

# Noosa Environment Strategy Monitoring Report

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Year 4 — 1 July 2022 - 30 June 2023

# Acknowledgement of Country



Noosa Council proudly acknowledges and respects Australia's First Nations people and their deep and abiding connection to this country. We recognise the Kabi Kabi people as the Traditional Owners of the lands and waters of the Noosa area and offer gratitude for their careful custodianship of this unique environment over thousands of years. We pay respect to Kabi Kabi elders who have come before us and acknowledge and deeply regret the traumas experienced by Kabi Kabi people through colonialism and beyond. We pay respect to current and emerging leaders and their enduring commitment in pursuing a strong and healthy future for First Nations people. We seek genuine reconciliation and will work to strengthen our relationship with Kabi Kabi – to listen, to understand their needs, to include them as valuable partners and to facilitate greater opportunities for First Nations people. Critical to achieving this, Noosa Council is taking the important step of developing Noosa Council's first Reconciliation Action Plan.



Image source: Vanessa Moscato

# Executive Summary

This Environment Strategy Monitoring Report (Monitoring Report) provides an update on Noosa Council's (Council) progress against the targets nominated in the Noosa Environment Strategy 2019 (Environment Strategy) and actions nominated in the Environment Strategy Implementation Plan 2019 (Implementation Plan). This Monitoring Report presents the results for Year 4 (1 July 2022 to 30 June 2023) of Council's implementation of the Environment Strategy.

## Summary of progress towards targets nominated in the Environment Strategy

The Environment Strategy nominates targets for each theme and strategy and the Implementation Plan nominates methods to establish baseline data and measure ongoing progress towards the target.

Progress towards targets nominated in the Environment Strategy for each theme between the baseline and 2022/23FY have been categorised against the following criteria:

	<b>Council has met the target:</b> Council has met the target, through actions nominated in the Implementation Plan.
	<b>On track to meet the target:</b> Council is making measurable progress through actions nominated in the Implementation Plan and target is likely to be met.
	<b>Progressing towards the target:</b> Council is making some progress through actions nominated in the Implementation Plan, but it is unclear if the target is likely to be met.
	<b>Attention needed to meet the target:</b> Council has not significantly progressed towards the target through actions nominated in the Implementation Plan and target unlikely to be met.
	<b>Progress towards target unable to be assessed:</b> Council does not have baseline and/or adequate sampling data and/or monitoring methods are available to measure progress towards target.

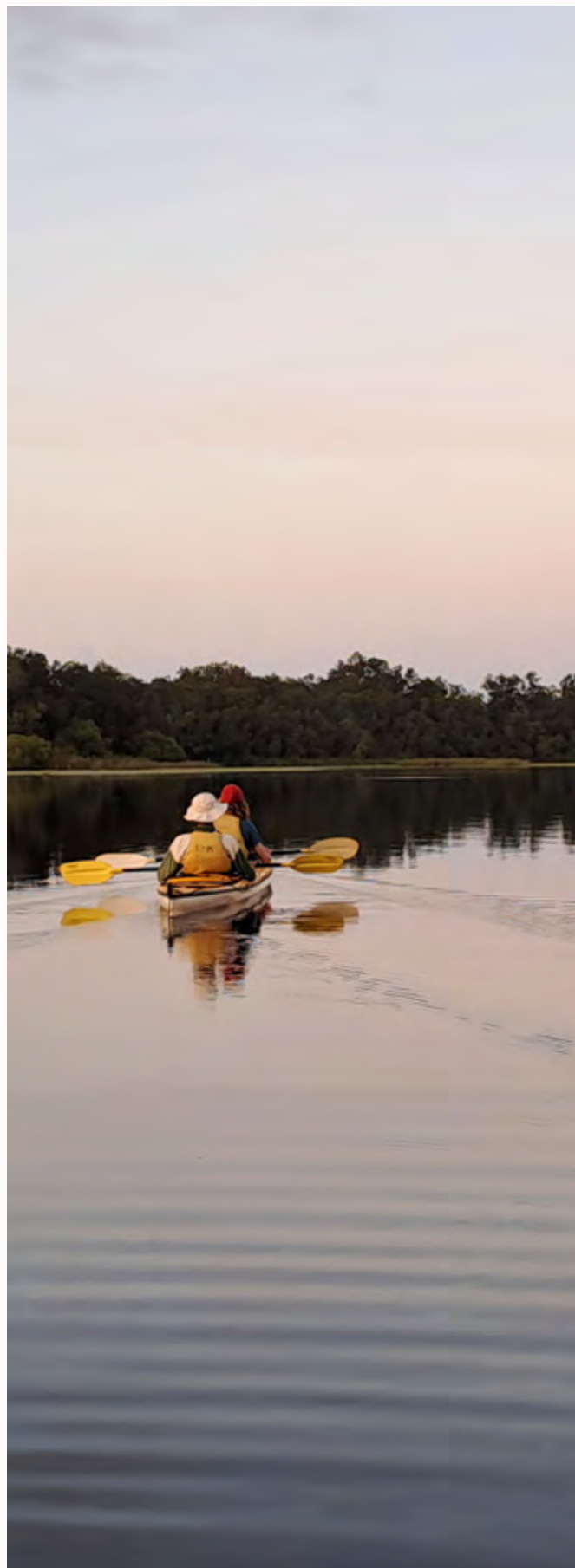


Image source: Vanessa Moscato

# Executive Summary



A summary of each strategy, target, method to measure progress and progress towards the target by each theme nominated in the Environment Strategy is presented below.

Most (10) of the strategies are progressing towards their targets, with several (6) strategies being on target for completion. The progress of some (5) strategies towards

their targets is currently unable to be assessed due to insufficient monitoring data or methods being currently available. One target (all food waste is diverted from landfill by 2030) needs attention as Council currently does not have the opportunity to reprocess or compost waste and further work is needed to ensure this target is met by 2030.

Theme Biodiversity			
Strategy	Target	Method to measure progress	Progress towards target?
Strategy 1.1 Protect and enhance existing ecosystems, vegetation networks and habitats.	By 2030, there is no net loss of ecosystem values across the Noosa Shire, and the condition of Council's priority bushland reserves are enhanced.	1) Regional Ecosystem (RE) mapping: Every 5 years updated RE mapping will be used to identify changes in the number and extent of REs.	Changes between REs were assessed and it was found that extent of remnant Category B vegetation declined by 0.014% on freehold tenure, and the average clearing rate was the lowest in South East Queensland (SEQ).  <b>Progressing towards the target.</b>
		2) Bushland Operational Assessments (BOAs): will be undertaken every 5 years across priority Council managed Bushland Reserves and for Voluntary Conservation Agreement (VCA)/ Land for Wildlife (Lfw) landholders and verified against shire-wide BioCondition Assessments.	BOAs were completed for 2842.52 hectares of Council reserves and ERPs were developed for 879.88 hectares.  Council does not have the capacity to complete shire wide BioCondition Assessments. Revision of this requirement in the Implementation Plan should be considered.  <b>Progressing towards the target.</b>
		3) BioCondition benchmarks for RE Condition Assessment will be undertaken every 5 years for Noosa regional ecosystems.	Council has not yet commenced progress on a tenure blind BioCondition benchmark condition assessment for the Noosa Shire. Further funding will be required to complete this element of the methodology.  <b>Progress towards target unable to be currently assessed.</b>

Theme Biodiversity			
Strategy	Target	Method to measure progress	Progress towards target?
Strategy 1.2 Expand vegetation networks and habitat.	By 2030, half of all land in the Noosa Shire (39,818 hectares) is being managed for its' environmental values.	Measuring the combined area of land being managed for its environmental values against the Council local government land area excluding waterbodies (approximately 79635.025192 ha).	On 30 June 2020, 36% of the Noosa Shire (28,738.31 hectares) was managed for its environmental values. This increased on 30 June 2023 to 43% of the Noosa Shire (34499.48 hectares).  <b>On track to meet the target.</b>
Strategy 1.3 Improve long-term survival for threatened species and ecological communities.	By 2030, populations of key threatened indicator species remain viable.	Noosa's Threatened Fauna Roadmap was endorsed by Council in March 2023 and action plans will be developed for each of the 10 priority species identified.	Action plans are being developed in 2023/24FY for sea turtles and koalas.  <b>Progressing towards the target.</b>

Theme Waterways, wetlands, and coasts			
Strategy	Target	Method to measure progress	Progress towards target?
Strategy 2.1 Maintain and improve the health of waterways, wetlands, and catchments.	By 2030, the Noosa River and Mary River sub-catchments within Noosa Shire achieve an A rating (or equivalent) for their environmental health.	1) Healthy Land and Water (HLW) report cards for the Noosa River.	For the past 18 years Noosa's Report Card has consistently achieved an A- (excellent condition) rating, and the best in the region, until for the first time in 2022 when a B (good condition) was reported. The decrease in rating in 2022 was a result of sampling being undertaken following significant flooding events.  <b>Progressing towards the target.</b>
		2) Council sub-catchment report cards for Noosa and Mary Rivers.	Development of a Mary River report card is underway and will be completed in the 2023/24 FY. Development of local Water Quality Objectives to prepare sub-catchment report cards for the Noosa River is currently underway.  <b>Progressing towards the target.</b>

Theme Waterways, wetlands, and coasts			
Strategy	Target	Method to measure progress	Progress towards target?
Strategy 2.2 Protect and enhance coastal environments and vegetated buffers to coastal foreshores.	By 2030, maintain the extent of vegetated buffers and improve diversity of coastal ecosystems.	1) Foreshore vegetation cover and coastal RE changes.	<p>Within the designated Foreshore Vegetation Management Area (187ha), mapped vegetation cover increased by approximately 40% from 124.6 ha to 173.9ha.</p> <p>The area of remnant vegetation increased by 32% from 90.7ha mapped in 2019 to 119.7 ha mapped in 2023.</p> <p>These increases in mapped coastal RE extent is likely to be primarily the result of recent, more accurate, fine scale mapping. It provides a firm basis for future monitoring.</p> <p><b>On track to meet the target.</b></p>
		2) Near shore reef condition and biodiversity: Surveys by Reef Check Australia (RCA).	<p>Baseline survey available for 2018-2019, with follow up survey being completed by the end of 2023.</p> <p><b>Progress towards target unable to be currently assessed.</b></p>
Strategy 2.3 Manage waterways and coasts to protect environmental values while enabling sustainable public access, recreation, and commercial use.	By 2030, Noosa has a sustainable fishing industry and increased opportunity for recreational fishing.	Work with the Department of Agriculture and Fisheries (DAF) to undertake a baseline bioregion analysis to determine a sustainable fisheries monitoring approach.	<p>In collaboration with DAF, HLW and experts, a baseline method to monitor the biodiversity and abundance of fish and fisheries will be developed to help optimise estuarine restoration plans.</p> <p><b>Progress towards target unable to be currently assessed.</b></p>

Theme Sustainable living			
Strategy	Target	Method to measure progress	Progress towards target?
Strategy 3.1 Reduce waste to landfill.	By 2030, all green waste and food waste is diverted from landfill.	1) The annual measurement of the amount of green waste and food waste in tonnes diverted from landfill and change over time.	<p>Council has diverted 15,769.44 tonnes of green waste from landfill in 2022/23FY. This was a slight decrease from 2021/22FY where 17,809 tonnes of green waste were diverted from landfill.</p> <p><b>Progressing towards the target for green waste being diverted from landfill.</b></p>
		2) The annual measurement of the amount of food waste in tonnes diverted from landfill and change over time.	<p>Council currently does not have the ability to divert food waste from landfill. The option for Council to undertake reprocessing or composting of this waste is being investigated within the new Waste Strategy (2023) therefore, there is no data currently available to report against this target.</p> <p><b>Attention needed for Council to meet the target for all food waste being diverted from landfill by 2030.</b></p>



Theme Sustainable living			
Strategy	Target	Method to measure progress	Progress towards target?
		3) Bin audits of domestic general waste, comingled recycling and garden waste bins and commercial and industrial general waste and comingled recycling streams.	<p>In 2023, there was a decrease in organic compostable materials found in household and commercial waste. However, the percentage of recyclables in household waste increased by 2% between 2022 and 2023, making up 18% of the total waste.</p> <p>Overall, the results from the bin audits in 2022 and 2023 highlight the importance of continued education of the community to ensure waste is being disposed of in the correct bins, as well as the strong need for Council to be able to receive and recycle organic waste and divert this material from landfill.</p> <p><b>Progressing towards the target.</b></p>
Strategy 3.2 Encourage incorporation of more sustainable building elements.	By 2030, sustainable building outcomes are delivered through regulation, education and showcasing best practice design.	1) Number of solar systems installed in the Noosa Shire – sourced from ZEN Inc Data Dashboard 2023.	<p>Between 2019/20FY and 2022/23FY the number of solar systems installed in the Noosa Shire increased from 9,830 to 14,911.</p> <p><b>On track to meet the target.</b></p>
		2) Number of battery connections installed in the Noosa Shire – sourced from ZEN Inc Data Dashboard 2023.	<p>Between 2020/21FY and 2022/23FY the total number of batteries connected in the Noosa Shire increased from 123 to 335 in the Noosa Shire.</p> <p><b>On track to meet the target.</b></p>

Theme Sustainable living			
Strategy	Target	Method to measure progress	Progress towards target?
		3) Electricity consumption per customer – sourced from ZEN Inc Data Dashboard 2023.	Electricity consumption remained steady for both residential and business customers between 2019 and 2023 in the Noosa Shire.  <b>On track to meet the target.</b>
Strategy 3.3 Adopt sustainable agricultural practices.	By 2030, 80% of all grazing land achieves best practice management for agriculture.	1) ABCD framework: Baseline developed using the ABCD framework and classification for grazing lands and every 5 years grazing land condition will be assessed.	A baseline has not yet been developed by Council using the ABCD method for grazing land condition in the Noosa Shire. This will be progressed by Council in the 2023/24FY.  <b>Progress towards target unable to be currently assessed.</b>
		2) Light Detection and Ranging (LiDAR) imagery: 2008 and 2015 LiDAR imagery will be utilised to identify levels of rural lands and sediment lost to erosion over this period. LiDAR imagery will be undertaken over the same areas as 2008 and 2015 imagery during the term of this strategy.	LiDAR imagery has not been utilized by Council to develop a baseline of rural lands and sediment lost to erosion between 2008 and 2015. This will be progressed by Council in the 2023/24FY.  <b>Progress towards target unable to be currently assessed.</b>

Theme Climate change adaptation and resilience			
Strategy	Target	Method to measure progress	Progress towards target?
Strategy 4.1 Reduce emissions and resource consumption.	Council operations and service activities, and the Noosa community as a whole, will reach zero net emissions by 2026.	1) Council's operation emissions calculated annually, including scope 1, 2 and 3 emissions.	Between 2021/22FY and 2022/23FY Council's operational emissions have decreased by 2.37%. Landfill emissions continue to be the highest source of Council emissions.  <b>Progressing towards the target.</b>

Theme Climate change adaptation and resilience			
Strategy	Target	Method to measure progress	Progress towards target?
		2) Community emissions are calculated every three years, including scope 1, 2 and 3 emissions.	<p>During 2022, community emissions for the Noosa Shire were measured as being 472,410 tonnes of CO2-e, this has decreased by 27,590 tonnes of CO2-e since 2018 where community emissions were measured as being 500,000 tonnes of CO2-e.</p> <p><b>Progressing towards the target.</b></p>
Strategy 4.2 Increase community resilience and capacity to adapt to climate change.	By 2030, community awareness, planning and preparedness for natural hazards and climate change is increased.	Council has used responses to two key questions from the Noosa and SCC Regional Climate Action Roadmap: Community and Youth Survey Results from the report prepared by Alluvium in November 2021 to use as an indication of community understanding of climate change impacts, preparedness, and actions for this Monitoring Report.	<p>In terms of community preparedness for climate change, the survey suggests that over 75% of respondents are in some way prepared through having adequate insurance devices. However, the survey indicates that more work is needed to increase the number of people that are prepared for storm and bushfire season and that have installed water tanks and water efficient devices.</p> <p>In terms of community awareness on how to prepare for climate change, the survey suggests that a large majority have a strong understanding that installing water tanks and preparing for storm and bushfire season are important resilience actions. However, the survey indicates that more work is needed to increase awareness on the importance of having adequate insurance cover and growing your own food or community gardening when preparing for climate change.</p> <p><b>On track to meet the target.</b></p>

Theme Climate change adaptation and resilience			
Strategy	Target	Method to measure progress	Progress towards target?
Strategy 4.3 Manage the natural environment in a way that improves resilience to climate change.	Ecosystem health of wetlands and riparian areas is improved.	Council has measured progress towards this target in the Monitoring Report using riparian extent and condition from the HLW Ecosystem Health Monitoring Program (EHMP) and Report Card Program.	Riparian habitats in freshwater reaches of the Noosa catchment are in fair condition in 2023. Woody vegetation cover is very good with >80% woody cover in 67% of Noosa sub-catchments. The bio condition of riparian areas is also very good. Riparian woody vegetation re-growth is poor, while remnant riparian vegetation clearing continues, though is minimal in its extent.  <b>Progressing towards the target.</b>

### Summary of progress of actions nominated in the Implementation Plan

Each of the actions in the Implementation Plan have been categorised against the following criteria:



**Completed:** action is complete, and no further action is required.



**On target:** action is progressing in accordance with the Implementation Plan requirements.



**Progressing:** steps have been taken towards this action, but the action is not being delivered in accordance with the Implementation Plan requirements due to issues such as resourcing, financial constraints, or other delays.



**Needs attention:** action either has not started, or not significantly progressed in accordance with the Implementation Plan.



**Scheduled for future:** action has not begun and is intended to be initiated in future years, as identified in the Implementation Plan.

A summary of progress against the 42 actions of the Implementation Plan at the end of the 2022/23FY, is provided below.

Due to the hard work and dedication of Council staff there were no actions which declined in status between 2021/22FY and 2022/23FY and there were several actions that improved over this period.

	Completed	On target	Progressing	Needs attention	Scheduled for future	Total actions
<b>Implementation Plan Actions</b>						
<b>Total</b>	<b>2</b>	<b>22</b>	<b>17</b>		<b>1</b>	<b>42</b>
Enabling actions		2	2			4
Biodiversity		6	4			10
Waterways, wetlands & Coasts		4	6			10
Sustainable living	1	6	1		1	9
Climate change adaptation & resilience	1	4	4			9

## Summary of key achievements in 2022/23FY

Significant achievements delivered through the Council actions nominated in the Implementation Plan over the 2022/23FY are summarised by the Environment Strategy themes below.

**Overarching enabling actions**

- Council has provided over \$300,000 in financial support through the Environment Organisation Alliance Grants to 9 community organisations that are focussed on environmental activities between the 2019/20FY and 2022/23FY.

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- Council has invested over \$700,000 in 16 projects through the Environment Project Grants between the 2019/20FY and 2022/23FY being delivered by 6 community organisations. These projects have a total value over \$3.6 million to the Noosa Shire.

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- Council has delivered more than \$780,000 in funds through the Multi-Year Environment Collaborative (MEC) grants to 14 projects run by 4 community organisations between the 2019/20FY and 2022/23FY. These projects have a total value over \$4.9 million to the Noosa Shire.

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- Council has undertaken engagement with many local community groups, government stakeholders and experts through the development of several policies linked to the Environment Strategy including the Threatened Fauna Roadmap (2023), the Eastern Beaches Foreshore Reserves Management Plan (EBFRMP) (2023) and the draft Noosa River Catchment Management Plan.

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- Council continues to support the Noosa Biosphere Reserve Foundation (NBRF) to drive the implementation of the Environment Strategy and protect the Noosa Biosphere Reserve.

## Theme 1 – Biodiversity

- Bushland Operational Assessments (BOAs) were completed for 2,842.52 hectares and Ecological Restoration Plans (ERPs) were completed for 879.88 hectares of the Noosa Shire.
- Approximately 50% of Council's conservation reserves are under active ecological restoration, guided by ERPs.
- The shire-wide Encroachments Policy and Encroachments Procedures were endorsed by Council in June 2023. This will allow the clear and consistent approach to encroachments on Council-managed land.
- Council continues to implement the Noosa Biosecurity Plan 2020, including inspections of 65 properties as part of the Biosecurity Surveillance Program. Council also supported landholders in the control of wild dogs, feral pigs, foxes, feral cats, and common Myna birds. New cameras and artificial intelligence are being used for more targeted control and baiting programs.
- Rehabilitation of Yurol and Ringtail State Forests continues to be completed by Greenfleet and Noosa and District Landcare Group (NDLG) with a total of 371.2 hectares rehabilitated between the 2019/20FY and 2022/23FY.
- 43% of the Noosa Shire (34499.48 hectares) is currently being managed for its environmental values. Council is steadily progressing towards the target of 48% of the Noosa Shire being managed for its environmental values by 2028.
- The Private Conservation Partnerships program continues to grow. Council currently has 437 Land for Wildlife (LfW) partnerships and 23 Voluntary Conservation Agreements (VCAs) in place with landowners in the Noosa Shire.
- Council completed an acquisition of a 69-hectare property in the Noosa Shire at Federal, which contains significant biodiversity and conservation values in June 2023.
- The Threatened Fauna Roadmap was endorsed by Council in March 2023 and Council continues to implement monitoring and conservation programs for species including koalas, glossy black cockatoos, sea turtles, frogs, shorebirds, flying-foxes, Mary River code and Mary River turtle.
- Council has surveyed 70% of the Noosa Shire in 2022/23FY as part of the fine scale vegetation mapping project. The intent of this project is to improve the accuracy and resolution of the Noosa Shire's vegetation mapping from a 1:50,000 scale to a 1:25,000 scale, with some alluvial areas generally mapped down to a 1:10,000 scale. This project will enable accurate measurement of progress towards the no net loss target of the Environment Strategy. This project is due for completion by December 2023.

## Theme 2 – Waterways, wetlands, and coasts

- Council continues to deliver an integrated water quality monitoring program across the Noosa Shire in collaboration with Healthy Land and Water (HLW), Mary River Catchment Coordinating Committee (MRCCC), Noosa Integrated Catchment Association (NICA) and NDLG.

- The Noosa River achieved a B (good rating) in 2022 due to significant flood events which occurred over the monitoring period. Despite the change to a rating of a B in 2022, Noosa still remains among the top report card scores in SEQ.
- Council has undertaken significant work to progress the draft Noosa River Catchment Management Plan in the 2022/23FY. This is anticipated to be finalised in the 2023/24FY.
- Situational Report Cards for the Noosa River were completed by MRCCC, with further investigations progressing for the development of local water quality objectives.
- Ongoing monitoring of the Noosa Oyster Reef Ecosystem Restoration Project in partnership with The Nature Conservancy (TNC) has identified that wild oyster recruitment to all the reefs has been high and there has been an increase in subspecies richness between the 2022 and 2023 surveys.
- Council has commenced an audit program of on-site sanitary wastewater infrastructure in the Cooroibah area, to better understand the impact of these systems on the quality of surface water and groundwater systems.
- The EBFMP was endorsed by Council in July 2023, which will support the improvement of the condition, species diversity and stability of dune ecosystems in this area.
- Council has completed audits of stormwater quality improvement devices across the Noosa Shire to identify works needed to improve the performance of stormwater quality assets.

## Theme 3 – Sustainable living

- Council diverted 53% of waste from landfill in 2022/23FY which is an increase of 7% since the 2021/22FY. Council is on track to meet the state target of 61% diversion by 2025.
- Council has joined the Council of Mayors SEQ (CoMSEQ) and has progressed a regional Memorandum of Understanding (MoU) with Gympie Regional Council to help find efficiencies in waste management and reduce the amount of waste going to landfill.
- Council continues to deliver the Recycling in Schools Program to improve waste behaviours.
- Council continues to investigate opportunities to expand recycling services, including the delivery of expanded polystyrene (EPS) recycling and the reverse vending machine at the Eumundi Noosa Road Resource Recovery Centre in 2023.
- Council is also now manufacturing a double grind mulch product made from high quality green waste which is being utilised by local farmers to increase production and reduce erosion.
- Council has delivered several waste and sustainability programs to the Noosa community including Give a sheet for the planet, Plastic Free July, Trash Talk videos and community composting workshops.
- Since commencing in early 2023, Council's Illegal Dumping Officer has investigated 177 complaints, which has resulted in the removal of over 62,000 litres of waste and 18 successful compliance actions.
- The number of solar systems and batteries installed in the Noosa Shire continues to increase.

## Theme 4 – Climate change adaptation & resilience

- Council's operational greenhouse gas (GHG) emissions have decreased by 2.37% between the 2021/22FY and the 2022/23FY.
- Community emissions in the Noosa Shire also decreased between 2018 and 2022 by 27,590 tonnes of CO<sub>2</sub>-e. Electricity makes up 58% of the Noosa Shire's community emissions, followed by transport fuel (32%) and waste (10%).
- Council commissioned consultants to undertake a detailed analysis of the carbon market and local opportunities available in October 2022, which will be utilised to inform suitable offset options to achieve net zero based on financial constraints.
- Council is delivering ongoing capping programs at the Eumundi-Noosa Road Landfill to improve the capture of landfill gas. Council also has a masterplan underway for the site to identify areas for renewable energy generation and waste diversion.
- Over 790kW of solar has now been installed on Council buildings and facilities, which is an increase of over 100kW since the 2021/22FY.
- Council has secured funding in June 2023 for the Noosa Shire's first community battery in Noosaville.
- Council continues to support the Climate Change Response Plan Grants, funding six applications in June 2023 with nearly \$60,000 in community grants.
- Council has delivered ongoing community education programs to increase climate change resilience and awareness, including (but not limited to):
  - The preparation and release of the short film: Pontoon: The Polystyrene White Spill Disaster.
  - Noosa Electric Vehicle (EV) Expo.
  - Biz to Zero breakfast forum.
- Council has engaged a consultant and is currently preparing concept designs for the Noosaville Foreshore Resilience to the Future Frequent Inundation to provide suitable options to provide future resilience to the area.
- Council also plans to increase community awareness of disasters and climate change through the launch of the 'Noosa Climate Wise Communities' portal by the end of 2023.

### Recommendations and next steps

The Environment Strategy has established a strong foundation to protect and enhance Noosa's environmental assets and the Noosa Biosphere. However, the Monitoring Report has identified that the Environment Strategy requires a review and update to consider new plans and strategies developed by Council since 2019, growth in Council's core business requirements, as well as increased understanding of environmental values and threats. The review of the Environment Strategy and preparation of the next Implementation Plan will be delivered to Council for endorsement in the 2024/25FY.



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# Acronyms

<b>ACCU</b>	Australian Carbon Credits Units
<b>AEF</b>	Australian Energy Foundation
<b>AIIMS</b>	Australasian Inter-service Incident Management System
<b>APVI</b>	Australian Photovoltaic of Australia
<b>BOA</b>	Bushland Operational Assessment
<b>CCRP CRG</b>	Climate Change Response Plan Community Reference Group
<b>CEMP</b>	Construction Environmental Management Plans
<b>CHAP</b>	Coastal Hazards Adaptation Plan
<b>CoMSEQ</b>	Council of Mayors South East Queensland
<b>CPESC</b>	Certified Professional in Erosion and Sediment Control
<b>CQU</b>	Central Queensland University
<b>DAF</b>	Department of Agriculture and Fisheries
<b>DCCEEW</b>	Department of Climate Change, Energy, the Environment and Water
<b>DES</b>	Department of Environment and Science
<b>EA</b>	Environmental Authority
<b>EBFRMP</b>	Eastern Beaches Foreshore Reserves Management Plan
<b>EFT</b>	Enter the Flyosphere
<b>EHMP</b>	Ecosystem Health Monitoring Program
<b>ELWG</b>	Environment Levy Working Group
<b>EPS</b>	Expanded polystyrene
<b>ERP</b>	Ecological Restoration Plan
<b>ESR</b>	Environmental Scoping Report
<b>EV</b>	Electric Vehicle
<b>EVNT</b>	Endangered, vulnerable or near-threatened
<b>FY</b>	Financial Year
<b>GBC</b>	Glossy Black Conservancy
<b>GDE</b>	Groundwater dependent ecosystems
<b>GHG</b>	Greenhouse Gas
<b>HLW</b>	Healthy Land & Water
<b>HVR</b>	High Value Regrowth
<b>KPI's</b>	Key Performance Indicators
<b>LDCC</b>	Local District Coordination Centre
<b>LDMG</b>	Local Disaster Management Group
<b>LfW</b>	Land for Wildlife
<b>LGA</b>	Local Government Agency
<b>LiDAR</b>	Light Detection and Ranging

## Acronyms



<b>MaB</b>	Man and the Biosphere
<b>MEC</b>	Multi-year Environmental Collaborative Grants
<b>MoU</b>	Memorandum of Understanding
<b>MRCCC</b>	Mary River Catchment Coordinating Committee
<b>MSQ</b>	Maritime Safety Queensland
<b>NBBCC</b>	Noosa Bush Beach and Creek Care Group
<b>NBRF</b>	Noosa Biosphere Reserve Foundation
<b>NDLG</b>	Noosa and District Landcare Group
<b>NGER</b>	National Greenhouse and Energy Reporting
<b>NICA</b>	Noosa Integrated Catchment Association Inc
<b>Noosa EEHub</b>	The Noosa Environmental Education Hub
<b>NRM</b>	Natural Resource Management
<b>NSC</b>	Noosa Shire Council
<b>PID</b>	Project Initiation Documents
<b>QFES</b>	Queensland Fire and Emergency Services
<b>QPWS</b>	Queensland Parks and Wildlife Service
<b>QUT</b>	Queensland University of Technology
<b>RCA</b>	Reef Check Australia
<b>RE</b>	Regional Ecosystem
<b>SEQ</b>	South East Queensland
<b>SCC</b>	Sunshine Coast Council
<b>SLATS</b>	Statewide Landcover and Tree Study Method
<b>SMP</b>	Species Management Plan
<b>SMART</b>	Specific, Measurable, Achievable, Relevant, Time-Bound
<b>SOP</b>	Standard Operating Procedure
<b>SRM</b>	Stakeholder Relationship Management
<b>TMR</b>	Department of Transport and Main Roads
<b>TNC</b>	The Nature Conservancy
<b>UNESCO</b>	United Nations Educational, Scientific and Cultural Organisation
<b>UniSC</b>	University of the Sunshine Coast
<b>UQ</b>	University of Queensland
<b>USQ</b>	University of Southern Queensland
<b>UWG</b>	Urban Wildlife Gardens
<b>VCA</b>	Voluntary Conservation Agreement
<b>WQO</b>	Water Quality Objectives
<b>YEF</b>	Yarra Energy Foundation
<b>ZEN</b>	Zero Emissions Noosa Inc



# 1. Introduction

This Environment Strategy Monitoring Report (referred herein as Monitoring Report) has been prepared to provide an update on Noosa Council's (referred herein as Council) progress against the targets nominated in the Noosa Environment Strategy 2019 (referred herein as the Environment Strategy) and actions nominated in the Environment Strategy Implementation Plan (referred herein as Implementation Plan).

This Monitoring Report presents the results for Year 4 (1 July 2022 to 30 June 2023) of Council's implementation of the Environment Strategy.

A summary of reporting completed against the Environment Strategy to date and where this current Monitoring Report sits is summarised in Figure 1 below.

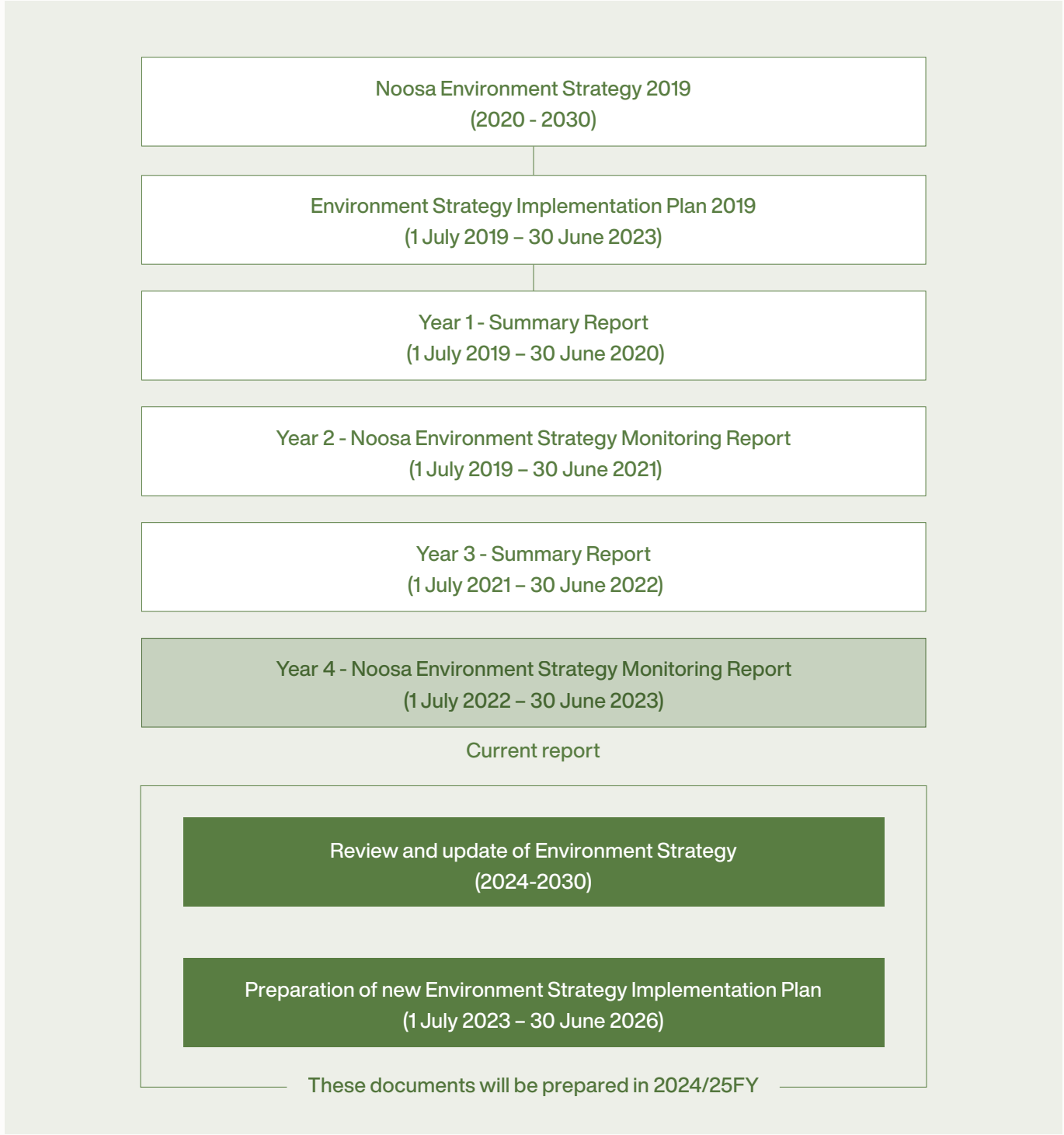


Figure 1: Summary of reporting completed against the Environment Strategy and Implementation Plan

# Introduction

## 1.1 Environment Strategy overview

---

The Environment Strategy is guided by Council's Corporate Plan, Sustainability Principles and Environment and Sustainable Living Policy. It is also informed by applicable international, Commonwealth and State legislation and policy.

The Environment Strategy is intended to inform planning, guide decision making, drive implementation, prioritise action and investment, and set a shared vision.

The Environment Strategy is broken down into four key themes, each with their own goals, sub-strategies, targets, and outcomes. The four key themes are:

- 1. Biodiversity**
- 2. Waterways, wetlands, and coasts**
- 3. Sustainable living**
- 4. Climate change adaptation and resilience**

The Environment Strategy is expected to be a 10-year document, with annual progress reporting throughout that time. However, the Environment Strategy will be reviewed periodically to retain its currency and relevance.

A copy of Council's Environment Strategy is available here:  
[Noosa Environment Strategy 2019](#)



Image source: Vanessa Moscato

# Introduction

## 1.2 Environment Strategy Implementation Plan overview

The Implementation Plan was developed as part of the Environment Strategy Plan in 2019. The Implementation Plan establishes an integrated and targeted approach to delivery through identifying:

- A planning framework to support implementation.
- A monitoring, evaluation and reporting framework on the progress and success of the strategy.
- Significant implementation actions for the first 3 years of the Environment Strategy.

The Implementation Plan identifies how Council seeks to contribute to achieving the outcomes and targets in the Environment Strategy, as well as opportunities for others to partner with Council in achieving excellence in environmental management and sustainability.

The Implementation Plan includes:

- Overarching enabling actions: These are activities that have outcomes across multiple themes of the Environment Strategy.
- Actions undertaken for each theme of the Environment Strategy: These are activities or projects that seek to achieve sub-strategies, targets, and outcomes of the Environment Strategy.

A copy of Council's Implementation Plan is available here: [Environment Strategy Implementation Plan](#)

## 1.3 Objective of this Monitoring Report

This Monitoring Report has been prepared to provide an update on Council's progress against the targets nominated in the Environment Strategy and actions nominated in the Implementation Plan.

The Implementation Plan was developed to cover the period of three years 2020/21FY until 2022/23FY and is due to be reviewed and updated to determine actions to achieve the goals, targets, and outcomes Environment Strategy. Given outcomes of Council actions to date, as well as increases in scientific understanding and other Council plans and strategies developed (i.e., new Waste Strategy) since 2019, this Monitoring Report will provide recommendations to support the development of a new Implementation Plan and review of the Environment Strategy.

### 1.31 Assessment of progress towards targets nominated in the Environment Strategy

The Environment Strategy and Implementation Plan nominates targets for each strategy, as well as methods to establish baseline data and measure ongoing progress. An example for the Theme 1 - Biodiversity is in Table 1. Progress towards targets nominated in the Environment Strategy have been assessed in this report using the change between the baseline data (where available) and the data from the 2022/23FY. For some targets baseline data has not been obtained and/or has been deemed inappropriate to measure progress towards the target.




Image source: Emma Smith


Strategy 1.1 Protect and enhance existing ecosystems, vegetation networks and habitats		
Target	Baseline	How we will measure progress
By 2030, there is no net loss of ecosystem values across the shire, and the condition of Council’s priority bushland reserves are enhanced.	<p>In 2016, the Noosa Biodiversity Assessment Report mapped the extent and abundance of the 61 regional ecosystems (RE) types occurring within Noosa Shire.</p> <p>The Department of Environment &amp; Science (DES) has completed BioCondition Benchmarks for RE Condition Assessment for SEQ.</p> <p>Bushland operational assessments (BOAs) will be undertaken, where they do not already exist, across priority Council-managed restoration initiatives and as identified in the Bushland Reserve Strategic Management Plan.</p>	<p>Every 5 years updated RE mapping will be used to identify changes in the number and extent of RE.</p> <p>BioCondition Benchmarks for RE Condition Assessment will be undertaken every 5 years for Noosa REs.</p> <p>BOAs will be undertaken every 5 years across priority Council managed Bushland Reserves and for Voluntary Conservation Agreement (VCA)/Land for Wildlife (LfW) landholders and verified against shire-wide BioCondition Assessments.</p>


Table 1: Example of biodiversity targets, baseline data and methods to measure progress nominated in the Implementation Plan

Progress towards targets nominated in the Environment Strategy for each theme between the baseline and 2022/23FY have been categorised against the following criteria:

- 

**Council has met the target:** Council has met the target, through actions nominated in the Implementation Plan.
- 

**On track to meet the target:** Council is making measurable progress through actions nominated in the Implementation Plan and target is likely to be met.
- 

**Progressing towards the target:** Council is making some progress through actions nominated in the Implementation Plan, but it is unclear if the target is likely to be met.
- 

**Attention needed to meet the target:** Council has not significantly progressed towards target through actions nominated in the Implementation Plan and target unlikely to be met.
- 






**Progress towards target unable to be assessed:** baseline and/or adequate sampling data and/or monitoring methods are currently available to measure progress towards target.



# Introduction

## 1.32 Assessment of progress of actions nominated in the Implementation Plan

Each of the actions in the Implementation Plan have been provided with a status categorised against the following criteria:

-  **Completed:** action is complete, and no further action is required.
-  **On target:** action is progressing in accordance with the Implementation Plan requirements.
-  **Progressing:** steps have been taken towards this action, but the action is not being delivered in accordance with the Implementation Plan requirements.
-  **Needs attention:** action either has not started, or not significantly progressed in accordance with the Implementation Plan requirements.
-  **Scheduled for future:** action has not begun and is intended to be initiated in future years, as identified in the Implementation Plan.

## 1.4 Limitations of this Monitoring Report

The data provided in this Monitoring Report includes (where available) the following financial years and was correct as of August 2023:

- 1 July 2019 – 30 June 2020
- 1 July 2020- 30 June 2021
- 1 July 2021- 30 June 2022
- 1 July 2022 – 30 June 2023

Several targets nominated in the Environment Strategy and activities, or projects nominated in the Implementation Plan have not commenced or do not have data to allow reporting. Where this has occurred, this has been detailed in this Monitoring Report and will be considered in the recommendations to support the development of a new Implementation Plan and review of the Environment Strategy.



Image source: Luc Yllera

# Overarching enabling actions



Image source: Emma Smith



# 2. Overarching enabling actions

## 2.1 Activity: Implement an Environment Grants program to support community projects and programs that lead to implementation of the Environment Strategy.

### 2.1.1 Council's actions to deliver activity

Council provides funding to projects working towards Environment Strategy targets through three different environmental grant streams, these are:

- 1. **Environment Organisation Alliance Grants:**  
3-year grants that provide organisational support to community groups that are primarily focused on environmental activities.
- 2. **Environment Project Grants:**  
1-year grants for projects, programs or events that align with the Environment Strategy, as well as Council's other key environment strategies and plans, and have a positive impact on the environment.

3. **Multi-year Environment Collaborative (MEC) Grants:**  
3-year grants that support longer-term, larger-scale strategic initiatives that align with the Environment Strategy and have a significant positive impact on the Noosa environment.

An overview of the funding allocated under each grant stream is provided below.

#### 2.1.1.1 Environment Organisation Alliance Grants

Council has delivered more than \$300,000 in funds to community organisations in the Noosa Shire between 2019/20FY and 2022/23FY through the Environment Organisation Alliance Grants (Figure 2).

