



Appendix 2

State of the Environment Report

TENTERFIELD ANNUAL STATE OF THE ENVIRONMENT REPORT 2017/18



*Prepared for Tenterfield Shire Council by Michelle McKemey,
Melaleuca Enterprises Environmental Consultancy Services*



Summary

Tenterfield State of the Environment Report 2017/18 ('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 2017a), *Tenterfield Delivery Program 2017-2021* (TSC 2017b) and *Tenterfield Shire One Year Operational Plan 2017/18* (TSC 2017b) 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 2017/18, 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 **Council's major achievements** during the 2017/18 reporting period include:

- Effectively performing the core business of a local government in regulating and protecting the environment.
- Continued investment in State of the Environment reporting.
- Increased diversion rates for waste and community engagement in aspects of waste management.
- Potential for Waste 2 Energy project to revolutionise waste and energy management.
- Dam wall upgrade almost completed.
- Ongoing progress in relation to water and sewer infrastructure.
- Significant ongoing improvement in Transport Infrastructure environmental assessment and impact mitigation processes.
- Partnerships with Granite Borders Land Care, Local Land Services, Department of Primary Industries and landholders for community education campaigns such as waste, water and weed management.
- Increasing and important projects being undertaken to promote Aboriginal heritage.
- Non-Aboriginal heritage well maintained and protected through an active, heritage-minded community.

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

- There was an ongoing increase in community concern related to land management and noise, significant decrease in investment in natural resource management activities, no further waterways protected and no new protected areas declared in the Shire.

- Council has some major issues to resolve regarding waste management, including potentially opening a new cell at Boonoo Boonoo Landfill, managing the cost of recycling, dealing with asbestos, planning for the Torrington Landfill and collecting accurate data regarding waste management.
- An ongoing increase in water use in the Shire and limited action on improving water and waste efficiencies in Council facilities.
- Court case and ongoing actions related to raw sewage overflow incident in 2016.
- None of the biodiversity recommendations of the Comprehensive SOE 2012-16 (McKemey 2016) have been implemented.
- Possible increase in vegetation clearing due to introduction of new land clearing laws *Local Land Services Act 2013* and the *Biodiversity Conservation Act 2016*. Council needs modern, science-based systems in place to ensure that it manages native vegetation and biodiversity within its jurisdiction to best practice standards. It also needs to inform the community of the value of native vegetation and biodiversity on their property in order to prevent or reduce land clearing.
- 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.

The findings of this **annual** report for 2017/18 will be used in the comprehensive State of the Environment Report to **analyse major environmental trends** over the reporting period of 2016-2020.

Contents

Summary	2
State of the Environment Reporting Requirements	5
Preparation of this Report	5
Tenterfield Shire	6
Tenterfield Shire Plans	7
Environmental Direction 1: The natural environment will be protected, enhanced and promoted for future generations	10
Environmental Direction 2: The community is encouraged to implement waste minimisation strategies and recycling is fully implemented	17
Environmental Direction 3: A total water cycle management approach including water conservation and reuse is adopted	22
Environmental Direction 4: Land use planning and management enhances and protects biodiversity and natural heritage	25
Environmental Direction 5: Environmental risks and impacts are strategically managed	28
Environmental Direction 6: Water is used carefully in Council's buildings, parks, sporting grounds and daily operations	30
Environmental Direction 7: Tenterfield Shire is an environmentally educated and committed community.	31
Heritage	33
Conclusions	37
References	40

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 1999-2017) 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 2017/18. 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 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.



Tenterfield Shire Plans

The *Tenterfield Community Strategic Plan 2017-2027* (the 'Community Strategic Plan') describe 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 2017b) 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 (TSC 2017b) 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 2017a):

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 2017a):

MEASURE	SOURCE	NUMBER	TARGET
Total waste diverted from landfill.	Council Records.	37.1%	Increase from previous period.
Drinking water quality compliance with microbial requirements.	DPI Water Data.	Jennings 96% Urbenville 100% Tenterfield 95% TOTAL 97%	100%
Average annual residential water consumption.	Council Data	Residential 260,763KL Non-Residential 68,887KL TOTAL 329,650KL	Decrease from previous period. (2017/2018 represents an increase)
Average annual residential electricity consumption.	ABS Household energy consumption survey.	6,775.6 kW hours	<7000 kW hours

Table 1: Environmental performance indicators identified in Tenterfield Community Plan

The previous annual SOE report 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 include (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 2017b) 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

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.

Delivery Program Goals and Strategies (TSC 2017b):

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.




Relates to previous SOE report environmental sectors:




- Land
- Water
- Biodiversity
- Air
- Noise.



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	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	Increase 
Land	Level of development	Number of developments assessed	125 p.a.	Data not Available	134 p.a.	97 p.a.	123 p.a.	135 p.a.	134 p.a.	Negligible change 
Land	Level of appropriate development	Number of development approvals related to rural subdivisions	18 subdivisions approved p.a.	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.	Decrease 
Land	Protected Area Estate	Increase/decrease in area of land managed as protected area by National Parks And Wildlife Service (hectares)	+42,170ha total area since first NP established	+10,907ha p.a.	+142ha p.a.	+390ha p.a.	0ha p.a.	0ha p.a.	0ha p.a.	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	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	Decrease 
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	Negligible change 
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	Decrease 

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	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	Decrease 
Air	Community concern regarding air issues	Number of air complaints reported to the OEH Environment Line	Data not Available	Data not Available	0.25	4	2	1	0	Decrease 
Noise	Community concern regarding noise issues	Level of community concern regarding noise (Complaints to Council and OEH)	0	3	8	3	8.25	1	7	Increase 

