



November 2019 Edition 40

In this issue

- 2019 NSW Roadside Environmental Management Award
- Community Wildlife Survey
- Edna Walling and roadside environments
- Developing the Cumberland Plain Conservation Plan
- Wingecarribee Roadside Management Plan released
- Inland Rail completes first construction
- Research into historical changes to TSRs
- Gel to stop fires starting near roads
- Roadsides Are Refuges for Declining Pollinators
- The Best Nature Books of 2019

Latest news from the REC

The 2018-19 REC Annual Report has been released. The report provides details of progress related to the three outcomes in the REC strategic plan:

1. Projects delivered and assistance provided to improve linear corridor management
2. REC members understand and share good practices
3. Stakeholders aware of REC's key initiatives

Contact the Executive Officer (details at the end of the newsletter) for the report.

2019 NSW Roadside Environmental Management Award



This year the Excellence in the Environment Awards celebrated 22 years of inspiration from NSW councils in programs, projects and people across 16 award categories, culminating in two prestigious Local Sustainability Awards: one for overall council performance, and one to recognise the individual achievements of a council staff member or elected councillor in the field of sustainability.

One of the award categories is the Roadside Environmental Management Award sponsored by the NSW REC. This award recognises on-ground achievements in roadside environmental management, as well as strategic initiatives that build capacity to deliver these achievements over time and across tenures.

This award recognises activities which:

- Improve the condition of roadside vegetation, including through the management of threats.
- Build capacity to deliver on-ground roadside environmental management initiatives.
- Promote co-operation and collaboration in roadside environmental management across tenures.

- Build and/or disseminate knowledge about roadside environmental values and management.

There are four finalists in the 2019 Roadside Environmental Management award category:

- **Bellingen Shire Council - Bellingen Roadside Environmental Management Plan.** Council assessed 20% of roadsides within the local government area, providing the foundation for conservation value mapping. A management plan and operational guideline were developed, and a number of roadside management tools were integrated into Council's asset management software. Increased communication and understanding between the operational and environment staff was also highlighted as a key outcome and ongoing aim.
- **Coffs Harbour City Council - Roadside vegetation as a natural asset - a pilot.** This project collated data for roadside vegetation for input into Council's asset management system. Once the vegetation is recognised as an asset, it is then considered when works are being scheduled within roadside reserves with data viewed spatially by on-ground staff in the same way traditional assets are viewed and maintained. The project incorporated the vegetation into the Asset Register results in greater protection through asset identification and management actions to ensure its on-going maintenance.
- **Griffith City Council - An innovative solution to measuring & revaluing Griffith's roadside reserves.** Griffith City Council undertook a comprehensive survey of 1,348 km of roadside reserves, identifying the vegetation communities and their condition. This informed the development of the Griffith Roadside Vegetation Management Plan, a Roadside Reserves Vegetation Management Guide, online tablet platform and training program. These resources will help to ensure that council operations do not have a detrimental impact on protected or threatened species or endangered ecological communities in roadside reserves.
- **Wingecarribee Shire Council - Integrated Roadside Environmental Management Framework.** This project developed three tools that are integrated into the Roadside Management Plan including an improved mapping tool, environmental guidelines for common management activities and position statements for the community. Council focused on a collaborative approach in order to capture corporate knowledge, build staff awareness and gain consensus on management activities. The project has built Council's understanding of roadside management and developed easy to use tools as a central point of reference.

Award winners will be announced at the Local Government Excellence in the Environment Awards ceremony to be held on Tuesday 3 December (9.30AM-4PM) at Waterview, Bicentennial Drive, Bicentennial Park, Sydney Olympic Park. More details at: <https://www.lgnsw.org.au/events-training/environment-awards>



Roadside in Bellingen LGA

Community Wildlife Survey



The Department of Planning, Industry and Environment (DPIE) as part of the NSW Koala Strategy is conducting an interactive survey which will help it gain a better understanding of where across NSW the ten animals it is asking about are found, their health, and perceived threats in their environments. Importantly, comparisons with previous surveys allow trends in populations and their vitals to be monitored. The success of the survey depends on the number of participants, their geographic spread (from all across NSW) and the breadth of their experience (people from all age groups and walks of life).

