

NAMBUCCA

SHIRE

COUNCIL

State of the

Environment

Report

2010/2011



*Discover it, Live it*

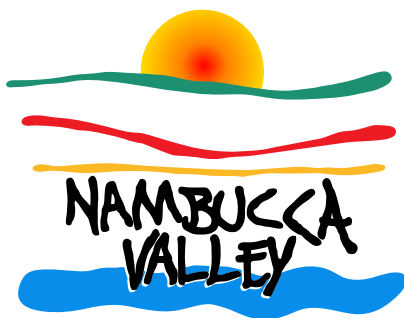
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## *Our Vision*

Nambucca Valley ~ Living at its best

## *Our Mission Statement*

'The Nambucca Valley will value and protect its natural environment, maintain its assets and infrastructure and develop opportunities for its people.'



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# 1.0 Introduction

This is the seventeenth consecutive State of the Environment Report (SoE) prepared by Nambucca Shire Council for the Nambucca Shire Local Government Area. The report covers the period from 1 July 2010 to 30 June 2011. Being a supplementary SoE in 2011 it only includes annual trends since the last comprehensive SoE in 2009.

This report is a supplementary document prepared in accordance with the *Local Government Act 1993* that is designed to support the comprehensive document prepared for 2008 – 2009.

This supplementary report is an update of the eight environmental sectors: land, water, air, biodiversity, waste and resource recovery, noise, Aboriginal and non-Aboriginal heritage and also includes climate change and sustainability. This supplementary report is to be read in conjunction with the comprehensive State of The Environment Report from 2008-2009.

## 1.1 WHAT IS A SoE REPORT?

A State of the Environment (SoE) Report summarises the physical and social attributes of the Nambucca Shire environment while identifying the human impacts on our local environment in a financial year. It also provides information on activities conducted by council and the community to protect and restore the Nambucca Shire environment, and is essentially a mechanism for reporting on progress towards environmental sustainability.

Comparing SoE reports from year to year enables Council to see improvements and/or deteriorations and identify areas that need attention in all sectors of the local environment. This then assists Council to further protect the health and diversity of the environment for the benefit of current and future generations.

Pressures to the environment that have been added for 2010/11 are indicated in **bold** in each section. Individual pressures may or may not be addressed each year, but still

remain a pressure and therefore are listed.

## 1.2 TOWARD SUSTAINABILITY

In consultation with community, regional, state and national agencies 68 (22 regional & 46 Shire wide) environmental indicators were developed to best represent and measure Councils progress in these key areas year to year and monitor Council's movement toward achieving sustainability goals.

The legend positioned below shows the negative, positive and no progress towards sustainability for each of the indicators displayed throughout the SoE.

There are *NSW North Coast Regional Indicators* that are outlined throughout this report. These are Nambucca Shires data that can be measured against the same indicators in other local government areas in the north coast region.

Key to Sustainability Indicators	
↑	Positive movement toward sustainability
↓	negative movement toward sustainability
↔	No progress toward sustainability
<b>ND</b>	Not determined

## 1.3 INDICATORS THAT ARE USED HAVE MET THE FOLLOWING CRITERIA:

- They reflect something fundamental to the long term economic, environmental or social health of the community;
- They are statistically measurable – either the data exists or a practical method of data collection can be created;
- The indicator represents something that can be influenced by the community or government actions; and
- They are compatible with Council and community vision for Nambucca Shire.