Council Actions Related to Environmental Direction 1:

- **Noxious weeds** program continued, targeting 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, fireweed, whiskey Grass and Noogoora Burr.
- Although no **water hyacinth** has been found in the Dumaresq River since March 2015, it was located in one dam at Legume in 2017/18. The outbreak was treated and controlled immediately, with regular inspections done at the locations and within the area.
- Regular inspections are undertaken on all major waterways and their tributaries for not only water hyacinth, but all major **water weeds** such as alligator weed, salvinia, sagittaria and water lettuce.
- Inspections for **tropical soda apple** in the Urbenville area found 5 properties with minor infestations and 1 State Forestry block with a major infestation. In the Tabulam area 1 property was found to have a minor infestation. Funding was made available by the Northern Tablelands Regional Weeds Committee (\$20,000) through their new incursions program to put together a rapid response team to do a control pass on the State Forestry Block in Urbenville and gain control. This was only a once off treatment and any future control will rest with the State Forestry.

Regular inspections are conducted on this block to ensure compliance. Regular inspections are undertaken in the high risk areas, pathways and waterways to prevent any new incursions of Tropical Soda Apple.

- Containment of **giant Parramatta grass**: This grass was sprayed along roadsides in order to contain it to the main core area.
- **Inspections**: 260 private property inspections were conducted equalling approximately 67,700 ha, approximately 1,127 km of high risk pathways were inspected to detect new weed incursions within the shire. Tropical soda apple plants were found on the roadsides on the Mt Lindsey Highway near Woodenbong and Tooloom Rd at Wallaby Creek.
- **Field days, Meetings, Groups, Awareness programs**: Weed handbooks were distributed to land holders to assist with education and weed awareness, identification and control. Media advertising for weed education, council website updated monthly. Councillor Tom Peters and Council Weeds Officer are members of the **Northern Tablelands Regional Weeds Committee (NTRWC)** and regularly attend the meetings. Granite Borders Landcare, Rhous County Council and TSC held an information session on Tropical Soda Apple in Urbenville. Tropical Soda Apple awareness flyers were distributed in the Urbenville, Woodenbong and Tabulam areas. 7 Tropical Soda Apple awareness signs were purchased and installed to high risk areas. Attended both the Stanthorpe and Tenterfield Agricultural shows.
- **Risks and Concerns**: The introduction of new weeds to the Tenterfield Shire area due to the drought, because of fodder being sourced from different parts of the country for farmers to feed stock and the many hay trucks travelling through our shire each day. The main weed of concern is parthenium weed coming down from Queensland in stock feed.
- **Feral animals targeted** included rabbits, foxes, wild dogs, pigs, Indian myna birds and feral cats - mostly driven by Northern Tablelands Local Land Services and Granite Borders Land Care.
- **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 5 barking dogs and 1 noise complaint received and dealt with during 2017/18. One noise complaint was reported to the NSW EPA Environment Line.
- Ongoing inspections occurred in accordance with the **On Site Sewage Management Policy**. In total, 18 systems were inspected.
- The **illegal building work register** was maintained and continual reactive inspections and actions taken on **unauthorised development** noted throughout the Shire.
- The **register for all caravan parks and campgrounds** was maintained.



*Tropical soda apple awareness sign
(Photo: Chris Battersby)*

- Efficient assessment of **development applications**, including assessment of 134 applications. The overall value of developments decreased in the Shire (total value decreased from \$13,423,025 [2016/17] to \$10,478,309 [2017/18]).
- 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. In July 2017, the Australian Government formally committed \$10 million to continue planning for this project to have it ready for construction once funding becomes available. This planning phase includes:
 - field investigations
 - finishing the concept design
 - environmental assessment
 - detailed design
 - property acquisition.

Timing for building the bypass will depend on funding availability. Funding for construction has not been committed at this stage. The next steps include refining the design, preparing an environmental assessment and consultation with key stakeholders (Roads and Maritime Services 2017).

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 \$295,000+** in Tenterfield Shire during 2017/18 in collaboration with other groups. Projects focussed on:
 - weeds
 - feral animals (including pigs, wild dogs and foxes)
 - permaculture
 - capacity building and training
 - native vegetation
 - trees on farms
 - providing equipment to community groups.
- Northern Tablelands LLS funded the Tenterfield Wild Dog Control group to develop and implement a **Wild Dog Management Plan**. The funding came from the Australian Government's National Landcare Program and commenced in 2015. Additional funding has been provided for the 2018/2019 financial year. The group has controlled wild dogs on over 10,000 hectares through a combination of ground and aerial baiting along



A spotted tailed quoll caught on motion camera by a landholder (photo: from NTLLS)

with a program of reactive trapping. Control of wild dogs is important as they predate 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.

- A project established infrastructure on the Travelling Stock Reserve (TSR) between Burrenbar and Wylie Creek (near Liston NSW) to conserve 40ha of **Koala habitat**. Infrastructure will enable improved management of key threats (fire and grazing regimes). Northern Tablelands Local Land Services TSR Team constructed 1.7km of stock proof fence. The TSR will be managed as a closed reserve of high conservation value vegetation (threatened species habitat).
- The **Northern Tablelands Regional Strategic Weed Management Plan 2017 – 2022** was finalized which guides weed management in Tenterfield Shire.