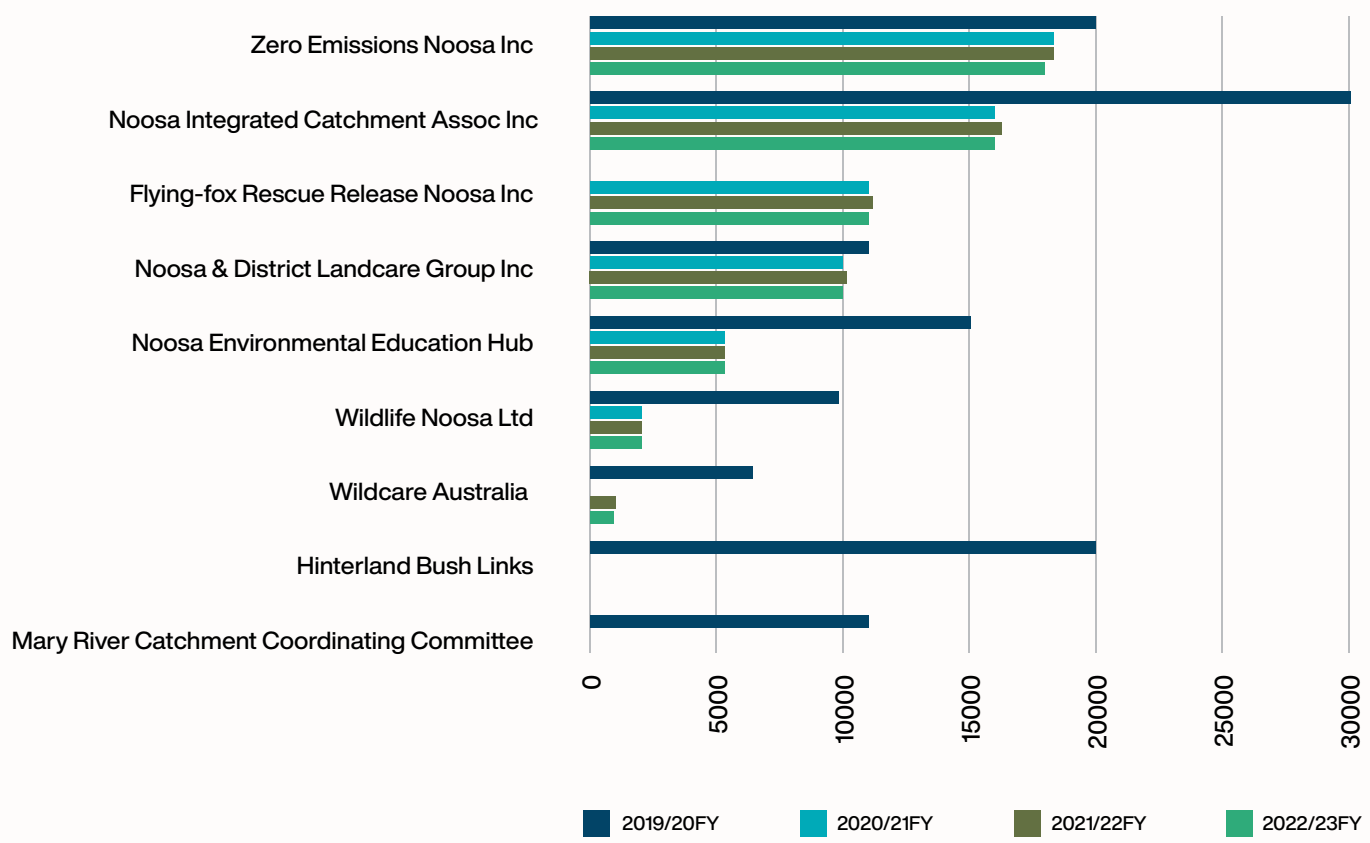


Figure 2: Funding delivered to community organisations through the Environment Organisation Alliance Grants

## Overarching enabling actions

An overview of the valuable work these organisations funded by the Environment Organisation Alliance Grants deliver to the Noosa community is provided below.

### *Zero Emissions Noosa (ZEN) Inc*

ZEN is an incorporated, not-for-profit community group of passionate volunteers with the goal of net zero greenhouse gas emissions (GHG) for the Noosa Shire by 2026. ZEN work in close partnership with Council and Tourism Noosa. ZEN assists individual businesses, community members and community groups with information updates about renewable energy, especially solar, to help reduce power bills with:

- General tips about solar
- Finance Information
- Landlord/renters kits
- Finance, including community
- Government incentives & subsidies.

For further information visit:

[ZEN Inc](#)



### *Noosa Integrated Catchment Association (NICA) Inc*

Established in 1996, NICA is a community-based not-for-profit organisation formed to coordinate and align Natural Resource Management (NRM) activities in the Noosa River catchment. NICA was responsible for the development of the original Noosa River Catchment Strategy and has since undertaken numerous terrestrial and on-water programs and initiatives to fulfill its aims. For over 15 years NICA's volunteers have been recording the diversity and abundance of resident and migratory shorebirds in the lower Noosa River. This data enables NICA and Council to identify and mitigate key threats to shorebirds in the management of the lower estuary and adjacent beaches.

For further information visit:

[NICA](#)



## Overarching enabling actions



### *Flying-fox Rescue Release Noosa Inc*

Council provided funded to Flying Fox Rescue Release Noosa over three years from 2019/20FY until 2021/22FY. Flying Fox Rescue Release Noosa provided a 24/7 rescue community service and expert advice on flying fox management. This organisation also provided public education in the form of community presentations, school visits and allowed interested persons to visit their rescue and release centre. Council understands that this organisation is currently not operating their rescue centre.



### *Hinterland Bush Links*

Hinterland Bush Links is an independent, not-for-profit and community-based environmental organisation. The organisation delivers the following core projects:

- Roving Restorers: Connecting people and restoring landscapes – volunteer weeding and tree planting group.
- Upper Mary Valley Weed Vine Project: Thriving ecosystems and healthy waterways through eradicating madeira vine and cats claw creeper.
- Education for landholders - Increasing community knowledge for those seeking a deeper knowledge of our local environment and how to restore it.
- Hinterland koala habitat project: Expanding and restoring habitat for threatened species, including koala, through planting trees and weeding. Koalas are irreplaceable.



For further information visit:  
[Hinterland Bush Links](#)

## Overarching enabling actions



### *Noosa & District Landcare Group (NDLG)*

NDLG aims to educate and raise awareness of environmental concerns within the community through a series of community programs and events, informative and interactive workshops, and a successful traineeship program. NDLG is committed to addressing land condition at a local level and habitat connectivity at a regional level. They provide a range of services including carbon and biodiversity offsets, ecosystem restoration, catchment health monitoring as well as community education and training.

For further information visit:  
[NDLG](#)



### *Noosa Environmental Education Hub (Noosa EEHub)*

Noosa EEHub engenders the next generation of The Environmental Custodians by connecting local environmental groups and Kabi Kabi Educators with youth through the school community. They are the developers of the Custodians of Place framework which supports the notion that all Australians have a responsibility to care for the place they live. Noosa EEHub helps to embed sustainability curriculum as a means of educating the public about climate change impacts and what individuals can do at the grassroots levels. Projects connect local school communities to the meaningful work being undertaken around our community, they work to support the development of Reconciliation Action Plans for community.

Noosa EEHub purpose is to connect youth to our ecosystems. By partnering with local environmental groups they provide a pathway to new members and to community engagement and behaviour change within the Noosa community. Noosa EEHub support the development of a real time database of flora and fauna species and actively promote engaging citizen science programs to support this.

For further information visit:  
[Noosa EEHub](#)



## Overarching enabling actions



### *Wildlife Noosa Ltd*

Wildlife Noosa first commenced animal rescues in 2014. Since this time they have conducted over 5000 rescues of wild animals and domestic animals who were sick, injured, trapped or 'at risk' of harm.

Wildlife Noosa Ltd conducts approximately 1,000 animal rescues in the Noosa Region each year - 7 days per week, day and night, on land and on water. The rescues are entirely conducted by dedicated volunteers including the use of their vehicles, boats, kayak, cages and other essential equipment.

Wildlife Noosa Ltd receives calls from Council, RSPCA, Australia Zoo, local vets and members of the public.

For further information visit:

[Wildlife Noosa](#)



Wildlife Noosa

### *Wildcare*

Wildcare Australia Inc is a non-profit organisation situated in SEQ. They operate an emergency telephone service that is available to the general community 24 hours a day, 7 days a week. In the Noosa Region, Wildcare are the only organisation available after hours to undertake in-situ human capture, sedation, and euthanasia of critical injured wildlife species such as macropods. In 2022/23FY Wildcare attended to 82 animals requiring critical care in Noosa. Wildcare offers local wildlife rehabilitation training and operates the Noosa Region Koala Rescue Team, which in the 2022/23FY year rescued over 81 koalas. The records of all koalas are provided to Council so they can be added to the WildNet database and contributed to greater knowledge of the population across the shire. Council funding allows wildlife carers to purchase medicines and consumables for sedation and euthanasia of critically injured local native wildlife each year.

For further information visit:

[Wildcare](#)



wildcare

## Overarching enabling actions



### 2.1.1.2 Environment Project Grants

Council has invested over \$700,000 in the Environment Projects Grants between 2019/20FY and 2022/23FY and a summary of the projects supported is provided in Table 2. This funding has led to the delivery of projects worth over \$3.6 million in the Noosa Shire.

FY	Organisation	Project title	Project cost	Council investment
2019/20	NDLG	Identify, protect, and propagate Noosa's threatened roadside plant species	\$12,310.45	\$9,099.00
2019/20	NICA	Monitor shorebirds of the Noosa River Estuary - Monitor, analyse and report on 12 years of data.	\$11,300.00	\$3,600.00
2019/20	NICA	Urban Wildlife Gardens (UWG) program - Pilot Project	\$17,175.00	\$8,250.00
2020/21	NICA	Noosa's Native Plants Website - Redevelopment	\$10,258.00	\$6,818.00
2020/21	Hinterland Bush Links	Engaging local communities in restoring bush	\$41,660.00	\$23,620.00
2020/21	NICA	Urban Wildlife Gardens (UWG) program - Continuation	\$14,184.00	\$5,323.00
2021/22	NICA	A Line in the Sand (ALITS)	\$19,581.00	\$11,670.00
2021/22	NICA	Enter the Flyosphere	\$24,760.00	\$14,977.00
2021/22	Wildlife Noosa Ltd	Noosa Indian Myna Bird Reduction Project	\$12,835.00	\$1,400.00
2021/22	Hinterland Bush Links	Engaging local communities in restoring bush	\$38,825.00	\$23,620.00
2021/22	NDLG	Regenerative Land Management Workshop Series	\$15,415.00	\$11,330.00
2022/23	Wildlife Noosa Ltd	Myna Bird Reduction Project 2022/2023	\$5,976.00	\$5,976.00
2022/23	Noosa EE Hub	River Protection & Aboriginal Perspectives	\$3,000.00	\$3,000.00
2022/23	NDLG	Continued Assault, Woody Vine Weed Plan Implementation	\$29,695.00	\$10,000.00
2022/23	MRCCC	Revitalising Noosa Citizen Science Programs	\$18,000.00	\$10,000.00
2022/23	NICA	Noosa River Interactive Mapping Application	\$3,580.00	\$3,000.00
<b>Total</b>			<b>\$3,670,840.99</b>	<b>\$708,733.00</b>

Table 2: Council funding for Environment Project Grants between 2019/20FY and 2022/23FY



## Overarching enabling actions



### *Enter the Flyosphere (ETF)*

Enter the Flyosphere (ETF) Project represents Stage 3 of NICA's Migratory Shorebird Conservation Roadmap intended to increase shorebird awareness to improve the long-term survival of threatened migratory (and resident) shorebirds species in the Noosa River.

ETF project replaced a telescope and interpretive signages at a frequently visited focal point of the Noosa River estuary adjacent to the Noosa River mouth, produced educational brochures and short film showcasing Noosa's shorebirds and the Noosa River estuary.



### *Engaging local communities in restoring bush – Hinterland Bush Links*

This project is based on a model called Roving Restorers which was initiated on the Blackall Range in 2012 by Hinterland Bush Links. The Roving Restorers consists of volunteers from the community who assist private landholders with environmental weed control, re-vegetation, and re-connection of habitat. Roving Restorers facilitate 20 ecological restoration activities every year, assisting 30 landholders in the Noosa Shire. Through engagement with the Roving Restorers program, landholders and volunteers gained skills in weed and native flora ID, became well trained in weed management techniques and in restoration strategies, thus equipping participants to undertake ecological restoration projects. Participants became familiar with the ecology of native flora and fauna and identifying invasive species. Participation in Roving Restorers also provides a valuable opportunity for forging friendships through on-groundwork in bush regeneration.



## Overarching enabling actions



### Noosa Indian Myna Bird Reduction Project – Wildlife Noosa

Indian Myna birds pose a significant threat to our local biodiversity. Indian Mynas are intelligent, aggressive birds that build their nests in tree hollows and roof cavities. The Indian Mynas aggressive nature gives them the ability to easily exclude or evict many native species from their tree hollow homes, and there are many reports of them destroying eggs, killing chicks and even evicting large species like Kookaburras. They also act as a reservoir for diseases such as Avian Malaria that affect native birds. This project delivered a trapping program for Indian Mynas, with 49 Indian Mynas trapped in 2021/22FY and 37 Indian Mynas trapped in 2022/23FY.



### Identify, protect, and propagate Noosa's threatened roadside plant species – NDLG

This project aimed to identify, protect, and propagate threatened plant species in roadside reserves in the Noosa Shire. Six plant species were the subject of this project:

- *Triunia robusta*
- *Allocasuarina emuina*
- *Picris conyzoides*
- *Eucalyptus conglomerata*
- *Acacia attenuata*
- *Acronychia littoralis*

Field surveys found the following threatened plant species within road reserves: *Allocasuarina emuina*, *Acacia attenuata*, *Picris conyzoides* and *Triunia robusta*. These plants occur in locations potentially threatened by roadworks or routine roadside slashing and road drainage maintenance. More than 90 individual plants were located during the surveys.

The project recommended that pre-start checklists or operations plans for these activities should include a check for records of endangered, vulnerable or near-threatened (EVNT) plant species within or adjacent to the proposed work areas prior to work commencing. Management of target species within proposed work areas should be included as part of site inductions and risk assessments.



*Picris conyzoides* growing beside Padilpa Road, Federal – vulnerable to road grading (image source NDLG)



*Allocasuarina emuina* seedlings from seed sourced during field surveys (image source NDLG)

## Overarching enabling actions



### 2.1.1.3 Multi-year Environment Collaborative (MEC) Grants

Council has delivered more than \$780,000 in funds to organisations between 2019/20FY and 2022/23FY through the MEC Grants which run over three years (Table 3).

FY	Organisation	Project title	Project Cost	Council Investment
2020/21	NDLG	Keeping It In Kin Kin Project	\$454,601.77	\$85,000.00
2020/21	MRCCC	Protecting Noosa's Biodiversity through community programs	\$68,700.00	\$7,200.00
2020/21	Tourism Noosa	Plastic Free Noosa	\$294,000.00	\$61,800.00
2020/21	NICA	Coastal Connect 2	\$518,562.00	\$75,000.00
2020/21	MRCCC	Hinterland Rural Extension Program	\$341,000.00	\$35,000.00
2020/21	NDLG	Keeping It In Kin Kin Project	\$454,601.77	\$85,000.00
2020/21	MRCCC	Protecting Noosa's Biodiversity through community programs	\$68,700.00	\$7,200.00
2020/21	Tourism Noosa	Plastic Free Noosa	\$294,000.00	\$61,800.00
2020/21	NICA	Coastal Connect 2	\$518,562.00	\$75,000.00
2020/21	MRCCC	Hinterland Rural Extension Program	\$341,000.00	\$35,000.00
2022/23	NDLG	Keeping It In Kin Kin Project	\$454,601.77	\$85,000.00
2022/23	Tourism Noosa	Plastic Free Noosa	\$294,000.00	\$61,800.00
2022/23	NICA	Coastal Connect 2	\$518,562.00	\$75,000.00
2022/23	MRCCC	Hinterland Rural Extension Program	\$341,000.00	\$35,000.00
<b>Total</b>			<b>\$4,961,891.31</b>	<b>\$784,800.00</b>

Table 3: A summary of each of the three-year projects supported by the MEC funding.

## Keeping it in Kin Kin - NDLG

Keeping it in Kin Kin is a large-scale soil conservation project in Kin Kin creek catchment, engaging private landholders to undertake remediation works in priority riparian areas on their properties to reduce soil erosion funded through Council's MEC grants since 2020/21FY. The project has been delivered with support from Noosa Biosphere Reserve Foundation (NBRF), Noosa Parks Association (NPA), NICA, The Thomas Foundation, Country Noosa and Healthy Land and Water (HLW), as well as the Kin Kin community.

The project has included the following components:

- Light Detection and Ranging (LiDAR) change analysis and area prioritisation: Analysis using remote sensing imagery, LiDAR and the layering of images collected over the period from 2008 – 2015, established the origin of sediment and erosion type. Comparing elevation and slope, geological and soil type and increase or loss of soil levels allowed researchers to ascertain priority areas at a sub-catchment level. Once these hot spots were identified, the region was divided into 17 sub-catchments utilising a traffic light colour coding system to highlight properties with the best chance of success through remediation work. Analysis indicated that 2.4 million cubic tones of soil had been mobilized between 2008 and 20015, or the equivalent of almost 191,284 large dual axel soil delivery trucks or 765 Olympic sized swimming pools filled with soil. This valuable soil is moving through farms, down the catchment and into the Noosa River system.
- Riparian restoration demonstration site: This part of the project targeted on-ground landslip and riparian erosion on a cattle grazing property in Wahpunga Creek. The project successfully planted 2,200 trees and excluded cattle from unstable riparian areas by fencing.
- Cat's claw creeper vine treatment, survey, and action plan development: Cat's claw creeper (*Macfadyena unguis-cati*) is a Weed of National Significance and can completely transform a landscape. This project mapped the infestations, undertook targeted and strategic manual and chemical control and to assist landholders with advice on control of this nefarious weed.



- Community engagement, including community steering group, community meetings, riparian planting sessions, and field days.

Since 2020 the project has rehabilitated 15 ha of land, planted more than 25,000 plants, installed more than 2500 meter of exclusion fence, and restored more than 4800 metres of riparian area. One of the indicators of success of the project is the improvement in water quality in Kin Kin creek, one of the main Noosa River tributaries.

In 2021, the project received the Michael Batisse Award, the United Nations Educational, Scientific and Cultural Organization (UNESCO) highest accolade for biosphere reserve management projects and is the first time a project in Australia has received such an award.



For further information visit:  
[Keeping it in Kin Kin](#)

## Overarching enabling actions



### *Protecting Noosa's Biodiversity through community programs - MRCCC*

The MRCCC has been surveying and monitoring frog species in the Mary River and coastal areas for around 16 years. Under the current regime of climate change and uncertainty it is critical to know where different species occur and how their populations are faring. Public participation is one way to cover large areas and to improve the catchment community's awareness. Since 2019, the Find Frog in February project has provided workshops, webinars, classes lesson to Noosa Shire community.

The Noosa community has been greatly involved with Find a Frog in February project with more than 570 people participating since 2019. This has resulted in more than 12,200 frog records submission, consisting of 31 frog species, including five threatened species from our streams and coastal wallum ecosystems through the iNaturalist online platform.



For further information visit:  
[Find a frog in February](#)

### *Hinterland Rural Extension Program - MRCCC*

The Hinterland Rural Extension Project delivered by MRCCC targets high priority sub-catchments of the Mary River catchment for extension and on-ground incentives with landholders to improve downstream water quality. Since 2020, the project has installed more than 8km new riparian fencing resulting in the active management of stock near waterways. Approximately 30 new water troughs have also been installed to provide cattle with an alternative supply of water to prevent stock directly accessing the creek.

Over 230 grazing landholders have attended grazing land management and water quality workshops delivered through this program. It is estimated that approximately 1,000 hectares of land management practice change has occurred on grazing lands of the Noosa Shire and approximately 10,500 tonnes of fine sediment have been saved from entering the Great Barrier Reef. Overall, the project has been highly effective in driving sustainable land management in the Noosa Shire.



For further information visit:  
[MRCCC](#)

## Overarching enabling actions



### *Plastic Free Noosa - Tourism Noosa*

Plastic Free Noosa is a program aiming to drive wide-scale change by empowering the Noosa community in eliminating single-use plastics through direct engagement and facilitating circular economies.

In 2022 Tourism Noosa partnered with 179 local business members and suppliers delivering relevant hands-on training, networking events and engaging plastic free campaigns.

Plastic Free Noosa collaborates with community organisations and events on four major beaches clean-ups engaging over 150 people (community members and Plastic Free Noosa Waste Warriors) collecting just over 215kg of waste. Refill network is part of the program's commitment to eliminating the use of single-use plastic water bottles and to encourage people to drink water on tap and refill using their reusables. Plastic Free Noosa in partnership with Council and Unitywater identify new locations where water stations can be placed. This includes installing new stations as well as the retrofit of existing infrastructure to facilitate the ability to refill water bottles. In total there are 17 filtered water refills stations throughout Noosa Shire.

Tourism Noosa has been recognised by Mumbrella, Australia's most prestigious media and marketing awards, winning the Mumbrella Award for Sustainable Practices for 2022.



For further information visit:  
[Plastic Free Noosa](#)

### *Coastal Connect 2 - NICA*

This project is the collaboration of 6 bushland groups on the eastern seaboard of Noosa Shire. The groups are rehabilitating the bushland with the aim to re-establish resilience and increasing their biodiversity. The bushland groups are involved in community events to raise awareness about protecting the coastal vegetation and environment. The groups involved are:

- Group A: Peregian Beach South Bushcare and Peregian Beach North Bushcare
- Group B: Peregian Creek Bushcare, Castaways Creek Bushcare and Marcus Beach Bushcare Assn Inc
- Group C: Noosa Bush Beach & Creek Care



For further information visit:  
[Coastal Connect 2](#)

## Status of action to deliver the Environment Strategy



**On target:** action is progressing in accordance with the Implementation Plan requirements.

### 2.1.2 Recommendations

Several opportunities for improvement were noted during the assessment of the Environment Grants in 2022/23FY, including:

- Applicants are looking for longer term project funding, rather than 12-month project grants as shown with the small number of applications for the Environment Project Grants.
- Applicants are confused about the different types of grants available and which one they should apply for.

To improve the success and outcomes of the Environmental Grants the following actions are recommended:

1. Ensure future grant rounds include wider stakeholder engagement and promotion, such as an Environment Grant breakfast, identification, and engagement with a wider range of stakeholders in the Noosa Shire.
2. Determine if there is a need for a base level of ongoing funding of certain programs that are core requirements of the Environment Strategy which funded under the Environment Grants currently, such as Wildcare, Wildlife rescue, Waterwatch and Riverwatch.
3. Review the Environment Grants Policy and Environment Levy Policy and associated guidelines to identify areas for improvement.
4. Adjust the funding allocations for future years to include more funding for Alliance grants.



Image source Michael Lyons

## 2.2 Activity: Implement an Environment & Sustainability Roundtable to provide a mechanism for local community groups, government stakeholders and experts to have input into the development of Council policy.

### 2.2.1 Council's actions to deliver activity

Council has undertaken engagement with a large number of local community groups, government stakeholders and experts through the development of several policies linked to the Environment Strategy in the 2022/23FY including the Threatened Fauna Roadmap (2023), the Eastern Beaches Foreshore Reserves Management Plan (EBFRMP) (2023) and the draft Noosa River Catchment Management Plan. In addition, Council has also funded NBRF to deliver several environmental and sustainability forums.

Building on these consultation activities completed to date, Council will progress the development of a formal Environment & Sustainability Roundtable in the 2023/24FY.

#### How Council has delivered effective community consultation for the Eastern Beaches Foreshore Reserves Management Plan (EBFRMP)

The public consultation period for the draft EBFRMP was held from 20 February 2023 to 31 March 2023. Council ran an online survey (204 respondents), 13 pop up events (485 people engaged), 3 public roundtable workshops (28 participants), 2 dedicated roundtables with the Eastern Beaches Protection Association (eight participants) and received 92 written submissions.

The EBFRMP was updated to incorporate the wide range of community feedback and resulting in the following improvements:

- The scope of the plan was refined, and the plan was renamed as the EBFRMP.
- Interaction with other Council programs and activities in and near the Eastern Beaches Foreshore Reserves are clearly identified.
- Condition mapping, restoration targets, Ecological Restoration Plans (ERPs) and on ground works more well defined.
- Objectives in each theme section are clearly linked to management outcomes in each theme.
- Each action is allocated a time frame, and a measures table included with each theme to help with monitoring progress.

- Encroachments into Council reserves are now dealt with under a separate Encroachments Policy and Procedure which applies to all Council-managed land across the Shire.



Consultation being undertaken by representatives from Environmental Services for the EBFRMP.



## Status of action to deliver the Environment Strategy



**Progressing:** steps have been taken towards this action, but the action is not being delivered in accordance with the Implementation Plan requirements.

### 2.2.2 Recommendations

The development of a formal Environment & Sustainability Roundtable is a priority for Council in the 2023/24FY.

Council will undertake a review of consultation and engagement activities completed to date and identify potential gaps and areas for improvement for future policy reviews.

Council will develop a rigorous process to identify and select members to be involved in the Environment & Sustainability Roundtable.

Once selected, members of the Environment & Sustainability Roundtable will be tasked with the review and comment on the updated Environment Strategy and Implementation plan in 2024/25FY.



Council workshop with the Noosa EE Hub on the 24 August 2023 (image source Noosa EE Hub).

## 2.3 Activity: Support community environmental and sustainable development networks and forums to build partnerships to drive the implementation of the Environment Strategy.

### 2.3.1 Council actions to deliver activity

#### 2.3.1.1 Stakeholder engagement

Council currently supports several networking events to build partnerships to drive the implementation of the Environment Strategy including: NBRF symposiums and forums, HLW Regional Forum, SEQ Pest Advisory Forum, Resilient Rivers Workshops, Council's Green Drinks and other stakeholder events.

Council also undertakes regular engagement activities with the following stakeholders:

- Australian National University
- Boating Industry Association
- Burnett Mary Regional Group (BMRG)
- Central Queensland University (CQU)
- Climate Change Response Plan Community Reference Group (CCRP CRG)
- Coolum and North Shore Coast Care
- Cootharaba Community Association
- Council of Mayors South East Queensland (ComSEQ)
- Department of Agriculture and Fisheries (DAF)
- Department of Climate Change, Energy, the Environment and Water (DCCEEW)
- DES
- Department of Regional Development, Manufacturing and Water
- Department of Transport and Main Roads (TMR)
- Gympie Regional Council
- Glossy Black Conservancy (GBC)
- Griffith University
- Hastings St Association
- HLW
- Kabi Kabi People's Aboriginal Corporation
- Maritime Safety Queensland (MSQ)
- MRCCC
- Mary River Species Conservation Group
- NBRF
- NDLG
- Noosa Boating & Fishing Alliance
- NICA
- Noosa North Shore Residents Association
- Noosa EE Hub
- NPA
- Noosa River Stakeholder Advisory Committee
- Noosa Waters Residents Association
- Queensland Fire and Emergency Service (QFES)
- Queensland Parks and Wildlife Service (QPWS)
- Queensland University of Technology (QUT)
- Queensland Weed Spotters Network
- South East Queensland Council of Mayors
- SEQ Water
- Sunshine Coast Council (SCC)
- The Nature Conservancy (TNC)
- Tourism Noosa
- UniSC
- University of Queensland (UQ)
- University of Southern Queensland (USQ)
- Wide Bay Burnett Invasive Species Advisory Committee
- Wildcare
- Wildlife Noosa
- ZEN

#### 2.3.1.2 Supporting the Noosa Biosphere Reserve Foundation

The Noosa Biosphere Reserve is part of a global network of 738 sites in 134 countries, connected under the UNESCO World Network of Biosphere Reserves. These sites of excellence are learning laboratories, actively using science and research to trial innovative approaches to maintaining a balance between people and nature.

One of the key mechanisms in which Council supports partnerships to drive the implementation of the Environment Strategy and protect the Noosa Biosphere Reserve is through funding to the NBRF. NBRF is a not-for-profit organisation, established by Council in 2015, to progress the global aims of the UNESCO Man and Biosphere (MAB) Program in the Noosa Biosphere Reserve. NBRF is run by skills-based volunteer Board of Directors, and the role of NBRF is to inspire and facilitate new research and projects that enhance biodiversity and promotes sustainable living in the Noosa region.

For further information visit:  
[\*\*NBRF\*\*](#)

## Overarching enabling actions

Projects and programs undertaken by NBRF and supported by Council between 2019/20FY and 2022/23FY have included:

- Bring Back the Fish, including:
  - Keeping it in Kin Kin project delivered by NDLG
  - Biodiversity in the Noosa River research project
  - Oyster bed restoration trial
- Virtual Songlines with Brian Warner
- Glossy Black-Cockatoo bioacoustics monitoring project
- Conservation Indicators PHD
- Surf Save Noosa
- Tackling Eco-Anxiety PHD
- Noosa EE Hub
- Noosa Trail Masterplan
- Mapping Koala Health
- Koalas on the Move Campaign
- Noosa Business Solar Case Study delivered by ZEN Inc
- Noosa Hinterland Rural Enterprise report

NBRF has also led the following symposiums and forums in partnership with Council:

- Sustainability Forum in 2023
- Agri-Hub Symposium in 2022
- Marine Species Protection Symposium in 2021
- Glossy Black-Cockatoo Forum in 2020
- Bring back the Koala Symposium in 2019



Council also supports the Annual Noosa Biosphere Awards and Council staff participate on the judging panel for the awards.

### Status of action to deliver the Environment Strategy



**On target:** action is progressing in accordance with the Implementation Plan requirements.

### 2.3.2 Recommendations

It is recommended that Council should create a stakeholder database using Stakeholder Relationship Management (SRM) software for stakeholders who are involved in supporting the delivery of targets in the Environment Strategy and actions in the Implementation Plan. As part of this action Council will undertake a review of how Council is currently engaging with key stakeholders and potential gaps in current engagement activities. The stakeholder database will allow Council staff to identify quickly contact details for stakeholders, allow the rapid transmission of information, and ensure stakeholders can be better engaged with Council in the future.



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## 2.4 Activity: Undertake monitoring programs required for evaluating and reporting on the success of the implementation of the Environment Strategy.

### 2.4.1 Council actions to deliver activity

Council supports and delivers several monitoring programs to evaluate the success of the implementation Environment Strategy, and these are detailed below for the following actions of the report:

- Refer to Section 3.3.3: Undertake detailed biodiversity assessments across different Broad Vegetation Groups, with a view to understanding and monitoring the health of biodiversity across the Shire.
- Refer to Section 3.3.4.2: Scope and undertake monitoring programs on populations of 6-8 key representative threatened species, to mitigate against local extinctions.
- Refer to Section 4.1.4.1: Develop an integrated water monitoring network for Council, community, and other agencies, including event monitoring of sediments, nutrients and litter for Noosa and Mary Catchments, and a Mary River sub- catchment baseline and report card.

#### Status of action to deliver the Environment Strategy



**Progressing:** steps have been taken towards this action, but the action is not being delivered in accordance with the Implementation Plan requirements.

### 2.4.2 Recommendations

As part of the review of the Environment Strategy and Implementation Plan, it is recommended that monitoring programs currently being undertaken by Council are reviewed and potential gaps identified to ensure that progress towards specific targets nominated in the Environment Strategy can be effectively evaluated.



Image source: Vanessa Moscato

# Theme 1 Biodiversity



*Image source: Jasmine Connors*

# 3. Theme 1 Biodiversity

## 3.1 Strategy 1.1 Protect and enhance existing ecosystems, vegetation networks and habitats

### 3.1.1 Target

By 2030, there is no net loss of ecosystem values across the shire, and the condition of Council's priority bushland reserves are enhanced.

### 3.1.2 Methodology

There were three methods to measure the success of this target nominated in the Implementation Plan:

**3.1.2.1 RE Mapping: Every 5 years updated Regional Ecosystem (RE) mapping will be used to identify changes in the number and extent of regional ecosystems.**

REs are vegetation communities classified by the Queensland Herbarium based on the following attributes: region, geology (land zone) and vegetation characteristics. The intent of using this data is to confirm there is no net loss of native ecosystem values across the shire.

Analysis of the change in extent of REs and remnant vegetation cover was based on the data contained in Version 13.0 RE (2023). This dataset covers the period from 1997 to 2021. Landsat and Sentinel-2 satellite imagery has been analysed biennially over this 24 year period by the Queensland Herbarium, with approximately 18-24 months lag between imagery capture and publication. The results for the period 2019 to 2021 (published in 2023) are detailed in Section 3.1.3 below, and the results for the period 2021 to 2023 will be published in the second half of 2024.

Analysis of vegetation cover change using Statewide Landcover and Tree Study (SLATS) is recommended to quantify the extent of change in woody vegetation cover including native and non-native vegetation cover, regrowth and high-value regrowth vegetation, and should be included in future monitoring reports.

**3.1.2.2 Bushland Operational Assessments (BOAs): will be undertaken every 5 years across priority Council managed Bushland Reserves and for VCA/LfW landholders and verified against shire-wide BioCondition Assessments.**

A BOA is a resilience-based method for mapping vegetation condition. A range of physical attributes are assessed within a specified area and allocated a score ranging from nil (soil and/or hydrology is so changed the original ecosystem is no longer possible) through to excellent. This data informs ecological restoration and management, helps identify high value bushland under threat of degradation, and provides information about management outcomes.

BOAs are completed in priority bushland reserves which have been identified in the Bushland Reserve Strategic Plan as being tier 3 and above. Scores are allocated based on a range of attributes including biodiversity value, waterway value, carbon sink value, social value, cultural value and likelihood of success. Results of the BOAs completed in 2019/20FY-2022/23FY are detailed in Section 3.1.4.1 below.

Verification of BOAs using BioCondition Assessments was proposed in the Implementation Plan and previous Monitoring Report, it has been determined that Council does not currently have the capacity to complete shire wide BioCondition Assessments. Council trialled BioCondition Assessments when selecting a bushland condition framework, but found the method too labour intensive to allow comprehensive coverage of Councils Bushland Reserves.

Council in the future could look to seek funding for a project to complete a baseline BioCondition Assessment using representative sites across the Noosa Shire to provide a further measure of ecosystem values. It is recommended that the Implementation Plan is reviewed to update the current methodology to measure success against this target.

### 3.1.2.3 BioCondition Benchmarks for RE Condition Assessment will be undertaken every 5 years for Noosa regional ecosystems.

Council has not yet commenced progress on a tenure blind BioCondition Benchmark Condition Assessment for the Noosa Shire. Further funding will be required to complete this element of the methodology. It is recommended that the Implementation Plan be reviewed to include an assessment of the change in condition of ecosystems, particularly areas of conservation significance such as council-owned reserves and national parks, as this will be critical to understanding and mitigating impacts of climate change and other threats.

### 3.1.3 Results for 2019-2023

#### 3.1.3.1 RE Mapping:

In 2021, Noosa Shire had retained 49.52% (or 40,101 ha) of its pre-clear remnant vegetation cover (80,983 ha). For the two-year period from 2019 and 2021, the extent of remnant Category B vegetation in Noosa Shire declined

by 0.014%. A summary of RE change for Noosa Shire is provided in Table 4. All reported decreases in extent occurred on freehold tenure; all other tenures were stable between 2019 and 2021. The average annual clearing rate of 5.7 ha for Category B (remnant) vegetation is the lowest in the SEQ region.

For all other woody vegetation (Category C, R and X) the clearing rate as reported in the SLATS data for 2023 was 378 ha for the 2020-2021 period compared with 326 ha for the 2019-2020 period.

Once Council completes the map updates identified during the Noosa Fine scale RE Mapping Project (2021-2023 ongoing), it is anticipated there will be significant changes to the number and extent of REs, and to the extent of regrowth and high value regrowth vegetation. Discrepancies between mapped and ground-truthed land zones will also be rectified based on finer resolution geological surveys (1:25,000) conducted by Trezise (1978) and Trezise and Graham (1989).

REs by Vegetation Management Class	Number of REs 2019	Number of REs 2021	Number of REs decreased in extent	Area (ha) decreased of each RE	Number of REs stable in extent
Endangered	4	4	4	12.5.2 (0.1ha) 12.5.3 (0.4ha) 12.5.6 (0.2ha) 12.11.16 (0.9ha)	4
Of concern	3	3	3	12.3.14 (0.1ha) 12.9-10.1 (0.8ha) 12.9-10.29 (0.2ha)	26
Least concern	8	8	8	12.3.13 (0.1ha) 12.9-10.4 (0.4ha) 2.9-10.14 (0.2ha) 12.9-10.17 (0.2ha) 12.11.2 (0.5ha) 12.11.3 (2.2ha) 12.11.10 (3.7ha) 12.12.16 (0.4ha)	25

Table 4: RE change for the period 2019 to 2021

# Theme 1 Biodiversity



## 3.1.3.2 Bushland Operational Assessments (BOAs)

Much of Council's conservation reserve planning and monitoring since the Environment Strategy was developed, has been seeking to achieve baseline condition data and ensuring best practice ecological restoration practices. Between 2019/20FY and 2022/23FY there has been an increase in the number of BOAs and ERPs completed (Table 5). A map of the areas covered by BOAs in 2022/23FY is provided in Figure 3. The BOAs allow Council to monitor how reserves are responding to management actions and can inform adaptive management processes. Repeat BOA assessments help demonstrate changes of reserve condition and determine future Council activities and direction.

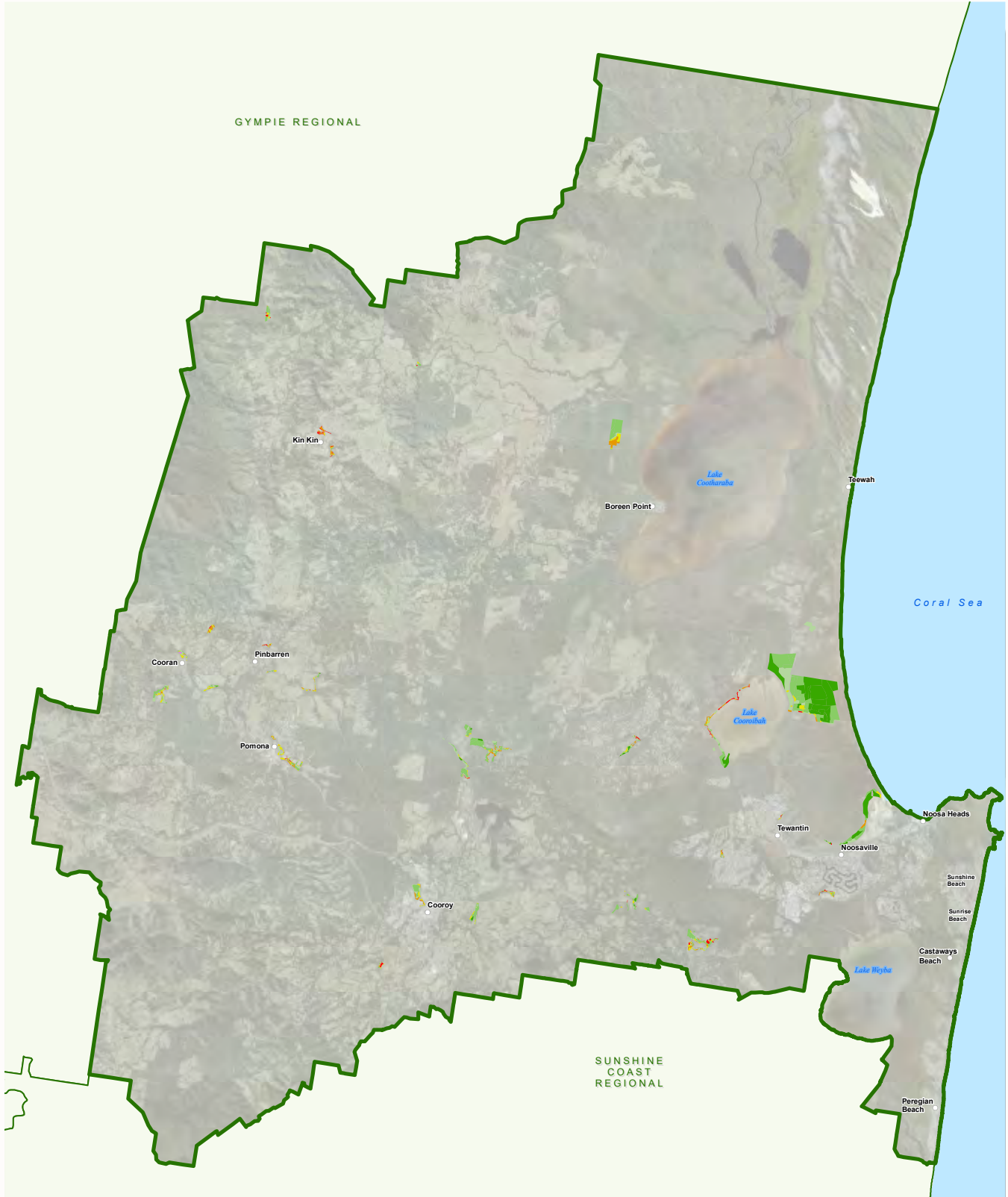
Activity	2019/20FY hectares	2022/23FY hectares
BOAs	1,934.10	2,842.52
ERPs	700.86	879.88

Table 5: BOAs completed by Council between 2019/20FY and 2022/23FY



Figure 2: Example BOA map.





**BOA Class**

<span style="color: green;">■</span> Excellent	<span style="color: grey;">■</span> Nil
<span style="color: lightgreen;">■</span> Very Good	<span style="color: purple;">■</span> Planting
<span style="color: yellow;">■</span> Good	<span style="color: pink;">■</span> Revegetation
<span style="color: orange;">■</span> Moderate	
<span style="color: red;">■</span> Poor	
<span style="color: darkred;">■</span> Very Poor	

0 2.5 5 Km  
 Coordinate System: GDA 1994 MGA Zone 56  
 Projection: Transverse Mercator  
 Size: A4  
 1:125 000  
 10/10/2023  
 Corp Serv GIS

Figure 3: Map of BOAs completed by Council between 2019/20FY and 2022/23FY

## 3.1.4 Summary of council actions to deliver the strategy

3.1.4.1 Undertake environmental restoration activities throughout Council's conservation reserves. Prepare BOAs for Council reserves to monitor the success of work.