The survey questions include:

- which of the ten target animals in the image gallery (see example image above) occur in your local area
- when you last saw the animals in your local area and if you think their numbers are increasing, decreasing or staying the same
- the health of the koalas in your local area and do they have young (joeys)
- what you think are the main threats to koalas in your local area
- where in New South Wales you have seen any of the ten target animals over the last two years.

This survey should take between 10 and 20 minutes to complete. Access it via <https://www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species/programs-legislation-and-framework/nsw-koala-strategy/koala-and-other-wildlife-survey>

Edna Walling and roadside environments

Edna Margaret Walling (4 December 1896 – 8 August 1973) was one of Australia's most influential landscape designers. However, in the 1950s, Walling became interested in the conservation of roadside vegetation and was a prolific writer in the press on the subject as well as her 1952 book 'The Australian Roadside'. This book was viewed as 'ahead of its time in denouncing the new motorways of the decade - straight, fast and ugly, built without a thought of conserving and planting wayside trees' (The Age, 2005).

In the mid-1940s Walling had developed a particular interest in native plants; she had begun using them in domestic gardens in the 1920s. An early and active conservationist, she joined battles to protect the natural environment and crusaded for the preservation of indigenous roadside vegetation. She was an outstanding photographer who always took her camera on her extensive travels.

The 'Australian Roadside' was republished in 1985. It is available from a range of booksellers and in libraries.

Developing the Cumberland Plain Conservation Plan

The NSW Government is developing a conservation plan for Western Sydney to help balance the future needs of the community, and protect threatened plants and animals in Western Sydney for the long term.

The population of the Western Sydney is projected to grow from 740,000 in 2016 to 1.1 million by 2036, and to well over 1.5 million by 2056.

The Cumberland Plain Conservation Plan is part of the Government's commitment to delivering the Western Parkland City. It will protect the region's threatened plants and animals and support the needs of the community through the creation of conservation lands and green spaces close to homes.

The Plan will seek to offset impacts on threatened plants and animals through a conservation program that includes new reserves and ecological restoration. The Plan aims to deliver connected conservation areas for native plants and animals and green spaces for local communities. More green spaces close to homes means more shade, cooler suburbs, and a better urban environment for communities to enjoy.

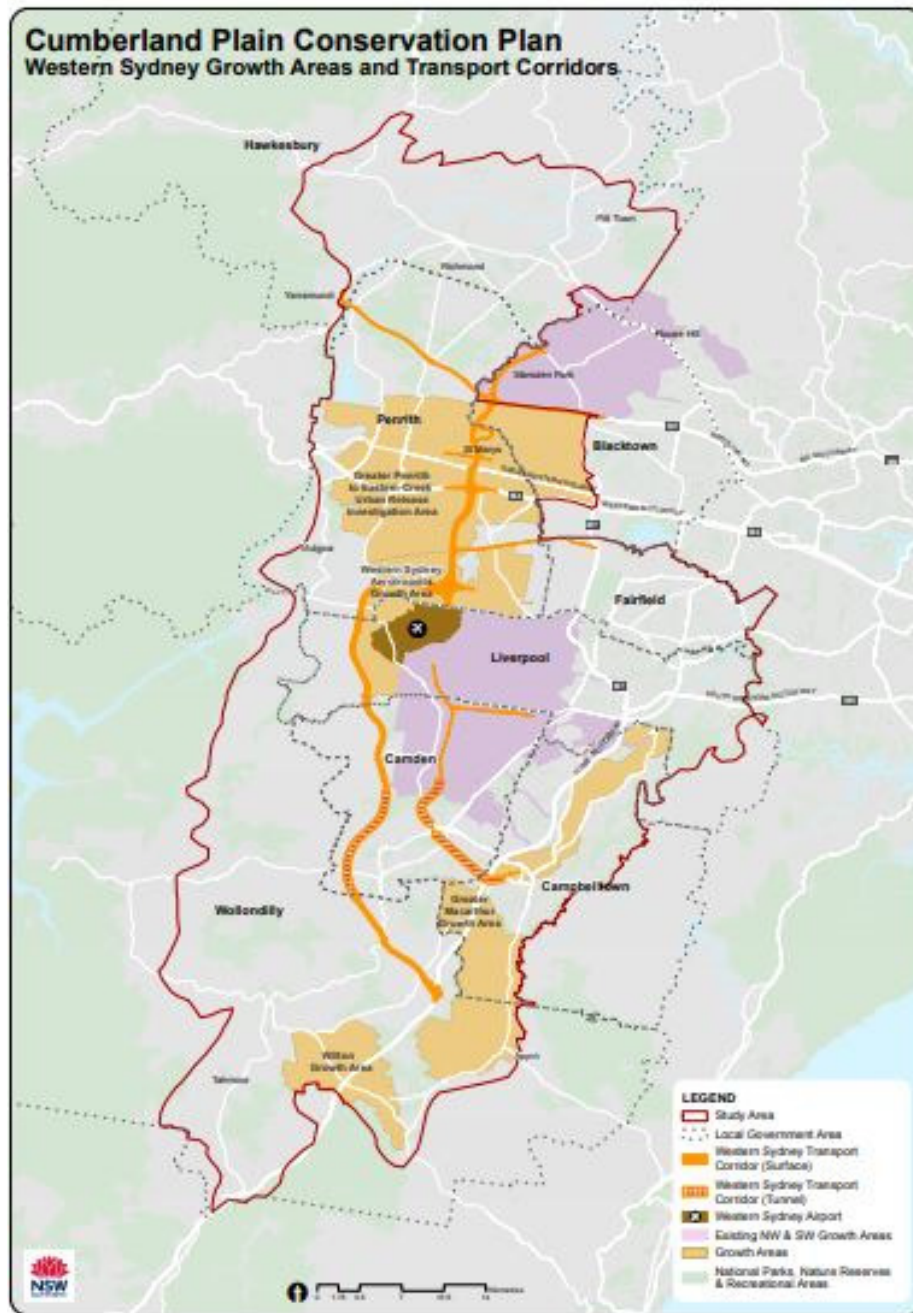
The Plan covers an area of around 200,000 hectares in Western Sydney (see map below) and spans across eight local government areas: Wollondilly, Camden, Campbelltown, Liverpool, Fairfield, Penrith, Blacktown and Hawkesbury. It will support the delivery of the NSW Government's Growth Areas program and the development of the transport corridors – these are:

- Greater Macarthur Growth Area
- Wilton Growth Area
- Greater Penrith to Eastern Creek Urban Release Investigation Area
- Western Sydney Aerotropolis Growth Areas.

The NSW Government wants help from the local community and stakeholders as it develops the Cumberland Plain Conservation Plan:

- It invites you to complete a survey to help it understand local conservation sites and priorities and ways to protect and enhance Western Sydney's important biodiversity values and green spaces.
- It also invites you to learn more about the Plan and tell it about important natural areas and native animals in your area using our interactive map.

The survey and interactive map will be open until 2 December 2019 and can be accessed at <https://www.planning.nsw.gov.au/Policy-and-Legislation/Biodiversity/Cumberland-Plain-Conservation-Plan/Community-engagement>



Study area for the Cumberland Plain Conservation Plan (red line) and proposed transport corridors (orange lines)

Wingecarribee Roadside Management Plan released

The Roadside Management Plan (RMP) integrates the three elements of the Wingecarribee Shire Council Integrated Roadside Environmental Management Framework project which was part of the Council Roadside Reserves project managed by LG NSW and assisted by the New South Wales Government through its Environmental Trust grant program.

The three elements are:

1. Roadside prioritisation mapping product
2. Position statements
3. Environmental guidelines.

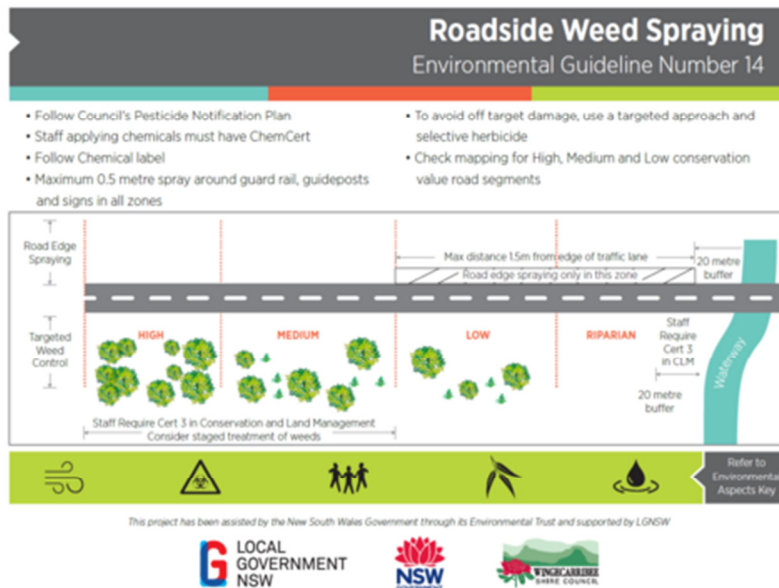
The RMP replaces the former Wingecarribee Roadside Management Plan (1998) and Tree Management Plan and Procedure Manual (2005), and complements the current Street Tree Master Plan.