Highlights for 2017/18:

- Ongoing vigilance in **weed management**.
- **Biosecurity legislation** makes it easier to manage weeds in the Shire.
- **On-site septic systems managed** in order to prevent contamination of water supply.
- Ongoing management of **development applications**.
- Continued investment in **State of the Environment** reporting.

Challenges and Areas for Improvement:

- There was an **ongoing** increase in **community concern** related to land management and noise, **decrease in investment in natural resource management** activities (\$486,000 less than 2016/17), **no further waterways protected** and **no new protected areas** declared in the Shire.
- There was reduced number of **feral animal species** targeted in the Shire.
- **Data management and record keeping** for registers within Council could be improved.
- **No wash-down policy or facilities** regularly used by Council machinery.

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

Strategies (TSC 2013):

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

Delivery Program Goals and Strategies (TSC 2017b):

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.




Relates to previous SOE report environmental sectors:



- Waste



*Site inspection of Installation Process for Container Deposit Scheme (CDS)
Automatic Reverse Vending Machines (photo: Melissa Blum)*

SOE Indicators for Environmental Direction 2:

Environmental Sector	Indicator	Measurement	Mean pre 2001 (from available data)	Mean 2001- 2005	Mean 2005 - 2009	Mean 2009 - 2012	Mean 2012 - 16	2016/17	2017/2018	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	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	Decrease 
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.	Boonoo Boonoo Landfill <50 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)	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	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	No 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	Increase 

Council Actions Related to Environmental Direction 2:

- **Total waste sent to landfill** for the period 2017/2018 was 2,378 tonnes, compared to 2,550 tonnes for 2016/17. This is a decrease of 172 tonnes per year or 26kg per person.
- Council improved on its **goal to maximise the recovery, reprocessing, reuse and recycling** of all waste materials by **diverting 20% of domestic waste** from landfill to recycling and organics. This is an increase of 1% on the previous year (19% waste diverted 2016/17).
- **Total waste recycled** was 485 tonnes or 73kg per person. Recycling continued to be well used (all waste and recycling data are derived from Tenterfield Shire Council 2017c, d & e). The recycling rates shown in this report do not take into account the number of containers removed from Council's waste stream as a result of the Container Deposit Scheme. 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 (CRC)** was officially opened on the 29 January 2018. This enables for 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 an enthusiastic uptake by the community. Site specific numbers are not available, as this information is collected by the State Government, who run the campaign.

- 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 (McKemey 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 (see EPA 2018).
- 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 is due to happen in early 2019.
- Operations continuing and investigations into **alternate service delivery options** ongoing.
- Public **education** ongoing throughout the year with participation in National Recycling Week, Asbestos Awareness Month, Garage Sale Trail etc. Visit to the **Tenterfield Pre-school** on 16 May to discuss **recycling**.
- 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*
- **Collection of waste** conducted in a timely and efficient manner.
- 9 incidents of **illegal dumping** were dealt with in 2017/18, including dumping near roadsides and tips. Around 200 tyres were illegally dumped at three separate locations. The alleged offender was identified and requested to remove the tyres.
- Ground water bores used at waste facilities to **monitor the impact of waste on water quality**.
- **Farm Chemical Containers** safely disposed at the Tenterfield Waste Transfer Station **drumMUSTER** secure cage.



Installation of Container Deposit Scheme Automatic Reverse Vending Machines (photos: Melissa Blum)

- **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.
- Safe collection of waste such as **batteries, chemicals, mobile phones and printer cartridges** was also provided by Council.
- **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 minor **fire** occurred at the Torrington landfill in February, which was extinguished. In August, a **bushfire** came close to the Boonoo Boonoo landfill but was extinguished by the Rural Fire Service.
- A trial commenced of an alternative daily **cover material** for the Boonoo Boonoo Landfill.
- Council was forced to pay \$4,500 in contamination disposal fees after the Urbenville Waste Transfer Station discovered **asbestos disposed of illegally** at the Urbenville Facility.
- Tenterfield Council began to build a proposal for the **Tenterfield Council Waste to Energy (W2E) Feasibility Study**, seeking support from other Councils and potential partners to fund the study. The study proposes to deal with the parallel issues of the need to generate electricity locally and reduce waste management costs and offers regional Australia in particular much opportunity.

Highlights for 2016/17:

- Trial of **Daily Cover** commenced.
- Opening of **Tenterfield Community Recycling Centre**.
- Excellent community take-up of the new **Container Deposit Scheme**.
- **Diversion rates increased**.
- **Education programs** ongoing.
- **No complaints** related to waste management.
- Potential for **Waste 2 Energy project to revolutionise waste and energy management**.

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**.
- **Despite its successful uptake, the recycling program is costing Council substantial amounts of money** which needs to be considered.
- The **future of the Torrington Landfill is unclear**- will this continue as a landfill or be converted to a transfer station?
- The **review of Waste Management** should address the above issues once completed.
- **Difficult to measure waste quantities** due to no weigh bridge available.