### *Bushland Reserve Strategic Management Plan 2021-2026*

The Bushland Reserve Strategic Management Plan 2021-2026 was endorsed by Council in 2021. The Bushland Reserve Strategic Management Plan directs how Council should manage its bushland reserve network over the next five years to achieve the bushland reserve network's objectives under the Environment Strategy. Conservation reserves are ranked (and subsequently managed) according to a range of environmental and social values, including bushland patch size, connectivity to other patches of bush, significant ecosystems, wildlife and habitat and catchment protection. This ranking is used to allocate reserves to three management categories (Protect, Enhance, and Monitor), with higher ranking reserves typically categorised as protect (where no or little work is needed to get the reserve to appropriate condition) or enhance (where more work is needed to get the reserve to appropriate condition). Lower ranking reserves are often under the monitor category, primarily managed to meet legislative requirements.

About 50% of Councils conservation reserves are under active ecological restoration, guided by reserve ERPs. Reserve Management Plans may be developed for some reserves or networks of reserves that have particularly high environmental and social values that require more detailed planning.



*Girraween Nature Refuge (image source Emma Smith)*

## Ecological Restoration Plans (ERPs)

The BOA maps and attribute tables are at the heart of the ERPs - the site-specific plans that inform and detail works needed to improve the condition of Council's Bushland and Foreshore Reserves. They guide on ground and site-specific activities of Council, contractors, and community members to achieve best practice ecological restoration as detailed in the SEQ Ecological Restoration Framework Guideline and Manual (Chenoweth 2012).

Reserve information includes hydrological information, social and environmental values, surrounding land management, current condition, current weed infestations, target regional ecosystems and restoration targets and other management considerations.

Using the BOA mapping, and tracks, creeks and other landmarks, the reserves are broken into management zones (example provided in Figure 4), each typically

containing similar weeds, and similar required work and amount of work. Works typically include weed control of all the weeds, in a manner that protects and encourages native species germination and natural processes. Breaks in internal connectivity are identified in BOA mapping, and their remediation planned and implemented where possible. Potential external linkages to other bushland are identified via desktop mapping and confirmed during nearby condition mapping processes.

The BOAs, ERPs and reserve ranking are used to allocate appropriate budget and resources that recognise the conservation significance of the reserve and the amount of work needed to get it to the appropriate condition. They are implemented by Council and contractor bush regenerators and Community Bushland Care volunteers. Progress is generally measured by a repeat of BOA mapping, along with the absences of strategic weeds or impacts, or the presence of a specific environmental value, such as a threatened species.



Figure 4: Example Management Zone map.

## *Encroachments Policy*

The shire-wide Encroachments Policy 2023 and Encroachment Procedures 2023 for Council managed land have been developed and endorsed by Council in June 2023. A clear and consistent whole-of-Council response to encroachments into Council-managed land contributes to the protection and enhancement of the biodiversity values of Council Bushland and Foreshore Reserves.

The first year (2023/24FY) will focus on establishing a new Bushland Recovery Officer position and implementation program to prioritise enforcement and recovery activities in areas deemed highest risk. Education and communication will also form a key part of the program delivery. The program is intended to include all areas of the Shire where encroachments are occurring. A strategic approach restoring critical ecological linkages and endangered ecosystems in bushland reserves will be taken. Recovery of Council managed bushland under the Encroachment Policy will be measured by the reduction of BOA mapped encroachment affected areas every five years.

### *Status of action to deliver the Environment Strategy*



**On target:** action is progressing in accordance with the Implementation Plan requirements.



*Example of encroachment onto Council managed land.*

# Theme 1 Biodiversity



3.1.4.2 Reduce the threat of priority biosecurity risks, such as pest plants and animals, on Council land and support private landholders to do the same.

Council's Biosecurity team continues to implement the Noosa Biosecurity Plan 2020, including delivery of Biosecurity Surveillance Programs and Pest Management Programs. A summary of the outcomes of these programs is provided below.

### *Biosecurity Surveillance Program outcomes*

In the 2022/23 FY, 65 properties were visited as part of Council's approved Biosecurity Surveillance Program, targeting cats claw creeper and other priority weeds. Biosecurity threats were detected on 12 of these properties with 3 advisory letters and no Biosecurity orders issued. Ongoing assistance is provided to landholders to control Fireweed in the Lake MacDonald area and cats claw creeper in the Upper Six Mile Creek catchment area.

A summary of the actions undertaken through Council's Biosecurity Surveillance Program between 2019/20FY to 2022/23FY is provided in Table 6.



*Fox den detection dogs in action (image source Ken English).*

Action	2019/20FY	2020/21FY	2021/22FY	2022/23FY
Properties inspected	Not recorded	119	82	65
Advisory letters sent	5	3	2	3
Biosecurity orders issued	2	3	2	0

*Table 6: Summary of actions undertaken under Council's Biosecurity Surveillance Program*

## Pest Management Program outcomes

Council's Biosecurity team continues to provide ongoing assistance to landholders in the control of wild dogs, feral deer, feral pigs, foxes, feral cats, and Common Myna birds on private land as part of their regular business. A summary of the total animals trapped and properties involved in Council's pest management programs between 2019/20FY and 2022/23FY is provided in Table 7 and Table 8 respectively below.

Council undertakes fox den detection in partnership with SCC, Gympie Regional Council and Queensland Parks and Wildlife. Conservation detector dogs are being used to sniff out fox dens in the Noosa Shire to protect our native wildlife. Once the dens are tracked down by the dogs, specialist contractors then fumigate the dens in accordance with the *Biosecurity Act 2014*.

Council is currently making use of new cameras and artificial intelligence to review images captured to identify pest species and their distribution across the Noosa Shire. This allows for more targeted control and baiting

programs to occur. Council is currently looking at future research using thermal drones to monitor feral deer numbers and locations in the Noosa Shire.

### Status of action to deliver the Environment Strategy



**On target:** action is progressing in accordance with the Implementation Plan requirements.



Feral pig captured on Council's pest animal monitoring cameras (image source Ken English).

Pest animal	2019/20FY	2019/20FY	2021/22FY	2022/23FY
Wild dogs	8	17	2	1
Fox	20	21	14	12
Feral Pig			10	108
Feral Cat	3	0	3	5
Common Myna Bird ( <i>Acridotheres tristis</i> )	39	20	29	28
<b>Total animals trapped</b>	<b>70</b>	<b>58</b>	<b>58</b>	<b>154</b>

Table 7: Summary of total numbers of pests trapped through Council's pest management programs in the Noosa Shire

Total number of properties involved	2019/20FY	2019/20FY	2021/22FY	2022/23FY
Wild dogs	4	6	2	1
Fox	9	13	7	19
Feral Pig	0	0	2	9
Feral Cat	1	0	3	5
Common Myna Bird ( <i>Acridotheres tristis</i> )	5	5	7	8
<b>Total</b>	<b>19</b>	<b>24</b>	<b>21</b>	<b>42</b>

Table 8: Summary of properties involved in Council's pest management programs in the Noosa Shire

## 3.1.5 Implement rehabilitation programs of former forestry areas in the Yurol and Ringtail State Forests, in preparation for the land to be transferred to National Park.

Greenfleet is partnering with Noosa Landcare to progressively rehabilitate and revegetate former plantation areas of Yurol and Ringtail State Forests. Council staff developed the restoration plan that guides this work. A summary of the area of land rehabilitated and number of trees planted are provided in Figure 5 and Figure 6.

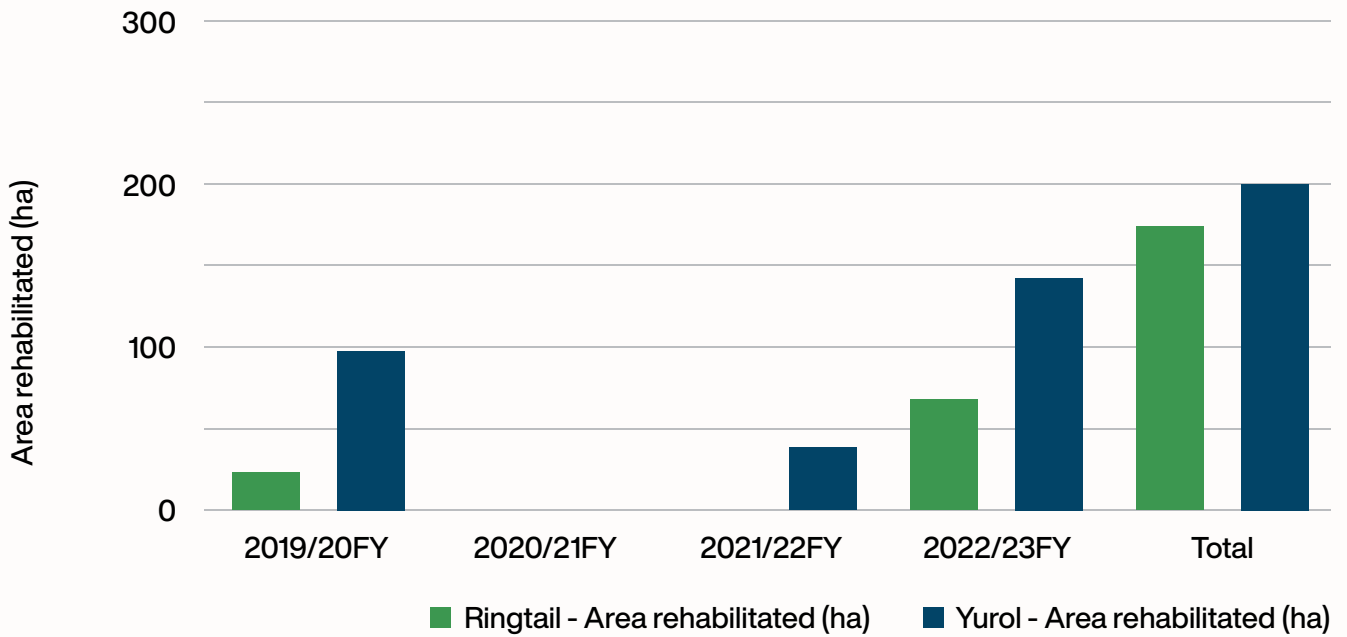


Figure 5: Area of land rehabilitated at Ringtail and Yurol State Forests by Greenfleet and NDLG. Note – 17 hectares had to be replanted in 2022/23FY at Ringtail due to being impacted by fire.

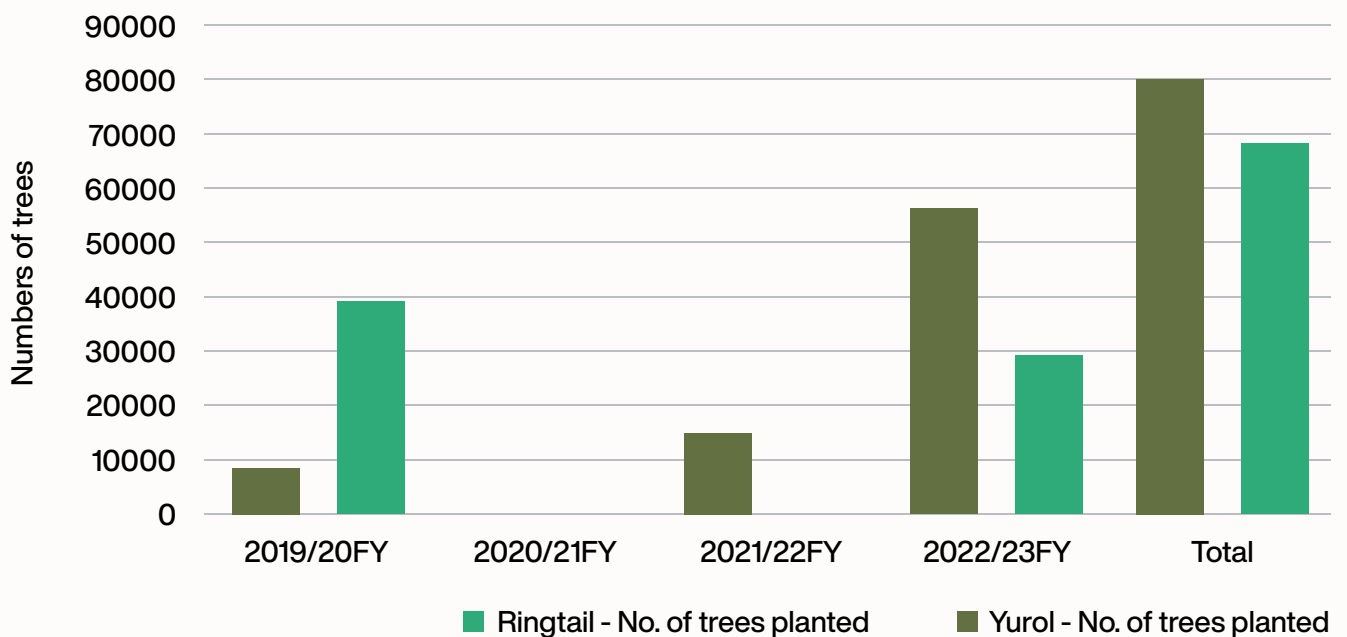


Figure 6: Number of trees planted at Ringtail and Yurol State Forests by Greenfleet and NDLG. Note – 6,800 trees had to be replanted in 2022/23FY at Ringtail due to being impacted by fire.



Drone photo of rehabilitation at Yurol State Forest (image sourced from NDLG).



Replanting by NDLG at Yurol State Forest (image source NDLG).

### 3.1.6 Recommendations

It is recommended that a separate theme, goals, targets, key performance indicators (KPIs), objectives, and actions for Biosecurity and Pest Management is included in the updated Environment Strategy and Implementation Plan. Council's Biosecurity Plan is also due to be reviewed in 2024, so there is an opportunity to align this with the Environment Strategy review.

The updated Environment Strategy and Implementation Plan should include targets, methods and actions for the measurement of progress for the implementation of Council's Encroachments Policy 2023 and Encroachment Procedures 2023.

Outcomes of Council's fine scale RE mapping project due for completion by December 2023 should be considered as part of the review of the Environment Strategy and Implementation Plan to identify potential knowledge development of the gaps and further research projects to support the targets of the Environment Strategy.

#### Status of action to deliver the Environment Strategy



**On target:** action is progressing in accordance with the Implementation Plan requirements.



## 3.2 Strategy 1.2 Expand vegetation networks and habitat

### 3.2.1 Target

Environment Strategy: By 2030, half of all land in the Noosa Shire (39,818 hectares) is being managed for its' environmental values.

Council's Corporate Plan 2023-2026, Environment performance measure: By 2028, 48% of all land in the Noosa Shire (38,225 hectares) is managed for its' environmental values.

### 3.2.2 Methodology

Council's progress towards this target is assessed by measuring the combined land of land being managed for its environmental values against the Noosa local government land area excluding waterbodies (approximately 79635.025192 ha).

'Land managed for environmental values' includes National Parks, State and Council managed Conservation Reserves, nature refuges, VCA and LfW areas, as well as easements mapped within the 'Environmental Management and Conservation Zone' of the Noosa Plan 2020.

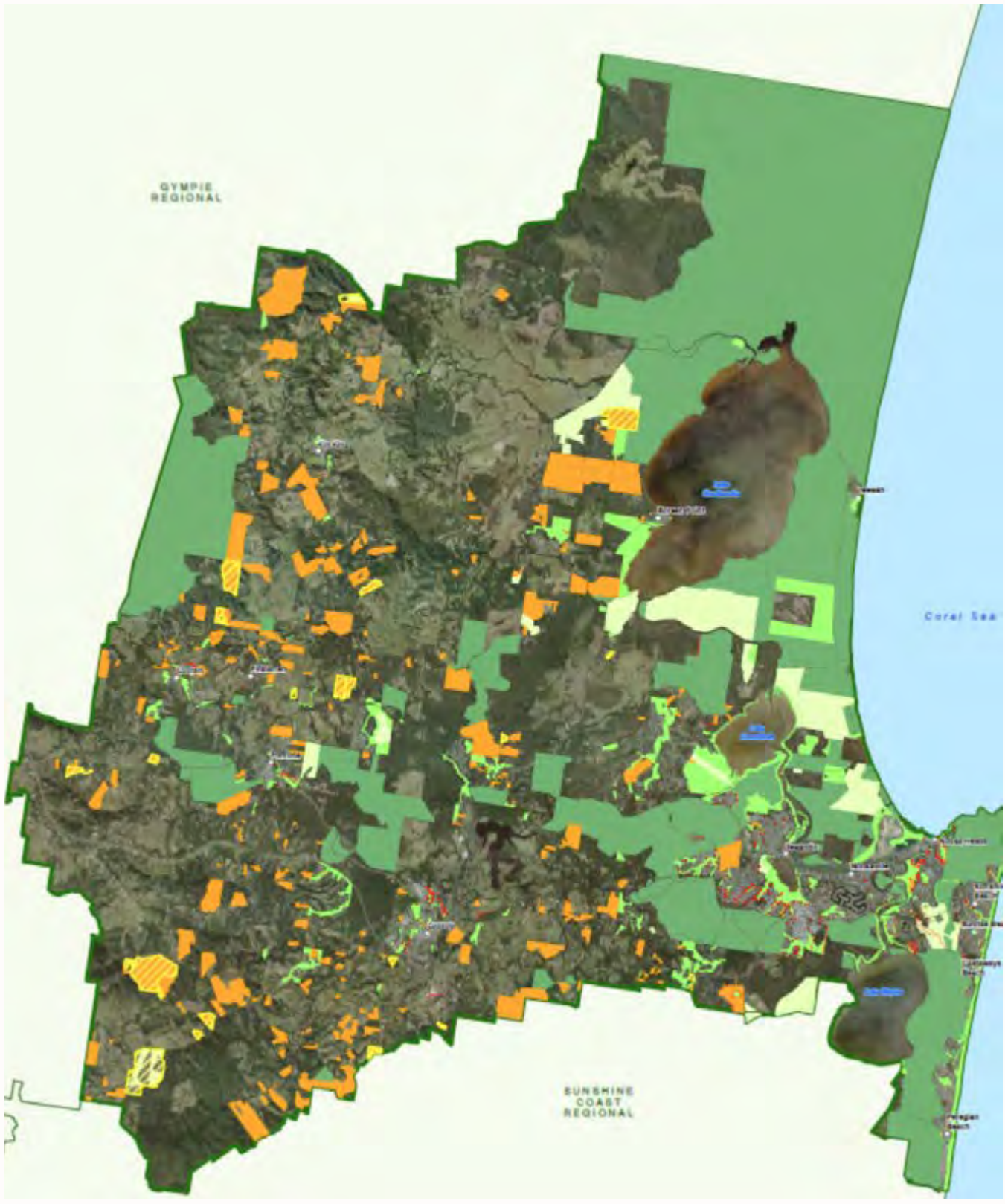
### 3.2.3 Results for 2019-2023

On 30 June 2020, 36% of the Noosa Shire (28,738.31 hectares) was managed for its environmental values (Figure 7). This increased on 30 June 2023 to 43% of the Noosa Shire (34499.48 hectares) being managed for its environmental values (Figure 8). A breakdown of the ways land is managed for conservation across the Noosa Shire is summarised in for 2020 and 2023 in Table 9. The number of VCA's have decreased between 2020 and 2023 as 6 properties have sold, and the new owners have disengaged from the program.

Council has a target of protecting 48% of all land in the Noosa Shire (38,225 hectares) by 2028 and a target of protecting 50% of all land in the Noosa Shire (39,818 hectares) by 2030. Based on the current area of land managed for conservation, Council must secure a further 3,725 hectares by 2028 and 5,318 hectares by 2030. This is an increase of 886 hectares per year of land that needs to be managed for environmental values until 2030.

Land managed for conservation	Land area % of the Noosa Shire in 2020	Land area (hectares) in 2020	Land area % of the Noosa Shire in 2023	Land area (hectares) in 2023
VCA	0.74	586.81	0.67	535.52
Land for Wildlife	4.93	3923.14	6.88	5476.90
Nature Refuge	2.50	1993.96	2.84	2258.15
Bushland Reserve	3.95	3147.61	4.42	3519.77
Protected Act ( <i>Nature Conservation Act 1992</i> )	26.01	20710.37	31.13	24791.17
Easements within the Environmental Management and Conservation Zone	0.04	29.42	0.04	29.59
<b>Total (overlaps removed)</b>	<b>36.09</b>	<b>28738.32</b>	<b>43.32</b>	<b>34499.48</b>

Table 9: Land managed for conservation across the Noosa Shire



- Voluntary Conservation Agreement (VCA)
- Land For Wildlife Property
- Nature Refuge
- Bushland Reserve
- Protected Area (Nature Conservation Act 1992)
- Easement within Environmental Management and Conservation Zone (Noosa Plan 2020)



Figure 7: Land managed for environmental values in the Noosa Shire (2020)

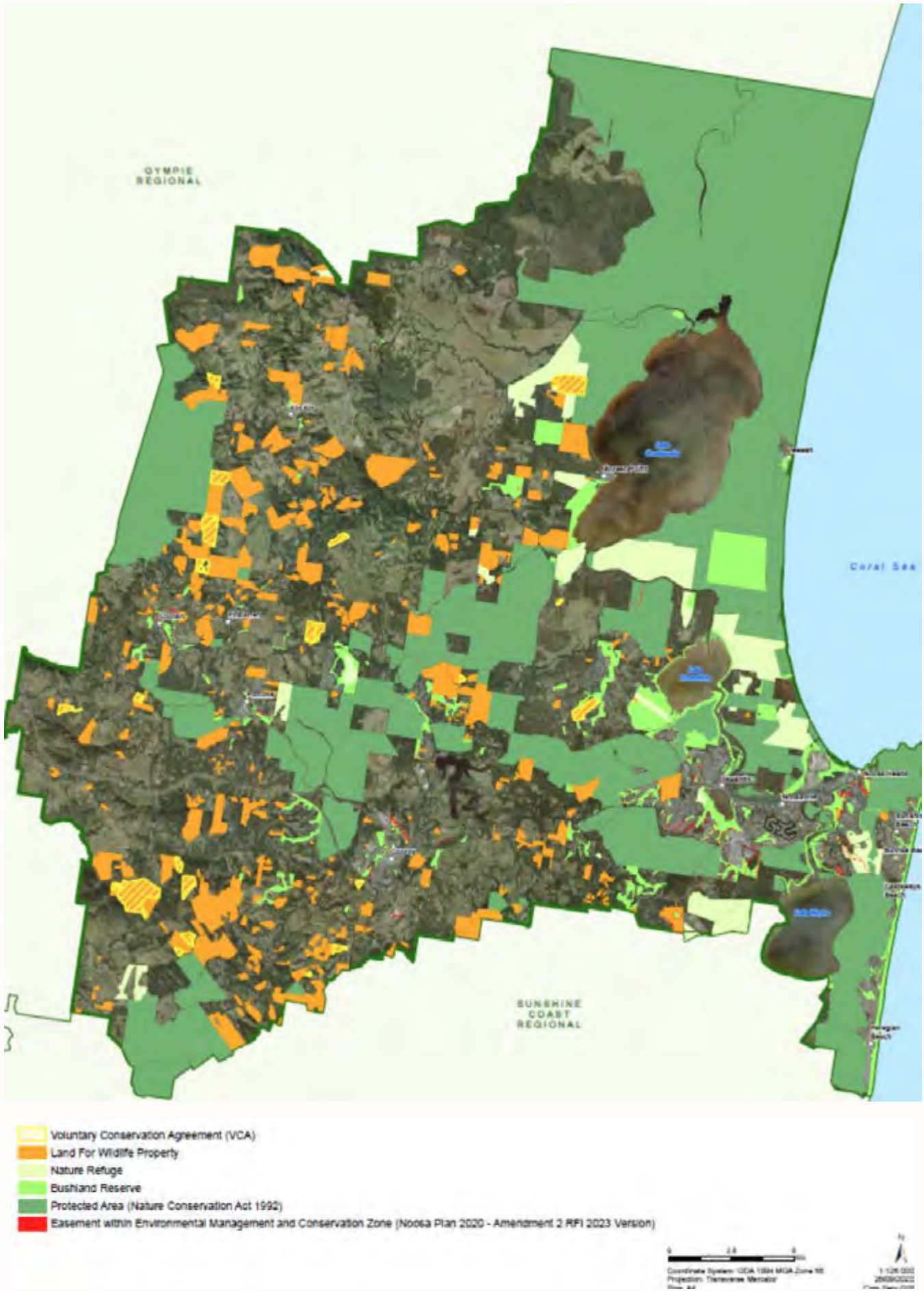


Figure 8: Land managed for environmental values in the Noosa Shire (2023)

# Theme 1 Biodiversity

## 3.2.4 Summary of council actions to deliver the strategy

### 3.2.4.1 Support private landholders to achieve environmental outcomes on their property through an expanded VCA and LfW Program.

An overview of how Council has supported private landholders through VCA and LfW through the Private Conservation Partnerships Program is detailed below.

#### Land for Wildlife

With over 50% of biodiversity values contained on private land in SEQ, LfW plays an integral role in partnering with private landowners to conserve the biodiversity and natural amenity of the region. The LfW program aligns with regional, state, and federal objectives, with the program being embedded in many SEQ Council policies and strategies, such as pest management and biodiversity. The program engages with the community to improve catchment and waterway health through erosion and sediment control, revegetation, and remnant vegetation protection through the integration of wildlife habitat with agricultural and other land uses. It assists with rebuilding wildlife corridor linkages in strategic locations and between core protected areas, enabling movement of fauna and flora species. The LfW program started in Victoria in 1981 with the aim of supporting private landowners to deliver natural resource outcomes. The State of Victoria remains the head of power to the program with all participating bodies holding a Memorandum of Understanding (MoU) with the State. Council has been part of the LfW SEQ program since 1998, alongside 12 other SEQ Council's.

From the implementation of the Environment Strategy in 2019 to 30 June 2023, the number of LfW properties has increased by 168 to a total of 437, with 176 new

partnerships registered and 8 partnerships closed (Table 10). These partnerships amount to an increase of 1035.1 hectares of retained habitat and 231.1 hectares of habitat under restoration.



Retained habitat example at a LfW property (photo source Luke Burnett)

Land for Wildlife	2019/20FY	2020/21FY	2021/22FY	2022/23FY
Total number of partnerships	319	355	406	437
Total land area (hectares)	2346.14	2602.33	3083.96	3321.75
Total land area (% of Shire)	2.95	3.27	3.87	4.17

Table 10: Number of partnerships and land area covered by LfW properties between 2019/2020FY and 2022/2023FY



Dave Burrows, Private Conservation Partnerships Officer undertaking a flora survey on a LfW Property (image source Camille Oliver)

Council offers a tubestock incentives to LfW members who wish to re-establish habitat on cleared land, increase native plant diversity or manage soil erosion on their property. Under this incentive members can apply for up to 300 native tubestock annually, under the condition that they undertake all site preparation, planting, and ongoing maintenance to ensure plant survival. Table 11 summarises immediate outcomes of the tubestock incentive. This does not reflect the total area of land revegetated by LfW members, including only reported outcomes by members that accessed the tubestock incentive each financial year.

Invasive weeds are one of the main threats to biodiversity, and therefore are a strong focus of extension and support activities to LfW members. The LfW weed management training incentive provides education and assistance to build landowner’s capacity to manage invasive weeds, Council engages qualified contractors to work with landowners on their property for a day. The landowners learn to identify, prioritise, and manage invasive weeds on their property. Priority invasive weeds are cats claw vine, Maderia vine, Camphor Laurel, and lantana.

Tubestock incentive	2019/20FY	2020/21FY	2021/22FY	2022/23FY
Number of landowners	33	53	15	63
Total tubestock provided	6,560	12,092	10,265	13,201
Land area revegetated (ha)	8.17	11.87	14.19	8.55
Landowner labour (costed at \$46 per hour)	\$41,560	\$93,012	\$121,716	\$197,938
Landowner investment	\$25,861.56	\$55,234	\$34,018	\$109,444
Council direct investment	\$11,800	\$21,760	\$18,477	\$23,760

Table 11: Outcomes of tubestock incentive delivered through LfW

Table 12 summarises immediate outcomes of the weed management training incentive. This does not reflect the total area of land managed for weeds by LfW members, including only reported outcomes by members that accessed the weed management training incentive each financial year.

Weed management training incentive	2019/20FY	2020/21FY	2021/22FY	2022/23FY
Number of landowners	31	28	26	21
Weed management land area (ha)	26	9.4	13.7	9.7
Landowner labour (costed at \$46 per hour)	\$14,697	\$13,685	\$17,089	\$42,527
Landowner investment	\$1,877.75	\$1,465	\$2,910	\$2,420
Council direct investment	\$27,900	\$25,200	\$23,400	\$18,900

Table 12: Outcomes of weed management training incentive delivered through LfW

Council also lends equipment to LfW members, including tree poppers for landowners who wish to not use herbicide on their property, and fauna cameras so that landowners can record the range of native (and non-native) fauna utilising their property.



Treatment of cat's claw at a LfW property (image source Joel Morris)



Cat's claw following treatment at a LfW property (image source Joel Morris)

# Theme 1 Biodiversity

## VCAs

The VCA Program is a higher-level voluntary agreement between Council and eligible landowners that permanently protects a nominated conservation area on the landowner’s property. Delivery of the VCA program is guided by Council’s Environment Levy Policy.

Freehold properties in Noosa Shire that are eligible for the VCA program include:

- Land parcels of high biodiversity values, significant size (minimum of 5 hectares) and located next to or within Core Protected Areas; or
- Land parcels that occur within biodiversity corridors between Core Protected Areas; and
- Properties whose owners have demonstrated a commitment to achieving conservation outcomes; and
- Other land that has unique environmental significance such as containing an endangered ecosystem, old growth forest, or listed plant and animal species; and
- Existing Nature Refuge properties.

All applications for VCAs will be assessed and prioritised by the Environment Levy Working Group (ELWG) according to available resources.

Council offers two statutory conservation mechanisms under the VCA program. These are (in order of level of protection):

1. Nature Refuge; and
2. Conservation Covenant.

Council facilitates and funds the entire VCA establishment process and ongoing landowner support. Council provides annual incentive funding to assist VCA landowners in managing their conservation area to improve its biodiversity values. These actions are guided by an environmental management plan which is developed for each VCA. The environmental management plan details the biodiversity values present within the conservation area, threats to those values, and actions required to address those threats. The total VCA incentive budget for the 2023/24FY is \$75,970.

Staff explore opportunities for value adding from external grants including Queensland Government koala habitat restoration grants and Commonwealth threatened species grants. Table 13 indicates the growth in the VCA program between 2019/20FY and 2022/23FY.

Voluntary Conservation Agreement (VCAs)	2019/20FY	2020/21FY	2021/22FY	2022/23FY
Total number of partnerships	18	18	22	23
Total land area (hectares)	330	330	386	392
Total land area (% of Shire)	0.37	0.37	0.44	0.45

Table 13: VCA program growth between 2019/20FY and 2022/23FY



Revegetation project delivered at VCA property at Black Mountain (image source NDLG)

### Status of action to deliver the Environment Strategy



**On target:** action is progressing in accordance with the Implementation Plan requirements.

# Theme 1 Biodiversity



3.2.4.2 Identify priority land parcels that enhance landscape connectivity and seek to have them managed for environmental outcomes, either through direct purchase by Council, or utilising other appropriate protective mechanisms.

Council's ELWG developed an Environment Levy Policy endorsed in January 2020 and Conservation Land Policy Guideline and Revolving Fund Guideline endorsed in 2018 to guide the acquisition of environmentally significant land.

Between 2019/20FY and 2022/23FY there have been three acquisitions that have been completed by Council utilising the environment levy (Table 14).

Council has undertaken acquisitions focussing on key biodiversity corridors identified in the Conservation Land Plan (2018). Several properties were assessed for potential acquisition during the 2021/22FY however no acquisitions were made due to strong market conditions driven by high demand for properties in the Noosa Shire.

Council's requirements for acquisitions through the Environment Levy Policy take several months, which reduces Council's ability to act quickly if a suitable property is identified. This constraint will be reviewed as part of the Environment Levy Policy review process being undertaken in 2024.

FY	Property address	Purchase price	Land area
2019/20	1675 Louis Bazzo Dr, Boreen Pt	\$395,000	51 ha
2020/21	325 & 375 Lake Flat Road Boreen Pt / Cootharaba	\$900,000	88 ha
2021/22	No acquisitions were completed		
2022/23	1033 Black Mountain Road, Federal	\$1,075,000	69 ha

Table 14: Acquisitions of conservation land using the Environment Levy by Council between 2019/20FY and 2022/23FY



1675 Louis Bazzo Road (image source Dave Burrows)



Flooded gum at Lake Flat Road acquisition – Cootharaba Nature Refuge (image source Dave Burrows)





1033 Black Mountain Road purchased with the Environment Levy for conservation in 2023 (image source Justin Rover Media)



Giant tallowwood at 1033 Black Mountain Road acquisition site (image source Vanessa Moscato)



Lake Flat Road acquisition – Cootharaba Nature Refuge (image source Dave Burrows)

### Status of action to deliver the Environment Strategy



**Progressing:** steps have been taken towards this action, but the action is not being delivered in accordance with the Implementation Plan requirements.

# Theme 1 Biodiversity

### 3.2.4.3 Undertake an urban environmental education program to improve environmental outcomes for urban wildlife in strategic locations.

The UWG Program commenced its third year in 2023 with good uptake from landholders. This is program is funded through the Environmental Grants and has been developed and is delivered by NICA. The program aims to assist urban property owners in enhancing habitat opportunities in their own backyards through education and professional advice.

Participants receive a property visit from the program coordinator who provides information and advice tailored to their properties and supplies several appropriate native plants. 6 workshops of relevance are also available annually to anyone participating in the program.

An UWG welcome pack for new residents has been developed and is proving to be quite popular with local real estate agents. The pack includes an invitation to join, a copy of Noosa Native Plants – a field guide to our local flora, information on responsible pet ownership and weeds.

UWG is also continuing to deliver its monthly newsletters and open garden tours. The new UWG publication “What’s in Your Garden” is now available at nurseries and landscaping supply outlets across the Shire to assist consumers in choosing native plants.

UWG are currently scoping a new website that provides a better interface to the program and allows members and the public better access to our newsletters and fact sheets. UWG are currently submitting funding applications to deliver the new interface.

### Status of action to deliver the Environment Strategy



**On target:** action is progressing in accordance with the Implementation Plan requirements.

### 3.2.5 Recommendations

Review of the Environment Levy Policy and Conservation Land Plan is required in 2024. As part of this review Council will investigate the potential acquisition of land for biodiversity conservation and carbon offsets using the Environment Levy funds. Council’s procedure to complete acquisitions will also be reviewed as part of this process to determine if there is an ability to streamline purchases to allow Council to act quickly if a suitable property is identified.

Council’s Conservation Land Plan has not been reviewed or updated since 2018. Since this time there has been significant developments in spatial analysis and data available, as well as prioritization approaches and frameworks for investment in land for conservation. For example, the Queensland National Park Investment Prioritisation Framework was released in March 2023 and this uses multiple criteria to identify suitable acquisitions, including (but not limited to) biodiversity conservation, indigenous cultural values, and social and economic values. Environmental Services will engage with external experts to enable the development of a suitable prioritisation framework for the updated Conservation Land Plan, as well as spatial analysis to identify suitable land parcels for conservation and carbon offsets through restoration.

It is recommended that the wording of the following action in the Implementation Plan is changed from ‘undertake an urban environmental education program’ to ‘support environmental education programs to improve environmental outcomes for urban wildlife’ to better align with Council’s current actions.



## 3.3 Strategy 1.3 Improve long-term survival for threatened species and ecological communities

### 3.3.1 Target

By 2030, populations of key threatened indicator species remain viable.

### 3.3.2 Methodology

The Threatened Fauna Roadmap was endorsed by Council in March 2023 and this identifies 10 priority species for conservation actions. To complement supporting objectives within the Environment Strategy, species were nominated based on representativeness across key habitats within the Noosa Shire and adjacent coastal waters.

The following species have been identified for conservation priority across the Noosa Shire:

1. Giant barred frog (*Mixophyes iteratus*)
2. Glossy black cockatoo (*Calyptorhynchus lathamii*)
3. Greater glider (*Petauroides polans*)
4. Koala (*Phascolarctos cinereus*)
5. Tusked frog (*Adelotus brevis*)
6. Mary River turtle (*Elusor macrurus*) and Mary River cod (*Maccullochella mariensis*)
7. Acid frogs (Wallum froglet, rocket frog and sedge frog)
8. Water mouse (*Xeromys myoides*)
9. Loggerhead turtle (*Caretta caretta*)

To ensure populations of these priority species remain viable, individual threatened species conservation plans will be developed and implemented for the identified priority species under the Threatened Fauna Recovery Road Map. Two action plans will be developed per year between 2023/24FY and 2029/30FY.

### 3.3.3 Results for 2019-2023

The Threatened Fauna Roadmap was endorsed by Council in March 2023 and action plans for sea turtles and koalas will be developed in 2023/24FY. Council actions undertaken to support these species in 2022/23FY are detailed further in Section 3.3.4.2.



Glossy black cockatoo (image source Vanessa Moscato)

# Theme 1 Biodiversity

## 3.3.4 Summary of council actions to deliver the strategy

### 3.3.4.1 Undertake detailed biodiversity assessments across different Broad Vegetation Groups, with a view to understanding and monitoring the health of biodiversity across the Shire.

Field verification of state RE mapping has been undertaken using a grid system with a view to improving the accuracy and resolution of the baseline mapping products (preclear RE, vegetation cover and biodiversity overlay) for Noosa Shire.

Vegetation mapping needed to be updated due to significant discrepancies between mapped and groundtruthed RE being identified over the past 10 years, which had in some cases led to poor environmental protection and planning outcomes and suboptimal fire hazard management. It also needed to be updated to capture the changing status of native vegetation as revegetation areas and natural regeneration areas mature into high value regrowth over a period of 15 to 20 years and eventually into remnant vegetation over a period of 30 to 40 years, with important implications for quantifying fire hazard risks.

Supporting information on species composition (dominant species in each strata) and structure (canopy height in metres and canopy % cover) was collected following the Quaternary point methodology contained in Version 6 - Methodology for surveying and mapping regional ecosystems and vegetation communities in Queensland (Neldner et al. 2022). Incidental findings of EVNT-listed fauna and flora and hollow-bearing habitat trees were also recorded.

This project was based on 40% field work, 60% aerial interpretation and desktop assessment. Remotely sensed datasets were sourced from Noosa Council, Queensland Government, Queensland Herbarium, Nearmaps, Qimagery and Qspatial, with assistance from the Department of Resources (Spatial Information team) who produced a 1958 orthomosaic of Noosa Shire. Detailed geological surveys by D. Trezise and P. Graham in the 1970s and 1980s were digitised, orthorectified and used to update landzone mapping. Geologist Warwick Wilmott assisted with verification of geological formations and officers from the Department of Resources (Land Resource Assessment & Science) in Nambour provided advice and results of soil surveys at selected sites.

As of the 30th of June 2023, 70% of the Noosa Shire has been surveyed and the required changes to local and state digital mapping products have been made (Figure 9). Approximately 3,000 quaternary points were recorded during the period September 2021 to June 2023, and the location of approximately 250 EVNT species sightings and 150 hollow-bearing trees will be added to council and/or state databases.

The revised fine scale vegetation mapping will be sent to the Queensland Herbarium for quality and reliability controls in October 2023. Once ratified, it will be incorporated into version 14 of the Regulated Vegetation Management map, to be released in May 2024.

With improved accuracy, Council will be able to more confidently rely on the state environmental mapping products for planning and development assessment, for emergency and fire management and for strategic environmental management including coastal foreshore management and threatened species conservation.

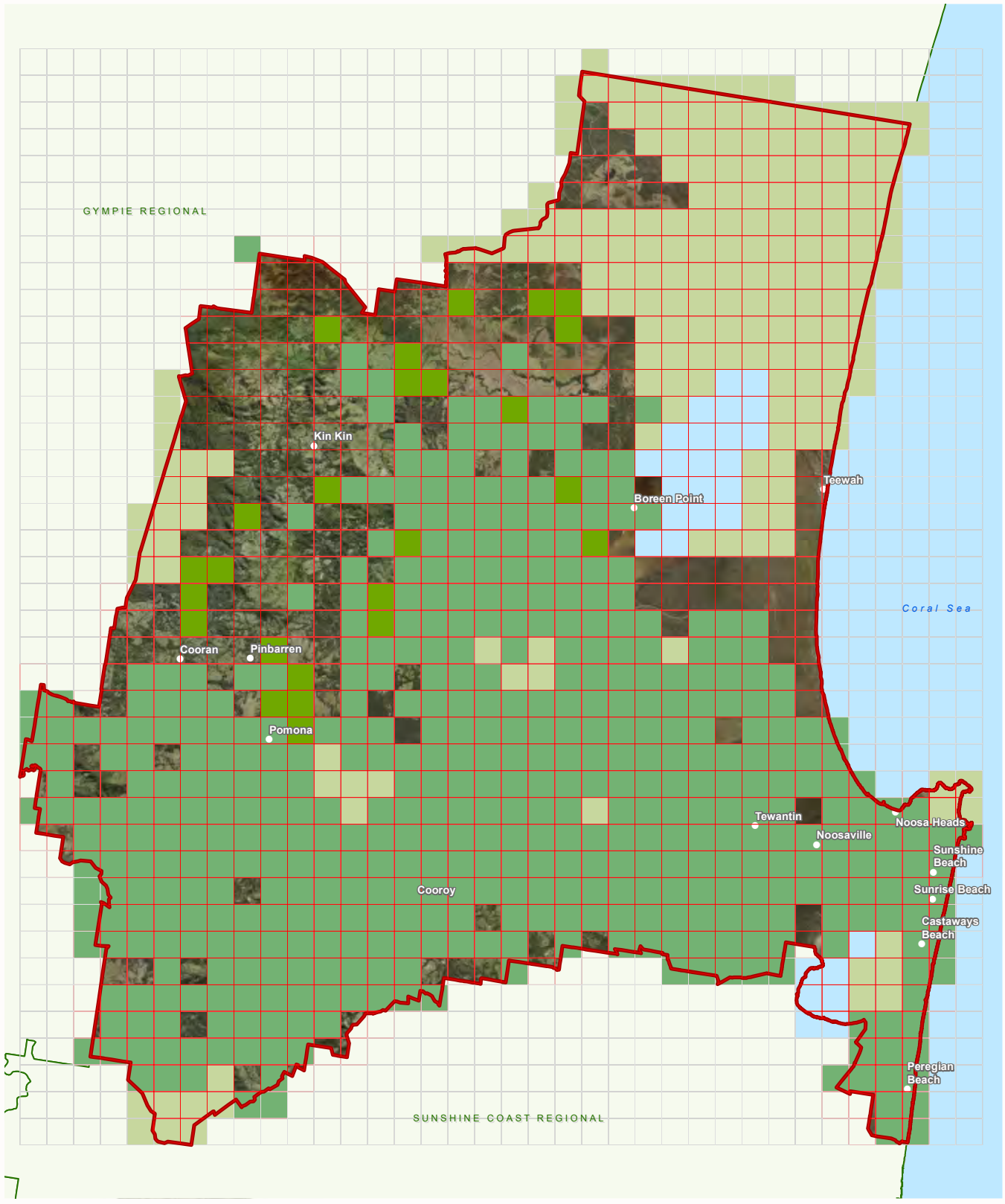


Koala and a joey feeding in a Council reserve (Image source Ruth Huckstepp)

### Status of action to deliver the Environment Strategy



**Progressing:** steps have been taken towards this action, but the action is not being delivered in accordance with the Implementation Plan requirements.



