



Appendix 2

State of the Environment Report

TENTERFIELD ANNUAL STATE OF THE ENVIRONMENT REPORT 2018/19



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Summary

Tenterfield State of the Environment Report 2018/19 ('SOE') was prepared to assist Tenterfield Shire Council ('Council') to **monitor the implementation of its commitments** in the *Tenterfield Community Strategic Plan 2017-2027* (the 'Community Strategic Plan') (TSC 2017), *Tenterfield Delivery Program 2017-2021* (TSC 2018a) and Tenterfield Shire One Year *Operational Plan 2018/19* (TSC 2018a) and to **collate information for the next comprehensive State of the Environment report**, due in November 2020. This report monitors eight key directions from the Community Strategic Plan and *Tenterfield Community Strategic Plan 2011-2021* (TSC 2013) and relates these directions to sectors used in previous SOE reporting methods (i.e. land, water, biodiversity, air, noise, waste, Aboriginal heritage and non-Aboriginal heritage). SOE reporting dates back to 2001 which provides long term monitoring on the state of the environment in Tenterfield Shire.

During 2018/19, Tenterfield Shire Council made progress against the eight environmental parameters on which this State of the Environment report is assessed and faced several challenges and obstacles. Some of the **major achievements** in Tenterfield Shire during the 2018/19 reporting period include:

- Efficient processing, and a large increase in the total value of **development applications** assessed.
- Management of **illegal buildings**.
- Renewed investment in protection of **riparian vegetation**.
- Resources available in the region to manage **feral animals**.
- Ongoing vigilance in **weed management**.
- Continued investment in **State of the Environment** reporting.
- **Landfill diversion rates increased**.
- **New monitoring bores installed at Boonoo Boonoo Landfill**
- **Funding applications** were applied to make improvements to the Boonoo Boonoo Landfill and the closed Sunnyside Loop Road Landfill. Another application was put in for the conversion of Torrington landfill to a Waste Transfer Station.
- Potential for **Waste 2 Energy project to revolutionise waste and energy management**.
- Ongoing progress in relation to **water and sewer infrastructure**.
- Announcement of **funding for new Water Treatment Plant** in Tenterfield.
- Updated **Drought Management Plan** to manage severe drought in NSW.
- Focus on **koala conservation**.
- Significant ongoing improvement in **Transport Infrastructure environmental assessment and impact mitigation processes**.
- **Improvement in water efficiency** at several Council facilities.
- Ongoing education and awareness campaigns, especially related to **weeds, wise water use and feral animals**. **Your Local News** distributed fortnightly with relevant, up-to-date information.
- Heritage well maintained and protected through an **active, heritage-minded community**.

Some of the **ongoing challenges** for Council include:

- **Drought and heat waves** have impacted on the community, industry, tourism, agriculture and ecosystems of the region.
- **Water security** is a significant challenge for the Shire.
- **Bushfires** have damaged infrastructure and ecosystems.
- There was an ongoing **decrease in investment in natural resource management** activities and **no new protected areas** declared in the Shire.
- **No wash-down policy or facilities** regularly used by Council machinery.
- **Council needs to commence operations for a new cell** at Boonoo Boonoo Landfill.
- Despite its successful uptake, the **recycling program is costing Council substantial amounts of money.**
- The impact of **increased waste generated through bush fires** in the region, including large amounts of **asbestos.**
- An increase in **abandoned vehicles.**
- **Non-compliance** with licence requirements and prosecution by the Environment Protection Authority (EPA) for a water pollution offence.
- **Biodiversity planning and management** does not appear to be considered a high priority to Council.

The findings of this **annual report** for 2018/19 will be used in the comprehensive State of the Environment Report to **analyse major environmental trends** over the reporting period of 2016-2020.

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State of the Environment Reporting Requirements

Under the *Local Government Act 1993* section 428A Council must prepare a State of the Environment Report ('SOE') after an ordinary election of Councillors. An election was held on 10th September 2016 and the Tenterfield Comprehensive State of the Environment Report 2012-16 was submitted under the guidelines of the *Integrated Planning and Reporting Manual for Local Government in NSW* (NSW Division of Local Government 2012). These guidelines state that:

'The annual report in the year of the ordinary election must include a report (State of the Environment Report) as to the state of the environment in the local government area in relation to the objectives for the environment established by the Community Strategic Plan.' Page 22, *Integrated Planning and Reporting Guidelines for Local Government in NSW* (Division of Local Government 2012b).

Data collected from annual supplementary SOEs (from 1999-2018) have assisted Council to monitor the implementation of its commitments in various planning documents. The yearly data is then used to identify trends and outcomes over each four-year comprehensive reporting period. This report collects and analyses new data from the financial year 2018/19. Following a review of State of the Environment reporting in the Comprehensive SOE 2012-16, this report presents information against the recommended indicators. Annual data will continue to be collected from 2016-2020 for the Tenterfield Comprehensive State of the Environment Report 2016-20, which will look at trends, improvements, highlights and risks over the four-year period and provide recommendations for the coming four years.

Preparation of this Report

This report was prepared by Michelle McKemey (B.Sc. Hons I) of Melaleuca Enterprises Environmental Consultancy Services with assistance from Tenterfield Shire Council (TSC), Granite Borders Land Care (GBLC), NSW Office of Environment and Heritage (OEH) and Northern Tablelands Local Land Services (NT LLS). All photos were supplied by Michelle McKemey or Council staff (Jodie Condrick, Chris Battersby, Melissa Blum) unless acknowledged otherwise.



Tenterfield Shire

Tenterfield Shire is **located** in the north east of NSW and covers an **area** of 732,227.4 hectares (ABS 2016).

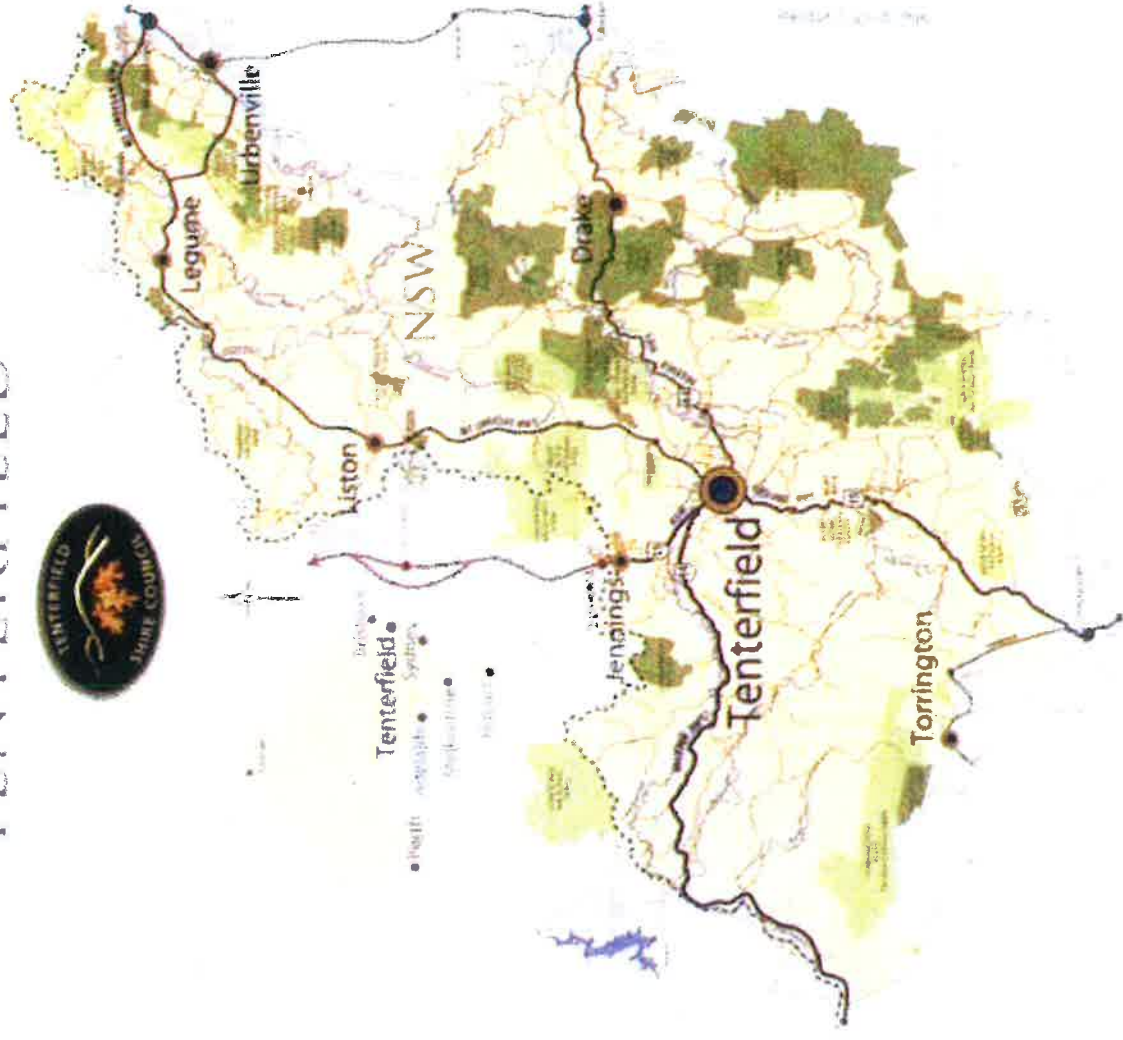
Tenterfield Shire's **population** was 6,628 persons and rate of **unemployment** was 6.8% in 2016. The median age in Tenterfield is 51.8 years old. The main **industries** of employment include agriculture, forestry and fishing (20.2%), health care and social assistance (11.1%) and retail trade (11%). Tenterfield has a median total **income** of \$29,144 compared with the national average of \$46,854. In 2014, there were 943 **businesses** registered in Tenterfield Shire. The total average value of **building approvals** for the Shire was \$10,000,000 in 2016. The median sale price for a **house** in Tenterfield Shire was \$200,000 compared to the national average of \$430,000 (ABS 2017).