Posi-shell trial for alternative daily cover for waste landfill (photo: Melissa Blum)

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

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

Delivery Program Goals and Strategies (TSC 2017b):



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

Relates to previous SOE report environmental sectors:

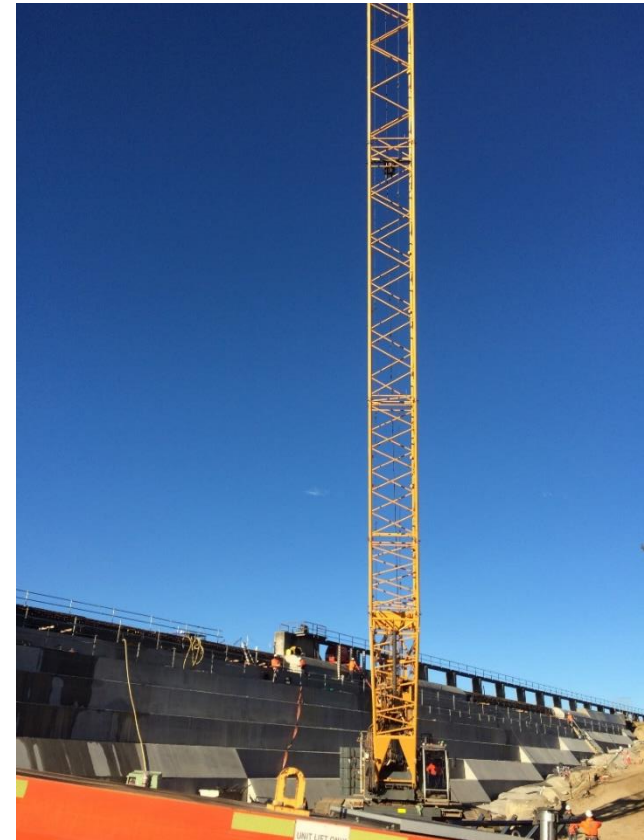
- Water

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	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	Increase 
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	No change 

Council Actions Related to Environmental Direction 3:

- **Increase in overall water use** across Shire of 12,501 kL compared to 2016/17.
- Council had **14 incidences of non-compliance** related to water including:
 - Tenterfield Water Supply Works- Very minor non-compliance, one-off marginal exceedance of pH range.
 - Tenterfield Sewage Treatment Plant – 7 incidences of non-compliance based on pH.
 - Urbenville Sewage Treatment Works- 6 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). The NSW Environment Protection Agency took Tenterfield Shire Council to court regarding the incident. The Tenterfield Sewer Treatment Plant licence conditions were updated with a list of 7 improvement actions. These actions are phased over 4 years, with 1 action completed in the 2017/2018 financial year.
- Ongoing **renewal of aged wastewater infrastructure**- approximately 1km of sewer main was relined in Tenterfield.



Tenterfield Dam wall upgrade (photo: Melissa Blum)

- Investigation, detailed design and costing of **wastewater system to service Jennings**. A consultant was engaged to do an initial investigation of proposed Jennings Sewer system. The initial report states that the technically viable but financially not viable at this stage. Ongoing discussions are occurring across the border to try to find funding.
- Concept designs have been developed for a proposed **sewer extension** to service Trail Lane, Scott Street, Derby Street and Rouse Streets at Tenterfield.
- Another section was completed in the **sewer augmentation program**.
- Leeds took over the **Dam Wall Upgrade project**. The contract was changed from renewing the anchor system to a mass concrete pour.

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

- None

Highlights for 2016/17:

- **Dam wall upgrade** almost completed.
- Updated **Drought Management Plan** to manage severe drought in NSW.
- Ongoing progress in relation to **water and sewer infrastructure**.
- Adoption and implementation of **key plans**.

Challenges and Areas for Improvement:

- An ongoing **increase in water use** in the Shire, 12,501 kL more than 2016/17.
- Court case and ongoing actions related to **raw sewage overflow** incident. No further spills since this incident.
- **Non-compliance** with licence requirements.
- **Lack of education/awareness** with upstream landholders that the water running off their land feeds into Tenterfield water supply.



Sewer re-lining (photos: Melissa Blum)

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

Strategy (TSC 2013):

- Commence and implement Council’s **Biodiversity Strategy**

Delivery Program Goals and Strategies (TSC 2017b):

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**.

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	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	Decrease 
Biodiversity	Total fauna and flora species recorded	Total number of species listed for Tenterfield Local Government Area on the OEH Bionet	Data not Available	Data not Available	2,245 species	3,036 species	3,226 species	3,113 species	3,383 species	Increase 

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 +	Decrease 
--------------	--------------------------------	--	---	--------------------	--------------------	--------------------	-----------	-----------	----------------	---

Council Actions Related to Environmental Direction 4:

- Council received a grant to publish brochures and maps for **Toooloom and Koreelah National Parks**.
- Council implemented the **Tenterfield Local Environmental Plan 2013** ('LEP') which **directs development** in the Shire, identifies **environmentally sensitive areas** and aims to **maintain terrestrial biodiversity**.
- Preparation of a **Biodiversity Strategy** is no longer included as one of Council's planned activities.
- 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 17 **threatened species conservation projects** and 24 **key management sites for threatened species**, supported by the NSW Office of Environment and Heritage during 2017/18.

Highlights for 2017/18:

- **Decrease in community concern** reported to Environment Line
- **Increase in number of species** recorded in Tenterfield LGA

Challenges and Areas for Improvement:

- Significant **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 (McKemey 2016) have been implemented, including those listed below:
- Work needs to commence on a Biodiversity Strategy or Council needs to work more closely with the agencies that deliver biodiversity extension (such as Local Land Services) in order to **update the information used for both decision making and general understanding** of the environment. Resources for local government are available at: <http://www.environment.nsw.gov.au/biodiversity/BiodiversityResources.htm> . Other Councils have demonstrated considerable success in developing and implementing biodiversity strategies, such as Byron Shire Council, which adopted its Biodiversity Conservation Strategy in 2004 and has since implemented 84% of the actions and secured over \$4.3M of external funding for biodiversity conservation.