- 1km grid cell
- Survey completed - map edit and field work
- Survey completed - fieldwork only
- National Park and State Forest
- Outside Noosa Shire
- Water

0 2.5 5 Km

Coordinate System: GDA 1994 MGA Zone 56  
 Projection: Transverse Mercator  
 Size: A4

N  
 1,130,000  
 17/08/2023  
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Figure 9: Areas surveyed as part of the fine scale RE mapping project at the end of the 2022/23FY.

### 3.3.4.2 Scope and undertake monitoring programs on populations of 6-8 key representative threatened species, to mitigate against local extinctions.

Council continues to implement monitoring and conservation programs for a wide range of threatened fauna within the Shire. From 2019/20FY to 2022/23FY, Council has implemented threatened species monitoring and conservation programs for the following species:

- Glossy black cockatoos
- Koalas
- Sea turtles
- Flying-foxes
- Shorebirds
- Frogs
- Mary River cod and Mary River turtle

#### Glossy black cockatoos

For the 19th year running, Council continues to support a monitoring program for the glossy black cockatoo, through partnering with the GBC and Birdlife Australia. As part of our partnership agreement, Council is working with both partners to ensure all long-term data sets from the annual Great Glossy Counts continue to be included in Council's relevant mapping layers and WildNet.



Glossy black cockatoo (image source Spencer Hitchen)

#### Koalas

Council has partnered with community conservation groups, universities and supporting government agencies to deliver a wide range of koala monitoring and conservation programs within the Noosa Shire between 2019/20FY and 2022/23FY.

#### Yurol Ringtail koala monitoring and conservation project

Council's largest koala monitoring and conservation initiative over the reporting period was associated with the Yurol and Ringtail restoration project, which involves the transitioning of 2,400ha of land to protected koala habitat. To support the outcomes of the Project, Council has partnered with QUT to undertake koala monitoring program across the restoration areas.

At the commencement of the program in October 2021, six areas of interest of approximately 50 hectares each were subject to a baseline drone koala monitoring program (Figure 10). Annual monitoring over three consecutive years has identified koala movements across all 6 areas, with a total of 26 koalas detected across all areas in 2023, compared to 55 in 2022 and 34 in 2021 (Figure 11).

Council has extended the monitoring program in 2023/24FY to determine if regrowth may have created new available habitat for the koalas, resulting in them moving out of the survey areas.



Image source: Jasmine Connors

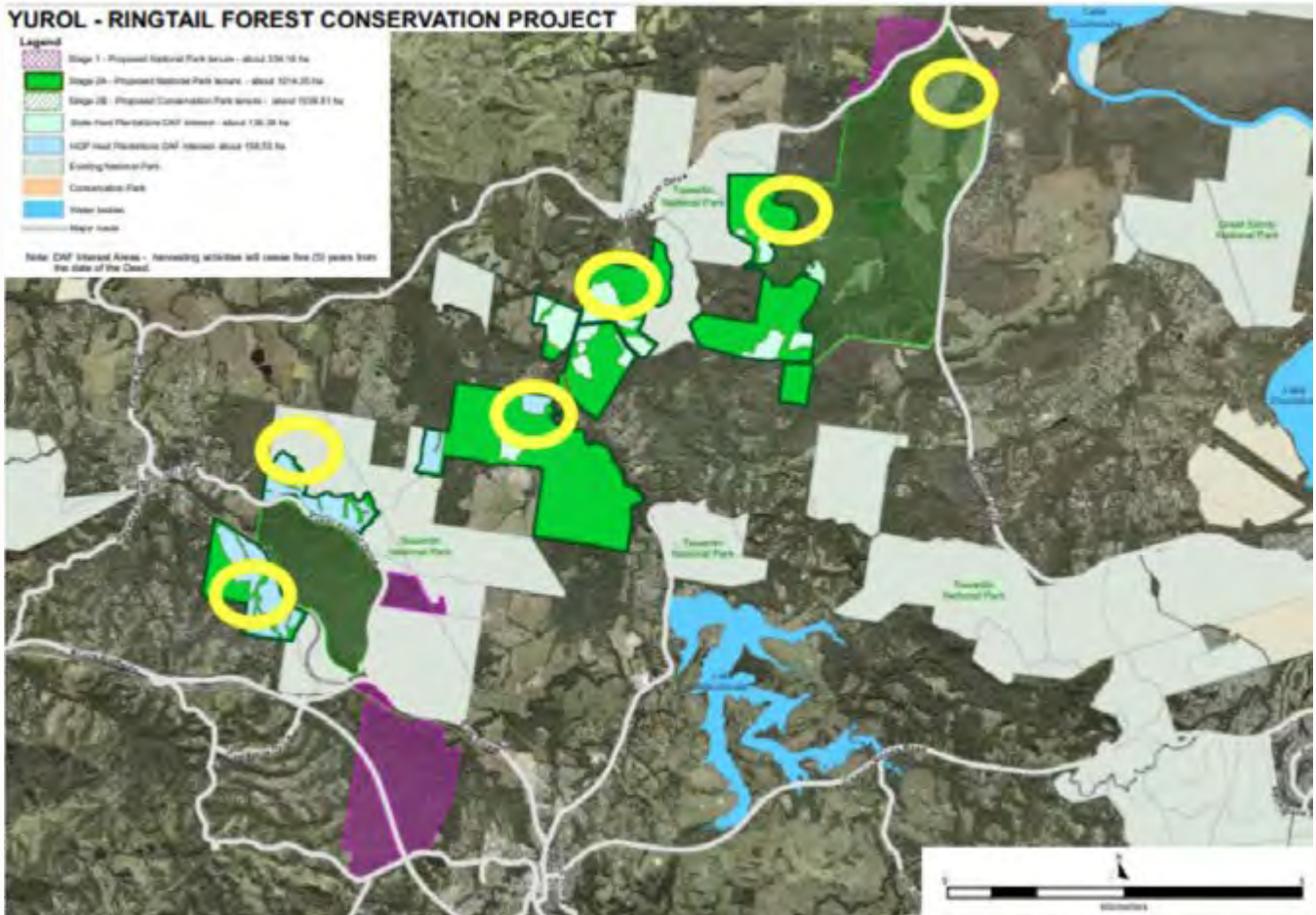


Figure 10: Six survey locations for the QUT koala drone project (circled in yellow) (image source QUT).



Figure 11: Automated koala detections (red dots) at the Coorobah site (8) from a drone survey flown by QUT on 19th August 2022 (image source QUT).

### *Koalas on the Move campaign*

The Koalas on the Move campaign was launched in 2022 in partnership with NBRF, the TMR and Wildcare to reduce vehicle strikes on koalas during the breeding season. An extensive community driver awareness campaign was delivered, and electronic traffic koala warning signs were strategically located at identified koala strike hotspots.

The Koalas on the Move campaign correlated with no recorded koala strikes on Cooroy-Noosa Road and McKinnon Drive, compared to a total of 9 strikes recorded across both roads over a five-year period from 2017 to 2022 (Wildcare 2022 – Koala Road Trauma Data). The campaign will be continued by Council for the 2023/24FY koala breeding season.



*Koalas on the move VMS sign on McKinnon Drive (image source David O’Gorman).*

### *Under 8’s day at Cooroy State School*

Staff from Environmental Services took part in an under 8s day at Cooroy State School in June 2023. The purpose of the day was to give students an understanding of the environmental values and the Threatened Fauna Roadmap in the Noosa Shire. Activities included finding the Noosa Nine and Co threatened fauna, identifying pest species, and crafting native animals from plasticine. The kids each received a native shrub to take home and plant. David O’Gorman, Council’s Fauna Management Officer also stole the show dressed as a koala.



*Under 8’s day with David O’Gorman, Fauna Management Officer, and a student from Cooroy State School (image source Dave Burrows).*



# Theme 1 Biodiversity



## Sea turtles

Across Council's eastern beaches, Coolum and North Shore Coast Care and their volunteers continue to undertake turtle nest surveys and respond to sea turtle stranding events. Since Council staff, in collaboration with Coolum and North Shore Coast Care and QPWS, have been undertaking turtle nest surveys, while also responding to turtle and other marine animal strandings on the Noosa North Shore.

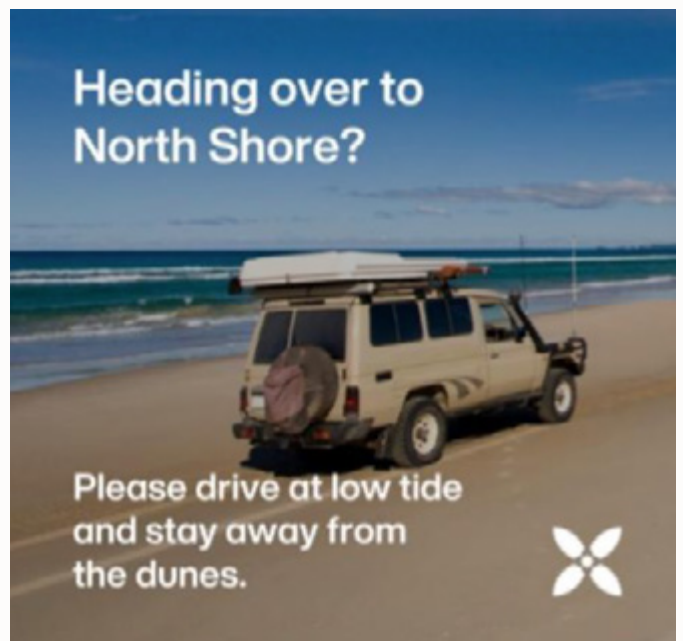
Regionally, sea turtles have been subject to increased threats, particularly during extreme flooding events experienced during 2021 and 2022. This was confirmed with a reduction from 8 recorded nests during the 2020/21FY nesting season, to zero nest recorded on the North Shore over the 2023/23FY breeding season. Mirroring this trend, only 2 nests were recorded on the Noosa's Eastern Beaches during the 2022/23FY breeding season.

In addition to supporting ongoing sea turtle monitoring, Council completed the following actions in 2022/23FY to support sea turtle recovery:

- Participated for the first time in the SCC's Clean-up for the Hatchlings event in February 2023.
- Launch of a community awareness campaign to increase sea turtle awareness and reporting by the community along the Noosa North Shore.
- Training provided to staff increase Council's capacity to monitor and attend to turtle nests.
- Incorporation of turtle friendly lighting considerations within the Noosa Design Principles.
- Commencement of a Sea Turtle Conservation Plan to facilitate the on-going monitoring and conservation of both the loggerhead and green sea turtle.



Council stall at the Clean-up for the hatchlings event 2023 (image source Camille Oliver).



Social media alerts to raise awareness in the community of the turtle nesting season for drivers at the Noosa North Shore

## Flying-fox monitoring and management

Since the delegation of flying-fox management responsibilities from the State Government to local governments in 2021, Council has proactively monitored and managed flying-fox roosts across the Shire through the development of:

- Council's Flying-fox Statement of Management Intent.
- Flying-fox Roost Management Plans for 4 high conflict roosts.
- Partnering with other SEQ Council's to deliver a Regional Flying-fox Analysis Project.

Routine flying-fox monitoring continues to be undertaken by Environmental Services staff across 10 permanent and temporary roosts, with active participation by Council in State and Commonwealth flying-fox monitoring programs over the reporting period.

In February 2023, Council also managed an influx of 70,000 little red flying foxes into Waratah Reserve, Tewantin. During this influx Council undertook the following actions to manage the impacts of the influx on residents:

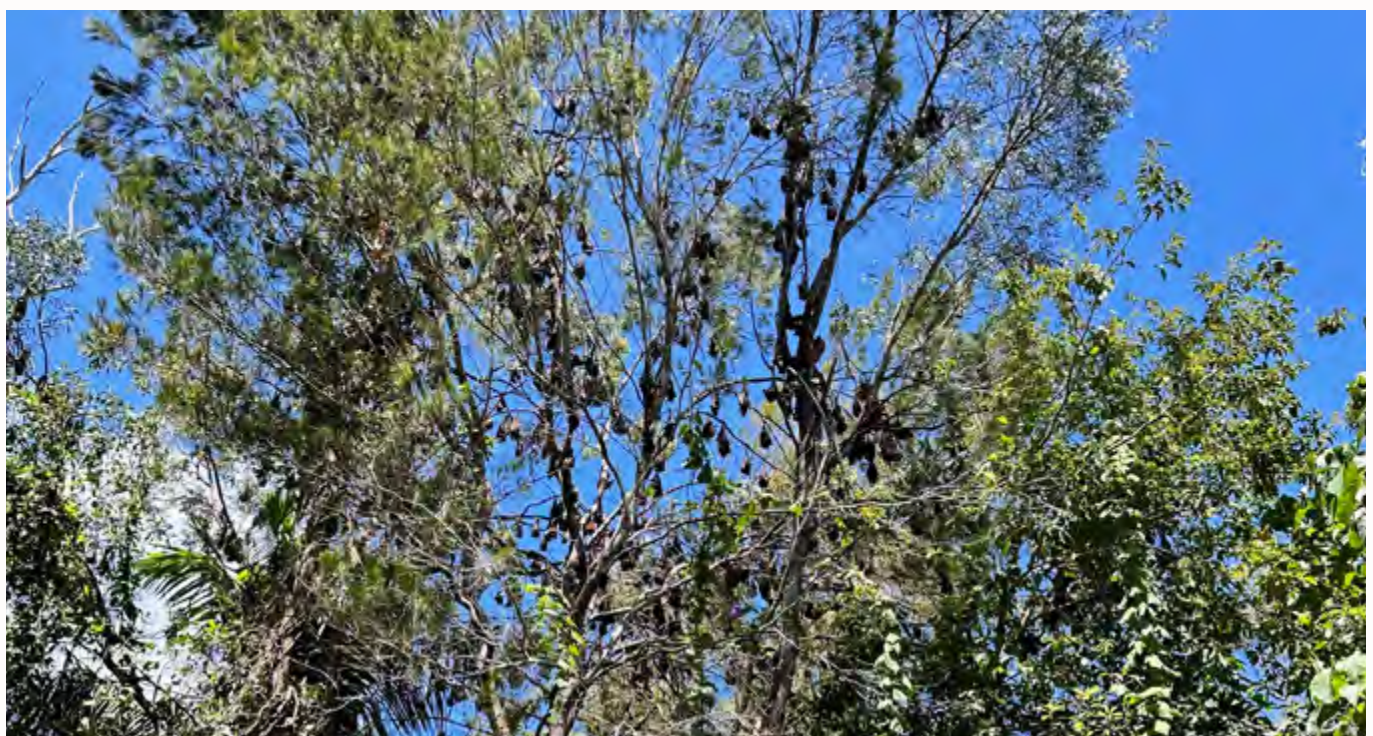
- Extensive consultation with residents, including the distribution of education material, Queensland Health advice and fortnightly management updates, as well as responding to emails and phone requests.

- Increasing Council's Flying-fox Subsidy allowance for all residents located directly adjacent to the Waratah Reserve flying-fox roost from \$150 to \$300.
- Priority night and daytime tree trimming works were undertaken to create buffers between roosting little-red flying-foxes and property boundaries.
- Council funds were secured to fast-track the development of a Flying-fox Roost Management Plan for Waratah Reserve (to manage potential future influxes of flying-foxes).

Following the influx Council also completed the following actions:

- Follow-up arborist safety assessments of the Waratah Reserve, along with consequent arborist works to remove compromised tress or branches which may pose a risk to private property.
- A general clean-up of vegetation around the edges of the flying-fox roost and pedestrian footpaths footprint has been undertaken.
- Increased weed treatments (targeting Singapore Daisy) have occurred within the Waratah Reserve.
- Cleaning and repairs to footpaths, footbridges and railings within Waratah Reserve have been completed.

The Flying Fox Roost Management Plan for Waratah Reserve was finalised in October 2023 and Council is continuing to monitor the reserve and will look to implement the recommendations from this plan in 2023/24FY.



### Shorebirds, migratory and resident

Council continues to support NICA's long term shorebird monitoring program across the lower Noosa River. Over 300 surveys of the Noosa River estuary have been conducted to understand both the diversity and abundance of shorebirds visiting the estuary.

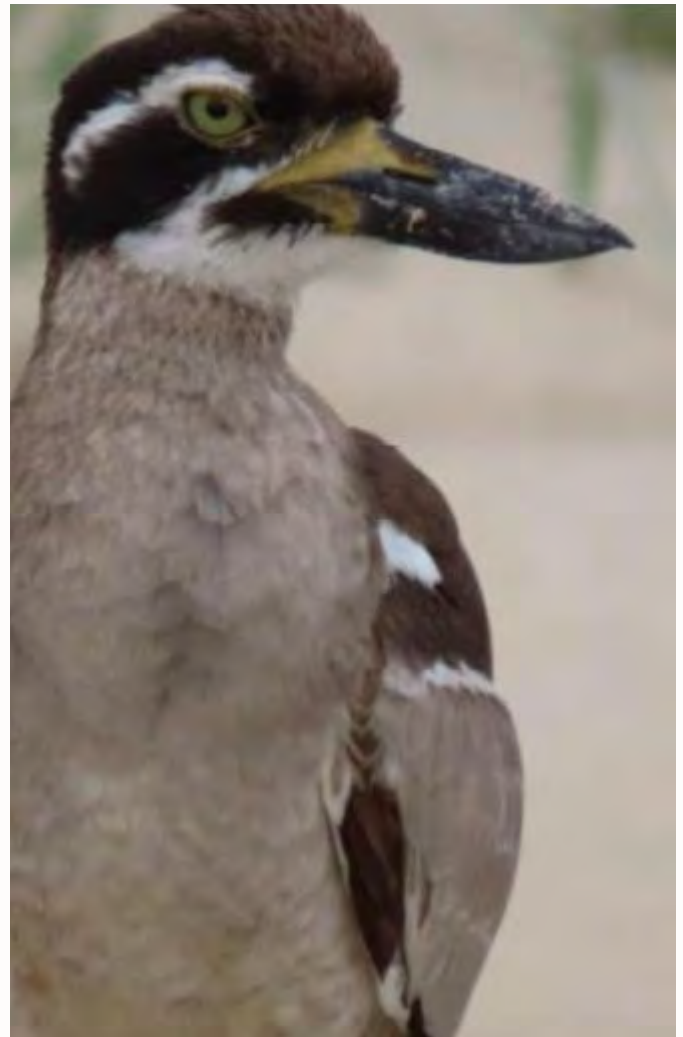
The long-term monitoring has revealed that almost half (18) of the 37 species of migratory shorebirds that traverse the East-Asian Australasian Flyway from the Northern Hemisphere have frequented the estuary, though the abundance of these species has declined 45% over the monitoring period. In contrast, numbers of the 9 resident shorebird species have increased around 10%. Another 32 species of terns, gulls, water birds, wading birds, sea birds and raptors were also observed by and recorded in the survey data which was compiled in 2020 by NICA (refer to NICA 2022).

Since this time, NICA has recorded the successful breeding of a pair of Beach-Stone Curlews within the lower Noosa River area. Management of our shorebirds at the local, regional, and international levels needs to continue to ensure the viability of shorebirds within the Noosa River and adjacent coastal habitats.

### Frogs

Over the past six years, Council has supported the MRCCC and NICA to deliver the Find a Frog in February program. Volunteers have now submitted over 18,000 records, contributing to our knowledge of 33 species from 1370 locations across the region.

The Find a Frog in February citizen science program invites the community to contribute to our collective knowledge of frogs and their local requirements. Collecting information on the location of frogs, the habitats they use and their abundance over time helps us to determine 'normal' trends and to monitor for and understand changes. The information also helps us to manage wetlands and waterways, but also all components of our environment.



*Beach stone curlew at the Noosa North Shore (image source Emma Smith).*



*Wallum sedge frog (image source Eva Ford).*

## Theme 1 Biodiversity



### 3.3.4.3 Implement propagation programs that grow threatened plant species and result in new populations at appropriate, low-risk locations.

Council has provided financial support to NDLG who undertake propagation of threatened plant species. Council has provided letters of support for the Community Sustainability Action Grant – Threatened Species Recovery CSAT22019 via the Noosa Bush Beach and Creek Care group (NBBCC) (approved by NICA) to propagate *Eucalyptus conglomerata* and establish populations across Tewantin National Park and Girraween Nature Refuge. Council will continue to maintain planted species. NBBCC have planted approximately 250 *Eucalyptus conglomerata* seedlings at various sites at Sunrise Beach to Tewantin National Park. 25 volunteers have been involved with seed collection, propagation, and planting.

Council staff have also collected seeds from a single *Triunia robusta* plant on a road reserve at Black Mountain. NDLG are propagating these for replanting into appropriate bushland reserves.

The Macadamia Conservation Trust donated 63 *Macadamia ternifolia* to Council, for which 20 VCA and LfW properties have been identified as suitable habitat. Incentives have been issued for a total of 63 *Macadamia ternifolia* tubestock, of which 26 have been collected and established. Drought conditions have prevented some landowners from collecting and planting tubestock, and landowners will be contacted by the Conservation Partnerships Officer to learn about any barriers they may be currently experiencing.



*Macadamia ternifolia* tubestock (image source Dave Burrows) (LEFT);  
*Macadamia ternifolia* in flower (image source Vanessa Moscato)



#### Status of action to deliver the Environment Strategy



**Progressing:** steps have been taken towards this action, but the action is not being delivered in accordance with the Implementation Plan requirements.

### 3.3.4 Undertake targeted wild dog control in key Koala Habitat Areas as identified in Koala Threat Mapping.

Over the past four years, Council has trapped a total of 29 wild dogs across the Noosa Shire. Wild dog control including trapping and baiting has been undertaken in Koala Habitat Areas mostly on private land in the localities of Como, Kin Kin, Cootharaba, Cooran, Federal, and Ridgewood with 3 wild dogs trapped in these areas in 2022/2023FY. A significant portion of the Koala Habitat Area identified is National Park and an agreement is being developed to allow collaborative wild dog control in these areas.

Council is also making use of new cameras to monitor where wild dogs are present in the Noosa Shire. Artificial intelligence is also be used to review images captured more quickly and, in the future, will allow real time notification of wild dogs being present in areas and more target control to occur.

#### Status of action to deliver the Environment Strategy



**On target:** action is progressing in accordance with the Implementation Plan requirements.

### 3.2.5 Recommendations

Review of the Environment Strategy and Implementation Plan to ensure targets, methods for measurement of progress is required and Council actions are reflective of current activities and can be influenced by Council, within current resourcing/funding constraints.

It is also recommended that a review of threatened flora and fauna monitoring data available for the Noosa Shire is completed to identify where data gaps exist, and further monitoring is required to effectively allow progress towards the target of improving the condition and extent of our natural ecosystems to be assessed.

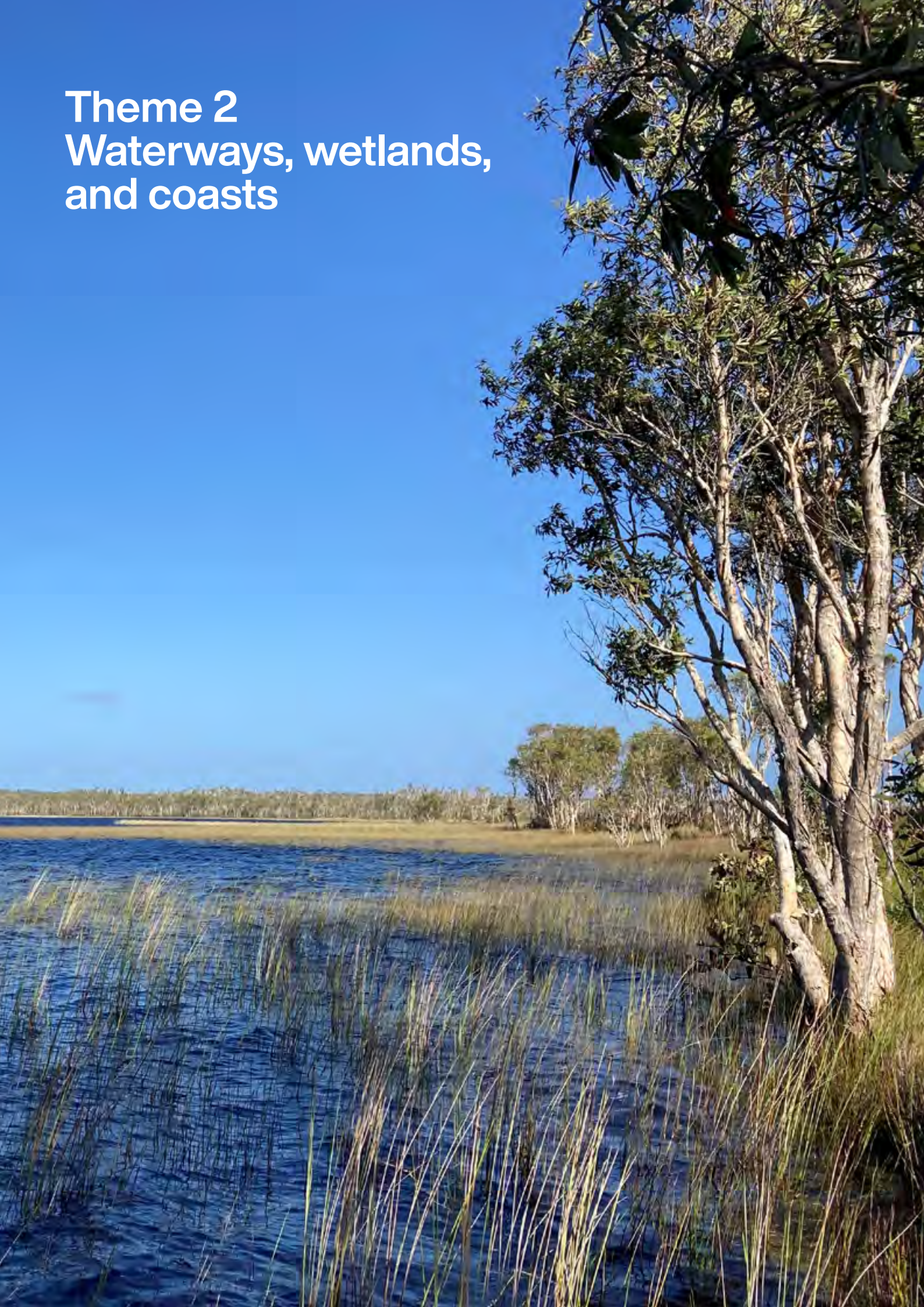
It is recommended that the wording of the following action in the Implementation Plan is changed from 'implement propagation programs that grow threatened plan species' to 'support programs that grow threatened plant species, as Council does not have a nursery to grow threatened plant species.



Wild dogs captured on Council monitoring cameras (image source Ken English).

# Theme 2

## Waterways, wetlands, and coasts



# 4. Theme 2 Waterways, wetlands, and coasts

<b>Environment Strategy Goal</b>
<b>By 2030 waterways, wetlands and coasts are healthy, resilient to change and valued by the community</b>

## 4.1 Strategy 2.1 Maintain and improve the health of waterways, wetlands, and catchments.

### 4.1.1 Target

By 2030, the Noosa River and Mary River sub-catchments within Noosa Shire achieve an A (excellent) rating (or equivalent) for their environmental health.

### 4.1.2 Methodology

Measurement of progress towards targets.

1. HLW report cards for Noosa River: Since 2001, Council has been part of one of Australia’s most comprehensive freshwater, estuarine and marine monitoring programs, delivered by the DES. SEQ NRM, HLW, uses the Ecosystem Health Monitoring Program (EHMP) and the State’s Water Quality Objectives data to provide an annual health assessment of the region’s major catchments, estuaries, and Moreton Bay. It delivers a report card rating from A (excellent) to F (poor) for each river catchment, based on the monitoring results. The monitoring under the report card also picks up long-term trends in pollutant loads in Noosa’s waterways which have increased due to an increase in sediment (mud) and nutrients generated from the land.

2. Council sub-catchment report cards for Noosa and Mary Rivers: As part of grant funding from Council, the MRCCC developed a Situation Analysis of Water Quality Monitoring in the Noosa Shire in 2021 which provided an overview of historic and current water quality monitoring activities (including data analysis) from various programs undertaken throughout the Noosa Shire by NRM groups and Council.

The report included report cards for each sub-catchment in the Noosa estuary based on historical and current data, as well as the State’s Water Quality Objectives. In June 2023, MRCCC provided an updated Situational Analysis Monitoring report which incorporated more recent monitoring data from NRM groups from the previous two years and provided updated sub-catchment report cards.

Sub-catchment report cards for the Noosa and Mary Rivers have not yet been prepared and this will be progressed further in 2023/24FY.

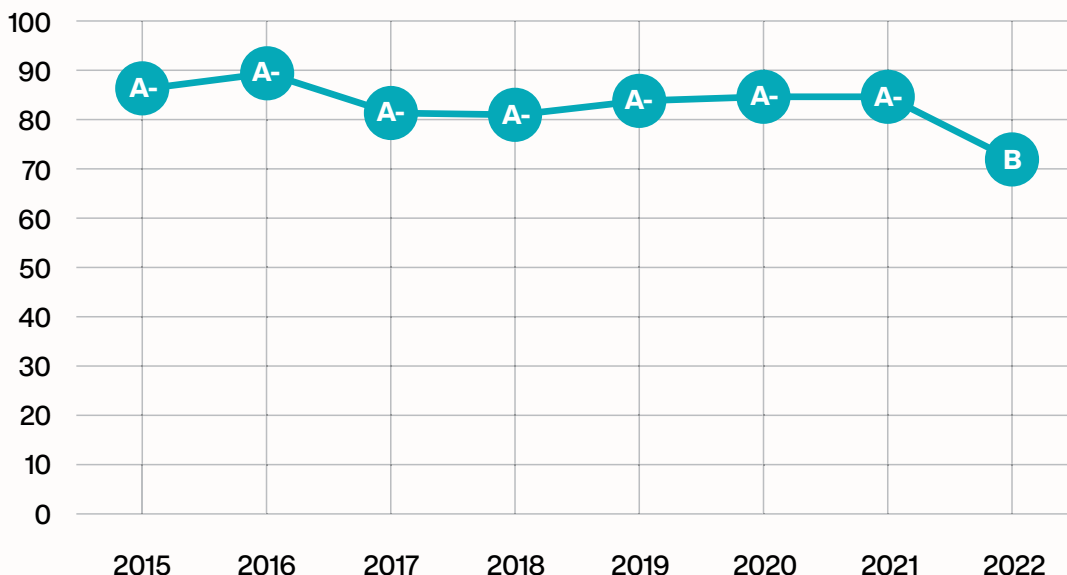


## 4.1.3 Results for 2019-2023

### 4.1.3.1 Healthy Land and Water report cards for Noosa River

For the past 18 years, Noosa’s HLW report card consistently achieved an A- (excellent condition) rating, and the best in the region, until for the first time in 2022 when a B (good condition) was reported (Figure 12). The decrease in rating in 2022 was a result of sampling being undertaken following significant flooding events, which deposited a large amount of sediment into the Noosa River. The 2022 monitoring data also shows increased nutrient levels and decreased water clarity throughout the river reaches downstream of Lake Cootharaba, including Lake Coorobah and the lower Noosa estuary. Despite the change to a rating of a B in 2022, Noosa still remains among the top report card scores in SEQ. The EHMP monitoring results for 2023 will be publicly available in December 2023.

#### Environmental



#### Socio-economic

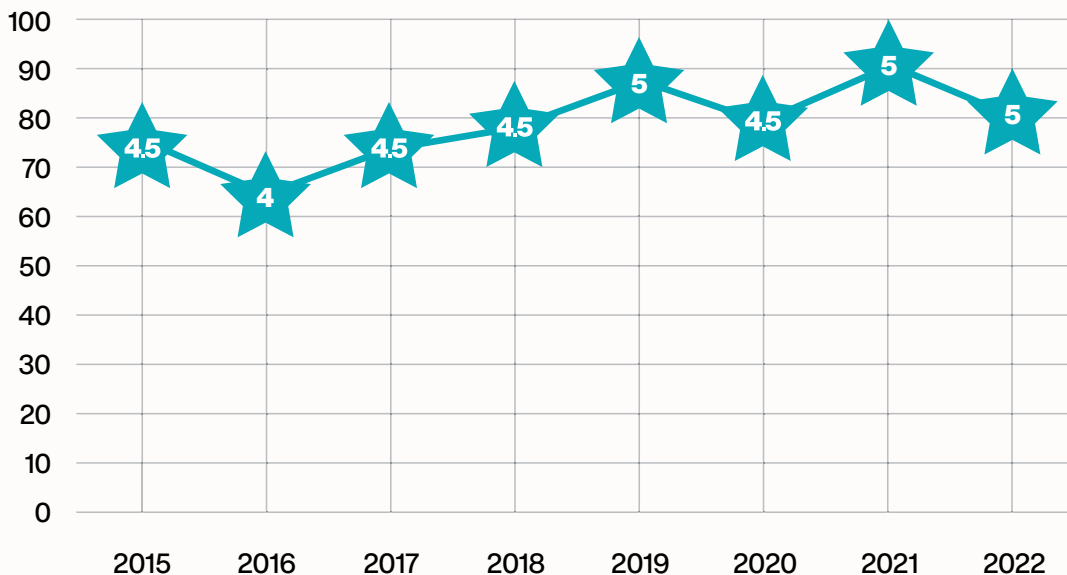


Figure 12: HLW Environmental and Socio-economic Report Cards



### 4.1.3.2 Council sub-catchment report cards for Noosa and Mary Rivers

The MRCCC Situation Analysis of Water Quality Monitoring reports found that several locations in the Noosa estuary received an 'F' rating, including Eenie Creek, Murdering Creek and Kinaba monitoring locations, refer to example in Figure 13. Initially, the low report card scores were believed to be due to poor water quality, however, Council and NRM groups have determined that the updated DES water quality objectives (WQOs) are not fit for purpose or appropriate for most monitoring locations. Council is undertaking further investigations to progress the development of local WQOs and will engage with external experts such as the UniSC, MRCCC, NICA and HLW to assist with this.

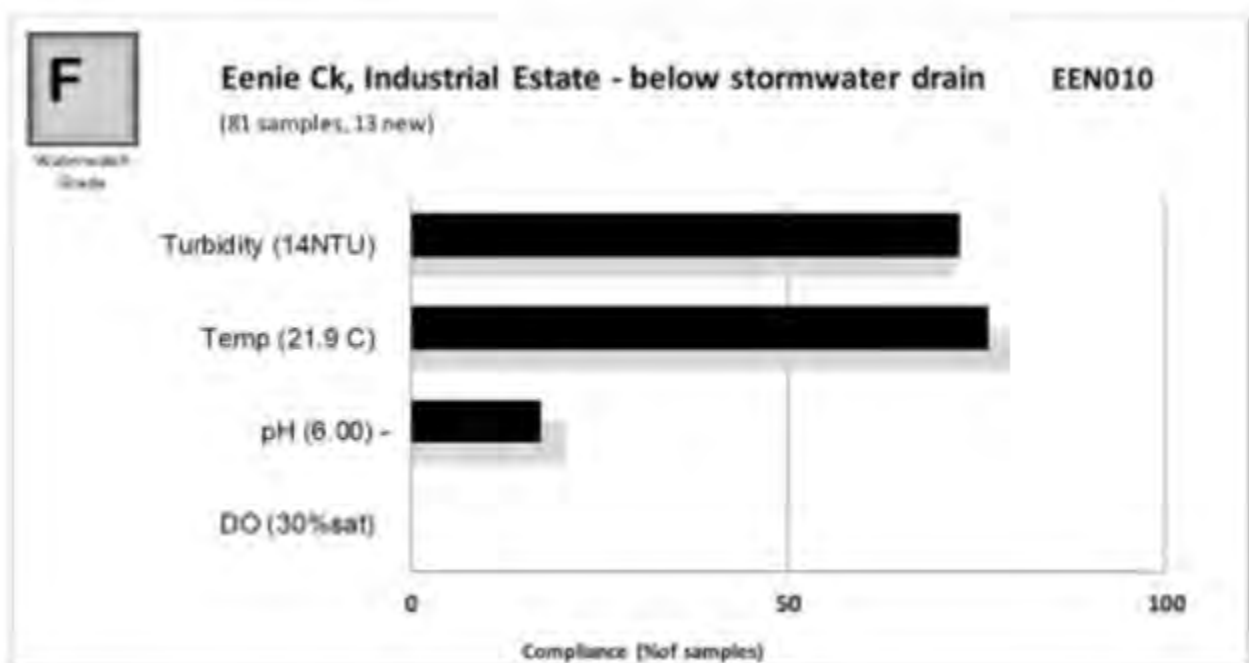


Figure 13: Sub-catchment Report card for Eenie Ck water quality monitoring location, EEN010 (image source MRCCC).

### 4.1.4 Summary of Council actions to deliver the strategy

#### 4.1.4.1 Develop an integrated water monitoring network for Council, community, and other agencies, including event monitoring of sediments, nutrients and litter for Noosa and Mary Catchments, and a Mary River sub-catchment baseline and report card.

##### *Integrated water quality monitoring program*

Historically, all water quality monitoring in the Noosa estuary has been undertaken through Waterwatch programs delivered by NDLG, MRCCC and NICA, with various database management systems used and limited communication between the groups. Over the past year, several workshops were held with these stakeholders involved in the integrated water quality monitoring program to discuss the purpose and objectives of the program.

The integrated water quality monitoring program currently includes the following components:

- Development of sub-catchment reporting to supplement the annual Noosa River HLW report card.
- Trialling a telemetry water quality logger program.
- A public dashboard which will provide the community access to water quality data.
- Event-based and point source monitoring including high rainfall events and stormwater monitoring to determine pollutants entering waterways.
- Workshops between community groups, universities, and HLW to determine agreed priorities for the catchments and objectives for the program.
- Training to ensure monitoring methods are replicated between all stakeholders.

Water quality monitoring is undertaken monthly by Council, HLW, MRCCC, NICA, and NDLG at various locations in the Noosa River (Figure 52). This includes the following:

- Council – 4 monitoring locations in Burgess Creek (Figure 14) consisting of in-situ monitoring for pH, EC, DO, turbidity; 2 locations at Cooyar St biobasin consisting of in-situ monitoring for pH, EC, DO and turbidity and lab analysis for total phosphorus, total nitrogen, and total suspended solids. One telemetry

water quality station has been deployed in Eenie Creek, located behind the Rene St industrial estate. Two more stations will be deployed in Wahpunga School Park at Kin Kin and Yellow Belly Hole at Cooran. All stations will monitor pH, EC, DO and turbidity with data reported in real time.

- HLW – 11 estuarine locations in the Noosa Catchment for 8 months of the year, and 4 freshwater sites which rotate over a 3-year schedule.
- MRCCC – 12 locations in Skyring and Coles Creeks consisting of in situ monitoring for pH, EC, DO and turbidity. MRCCC also undertakes bi-annual Catchment Crawls in the Noosa River (Figure 53) consisting of in situ monitoring for pH, EC, DO and turbidity and laboratory analysis for E.coli, enterococci, nutrients, and total suspended solids.
- NICA – 30 monitoring locations in the Noosa estuary consisting of in-situ monitoring for pH, EC, DO and turbidity.
- NDLG – 9 locations in Kin Kin as part of the KIKK project consisting of in situ monitoring for pH, EC, DO and turbidity.



Council staff completing water quality monitoring at Burgess Creek (image source Sophie Blond).

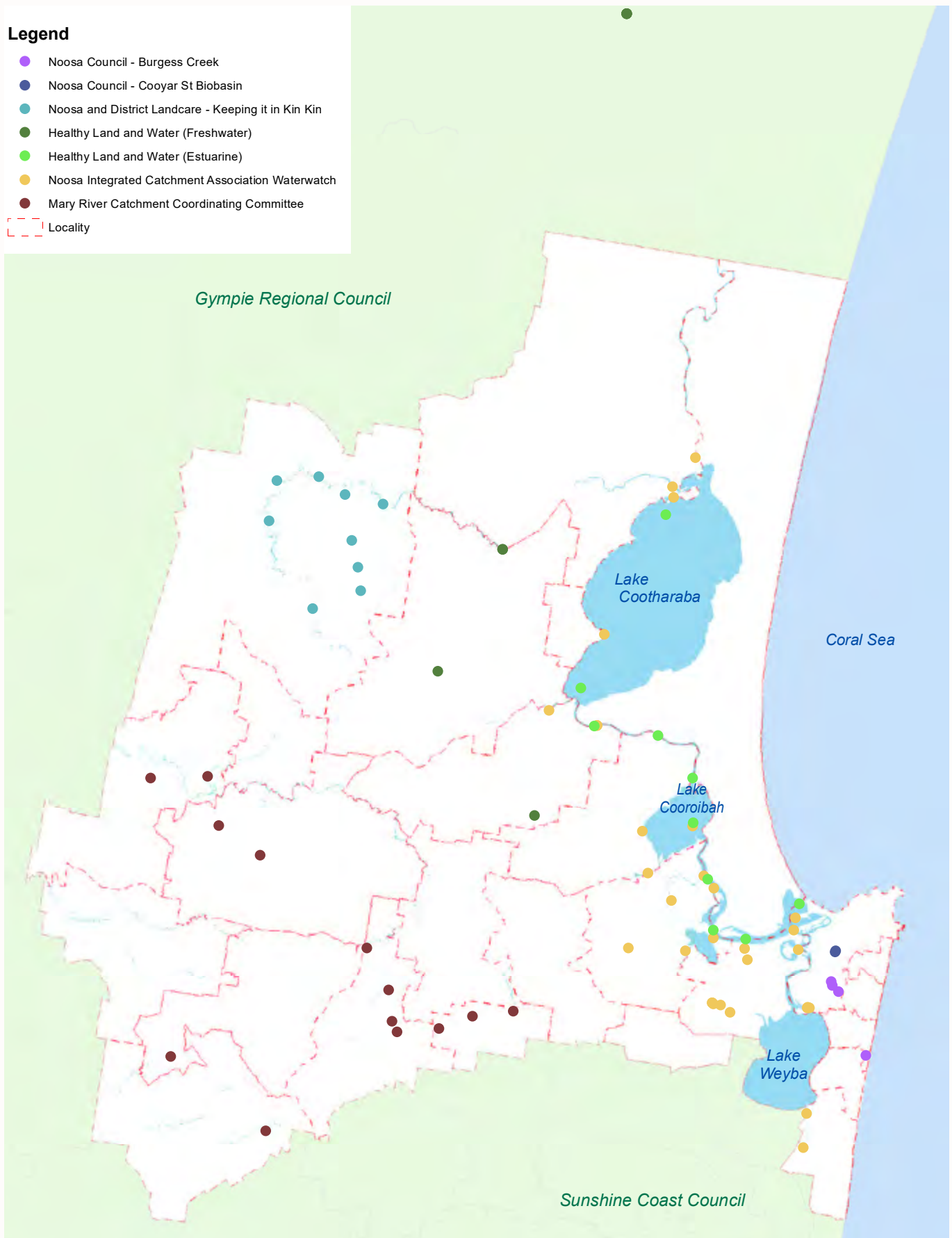


Figure 14: Water quality monitoring locations within the Noosa Shire



Installation of telemetry water quality station at Eenie Creek (image source Sophie Blond).