Tenterfield Shire's **climate** includes a mean maximum temperature of 21.4°C and mean minimum temperature of 8°C. The annual mean rainfall is 852.6mm (Bureau of Meteorology 2015).

Tenterfield Shire generally consists of undulating to hilly **landscape** and its **altitude** ranges from approximately 150m to 1500m above sea level. The Shire is located in the New England Tableland, NSW North Coast, Nandewar and South East Queensland **Bioregions** (under the Interim Biogeographic Regionalisation of Australia) and contains high levels of **biodiversity**, a large proportion of **endemic** species and **threatened** species that are no longer found in other areas of Australia.

Straddling the Great Dividing Range, Tenterfield Shire drains into the **catchments** of the Clarence Basin on the east and the upper Murray-Darling Basin on the west.

SHIRE OF TENTERFIELD



Tenterfield Shire Plans

The *Tenterfield Community Strategic Plan 2017-2027* (the 'Community Strategic Plan') describes Tenterfield community's **aspirations** and the **priorities** it would like to achieve in the period 2017-2027 (TSC 2013, 2017a). The Community Strategic Plan has a 10+ year outlook and sets out community goals and outlines strategies and measures to achieve the goals. The Tenterfield Delivery Program (TSC 2018a) has a 4-year outlook and defines Council commitment and priorities during its term in office, and reports on progress towards the community goals. The 1-year Tenterfield Operational Plan 2018/19 (TSC 2018a) provides details of programs, projects and actions that Council will undertake during the financial year to implement the delivery.

The Community Strategic Plan identifies the following goals and strategies for the environment (TSC 2017):

ENVO 9: Our natural environment will be protected, enhanced and promoted for future generations.

- *Land use planning provisions support and promote sustainable land use and management in the Shire.*
- *Our community is educated, encouraged and supported to implement waste minimisation strategies for all of our natural resources.*
- *Town and Village planning supports and enhances local place making principles and practice celebrating the diversity of our natural environment.*

ENVO 10: Environmental risks and impacts are strategically managed.

- *Land use planning and management enhances and protects biodiversity and natural heritage.*
- *We partner with stakeholders and government to maintain a healthy catchments and waterways in the Shire.*
- *The community is educated and informed of environmental and biodiversity issues through monitoring and reporting and Council partners with stakeholders to manage identified threats.*
- *We are prepared, resourced and educated as a community to deal with natural disasters such as bushfires, storm and flood events.*

ENVO 11: Secure, sustainable and environmentally sound infrastructure and services underpin Council service delivery.

- *A total water cycle management approach including water conservation and reuse is implemented*
- *Water is used carefully in Council's buildings, parks, sporting grounds and daily operations.*
- *Waste from our operations is managed to reduce the volume and take advantage of recycling opportunities available to us.*

Table 1 displays the Environmental Performance Indicators that were identified in the Community Strategic Plan (TSC 2017):

MEASURE	SOURCE	NUMBER	TARGET
Total waste diverted from landfill	Council Records	%	Increase from previous period
Drinking water quality - compliance with microbiological requirements	DPI Water Data	%	100
Average annual residential water consumption	DPI Water Data	KL	Decrease from previous period
Average annual residential electricity consumption	ABS Household energy consumption survey	Kw Hours	< 7000 pa

Table 1: Environmental performance indicators identified in Tenterfield Community Plan

Previous annual SOE reports followed the directions and strategies set out in the (now redundant) Key Priority Focus Area 3 'Our Environment' of the *Tenterfield Shire Community Strategic Plan 2013-2023*. Seven **Directions** and twelve **Strategies** were developed in order to address the issues raised by the community and Council's responsibilities as a local government. The Directions included (TSC 2013):

- 3.1 *The natural environment will be protected, enhanced and promoted for future generations*
- 3.2 *The community is encouraged to implement waste minimisation strategies and recycling is fully implemented*
- 3.3 *A total water cycle management approach including water conservation and reuse is adopted*
- 3.4 *Land use planning and management enhances and protects biodiversity and natural heritage*
- 3.5 *Environmental risks and impacts are strategically managed*
- 3.6 *Water is used carefully in Council's buildings, parks, sporting grounds and daily operations*

3.7 Tenterfield Shire is an environmentally educated and committed community.

This State of the Environment Report will report against each of these Directions and Strategies and use any long-term data that is available from previous State of the Environment reports to provide an insight into long term environmental trends. Updated information on how these Directions and Strategies relate to the Goals and Strategies identified in the Delivery Program 2017-2021 (TSC 2018a) has been added for each category. Heritage is also reported against, as it is a key issue for Tenterfield Shire and has been monitored since SOE reporting commenced. The reporting categories will be reviewed when the comprehensive SOE is done in 2020.

Environmental Direction 1: The natural environment will be protected, enhanced and promoted for future generations

Delivery Program Goals and Strategies (TSC 2018a):

ENVO 9: Our natural environment will be protected, enhanced and promoted for future generations.

- **Land use planning** provisions support and promote **sustainable land use and management** in the Shire.
- Town and Village planning supports and enhances **local place making principles and practice** celebrating the diversity of our natural environment.

ENVO 10: Environmental risks and impacts are strategically managed.

- **Land use planning** and management **enhances and protects biodiversity and natural heritage**.
- We **partner** with stakeholders and government to maintain a **healthy catchments and waterways** in the Shire.

Strategies (TSC 2013):

1. **Manage, protect, enhance and conserve the natural environment** in a **sustainable** manner
2. Provide **compliance and regulatory services** to protect the **amenity** of the environment.





Relates to previous SOE report environmental sectors:




- Land
- Water
- Biodiversity
- Air
- Noise.



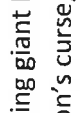


View down Rouse Street of Tenterfield CBD (photo: Connormil72)

SOE Indicators for Environmental Direction 1:

Environmental Sector	Indicator	Measurement	Mean pre 2001 (from available data)	Mean 2001 - 2005	Mean 2005 - 2009	Mean 2009 - 2012	Mean 2012 - 2016	2016/17	2017/18	2018/19	Change
Land	Level of community concern regarding contaminated sites and/or land in general	Number of calls received by Environment Line	Data not Available	Data not Available	25	0	4.25	8	9	2	Decrease 
Land	Level of development	Number of developments assessed	Data not Available	134 p.a.	97 p.a.	123 p.a.	135 p.a.	134 p.a.	141 p.a.	141 p.a.	Increase 
Land	Level of appropriate development	Number of development approvals related to rural subdivisions	13 subdivisions approved p.a.	22 subdivisions approved p.a.	13 subdivisions approved p.a.	9.25 subdivisions approved p.a.	26 subdivisions approved p.a.	19 subdivisions approved p.a.	13 subdivisions approved p.a.	13 subdivisions approved p.a.	Decrease 
Land	Protected Area Estate	Increase/decrease in area of land managed as protected area by NPWS (ha)	+10,907ha p.a.	+142ha p.a.	+390ha p.a.	0ha p.a.	0ha p.a.	0ha p.a.	0ha p.a.	0ha p.a.	No change 

Environ-mental Sector	Indicator	Measurement	Mean pre 2001 (from available data)	Mean 2001-2005	Mean 2005 - 2009	Mean 2009 - 2012	Mean 2012 - 16	2016/17	2017/18	2018/19	Change
Water	Waterways protected	Additional kilometres (km) of stream reach protected	Data not Available	Data not Available	Total = 32.55 km Mean = 8.137km p.a.	Total BRG Catchment 53.731km Mean = 17.910km p.a. NR Catchment = 5 river protection projects funded but km's unknown	Mean = 12.5km	8.563 km	0km	12 km	Increase 
Biodiversity	Areas known to have been revegetated (ha)	Area of land revegetated (ha) as reported through Local Land Services and Land Care	Data not Available	Data not Available	63ha p.a.	20 ha p.a.	66.7ha p.a.	4.46 ha	6ha	21.5ha	Increase 
Biodiversity	Actions taken to minimise the impact or reverse the spread of species of declared noxious weeds	Number of weed species targeted (through Council operations or compliance)	Data not Available	Data not Available	9.5 weeds	17 weeds	17.5 weeds	25 weeds	19 weeds	20 weeds	Negligible change 

Environmental Sector	Indicator	Measurement	Mean pre 2001 (from available data)	Mean 2001-2005	Mean 2005 - 2009	Mean 2009 - 2012	Mean 2012 - 2016	2016/17	2017/18	2018/19	Change
Biodiversity	Actions taken to minimise the impact or reverse the spread of species of declared feral animals	Number of feral animals targeted	Data not Available	Data not Available	3 feral animal species	1 feral animal species	4.5 feral animal species	7 feral animal species	6 feral animal species	6 feral animal species	Negligible change 
Air	Community concern regarding air issues	Number of air complaints reported to the OEHL Environment Line	Data not Available	Data not Available	0.25	4	2	1	0	3	Increase 
Noise	Community concern regarding noise issues	Level of community concern regarding noise (Complaints to Council and OEHL)	0	3	8	3	8.25	1	7	5	Negligible change 

Council Actions Related to Environmental Direction 1:

- Delivery of **Tenterfield Shire Council Weeds Action Plan**, as aligned with Northern Tablelands Regional Strategic Weed Management plan 2017-2022. Compliance with Biosecurity requirements through delivery Tenterfield Shire Weeds Management Program. Ongoing review of existing weed operations to identify improvements in service levels through technology.
- **Weeds** program continued, targeting priority weeds including giant Parramatta grass, tropical soda apple, blackberry, water hyacinth, groundsel bush, mother of millions, cat's claw creeper, gorse, Paterson's curse, prickly pear, green cestrum, privet, Chilean needle grass, yellow bells, St John's wort, serrated tussock, African Boxthorn, honey locust and tree of heaven.
- **Environmental weeds** program continued, targeting lantana, Crofton weed, Coolatai grass, whiskey grass and tobacco bush.
- No **water hyacinth** was found within the Tenterfield LGA in the 2018/19 year. Regular inspections are undertaken on the Dumaresq River and in the 3 dams and the surrounding Waterways in Legume where previous infestations had occurred.