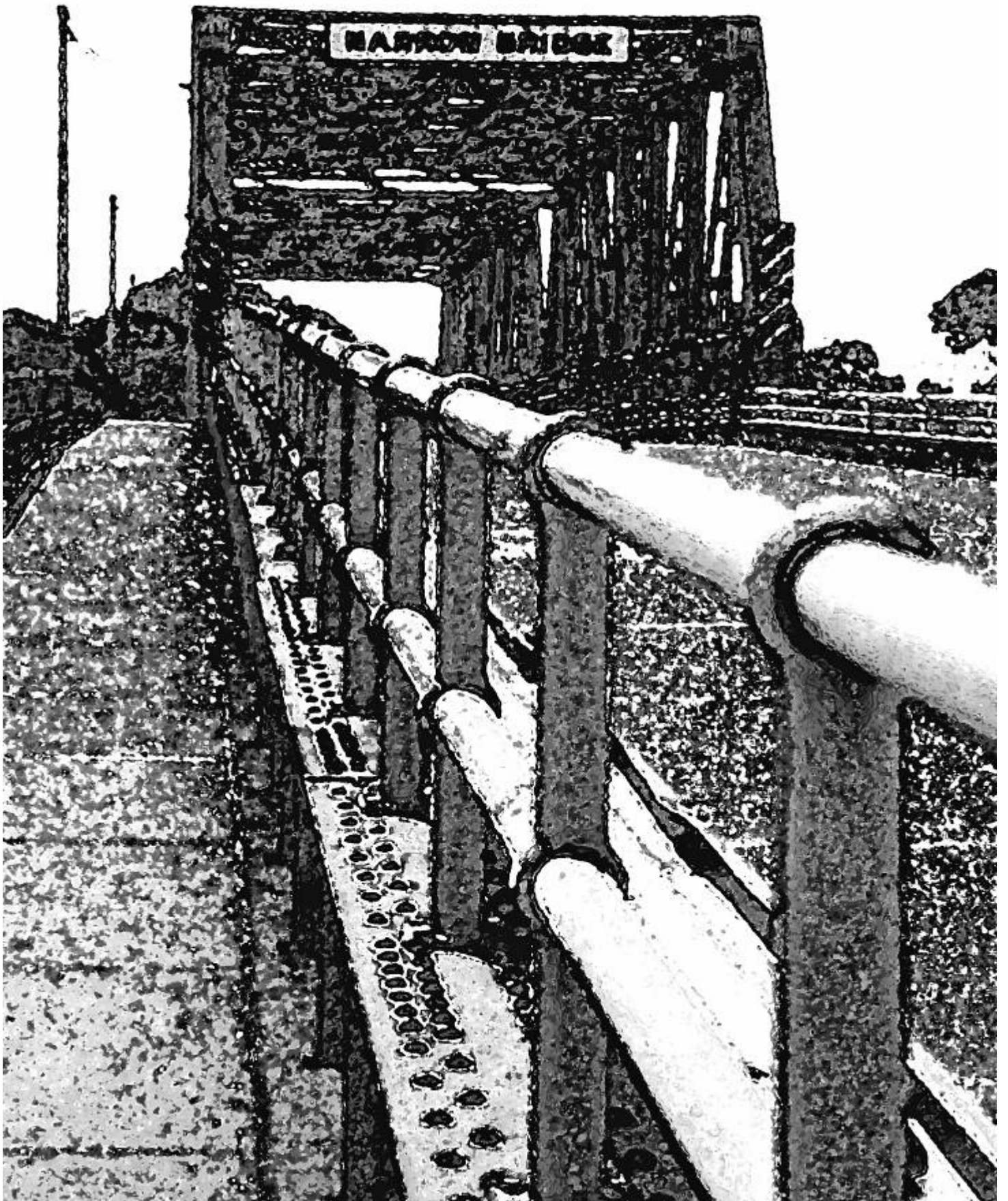
## 1.4 COMMUNITY VALUES

Community consultation is an integral component of SoE reporting. To assist with the development of this years SoE report, Council conducted a Customer Satisfaction Survey in November 2007 and 2010, and called for submissions from community groups in July 2011.

These findings will not only assist council with its reporting requirements but will also help Council to develop suitably targeted environmental programs for local residents.

The major issues identified by residents include:

- Estuary management
- Environmental monitoring
- Environmental protection
- Weed control
- Footpaths and cycleways
- Stormwater runoff/pollution
- River pollution
- Garbage and recycling
- Water supply
- Sealed roads
- Sustainable development, and
- Vegetation management



# 2.0 Living Sustainably

## 2.1 INTRODUCTION

Human settlements are in their own right, an environment providing a human habitat with direct and indirect impacts on the physical environment. Therefore we must consider the internal environment and the ability of settlements themselves to deliver outcomes to its inhabitants, whilst minimising the impact that the settlement inflicts the physical environment.