### Database management

Council uses the SWIMlocal management database from Qldwater to store all water quality monitoring data sourced for the Noosa Shire. Qldwater have provided several training workshops in the use of the SWIMlocal database management program and provide technical support for the program where necessary. Qldwater is investigating building the functionality of SWIMlocal to allow the generation of report cards for sub-catchments in the Noosa River.

The development of ongoing sub-catchment report cards will allow Council to compare trends from year to year and determine priority areas in the catchment for action. Council is currently looking into opportunities to work with the UniSC to set up an annual reporting template including sub-catchment report cards.

Council is also in talks with the SCC to develop a scope for an Upper Mary River Report Card, which involves designing and providing cost estimates for a catchment and waterway health assessment program for the Sunshine Coast and Noosa areas of the Mary River catchment. This will be completed in the 2023/24FY.

### Status of action to deliver the Environment Strategy



**Progressing:** steps have been taken towards this action, but the action is not being delivered in accordance with the Implementation Plan requirements.



Oyster reef ecosystem restoration project - Noosa Sound location (image source Sophie Blond).

### 4.1.4.2 Improve the water quality and biodiversity of the Noosa River by restoring aquatic habitats, such as oyster reefs, and improving riparian vegetation.

The Noosa Oyster Reef Ecosystem Restoration project is a partnership with Council and TNC, which aims to re-instate oyster habitat in the Noosa River. The project included the construction of four reefs in the Noosa estuary (Tewantin, Goat Island, Noosa Sound East and Noosa Sound West), with a total of 30 reef patches. The reefs were then seeded several times with oyster spat attached to oyster shells.

A monitoring program is in place to assess the effectiveness of restoration on estuarine diversity (primarily oysters and other invertebrates but also fish assemblages), on the distribution of marine plants and erosion potential of the shoreline.

- The reefs are performing well but are still in the early stages of formation.

- Wild oyster recruitment to all the reefs has been high; similarly marine plant and reef associated vertebrate and invertebrate recruitment to the reefs has been encouraging.
- In March 2023 (6 months after reef construction was finished), a total of 31 bony and cartilaginous fish species were recorded across all sites.
- There was an increase in sub species richness between the 2022 and 2023 surveys.

Additional monitoring of the oyster density is planned for the restoration areas, positive (structured) and negative (unstructured) control areas following the summer spatfall in Autumn 2024. Further fish surveys and erosion monitoring will also be undertaken in 2024.

Council has received funding to undertake a living foreshores pilot program, which will consider appropriate nature-based solutions.

## Theme 2 – Waterways, wetlands, and coasts



The draft Noosa River Catchment Management Plan includes the following actions relating to oyster reefs:

- 1.6 Continue to monitor and manage Huon Mundy oyster reefs including oyster gardening, reef seeding and community engagement actions.

### Status of action to deliver the Environment Strategy



**On target:** action is progressing in accordance with the Implementation Plan requirements.



Example of the density and variety of different sized oysters occurring on the lower surface of rock deployed at Goat Island - March 2023 (image source Sophie Blond).

### 4.1.4.3 Investigate and implement best practice solutions to reverse the decline of benthic biodiversity and primary production in the lower Noosa Estuary.

Following on from a report released in August 2020 which highlighted fine silt sediments as the primary cause of benthic biodiversity and primary production decline in the Noosa River, Council is investigating actions to be taken to address benthic decline. The 2022 HLW report card indicates benthic biodiversity decline is of ongoing concern, with macroinvertebrates declining across the region. This includes monitoring from the Keeping it in Kin Kin project and the Huon Mundy oyster reefs restoration project (as described above in Section 4.1.4.2).

In 2020, Council and TNC commissioned a consultant to conduct a field assessment and associated reporting of seagrass distribution in the Noosa estuary. The investigation found that in the past 20 years, 80% of seagrass in the estuary has declined, as a result of multiple factors including urbanisation of the foreshore, increased vessel traffic (boat wash) and increased

damage from anchoring and mooring of vessels in the river, but primarily due to large scale flooding events which has caused smothering of beds and seed banks (Figure 15).

Given that further major flooding events occurred in the Noosa Shire in 2021 and 2022, an updated desktop assessment using aerial imagery was commissioned by Council (Figure 16) with the same consultant in September 2023 to determine the impact of these events on seagrass distribution.

The assessment found that seagrass distribution had increased in 2021, followed by a decrease in 2022. The report suggested an adaptive approach that examines and implements measures that maximises the resilience of seagrass beds was needed. These measures need to consider future natural disasters and human pressures that are predicated to increase in the future, and consideration should be given to initiatives that will promote the potential for natural seagrass recovery, or assisted restoration of seagrass meadows.



Figure 15: Location of reaches assessed along the Noosa River and the distribution of seagrass in November 2020 (Ecological Service Professionals, 2021)

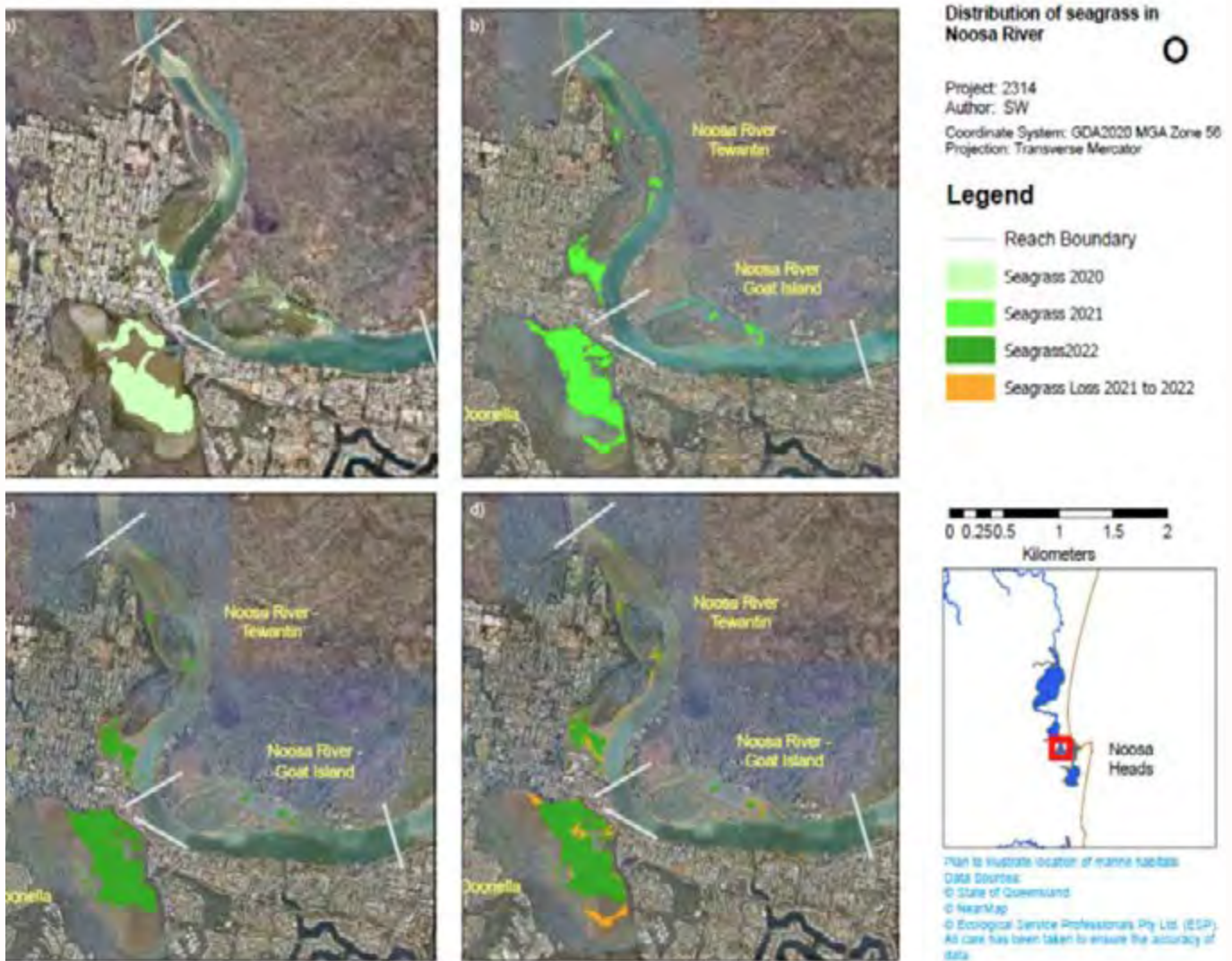


Figure 16: Distribution of seagrass in the lower Noosa River in (a) 2020, (b) 2021, (c) 2022 and (d) area lost between 2021 and 2022 (Ecological Service Professionals, 2023)

Council will continue to work with TNC and other stakeholders including UniSC, CQU and Ecological Service Professionals to determine future actions for seagrass, including an education campaign and potential restoration trials.

The draft Noosa River Catchment Management Plan includes the following actions relating to aquatic restoration:

- 1.7 Consider the feasibility of other aquatic restoration projects for aquatic invertebrates and marine plants

Council is also looking into the effects of sediment on the Noosa Estuary, including working with external stakeholders including UniSC, TNC, UQ, NICA, MRCCC and NDLG.

The draft Noosa River Catchment Management Plan provides the following actions regarding sediment:

- 2.19 Undertake remediation works in targeted priority locations to address sediment and nutrient mobilisation
- 2.21 Investigate the dynamics and impact of riverine sediments in the Noosa River estuary

**Status of action to deliver the Environment Strategy**



**Progressing:** steps have been taken towards this action, but the action is not being delivered in accordance with the Implementation Plan requirements.



### 4.1.4.4 Enhance Integrated Catchment Management of the Noosa River and Mary River sub-catchments, with a focus on improving land use, wetland and riparian management practices through landholder engagement through on-ground rehabilitation programs

Council is investigating the feasibility of different governance options that will support integrated catchment management with various State agencies. Council's Environmental Grants program also supports three projects that contribute to this action: Keeping it in Kin Kin, the Hinterland Rural Extension Program, and the Noosa chapter of Roving Restorers (refer to Section 2.1.1. above).

#### Status of action to deliver the Environment Strategy



**On target:** action is progressing in accordance with the Implementation Plan requirements.



Image source NDLG

### 4.1.4.5 Implement a septic system inspection program in high priority areas (such as Noosa North Shore) to better understand the impact of these systems on the quality of surface water and groundwater systems.

Council has oversight of residential on-site wastewater treatment facilities and conducts a program of formal audits of wastewater facilities across 3,109 septic installations, 2,830 secondary or advanced secondary systems and a further 206 properties relying on holding tanks on regulated pump out by a liquid waste transport contractor.

Council's Building and Plumbing team commenced an audit program of on-site sanitary wastewater infrastructure in early 2023, consisting of approximately 90 properties in the Cooroibah area, which is due to be completed in December 2023. The next stage of the audit program will include the Noosa River Northshore, which is scheduled for January 2024 to June 2024. At this time, the last planned stage of the audit program will be at Kin Kin at smaller lot size properties around the town centre. This stage of the audit program is scheduled for July 2024 to December 2024.

The draft Noosa River Catchment Management Plan, includes the following actions relating to the inspection and management of septic systems in the Noosa Shire:

- 2.8 Implement an on-site wastewater system inspection program that includes:
  - Inspections of high priority areas (such as Noosa Northshore) to better understand water quality impacts
  - Priority septic systems management actions identified

#### Status of action to deliver the Environment Strategy



**On target:** action is progressing in accordance with the Implementation Plan requirements.

### 4.1.5 Recommendations

The review and update of the Environment Strategy and Implementation Plan should consider the actions nominated in the draft Noosa River Catchment Management Plan to ensure that these documents align and can effectively assess Council's progress towards delivering targets.

### 4.2 Strategy 2.2 Protect and enhance coastal environments and vegetated buffers to coastal foreshores.

#### 4.2.1 Target

By 2030, maintain the extent of vegetated buffers and improve diversity of coastal ecosystems.

#### 4.2.2 Methodology

Two methodologies were utilized to assess Council's progress made against the target between 2019/20FY and 2022/23FY and these are detailed below

##### 4.2.2.1 Foreshore vegetation cover and coastal RE changes

The 2019 vegetation cover and RE data (v12 REs) was compared with the 2023 vegetation cover and RE data (unpublished data, Noosa Fine scale RE Mapping) (refer to Figure 17 and Figure 18). The vegetation cover and preclear layers were clipped to the Foreshore Areas - Eastern beaches and Northshore layers used in the 2021 Noosa Council Environment Monitoring Strategy report. Some of this area lies outside the Noosa LGA boundary but has been included for consistency with the 2021 report.

The clipped cover and preclear layers were intersected to calculate area (in hectares) of each of the regional ecosystems. Mapped vegetation polygons were attributed 'r' for remnant, 'rg' for regrowth and 'HVR' for high value regrowth. For the heterogeneous polygons that have been attributed a changing percentage over time (also known as an 'RE flip') the area reported is the area of the heterogeneous association of regional ecosystems.

The extent of *Spinifex sericeus* in the 2023 fine scale mapping was based on a comparison of *Spinifex* cover visible on historical imagery (1996 to 2023). In the preclear layer, *Spinifex* cover was attributed 'r' (remnant) where it had always occurred and/or where it had recolonised the incipient dune after erosion events. In the cover layer, areas with recolonising *Spinifex* cover were mapped as 100% ocean/ 0% 12.2.14 in 1997 and 0% ocean / 100% 12.2.14 in 2023.

##### 4.2.2.2 Near shore reef condition and biodiversity

Reef Check Australia (RCA) has supported citizen science reef monitoring projects around Australia since 2001. RCA's survey methods collect quantitative data for substrate cover, key invertebrate species, target fish species, as well as anthropogenic and natural impacts in reef habitats. The RCA SEQ Summary Report 2018-2019 included monitoring of Granite Bay, Jew Shoal, Little Halls Reef and the Noosa Caves. This report forms the baseline for monitoring reef condition in the Noosa Shire. The next Reef Check survey is due to be completed for Noosa's near shore reefs at the end of 2023, therefore changes between 2018/19FY and 2022/23FY were unable to be assessed in this report.

#### 4.2.3 Results for 2019-2023

##### 4.2.3.1 Foreshore vegetation cover and coastal RE changes

Within the designated Coastal Foreshore management areas (187ha), mapped vegetation cover increased by approximately 38% from 126.4 ha to 173.8ha as a result of the 2023 fine scale vegetation mapping.

The extent of remnant vegetation increased by 29% from 92.6 hectares mapped in 2019 to 119.7 hectares mapped in 2023, mostly associated with the inclusion of previously unmapped foreshore vegetation north from Castaways Beach to Sunrise Beach and areas of recolonising *Spinifex sericeus* on foredunes.

The extent of regrowth vegetation increased by 60% from 33.8 hectares mapped in 2019 to 54.1 hectares mapped in 2023.

Approximately 28 coastal wetlands (RE 12.2.7 and 12.2.15) that had been too small to map prior to the fine scale mapping, covering a total area of 6.1ha, were delineated.

The change in vegetation cover over time as closed sedgelands and vegetated swamps have become dominated by *Melaleuca quinquenervia* as a result of altered drainage patterns and the absence of fire was

## Theme 2 – Waterways, wetlands, and coasts



recorded as an ‘RE flip’ in the attributes of the vegetation cover layer.

Changes in the extent of foreshore vegetation around Teewah Village could not be determined due to limited survey effort in this area.

A comparison of the 2019 and 2023 REs mapped within



the defined coastal foreshore vegetation management areas is provided in Table 15.

Note: Most of the increase in remnant and HVR vegetation cover reported above reflects more detailed mapping rather than increase in vegetation extent, and provides an accurate benchmark for future monitoring in the 2026/27FY.

Ecosystem Type	RE	2019 regrowth and high value regrowth vegetation area (ha)	2019 remnant vegetation area (ha)	2023 high value regrowth vegetation area (ha)	2023 remnant vegetation area (ha)
Foredune complex / headlands	12.2.14	0.123	86.098	11.343	77.5
	ocean/12.2.14			10.81	27
	12.12.19x2			0.01	
Rainforest & closed eucalypt forest	12.2.2			0.01	1.56
	12.2.3			0.003	
Wetland / closed sedgeland	12.2.12/12.2.15				0.43
	12.2.12				0.02
	12.2.7				2.63
	12.2.7/12.2.12			0.03	2.67
	12.2.7/12.2.15				0.45
	12.2.15			1.44	
	12.2.15/12.2.7			5.01	1.614
12.2.15/12.2.12/12.2.7		0.13	0.002		
Coastal heathland or open forest	12.2.5		0.013	0.237	1.95
	12.2.5/12.2.13			0.44	
	12.2.9			0.571	0.01
Estuarine grasslands/ woodlands	12.1.3/12.1.2			0.24	
New vegetated land	estuary /12.1.2	1.01		1.1	
	estuary/ 12.1.3	5.47		3.484	
	estuary/ 12.2.5	23.173		19.99	0.13
	estuary/ 12.2.14	4.07		4.15	
<b>Total</b>		<b>33.846</b>	<b>92.561</b>	<b>54.162</b>	<b>119.682</b>

Table 15: Comparison of 2019 and 2023 foreshore vegetation communities



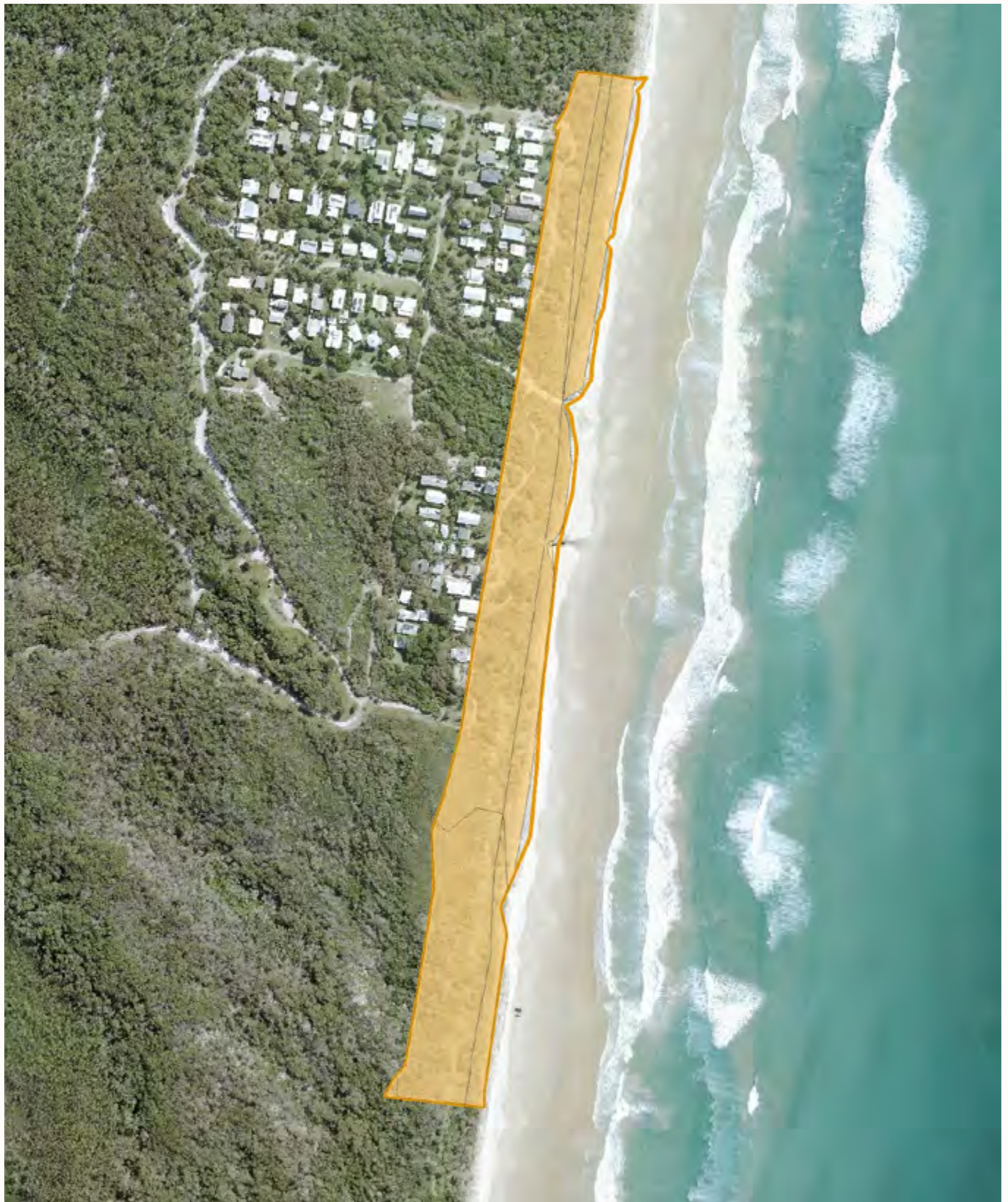
 Foreshore Vegetation Management Area  
 Wetland Vegetation


0 0.5 1 2  
Kilometres



17/10/2023  
Noosa Council Env Services

Figure 17: Foreshore vegetation cover and wetland vegetation areas assessed



 Foreshore Vegetation Management Area

0 50 100 200  
Metres



17/10/2023  
Noosa Council Env Services

Figure 18: Foreshore vegetation cover and wetland vegetation areas assessed

## Theme 2 – Waterways, wetlands, and coasts

### 4.2.3.2 Reef check survey results

The RCA SEQ Summary Report 2018-2019 included monitoring of Granite Bay, Jew Shoal, Little Halls Reef and the Noosa Caves. This report forms the baseline for reef condition in the Noosa Shire. A copy of this report is available at: [www.reefcheckaustralia.org/publications](http://www.reefcheckaustralia.org/publications)

Next RCA survey is due to be completed in late 2023 and changes between the two survey periods will be discussed and analysed in future Monitoring Reports.

Council, with initial replacement funding allocated in the 2023/24FY Environmental Operations budget. Council officers are working towards an increased and secured dune rehabilitation budget and resources needed to conserve, improve, and expand coastal bushland. Six Community Bushland Care groups undertook dune rehabilitation in the 2022/23FY. The Eastern Beaches continue to be the area of highest interest and participation by community Bushcare groups.

### 4.2.4 Summary of council actions to deliver the strategy

#### 4.2.4.1 Implement an Eastern Beaches dune rehabilitation program to improve the condition, species diversity and stability of dune ecosystems and enhance resilience to climate change.

The EBFMP has been completed and endorsed by Council in July 2023. Implementation, including developing beach access standards, updating BOA condition mapping and ERPs has started.

The Eastern Beaches Bushcare Collaborative continues to undertake contractor dune rehabilitation works, enabled by Council funding commitment of \$225,000 over three years through MEC grants. After contractor availability delays, this work will continue until March 2024. At the request of Bushcare Collaborative, contractor dune rehabilitation is being returned to



#### Status of action to deliver the Environment Strategy



**Progressing:** steps have been taken towards this action, but the action is not being delivered in accordance with the Implementation Plan requirements.



Eastern Beaches foreshore reserve area (image source Melissa Coyle).

### 4.2.4.2 Investigate the need and appropriateness of statutory mechanisms to protect Noosa's coastal and marine waters, including the lower reaches of the Noosa River.

Key threats to the Noosa River catchment were identified by scientific experts and land managers and endorsed by the community via feedback during the drafting of the 2019 Noosa River Plan, and again via a peer review process in 2023.

The number of State Government agencies and authorities involved in management of the Noosa River catchment highlights the complexity of undertaking a sustainable and coordinated approach, requiring a detailed understanding of a broad suite of legislation.

Without a formalised approach to integrated catchment management, investment maybe limited and ad-hoc, and projects and programs may not reach the scale or impact required to achieve the management objectives.

For this reason, development of an integrated and collaborative governance arrangement for the Noosa River catchment is recommended.

### 4.2.5 Recommendations

The extent of definition of coastal foreshore areas will need to be revised in future Implementation Plans considering climate risk and other considerations relating to tenure. Further survey effort will be required to continually refine the mapping of REs and to capture changes in maturity and condition.

To ensure a sustainable and coordinated approach to the management of the Noosa River catchment, the development of an integrated and collaborative governance arrangement is recommended.

#### *Status of action to deliver the Environment Strategy*



**Progressing:** steps have been taken towards this action, but the action is not being delivered in accordance with the Implementation Plan requirements.



### 4.3 Strategy 2.3 Manage waterways and coasts to protect environmental values while enabling sustainable public access, recreation and commercial use.

#### 4.3.1 Target

By 2030, Noosa has a sustainable fishing industry and increased opportunity for recreational fishing.

#### 4.3.2 Methodology

Action 3.19 in the draft Noosa River Catchment Management Plan is to undertake a baseline bioregion analysis to determine a sustainable fisheries monitoring approach.

#### 4.3.3 Results for 2019-2023

A suitable methodology to assess progress towards this target has not yet been determined and will be outlined in the updated Implementation Plan and results will be presented in the next Monitoring Report.

#### 4.3.4 Summary of council actions to deliver the strategy

##### 4.3.4.1 Work with stakeholders to review current fishing practices and achieve sustainable recreational and commercial fishing outcomes in the Noosa River.

Commercial fishing in the Noosa River and surrounds includes an Inshore Net Fishery (N1), a Beam Trawl Fishery (T5) and an Ocean Beach Net Fishery (K8). Commercial fishing records are limited and there is very little available information on recreational catches. Council has provided input to multiple state government fisheries reform processes and will continue to work with DAF to ensure recreational and commercial fishing is undertaken in a sustainable way so there is no long-term decline in fish abundance and diversity.

In collaboration with experts and HLW, a baseline monitoring method to assess the biodiversity and abundance of fish and fisheries in the Noosa River will be developed to help optimise estuarine restoration plans. Council plans to adopt environmental DNA (eDNA) monitoring in conjunction with underwater surveys currently being undertaken by UniSC and HLW. eDNA methods capture, extract, and analyse genetic material shed into the environment by plants, animals and other organisms detect species without directly observing organisms. The recommended approach to manage sustainable fisheries is to take an ecosystem-based approach focused on the management of biodiversity.

The draft Noosa River Catchment Management Plan aims for 60% biomass and a 33.3% no take of all bioregions in the Noosa River estuary. The specific action from the plan relating to biomass includes the following:

- 2.20 Investigate and trial the use of eDNA monitoring techniques for aquatic biodiversity and as a proxy to monitor fish biomass.

#### *Status of action to deliver the Environment Strategy*



**Progressing:** steps have been taken towards this action, but the action is not being delivered in accordance with the Implementation Plan requirements.



### 4.3.4.2 Undertake a stormwater quality improvement program, that includes an audit of stormwater quality improvement devices, analysing current infrastructure, current best practice, and options to improve infrastructure as it is due for replacement.

Council has been undertaking an audit of stormwater quality improvement devices to determine asset condition. Each device is given a rating from 1 - 5 to determine priorities for drain upgrades and further water sensitive urban design solutions. The project has been running since July 2022 and at this stage it is expected that most of the audit areas will be finished by EOFY 2023/24FY (Figure 19).

An audit of Council's biobasins was completed by an external consultant in 2022, which included a condition assessment of 42 of Council's vegetated stormwater quality treatment assets.

The aims of the project included:

- Development of a condition assessment methodology and completion of site inspections of 42 identified vegetated stormwater assets to assess condition;
- Filter media testing and analysis, where applicable;
- Identification of any structural or design issues at each asset and recommendation of rectification actions; and
- Provision of overall recommendations for improved management of the assessed vegetated stormwater assets

The audit provided a condition score for each biobasin and included descriptions of the issues with each. Information from the audit is being used to develop a water sensitive urban design priority for maintenance

tool, to designate priorities for management/upgrades of each Council biobasin.

Council has prioritised biobasins for maintenance using a condition score provided by the consultant, combined with a score given to both environmental and societal values for each vegetated stormwater quality asset location. It has been agreed that the priority focus for the program is five vegetated stormwater assets on Butler St, Tewantin. Soil media samples have been taken from each, to determine whether each biobasin is at its capacity for storing nitrogen and phosphorus. If the media is at capacity, it will be removed and disposed of, and replaced with fresh media. The assets will be replanted with suitable vegetation. The project is planned to commence as soon as possible once quotes have been received and a suitable contractor is engaged for the works.

The draft Noosa River Catchment Management Plan provides the following actions relating to stormwater improvement:

- Ensure application of Water Sensitive Urban Design principles during design phase of Council projects
- Continue to implement the Council bioretention basin renewals program
- Implement/retrofit stormwater quality improvement devices based on environmental risk
- Commence a stormwater education program

### Status of action to deliver the Environment Strategy



**On target:** action is progressing in accordance with the Implementation Plan requirements.



Rubbish accumulated in gross pollutant trap during audit (image source Sophie Blond)



Butler Street biobasin (image source Sophie Blond)

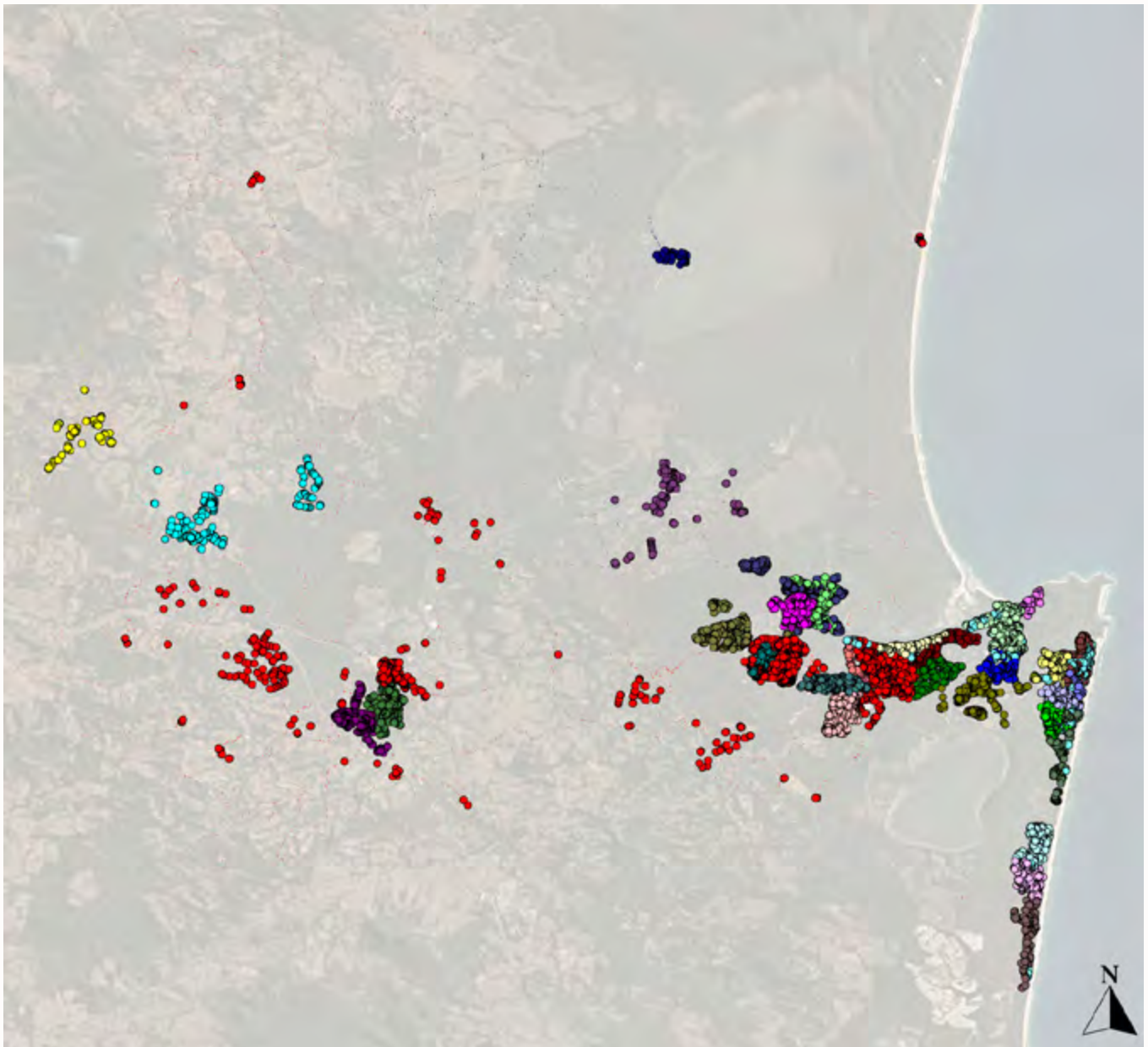


Figure 19: Stormwater CCTV inspections program undertaken across the Noosa Shire

## Theme 2 – Waterways, wetlands, and coasts

### 4.3.4.3 Work in partnership with a range of stakeholders including Kabi Kabi to provide an on-river presence to deliver a range of environmental and education programs, and support compliance with regulations on the Noosa River.

NICA delivers a long-standing Council funded program that addresses this action. Program objectives include:

- Assisting implementation of local, catchment and regional strategies;
- Providing information to facilitate education and awareness on catchment, river, biodiversity, water quality, ecosystem health, and fisheries management;
- Providing assistance to institutional, government, and industry based research;
- Identifying environmental issues and potential project sites; coordinating litter collection and assisting with pollution control; and
- Promoting community discussion and participation.

Council also supports a river ranger program through the Indigenous Land and Sea Ranger Program. A letter of support was provided by Council for the sea ranger program. The Kabi Kabi are awaiting the outcome of the proposal.

The actions in the draft Noosa River Catchment Management Plan relating to the Land and Sea Program include the following:

- 3.1 Support Kabi Kabi to obtain Land and Sea Ranger funding
- 3.2 Support Kabi Kabi aspirations to access Country and the river system, including planning for a river audit and survey

#### Status of action to deliver the Environment Strategy



**Progressing:** steps have been taken towards this action, but the action is not being delivered in accordance with the Implementation Plan requirements.

### 4.3.5 Recommendations

The review and update of the Environment Strategy and Implementation Plan should consider the actions nominated in the draft Noosa River Catchment Management Plan to ensure that these documents align and can effectively assess Councils progress towards delivering targets.



NICA Watercatch awards November 2022 (image source NICA)

# Theme 3 Sustainable living



# 5. Theme 3 Sustainable living

<b>Environment Strategy Goal</b>
<b>By 2030 the Noosa Community is living more sustainably and is carbon neutral.</b>

## 5.1 Strategy 3.1 Reduce waste to landfill

### 5.1.1 Target

By 2030, all green waste and food waste is diverted from landfill.

### 5.1.2 Methodology

Measurement of progress towards targets.

#### 5.1.2.1: Measurement of green waste and food waste diverted from landfill

The annual measurement of the amount of green waste and food waste in tonnes diverted from landfill and change over time.

#### 5.1.2.2: Bin audits

Council has engaged EnviroCom Australia (EnviroCom) to undertake selected curbside and commercial and industrial waste bin audits in 2022 and 2023. The curbside and commercial and industrial waste streams were assessed over a five day period. This assessment utilised American Society for Testing and Materials D5231-92 (reapproved in 2016) Standard Test Method for Determining the Composition of Unprocessed Municipal Solid Waste.



## 5.1.3 Results for 2019-2023

### 5.1.3.1 Annual measurement of green waste and food waste diverted from landfill

#### Green waste diverted from landfill

Green waste bins are now available to all residents and there are approximately 20 bulk commercial green waste bins across the Noosa Shire. In addition to the role out of the green waste bins, the Council are currently working towards producing a strategy to reduce organic waste to landfill. These initiatives are to be incorporated into the Noosa Waste Strategy 2023-2027.

The volume of green waste diverted from landfill (from municipal collection services and self-haul green waste) is summarised in Figure 20. In 2022/23FY a total of 15,769.44 tonnes of green waste was diverted from landfill.

#### Food waste diverted from landfill

Council currently does not have the ability to divert food waste from landfill. The option for Council to undertake reprocessing or composting of this waste is being investigated within the Waste Strategy (2023) therefore, there is no data currently available to report against this target.

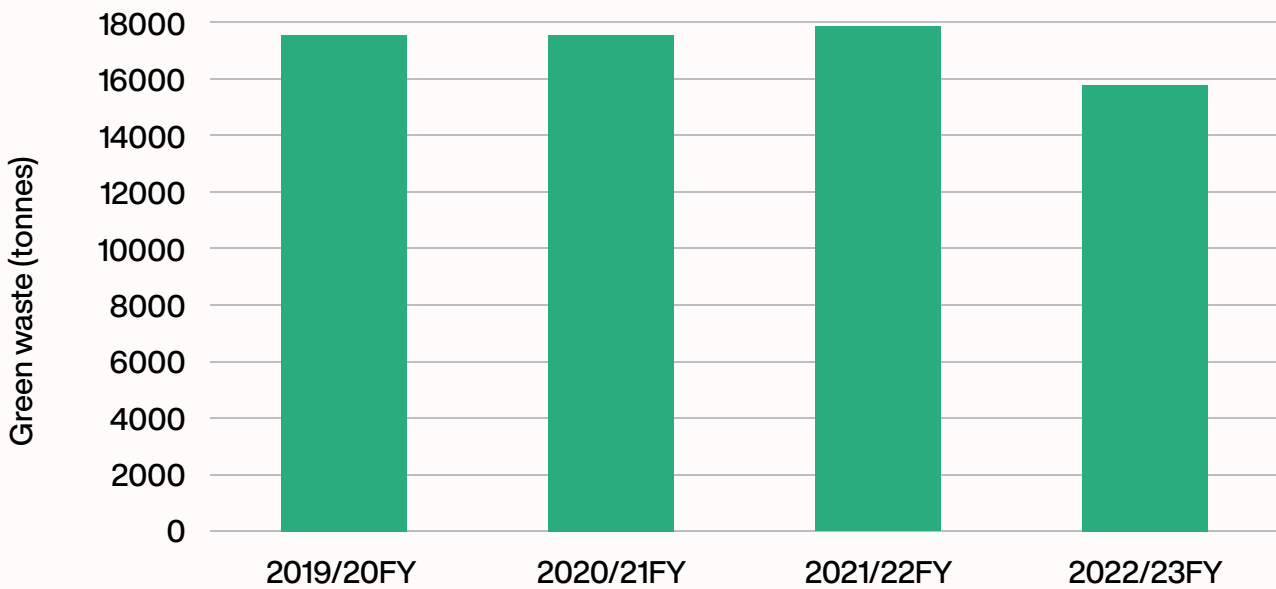


Figure 20: Green waste diverted from landfill between 2019/20FY and 2022/23FY.



## Theme 3 – Sustainable living



### 5.1.3.2 Bin audit results for 2022 and 2023

The outcomes of the 2022 and 2023 household and commercial/industrial bin audits completed by EnviroCom are summarized in Figure 21 and Figure 22 respectively.

In 2023, there was a decrease in organic compostable waste found in household and commercial waste. This suggests that households and businesses are composting more organic waste, such as food scraps and garden waste, which is a positive step.

However, the amount of recyclables in household waste increased by 2% between 2022 and 2023, making up 18% of the total waste.

Overall, the results from the bin audits in 2022 and 2023 highlight the importance of continued education of the community to ensure waste is being disposed of in the correct bins, as well as the strong need for Council to be able to receive and recycle organic waste and divert this material from landfill.

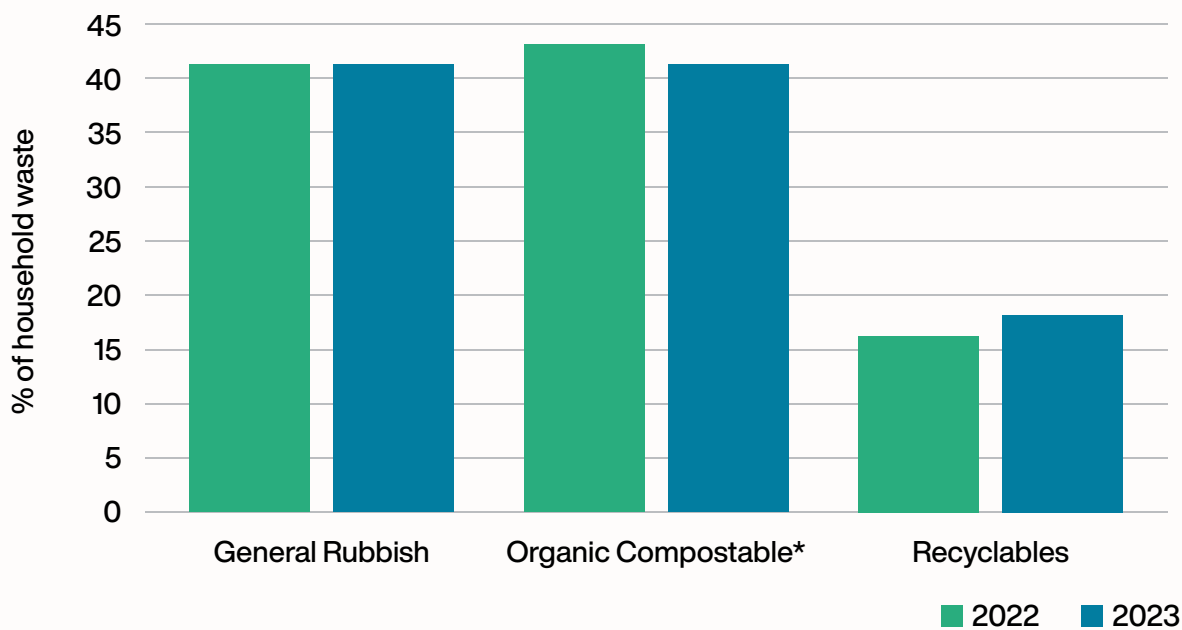


Figure 21: Household waste audit results from 2022 and 2023 from audits completed by EnviroCom. \*Note: Organic compostable includes food / kitchen, acceptable garden, and potentially compostable.