- With the discovery of **tropical soda apple (TSA)** in the Urbenville and Tabulam areas in June 2018, regular inspections are undertaken on properties within the districts and regular follow up inspections are conducted on those properties that are known to have TSA infestations to ensure that the landholders' biosecurity obligations are being met. Regular inspections along the Toooloom River that separates Tenterfield and Kyogle Shires are done to try and prevent the spread of TSA downstream. As cattle seem to be the main vector of spreading TSA, local landholders are encouraged to purge any new cattle purchased or shifted from paddocks where known infestations are, for 4-5 days in a holding paddock until any viable seed has been passed. During a regular high-risk pathway inspection, 3 TSA plants were found on the Mt Lindsey Highway just to the west of Woodenbong. Regular inspections are undertaken in the high-risk areas, pathways and waterways to prevent any new incursions of TSA. TSA awareness signs were installed along roadsides in the high-risk areas to alert the public and promote the reporting of any possible infestations.



Tropical soda apple fruit, collected for safe disposal (Photo: Chris Battersby)

- In March 2019 **black knapweed** was discovered on the roadside on the Eastern outskirts of Tenterfield, further inspections found the major core infestation being in the adjoining property. Research has showed that in 1903 a specimen was sent to the Sydney herbarium by then Aldershot owner H.A Smith for identification which came back positive for black knapweed. It is not known if the black knapweed has laid dormant all that time or due to the livestock eating the plant, it was not discovered until the slashing had ceased on the roadside and the black knapweed plants were able to reach full maturity. Investigations are ongoing by DPI staff. Black knapweed under the *Biosecurity Act 2015* is classed as Prohibited Matter, this is the only known infestation in NSW. The DPI was notified immediately and an Emergency Response was put in place. In April delineation surveys were conducted by a Rapid Response Team comprising staff from the DPI, Local Land Services, Tenterfield Shire Council and various other councils from around the state on 110 properties within a 5km radius of the core infestation. At the same time an intense media campaign was launched by the DPI to promote awareness and the need to report any suspect plants thought to be black knapweed. During the surveys black knapweed was only found on two neighbouring properties with minor infestations near the core infestation. The media awareness campaign was well received within Tenterfield and a number of calls were made to council about possible black knapweed plants, with only one being a positive identification. Treatments of the infested roadside began immediately after the plants were confirmed as black knapweed. Being Prohibited Matter, the main core infestation on the private land was treated by Tenterfield Shire Council staff using a variety of techniques including boom spraying and spot spraying with mixed results due to the large areas of African lovegrass. Follow up treatments were required on both the roadside and the paddocks on the private land due to the plant being very hardy and hard to kill and not a lot being known about black knapweed and control techniques, so a bit of trial and error to begin with. A contractor was employed to remove all the seed heads from the black knapweed plants along Bellevue Road and Tenterfield Shire Council staff erected a temporary fence to keep the public off the main heavily



Black knapweed (Photo: Chris Battersby)

infested area along the roadside. Awareness signs were erected in the high-risk areas. At present the roadside is under control with regular inspections and treatments when required. Regular inspections are also done to the core infestation on the private land at present is under control. Properties with minor infestations were treated, are regularly inspected and under control. A Biosecurity Direction was issued to the Landholder with restrictions being put on cattle movements on and off the property, slashing and vehicle movements and hygiene etc. Moving forward the DPI has provided funding for ongoing treatments and inspections for the next 4-5 years. The DPI are monitoring the situation and further delineation surveys will be conducted during the summer months.

- A grant of \$69,000 was obtained from the DPI to assist with the inspections and control of **black knapweed** for the next 4 -5 year period.
- Containment of **giant Parramatta grass**: This grass was sprayed along roadsides in order to contain it to the main core area.
- **Inspections**: 277 private property inspections were conducted equalling approximately 60,000 ha, approximately 1,125 km of high-risk pathways, 36 high risk waterways were inspected to detect new weed incursions within the shire.
- **Field days, Meetings, Groups, Awareness programs**: Approximately 320 of the new edition of the Northern Tableland and Northwest Weed Management Guide were mailed out to landholders to assist with education and weed awareness, identification and control. Media advertising for weed education and Council website updated monthly. A Weed of the Month article is now on Council's monthly newsletter. Councillor Tom Peters and Weeds Officer Chris Battersby are members of the Northern Tableland Regional Weeds Committee and regularly attend the meetings. Council is represented on the Tropical Soda Apple Taskforce and the NSW weed Biocontrol Taskforce that meet quarterly. Council Weeds Officer attended both the Stanthorpe and Tenterfield Agricultural shows.
- Through the Communities Combating Pests and Weed impacts during drought program, Tenterfield Shire Council was able to obtain a grant to the value of \$776,300 to assist with the control of **serrated tussock** on private and public lands in the Deepwater and Bolivia districts and to also control **blackberries** on road verges within the Tenterfield LGA.
- **Risks and Concerns**: The **severe drought conditions** have impacted on weed control and inspections. The likelihood of new weeds being introduced to the Tenterfield LGA is extreme due to landholders sourcing fodder and feed from all over the country and hay carting trucks travelling through the area. Regular inspections are done on all major highways and roads to identify any new incursions.
- **Feral animals targeted** included rabbits, foxes, wild dogs, pigs and Indian myna birds - mostly driven by Northern Tablelands Local Land Services and Granite Borders Land Care. Cat traps are continually being hired from Council office. Rangers are being contacted to assist in the control of rabbits around the town streets and sporting fields, and cemetery. Reports of a fox living in the vicinity of the Telegraph hotel as several chooks being killed and taken.
- **Truck wash facility at Tenterfield Livestock Saleyards**: Construction has not commenced despite \$1.2M funding being allocated for this project. Truck wash signage has been installed and Development Assessment has been exhibited for feedback. Truck wash and double height loading ramp proposal to be 2 separate projects. Council is considering further options.



*Black knapweed awareness signs
(Photo: Chris Battersby)*

- **Washdown policy:** Council has developed a policy related to washdown or weed hygiene for Council vehicles. Based on the Tasmanian State Forest Plant Wash-down Guide, The Guide aims to provide a framework for onsite wash-down of plant to prevent spread of invasive species. This guide is currently before the works manager and is yet to be adopted into the Works Processes.
- **State of the Environment** reports completed annually.
- Regulatory services reported to Council on the **peace, amenity and environment** of Tenterfield Shire including issues such as alleged **noise pollution**. There were a total of 4 barking dogs and repeated complaints related to noise at Emu Creek received and dealt with during 2018/19. No noise complaints were reported to the NSW EPA Environment Line. Rangers are continuing to work on a new procedure for dealing with barking complaints.
- Ongoing inspections occurred in accordance with the **On-Site Sewage Management Policy** however Council has limited staff and resources to pro-actively manage this issue and work is focussed on managing complaints. The sewer extension has resulted in dwellings on the town fringes being able to connect to the town sewage system and decommission on-site sewer systems. This decreases the risk of contamination from faulty on-site sewer systems.
- The **illegal building work register** was maintained and continual reactive inspections and actions taken on **unauthorised development** noted throughout the Shire. Illegal buildings used for backpacker accommodation were an issue in 2018/19 with unauthorised buildings potentially having high bushfire risk and inadequate facilities.
- The **register for all caravan parks and campgrounds** was maintained.
- Efficient assessment of **development applications**, including assessment of 141 applications. The overall value of developments increased in the Shire (total value increased from \$10,478,309 [2017/18] to \$42,047,691 [2018/19]).
- Council conducted **environmental monitoring** for the ongoing protection of the environment, pollution management and mitigation, ensuring promotion of conservation practices and improved environmental outcomes under the Protection of the Environment Operations Act 1997, providing monthly reports to Council.
- Planning for the **heavy vehicle bypass** at Tenterfield continued. During 2018, RMS carried out field investigations as part of the environmental assessment aspect of the project. Arcadis Australia Pacific Pty Ltd were engaged to carry out planning work, which involves developing the design and review of environmental factors (REF) for the project. A socio-economic assessment was conducted, including a number of surveys with businesses and shoppers, meetings with key stakeholders such as Council and the local Chamber of Tourism, Industry and Business. The information collected will form part of the REF for the project which was expected to be displayed in 2018/2019. The design was also being developed as part of the REF display.