Creating a sustainable community which meets the lifestyle needs of all existing and new members of the community requires careful planning, that will allow accessible community services and facilities contribute to support Nambucca Shires' social fabric. To achieve this, Council must ensure planning processes and strategies continue to maintain and improve our social, natural and physical environments for everyone to enjoy.

The linkage between Environmentally Sustainable Development (ESD) principles and the social factors of the Nambucca Shire is important in relation to the environment of this area. The social and economic attributes of the Nambucca Shire population are linked to impacts that the population has on the environment, and will influence their understanding of, and participation in, environmental issues.

As well as ESD the Nambucca Shire community should be thinking about and taking part in living sustainably, reducing our impact on the local environment and natural resources so the next generations have something to respect, appreciate, maintain and ultimately, to enjoy.

## 2.2 PRESSURES ON OUR HUMAN SETTLEMENT AND AGAINST LIVING SUSTAINABLY

- Tourism
- Food miles
- **Carbon Footprint**
- **Our Living Coast Project**

**Table 2.1 Human Settlement Indicators**

Human Settlement **	2006/7	2007/8	2008/9	2009/10	2010/11	Movement towards sustainability
Predicted Population**	18 735	18 829	18921	19 053	19 186	↔
Population*	17 986	18 076	18203	18 330	18 458	↔
Population Density (persons/km <sup>2</sup> )	12.04	12.1	12.2	12.8	12.9	↔
Growth Rate %*	0.5	0.5	0.7	0.7	0.8	↔
Unemployment Rate %	11.6	10.4	11.5	9.9	9.2	↔
% of residents in urban areas	no data	85.4	87.2	89.6	88.9	↔
Aboriginal and Torres Strait Islander %	5.7	6	6	6	6.1	↔
Non English speaking %	1.7	1.7	1.8	2	1.8	↔

\* Denotes Regional Indicator \*\* Statistics from Australian Bureau of Statistics (ABS) [www.abs.gov.au](http://www.abs.gov.au)

Actual 2006 Census statistics

Predicted Population statistics from ABS that takes into account people who did not include themselves in the 2001 or 2006 census





Our Living Coast  
www.ourlivingcoast.com.au



Home grown vegetables  
Photo: Google



Davidson Plum – Valley of the Mist  
Photo: NSC



Ride2Work Day 2010  
Photo: NSC

### 2.3 A SNAP SHOT OF 2010/11

- July 1 2010 saw electricity prices increased and by 2013 regional areas will be paying up to 42% more. As part of the \$2 million Our Living Coast Project, between Coffs Harbour City Council, Bellingen and Nambucca Shire Councils, several community workshops were rolled out across the shire to help householders achieve significant savings with reduced electricity bills through practical advice. Research shows that householders can save up to 20% off their bill by making a few simple changes.

Other workshops conducted in the Shire were Solar & Wind Energy and Solar Heating & Hot Water Systems.

- Macksville Adventist and Scotts Head Public schools joined the "Veggie Patch" program. This program plays an active role in engaging children in an interactive and entertaining way to learn more about the foods they eat, sustainability and the benefits of healthy eating.

Macksville Adventist School received a Caring for our Country grant that has enabled the school to build 16 raised beds and 6 compost systems. The grand opening was on 10<sup>th</sup> September 2010 as part of the Spring Festival.

Scotts Head Public School have been growing vegetables and herbs that find their way onto plates of local restaurant customers. Food scraps from the restaurants go back to the garden to be composted for the gardens.

- Valley of the Mist, one of Nambucca Shires sustainable bush foods farms won the bronze eco-tourism award for 2010. The farm boasts rare bush foods, such as; Finger Limes, Davidson Plums, Lilli Pilli's and many other rare and exotic bush foods that end up in restaurants in the region and in Sydney.
- Another food concept for the valley was a new business 'Nambucca Valley – Meat on the Move'. This business provides local yearling beef to locals from the paddock to the plate. The operation came about by a necessary change in agricultural practices for failing industries such as dairying. Instead of selling off or subdividing the land the owners looked towards the future and saw a niche market.

