different species and underline the need for data on a targeted species to be collected at appropriate times of day.

"By continuing to facilitate roadkill monitoring, it is anticipated that the data generated by the app will directly increase knowledge of roadkill numbers and hotspots. Indirectly, it will provide value-added information on animal behaviour, disease and population dynamics, as well as for species distribution mapping."

Access the article at <https://www.mdpi.com/2076-2615/10/7/1112>

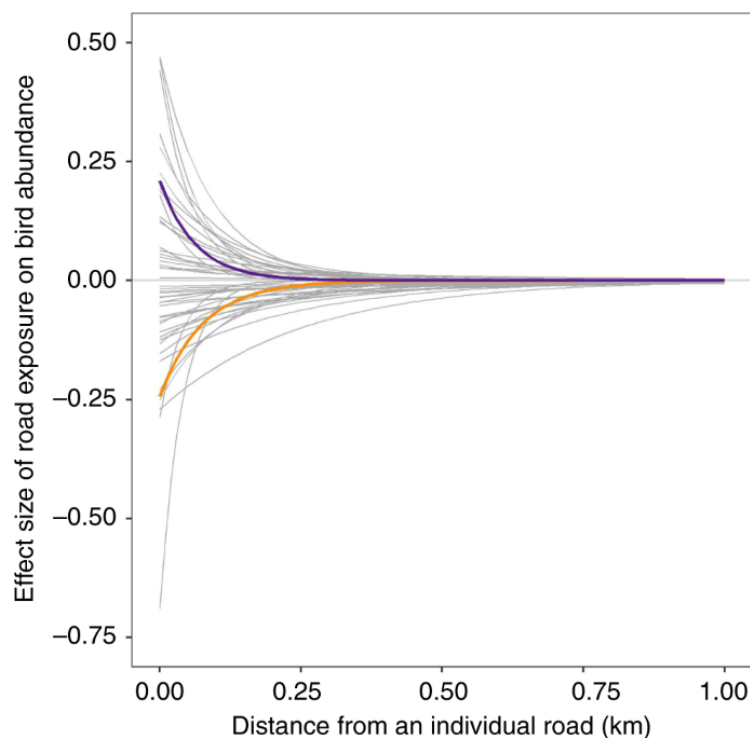
Find the Roadkill Reporter app at <https://apps.apple.com/au/app/roadkill-reporter/id1388114706>

Roads Influence Bird Population Density in major UK study

A study by UK researchers published in *Nature Communications* has revealed that for many species of birds, their distribution is influenced by exposure to the road network.

Of the birds which were influenced by the presence of roads, around half of bird species increased in frequency near roads, while around half decreased in frequency. For major roads, this increased to around 80% of birds being negatively impacted by roads.

The negative effect was evident within 700 metres of a road, and those species most likely to be negatively impacted were those which were rare, smaller bodied and migrant species.



Effect curves for each species with distance from an individual road

Access the article at <https://www.nature.com/articles/s41467-020-16899-x>

Black Summer Fires Impact Fauna Habitat and Species

A recent study published in *Nature Ecology and Evolution* has found that 70 species of native vertebrate fauna had a substantial proportion (>30%) of habitat impacted as a result of the 2019-2020 Australian bushfires.

Whilst 21 of these were already listed as threatened, the other 49 species are now at significant risk, and should be urgently assessed according to the study.

A paper commissioned by the World Wildlife Fund for Nature (WWF) and based on the work of 10 scientists, estimates that almost 3 billion animals were affected

by the bushfires. This includes around 143 million mammals, 180 million birds, 51 million frogs and 2.5 billion reptiles which would be expected to occur in the 11.46 million hectares of burned land. While not all of these animals would have been directly killed by the flames or heat, those which survived the initial impact would have suffered from starvation, dehydration and predation from feral cats and foxes.

More details at:

<https://www.theguardian.com/environment/2020/jul/21/bushfire-devastation-leaves-almost-50-australian-native-species-at-risk-of-becoming-threatened>

<https://www.theguardian.com/environment/2020/jul/28/almost-3-billion-animals-affected-by-australian-megafires-report-shows-aoe>

New Roads Will Be Built in Tiger Habitat

Nations are expected to build nearly 25,000 kms of new roads through tiger habitat by mid-century, driven by major infrastructure projects such as China's Belt and Road Initiative, according to a new analysis published in the journal *Science Advances*.

The study also found that the 140,000 kms of roads that already cross through tiger habitat are decreasing the population and its prey by as much as 20 %.

The research, led by ecologists at the University of Michigan, examined global road datasets and forecasts for new infrastructure to calculate road density, distance to the nearest road, and species abundance across the tiger's 700,000 sq km range in Asia. Just 4,000 tigers exist in the wild today, most of them living in South Asia, where development and population pressures are mounting rapidly.

The scientists found that 43% of breeding activity occurs within five kilometres of a road, and that 57% of land in protected tiger habitats sits within five kilometres of a road. The researchers also found that areas without any formal wildlife protections had road densities 34% higher than protected areas, making clear that legal conservation efforts are critical to saving tigers, their prey, and their habitats.

Access the research at <https://advances.sciencemag.org/content/6/18/eaaz9619>



Mapping Vegetation Health Around the World

A new spaceborne sensor monitors Earth's surface temperature at a resolution higher than ever before, providing information on ecosystem responses to changes in water availability and climate stressors.

In June 2018, NASA launched its Ecosystem Spaceborne Thermal Radiometer Experiment on Space Station (ECOSTRESS) mission, which features an instrument on the International Space Station (ISS). This instrument collects thermal data from Earth's surface with the highest combined spatial, temporal, and spectral resolution to date. These data are used to model evapotranspiration (ET), a measure of water transfer from plants and soils to the atmosphere.

Rising temperatures and limited water can result in increased vegetation stress, causing plants to closely conserve water. As the release of water has a cooling effect, stressed plants heat up, a change that can be detected as increases in temperature and ET.

Evapotranspiration underpins the ECOSTRESS mission's main science and applications goals to understand (1) how water availability affects key climate biomes around the world, (2) the variability of evapotranspiration on a diurnal (sub-daily) scale, and (3) drought onset and agricultural vulnerability.

To achieve these science and applications objectives, ECOSTRESS produces data at 70-metres resolution.

ECOSTRESS revisits and collects data over a given area as often as multiple times per day or as infrequently as every few days, depending on location.

More details at <https://eos.org/science-updates/mapping-vegetation-health-around-the-world>

The aim of this newsletter is to share information about the management of NSW linear reserve environments and profile the NSW Roadside Environment Committee (REC).

For more information about the REC: <https://www.rms.nsw.gov.au/about/what-we-do/committees/roadside-environment-committee.html>

Please contact the REC Executive Officer if you wish to subscribe or unsubscribe.



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