Other Significant Outcomes in Tenterfield Shire Related to Environmental Direction 1:

- **Granite Borders Landcare and Northern Tablelands Local Land Services delivered projects to the combined value of \$619,000** in Tenterfield Shire during 2018/19 in collaboration with other groups. Projects focussed on:

- weeds
- feral animals (including pigs, wild dogs, feral cats and Indian mynas)
- permaculture and organics
- capacity building and training
- native vegetation
- trees on farms
- providing equipment to community groups
- empowering community groups and women.
- Northern Tablelands LLS funded the Tenterfield Wild Dog Control group to implement a **Wild Dog Management Plan**. The group has controlled wild dogs on over 10,000 hectares through a combination of ground and aerial baiting along with a program of reactive trapping. Control of wild dogs is important as they prey on koalas and small native animals like quolls. At the same time predation of sheep and lambs is reduced improving agronomic returns and reducing stress on landholders.
- NT LLS provided funding to protect over 12 kms of **riparian vegetation**.

Highlights for 2018/19:

- Ongoing vigilance in **weed management**.
- Management of **illegal buildings**.
- Continued investment in **State of the Environment** reporting.
- Renewed investment in protection of **riparian vegetation**.
- Significant resources available in the region to manage **feral animals**.

Challenges and Areas for Improvement:

- **No wash-down policy or facilities** regularly used by Council machinery.
- **Drought conditions** increasing the risk of weeds being introduced, as well as overall the environmental, economic and community wellbeing impacts of severe drought condition.



Feral pigs are being targeted in the region

Environmental Direction 2: The community is encouraged to implement waste minimisation strategies and recycling is fully implemented

Delivery Program Goals and Strategies (TSC 2018a):

ENVO 9: Our natural environment will be protected, enhanced and promoted for future generations.

- Our community is educated, encouraged and supported to **implement waste minimisation strategies** for all of our natural resources.

ENVO 11: Secure, sustainable and environmentally sound infrastructure and services underpin Council service delivery.

- Waste from our operations is managed to **reduce the volume and take advantage of recycling opportunities** available to us.

Strategies (TSC 2013):



1. Promote **waste minimisation** and **sustainable waste disposal**
2. Review, improve and implement **waste education** programs.

Relates to previous SOE report environmental sectors:

- Waste

SOE Indicators for Environmental Direction 2:

Environ mental Sector	Indicator	Measure- ment	Mean pre 2001 (from available data)	Mean 2001- 2005	Mean 2005 - 2009	Mean 2009 - 2012	Mean 2012 - 16	2016/17	2017/18	2018/19	Change
Waste	Total Waste Disposed <i>These figures are estimates only as Council has no weighbridges. Recent estimates are more accurate than older figures.</i>	Waste generated per head of population per year (kilograms per person per year)	Total for all Council waste facilities= 1,600 tonnes Per capita= 241.6kg/person	Total to Boonoo Boonoo Landfill= 1,028 tonnes Figure unknown for all landfills and per capita	Total for all Council waste facilities= 5,300 tonnes Per capita= 775.5kg/person	Total for all Council waste facilities= 6437 tonnes Per capita= 955.45kg/person	Total for all measured Council waste facilities= 2,281.5 tonnes Per capita = 326kg/person	2,550 tonnes Per capita = 385 kg /person	2,378 tonnes Per capita = 359 kg / person	2,076 tonnes Per Capita = 310 kg/ person	Decrease ↓
Waste	Total Waste diverted from landfill	Total domestic dry recycling (tonnes)	0	0	0	Data not collected	2015/16 = 429 tonnes Per capita= 64 kg /person	598 tonnes Per capita= 90kg /person	485 Tonnes Per capita = 73kg / person	643 Tonnes Per capita = 99kg / person	Increase ↑
Waste	Capacity of Waste Landfill Sites	Life expectancy of landfill sites (years)	Boonoo Landfill -100 Years Legume Landfill- 50 years Urbenville Landfill- 1 year Liston Landfill- 1 year Jennings Landfill- 1 year Torrington Landfill- 1 year Dalman Landfill- 1 year Tenterfield Landfill- 0 years	All village landfills <10 years. Jennings Landfill 15 years.	Jennings landfill closed. Less than 10 years life expectancy for all village landfills. Life expectancy for Boonoo Boonoo Landfill is not stated.	Boonoo Boonoo Landfill <40 years under improved operating systems. Urbenville, Liston, Legume & Dalman: closed Torrington: 20 years (under review)	Boonoo Boonoo Landfill <50 years under improved operating systems. Current cell= 1 year. Torrington: <20 years (under review)	Boonoo Boonoo Landfill < 50 years under improved operating systems. Current cell= 1 year. Torrington: <20 years (under review)	Boonoo Boonoo Landfill up to 50 years under improved operating systems. Current cell= 1 year. Torrington: <20 years (under review)	Boonoo Boonoo Landfill up to 50 years under improved operating systems. Current cell= 1 year. Torrington: <20 years (under review)	No change ↔

Environmental Sector	Indicator	Measurement	Mean pre 2001 (from available data)	Mean 2001 - 2005	Mean 2005 - 2009	Mean 2009 - 2012	Mean 2012 - 16	2016/17	2017/18	2018/19	Change
Waste	Level of community concern regarding waste	Number of calls received by Environment Line regarding waste	Not Recorded	Not Recorded	Not Recorded	3	0.5	0	0	1	Negligible change 
Waste	Level of community compliance	Number of illegal dumping incidents	Data not collected NEW INDICATOR FOR 2016/17 REPORT	Data not collected	Data not collected	Data not collected	3	5	9	5	Decrease 

Council Actions Related to Environmental Direction 2:

- Council improved on its goal to maximise the recovery, reprocessing, reuse and recycling of all waste materials by diverting 23% of domestic waste from landfill to recycling and organics. This is an increase of 3% on the previous year (20% waste diverted).
- Total waste sent to landfill for the period 2018/2019 was 2,076 tonnes, compared to an average of 2,281 tonnes for the period 2012-16. This is a decrease of 205 tonnes per year or 16kg per person
- Total waste recycled was 643 tonnes or 99kg per person. Recycling continuing to be well used (all waste and recycling data are derived from Tenterfield Shire Council 2018b, c & d). Large quantities of containers were also removed from Council's waste stream as a result of the Container Deposit Scheme.
- Council reported that diversion targets are currently being met (40%). This figure is different to those presented above for recycling (23%). The recycling rates do not include scrap metal or green waste collection, which diverts waste from landfill. Council has limited ability to measure waste disposed and therefore it is difficult to quantify these values or to report accurately on diversion rates.
- The Tenterfield Community Recycling Centre was officially opened on the 29 January 2018. This enables the community to safely dispose of problem (such as fluorescent light bulbs) and chemical wastes, diverting them from landfill. In total, 4,363 kg of materials were collected by the CRC.
- A reverse vending machine for the Container Deposit Scheme (CDS) was installed in Tenterfield. There was a large uptake by the community. Site specific numbers are not available, as this information is collected by the State Government, who run the campaign.
- Draft Strategic Landfill Masterplan for Boonoo Boonoo completed.

- The draft Strategic Landfill Masterplan identified a significant cost to increase the capacity of Boonoo Boonoo landfill to meet current and future waste projections. It was proposed to have the report reviewed by a waste consultant to ascertain whether the assumptions and cost projections are correct and to determine whether waste can be disposed of by other means. The review of the draft Strategic Landfill Masterplan is still underway, tied in with an **overall review of the waste business**.
- In the 2013 SOE (McKerney 2013), it was reported that *Tenterfield Shire Council Waste Management Strategy 2013-2021* predicted that introducing kerbside recycling would be cost neutral or deliver \$100,000 savings to Council. However, Council staff report that the **current recycling system costs Council and its ratepayers substantial amounts** due to cartage and processing within the Shire and to the recycling facility in Lismore. The recycling market is currently finding it difficult to find a market for their recyclables, partially due to the China Sword Policy. This means that many Council run facilities are not accepting new clients, making it difficult to find a more economical solution.
- Council considered a report on the **extension of the kerbside collection service along Mt Lindesay Road**, to offset the rural landfill closures and limited times of operations at the new transfer stations. Council resolved to implement a mandatory kerb side collection service to all properties along Mt Lindesay Road for a 12-month trial period, with a further report to be brought back to Council on the success or otherwise of the expanded waste collection service in 12 months' time. The review of the service resulted in the service being offered as an opt-in op-out service.
- Another extension of the **kerbside collection** along Bryan's Gap Road is being investigated, with an outcome expected in late 2019.
- Operations continuing and investigations into **alternate service delivery options** ongoing.
- Council staff participated in and supported the **Northern Inland Regional Waste Group (NIRW)** to achieve regionally sustainable outcomes. Council is a partner in the *NIRW Regional Waste Strategy 2017-2021*.
- **Farm Chemical Containers** safely disposed at the Tenterfield Waste Transfer Station **drumMUSTER** secure cage.
- **Public education** ongoing throughout the year with participation in National Recycling Week, Asbestos Awareness Month, Garage Sale Trail and regular articles in Your Local News (the TSC newsletter).
- Visit to the **Tenterfield Pre-school** on 13 March 2019 to discuss **recycling**.
- **Collection of waste** conducted in a timely and efficient manner.
- Ground water bores used at waste facilities to **monitor the impact of waste on water quality**.
- **Chemicals** - The Annual Chemical Clean Out program was run by Northern Inland Regional Waste (NIRW), the Office of Environment and Heritage and Council for old and left-over chemicals such as:
 - Paint and paint-related products
 - Solvents, acids and alkalis
 - Household cleaners
 - Fire extinguishers
 - Pool and hobby chemicals
 - Smoke alarms and fluorescent light tubes
 - Motor oils and fluids.
- Safe collection of waste such as **batteries, chemicals, mobile phones and printer cartridges** was also provided by Council.