Council staff (including its contractors) must use the three key components of the RMP for their various functions that have the potential to interact with the environment – especially roadside vegetation – within Council managed roads.

Although the RMP is primarily intended for Council staff, it may also be used by the wider community to assist with roadside environmental management. For example public authorities may choose to implement the Environmental Guidelines, developers may be required to implement Environmental Guidelines, or the general public may want to have a better understanding of roadside environmental management.

The RMP can be accessed at

<https://www.wsc.nsw.gov.au/services/environment/management-of-trees/roadside-management-plan>



Example of an Environmental Guideline

Source: Wingecarribee Web, Oct-Dec 2019

Inland Rail completes first construction



The first section of the new track on the Inland Rail North-West Connection has been completed and freight trains will run on the line from October.

The North-West Connection will link Inland Rail to the interstate east-west line from Sydney to Perth providing another connection for the freight industry.

The North-West Connection joins the existing Broken Hill Line to the existing rail track south of Henry Parkes Way with 5.3 km of greenfield rail track, significantly increasing the efficiency of trains heading across Australia.

Inland Rail is a multi-year project, however the build schedule allows for parts of the project to be released into the national network as they are completed.

The Federal Government has committed up to \$9.3 billion to Inland Rail which will aim to change the way freight moves across the eastern seaboard.

Source: Roads & Infrastructure Australia newsletter

Research into historical changes to TSRs

Peter Spooner and colleagues at Charles Sturt University have recently published a new article in the *Australian Geographer* on the historical extent of Travelling Stock Routes (TSRs) in NSW. Titled "The New South Wales Travelling Stock Route and Reserve (TSR) network: historical extent, spatial distribution and drivers of loss 1884–2017", they documented the original extent of the NSW TSR network in 1884, and discuss key drivers of reserve loss.

Research using archived literature showed that in 1884 the NSW TSR network comprised 4,413,728 ha (10,906,660 acres) – over 120% greater than former estimates. Most reductions in TSR area during 1884–2017 has occurred in the Eastern (88%) and Central (78%) land divisions of the state, where competing land demands are greatest. Technological changes in transport, environmental pressures and economic changes in the grazing industry were identified as key drivers of TSR loss. These findings support concerns over the efficacy of the TSR reserve network, where the extent and impacts of past government decisions to downsize and de-gazette TSRs has been grossly underestimated.

The article is available from Peter Spooner pspooner@csu.edu.au

Gel to stop fires starting near roads



It's the middle of the fire season in California, and this week, firefighters will begin testing a new way to prevent wildfires from starting—a fire-retardant gel that can be spread on high-risk areas next to freeways.

In the study on the gel, published in *Proceedings of the National Academy of Sciences*, researchers looked at where fires actually start. They found that in California, 84% of the 305,000 fires in the past decade started at roadsides, where a cigarette butt tossed out a car window or an overheated car pulling to the side of the road can easily ignite dry grass. "The fires reproducibly happened in the exact same areas year after year," says Eric Appel, the study's senior author and an assistant professor of materials science and engineering. "There are stretches of roadway in California where, in a single four-mile stretch of road, there's 35 to 40 fires each year." Other hotspots include campgrounds and areas under power lines (the fire that destroyed the town of Paradise, California, a year ago, killing 85 people, was caused by electrical transmission lines sparking dry, hot vegetation.) While wildfires are natural in California, most "wildfires" are now caused by humans.

If these critical areas could be treated to prevent fires from starting, it could also prevent more widespread destruction. But until this point, it hasn't been possible to use fire retardants preventatively. "If you were able to prophylactically treat these areas, you would only have to treat a small amount of land to prevent an enormous proportion of the fires that are occurring year after year in California," says Appel. "But then the issue is there's no technology that can allow you to do that." Right now, fire retardants are dropped from airplanes as wildfires are already raging, used to help protect homes as fire crews fight back the blaze. But the chemicals only stay on vegetation temporarily; wind can blow the retardant off the vegetation, and even a heavy dew can wash it away.