- 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. More sophisticated technology and a large amount of information about the environment has been generated since then which could provide **superior maps based on scientific evidence**. Information contained in the *Tenterfield Urban and Rural Land Use Strategy* and a potential **Biodiversity Strategy** would be very useful in assisting to update the LEP and providing fine-scale direction for local development assessments that may be overlooked by the state-wide planning policies and legislation.
- The NSW Government transitioned to the **new land management framework** on 25 August 2017. The *Biodiversity Conservation Act 2016* and *Local Land Services Amendment Act 2016* ‘take advantage of the best available science and data to ensure a balanced approach to land management and biodiversity conservation in NSW’ (NSW Government 2017). This new legislative framework will need to provide capacity building for Council staff involved in its use.
- This could lead to an increase in clearing of native vegetation in the state. World Wide Fund for Nature identified that Tenterfield Shire is one of five local government areas where these laws could have the **greatest potential impact to koala habitat**, with 164,035 hectares at risk in Tenterfield Shire (Ecological Australia 2016). It is recommended that development assessments take into account potential koala habitat and broader biodiversity issues. The new legislation will also impact how Council implements its policies related to native vegetation, weeds and other issues.
- Council is **eligible to apply for grant funding to address issues such as biodiversity planning and koala habitat** through NSW grant funding such as the Environmental Trust <http://www.environment.nsw.gov.au/grants/restoration.htm> or Saving our Species program.
- More opportunities have become available for **conservation on private land** through the Biodiversity Conservation Trust <https://www.bct.nsw.gov.au/>



Koala, a threatened species in NSW (photo: DMEnterprises)

Environmental Direction 5: Environmental risks and impacts are strategically managed

Strategies (TSC 2013):

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

Delivery Program Goals and Strategies (TSC 2017b):

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.**


Relates to previous SOE report environmental sectors:

- Water



Flood Warning System (photo: Melissa Blum)

SOE Indicators for Environmental Direction 5:

Environmental Sector	Indicator	Measurement	Mean pre 2001	Mean 2001-2005	Mean 2005 - 2009	Mean 2009 - 2012	Mean 2012 - 2016	2016 /17	2017 /18	Change
Water	Level of community concern regarding water	Number of call received by Environment Line regarding water	Data not Available	Data not Available	2.75	6	2.75	3	2	Decrease 

Council Actions Related to Environmental Direction 5:

- The Tenterfield **EMPLAN** was reviewed in 2017/18.
- The outcomes of the **Tenterfield Floodplain Risk Management Study and Plan** are integrated into planning and DA assessment processes.
- Council has applied for funding to **upgrade the flood warning system.**
- **Storm Water Gross Pollutant Traps** were installed to capture gross pollutants and other material. The GPT’s are periodically checked and cleaned out following rainfall events as funding permits.
- **Weed control** (e.g. salvinia, water hyacinth) is undertaken to maintain water quality.
- Leeds took over the **Dam Wall** Upgrade project. The contract was changed from renewing the anchor system to a mass concrete pour.

- Council maintains and implements the **Drinking Water Management Strategy** and the **Water Asset Management Plan**. The Drinking Water Management Strategy is currently under review with the assistance of Viridis. A workshop was held with Viridis, NSW Health, DoI Water, Kyogle Council and Southern Downs Regional Council to discuss the DWMS.
- Council provides information to residents related to the **testing of drinking water**.
- Council undertakes **compliance related to water quality complaints**.
- In the past 2 years **Transport Infrastructure has included a greater focus on the environment and mitigating the impacts of road infrastructure projects**. TSC works department has progressed from no environmental paperwork to the following:
 - Preparation of detailed Fisheries Permits instead of a basic hand written permit
 - Pre design meeting with Fisheries for all instream works regardless of stream order, inclusion of fish friendly design and practices on all in stream works
 - Development of CEMP to cover fish friendly works
 - Preparation of Review of Environmental Factors (REF) for all sites that have a potential for threatened species. The REF records the management process that will be implemented to protect the species from disturbance.
 - Developed a set of job documents encompassing all parts of the works – next step is to develop a preconstruction checklist for all projects.
 - Latest step is to have staff inspecting bridges prior to works for evidence of micro bats. (Fact sheets and photos from OEHL are used) where a roost or a companion animal is identified an ecologist is engaged to provide further management advice.
 - TSC is regularly consulting with Glenn Inness Severn Shire Council for input into developing environmental process to the point that OEHL has agreed to develop a council training program to ensure the environmental responsibilities are met.
 - TSC is in the process of calling quotes on specific complex projects for the supply of ecological reports and REF. The aim of this is to build a library of REF's for reference on a variety of works. Once this library is complete Council will be in a better position to prepare REF's themselves and reduce some of the costs involved in preparing an REF.



Council has improved its pre-works checks by searching for threatened species such as microbats under bridges (photo: Doug Beckers)

Other Significant Outcomes in Tenterfield Shire Related to Environmental Direction 5:

- None.

Highlights for 2017/18:

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

Challenges and Areas for Improvement:

- None.

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

Strategy (TSC 2013):

1. **Minimise water use** in Council operations and facilities

Delivery Program Goals and Strategies (TSC 2017b):

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

- **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:

- The **sprinkler system** at Federation Park was upgraded which resulted in greater water efficiency.
- Council requires that contractors provide **water saving devices** in any new facilities for which they release tender documents.
- **Water efficiency messages** are regularly included in Tenterfield Local News.

Highlights for 2017/18:

- **Improvement in efficiency** at one Council facility.

Challenges and Areas for Improvement:

- **More extensive rollout** of efficiency improvements at Council facilities could be undertaken.