Tyres being removed after illegal dumping incident

- Five **illegal/incorrect dumping** incidents were reported during 2018/19. All incidents occurred as roadside dumping. Illegal dumping along Amosfield Road, Ruby Creek consisted of more than 200 tyres which were removed as two truckloads. Council took action immediately to investigate and remove all illegal dumpings and litter reports, and reported all incidents to the EPA.
- **Abandoned vehicles** were an emerging issue in 2018/19 with Council staff managing and disposing of seven abandoned vehicles.
- **Pollution Incident Management Plans implemented at all POEO licenced sites**, updated each year, and emergency response plan completed and ready for activation if required.
- Council was **compliant at its waste disposal sites** in accordance with NSW EPA Annual Return compliance requirements.
- A trial commenced in 2017/2018 of an alternative daily cover material for the Boonoo Boonoo Landfill. This option is still being investigated.
- **Clean up operations from fire** in Drake February 2019 are ongoing.
- Tenterfield Council together with another nine councils committed funding to a major research study into **'waste to energy'**, however more funding is required to ensure a fully independent, scientific and rigorous study can be undertaken. Tenterfield Shire Council met with the NSW Office of Regional Economic Development to seek financial assistance and general project assistance.

Highlights for 2018/19:

- **Diversion rates increased.**
- **Education programs** ongoing.
- **New monitoring bores installed at Boonoo Boonoo Landfill**
- **Funding applications** were applied to make improvements to the Boonoo Boonoo Landfill and the closed Sunnyside Loop Road Landfill. Another application was put in for the conversion of Torrington landfill to a Waste Transfer Station.



New monitoring bore at Boonoo Boonoo Landfill (photo: Melissa Blum)

Challenges and Areas for Improvement:

- Boonoo Boonoo Landfill is currently operating with 1 cell with a 1-year capacity. **Council needs to commence operations for a new cell.** Council are still discussing options with the EPA for the new cell. Discussions were put on hold due to finding space at the landfill to dispose of large amounts of **asbestos** from the February 2019 Drake fires.
- **Despite its successful uptake, the recycling program is costing Council substantial amounts of money.** The recycling plant at Lismore, which Council were sending our recycling to, is no longer accepting any recycling material. Options for other places to send the recycling are still being considered.
- **Difficult to measure waste quantities** due to no weigh bridge available.
- An increase in **abandoned vehicles.**
- The impact of **increased waste generated through bush fires** in the region.

Environmental Direction 3: A total water cycle management approach including water conservation and reuse is adopted

Delivery Program Goals and Strategies (TSC 2018a):

ENVO 11: Secure, sustainable and environmentally sound infrastructure and services underpin Council service delivery.

- A total water cycle management approach including water conservation and reuse is implemented



Strategy (TSC 2013):

1. Implement projects to conserve potable water and contribute to improved water quality outcomes
2. Landfill managed effectively to minimise contamination of overland water and ensure compliant discharges to the environment

Relates to previous SOE report environmental sectors:

- Water

SOE Indicators for Environmental Direction 3:

Environmental Sector	Indicator	Measurement	Mean pre 2001 (from available data)	Mean 2001-2005	Mean 2005-2009	Mean 2009 - 2012	Mean 2012 - 2016	2016/17	2017/18	2018/19	Change
Water	Water use	Kilolitres (kL) domestic water consumed per year	470,234 kL	485,813 kL	400,810 kL	318,068 kL	311,450 kL	317,149 kL	329,650 kL	320,429 kL	Decrease 
Water	Water quality	Compliance/non-compliance with Sewage Treatment Plant and Water Supply Works licence requirements	Data not Available	Data not Available	Non-compliant	Non-compliant (Very minor non-compliance, overall quality of treated effluent a significant improvement on previous periods due to the new Sewerage Treatment Plant)	Non-compliant (Very minor non-compliance)	Non-compliant	Non-compliant	Non-compliant	No change 

Council Actions Related to Environmental Direction 3:

- Council had **15 incidences of non-compliance** related to water including:
 - Tenterfield Sewage Treatment Plant – 6 incidences of non-compliance based on pH and suspended solids.
 - Urbenville Sewage Treatment Works- 9 incidences of non-compliance based on TSS (total suspended solids) and BOD (Biochemical oxygen demand) caused by aquatic vegetation (algae and duckweed) or aquatic organisms (water flea etc.).
- The **Drought Management Plan** was updated and adopted by Council.
- The **Tenterfield Integrated Water Cycle Management Plan** is in the process of being implemented, including water conservation and demand management.
- The **Recycled Water Management Plan** is in the process of being undertaken.
- The **Draft Strategic Landfill masterplan for Boonoo Boonoo** was completed. This plan deals with the quality of water that exits the landfill site. Water quality is monitored quarterly.
- **Council reported on POEO licensed facilities**, including Tenterfield Dam, Tenterfield Water Treatment Plant and Tenterfield Sewage Treatment Plant.
- Tenterfield Shire Council operates and maintains the sewer infrastructure within Tenterfield Shire. In June 2016, a sewer choke occurred in the 375mm trunk mains causing a raw sewage overflow (incident). Raw sewage was discharged to Tenterfield Creek over three days as a result of the overflow. TSC eliminated the overflow by clearing the choke within an hour of being aware of the incident. Following the incident, TSC prepared an Action Plan and took actions to prevent the re-occurrence of similar incidents including developing a **Project Proposal for Telemetry Upgrade to Tenterfield Sewer Reticulation Network** (TSC Engineering Services 2017). Tenterfield Shire Council was prosecuted by the Environment Protection Authority (EPA) for the water pollution offence. TSC had pleaded guilty to the offence of pollute waters and was fined \$50,000 for the offence. The Tenterfield Sewer Treatment Plant licence conditions were updated with a list of 7 improvement actions. These actions are phased over 4 years, with 3 actions completed in the 2018/2019 financial year.
- Ongoing **renewal of aged wastewater infrastructure**- approximately 1km of sewer main was relined in Tenterfield.
- Another section was completed in the **sewer augmentation program**.
- The **Dam Wall Upgrade Project** was completed.



Shirley Park Bore (photo: Melissa Blum)

Other Significant Outcomes in Tenterfield Shire Related to Environmental Direction 3:

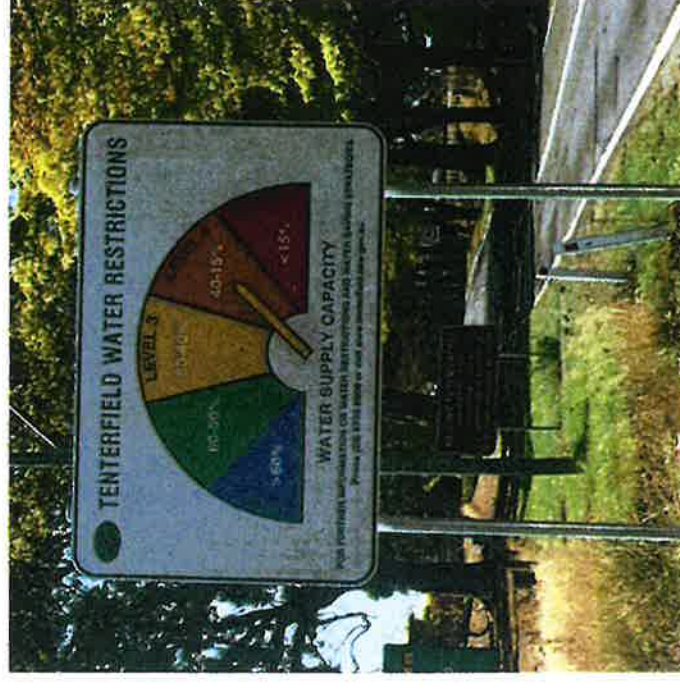
- None.

Highlights for 2018/19:

- Ongoing progress in relation to **water and sewer infrastructure**.
- Adoption and implementation of **key plans**.
- Announcement of **funding for new WTP** in Tenterfield.
- **Shirley Park Bore made operational** again.
- **Water security works**, including cleaning out sediment from the dam and the bore investigation and drilling project.
- Installation of **automatic water dispensing stations**.

Challenges and Areas for Improvement:

- The Tenterfield township was on water restrictions for the year, with drought severely impacting the community.
- **Non-compliance** with licence requirements and prosecution by the Environment Protection Authority (EPA) for a water pollution offence.
- Demands on **scarce water supply for fire fighting**



Severe drought has led to water restrictions (photo: Melissa Blum)

Environmental Direction 4: Land use planning and management enhances and protects biodiversity and natural heritage

Delivery Program Goals and Strategies (TSC 2018a):

ENVO 9: Our natural environment will be protected, enhanced and promoted for future generations.

- Land use planning provisions support and promote sustainable land use and management in the Shire.
- Town and Village planning supports and enhances local place making principles and practice celebrating the diversity of our natural environment.

ENVO 10: Environmental risks and impacts are strategically managed.

- Land use planning and management enhances and protects biodiversity and natural heritage.