The farm is run on organic principals and involves the use of organic-based fertilizer, and limited use of antibiotics.

This enterprise reduces food miles and keeps the produce as close to home as possible, thus reducing their carbon footprint.

- Local produce, food miles and reduced carbon footprints is big business in the Shire at the moment. Taking this into account a local growers market has been organised at Medlow Public School. Taylors Arm has a great array of local produce, and works by the motto, 'make it, bake it and grow it' philosophy. The markets are held between 8am – midday the first and third Sunday of the month.
- The Shires newest cycleway opened in September 2010. The cycle path runs from Bellwood to just short of Kingsworth Estate. The builders of the cycleway were members of the Green Teams Alliance. Forty two local Aboriginal people worked on the project.

This cycleway is just one more stage of the shire wide cycle plan a move to get people out of their cars and onto their bikes.

- An inaugural community breakfast was hosted by Nambucca Shire Council as part of the Our Living Coast Project for Ride 2 Work day on the 13<sup>th</sup> October 2010. Riders from several businesses rode to work and enjoyed the big breakfast. NAMBUG and CK Cycles organised a small ride around the town to promote the annual event.
- Nambucca Valley hosted the North Coast NSW Innovation Festival. The opening day had a culinary theme 'Taste of Nambucca' which showboated the Shires growers produce. Local chef Clayton Donovan demonstrated culinary ideas using the local produce. This innovation festival sets in place a sustainable food network in the North Coast.
- A Bowraville Community garden has been initiated by Bowraville Central School, Beyond Empathy, North Coast TAFE, Landcare, NSC Bowraville LALC and Youth Directions. The garden will be used as an educational facility for all the residents of the valley to promote sustainable living and reducing the carbon footprint of the community.



- Finalisation of the sustainability routemap was done on the 1<sup>st</sup> July 2010.

The routemap will be used as an operational tool for a collaborative approach to regional environmental issues, designed for operational Directors and Managers of Council to work together on joint projects

The routemap is a series of 5 questions posed to any collaborative project to ensure its sustainability success. It will help with:

- Assessing potential projects for collaboration across the Our Living Coast region
  - Establish appropriate governance structures for collaboration
  - Guiding the sharing of resources
  - Supporting the leveraging of external support, and
  - Building increased community participation
- The Our Living Coast (OLC) sustainability initiative was officially launched on October 13<sup>th</sup> 2010 in Coffs Harbour.

The OLC project is a joint initiative of Coffs Harbour City Council, Bellingen Shire Council and Nambucca Shire Council and is being funded through a \$1.998 million grant from the NSW Environmental Trust, under the Urban Sustainability Program.

- As part of the sustainable transport program from Our Living Coast, Nambucca Shire installed 8 bike racks. Four racks have been installed at Council's administration building for both the staff and public, and two each at Macksville and Nambucca Heads libraries.

- As one of the key objectives of the OLC project is for institutional change towards sustainability, a Council action learning sustainability workshop was run in October 2010. Twenty Council staff attended and feedback received afterwards was one of praise including a positive outcome that more workshops should be run for all Council staff. The rest of the workshops for all staff and Councillors will be rolled out in the next reporting year.

- Macksville and Nambucca Libraries received \$5000 worth of books and DVD's on sustainability. These books and DVD's are for these libraries and cannot be lent to other libraries in the Clarence Network, Bellingen and Coffs Harbour Councils received the same.

- The Living Smart Household Program was launched in March 2011. This project aims to make households in the region more sustainable and resilient to the impacts of climate change such as rising power and transport costs. There are groups in Scotts Head, Eungai Creek and Taylors Arm, with more groups to be rolled out in the next reporting year.