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

Strategies (TSC 2013):

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

Delivery Program Goals and Strategies (TSC 2017b):

- 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**.

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.
- Invitation to the general public through Tenterfield Local News **to visit the treatment plants**. Council staff ran tours of the Water Treatment Plant and Wastewater Treatment Plant, showing how town water is produced and what happens after the toilet is flushed, respectively.
- **Waste education** program including recycling and organics extension and education. Staff talks at local preschool. Garage Sale Trail- Council supported the 'Choose to Reuse' initiative.
- **Ribbon cutting at opening** of the new recycling centre.



Granite Borders Landcare subtropical pasture information day in the McLeod's creek area east of Tenterfield. (Photo: Mandy Craig)

- **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 2017/18.
- Regular articles in Council's **Local News** such as a litter campaign (aiming to reduce littering in public places by 20%), recycle right and reducing water leaks.
- New initiatives related to **responsible fishing practices**. Fishing competition run at Tenterfield Dam.
- Council staff attended **Master Builder's information sessions**, and gave talks to Builders.
- **Heritage newsletter** distributed Shire-wide.

Highlights for 2017/18:

- **Partnerships** with GBLC, Local Land Services, DPI and landholders.
- **Recycling and waste education** program continued.
- **Strong weed education** campaign.
- **Participatory water education** program ongoing.
- Growing **fishing education initiatives**.

Challenges and Areas for Improvement:

- Continue to build on environmental education programs by developing **more community education** resources, activities and events (e.g. biodiversity and iconic species, opportunities for private land conservation, the value of native vegetation etc.).
- 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.



Staff Member providing educational presentation to Preschool.

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

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**

Delivery Program Goals and Strategies (TSC 2017b):

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




Relates to previous SOE report environmental sectors:

- Aboriginal heritage
- Non-Aboriginal heritage



An Aboriginal cultural burning program was run at Jubullum during 2017/18

SOE Indicators for Heritage:

Environmental Sector	Indicator	Measurement	pre 2001 (from available data)	2005	2009	2012	2016	2017	2018	Change
Non-Aboriginal heritage	Heritage Sites in Registers (Local, State, etc.)	The number of sites in Schedule 5 of the Local Environment Plan	51	37	65	133	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	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	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.
- Ongoing implementation of the **Tenterfield Heritage Strategy 2015-2018**.
- Protection of heritage items within the **Heritage Conservation Area**.
- The **Heritage Near Me Program**- protecting, Sharing and Celebrating NSW's diverse natural and cultural heritage, Supporting Local Heritage – was run in Tenterfield Shire.
- The **Local Heritage Assistance Fund 2017-18** supported 13 successful projects this year including historic shopfront restoration, guttering, repainting, fences and joinery repairs.
- 8 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 2017-18** (Wray 2017) stated that: '2017-18 was a productive year for the heritage advisory service in Tenterfield Shire with 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.
 - Assistance with effective statutory management of heritage in the shire and development processes.
 - Assistance and support to owners with grant applications under the Local Heritage Places Grants.
 - Assistance with preparation of 'Heritage Near Me' grant applications.
 - Attendance and contributions to the Heritage Panel bi-monthly meetings
 - Site inspection days with the Heritage Panel at Oak Hollow Station, Cheviot Hills Station, Deepwater Station, Torrington and Timbarra.
 - Assistance with Council's asset management on works within the Conservation Area and listed items.
 - Advice on Tenterfield School of Arts approval processes and assistance with applications under Heritage Act 1977, and works projects.
 - Liaison with Councils Collection Advisor and local museums.
 - Historical research
 - Preparation of 20 State Heritage Inventory data sheets for heritage items in the Tenterfield LEP 2013.'
- Council supported **cultural events and activities** such as Oracles of the Bush, Peter Allen Festival, Beersheba Memorial Service Tabulam and Tenterfield Soundtrails Walk.
- To celebrate **NAIDOC Week** 2017 Tenterfield Shire Council screened the feature film *Satellite Boy*.

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.
- Jubullum Cultural Burning:** Northern Tablelands LLS through the Australian Government funded a Fire and Seasons calendar with the Jubullum Aboriginal Community at Drake. The calendar identifies changes in the environment that indicate the 'right time to burn' in accordance with traditional ecological knowledge. Fire has the potential to improve the environment through controlling weeds, regenerating indigenous plants and most importantly reconnecting Aboriginal people to country. The fire burn was attended by neighbouring landholders, Rural Fire Services and the Clarence Valley Conservation group.

Highlights for 2017/18:

- Grant funds supported **repair and maintenance of heritage properties**.
- Active and involved** heritage community.
- Projects related to **Aboriginal leadership and engagement** as well as **natural and cultural resource management**.

Challenges and Areas for Improvement:

- None.

firesticks **Webra = fire**

Wahlbul Fire and Seasons Calendar

“Culture belongs. It's part of the Lore. Knowing how to do it and when to do it is all part of being Aboriginal.” - Roy Ball

JANUARY
Wahlbul...
“...the time of the year when the birds are nesting...”

FEBRUARY
Wahlbul...
“...the time of the year when the birds are nesting...”

MARCH
Wahlbul...
“...the time of the year when the birds are nesting...”

APRIL
Wahlbul...
“...the time of the year when the birds are nesting...”

MAY
Wahlbul...
“...the time of the year when the birds are nesting...”

JUNE
Wahlbul...
“...the time of the year when the birds are nesting...”

JULY
Wahlbul...
“...the time of the year when the birds are nesting...”