Strategy (TSC 2013):

Commence and implement Council's Biodiversity Strategy

Relates to previous SOE report environmental sectors:

- Biodiversity

SOE Indicators for Environmental Direction 4:

Environ-mental Sector	Indicator	Measurement	Mean pre 2001	Mean 2001 -2005	Mean 2005 -2009	Mean 2009 -2012	Mean 2012 -2016	2016 /17	2017 /18	2018 /19	Change
Biodiversity	Level of community concern regarding biodiversity	Number of calls received by Environment Line	Data not Available	Data not Available	2	7	3.25	8	3	4	Negligible change 
Biodiversity	Total fauna and flora species recorded	Total number of species listed for Tenterfield LGA on OEH Bionet	Data not Available	Data not Available	2,245 species	3,036 species	3,226 species	3,113 species	3,383 species	3,397 species	Increase 



Sniffer dogs have been used to detect koalas through the Cool Country Koala Project (photo: Donna Ward)

Biodiversity	Investment in NRM in the Shire	Funding provided by Federal, State & Local governments	Data not Available NEW INDICATOR	Data not Available	Data not Available	Data not Available	\$997,164	\$781,647	\$295,000+	\$287,500	Decrease 
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Council Actions Related to Environmental Direction 4:

- Council continued its ongoing implementation of the **Tenterfield Local Environmental Plan 2013** ('LEP') which **directs development** in the Shire, identifies **environmentally sensitive areas** and aims to **maintain terrestrial biodiversity**.
- Council uses a standardised process and template for the **Review of Environmental Factors** whilst any development assessment takes into account threatened species and other relevant legislation.

Other Significant Outcomes in Tenterfield Shire Related to Environmental Direction 4:

- In Tenterfield Shire, there were **21 threatened species conservation projects** and **27 key management sites for threatened species**, supported by the NSW Office of Environment and Heritage during 2018/19.
- Premier Gladys Berejiklian and Minister for the Environment Gabrielle Upton launched the **NSW Koala Strategy** in May 2018. This Strategy promoted a range of measures to protect Australia's iconic koala, including 24,000 hectares of new koala reserves for the much-loved marsupial. Within Tenterfield and neighbouring Kyogle Shire, an area of 5,620ha is planned to be converted to Flora Reserve (including part of Mt Lindesay, Donaldson and Unumgar State Forests) There are over 30 records of koalas from the last 10 years and this area provides an important link for broader parks (NSW Government 2019).
- The **Cool Country Koala Project** was implemented across the Northern Tablelands.
- **Intense drought, heat waves and bushfires** are expected to have significant impacts on the Tenterfield Shire's ecosystems and biodiversity. The long term consequences of these natural disasters are not yet known but could include degradation and loss of remnant vegetation, impacts on populations of threatened species, increases in weed invasions, increases in predation by feral animals and other impacts.



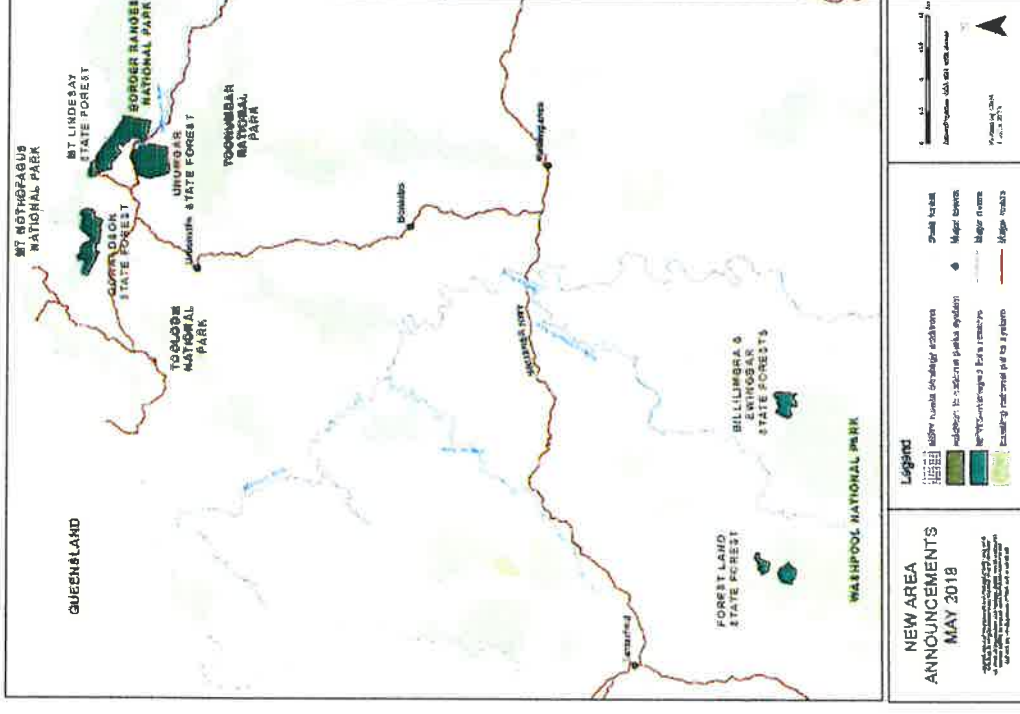
Fires around Tabulam in February damaged ecosystems and infrastructure (photo: Sarah Maunder)

Highlights for 2018/19:

- Increase in number of species recorded in Tenterfield LGA.
- Focus on koala conservation.

Challenges and Areas for Improvement:

- Drought, heat waves and fire impacting on ecosystems and biodiversity. Going forward, it is expected that the Tenterfield community will need to focus on **drought recovery**, **water security** and **fire management planning**.
- Continuing **decrease in investment in biodiversity** and natural resource management projects from most levels of government.
- Possible **increase in vegetation clearing** due to new land clearing laws *Local Land Services Act 2013* and the *Biodiversity Conservation Act 2016*.
- **None of the biodiversity recommendations** of the Comprehensive SOE 2012-16 (McKemeey 2016) have been implemented
- It is recommended that **updated mapping** is provided for the **Tenterfield Local Environmental Plan 2013** as the existing maps of environmentally sensitive land are based on unknown data that was produced prior to 1989.
- Council could take up opportunities to **apply for grant funding to address issues such as biodiversity planning** through NSW grant funding such as the Environmental Trust <http://www.environment.nsw.gov.au/grants/restoration.htm> or Saving our Species program.



New koala conservation areas in the Shire

Environmental Direction 5: Environmental risks and impacts are strategically managed

Delivery Program Goals and Strategies (TSC 2018a):

ENVO 10: Environmental risks and impacts are strategically managed.

- We are **prepared, resourced and educated** as a community to deal with **natural disasters** such as bushfires, storm and flood events.

Strategies (TSC 2013):


- Review and prioritise recommendations contained in the NSW Government's *Floodplain Development Manual*
- Ensure management of **water quality** in the catchments
- Maintain a current *Tenterfield Emergency Management Plan (EMPLAN)*

Relates to previous SOE report environmental sectors:

- Water

SOE Indicators for Environmental Direction 5:

Flood Warning System (photo: Melissa Blum)

Environ-mental Sector	Indicator	Measurement	Mean pre 2001	Mean 2001-2005	Mean 2005 - 2009	Mean 2009 - 2012	Mean 2012 - 2016	2016 /17	2017 /18	2018 /19	Change
Water	Level of community concern regarding water	Number of calls received by Environment Line regarding water	Data not Available	Data not Available	2.75	6	2.75	3	2	7	Increase 

Council Actions Related to Environmental Direction 5:

- The outcomes of the **Tenterfield Floodplain Risk Management Study and Plan** are integrated into planning and DA assessment processes.
- Council was successful in securing funding to **upgrade the flood warning system**.
- **Weed control** (e.g. salvinia, water hyacinth) is undertaken to maintain water quality.
- Council provides information to residents related to the **testing of drinking water**.
- Council undertakes **compliance related to water quality complaints**.
- Over the past 2 years Tenterfield Shire Council's **Works Department** has gradually been implementing **environmental best practice into its preconstruction and construction processes**. A gradual implementation has allowed the Shire to develop robust environmental procedures and practices that are practical and can be completed within relatively short time frames. During the 18/19 Financial Year Tenterfield Shire Council engaged a consultant to complete a Review of Environmental Factors (REF) and Ecological Study of the Amosfield Road Reconstruction Project. As part of the project brief the consultant was to append a number of vegetation management practice documents. This information was then used to develop a Draft Vegetation Management Plan for use on all construction processes. The draft plan is currently before the Works Manager for agreement to implement. Until the plan is approved it will be used in draft format as a trail. During the 19/20 financial year the Shire will be undertaking a whole of council environmental training. This training will signify the complete implementation of a number of processes that have been under trial during the 18/19 financial year.
 - During 18/19 financial year Tenterfield Shire Council completed the following Environmental Assessments:
 1. Tenterfield Shire Council In-house Assessments: 8No. Full Assessments (REF, TOS)
 2. External Sourced Assessments: 1 Ecological Study, 1 Full Assessment (Eco Study + REF)
 - Environmental Documents developed during 18/19:
 3. REF – Redeveloped the OEH National Parkes REF template to reflect the 2016 Legislative Changes and modify to make the document simpler to complete and readable. 2No. styles of REF have been developed:
 4. CEMP – Developed a New CEMP that covers the entire construction process of preconstruction, construction and post construction
 - The document has a number of tick boxes allowing serving both as a process and compliance checklist.
 5. Vegetation Management Plan – For all projects requiring protection of vegetation or has a vegetation removal component. The Plan covers Tree Protection Zones and Tree Hollow Management.
 6. Tree Hollow Management Plan: For projects where Limb removal is required as part of the project.
 7. Section 88 (Roads Act) Authorisation to remove trees. - This Form is aimed at closing off the potential loophole of deeming a tree as a safety hazard in order to remove it. The form requires the staff member to complete a safety assessment of the tree by ticking relevant boxes. The Form and photos are than submitted to the Works Manager for signing and authorising.
 8. Environmental Cross Sections: These cross sections have been designed to provide staff with a quick reference as to permissible works within the road reserve.