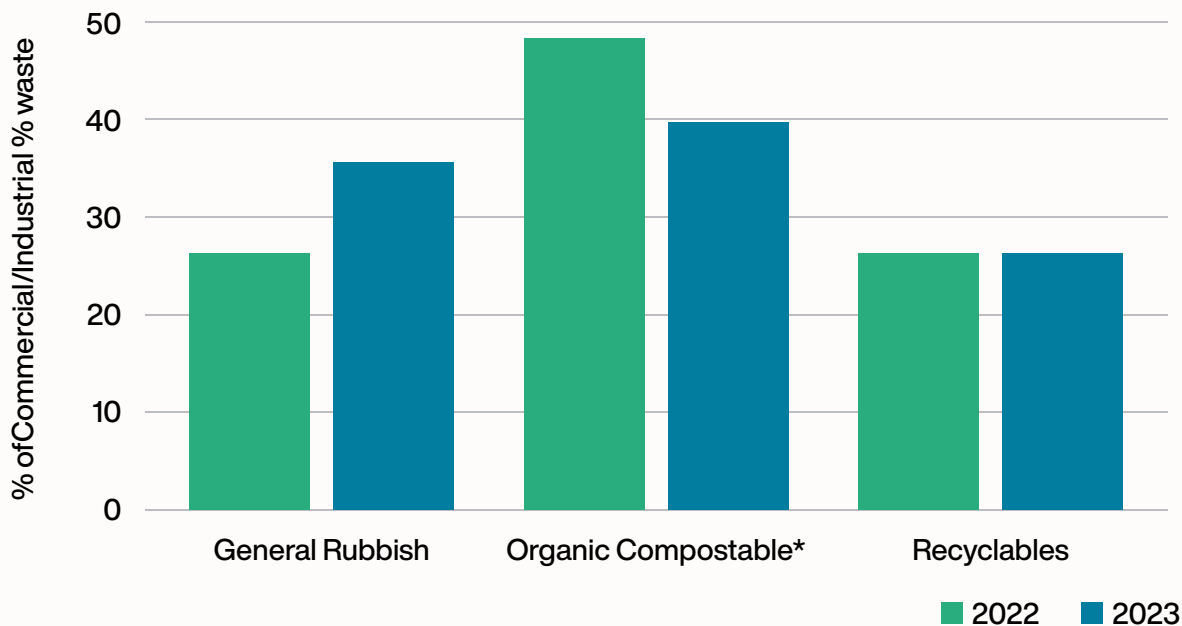


Figure 22: Commercial and industrial waste audit results from 2022 and 2023 from audits completed by EnviroCom. \*Note: Organic compostable includes food / kitchen, acceptable garden, and potentially compostable.

## Theme 3 – Sustainable living

### 5.1.4 Summary of Council actions to deliver the strategy

#### 5.1.4.1 Work with other agencies on a Regional Waste Strategy to develop broader regional solutions to local waste management problems.

The Waste Manager has now joined the Council of Mayors SEQ (CoMSEQ) waste group to discuss opportunities in SEQ. Previously, Council was not able to do this as Council were not a member of COMSEQ. COMSEQ launched a waste management plan in 2021 to tackle the war on waste and laid out several opportunities for SEQ Councils to work together to reduce the amount of waste going to landfill.

Council has also progressed a regional MoU with Gympie Shire Council regarding waste management solutions and will continue to work with Gympie Shire Council on specific projects. The MoU focuses on the

key areas of infrastructure, procurement, knowledge sharing, and potential cost-sharing arrangements in future contracts. The intent of the MoU is to help find efficiencies in waste management, achieve better environmental outcomes, and investigate ways to deal with different aspects of waste in a collaborative way. Under this MoU Gympie Shire Council is currently sending their polystyrene for recycling at the Eumundi-Noosa Road Resource Recovery Centre.

Council, SCC and Unitywater are also in preliminary discussions regarding collaboration and investigating regional solutions. As part of these discussions, Council is investigating pre-treatment options for leachate being discharged to trade waste and treated by Unitywater at the Noosa Sewage Treatment Plant, as well as options for the management of biosolids.

#### Status of action to deliver the Environment Strategy



**On target:** action is progressing in accordance with the Implementation Plan requirements.



Mayors of SEQ and former Environment Minister Meaghan Scanlon at launch of the SEQ Waste Management Plan in 2021 (image source Queensland Government 2023)



Noosa Mayor Clare Stewart and Gympie Mayor Glen Hartwig sign the MoU (image source Noosa Today 2023)



# Theme 3 – Sustainable living



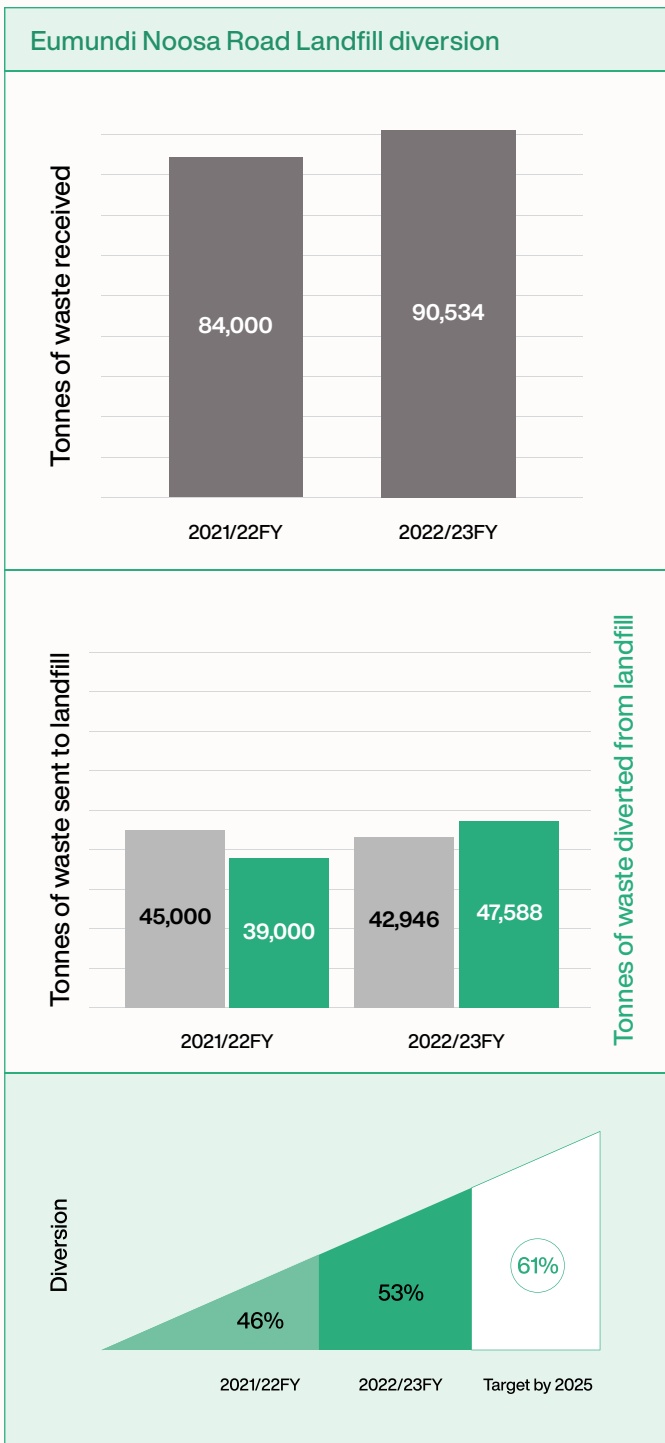
5.1.4.2 Improve rates of commercial recycling and green waste diversion through implementation of bulk green waste bins and targeted education and behaviour change programs for commercial users.

A summary of the waste diverted from landfill and recycled by Council is presented below. Council diverted 53% of waste from landfill in 2022/23FY which is a 7% increase since 2021/22FY. Council is tracking well to meet state target of 61% diversion by 2025.

### Status of action to deliver the Environment Strategy



**On target:** action is progressing in accordance with the Implementation Plan requirements.



#### What was diverted from landfill in the 2022/23FY?

	Green waste	15021t
	Scrap metal	4,924t
	Crushed concrete	17,717t
	Batteries	38t
	Tyres	109t
	Cardboard	267t
	E-waste	44t
	Reviva shop	92.05t
	Mattresses	3,310

## Theme 3 – Sustainable living



5.1.4.3 Develop a waste education centre at the Noosa Landfill Resource Recovery Centre, to support waste and sustainability education programs for school-aged children and the broader community.

During 2022/23FY, Council continues to deliver the Recycling in Schools Program to assist with developing recycling in schools and educating students about recycling. Recycling talks and landfill tours were delivered to over 1300 students. The program also

supports schools with waste audits and implementation of a waste strategy to improve waste behaviours.

For further information visit:  
[Recycling in Schools Program](#)

### Status of action to deliver the Environment Strategy



**Completed:** action is complete, and no further action is required.



St Thomas More & Sunshine Beach 'Recycling in schools' Program.

## Theme 3 – Sustainable living



### 5.1.4.4 Continue to increase the different types of recycling services available to Noosa Residents.

As part of a continuous improvement way of operating, Council's Waste Team continues to investigate opportunities to divert different waste streams from landfill subject to available technologies, operational viability, and market drivers. Improvements in recycling services delivered over 2022/23FY are outlined below:

#### *Expanded polystyrene (EPS) recycling*

EPS is a growing concern for Council as the volume of EPS waste increases each year. Reducing the amount of EPS sent to landfill at the Eumundi-Noosa Road Resource Recovery Centre is a high priority for Council. The EPS recycling plant was trialled by Council between March 2022 and June 2023. During 2022/23FY, Council processed over 21.16 tonnes of EPS, which is equivalent to 8.46 Olympic swimming pools.



*EPS recycling machine at Eumundi Noosa Road Resource Recovery Centre.*

#### *Reverse Vending Machine*

Recyclable drink containers can now be dropped off at Council's Eumundi Noosa Road Resource Recovery Centre for a 10-cent refund with the launch of a Containers for Change reverse vending machine. The machine was built by Ecoboxtec and is the first-of-its-kind, which can sort and process eligible containers using artificial intelligence technology ready for recycling.

The prototype machine was designed small enough to fit within a parking space to make it easy to install in areas convenient for the public to access. The machine ultimately will also shred recyclables and crush glass, which can then be sold. During the trial there were approximately 2,500 units of containers received each week, but there is an aim to increase to 7,000 units per week.

The Containers for Change program supports Council's goal of increasing diversion of recyclable material from landfill to both reduce emissions and conserve landfill space.



*New 'Containers for Change' reverse vending machine at the Eumundi Noosa Road Resource Recovery Centre.*

## Theme 3 – Sustainable living



### *Other recycling services being investigated*

Council is exploring options for food waste processing. There are options to implement processes such as anaerobic digestion, or in-vessel composting to convert food waste into valuable resources such as biogas and fertiliser, which in turn could generate a revenue stream from the process's outputs. This approach not only diverts waste from landfill but also harnesses the potential resource contained within the waste as well as reduce GHG emissions associated with landfilling organic matter. Food waste collection potentially has an impact on collection frequencies and bin infrastructure for households and commercial sites (to be further investigated).

Council is currently investigating the potential for biochar to be used for untreated timber waste. Biochar is a charcoal-like substance created from organic matter. It provides a range of benefits. It serves as a soil amendment, enhancing soil health and fertility by improving nutrient retention and moisture management. In addition, biochar plays a crucial role in carbon sequestration, aiding in the capture and long-term storage of carbon dioxide, thereby mitigating climate change impacts.

Given the annual volume of approximately 20,000 tonnes of green waste received at the Eumundi-Noosa Road Landfill site, Council is currently investigating the establishment of a composting facility. This facility would allow Council to efficiently convert green waste into nutrient-rich compost, which can then be utilised in various applications, such as agriculture and landscaping, thereby closing the organic waste loop.

#### *Status of action to deliver the Environment Strategy*



**On target:** action is progressing in accordance with the Implementation Plan requirements.



## Theme 3 – Sustainable living



### 5.1.4.5 Provide waste and sustainability education programs to improve the understanding of waste management and sustainability in the Noosa community.

Council is continuing to deliver waste and sustainability programs to the Noosa community. The Waste Education and Sustainability Officer has worked collaboratively with key stakeholders to deliver multiple education programs and events, which are summarised below.

#### *Give a sheet for the planet*

To celebrate World Environment Day in June 2023, Council partnered with Blocktexx, Vinnies and SCC and encouraged residents to clean out their cupboards and drawers and donate linen and clothing for recycling. All linen collected was broken down into recyclable materials by Blocktexx and used by Australian manufacturers to create a range of new products. These include hydro-mulch, geosynthetic fabrics and building materials. Clean clothing in good sellable condition was collected and resold by St Vincent de Paul stores. For every kilo of unwanted textile waste processed by Blocktexx, 30kgs of CO<sub>2</sub> emissions is avoided. This initiative is not only a win for the environment but is also creating new resources for other sectors and helping councils deliver on their commitments to the circular economy in a measurable, tangible way.

For further information visit:  
[Give a sheet for the planet](#)



Council staff with some of the linen dropped off at the inaugural Give a Sheet textile collection initiative with BlockTexx in 2022.

## Theme 3 – Sustainable living



### *Plastic free July*

Plastic Free July is a global movement that helps millions of people be part of the solution to the plastic pollution problem. It started as a local government initiative in Australia in 2011 and is now one of the world's largest environmental movements. Council participated in Plastic Free July and encouraged residents and businesses to reduce single-use plastics and other non-recyclable items being sent to landfill. Councillors and Council's Waste Manager Kyrone Dodd said 'no' to disposable coffee cups for Plastic Free July in 2023.



*Council supporting Plastic Free July (front, L-R) Cr Karen Finzel, Mayor Clare Stewart, Cr Brian Stockwell, and (back, L-R) Waste Manager Kyrone Dodd, Cr Tom Wegener and Cr Joe Jurisevic*

### *Trash Talk videos*

Insight Social Media were engaged by Council to develop several short videos for National Recycling Week to raise awareness on what items can be recycled. The videos reached of 31,763 people via Instagram.

To view the 'Trash Talk' videos visit:

[Trash Talk videos](#)



## Theme 3 – Sustainable living



### Garage Sale trail

Garage Sale Trail is Australia's biggest festival of pre-loved stuff which occurs in November each year. Council has joined neighbouring councils, Gympie Regional Council and SCC along with over 80 other councils across the nation in 2023, to encourage and educate Noosa locals about the importance of waste reduction and recycling. Garage Sale Trail is a community powered initiative that encourages more residents to buy and sell second-hand items via garage sales and aims to connect locals through the love of recycling. The event has free registration and provides participants with how-to-guides, promotional resources and offers stall hire at community halls.

In 2022, the Garage Sale Trail event diverted 3 million kilograms of valuable items away from landfills. The event is a great example of the circular economy in action and is a better option than hard collection services.



Community member involved in the Garage Sale Trail supported by Council, Sunshine Coast Regional Council and Gympie Council (image source Mark Bogert).

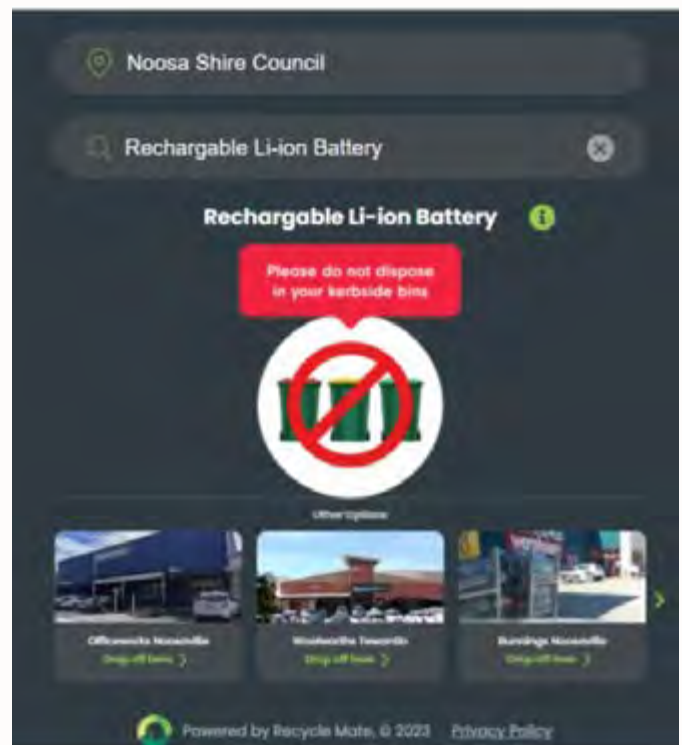
### Recycle Mate

The waste and recycling industry in Australia is changing and becoming more innovative. Increased investment in new technologies and new recovery programs are shifting away from static solutions to support a more circular economy. As Council shifts from waste to resources following the new Waste Strategy, we want to help our community keep up to date with all the great local recycling and recovery opportunities.

Council have partnered with Recycle Mate – an initiative of the Australian recycling industry – to bring the community leading interactive tools, customised for the Noosa region. One of these tools includes the Noosa Sorting Guide. The Noosa Sorting Guide provides community members with an online search to confirm what is recyclable and can go in the recycling bin or to find if there is a nearby away from home recycling and recovery or safe disposal option for their item.

For further information visit:

[Recycle Mate](#)



Noosa Sorting Guide to provide community members with information on how to dispose or recycle items

### ASPIRE

ASPIRE is an online marketplace which uses innovative software, which assists businesses to trade, exchange or sell unwanted waste as a resource. ASPIRE was developed by CSIRO and Data61 in response to a need from Australian businesses and their local councils who were seeking a solution to their ever-growing waste disposal costs. Council has invested in a license for our local business community to have access to this great circular economy, business-to-business platform. All businesses with less than 100 staff can register for free.

Businesses can trade and dispose of the following waste streams and products on the ASPIRE platform:

- Organic waste
- Paper & Cardboard
- Chemicals
- Construction waste
- Demolition waste
- Electronic waste
- Furniture
- Glass
- Liquids
- Metals
- Organic waste
- Paper
- Plastics
- Textiles
- Wood and timber

For further information visit:

[ASPIRE](#)

### Community workshops

Council's Waste Education & Sustainability Officer has delivered several workshops for the community, including the Beginners Guide to Composting for Raised Garden Beds. This event was delivered by agricultural scientist and soil microbiology expert Dr Sandra Tuszynska. The Beginners Guide to Composting for Raised Garden Beds session included a site inspection of a year-old Worm Flow system of worm farming and a tour of the Peregian Beach Veggie Village. The workshop focused on encouraging the community to live more sustainably and divert organic waste from landfill by composting in their own backyards.



#### Status of action to deliver the Environment Strategy



**On target:** action is progressing in accordance with the Implementation Plan requirements.



## Theme 3 – Sustainable living



### 5.1.5 Additional actions undertaken by the Waste Team outside of the Environment Strategy and Implementation Plan

Council's Illegal Dumping Officer commenced in 2023 and this role is funded through a grant application from the DES. The primary focus of the Illegal Dumping Officer is to investigate illegal dumping and seek to have the offender clean up the dumped waste.

A summary of activities and achievements of Council's Illegal Dumping Officer are detailed below.

Key actions delivered by the Illegal Dumping Officer since March 2023	
	<b>177 dumping incidents reported and investigated by Council</b>
	<b>62,319 litres of waste removed by Council</b>
	<b>18 successful compliance actions including 12 Penalty infringement notice (PIN) and 15 Warning issues</b>

### 5.1.6 Recommendations

The following recommendations are provided for the review of the Environment Strategy and Implementation plan:

- Ensure that the goals, targets, and actions in the Environment Strategy and Implementation Plan are aligned with the new Waste Strategy to be finalized by December 2023.
- Review Council actions to ensure they reflect activities completed and current programs being delivered.
- Ensure actions undertaken by Council's Illegal Dumping Officer are clearly articulated as this is not included within the current Environment Strategy and Implementation Plan as this is a new role.
- Currently Council does not undertake any recycling of food waste, and this is being investigated within the new Waste Strategy. Targets for the recycling of food waste within the Environment Strategy and Implementation should consider the actions and timeframes needed to achieve this target once the Waste Strategy is finalised. For example, funding and constructing equipment to process food waste may not be able to be delivered by 2030.



Lounge illegally dumped on a residential street investigated by Council's Illegal Dumping Officer (image source Mark Bogert).

5.2 Strategy 3.2 Encourage incorporation of more sustainable building elements.

5.2.1 Target

By 2030, sustainable building outcomes are delivered through regulation, education and showcasing best practice design.

5.2.2 Methodology

Sustainable building outcomes are measured through the following methods:

1. Number of solar systems installed in the Noosa Shire was sourced from ZEN Inc Data Dashboard 2023.
2. Number of commercial and residential buildings with battery systems installed was sourced from ZEN Inc Data Dashboard 2023.

3. Electricity consumption per customer was sourced from ZEN Inc Data Dashboard 2023.

Data on water consumption per resident for the Noosa Shire was not publicly available at the time this report was prepared.

5.2.3 Results for 2019-2023

5.2.3.1 Number of solar systems installed in the Noosa Shire

The number of solar systems installed in the Noosa Shire continues to increase (Figure 23). Between 2019/20FY and 2022/23FY, the number of solar systems installed increased from 7,913 to 11,468.

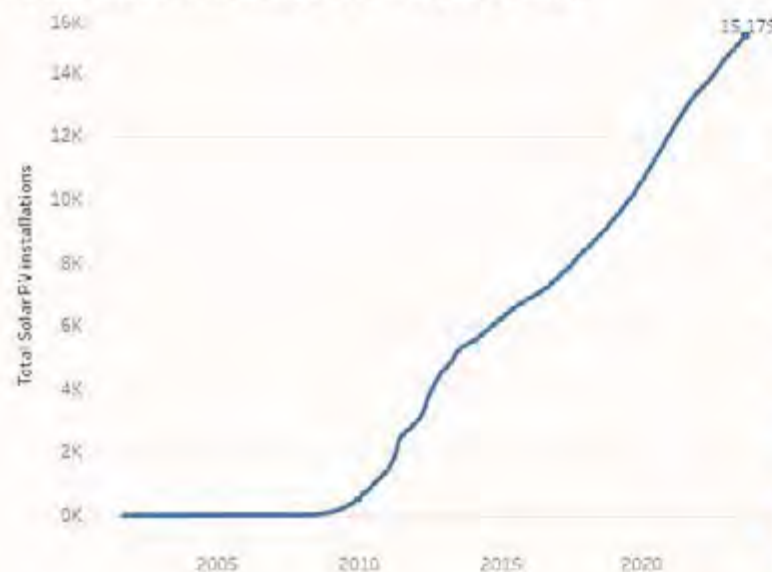
Zero Emissions Noosa - Data Dashboard

Electricity Dashboard - Noosa Shire



Locality: NOOSA SHIRE | Show information to display: Total Solar PV installations | Years to display: 22 | Hover over graphs for values

Total Solar PV installations - NOOSA SHIRE



Sources:  
 Australian Energy Market Operator - <https://tinyurl.com/Zakstuumh>  
 Energex - <https://tinyurl.com/5n6h9pm>  
 Clean Energy Regulator - <https://tinyurl.com/vchvwo4t>  
 Energex provides on LGA & postcode. AEMO & CER on postcode only. For AEMO & CER, Noosa Shire includes below postcodes + 18% of 4573.  
 4563 (Black Mountain, Cooroy, etc.)  
 4565 (Boreen Point, Tewantin, etc.)  
 4566 (Noosaville)  
 4567 (Castaways Beach, Noosa Heads, etc.)  
 4568 (Federal, Pomona, etc.)  
 4569 (Cooran)  
 4571 (Como, Kin Kin)  
 4573 (Coolumb Beach, Marcus Beach, etc.)  
 \* Only Marcus & Peregian Beach in Noosa Shire - see "4573 Noosa"  
 \* more complete list of postcode locations - <https://tinyurl.com/yhzm6d3m>  
 \* Single line graphs are totals for the locality

Category:  
 ■ BUSINESS  
 ■ RESIDENTIAL  
 ■ TOTAL

Figure 23: Solar systems installed across the Noosa Shire (data analysis completed by Geoff Action at ZEN Inc and sourced from <https://www.zeroemissionsnoosa.com.au/data-dashboard>)

5.2.3.2 Number of battery systems installed

Between 2020/21FY and 2022/23FY the total number of batteries connected in the Noosa Shire increased from 123 to 335.

Zero Emissions Noosa - Data Dashboard

Electricity Dashboard - Noosa Shire



Locality: NOOSA SHIRE | Show information to display: Batteries connected | Years to display: 22 | Hover over graphs for values

Batteries connected - NOOSA SHIRE

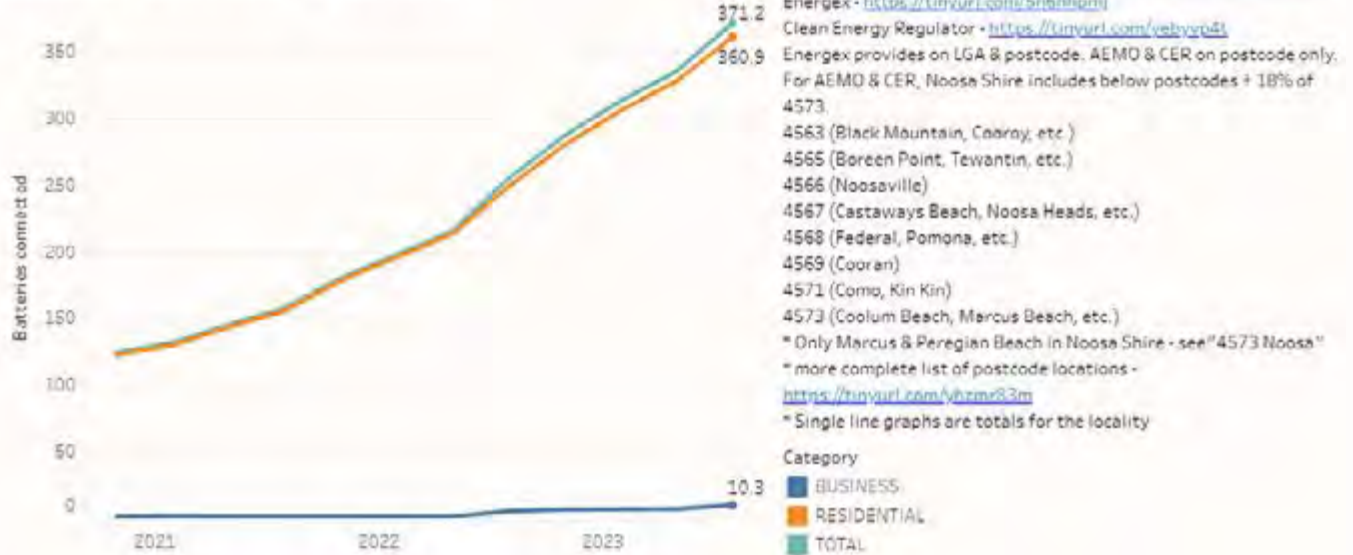


Figure 24: Number of battery connections in the Noosa Shire (data analysis completed by Geoff Action at ZEN Inc and sourced from <https://www.zeroemissionsnoosa.com.au/data-dashboard>)

5.2.3.3 Per capita electricity consumption

Between the 2019/20FY and 202/23FY residential electricity consumption remained steady around 16.2kWh. Electricity consumption for business customers continued to fluctuate between the 2019/20FY and 2022/23FY ranging from 140.7 kWh (June 2019) to 107.1 kWh (June 2023).

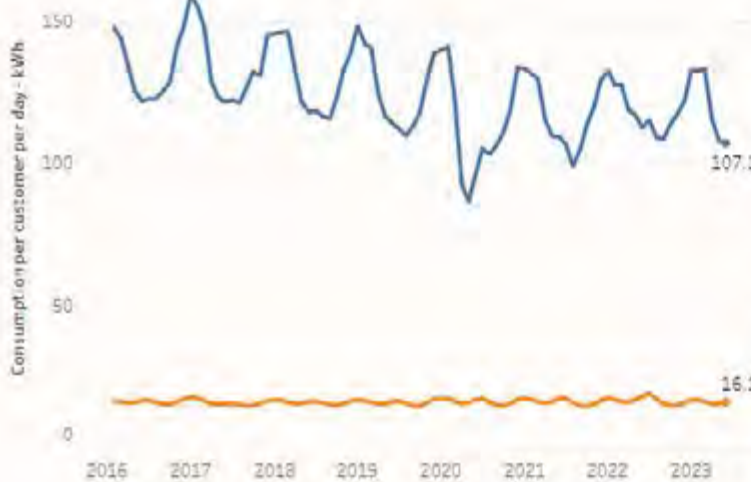
Zero Emissions Noosa - Data Dashboard

Electricity Dashboard - Noosa Shire



Locality: NOOSA SHIRE | Show information to display: Consumption per customer per day - kWh | Years to display: 22 | Hover over graphs for values

Consumption per customer per day - kWh - NOOSA SHIRE



Sources:  
 Australian Energy Market Operator - <https://tinivuri.com/2alsrtumb>  
 Energex - <https://tinivuri.com/5n6hhqm>  
 Clean Energy Regulator - <https://tinivuri.com/yelvyvndt>  
 Energex provides on LGA & postcode. AEMO & CER on postcode only. For AEMO & CER, Noosa Shire includes below postcodes + 18% of 4573.  
 4563 (Black Mountain, Cooroy, etc.)  
 4565 (Boreen Point, Tewantin, etc.)  
 4566 (Noosaville)  
 4567 (Castaways Beach, Noosa Heads, etc.)  
 4568 (Federal, Pomona, etc.)  
 4569 (Cooran)  
 4571 (Como, Kin Kin)  
 4573 (Coolum Beach, Marcus Beach, etc.)  
 \* Only Marcus & Peregrin Beach in Noosa Shire - see "4573 Noosa"  
 \* more complete list of postcode locations - <https://tinivuri.com/yfsome83m>  
 \* Single line graphs are totals for the locality

Category  
 ■ BUSINESS  
 ■ RESIDENTIAL  
 ■ TOTAL

Figure 25: Electricity consumption in the Noosa Shire (data analysis completed by Geoff Action at ZEN Inc and sourced from <https://www.zeroemissionsnoosa.com.au/data-dashboard>)

### 5.2.4 Summary of council actions to deliver the strategy

#### 5.2.4.1 Advocate for mandating minimum energy efficiency and renewable energy generation to all new development in the shire, including domestic residences.

The Noosa Plan 2020 sets the minimum requirements for sustainable building design for multiple dwellings and commercial development through the Sustainable Building Design Works Code and supporting Planning Scheme Policy for Sustainable Design.

Since the adoption of the Noosa Plan 2020 further progress has been made towards this action, including:

- Council submission has been made to update National Construction Code with improved energy efficiency standards which was completed on 15th October 2021.
- Council has undertaken further advocacy with joint statement in July 2022 with other Councils improved energy efficiency standards for buildings and homes.

- In October 2022, Council advocated for Environmental Upgrade Agreements, including a financial agreement to be placed against the title of the property as part of the Queensland Jobs and Energy Plan. Motion is currently with LGAQ advocating to the State Government to include residential properties with Environmental Upgrade Agreements.

#### *Status of action to deliver the Environment Strategy*



**Progressing:** steps have been taken towards this action, but the action is not being delivered in accordance with the implementation Plan requirements.



## Theme 3 – Sustainable living



5.2.4.2 Advance the idea of a Noosa Sustainability Institute to establish a coordinated approach to research and activity occurring in our community towards sustainability.

Discussions with Environmental Services, Economic Development and Strategic Planning have continued. It was agreed that any actions should teams within Council align with the NBRFs future priorities and strategic plan, which are still being finalised. This action will be further progressed in the 2023/24FY.



**Scheduled for future:** action has not begun and is intended to be initiated in future years, as identified in the Implementation Plan.

### 5.2.5 Recommendations

The following recommendations are provided for the review of the Environment Strategy and Implementation plan:

- Review and identify suitable methods to measure progress towards the target of sustainable building outcomes in the updated Environment Strategy and Implementation Plan to better assess Council's progress through regulation, education and showcasing best practice design. There is limited public data available on water consumption, number of homes with water tanks, composting and water reuse and recycling systems. Specific studies and surveys need to be undertaken to obtain this information.
- Council needs to undertake further advocacy work for mandating minimum energy efficiency and renewable energy generation to all new development in the Noosa Shire, including domestic residences.
- Further consideration of the concept of the Noosa Sustainability Institute should be investigated and included in the updated Implementation Plan.



### 5.3 Strategy 3.3 Adopt sustainable agricultural practices.

#### 5.3.1 Target

By 2030, 80% of all grazing land achieves best practice management for agriculture..

#### 5.3.2 Methodology

The Implementation Plan stated that progress towards this target would be measured using two methods:

1. ABCD framework: Baseline developed using the ABCD framework and classification for grazing lands and every 5 years grazing land condition will be assessed.
2. LiDAR imagery: 2008 and 2015 LiDAR imagery will be utilised to identify levels of rural lands and sediment lost to erosion over this period. LiDAR imagery will be undertaken over the same areas as 2008 and 2015 imagery during the term of this strategy.

#### 5.3.3 Results for 2019-2023

##### 5.3.3.1 ABCD framework

A baseline has not yet been developed by Council using the ABCD method for grazing land condition in the Noosa Shire. This is a significant gap in the implementation of the Environment Strategy and needs to be progressed in the updated Environment Strategy and Implementation Plan. A review of current methods to assess grazing land condition to establish this baseline will be completed in 2023/24FY.

##### 5.3.3.2 LiDAR imagery

LiDAR imagery has not been utilized by Council to develop a baseline of rural lands and sediment lost to erosion between 2008 and 2015. This is a significant gap in the implementation of the Environment Strategy and needs to be progressed in the updated Environment Strategy and Implementation Plan. A review of current methods to measure change in agricultural land condition following implementation of best practice management for agriculture will be completed in 2023/24FY.



Image source Camille Oliver

## Theme 3 – Sustainable living

### 5.3.4 Summary of council actions to deliver the strategy

#### 5.3.4.1 Support the community to connect a circular economy for organic waste through enhanced connectivity between providers and end users.

Council is helping to keep organic waste out of the landfill where it produces methane gas and also support a circular economy within the Noosa Shire. Council has implemented a double grind process for green waste and reduced contamination to improve the final product. Council staff undertake stringent inspections of deliveries to ensure there are no contaminants. Due to the high quality of green waste, there has been increased in demand and commercial markets for the product.

Cootharaba Macadamia farmers Dan and Belinda Blanco from BELMAC have been using the double grind mulch for the past three years to promote crop growth across their 150-hectare plantation. Mr Blanco says the mulch has replaced chemical fertilisers and is helping build healthier soils rich in microbial activity.



Cootharaba Macadamia farmers Dan and Belinda Blanco from BELMAC with Kyrone Dodd, Council's Waste Manager (image source Cooroy Rag 2023)

Mr Blanco said: 'The trees and grasses are thriving in it and it's paying dividends via increase yields and a 70% reduction in erosion'.

'We have reduced our nitrogen inputs by over 85 percent'. For BELMAC to use a product that is essentially made from green waste to become cleaner and greener within our farming methods is the future of our commercial farming. It's also cost effective and convenient to apply.

Single grind mulch is available for free, and the double grind product is available for \$20 per cubic metre from the Eumundi-Noosa Road Resource Recovery Centre.

The Waste Team is currently developing a Waste Strategy and further enhancement of this action will be a key component.

#### Status of action to deliver the Environment Strategy



**On target:** action is progressing in accordance with the Implementation Plan requirements.



Double mulch product at Eumundi-Noosa Road Resource Recovery Centre.





## Theme 3 – Sustainable living

5.3.4.2 Support on-ground actions with landholders that improve environmental, economic, and social outcomes on rural properties throughout Noosa while contributing to long-term sustainability of rural landscapes in the Shire.

This action is currently delivered by Council through the Private Conservation Partnerships Program (refer to Section 3.2.4.1) and Council's Environmental Grants Program (refer to Section 2.1.1).

Council's Private Conservation Partnerships Program including LfW and VCAs provide participants with extension advice on sustainable land management as well as contractor support and materials such as tube stock for riparian revegetation. This program works with rural landowners to undertake activities that lead to improved biodiversity and waterway health outcomes.

Council's Environmental Grants Program funds multiple projects contributing to this action including:

- Keeping it in Kin project and Regenerative Land Management Workshop series both delivered by NDLG.
- Hinterland Rural Extension Program delivered by MRCCC and the Roving Restorers by Hinterland Bush Links.

Council's Climate Change and Economic Development teams are progressing a food and beverage industry plan that currently priorities regenerative and sustainable agriculture.

Review of this action is recommended in the Environment Strategy and Implementation plan to also include the promotion and support of sustainable agriculture industries in the Noosa Shire.

### 5.3.5 Recommendations

The following recommendations are provided for the review of the Environment Strategy and Implementation plan:

- The review of the Environment Strategy target for the adoption of sustainable agricultural practices is needed to better align with Council's role, programs, and capacity.
- Council has not established a baseline for agricultural land condition in the Noosa Shire and is not effectively measuring progress towards the target: by 2030, 80% of all grazing land achieves best practice management for agriculture. Review of methods nominated in the Implementation Plan to measure progress towards the target to adopt sustainable agricultural practices in the Noosa Shire and to establish a baseline and change in agricultural land condition over time should be completed in 2023/2024FY.
- Review of Council's actions in the Implementation Plan to include specific actions to support sustainable agriculture and sustainable agricultural industries, which is currently not addressed in the current plan.
- Review of the Implementation Plan to remove duplication of Council actions including:
  - Support the community to connect a circular economy for organic waste through enhanced connectivity between providers and end users. This is already covered under Council actions in Strategy 3.1.
  - Support on-ground actions with landholders that improve environmental, economic, and social outcomes on rural properties throughout Noosa while contributing to long-term sustainability of rural landscapes in the Shire. This is already covered under Council actions in Strategy 1.2.

#### Status of action to deliver the Environment Strategy



**On target:** action is progressing in accordance with the Implementation Plan requirements.

# Theme 4 Climate change adaptation and resilience





# 6. Theme 4

## Climate change adaptation and resilience

### Environment Strategy Goal

By 2030 the resilience of the Noosa community and environment has increased.

### 6.1 Strategy 4.1 Reduce emissions and resource consumption.

#### 6.1.1 Target

Council operations and service activities, and the Noosa community as a whole, will reach zero net emissions by 2026.

#### 6.1.2 Methodology

Emissions are defined as GHGs produced because of human activities including carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), sulphur hexafluoride (SF<sub>6</sub>) and specified kinds of hydro fluorocarbons and perfluorocarbons (Clean Energy Regulator 2023). These GHGs are reported under the National Greenhouse and Energy Reporting (NGER) scheme by Council to the Clean Energy Regulator.

GHG emissions are measured as kilotonnes of carbon dioxide equivalence (CO<sub>2</sub>-e). This means that the amount of a GHG that a business emits is measured as an equivalent amount of carbon dioxide which has a global warming potential of one. For example, in 2015–16, one tonne of methane released into the atmosphere will cause the same amount of global warming as 25 tonnes of carbon dioxide. So, the one tonne of methane is expressed as 25 tonnes of carbon dioxide equivalence, or 25 t CO<sub>2</sub>-e (Clean Energy Regulator 2023).

Scope 1 GHG emissions are the emissions released to the atmosphere as a direct result of an activity, or series of activities at a facility level. Scope 1 emissions are sometimes referred to as direct emissions.

Examples are:

- emissions produced from manufacturing processes, such as from the manufacture of cement.
- emissions from the burning of diesel fuel in trucks.
- fugitive emissions, such as methane emissions from coal mines.
- production of electricity by burning coal.

Scope 1 emissions are specified under the NGER legislation and must be reported.

Scope 2 GHG emissions are the emissions released to the atmosphere from the indirect consumption of an energy commodity. For example, 'indirect emissions come from the use of electricity produced by the burning of coal in another facility. Scope 2 emissions from one facility are part of the scope 1 emissions from another facility. Scope 2 emissions are specified under the NGER legislation and must be reported.

Scope 3 GHG emissions are not reported under the NGER Scheme, but can be used under Australia's National Greenhouse Accounts. Scope 3 emissions are indirect GHG emissions other than scope 2 emissions that are generated in the wider economy. They occur as a consequence of the activities of a facility, but from sources not owned or controlled by that facility's business. Some examples are extraction and production of purchased materials, transportation of purchased fuels, use of sold products and services, and flying on a commercial airline by a person from another business.

For further information visit:  
[Clean Energy Regulator](#)

## Theme 4 – Climate change adaptation and resilience



Measurement of Council's progress towards the target of zero net emissions by 2026 is completed using the following methods:

1. Council's operation emissions calculated annually, including scope 1, 2 and 3 emissions.
2. Community emissions are calculated every three years, including scope 1, 2 and 3 emissions.



## 6.1.3 Results for 2019-2023

### 6.1.3.1 Council's operational emissions

A summary of Council's operational emissions is presented in Table 16. Between 2021/22FY and 2022/23FY Council's operational emissions have decreased by 2.37%. Landfill emissions continue to be the highest source of Council emissions. The degradation of organic waste in landfills is a complex series of chemical and biological reactions. Landfill conditions, weather conditions, age of the waste, and gas extraction equipment productivity will all affect the methanogenic bacterial action and hence the resultant landfill gas capture and emissions.