“Deeply down, where we grow up, and get our roots from - it's our hunting grounds and our way of life. People who burn down there, it's a warning sign, a warning and gathering at a meeting place. It's the most beautiful way in Australia. That's what it is, it's everything.” - Ernest Hilling



The Jubullum fire & seasons calendar

Conclusions

During 2017/18, 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 Council's **major achievements** during the 2017/18 reporting period include:

- Effectively performing the core business of a local government in **regulating and protecting the environment**.
- Ongoing vigilance in **weed management**.
- **On-site septic systems managed** in order to prevent contamination of water supply.
- Ongoing management of **development applications**.
- Continued investment in **State of the Environment** reporting.
- Trial of **Daily Cover** commenced.
- Opening of **Tenterfield Community Recycling Centre**.
- Excellent community take-up of the new **Container Deposit Scheme**.
- **Landfill diversion rates increased**.
- **No complaints** related to waste management.
- Potential for **Waste 2 Energy project to revolutionise waste and energy management**.
- **Dam wall upgrade** almost completed.
- Updated **Drought Management Plan** to manage severe drought in NSW.
- Ongoing progress in relation to **water and sewer infrastructure**.
- Significant ongoing improvement in **Transport Infrastructure environmental assessment and impact mitigation processes**.
- **Improvement in water efficiency** at one Council facility.
- **Partnerships** with GBLC, Local Land Services, DPI and landholders for education campaigns including waste, water and weed management.
- Non-Aboriginal heritage well maintained and protected through an **active, heritage-minded community**.
- Increasing and important projects being undertaken to **promote Aboriginal heritage**.

Challenges

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

- There was an **ongoing** increase in **community concern** related to land management and noise, **decrease in investment in natural resource management** activities (\$486,000 less than 2016/17), **no further waterways protected** and **no new protected areas** declared in the Shire.
- There was a reduced number of **feral animal species** targeted in the Shire.
- **Data management and record keeping** for registers within Council could be improved.
- **No wash-down policy or facilities** regularly used by Council machinery.
- Council has some **major issues to resolve regarding waste management**, including potentially opening a new cell at Boonoo Boonoo Landfill, managing the cost of recycling, dealing with asbestos, planning for the Torrington Landfill and collecting accurate data regarding waste management.
- An **ongoing increase in water use** in the Shire, 12,501 kL more than 2016/17.
- Court case and ongoing actions related to **raw sewage overflow** incident. No further spills since this incident.
- **Minor non-compliance** with water licence requirements.
- Lack of education and awareness for upstream landholders of the **Tenterfield Dam drinking water catchment**- e.g. agricultural run-off.
- **More extensive rollout** of water and energy efficiency improvements at Council facilities could be undertaken.
- **None of the biodiversity recommendations** of the Comprehensive SOE 2012-16 (McKemey 2016) have been implemented
- It is recommended that Council develops a Biodiversity Strategy or Council needs to work more closely with the agencies that deliver biodiversity extension (such as Local Land Services) in order to **update the information used for both decision making and general understanding** of the environment.
- 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.
- Possible **increase in vegetation clearing** due to introduction of new land clearing laws *Local Land Services Act 2013* and the *Biodiversity Conservation Act 2016*.
- Council is largely dependent on Granite Borders Land Care and State Government agencies for its biodiversity extension activities. As the new legislation is enacted, there could be an increase in the clearing of native vegetation in the Shire which could lead to biodiversity losses. Council needs science-based systems in place to ensure that it **manages native vegetation and biodiversity within its jurisdiction to best practice standards**. It also needs to inform the community of the value of native vegetation and biodiversity on their property in order to **prevent or reduce land clearing**.
- Continue to build on environmental education programs by developing **more community education** resources, activities and events (e.g. biodiversity and iconic species, opportunities for private land conservation, the value of native vegetation etc.).
- 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.

Obstacles

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

- Limited **budgets**
- Community **perceptions and acceptance**
- Rural, remote **location** and **small population**
- Changing **political and legislative** landscapes.

The findings of this **annual** report for 2017/18 will be used in the comprehensive State of the Environment Report to **analyse major environmental trends** over the reporting period of 2016-2022.