9. Plant Wash down Guidelines. Based on the Tasmanian State Forest Plant Wash-down Guide, The Guide aims to provide a framework for onsite wash-down of plant to prevent spread of invasive species. This guide is currently before the works manager and is yet to be adopted into the Works Processes.
 - o Outstanding Environmental Projects Completed in 18/19:
 10. Sawyers Gully Causeway Replacement. Sawyers Gully Road traverses Tenterfield Creek at the Travelling Stock Reserve. Tenterfield Creek is listed by DPI Fisheries as being a sensitive high value stream containing Southern Purple Spotted Gudgeon, Murray Darling Basin Eel Tailed Catfish as well as the Iconic Murray Cod and Platypi. After 2 years of negotiations with DPI Fisheries and a number of redesigns the project was approved for construction during the 18/19 Financial Year. The approved works where for a Topping Slab placed over the existing causeway and the inclusion of 3No. Cells Box Culverts with a base slab located some 600mm below the existing bed level. This design removed the need for an expensive fish ladder. The design also marks a change in DPI Fisheries view of fish ladders, following a 2017 investigation into the ineffectiveness of fish ladders due to the high maintenance requirements. This project was featured by DI Fisheries in an international conference on Instream Fish Management Practices as an example of effective collaboration between Council and DPI resulting in a high value fish management outcome.
 11. Amosfield Road Widening and Reconstruction. Amosfield Road is an important regional road linking the township of Liston on Mt Lindesay Road to Stanthorpe in Qld. The road reserve is an important reserve of native vegetation within the cleared surrounding grazing country. Whilst no Koalas were identified at the site a number of high value Koala Food Source trees were identified along the work site length. The original concept design of the project involved the removal of up to 23 large old trees, stags and a number of hollow bearing trees. After consultation with the Ecologist and the project manager an alternate design that resulted in the removal of 3 large or very large old trees was accepted. This represents a saving of 20 high value trees which in turn protects the ecological community through the site. The completed project provided an increase in user safety through the widening of the existing alignment, as well as minimised the impact on the surrounding environmental community.

- o Conclusion: During the 18/19 financial year Tenterfield Shire Council has dramatically improved its environmental practices with the biggest advances in documenting the environmental processes and ensuring that best practice environmental practices are incorporated in each project. During 19/20 financial year, Environmental Awareness training for Councillors, Staff and Senior Management is scheduled. Once this training has been completed, full implementation of environmental practices will be implemented and monitored for uptake.



Pre-Construction Photos. The existing causeway was acting as a barrier to fish passage and had totally failed. As a result, it had a load limit of 5T placed on it (Photos & info: Chris Thompson).



Post Construction prior to Side Track Removal – Note the sedimentation controls in the background and the installation of Box Culverts allowing free fish passage and reinstatement of the natural bed gradient. The stream is currently dry due to the drought. During normal conditions a large permanent pool is located on the upstream side of the causeway.

Other

Significant Outcomes in Tenterfield Shire Related to Environmental Direction 5:

- Crown Lands commenced on-ground works to remove the existing rural fence and erect a **new exclusion fence** at the Former Arsenic Processing Plant Contaminated Site in Jennings.

Highlights for 2018/19:

- Significant ongoing improvement in **Transport Infrastructure environmental assessment and impact mitigation processes.**

Challenges and Areas for Improvement:

Pre-Construction Photos. The existing causeway was acting as a barrier to fish passage and had totally failed. As a result it had a load limit of 5T placed on it.

Environmental Direction 6: Water is used carefully in Council's buildings, parks, sporting grounds and daily operations

Delivery Program Goals and Strategies (TSC 2018a):

ENVO 11: Secure, sustainable and environmentally sound infrastructure and services underpin Council service delivery.

Strategy (TSC 2013):

1. **Minimise water use** in Council operations and facilities
- **Water is used carefully** in Council's buildings, parks, sporting grounds and daily operations.

Relates to previous SOE report environmental sectors:

- Water

SOE Indicators for Environmental Direction 6:

- None

Council Actions Related to Environmental Direction 6:

- Council implemented a number of actions to **improve energy and water use efficiency**, including:
 - New energy agreement with LG Procurement which will reduce energy costs in Council buildings and street lights
 - Council buildings upgraded with energy efficient LED lighting and air conditioning
 - New office and amenities at the Saleyards with water wise and energy efficient fittings
 - Window restoration at the School of Arts which improve insulation and reduce draughts, resulting in a reduction in energy required for heating
 - Four new amenities blocks built across the Shire with water and energy efficient devices
 - Reuse of water from Tenterfield Swimming Pool and purchase of a new, more efficient pump.
 - New kitchen with higher energy rated appliances
 - New shed for TEN FM with more energy efficient lighting.
- **Water efficiency messages** are regularly included in Tenterfield Local News.

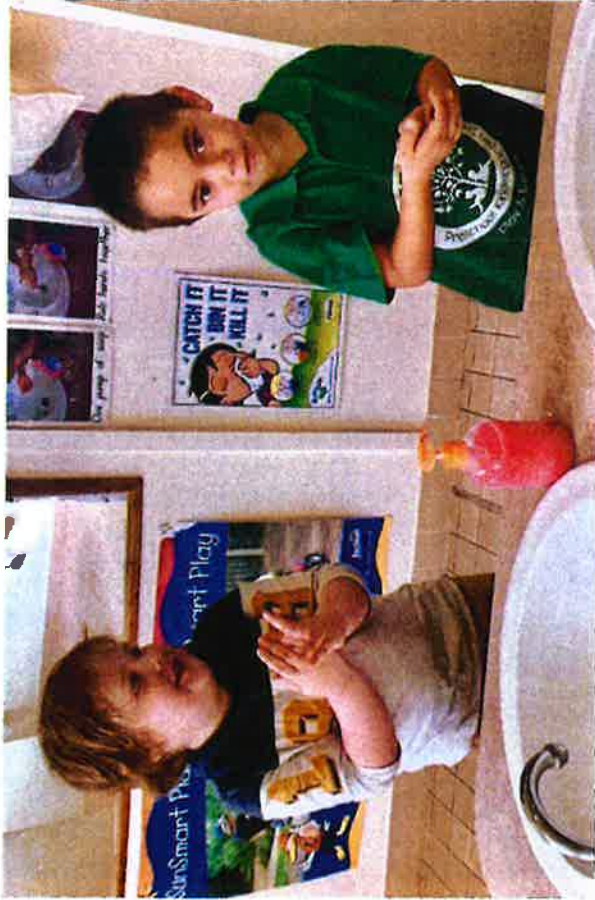


Highlights for 2018/19:

- Improvement in efficiency at several Council facilities.

Challenges and Areas for Improvement:

- Potential for Shire residents to uptake water conservation measures over the long term following water saving measures introduced during the drought (e.g. as per Goulburn Council, see <https://www.abc.net.au/news/2019-07-14/day-zero-approaching-as-towns-run-out-of-water/11271430>).



Children using water-wise measures to wash hands at Tenterfield Preschool and Tenterfield Dam, both from ABC article 'Country towns close to reaching 'day zero', as water supplies dry up in the drought' (photos: Lucy Barbour and Mark Leonard)

Environmental Direction 7: Tenterfield Shire is an environmentally educated and committed community.

Delivery Program Goals and Strategies (TSC 2018a):

- ENVO 9: Our natural environment will be protected, enhanced and promoted for future generations.
 - Our community is **educated, encouraged and supported** to implement waste minimisation strategies for all of our natural resources.
- ENVO 10: Environmental risks and impacts are strategically managed.
 - The community is **educated and informed of environmental and biodiversity issues through monitoring and reporting** and Council partners with stakeholders to **manage identified threats**.

Strategies (TSC 2013):

1. Encourage and support **community involvement** in environmental programs

Relates to previous SOE report environmental sectors:

- None

SOE Indicators for Environmental Direction 7:

- None

Council Actions Related Environmental Direction 7:

- Ongoing support and community engagement with **Granite Borders Land Care**.
- Council staff participated in **community education events** at Tenterfield & Stanthorpe Shows.
- **Weeds education campaigns** such as Tropical soda apple and Black knapweed.
- **Waste education** program.
- **Collaboration** with Northern Tablelands Local Land Services for education related to weeds, feral animals, native vegetation, biodiversity, biosecurity and sustainable agriculture.
- The **Companion Animals Education Program** continued during 2018/19.
- Regular articles in Council's **Local News** such as a water saving tips, Weed of the Month, correct waste management and others.
- **Heritage newsletter** distributed Shire-wide.

Highlights for 2018/19:

- Targeted **weed education** campaign.
- Increase in **water wise education** across Shire.



Ladies in Livestock meet regularly across the Northern Tablelands, including in Tenterfield (Photo: NT LLS)

- Feral animal education and action program expanded
- Your Local News distributed fortnightly with relevant, up-to-date information.

Challenges and Areas for Improvement:

- Opportunities for Council to **expand its communication and education programs** with the community.