"What we sought to do was to engineer materials that when they were sprayed on vegetation, they would adhere better but then also stay there throughout the entirety of the peak fire season to provide protection from ignitions that entire time," he says. The researchers had previously developed similar hydrogels, which can release drugs slowly over the course of months, for pharmaceutical use. But the gel also does a better job of sticking on vegetation initially—with the typical fire retardant used now, only half makes it on the plant. The new hydrogel can last through light rains and other weather, until the rainy season fully begins and fires are no longer a major risk. The gel itself is water-based and environmentally benign; the company says the fire retardant chemicals used

inside are the same as common fertilizer—not ideal to introduce into the environment but in this case used in much tinier quantities than they’re already used in agriculture. When researchers tested spreading the material on grass and then lighting it on fire, the fire quickly extinguished itself.

While the project began as a research study, as the researchers tested the technology—alongside firefighters—they realized that it made sense to bring the product to market, launching a new startup called Ladera Tech. They hope to work with Cal Fire, the state fire protection agency, to apply it throughout the state in the areas most likely to burn, including along power lines. Utilities in California are already beginning to shut off electricity in some areas when fire risk is highest and “harden” electrical equipment to make it less likely to accidentally spark. “What we are effectively doing is hardening the vegetation,” says Appel. “The company’s marketing these materials specifically to treat around or under the transmission and distribution lines and around poles, so that even if a spark were to happen, it wouldn’t lead to an ignition.”

Source: Fast Company article <https://www.fastcompany.com/90410369/this-new-gel-prevents-plants-from-burning-to-stop-wildfires>

Note: The REC does not endorse this product as it is untested in Australian conditions

Roadsides are refuges for declining pollinators

Recent studies have shown that insect numbers across the globe are plummeting. All sorts of pollinators, including bumblebees, hoverflies, beetles, butterflies, and moths are also in decline. There are many steps that need to be taken to save beneficial bugs, but one of the easiest is taking care of the millions of acres of right-of-way that line highways and roads.

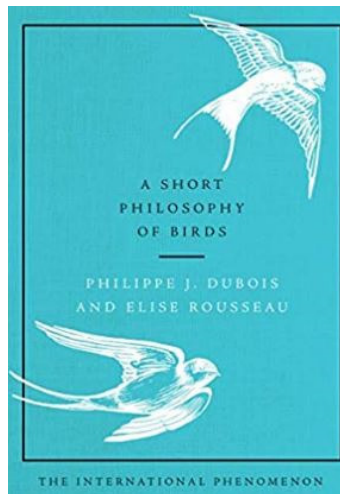
While that might seem like just a drop in the bucket when it comes to land conservation, those roadsides add up to big acreage, especially in a place like the United Kingdom, where urban development and agriculture leaves very little land available for wildlife habitat. In fact, Benjamin Phillips of the University of Exeter, the first author of a new study in the *Journal of Applied Ecology*, reports that about 1 percent of the land in the U.K. is contained in rights of way, known there as road verges.

Phillips says that researchers have believed for a while that these roadsides are good for nature, but he wanted to find out just how good the roadside was for pollinators.

The results were what he expected—the roadsides supported a diverse array of flowers and pollinators, while the agricultural land had very little. But he also learned a few things about roadside habitat. Those study areas mowed during the summertime, when flowers were blooming, had low pollinator activity through the fall and never really recovered before winter set in.

Source: Sierra Magazine <https://www.sierraclub.org/sierra/roadsides-are-refuges-for-declining-pollinators>

The Best Nature Books of 2019



According to Amy Brady writing for the Chicago Review of Books, 'if 2019 is any indication, we're in a golden age of publishing when it comes to nature writing. There are so many great nature books out this year that I broke up my annual round-up of favourites into four separate lists'.

Brady added, 'some focus on science, others on the more sociological relations between nature and humans. And there's not one-but TWO-books on bees! Read them all for captivating stories about the natural world'.

The lists of recommended nature books can be accessed via <https://chireviewofbooks.com/2019/09/26/the-best-nature-books-of-2019-part-3/>

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.



For more information contact:
Neil Dufty - Executive Officer - (02) 9354 0300
ndufty@molinostewart.com.au