References

- AMBS (2013) *Tenterfield LGA Aboriginal Heritage Study*. Report to Tenterfield Shire Council.
- Aspect North (2005) *Tenterfield Shire Council State of the Environment Comprehensive Report 2001-2005*. Tenterfield Shire Council, Tenterfield NSW
- Australian Bureau of Statistics (2012) *Census of Population and Housing*. Commonwealth of Australia, accessed 14/11/2012
<http://www.abs.gov.au/websitedbs/censushome.nsf/home/Census?opendocument#from-banner=GT>
- Australian Bureau of Statistics (2015) *Regional Statistics: Tenterfield*. Commonwealth of Australia, accessed 16/9/15
http://stat.abs.gov.au/itt/r.jsp?RegionSummary®ion=17400&dataset=ABS_REGIONAL_LGA&geoconcept=REGION&maplayerid=LGA2013&measure=MEASURE&datasetASGS=ABS_REGIONAL_ASGS&datasetLGA=ABS_REGIONAL_LGA®ionLGA=REGION®ionASGS=REGION
- Australian Bureau of Statistics (ABS) (2017) *Data by Region: Tenterfield*. Commonwealth of Australia, accessed 8/11/17
http://stat.abs.gov.au/itt/r.jsp?RegionSummary®ion=17400&dataset=ABS_REGIONAL_LGA2016&geoconcept=LGA_2016&maplayerid=LGA2016&measure=MEASURE&datasetASGS=ABS_REGIONAL_ASGS2016&datasetLGA=ABS_REGIONAL_LGA2016®ionLGA=LGA_2016®ionASGS=ASGS_2016
- Bureau of Meteorology (2015) *Climate statistics for Australian locations*. Commonwealth of Australia Bureau of Meteorology, accessed 16/9/2015
http://www.bom.gov.au/climate/averages/tables/cw_056032.shtml
- Bureau of Meteorology (2016) *Climate change and variability: Australian climate variability & change - Trend maps*, Commonwealth of Australia, accessed 9/11/2016
<http://www.bom.gov.au/climate/change/index.shtml#tabs=Tracker&tracker=trend-maps&tQ=map%3Dtmean%26area%3Dnsw%26season%3D0112%26period%3D1970>
- Division of Local Government (2012a) *Integrated Planning and Reporting Manual for Local Government in NSW*. NSW Division of Local Government, Department of Premier and Cabinet, Nowra NSW
- Division of Local Government (2012b) *Integrated Planning and Reporting Guidelines for Local Government in NSW*. NSW Division of Local Government, Department of Premier and Cabinet, Nowra NSW
- Eaton, D. and D. Gascoigne (2013) *Waste Management Strategy 2013-2021*. Tenterfield Shire Council, Tenterfield NSW
- Eco Logical Australia (2016) *Potential Vegetation clearing under Proposed NSW LLS Act Equity Code – Analysis Paper*. Prepared for WWF-Australia
- EPA (2018) *Response to the enforcement of the China National Sword Policy*. EPA NSW, accessed 31/10/2018 <https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/response-to-china-national-sword>
- GHD (2001) *Tenterfield Shire Council State of the Environment 1999/2000*. Tenterfield Shire Council, Tenterfield NSW
- GHD (2004) *Tenterfield Shire Council State of the Environment 2003/4*. Tenterfield Shire Council, Tenterfield NSW
- McKemey (2009) *Tenterfield Shire Council State of the Environment Comprehensive Report 2005-2009*. Tenterfield Shire Council, Tenterfield NSW

McKemeY (2012) *Tenterfield Shire Council State of the Environment Comprehensive Report 2002-2012*. Tenterfield Shire Council, Tenterfield NSW

McKemeY (2016) *Tenterfield Shire Council State of the Environment Comprehensive Report 2012-2016*. Tenterfield Shire Council, Tenterfield NSW

Northern Inland Regional Waste Group (2014) *Northern Inland Regional Waste Group Regional Waste Strategy 2014-2017*. NIRW NSW

NSW Government (2017) *Sustain. Invest. Protect. A New Framework for Land Management and Biodiversity Conservation Commences*. NSW Government, NSW. Accessed 9/11/17: <https://www.landmanagement.nsw.gov.au/>

Office of Environment and Heritage (2014) *New England North West Climate change snapshot*. Office of Environment and Heritage, Sydney South

Roads and Maritime Services NSW (2017) *Tenterfield heavy vehicle bypass - Project update – August 2017*. NSW Government, accessed 30/10/2018 <https://www.rms.nsw.gov.au/projects/northern-nsw/tenterfield-heavy-vehicle-bypass/index.html>

Ryder, D., Mika, S., Richardson, M., Burns, A., Veal, R., Schmidt, J. and Osborne, M. (2014) *Clarence Catchment Ecohealth Project: Assessment of River and Estuarine Condition 2014*. Final Technical Report to the Clarence Valley Council. University of New England, Armidale. 225 pp.

Sewell T., Stephens R., Dominey-Howes D., E. Bruce & S. Perkins-Kirkpatrick (2016) Disaster declarations associated with bushfires, floods and storms in New South Wales, Australia between 2004 and 2014. *Scientific Reports* 6: 36369

Tenterfield Shire Council (2011) *Our Community Strategic Plan 2011-2021*. Tenterfield Shire Council, Tenterfield NSW

Tenterfield Shire Council (2013) *Tenterfield Shire Community Strategic Plan 2013-2023*. Tenterfield Shire Council, Tenterfield NSW

Tenterfield Shire Council (2015a) *Tenterfield Shire Our One (1) Year Operational Plan 2015/2016*. Tenterfield Shire Council, Tenterfield NSW

Tenterfield Shire Council (2015b) *Tenterfield Shire Four (4) Year Delivery Program 2013-2017*. Tenterfield Shire Council, Tenterfield NSW

Tenterfield Shire Council (2017a) *Tenterfield Community Strategic Plan 2017-2027*. Tenterfield Shire Council, Tenterfield NSW

Tenterfield Shire Council (2017b) *Tenterfield Delivery Program 2017-2021 & Operational Plan 2017-18*. Tenterfield Shire Council, Tenterfield NSW

Tenterfield Shire Council (2017c) *Annual Waste Report: Boonoo Boonoo Landfill – 11435*. NSW Environmental Protection Agency, NSW.

Tenterfield Shire Council (2017d) *Annual Waste Report: Torrington Landfill – 434*. NSW Environmental Protection Agency, NSW.

Tenterfield Shire Council (2017e) *Local Government Waste and Resource Recovery Data Survey*. NSW Environmental Protection Agency, NSW.

TSC Engineering Services (2017) *Project Proposal Telemetry Upgrade to Tenterfield Sewer Reticulation Network*. Tenterfield Shire Council, Tenterfield NSW

Wray, D. (2018) *Heritage Advisor Summary Report 2017-18*. Tenterfield Shire Council, Tenterfield NSW.