Heritage

Under the SOE reporting requirements, heritage is no longer listed as an item against which Council must report. However, heritage is a key value for Tenterfield Shire and past SOE reports have monitored the management of heritage, so it is worthwhile maintaining a long-term record of the management of this important issue for the Tenterfield community. Heritage is also an important component of the Community Strategic Plan.

Tenterfield Community Strategic Plan Direction 5.5: Our cultural heritage is recognised, protected and respected

Delivery Program Goals and Strategies (TSC 2018a):

- COMM 4 The community is welcoming, friendly, and inclusive where diverse backgrounds are respected and celebrated.
 - **Cultural heritage is recognised, protected and respected.**

Strategies (TSC 2013):




1. Support programs and activities that recognise and celebrate our **Indigenous culture**
2. Support programs and activities that recognise and celebrate our **post-colonial culture**

Relates to previous SOE report environmental sectors:

- Aboriginal heritage
- Non-Aboriginal heritage



SOE Indicators for Heritage:

Environmental Sector	Indicator	Measurement	pre 2001 (from available data)	2005	2009	2012	2016	2017	2018	2019	Change
Non-Aboriginal heritage	Heritage Sites in Registers (Local, State, etc.)	The number of sites (items & conservation areas) in Schedule 5 of the Local Environment Plan	51	37	65	133	141	141	141	141	No change 
Non-Aboriginal heritage	Maintenance of heritage sites	Number of sites maintained/repaired	Data not collected-NEW INDICATOR	Data not collected	Data not collected	Data not collected	Data not collected	10	10	12	No change 
Aboriginal heritage	Aboriginal engagement	Number of initiatives involving Aboriginal people	Data not collected-NEW INDICATOR	Data not collected	Data not collected	Data not collected	Data not collected	5	4	3	Decrease 

Council Actions Related to Heritage:

- Council supports the **Heritage Specific Purpose Committee** which undertakes tasks such as considering the local heritage fund, reviewing heritage LEP amendments and assisting in Tenterfield main street interpretive signage.
- **Council considers heritage in the assessment of development applications** through applying the LEP standard instrument regarding Aboriginal and non-Aboriginal heritage.
- Development and implementation of the **Tenterfield Heritage Strategy 2018-2021**.
- Protection of heritage items within the **Heritage Conservation Area**.
- The **Heritage Near Me Program** drew to a close and saw the completion of a number of projects within the financial year.
- The **Local Heritage Assistance Fund 2018-19** supported seven successful projects this year including guttering, fences, repainting, roof painting, and joinery repairs.
- A series of **fact sheets** were developed and are available in hard copy or through Council's website to assist in sharing information and advice for consent requirements, roofing, guttering, fences, heritage colour schemes and cemeteries. The aim of this is to build stronger and more informed public awareness of heritage information and a positive image for Council in promoting and encouraging heritage conservation.
- Twelve approvals issued for **minor works on heritage** listed buildings, or buildings located in the heritage conservation area.
- **Heritage newsletter** distributed Shire-wide which provided general information to owners of heritage listed items and owners within heritage conservation areas in relation to consent requirements and heritage grants available.
- The **Heritage Advisor Summary Report 2018-19** (Wray 2019) stated that: '2018-19 was a productive year for the heritage advisory service in Tenterfield Shire with ongoing and new work in the following key areas:

- Site meetings with prospective purchasers in relation to historic properties.
- Meetings at pre-development application stages.
- Promotion of conservation advice on appropriate materials and approaches to heritage management.
- Historical research to assist with conservation proposals and development assessment.
- Input and advice on development applications and effective statutory management of heritage in the shire and processes.
- Assistance and support to owners with grant applications under the Local Heritage Places Grants.
- Assistance with preparation of a range of grant applications and supportive statements for applications.
- Presentation/training session at workshop for heritage materials training, colour schemes, consent requirement at St Stephen's Church as part of Heritage Near Me Activation Grant.
- Attendance and contributions to the Heritage Panel bi-monthly meetings



- Site inspection days with the Heritage Panel at Willsons Downfall, Liston, Jenners Creek, Rivertree Chimney Silver smelting ruins.
- Assistance with Council's asset management on works within the Conservation Area and consideration of impacts on Koreelah Bridge upgrade.
- Assistance and input to the Strategic Heritage Inventory Review.
- Preparation of Fact Sheets for Councils website and counter material.
- Input to integrated suite of interpretive signage for CBD under grant funding proposal.'
- Council supported **cultural events and activities** such as Oracles of the Bush and Peter Allen Festival.

Other Significant Outcomes in Tenterfield Shire Related to Heritage:

- Northern Tablelands Local Land Services holds meetings of the **Aboriginal Reference Advisory Committee**, which includes Aboriginal communities in Tenterfield Shire, to **discuss cultural and natural resource management** in the region.
- Moombahlene Local Aboriginal Land Council (LALC) built a **bush tucker nursery** to grow and supply native plants, while also raising awareness of the Indigenous uses of plants.
- Moombahlene LALC organised a celebration for **NAIDOC week**.

Highlights for 2018/19:

- Grant funds supported **repair and maintenance of heritage properties**.
- **Active and involved** heritage community.
- Development of **Bush Tucker Nursery**.

Challenges and Areas for Improvement:

- More opportunities for the **Aboriginal community** to engage in cultural heritage management.



Moombahlene LALC built a bush tucker nursery in 2018

Conclusions

During 2018/19, Tenterfield Shire Council made progress against the eight environment parameters on which this State of the Environment report is assessed and faced several challenges and obstacles, including those listed below.

Highlights

Some of Councils major achievements during the 2018/19 reporting period include:

- Management of **illegal buildings**.
- Renewed investment in protection of **riparian vegetation**.
- Significant resources available in the region to manage **feral animals**.
- Ongoing vigilance in **weed management**.
- Efficient processing, and a large increase in the total value of **development applications** assessed, increasing from \$10,478,309 (2017/18) to \$42,047,691 (2018/19).
- **Extension of new sewer lines** to more properties around Tenterfield township resulting in the decommissioning of on-site septic systems, which reduces the risk of pollution from septic systems.
- Continued investment in **State of the Environment** reporting.
- **Landfill diversion rates increased**.
- **New monitoring bores installed at Boonoo Boonoo Landfill**
- **Funding applications** were applied to make improvements to the Boonoo Boonoo Landfill and the closed Sunnyside Loop Road Landfill. Another application was put in for the conversion of Torrington landfill to a Waste Transfer Station.
- Potential for **Waste 2 Energy project to revolutionise waste and energy management**.
- Ongoing progress in relation to **water and sewer infrastructure**.
- Adoption and implementation of **key plans**.
- Announcement of **funding for new WTP** in Tenterfield.
- **Shirley Park Bore made operational** again.
- **Water security works**, including cleaning out sediment from the dam and the bore investigation and drilling project.
- Installation of **automatic water dispensing stations**.
- Updated **Drought Management Plan** to manage severe drought in NSW.
- **Increase in number of species** recorded in Tenterfield LGA.
- Focus on **koala conservation**.
- Significant ongoing improvement in **Transport Infrastructure environmental assessment and impact mitigation processes**.
- **Improvement in water efficiency** at several Council facilities.

- Ongoing education and awareness campaigns, especially related to **weeds, wise water use and feral animals. Your Local News** distributed fortnightly with relevant, up-to-date information.
- Non-Aboriginal heritage well maintained and protected through an **active, heritage-minded community**.
- Development of Indigenous **Bush Tucker Nursery**.

Challenges

Some of the ongoing **challenges** for Council include:

- Drought and heat waves have impacted on the community, industry, tourism, agriculture and ecosystems of the region.
- Water security is a significant challenge for the Shire
- Bushfires have damaged infrastructure and ecosystems.
- There was an ongoing **decrease in investment in natural resource management** activities and **no new protected areas** declared in the Shire.
- **No wash-down policy or facilities** regularly used by Council machinery.
- **Council needs to commence operations for a new cell** at Boonoo Boonoo Landfill. Council are still discussing options with the EPA for the new cell. Discussions were put on hold due to finding space at the landfill to dispose of
- Despite its successful uptake, the **recycling program is costing Council substantial amounts of money**.
- **Difficult to measure waste quantities** due to no weigh bridge available.
- An increase in **abandoned vehicles**.
- The impact of **increased waste generated through bush fires** in the region, including large amounts of **asbestos**.
- The Tenterfield township was on water restrictions for the year, with drought severely impacting the community and water desperately needed for fire fighting operations.
- **Non-compliance** with licence requirements and prosecution by the Environment Protection Authority (EPA) for a water pollution offence.
- **Biodiversity planning and management** does not appear to be considered a high priority to Council
- **Increasing community concern related to water**.
- Potential for Shire residents to **uptake water conservation measures over the long-term** following water saving measures introduced during the drought.
- Council has undertaken limited actions to address its goal that ‘The community is educated and informed of environmental and biodiversity issues through monitoring and reporting and Council partners with stakeholders to manage identified threats.’ Many opportunities exist for **Council to engage in monitoring and reporting on environmental and biodiversity issues and managing threats**, however there has been **limited uptake** of these opportunities.
- More opportunities for the **Aboriginal community** to engage in cultural heritage management.

Obstacles

Some of the **obstacles** that Council faces in trying to achieve its objectives include:

- **Natural disasters** such as drought and bush fires
- **Limited budgets**
- **Community perceptions and acceptance**
- **Rural, remote location and small population**
- **Changing political and legislative landscapes.**

The findings of this **annual report for 2018/19** will be used in the comprehensive State of the Environment Report to **analyse major environmental trends** over the reporting period of 2016-2022.



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