Official OLC Website Launch  
Photo: NSC



Sustainable Books and DVD Collection  
Photo: NSC



Ride2Work Day 2010  
Photo: NSC



Council Sustainability Training  
Photo: LGSA





# 3.0 Land

## 3.1 INTRODUCTION

The Nambucca Shire Local Government Area (LGA) is located between Kempsey and Bellingen Shire Councils on the Mid North Coast of NSW, approximately 500km north of Sydney and 480km south of Brisbane. The shire is 1492.8 km<sup>2</sup> and is situated between 30°30'S and 30°56'S and 152°18'E and 153°01'E. The terrain is steep intersected by small streams nestled between the foothills of the Great Dividing Range and the coastline of the Pacific Ocean. The rugged topography of the eastern edge of the New England plateau in the western part of the Shire is dominated by steep slopes and valleys, while the eastern portion of the Shire is characterised by the gentle slopes of the river floodplains. The Nambucca River drains the shire and is 47km long.

The Nambucca Shire is a highly modified environment altered from its natural state by human occupation resulting in the replacement of native bushland with agricultural lands and urban development (Figure 3.1) and in cases the exposure of soils to erosion.

The geology of the Shire is dominated

by slate, phyllite, schistose sandstone, schistose conglomerate and basic volcanics. Isolated outcrops of tertiary basalts, minor trachyte and dolerite occur at the headwaters of the Nambucca River. The remaining areas are generally alluvial, paludal and estuarine deposits consisting of sands, silts and gravels (Baker *et al* 1993).

Soils within the Shire consist mainly of lithosols and podzolics derived from the slates, phyllites, sandstones and conglomerates. Alluvial and estuarine soils are present in the valley and floodplains (Baker *et al* 1993).

The main localities of the Shire include Nambucca Heads, Macksville, Bowraville, Valla Beach and Scotts Head with many smaller villages and rural settlements. The Shire has a population density of 12.76 people per km<sup>2</sup>.

Since the 1830's an increase in agriculture, logging and population has brought with it extensive land degradation in the floodplain and coastal zones from adverse impacts such as land clearing, destruction of native vegetation, wetlands and introduction of exotic weed and animal species, erosion and

increased urban and agricultural runoff.

In response to these pressures Council continues to develop environmental strategies within planning documents, policies and environmental planning instruments that will ensure these impacts are minimised and the state of our environment is preserved for present and future generations.

## 3.2 PRESSURES ON OUR LAND

- Urban development
- Rural residential development
- Agriculture
- Extractive industry
- Forestry
- Human use of coastal and estuarine foreshores
- Land degradation
- Contaminated sites
- Shoreline and river bank erosion
- Storm and flood damage
- Fire
- Climate change

Tables 3.1 & 3.2 Land and Forestry Indicators

Land Indicators **	2006/7	2007/8	2008/9	2009/10	2010/11	Movement towards sustainability
per capita of open green space (ha)	no data	0.022	0.022	0.022	0.022	ND
Number of Development Applications submitted	305	301	233	210	235	↔
Number of Development Applications Approved by Council	289	291	209	207	217	↔
Potentially Contaminated Land Sites	18	18	18	18	18	↔
Land Pollution Complaints	no data	no data	8	27	14	↑
Population Density (persons/km <sup>2</sup> ) ***	11.98	12.61	12.67	12.7	12.8	↔

\*\* Statistics from Councils Environment and Planning Department \*\*\* Statistics from ABS

Forestry Indicators **	2006/7	2007/8	2008/9	2009/10	2010/11	Movement towards sustainability
Area of LGA occupied by State Forest (ha)*	28 088	28 088	28 088	28 088	28 088	↔
% of LGA occupied by State Forest*	18.8	18.8	18.8	18.8	18.8	↔
Native Forest protected on State Forest land in LGA (ha)*	no data	120	8 415	7556	7556	↑
Area of State Forest selectively logged (ha)*	800	811	377	360	294	↑
Non-dedicated State Forest land (ha)*	260	260	930	930	930	↑
Private Native Forestry (approved) (ha)	no data	no data	no data	no data	993	ND

\* Denotes Regional Indicator \*\* Statistics from State Forests NSW





Scotts Head Dune Erosion – June '11  
Photo NSC



Dune Erosion – June '11  
Photo NSC



Dumped Rubbish  
Photo NSC



Landslide  
Photo NSC

### 3.3 SNAP SHOT OF 2010/11

- The Nambucca Shire Council Local Environmental Plan (LEP) 2010 took effect on July 30 2010. This document paves the way for Nambucca's continued growth while maintaining its natural environment.