It should be noted that Council's carbon footprint for 2020/21FY was slightly higher than 2019/20FY. This was due to the impact of COVID-19 requiring some facilities to be shutdown.

	2015/16FY	2016/17FY	2017/18FY	2018/19FY	2019/20FY	2020/21FY	2021/22FY	2022/23FY
Fuel	1,121	1,055	1,052	975	1,023	947	1017	1265
Refrigerants				229	229	38	38	38
Landfill emissions	36,122	32,697	26,712	30,649	31,427	31,368	22743	26005
Electricity - Council facilities	3,395	3,424	3,310	3,042	2,231	2,276	2089	2162
Electricity - Streetlights	2,101	2,074	2,105	2,153	2,201	2,187	2191	1917
Purchased goods & services operating & capital	13,104	12,143	15,201	13,933	12,834	13,776	16707	12320
Business Travel					54	12	15	20
Staff commute						524	524	524
Work from home						-51	-51	-51
Total	55,843	51,393	48,380	50,981	49,999	51,077	45,273	44,200
Reduction from previous year		7.97%	5.86%	-5.38%	1.93%	-2.16%	11.36%	2.37%
Reduction since base year 2015/16FY		7.97%	13.36%	8.71%	10.47%	8.53%	18.93%	20.85%

- Emissions factors for fuel increased due to Australian fuel imports
- Kyoto protocol gases only included
- Emission factors used from ArchBlue emission factors
- No longer able to claim solar export into grid

Table 16: Council's operational emissions between 2015/16FY and 2022/23FY

## 6.1.3.2 Community emissions

Data is currently only available up to 31 December 2022, so community emissions have been provided for 2018 and 2022 (Figure 26). During 2022, community emissions for the Noosa Shire were measured as being 472,410 tonnes of CO<sub>2</sub>-e, this has decreased by 27,590 tonnes of CO<sub>2</sub>-e since 2018 where community emissions were measured as being 500,000 tonnes of CO<sub>2</sub>-e.

Noosa Shire's community emissions are comprised primarily of electricity (58%), transport fuel (32%) and waste (10%). Noosa has a high penetration of residential rooftop solar. The PV Institute of Australia estimates that Noosa has a solar density over 51.4 % with individual suburbs exceeding this average (Australian PV Institute 2023). The average solar density for Queensland is 44.9%.

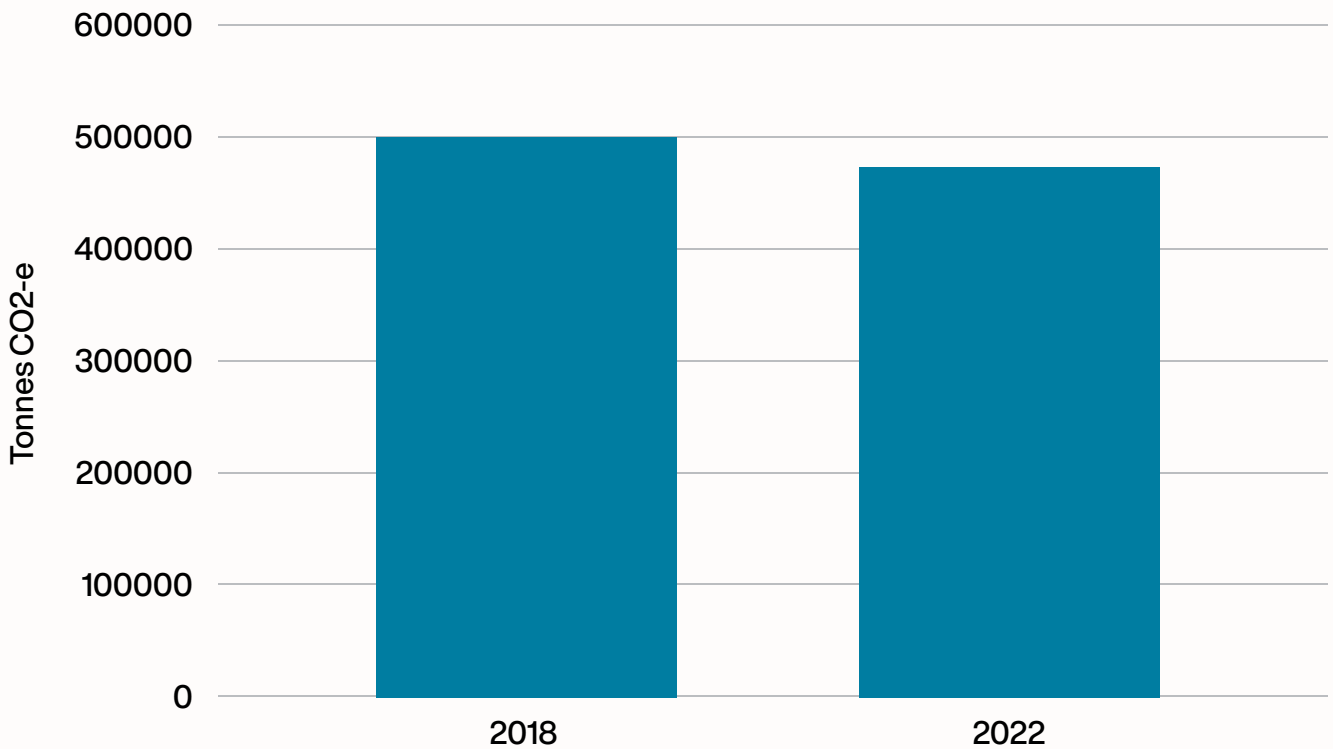


Figure 26: Community emissions in 2018 and 2022

## 6.1.4 Summary of council actions to deliver the strategy

### 6.1.4.1 Identify potential areas for carbon sequestration in the Noosa Shire and support landholders to take advantage of available opportunities.

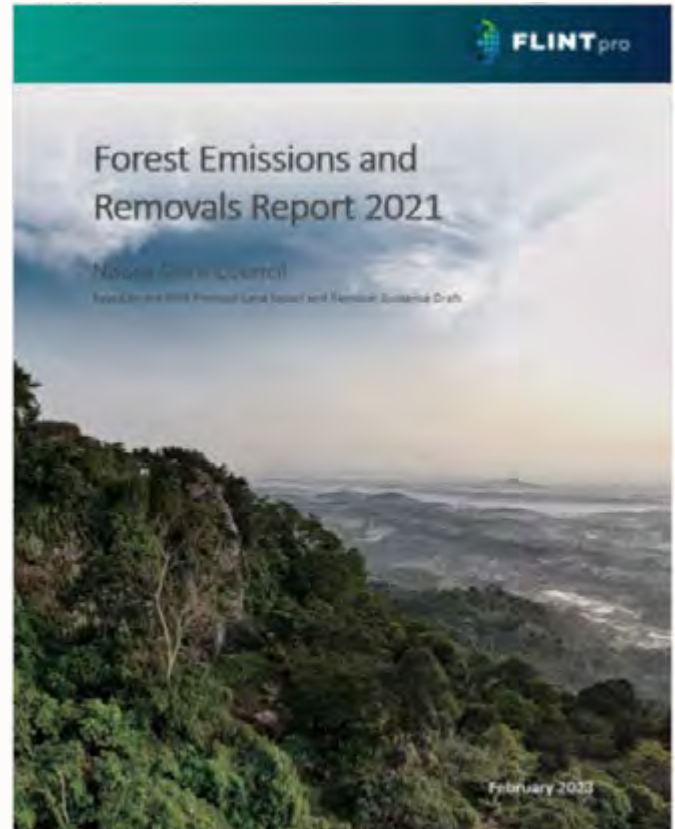
Council participated in the World Resources Institute Pilot Project for the Land Sector and Removal Guidance in 2021. This report focussed on GHG emissions and removals linked to forests within the organisational boundary of Council. The GHG emissions and removals were simulated with FLINTpro in the scope of the pilot testing and review phase of the GHG Protocol Land Sector and Removal Guidance.

An Offset Strategy Paper was prepared by Pangolin Associates for Council in October 2022. The paper provided Council with an in-depth analysis of the carbon market and local opportunities, including:

- Opportunities to develop Australian Carbon Credit Units (ACCU's) on-site for Council
- Carbon offset market state of play
- Carbon credit reporting
- Strategies and recommendations.

Based on the Offset Strategy Paper, Council is continuing to investigate suitable offset options based on financial constraints.

Council is also undertaking a review of the Conservation Land Plan in 2024. As part of this review, priority areas and land parcels for restoration and potential carbon offsets will be identified.



### Status of action to deliver the Environment Strategy



**Progressing:** steps have been taken towards this action, but the action is not being delivered in accordance with the Implementation Plan requirements.

### 6.1.4.2 Investigate emission reduction opportunities at Noosa landfill for reducing the creation of methane-based emissions.

New vertical wells have been installed and gas capture has increased significantly at the Eumundi-Noosa Road Landfill. Council is in ongoing discussions with LMS energy for future emission reduction opportunities and being more strategic in terms of where new gas wells are located at the site. Gas wells need to be turned off when landfilling, so Council has implemented procedures to allow greater capture to occur, including having a smaller landfill face.

Council is delivering ongoing capping programs at the Eumundi-Noosa Road Landfill to improve the capture of landfill gas. In addition, there have been stormwater and leachate collection and management improvements at the site. Council is investigating pre-treatment options for leachate being discharged to trade waste and treated by Unitywater at the Noosa Sewage Treatment Plant.

Council also had the Eumundi-Noosa Road Landfill masterplan currently underway. This masterplan represents a long-term commitment to promoting waste diversion, renewable energy generation, and the circular economy. The masterplan includes a proposed solar farm with battery storage capability to further maximise the environmental and economic potential from the landfill site, built onto available areas of the existing landfill.

#### *Status of action to deliver the Environment Strategy*



**On target:** action is progressing in accordance with the Implementation Plan requirements.



Methane gas extraction well at Eumundi-Noosa Road Resource Recovery Centre



## Theme 4 – Climate change adaptation and resilience



### 6.1.4.3 Implement energy efficiencies throughout Council-owned facilities and operations, such as the installation of solar PV systems and use of lower-emission transport options.

Over 790 kW of solar has now been installed across Council buildings and facilities, resulting in cost savings and further emission reductions. This is an increase of over 100 kW since 2021/22FY. In 2022/23FY there also were four battery units installed at four Council facilities. A summary of the solar and battery units installed across Council buildings and facilities is provided in Table 17.

Location	Solar System (kW)	Battery (Kwhr)
The J	70	57
Peregian Beach Community House	30	
Noosaville Library	60	
Noosa Aquatic Centre	99	
Noosa Admin Building	90	
Tewantin Splash Park	10	
Noosa Respite Centre	36	
Noosa Leisure Centre	32	38
Noosa Council Depot	50	
Cooroy Library	60	
Cooroy Arts Centre	10	
Noosa Caravan Park	46	
Cooroy Butter Factory	10	
Pomona Depot	10	
Digital Hub	30	10
Noosa North Shore Holiday Park	30	
Firetech Building	60	30
McKinnon Drive Sports Complex	60	
<b>Total</b>	<b>793</b>	<b>135</b>

Table 17: Summary of solar and battery units installed across Council buildings and facilities in 2022/23FY

## Theme 4 – Climate change adaptation and resilience



Council has delivered several projects to improve energy efficiency throughout Council-owned facilities and operations, including:

- Converting stage lights to energy efficient LED lighting at the J in 2022.
- Council in partnership with the USQ used funds from the Federal Government’s Black Summer Bushfire Recovery Grants Program to install two battery systems at two evacuation centres in Noosa - the J and Noosa Leisure Centre. These systems will provide sustained power during times of natural disaster and provide more physically and psychologically safe experiences for future evacuees.
- Council has received funding in June 2023 for a community battery in Noosaville under the Federal DCCEEW Community Batteries for Household Solar Stream 1. Council has commenced contract negotiations with not-for-profit Yarra Energy Foundation (YEF) to deliver the project.
- Ongoing upgrades of Rate 3 Street lights to LEDs as part of Council’s emission reduction projects. Between 2021/22FY and 2022/23FY, Council has replaced 285 street lights with LEDs.

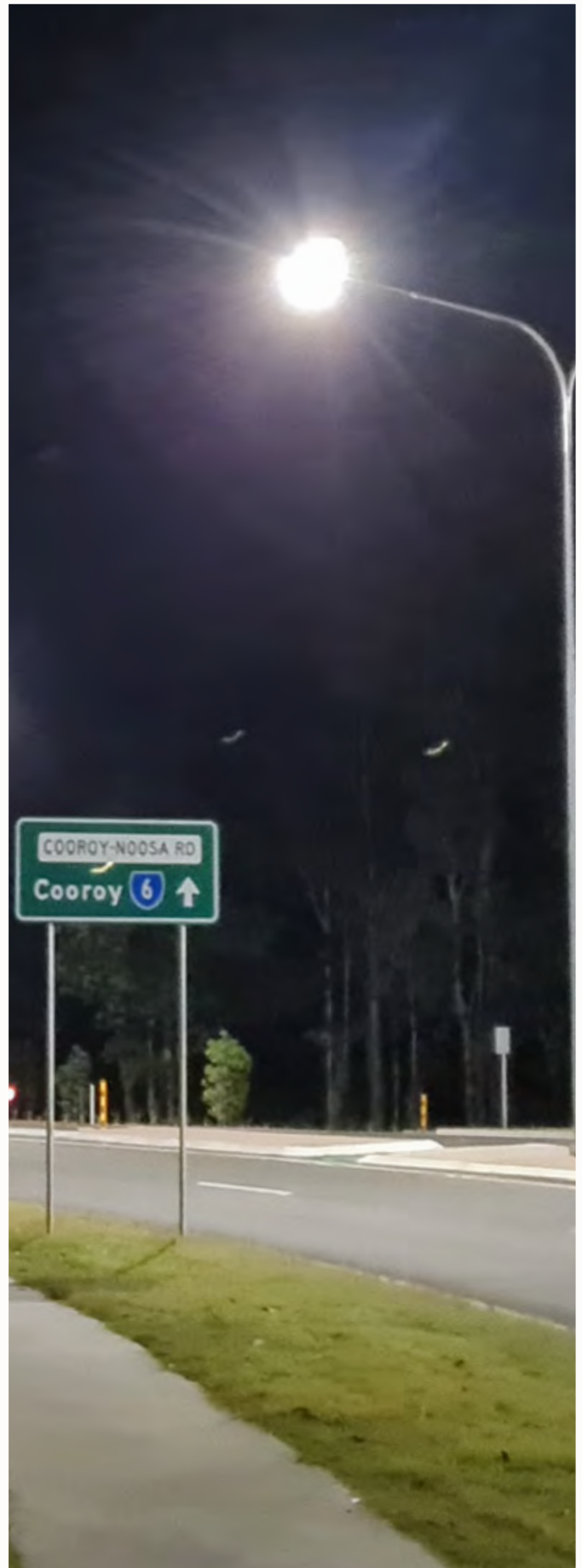


Example of a community battery - Fitzroy North Community Battery (image source YEF 2023)

### Status of action to deliver the Environment Strategy



**On target:** action is progressing in accordance with the Implementation Plan requirements.



LED streetlights installed at Beckman’s Road (image source Aiden Flannery).

### 6.1.4.4 Investigate Noosa Council’s future emission offset possibilities, identifying the options with the most environmental, social and economic co-benefits.

An Offset Strategy Paper was prepared by Pangolin Associates for Council in October 2022. The paper provided Council with an in-depth analysis of the carbon market and local opportunities, including:

- Opportunities to develop ACCU’s on-site for Council
- Carbon offset market state of play
- Carbon credit reporting
- Strategies and recommendations.

Based on the Offset Strategy Paper, Council is continuing to investigate suitable offset options based on financial constraints.

### 6.1.5 Recommendations

The Environment Strategy and Implementation Plan needs to be updated to refine the actions in the climate change adaptation and resilience theme to better align with the Noosa Climate Change Response Plan (2021), especially in terms of the strategic priorities to structure and direct climate risk actions and emission reduction opportunities for Council and the Noosa community.



Offset Strategy Paper prepared by Pangolin Associates for Council in October 2022

#### Status of action to deliver the Environment Strategy



**On target:** action is progressing in accordance with the Implementation Plan requirements.

### 6.2 Strategy 4.2 Increase community resilience and capacity to adapt to climate change.

#### 6.2.1 Target

By 2030, community awareness, planning and preparedness for natural hazards and climate change is increased.

#### 6.2.2 Methodology

Council has used responses to two key questions from the Noosa and SCC's Regional Climate Action Roadmap: Community and Youth Survey Results from the report prepared by Alluvium in November 2021 to use as an indication of community understanding of climate change impacts, preparedness, and actions for this Monitoring Report. Details of the two questions and the method of analysis adopted for this Monitoring Report are detailed below.

##### 6.2.2.1 Measurement of community awareness of natural hazards and climate change

A measure of 'awareness' has been sourced from the response to the question: *'To what degree do you believe the following individual actions can help the Noosa and Sunshine Coast region prepare for a changing climate?'*

- Preparing for storm season or bushfire season
- Having adequate insurance cover
- Installing water tanks and other water efficient devices
- Growing our own food and community gathering

Respondents were able to provide a range of answers to this questions including 'to a large degree', 'to a moderate degree', 'to some degree', 'to a small degree' and 'not at all'. A count was undertaken of how many respondents answered, 'to large degree' and 'to moderate degree'. A target of 90% of respondents selecting either 'to a large degree' or 'to a moderate degree' was nominated by Council's Climate Change team.

##### 6.2.2.1 Measurement of community preparedness for natural hazards and climate change

A measure for 'preparedness' has been sourced from the responses to the question: *'Which of the following actions have you already done to prepare for changes to the climate? Please select all that apply.'*

- Preparing for storm season or bushfire season
- Having adequate insurance cover
- Installing water tanks and other water efficient devices

A count was undertaken of how many respondents answered, 'to large degree' and 'to moderate degree'. A target of 90% of respondents selecting either 'to a large degree' or 'to a moderate degree' was nominated by Council's Climate Change team.

#### 6.2.3 Results for 2019-2023

##### 6.2.3.1 Measurement of community awareness of natural hazards and climate change

Table 18 presents the SCC's Regional Climate Action Roadmap: Community and Youth Survey Results for the question: *To what degree do you believe the following individual actions can help the Noosa region prepare for a changing climate?*

In terms of community awareness on how to prepare for climate change, the survey suggests that a large majority have a strong understanding that installing water tanks and preparing for storm and bushfire season are important resilience actions. However, the survey indicates that more work is needed to increase awareness on the importance of having adequate insurance cover and growing your own food or community gardening when preparing for climate change.

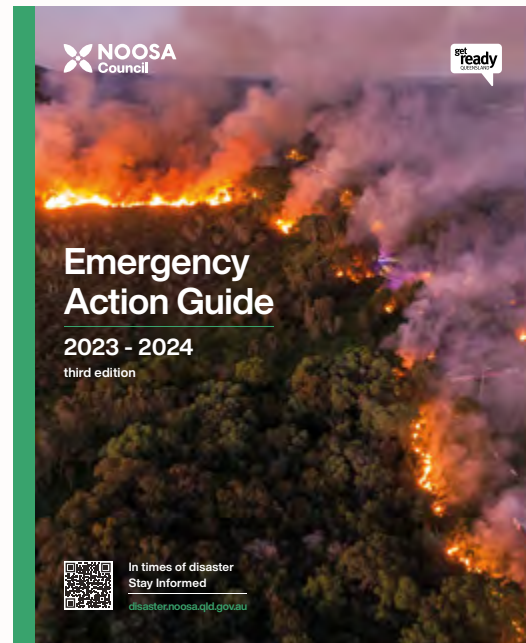
Council plans to increase community awareness of disasters and climate change through the launch of the 'Noosa Climate Wise Communities' portal by the end of 2023. Within this portal, members of the community can join a 'Readiness Workshop', access videos on resilience, play the 'What If' scenario exercise, and undertake a 'Ready Check' where they can map the exposure and vulnerabilities of their property to climate hazards to prepare information for their 'Emergency Action Guide.'

Community members can also 'Ask an expert' and send a query to Queensland Police Service, Queensland Fire Service, Rural Fire Service.

## Theme 4 – Climate change adaptation and resilience



As part of this initiative, Council will also be delivering Readiness Workshops where participants can utilise the Simtable to explore 3D simulations of a disaster unfolding in their local area to discuss the best actions to take in order to be prepared and respond effectively. This will further increase the awareness and preparedness for natural hazards and climate change.



Individual actions	Total percentage of respondents that selected 'To a Large Degree' or 'To a Moderate Degree'	Target
Preparing for storm season or bushfire season	71%	90%
Having adequate insurance cover	45%	90%
Installing water tanks and other water efficient devices	81%	90%
Growing our own food and community gardening	62%	90%
<b>Total number of respondents</b>	<b>204</b>	

Table 18: Indication of community awareness for natural hazards and climate change in the Noosa Shire (Alluvium 2021).



## Theme 4 – Climate change adaptation and resilience



### 6.2.3.1 Measurement of community preparedness for natural hazards and climate change

Table 19 presents the SCC's Regional Climate Action Roadmap: Community and Youth Survey Results for the question: *'Which of the following actions have you already done to prepare for changes to the climate? Please select all that apply.'*

Replace with: In terms of community preparedness for climate change, the survey suggests that over 75% of respondents are in some way prepared through having adequate insurance devices. However, the survey indicates that more work is needed to increase the number of people that are prepared for storm and bushfire season and that have installed water tanks and water efficient devices.

Individual actions	Total percentage of respondents that selected 'To a Large Degree' or 'To a Moderate Degree'	Target
Preparing for storm season or bushfire season	67%	90%
Having adequate insurance cover	77%	90%
Installing water tanks and other water efficient devices	52%	90%
<b>Total number of respondents</b>	<b>190</b>	

Table 19: Indication of community preparedness for natural hazards and climate change in the Noosa Shire (Alluvium 2021).



### 6.2.4 Summary of council actions to deliver the strategy

6.2.4.1 Investigate, and implement if appropriate, a solar bulk-buy scheme for Noosa residents, to provide quality solar at affordable rates.

Australian Energy Foundation (AEF) provided the Solar Advice line to Noosa Residents on behalf on Council. This included 3 face-to-face engagements and 1 online session due to COVID. Over 140 people participated in these sessions. However, AEF is no longer in business and Council has determined that a solar bulk-buy back scheme is not supported. Council is focussing on community engagement and education as this was deemed a more equitable investment at the current time.

#### *Status of action to deliver the Environment Strategy*



**Completed:** action is complete, and no further action is required.



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6.2.4.2 Work with community partners to scope, develop and implement a community education program aimed at increasing the adoption of sustainable building elements and preparedness of residents to adapt to climate change impacts.

Council's Climate Change team delivered several projects and initiatives in 2022/23FY to deliver this action and these are summarised below.

### Climate change grants

The 2023/24FY Council budget allocates \$50,000 to the Climate Change Response Plan Grants program. In addition, \$17,773 residual grant funding from 2022/23FY

was carried over to the 2023/24FY Climate Change Response Grants. The available grant funding available for this round was \$67,773.

The Climate Change Response Grants opened for applications on 1 March 2023 and closed on the 12 April 2023. Six applications were received for this round of the Climate Change Response Grants. Council awarded the Climate Change Response Grants in June 2023.

Six grants were awarded to support emissions reduction and adaptation in 2022/23FY, and these are detailed in Table 20.

Project	Applicant	Project description	Funding allocated
Solar installation for the Genealogical Heritage Centre	Cooroy Noosa Genealogical & Historical Research Group Inc	The installation off a 6.6kw Solar System at the Heritage Centre. To reduce electricity costs and emissions	\$ 3,326
Solar for Strata Stage 3: Supporting Solar Champions	Zero Emissions Noosa Inc	Creation of a "How to video" to assist strata champions engage with their body corporate bodies on the opportunities, revenues and processes for installing solar on a strata building	\$ 7,169
Kin Kin Solar Project	Kin Kin Community Group Inc	Installation of 27 Kw solar system at the Kin Kin Community House and the 10 kW solar system at Kin Kin School of Arts buildings including structural and switchboard assessment	\$ 13,665
Out with the Old in with the Energy Efficient	SevGen Indigenous Corporation	Upgrade of 1.5kW solar system to 16.72kW solar system with 12.8 battery storage	\$ 13,596
Cooroy Community Pavilion Solar Panels	Permaculture Noosa Inc	Installation of 6.6 kW solar system	\$ 2,625
Rewiring Noosa Shire - Household Electrification Stage 1	Zero Emissions Noosa Inc	Electrify everything – business case, tool kit, education , advocacy and economic development opportunities	\$ 19,455
<b>Total Funding</b>			<b>\$59,836</b>

Table 20 Projects funded under the Climate Change Response Grants for 2023/24FY awarded in June 2023



### *Polystyrene disaster short film*

The impact of polystyrene debris along Noosa's eastern beaches has been documented in a short film published by Council. Pontoon: The Polystyrene White Spill Disaster recounts how 18 large pontoons were washed north from Brisbane during the floods of early 2022 and on to Noosa's eastern beaches. Damaged by the sea, the pontoons released millions of polystyrene beads across Noosa's beaches, creating the 'white spill' pollution disaster. The film explores how challenging the polystyrene pollution event was for Council and the community and includes lessons learned. Several industry bodies including MSQ and the Boating Industry Association are looking at redesigning pontoons to avoid future spills and regulating their installation. Since being released the video has had over 1,100 views (as of 30 October 2023).

To view the video visit:

[The Polystyrene White Spill Disaster short film](#)



### *Research project to build resilience in the bushfire affected communities of the Noosa Shire*

Funded by the Federal Government's Black Summer Bushfire Recovery Grants Program and led by the USQ, in partnerships with Zero Emissions Noosa Inc., Council and Noosa Environmental Education Hub.

The project had four components:

1. Installation of battery systems on two evacuation centres - the J and Noosa Leisure Centre (to ensure sustained power to the evacuation centres during times of environmental crisis),
2. Analysis of evacuees' experiences of staying at evacuation centres,
3. Better Be Ready (BBR)! Batteries and Bushfire Resilience workshops to educate the community about battery systems, and
4. Deliver a curriculum aligned high school education program (to teach students about battery systems and how such installations will benefit the community).

The batteries have been installed at both of the evacuation centres. Data collection has commenced and preliminary findings from participant interviews have revealed a lack of disaster preparedness for evacuation. Participants forced to stay in evacuation centres reported a void in information about damage, specifically concerning homes. Overall, there was a strong sense of "being cared for" as the community rallied behind to support the evacuees. A community workshop was held in June 2023 and high school education programs are under development and on track for completion by the end of 2023. This project demonstrates collaboration with the community following disaster events.



A BBR: Better Be Ready! Batteries and Bushfire Resilience workshop held at Peregrin Beach Community House.

## Theme 4 – Climate change adaptation and resilience



### Noosa Electric Vehicle (EV) Expo

Council in partnership with Zero Emissions Noosa delivered the second EV expo and street festival for the second year in June 2023, where over 6,000 people attended. Attendees could view and test drive EVs, look at different EV wall chargers, talk to EV owners and even look at Council’s new EV lawnmower.

For further information visit:  
[Noosa EV Expo](#)



### Biz to Zero 2023

This event was held for its second year in April 2023 to encourage, educate and support local businesses on their zero emissions and zero waste journey. Over 100 people attended the breakfast held at The J and was organised by Council.



### Climate Conversations

In 2022/23FY, Council delivered ‘Climate Change Conversations’, which were events sharing information from local experts, identifying local champions and educating staff and community members. Several events were delivered, including:

- Bushfire and high tech: How High Technology is helping us build resilience to bushfire and climate change.
- Everything you ever wanted to know about electric vehicles.
- How to prepare your home and family for bushfire season.
- Eco-anxiety: The impact (and remedy) of working in nature.
- What is the green economy?



### Green Drinks

Green Drinks is a networking event for the environmental sector aimed at building strength, capacity, and collaboration in the green sector undertaken in partnership between Council’s Climate Change and Economic Development teams. The Green Drinks are held monthly at different venues throughout the Noosa Shire with guest speakers across all areas of sustainability and the green economy.

**Status of action to deliver the Environment Strategy**

**On target:** action is progressing in accordance with the Implementation Plan requirements.

### 6.2.4.3 Encourage and facilitate the use of electric vehicles by establishing a network of electric vehicle charging points throughout the Noosa Shire.

Peregian Hub community centre has an EV charger. Work is currently underway to determine locations and partnership opportunities for the installation of EV charging stations across the Noosa Shire. Further investigations are also needed to determine if there are any opportunities to amend the Noosa Plan 2020 to include EV chargers for new developments.

#### *Status of action to deliver the Environment Strategy*



**Progressing:** steps have been taken towards this action, but the action is not being delivered in accordance with the Implementation Plan requirements.



## Theme 4 – Climate change adaptation and resilience



### 6.2.4.4 Undertake a socio-economic impact assessment from flooding and inundation of foreshore areas, including projected impacts on public infrastructure, private assets and commercial activities in the lower Noosa River.

Noosa's endorsed Coastal Hazards Adaptation Plan's (CHAP) identifies the Noosaville foreshore as an at-risk area due to periodic tidal inundation and storm tide inundation over the next 80 years and beyond. The recommended action for Noosaville includes: "Investigate location, scale and design of adaptive landscape structures (i.e., non-intrusive levees, innovative design features for garden beds, public furniture, park design and raised foreshore footpaths) to prevent or mitigate impacts of frequent, shallow and low flow tidal inundation of parks and road corridors."

Modelling shows that this shallow periodic inundation, already experienced during high tide and storm tide events along the immediate foreshore areas will become more frequent and impact more areas of foreshore over time. Many assets (particularly publicly owned assets such as foreshore recreation areas and parks, the road network, including footpaths, and the gravity-based stormwater network) are likely to be exposed to frequent inundation. In the absence of any adaptation response, this inundation will likely restrict access to roads, footpaths and recreational areas and cause nuisance to residents, business owners and visitors. An added complexity is the infrequent river flooding from major wet weather events that are well documented in the catchment. Council has recently engaged a suitably qualified consultant to prepare concept designs for Foreshore Resilience to Future Frequent Inundation along a section of the Noosa River – Noosaville. The concept designs will include consideration of immunity barriers to prevent inundation of both foreshore areas, back street and private properties integrated with backflow preventions devices.

In addition, consideration is to be given to other nature-based, engineered, and landscape solutions to provide resilience to the area. The area for investigation is shown in Figure 27 and includes:

- Noosaville foreshore parklands adjacent to Gympie Terrace including Chaplin Park, Lions and Apex Parks, Quota Park, Ely Park, Massoud and Pelican Beach Park.
- Noosa Waters Entrance Canal and surrounds including Humpty Doo Bridge.
- Public carparks and boat ramps within the study area; and
- Gympie Terrace Road Reserve including the road and adjacent footpath areas (between Noosa Waters Canal and William Street).

The project is due for completion by December 2023.

#### Status of action to deliver the Environment Strategy



**On target:** action is progressing in accordance with the Implementation Plan requirements.

### 6.2.5 Recommendations

The updated Environment Strategy and Implementation Plan should clearly define suitable methods to undertake ongoing measurement of progress towards the target: By 2030, community awareness, planning and preparedness for natural hazards and climate change is increased. This could include:

- Data on the number of residents with emergency kits and 'Emergency Action Guide' in place.
- Number of participants at ongoing Climate Wise Community workshops.



Figure 27: Concept Designs for Noosaville Foreshore Resilience to Future Frequent Inundation Study Area

### 6.3 Strategy 4.3 Manage the natural environment in a way that improves resilience to climate change.

#### 6.3.1 Target

Ecosystem health of wetlands and riparian areas is improved.

#### 6.3.2 Methodology

Council has measured progress towards this target in the Monitoring Report using riparian extent and condition from the HLW EHMP and Report Card Program.

Progress towards this target is currently measured in two ways by HLW:

##### 1. Riparian woody vegetation cover

The area of woody vegetation within the riparian zone of each sub catchment was calculated as a percentage of the total riparian zone minus areas that are classified as remnant non-woody. This layer was created using the following input datasets:

- Australian Hydrological Geospatial Fabric
- SLATS woody vegetation cover for 2021
- RE vegetation mapping (version 13) of remnant vegetation
- Buffered drainage network including stream orders of 1 or higher

##### 2. Riparian spatial BioCondition

The predicted spatial bio condition of vegetation within the riparian zone. The spatial BioCondition maps the condition of vegetated terrestrial ecosystems to describe their biodiversity. This indicator measures the relative capacity of ecosystems to support species expected to occur in undisturbed reference sites (DES 2021). Therefore, this indicator represents the biodiversity perspective of riparian condition. This layer was created using the following input datasets:

- Australian Hydrological Geospatial Fabric
- Buffered drainage network including stream orders of 1 or higher.
- Spatial BioCondition (SBC).

The methods above unfortunately do not provide an assessment of the health of wetlands and riparian areas. It is recommended that a research project which completes a baseline assessment of the condition of wetlands and riparian areas is supported to better assess Council's

progress towards this target. This will include a desktop review of existing data which may be available from previous research undertaken in the Noosa Shire and identification of suitable monitoring sites.

#### 6.3.3 Results for 2019-2023

The 2023 HLW report card and spatial mapping has not yet been finalised, however, HLW has stated that riparian habitats in freshwater reaches of the Noosa catchment are in fair condition in 2023. Woody vegetation cover is very good with >80% woody cover in 67% of Noosa sub-catchments. The bio condition of riparian areas is also very good. Riparian woody vegetation re-growth is poor, while remnant riparian vegetation clearing continues, though is minimal in its extent. Further information around riparian condition and extent will be provided in the next Monitoring Report.



### 6.3.4 Summary of Council actions to deliver the strategy

6.3.4.1 Improve understanding and monitor changes in groundwater and wetlands and the potential impacts of climate change on their health, through the development of a groundwater and coastal vulnerability assessment and monitoring tool.

Council has worked with the UQ to establish a groundwater monitoring program in Cooloola National Park.

The Noosa region contains a series of aquifers associated with a complex coastal landscape formed by sand dunes and estuarine systems. These aquifers are the primary source of water sustaining fragile ecosystems which dominate the Noosa landscape and underpin the local economy and tourism industry. These aquifers are closely linked to habitats within the Great Sandy National Park and Great Sandy Strait, the latter a Ramsar listed Wetland of International Importance.

Understanding the connectivity between different groundwater systems and an informed conceptualisation of water use by ecosystems will assist the effective management of water resources in these precious environments. This project will provide a data derived conceptualisation of subtropical coastal groundwater dependent ecosystem (GDE) function, quantifying the capacity of aquifers to maintain ecosystem function and assist Council and government departments to make informed planning decisions on mitigating biodiversity loss in these vulnerable ecosystems.

The overall aim of the project is to support Noosa in creating effective long-term management options. The outcome of this study will directly align with the Noosa Plan 2020. This project will provide a better understanding of GDEs to:

- Protect and enhance existing ecosystems;
- Manage water resources to improve the long-term survival of threatened species and ecological communities; and
- Manage the natural environment in a way that improves resilience to climate change.

The project involved the installation and maintenance of several piezometers in the area which measured groundwater levels.

#### *Status of action to deliver the Environment Strategy*



**Progressing:** steps have been taken towards this action, but the action is not being delivered in accordance with the Implementation Plan requirements.

### 6.3.5 Recommendations

Methods currently utilised to assess progress towards the target do not provide an assessment of wetland condition health and change in wetland condition over time due to climate change impacts. It is recommended that a research project which completes a baseline assessment of the current condition of wetlands is supported to better assess Council's progress towards this target. This will include a desktop review of existing data which may be available from previous research undertaken in the Noosa Shire.

There is also a need to better capture and understand how restoration activities undertaken by Council and community groups in the Noosa Shire are improving riparian vegetation cover and condition. The updated Environment Strategy and Implementation Plan needs to consider how this data could be captured to assess the environmental benefits of these restoration activities more effectively over time.

The updated Environment Strategy also needs to consider incorporating additional targets for climate change resilience beyond just wetland and riparian areas. Council should consider current research, including the CSIRO Biodiversity Resilience project and forthcoming Biodiversity Adaptation Plan which will include a vulnerability assessments for key flora and fauna, as well as monitoring for these environmental values.

# Activities undertaken outside of the Environment Strategy by Environmental Services



# 7. Activities undertaken outside of the Environment Strategy by Environmental Services

## 7.1 Supporting the delivery of sustainable infrastructure and maintenance projects

### 7.1.1 Overview of how Environmental Services has supported works delivered by Infrastructure Services

Environmental Services currently provides support to Infrastructure Services to ensure Council projects do not cause environmental harm and meet environmental legislative requirements, as well as acceptable risk levels defined in Council's Enterprise Risk and Opportunity Management Framework. Environmental Services delivers this support through an Environmental Officer (0.5 FTE) and support from the Principal Environmental Officer – Policy and Planning (Land). An additional 1 FTE for a Senior Environmental Officer – Capital Works has been approved in the 2023/24FY budget to support the growing number of projects being delivered by Infrastructure Services.

An overview of the activities delivered by Environmental Services in 2022/23FY to support Infrastructure Services is provided below:

1. Delivery of 12 corporate inductions to inform new staff of environmental responsibilities and requirements whilst being an employee of Council.
2. Review and input into the current Project Initiation Document (PID) to identify where engagement with Environmental Services for further assessment and advice is required.
3. Update and maintenance of the Environmental Services Referral Mapping layer on Intramaps to allow Council staff to identify potential environmental values present within project footprints and when to seek advice regarding potential environmental approvals required to deliver a project.
4. Update of the Sustainability and Environmental Management Questionnaire for Council tenders.
5. Update to Council's General Construction Contract Specifications to include environmental conditions, including (but not limited to) minimum requirements for Construction Environmental Management Plans (CEMPs) and when a Certified Professional in Erosion and Sediment Control (CPESC) is required to be engaged for a project.
6. Review and input into Council's Rural Roads Guideline to better guide planning and delivery of rural road maintenance.
7. Preparation of an Environmental Scoping Report (ESR) template to determine an overall environmental risk rating for a project and identify whether further environmental assessments are warranted as part of the pre-construction process.
8. Delivery of ESRs for over 40 capital works projects, including upgrades for the Noosa Biosphere Trails.
9. Engagement and negotiation with State agencies to deliver environmental approvals for Council capital works projects and civil operations.
10. Preparation and annual reporting for one low-risk Species Management Plan (SMP), and several high risk SMPs for threatened fauna under the *Nature Conservation Act 1992* for all Council managed works.
11. Engagement and review of documents for over 146 ecological consultancy services for Council infrastructure projects since 2020.
12. Provision of environmental advice to ensure compliance with Environmental Authorities (EAs) at Council landfill and quarry sites, as well as support the development of the Eumundi-Noosa Landfill master plan.

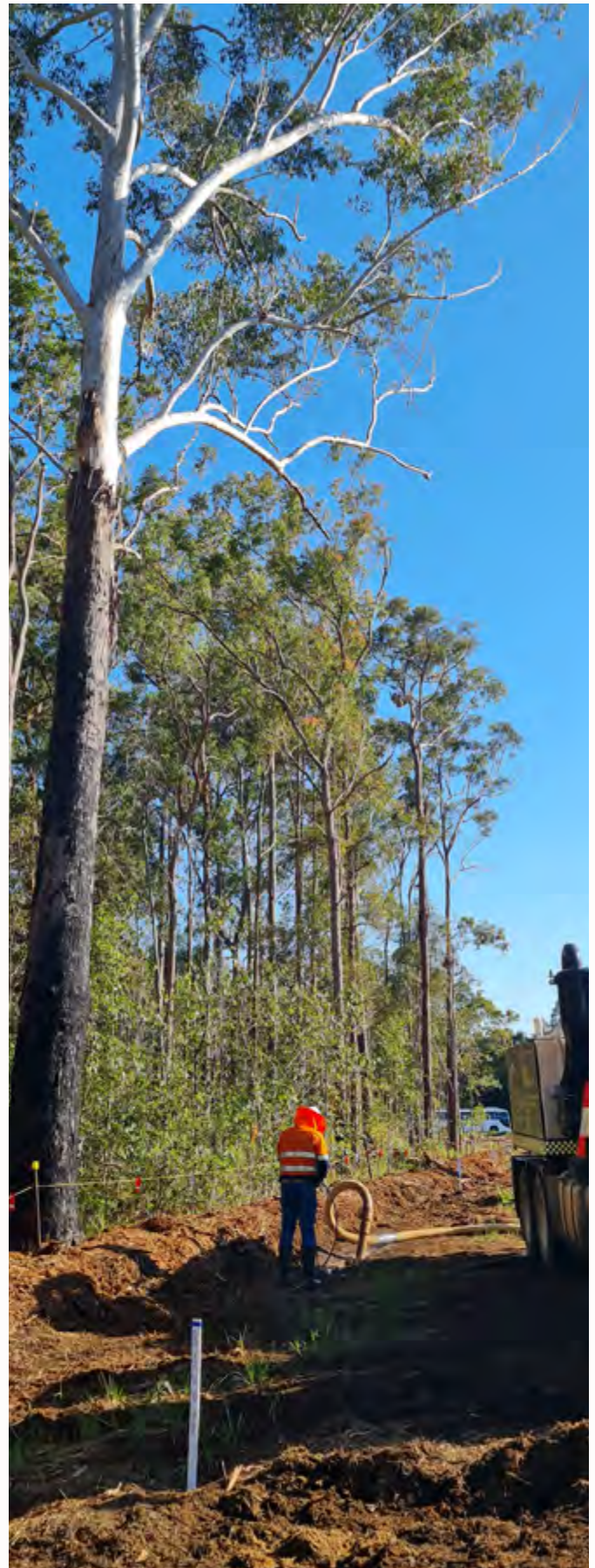


# Activities undertaken outside of the Environment Strategy by Environmental Services



## 7.1.2 Recommendations

1. The Environment Strategy intends to inform planning, guide decision making, drive implementation, prioritise action and investment, and set a shared vision for the environment. However, the current Environment Strategy does not include a specific theme, strategy, targets, or outcomes to ensure the delivery of sustainable capital, civil and maintenance works by Council. This is a key requirement of the Local Government Action 2009 and the Corporate Plan and current gap in the Environment Strategy. The review and update of the Environment Strategy and Implementation Plan need to include specific targets, KPIs, and actions to ensure that all of Council’s capital, civil and maintenance works are planned, delivered, and maintained in accordance with the Corporate Plan, Noosa Plan 2020, Noosa Design Principles, environmental legislative requirements, and best practice environmental management.
2. The update and review of the Environment Strategy and Implementation Plan needs to consider the Noosa Trails Masterplan and ongoing maintenance and upgrades to the Noosa Biosphere Trails. Recent works on the trails include vegetation restoration, weed management and drainage upgrades. Educational signage, including information on environmental values, also forms part of the Noosa Biosphere Trails. The significant role the trails plays in the delivery of environmental and social outcomes in the Noosa Shire also needs to be considered as part of the review and update of the Environment Strategy and Implementation Plan.
3. A key part of the delivery of sustainable infrastructure and maintenance projects is providing appropriate training and increasing understanding of best practice environmental management for Council staff. Environmental Services in partnership with Infrastructure Services should develop core competency training for key environmental modules to ensure that all Council staff understand their environmental legislative requirements and responsibilities.
4. To ensure Council projects are meeting environmental legislative requirements, the establishment of ongoing independent environmental audits are recommended. This auditing process will identify areas for improvement in the delivery of Council projects and determine focus areas for Councils core competency training.



*Tewantin bypass tree protection measures, vacuum excavated pilot trench for watermain to identify and selectively cut roots to save Blackbutt trees (image source Aiden Flannery).*

## Activities undertaken outside of the Environment Strategy by Environmental Services



Trees for tourism planting day (image source Tourism Noosa).



Recent upgrades to Trail 5 of the Noosa Biosphere Trails (image source Aiden Flannery).



Tewantin bypass clean water diversion (image source Aiden Flannery).

# Activities undertaken outside of the Environment Strategy by Environmental Services

## 7.2 Fire management

### 7.2.1 Overview of Council’s fire management activities

Council currently has management responsibilities for 178 Bushland Reserves (public areas managed primarily for conservation) that cover a total of 3,469ha. Many native ecosystems within Noosa’s bushland reserves are fire adapted, which in the absence of a suitable fire regime may reduce species (both floral and faunal) diversity. Council’s bushland reserves contain 88.5% of fire adapted vegetation communities, with rainforest, saltmarsh and mangrove communities being the only native vegetation communities that haven’t evolved to tolerate fire.

Like other landholders, Council has certain responsibilities under the *Fire and Rescue Service Act 1990*, they are to:

- manage fuel loads within land it controls.
- take all reasonable steps to extinguish an unauthorised fire; report the existence and location of the fire as soon as practicable to a Fire and Rescue fire officer or other named officer; and
- take reasonable steps to notify every occupier of adjoining land of planned fire mitigation.

Council manages fire in accordance with the Noosa Bushland Reserve Strategic Fire Management Plan. This plan aims to help protect life and property while maintaining biodiversity values within bushland reserves. It is a 5-year plan that provides principles of management and identifies responsibilities, hazards and risks, and an action plan to mitigate those risks based on reserve priorities.

Following the endorsement of the Noosa Bushland Reserve Strategic Fire Management Plan in 2021, a Fire Management Officer position (1 FTE) was employed by Council in September 2021. This position was employed to implement the Bushland Reserve Strategic Fire Management Plan on Council owned Bushland Reserves, involving the development and implementation of planned burns, training, and establishment of fire management “reserves” (employees to conduct fire operations outside of normal

work duties), facilitate the procurement of fire appliances, and other fire mitigation activities on reserve. Prescribed ecological burns completed since 2020 by Council are summarized in Table 21.

Since 2021, Council has bolstered its fire mitigation capabilities to 4 Light Attack Fire Appliances which will expand to 6 by the end of 2023, 16 staff trained in National Accredited firefighting, ranging from Crew Members, Crew Leaders, and Complex Prescribed Burn Officers. Council is heavily involved in “Area Fire Management” stakeholder meetings, Rural fire group officer meetings and the likes with the increased development of the fire management capacity.



*Protecting habitat trees through raking of leaves prior to prescribed ecological burns (image source: Shaun Harris)*

## Activities undertaken outside of the Environment Strategy by Environmental Services

Year - 2020	Lot and Plan	Hectares	RE
Noosa Landfill - Weyba NR	77SP298776	57.8	12.3.13/12.3.5, 12.5.4
Cooloothin Ck Bushland Reserve	25SP104706	15.5	12.3.14/12.3.5
	Total area burnt (ha)	73.3	
Year - 2021	Lot and Plan	Hectares	RE
Beach Road Nature Refuge	900SP186169	9.5	12.9-10.4
Cooloothin Ck Bushland Reserve	25SP104706	12.3	12.3.14/12.3.5
Quarry Track Bushland Reserve	491SP287419	27	12.9-10.4
Bill Huxley Nature Refuge	52SP215037	136	12.2.12
	Total area burnt (ha)	184.8	
Year - 2022	Lot and Plan	Hectares	RE
Weyba Nature Refuge	77SP298776	47	12.5.6c, 12.5.3, 12.5.4, 12.5.9/12.3.5
Arthur Harold Nature Refuge	5RP135678, 3RP135678	13	12.9-10.4
Arthur Harold Nature Refuge	5RP135678, 3RP135678	9	12.9-10.4, 12.3.11
Block G			
(Bill Huxley Nature Refuge)	52SP215037	180 (66 NR)	12.3.4, 12.3.6
North Shore Environmental Reserve	7MCH4562	1.2	12.2.12
Block O, O1, O2			
(Teewah Bushland Reserve)	78SP215048	64 (3.2 BR)	12.2.9, 12.2.5
	Total area burnt (ha)	139.4	
Year - 2023	Lot and Plan	Hectares	RE
Weyba Nature Refuge	77SP298776	16	12.5.9/12.3.5
Edington Drive Environmental Reserve	103SP208642	4.8	12.3.4/12.3.14
Cooloothin Creek Nature Refuge	25SP104706	20	12.3.4
Yurol Nature Refuge	1RP35069	13	12.9-10.1
	Total area burnt (ha)	53.8	

Table 21: Prescribed ecological burns completed by Council between 2019/20FY and 2022/23FY

## Activities undertaken outside of the Environment Strategy by Environmental Services



Weyba Nature Refuge post prescribed ecological burn (image source Shaun Harris).



Airfield protection exercise completed by Council (image source Shaun Harris).

## Activities undertaken outside of the Environment Strategy by Environmental Services

Council's Fire Management Officer is involved in the following activities:

### *Fire research opportunities and partnerships*

Developed by the Peregian Digital Hub in the wake of the 2019 bushfires, FireTech has brought together tech companies, Council and QFES with the goal of boosting bushfire resilience. The trial has used drones, fuel moisture sensors, and artificial intelligence and ultra-high-definition cameras to predict, detect, track and fight bushfires.

Council's Fire Management Officer has been able to assist in operational delivery of multiple technology trials and efficacy testing. These tests have involved the attainment of burn permits, burning of material, hazard reduction burns, etc. These trials are paramount to the implementation of the FireTech program.



*Ultra high-definition cameras being used to detect fires early, verify their location and provide real time intelligence*



*Mount Tinbeerwah camera AI detected a fire plumb at Teewah Beach (image source Noosa Today 2022)*

# Activities undertaken outside of the Environment Strategy by Environmental Services

## *Disaster Management – Local District Coordination Centre (LDCC) / Local Disaster Management Group (LDMG)*

The Fire Management Officer is a member of the LDCC and LDMG. There is an opportunity for greater resourcing from the fire management “team” to aid outside of just fire incidents. Firefighting training is based heavily around Australasian Inter-service Incident Management System (AIIMS), and incident management protocols, staff are additionally trained and versed in chainsaw operations, etc. There is an opportunity for bolstered fire management resources to be jointly utilised across multiple disaster management spaces.

### *Wildfire response*

In the case of a wildfire, QFES is the lead agency under the *Fire and Rescue Service Act 1990* for these types of events, although Council has the opportunity and responsibility to be providing support during these incidents.

Council has developed a draft Standard Operating Procedure (SOP) as well as a draft Bushfire Preparedness Guideline, outlining a set of guidelines Council could be implementing when high fire danger weather is imminent, providing increased protection and resilience to the community and council bushland reserves and their associated flora and fauna.

### **7.2.2 Recommendations**

As part of the review of the Environment Strategy and Implementation Plan, it is recommended that comprehensive fire and biodiversity monitoring programs be undertaken by Council. The monitoring of post wildfire and planned burn event ecosystem responses contributes towards specific targets nominated in the Environment Strategy.



*Wildfires at Peregian Beach in 2019 (Image source ABC News 2020)*



*Wildfires at Peregian Beach in 2019 (Image source ABC News 2020)*

# Summary Environment Levy Expenditure





## 8. Summary Environment Levy Expenditure

Table 22 provides a summary of the expenditure for the Environment Levy between 2018/2019 – 2022/23FY. The Environment Levy funds the following projects and programs:

- Yurol Ringtail transition project
- Yurol Ringtail koala monitoring project using drones being delivered by QUT
- Sea turtle conservation, including Clean-up for the Hatchlings event
- Flora and fauna research projects being delivered by Noosa and District Landcare, MRCC and BMRG
- Private Conservation Partnerships Program, including LfW and VCAs
- Implementation of Council's Water Quality Monitoring Program
- Technical support for the update of the Noosa River Plan
- Oyster Reef Project
- Seagrass investigations

Item	2022/23FY	2021/22FY	2020/21FY	2019/20FY
Environmental Grants	477,304.90	371,956.12	247,313.00	193,796.64
Noosa Biosphere Reserve Foundation	186,000.00	103,000.00	125,000.00	60,000.00
Land Acquisitions and Maintenance	1,293,171	113,218	1,008,490	91,544
Environmental Projects and Programs	962,311	357,382	148,432	289,250
Corporate Overheads	182,765	182,778	178,307	187,839
Employee Costs	386,441	218,918	98,849	78,847
Unallocated Levy	91,977	8,653	83,490	29,350
<b>Total</b>	<b>2,504,970</b>	<b>1,355,906</b>	<b>1,889,880</b>	<b>930,627</b>

Table 22: A summary of Environment Levy Expenditure between 2018/19FY - 2022/23FY

Employees have also been funded using the Environment Levy to allow the delivery of the Environment Strategy and associated programs and projects. A summary of staff funded through the Environment Levy is detailed below.

Item	2022/23FY	2021/22FY	2020/21FY	2019/20FY
Employees (FTE)'s covered by Environment Levy	4.0	3.2	1.0	1.0

# Summary of progress and recommendations



*Image source Vanessa Moscato*

# Summary of progress and recommendations



## 9.1 Overview of progress towards targets nominated in the Environment Strategy

Council's progress towards the targets of the Environment Strategy at the end of the 2022/23FY is summarized below. Most (10) of the strategies are progressing towards their targets, with several (6) strategies being on target for

completion. The progress of some (5) strategies towards their targets is currently unable to be assessed due to insufficient monitoring data or methods being currently available. One target (all food waste is diverted from landfill by 2030) needs attention as Council currently does not have the opportunity to reprocess or compost waste and further work is needed to ensure this target is met by 2030.

Theme Biodiversity			
Strategy	Target	Method to measure progress	Progress towards target?
Strategy 1.1 Protect and enhance existing ecosystems, vegetation networks and habitats.	By 2030, there is no net loss of ecosystem values across the shire, and the condition of Council's priority bushland reserves are enhanced.	1) RE mapping: Every 5 years updated RE mapping will be used to identify changes in the number and extent of regional ecosystems.	Changes between REs were assessed and it was found that extent of remnant Category B vegetation declined by 0.014% on freehold tenure, and the average clearing rate was the lowest in SEQ.  <b>Progressing towards the target.</b>
		2) BOAs will be undertaken every 5 years across priority Council managed Bushland Reserves and for VCA/ LfW landholders and verified against shire-wide BioCondition Assessments.	BOAs were completed for 2842.52 hectares of Council reserves and ERPs were delivered for 879.88 hectares.  Council does not have the capacity to complete shire wide BioCondition Assessments. Revision of this requirement in the Implementation Plan should be considered.  <b>Progressing towards the target.</b>
		3) BioCondition benchmarks for RE Condition Assessment will be undertaken every 5 years for Noosa regional ecosystems.	Council has not yet commenced progress on a tenure blind BioCondition benchmark condition assessment for the Noosa Shire. Further funding will be required to complete this element of the methodology.  <b>Progress towards target unable to be currently assessed.</b>

## Summary of progress and recommendations



Theme Biodiversity			
Strategy	Target	Method to measure progress	Progress towards target?
Strategy 1.2 Expand vegetation networks and habitat	By 2030, half of all land in the Noosa Shire (39,818 hectares) is being managed for its' environmental values.	Measuring the combined land of land being managed for its environmental values against the Council local government land area excluding waterbodies (approximately 79635.025192 ha).	On 30 June 2020, 36% of the Noosa Shire (28,738.31 hectares) was managed for its environmental values. This increased on 30 June 2023 to 43% of the Noosa Shire (34499.48 hectares).  <b>On track to meet the target.</b>
Strategy 1.3 Improve long-term survival for threatened species and ecological communities	By 2030, populations of key threatened indicator species remain viable.	Noosa's Threatened Fauna Roadmap was endorsed in March 2023 and action plans will be developed for each of the 10 priority species identified.	Action plans are being developed in 2023/24FY for sea turtles and koalas.  <b>Progressing towards the target.</b>

Theme Waterways, wetlands, and coasts			
Strategy	Target	Method to measure progress	Progress towards target?
Strategy 2.1 Maintain and improve the health of waterways, wetlands, and catchments.	By 2030, the Noosa River and Mary River sub-catchments within Noosa Shire achieve an A rating (or equivalent) for their environmental health.	1) HLW report cards for Noosa River.	For the past 18 years Noosa's Report Card has consistently achieved an A- (excellent condition) rating, and the best in the region, until for the first time in 2022 when a B (good condition) was reported. The decrease in rating in 2022 was a result of sampling being undertaken following significant flooding events.  <b>Progressing towards the target.</b>
		2) Council sub-catchment report cards for Noosa and Mary Rivers.	Sub-catchment report cards for the Noosa and Mary Rivers have not yet been prepared and this will be progressed further in 2023/24FY.  <b>Progressing towards the target.</b>

# Summary of progress and recommendations



Theme Waterways, wetlands, and coasts			
Strategy	Target	Method to measure progress	Progress towards target?
Strategy 2.2 Protect and enhance coastal environments and vegetated buffers to coastal foreshores.	By 2030, maintain the extent of vegetated buffers and improve diversity of coastal ecosystems.	1) Foreshore vegetation cover and coastal RE changes	<p>Within the designated Foreshore Vegetation Management Area (187ha), mapped vegetation cover increased by approximately 40% from 124.6 ha to 173.9ha.</p> <p>The area of remnant vegetation increased by 32% from 90.7ha mapped in 2019 to 119.7 ha mapped in 2023.</p> <p>Changes were noted in the extent of REs, due to fine scale mapping, altered drainage patterns and the absence of fire.</p> <p><b>On track to meet the target.</b></p>
		2) Near shore reef condition and biodiversity: Surveys by RCA.	<p>Baseline survey available for 2018-2019, with follow up survey being completed by the end of 2023.</p> <p><b>Progress towards target unable to be currently assessed.</b></p>
Strategy 2.3 Manage waterways and coasts to protect environmental values while enabling sustainable public access, recreation, and commercial use.	By 2030, Noosa has a sustainable fishing industry and increased opportunity for recreational fishing.	Work with the DAF to undertake a baseline bioregion analysis to determine a sustainable fisheries monitoring approach.	<p>In collaboration with DAF, HLW and experts a baseline method to monitor the biodiversity and abundance of fish and fisheries will be developed to help optimise estuarine restoration plans.</p> <p><b>Progress towards target unable to be currently assessed.</b></p>

# Summary of progress and recommendations



Theme Sustainable living			
Strategy	Target	Method to measure progress	Progress towards target?
Strategy 3.1 Reduce waste to landfill	By 2030, all green waste and food waste is diverted from landfill.	1) The annual measurement of the amount of green waste in tonnes diverted from landfill and change over time.	<p>Council has diverted 15,769.44 tonnes of green waste from landfill in 2022/23FY. This was a slight decrease from 2021/22FY where 17,809 tonnes of green waste were diverted from landfill.</p> <p><b>Progressing towards the target for green waste being diverted from landfill.</b></p>
		2) The annual measurement of the amount of food waste in tonnes diverted from landfill and change over time.	<p>Council currently does not have the ability to divert food waste from landfill. The option for Council to undertake reprocessing or composting of this waste is being investigated within the Waste Strategy (2023) therefore, there is no data currently available to report against this target.</p> <p><b>Attention needed for Council to meet the target for all food waste being diverted from landfill by 2030.</b></p>

Theme Sustainable living			
Strategy	Target	Method to measure progress	Progress towards target?
		3) Bin audits of domestic general waste, comingled recycling and garden waste bins and commercial and industrial general waste and comingled recycling streams.	<p>In 2023, there was a decrease in organic compostable materials found in household and commercial waste. However, the percentage of recyclables in household waste increased by 2% between 2022 and 2023, making up 18% of the total waste.</p> <p>Overall, the results from the bin audits in 2022 and 2023 highlight the importance of continued education of the community to ensure waste is being disposed of in the correct bins, as well as the strong need for Council to be able to receive and recycle organic waste and divert this material from landfill.</p> <p><b>Progressing towards the target.</b></p>
Strategy 3.2 Encourage incorporation of more sustainable building elements.	By 2030, sustainable building outcomes are delivered through regulation, education and showcasing best practice design.	1) Number of solar systems installed in the Noosa Shire – sourced from ZEN Inc Data Dashboard 2023.	<p>Between 2019/20FY and 2022/23FY the number of solar systems installed in the Noosa Shire increased from 9,830 to 14,911.</p> <p><b>On track to meet the target.</b></p>
		2) Number of battery connections installed in the Noosa Shire – sourced from ZEN Inc Data Dashboard 2023.	<p>Between 2020/21FY and 2022/23FY the total number of batteries connected in the Noosa Shire increased from 123 to 335 in the Noosa Shire.</p> <p><b>On track to meet the target.</b></p>

Theme Sustainable living			
Strategy	Target	Method to measure progress	Progress towards target?
		3) Electricity consumption per customer – sourced from ZEN Inc Data Dashboard 2023.	Electricity consumption remained steady for both residential and business customers between 2019 and 2023 in the Noosa Shire.  <b>On track to meet the target.</b>
Strategy 3.3 Adopt sustainable agricultural practices.	By 2030, 80% of all grazing land achieves best practice management for agriculture.	1) ABCD framework: Baseline developed using the ABCD framework and classification for grazing lands and every 5 years grazing land condition will be assessed.	A baseline has not yet been developed by Council using the ABCD method for grazing land condition in the Noosa Shire. This will be progressed by Council in the 2023/24FY.  <b>Progress towards target unable to be currently assessed.</b>
		2) LiDAR imagery: 2008 and 2015 LiDAR imagery will be utilised to identify levels of rural lands and sediment lost to erosion over this period. LiDAR imagery will be undertaken over the same areas as 2008 and 2015 imagery during the term of this strategy.	LiDAR imagery has not been utilized by Council to develop a baseline of rural lands and sediment lost to erosion between 2008 and 2015. This will be progressed by Council in the 2023/24FY.  <b>Progress towards target unable to be currently assessed.</b>

Theme Climate change adaptation and resilience			
Strategy	Target	Method to measure progress	Progress towards target?
Strategy 4.1 Reduce emissions and resource consumption.	Council operations and service activities, and the Noosa community as a whole, will reach zero net emissions by 2026.	1) Council's operation emissions calculated annually, including scope 1, 2 and 3 emissions.	Between 2021/22FY and 2022/23FY Council's operational emissions have decreased by 2.37%. Landfill emissions continue to be the highest source of Council emissions.  <b>Progressing towards the target.</b>



Theme Climate change adaptation and resilience			
Strategy	Target	Method to measure progress	Progress towards target?
		2) Community emissions are calculated every three years, including scope 1, 2 and 3 emissions.	<p>During 2022, community emissions for the Noosa Shire were measured as being 472,410 tonnes of CO2-e, this has decreased by 27,590 tonnes of CO2-e since 2018 where community emissions were measured as being 500,000 tonnes of CO2-e.</p> <p><b>Progressing towards the target.</b></p>
Strategy 4.2 Increase community resilience and capacity to adapt to climate change.	By 2030, community awareness, planning and preparedness for natural hazards and climate change is increased..	Council has used responses to two key questions from the Noosa and SCCs Regional Climate Action Roadmap: Community and Youth Survey Results from the report prepared by Alluvium in November 2021 as an indication of community understanding of climate change impacts, preparedness, and actions for this Monitoring Report.	<p>In terms of measurement of community preparedness, respondents were close to meeting the 90% target of installing water tanks and other water efficient devices, which is positive. However, the survey indicates that further awareness is needed for the community regarding the importance of preparing for storm or bushfire season, having adequate insurance cover and the ability to grow their own food and community gardens.</p> <p>In terms of measurement of community awareness, respondents were close to meeting the 90% target of installing water tanks and other water efficient devices, which is positive. However, the survey indicates that there is further support needed for the community to deliver on ground actions to prepare for storm or bushfire season, ensure that they have adequate insurance cover and the ability to grow their own food and community gardens.</p> <p><b>On track to meet the target.</b></p>

Theme Climate change adaptation and resilience			
Strategy	Target	Method to measure progress	Progress towards target?
Strategy 4.3 Manage the natural environment in a way that improves resilience to climate change.	Ecosystem health of wetlands and riparian areas is improved.	Council has measured progress towards this target in the Monitoring Report using riparian extent and condition from the HLW EHMP and Report Card Program.	<p>Riparian habitats in freshwater reaches of the Noosa catchment are in fair condition in 2023. Woody vegetation cover is very good with &gt;80% woody cover in 67% of Noosa sub-catchments. The bio condition of riparian areas is also very good. Riparian woody vegetation re-growth is poor, while remnant riparian vegetation clearing continues, though is minimal in its extent.</p> <p><b>Progressing towards the target.</b></p>



Image source Vanessa Moscato

# Summary of progress and recommendations



## 9.2 Overview of progress for Council actions nominated in the Implementation Plan

Council's progress against the 42 actions of the Implementation Plan at the end of the 2022/23FY, is summarised in Table 23. Overall, most actions are on target (21) or progressing (18). Two actions have been completed and one is scheduled for the future.






	 Completed	 On target	 Progressing	 Needs attention	 Scheduled for future	Total actions
<b>Environment Strategy</b>						
<b>Total</b>	<b>2</b>	<b>22</b>	<b>17</b>		<b>1</b>	<b>42</b>
<b>Enabling actions</b>		<b>2</b>	<b>2</b>			<b>4</b>
<b>Biodiversity</b>		<b>6</b>	<b>4</b>			<b>10</b>
<b>Waterways, wetlands &amp; Coasts</b>		<b>4</b>	<b>6</b>			<b>10</b>
<b>Sustainable living</b>	<b>1</b>	<b>6</b>	<b>1</b>		<b>1</b>	<b>9</b>
<b>Climate change adaptation &amp; resilience</b>	<b>1</b>	<b>4</b>	<b>4</b>			<b>9</b>

Table 23: Council's progress against 42 actions of the Implementation Plan at the end of the 2022/23FY

Significant achievements delivered through the Council actions nominated in the Implementation Plan over the 2022/23FY are summarised by the Environment Strategy themes below.

Overarching enabling actions
<ul style="list-style-type: none"> <li>- Council has provided over \$300,000 in financial support through the Environment Organisation Alliance Grants to 9 community organisations that are focussed on environmental activities between 2019/20FY and 2022/23FY.</li> </ul>
<ul style="list-style-type: none"> <li>- Council has invested over \$700,000 in 16 projects through the Environment Project Grants between 2019/20FY and 2022/23FY being delivered by 6 community organisations. These projects have a total value over \$3.6 million to the Noosa Shire.</li> </ul>
<ul style="list-style-type: none"> <li>- Council has delivered more than \$780,000 in funds through the MEC grants to 14 projects run by 4 community organisations between 2019/20FY and 2022/23FY. These projects have a total value over \$4.9 million to the Noosa Shire.</li> </ul>
<ul style="list-style-type: none"> <li>- Council has undertaken engagement with many local community groups, government stakeholders and experts through the development of several policies linked to the Environment Strategy including the Threatened Fauna Roadmap, the EBFRMP and the draft Noosa River Catchment Management Plan.</li> </ul>
<ul style="list-style-type: none"> <li>- Council continues to support the NBRF to drive the implementation of the Environment Strategy and protect the Noosa Biosphere Reserve.</li> </ul>

## Theme 1 – Biodiversity

- BOAs were completed for 2,842.52 hectares and ERPs were completed for 879.88 hectares of the Noosa Shire.
- Approximately 50% of Council's conservation reserves are under active ecological restoration, guided by ERPs.
- The shire-wide Encroachments Policy and Encroachments Procedures were endorsed by Council in June 2023. This will allow the clear and consistent approach to encroachments on Council-managed land.
- Council continues to implement the Noosa Biosecurity Plan 2020, including inspection of 65 properties as part of the Biosecurity Surveillance Program. Council also supported landholders in the control of wild dogs, feral pigs, foxes, feral cats, and common Myna birds. New cameras and artificial intelligence are being used for more targeted control and baiting programs.
- Rehabilitation of Yurol and Ringtail State Forests continues to be completed by Greenfleet and NDLG with a total of 371.2 hectares rehabilitated between the 2019/20FY and 2022/23FY.
- 43% of the Noosa Shire (34499.48 hectares) is currently being managed for its environmental values. Council is steadily progressing towards the target of 48% of the Noosa Shire being managed for its environmental values by 2028.
- The Private Conservation Partnerships program continues to grow. Council currently has 437 LfW partnerships and 23 VCAs in place with landowners in the Noosa Shire.
- Council completed an acquisition of a 69-hectare property in the Noosa Shire at Federal, which contains significant biodiversity and conservation values in June 2023.
- The Threatened Fauna Roadmap was endorsed by Council in March 2023 and Council continues to implement monitoring and conservation programs for species including koalas, glossy black cockatoos, sea turtles, frogs, shorebirds, flying-foxes, Mary River code and Mary River turtle.
- Council has surveyed 70% of the Noosa Shire in 2022/23FY as part of the fine scale vegetation mapping project. The intent of this project is to improve the accuracy and resolution of the Noosa Shire's vegetation mapping from a 1:50,000 scale to a 1:25,000 scale, with some alluvial areas generally mapped down to a 1:10,000 scale. This project will enable accurate measurement of progress towards the no net loss target of the Environment Strategy. This project is due for completion by December 2023.

## Theme 2 – Waterways, wetlands, and coasts

- Council continues to deliver an integrated water quality monitoring program across the Noosa Shire in collaboration with HLW, MRCCC, NICA and NDLG.
- For the past 18 years, Noosa's HLW Report Card has consistently achieved an A- (excellent condition) rating, and the best in the region, until for the first time in 2022 when a B (good condition). The decrease in rating was associated with the significant flood events in 2022. Despite the change to a rating of a B in 2022, Noosa still remains among the top report card scores in SEQ.

## Summary of progress and recommendations



- The final meeting of the Noosa River Stakeholder Advisory Committee was completed in June 2023. This group provided strategic input, local knowledge and expertise into river management initiatives, including the draft Noosa River Catchment Management Plan.
- Council has undertaken significant work to progress the draft Noosa River Catchment Management Plan in the 2022/23FY. This is anticipated to be finalised in the 2023/24FY.
- Situational Report Cards for the Noosa River were completed by MRCCC, with further investigations progressing for the development of local water quality objectives.
- Ongoing monitoring of the Noosa Oyster Reef Ecosystem Restoration Project in partnership with TNC has identified that wild oyster recruitment to all the reefs has been high and there has been an increase in subspecies richness between the 2022 and 2023 surveys.
- Council has commenced an audit program of on-site sanitary wastewater infrastructure in the Cooroibah area, to better understand the impact of these systems on the quality of surface water and groundwater systems.
- The EBFMP was endorsed by Council in July 2023, which will support the improvement of the condition, species diversity and stability of dune ecosystems in this area.
- Council has completed audits of stormwater quality improvement devices across the Noosa Shire to identify works (if any) needed to improve the performance of stormwater quality assets.

### Theme 3 – Sustainable living

- Council diverted 53% of waste from landfill in 2022/23FY which is an increase of 7% since the 2021/22FY. Council is on track to meet the state target of 61% diversion by 2025.
- Council has joined the CoMSEQ and has progressed a regional MoU with Gympie Regional Council to help find efficiencies in waste management and reduce the amount of waste going to landfill.
- Council continues to deliver the Recycling in Schools Program to improve waste behaviours.
- Council continues to investigate opportunities to expand recycling services, including the delivery of EPS recycling and the reverse vending machine at the Eumundi Noosa Road Resource Recovery Centre in 2023.
- Council is also now manufacturing a double grind mulch product made from high quality green waste which is being utilised by local farmers to increase production and reduce erosion.
- Council has delivered several waste and sustainability programs to the Noosa community including Give a sheet for the planet, Plastic Free July, Trash Talk videos and community composting workshops.
- Since commencing in early 2023, Council's Illegal Dumping Officer has investigated 177 complaints, which has resulted in the removal of over 62,000 litres of waste and 18 successful compliance actions.
- The number of solar systems and batteries installed in the Noosa Shire continues to increase.

## Theme 4 – Climate change adaptation & resilience

- Council's operational greenhouse gas (GHG) emissions have decreased by 2.37% between the 2021/22FY and the 2022/23FY.

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- Community emissions in the Noosa Shire also decreased between 2018 and 2022 by 27,590 tonnes of CO<sub>2</sub>-e. Electricity makes up 58% of the Noosa Shire's community emissions, followed by transport fuel (32%) and waste (10%).

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- Council commissioned consultants to undertake a detailed analysis of the carbon market and local opportunities available in October 2022, which will be utilised to inform suitable offset options to achieve net zero based on financial constraints.

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- Council is delivering ongoing capping programs at the Eumundi-Noosa Road Landfill to improve the capture of landfill gas. Council also has a masterplan underway for the site to identify areas for renewable energy generation and waste diversion.

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- Over 790kW of solar has now been installed on Council buildings and facilities, which is an increase of over 100kW since the 2021/22FY.

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- Council has secured funding in June 2023 for the Noosa Shire's first community battery in Noosaville.

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- Council continues to support the Climate Change Response Plan Grants, funding six applications in June 2023 with nearly \$60,000 in community grants.

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- Council has delivered ongoing community education programs to increase climate change resilience and awareness, including (but not limited to):
  - The preparation and release of the short film: Pontoon: The Polystyrene White Spill Disaster.
  - Noosa EV Expo.
  - Biz to Zero breakfast forum.

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- Council has engaged a consultant and is currently preparing concept designs for the Noosaville Foreshore Resilience to the Future Frequent Inundation to provide suitable options to provide future resilience to the area.

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- Council also plans to increase community awareness of disasters and climate change through the launch of the 'Noosa Climate Wise Communities' portal by the end of 2023.

## 9.3 What progress was made between the 2021/22FY and 2022/23FY?

The status of Council actions nominated in the Implementation Plan at the end of 2021/22FY are summarized in Table 24. Due to the hard work and dedication of Council staff there were no actions which declined in status between 2021/22FY and 2022/23FY.

	Completed	On target	Progressing	Needs attention	Scheduled for future	Total actions
<b>Environment Strategy</b>	1	22	11	2	1	42
Enabling actions		2	1	1		4
Biodiversity		6	2	2		10
Waterways, wetlands & Coasts		3	5	2		10
Sustainable living	1	6	0	1	1	9
Climate change adaptation & resilience		5	3	1		9

Table 24: Council's progress against 42 actions of the Implementation Plan at the end of the 2021/22FY

There were also several actions that improved over this period, and these are summarized by theme below.

### Number of actions 'completed' increased from 1 to 2. These actions were:

- Develop a waste education centre at the Noosa Landfill Resource Recovery Centre, to support waste and sustainability education programs for school-aged children and the broader community.
- Investigate, and implement if appropriate, a solar bulk-buy scheme for Noosa residents, to provide quality solar at affordable rates.

### Number of actions 'on target' remained the same at 22. The following actions moved from 'needing attention' to 'on target' for:

- Implement a septic system inspection program in high priority areas (such as Noosa North Shore) to better understand the impact of these systems on the quality of surface water and groundwater systems.

Number of actions 'progressing' increased from 11 to 17. The following actions moved from 'needing attention' to 'progressing':

- Implement an Environment & Sustainability Roundtable to provide a mechanism for local community groups, government stakeholders and experts to have input into the development of Council policy.
- Identify priority land parcels that enhance landscape connectivity and seek to have them managed for environmental outcomes, either through direct purchase by Council, or utilising other appropriate protective mechanisms.
- Implement propagation programs that grow threatened plant species and result in new populations at appropriate, low-risk locations.
- Work with stakeholders to review current fishing practices and achieve sustainable recreational and commercial fishing outcomes in the Noosa River.
- Advocate for mandating minimum energy efficiency and renewable energy generation to all new development in the shire, including domestic residences.
- Identify potential areas for carbon sequestration in the Noosa Shire and support landholders to take advantage of available opportunities.

Number of actions 'needing attention' decreased from 7 to 0, and these are detailed above.

One action remains 'scheduled for the future' and this will be progressed in the 2023/24FY:

- Advance the idea of a Noosa Sustainability Institute to establish a coordinated approach to research and activity occurring in our community towards sustainability.



# Summary of progress and recommendations



## 9.3.1 Overarching enabling actions

Action: Implement an Environment & Sustainability Roundtable to provide a mechanism for local community groups, government stakeholders and experts to have input into the development of Council policy.

*The status of this action has moved from has moved from 'needs attention' to 'progressing' between 2021/22FY and 2022/23FY. Council has undertaken engagement with local community groups, government stakeholders and experts through the development of several policies linked to the Environment Strategy including the Threatened Fauna Roadmap, EBFMP and the draft Noosa River Catchment Management Plan. In addition, Council has also funded NBRF to deliver several environmental and sustainability forums.*

*Building on these recent consultation activities, Council will progress the development of a formal Environment & Sustainability Roundtable in the 2023/24FY.*



Council engagement activities as part of the preparation of the Threatened Fauna Roadmap with representatives from NICA (image source NICA).

## 9.3.2 Theme 1 - Biodiversity

Action: Identify priority land parcels that enhance landscape connectivity and seek to have them managed for environmental outcomes, either through direct purchase by Council, or utilising other appropriate protective mechanisms.

*The status of this action has moved from 'needs attention' to 'progressing' between 2021/22FY and 2022/23FY. Council has completed the acquisition of 1033 Black Mountain Road, Federal in June 2023. Council is also in the final stages of another acquisition in the Federal area and has also identified other land parcels which may be suitable for future acquisitions in partnership with DES.*



1033 Black Mountain Road, Federal (image source Justin Rover Media).

## Summary of progress and recommendations



Action: Implement propagation programs that grow threatened plant species and result in new populations at appropriate, low-risk locations.

*The status of this action has moved from 'needs attention' to 'progressing' between 2021/22FY and 2022/23FY. Council has provided financial support to NDLG to undertake propagation of threatened plant species including *Triunia robusta*, *Eucalyptus conglomerate*, and *Macadamia ternifolia*.*



Tubestock *Triunia robusta* at NDLG nursery (image source Dave Burrows).

## Summary of progress and recommendations



### 9.3.3 Theme 2 – Waterways, wetlands, and coasts

Action: Implement a septic system inspection program in high priority areas (such as Noosa North Shore) to better understand the impact of these systems on the quality of surface water and groundwater systems.

*The status of this action has moved from 'needs attention' to 'on target' between 2021/22FY and 2022/23FY. Council's Building and Plumbing team commenced an audit program of on-site sanitary wastewater infrastructure in early 2023, consisting of approximately 90 properties in the Cooroibah area, which is due to be completed in December 2023. The draft Noosa River Catchment Management Plan includes specific actions relating to the audit and management of septic systems in the Noosa Shire.*



## Summary of progress and recommendations



Action: Work with stakeholders to review current fishing practices and achieve sustainable recreational and commercial fishing outcomes in the Noosa River.

*The status of this action has moved from 'needs attention' to 'progressing' between 2021/22FY and 2022/23FY. Council has undertaken significant work to progress the draft Noosa River Catchment Management Plan in the 2022/23FY.*

*The draft Noosa River Catchment Management Plan includes an action to develop a baseline monitoring method to assess the biodiversity and abundance of fish and fisheries in the Noosa River to help optimise estuarine restoration plans. The draft Noosa River Catchment Management Plan is currently being refined and further stakeholder consultation will occur in the 2023/24FY prior to finalisation.*



Caption: Noosa River Stakeholder Advisory Committee final meeting in 2023 (image source Amy Kimber).

## Summary of progress and recommendations



### 9.3.4 Theme 3 – Sustainable living

Action: Advocate for mandating minimum energy efficiency and renewable energy generation to all new development in the shire, including domestic residences.

*The status of this action has moved from 'needs attention' to 'progressing' between 2021/22FY and 2022/23FY. Council has made several submissions to State and Federal governments in 2022/23FY advocating for improved energy efficiency standards for buildings and homes.*



## Summary of progress and recommendations



### 9.3.5 Theme 4 – Climate change adaptation and resilience

Action: Identify potential areas for carbon sequestration in the Noosa Shire and support landholders to take advantage of available opportunities.

*The status of this action has moved from 'needs attention' to 'progressing' between 2021/22FY and 2022/23FY. Offset Strategy Paper was prepared by Pangolin Associates for Council in October 2022. Based on the Offset Strategy Paper, Council is continuing to investigate suitable offset options based on financial constraints.*



## Summary of progress and recommendations



Action: Investigate, and implement if appropriate, a solar bulk-buy scheme for Noosa residents, to provide quality solar at affordable rates.

*The status of this action has moved from 'progressing' to 'complete' between 2021/22FY and 2022/23FY. Council investigated a solar buy-back scheme for Noosa residents in partnership with the AEF. This included 3 face-to-face engagements and 1 online session due to COVID. Over 140 people participated in these sessions. However, AEF is no longer in business and Council has determined that a solar bulk-buy back scheme is not supported. Council is focussing on community engagement and education as this was deemed a more equitable investment at the current time.*





## Summary of progress and recommendations



**Action:** Undertake a socio-economic impact assessment from flooding and inundation of foreshore areas, including projected impacts on public infrastructure, private assets and commercial activities in the lower Noosa River.

*The status of this action has moved from 'progressing' to 'on target' between 2021/22FY and 2022/23FY. Council has recently engaged a suitably qualified consultant to prepare concept designs for Foreshore Resilience to Future Frequent Inundation along a section of the Noosa River – Noosaville. The concept designs will include consideration of immunity barriers to prevent inundation of both foreshore areas, back street and private properties integrated with backflow preventions devices. In addition, consideration is to be given to other nature-based, engineered, and landscape solutions to provide resilience to the area.*



**Next  
steps**



## 10. Next Steps

The vision of Council is 'Noosa: different by nature'. Nowhere is this more clearly illustrated than Council's ongoing and long-term commitment to environment and sustainability through the Environment Strategy. Noosa's flora and fauna, oceans and coasts, waterways and wetlands, atmosphere and climate are all highly valued for both their intrinsic worth and the ecosystem services they provide. The Environment Strategy has established a strong foundation to protect and enhance Noosa's environmental assets and the Noosa Biosphere.

However, the Monitoring Report for 2022/23FY has identified that the Environment Strategy requires a review and update to consider Council's current plans and strategies including (but not limited to) the new Corporate Plan (2023-2028), Noosa Plan (2020), Economic Development Strategy – Smart Biosphere (2021), Waste Strategy (2023), Noosa Climate Change Response Plan (2021), EBFMP (2023), Noosa Design Principles (2023), Threatened Fauna Roadmap (2023) and Enterprise Risk and Opportunity Management Framework (2023), as well as draft Noosa River Catchment Management Plan (2023). All these documents are linked to the targets and outcomes of the Environment Strategy, as well as the actions in the Implementation Plan. There needs to be alignment between all these plans and strategies to ensure Council is undertaking relevant and high priority actions to achieve the targets and outcomes of the Environment Strategy.

Since the development of the Environment Strategy in 2019, there have also been significant changes to Council's core business requirements with growth occurring in all sections of Council involved in the delivery of the Environment Strategy including Strategy and Environment, Infrastructure Services, and Waste. This has meant Council's role, projects and programs supporting the delivery of the Environment Strategy has also evolved. For example, when the Environment Strategy was developed fire management and sustainable infrastructure were not considered as key themes and had no specific actions nominated.

Council's understanding of environmental values and impacts to these values due to threats such as weeds and pests, as well as climate change, has also improved

since the development of the Environment Strategy in 2019. For example, the delivery of the fine-scale RE mapping project by the end of 2023 will provide Council with detailed information on REs across the Shire and could result in significant changes to fire management of natural reserves, identify areas for restoration and weed management.

Council's knowledge gained since 2019 also needs to be reflected through current Specific, Measurable, Achievable, Relevant, Time-Bound (SMART) objectives, outcomes, success measures and KPIs in the updated Environment Strategy and Implementation Plan. The updated Environment Strategy and Implementation Plan also should clearly identify where knowledge gaps exist and identify specific actions, projects, and programs to address these gaps to effectively deliver the targets of the Environment Strategy.

The next stage of reporting for the Noosa Biosphere Reserve as part of the MaB program of the UNESCO is due to be prepared by Council and delivered to UNESCO in 2024, which is the 5 yearly informal review. The 10-year review for UNESCO is due in 2027. As part of the update of the Environment Strategy and Implementation Plan, Council will also review and consider the UNESCO requirements and where possible ensure that Council's programs and projects are collecting data consistent with these requirements. A gap analysis is proposed to identify any data that may be required to support the UNESCO requirements prior to the reporting due in 2027. This will also be utilized to support any Council budget submissions needed to support these data gaps and reporting requirements in the 2024/25FY budget. Council will continue to work in partnership with the Noosa Biosphere Reserve Foundation to complete this review and the UNESCO reporting.

The next Implementation Plan to define Council activities or projects to achieve the targets, and outcomes of the Environment Strategy will also be prepared as part of the Environment Strategy review and both documents will be delivered to Council for endorsement in 2024/25FY.

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## 12. Acknowledgements



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For further information regarding this report please contact Environmental Services, Noosa Council at [environmentalservices@noosa.qld.gov.au](mailto:environmentalservices@noosa.qld.gov.au) or phone Council customer service on (07) 5329 6500

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Reviewed and approved by: Ben Derrick, Manager - Environmental Services and Kim Rawlings, Director - Strategy and Environment

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