Some of the features for the new LEP are:

- Specific zone for rural-residential development, which will provide greater certainty for landowners.
- A 12ha B7 business park zone permitting a range of business activities for the lower Nambucca area which will facilitate business and employment opportunities.
- A 2ha mixed use commercial zone at Valla Beach that will provide a business precinct after the construction of the new Pacific Hwy.
- Building heights are now controlled through the building height maps.
- Floor space ratio maps.
- Minimum rural lot sizes have been retained.
- All major waterways are now zoned.
- Land use definitions are now consistent with the state-wide template LEP definitions.
- In conjunction with the LEP 2010 is the adopted Development Control Plan (DCP) 2010. All previous DCP's are now repealed. The DCP compliments the LEP with greater detail and design guidelines.
- The 2009 storm/flood events added with the 2011 flood events have severely eroded the coastline to the point that some dune systems are now vulnerable to collapse. Other beach areas are devoid of sand and there is extensive damage to infrastructure such as beach access ways.

The process of natural beach replenishment after storm damage occurs slowly, but if the coastline experiences more high seas and heavy onshore winds in a short amount of time this natural beach replenishment may be slowed even further creating more erosion of the dunal system.

- In the reporting year there was no clearing of registered private native forestry plantations. There were 333 ha of existing plantations and a further 62.05 ha of new native forestry plantations planted.

- Through grants and funding Nambucca Valley Landcare Inc. oversees many projects to help with land degradation in the shire. Projects can include bank stability, major and minor erosion control.

Projects can be found at <http://www.nvlandcare.org.au/pages/projects.html>

- In February 2009 the Australian Government – Department of Climate Change announced Round 2 of the Local Adaptations Pathway was open for applications. The Local Adaptation Pathways Program provides assistance to local governments to carry out a risk management process to identify likely impacts of climate change on council operations and to initiate the development of an adaptation plan (which is separate from mitigation measures, such as reducing greenhouse gas emissions).

The overarching objective of the Program is to increase the adaptive capacity of local governments to deal with the impacts of climate change and more specifically to:

- Identify and prioritise risks that climate change impacts pose to the operations and responsibilities of local governments;
- Develop strategies for managing risks, adaptive actions, and building resilience within communities;
- Identify where knowledge gaps may be and where further investigation is needed; and prioritise adaptive actions.

Climate Risk Pty Ltd in association with Climsystems and SMEC were engaged in October 2009 to prepare the project. The project has resulted in the preparation of a draft Risk Assessment for each of the Bellingen, Kempsey and Nambucca Local Government Areas as well as a Regional Adaptation Report which provides a detailed Adaptation Plan for each Local Government Area.

The final report was adopted in December 2010. Table 3.3 shows a summary of the findings.

Report available:

[http://www.nambucca.nsw.gov.au/cp\\_themes/default/page.asp?p=D OC-MJR-73-67-48&c=194](http://www.nambucca.nsw.gov.au/cp_themes/default/page.asp?p=D OC-MJR-73-67-48&c=194)

- Several rock slides and slips occurred after the flood event during June 2011, notable ones included Wellington Drive, Rodeo Drive, North Arm Road and Taylors Arm Rd.

**Table 3.3 Summary of the Local Adaption Pathways final report**

<b>Overview of Results</b>	Note: The risk report identifies many other impacts/ potential changes not highlighted in this overview
<b>Issue</b>	<b>Risk Analysis (Climate Risk Report)</b>
<b>Sea Level Rise</b>	An estimate of Sea Level Rise of 63.95cm by 2100 (excluding potential ice sheet melt), however Council needs to consider other predicted ranges as well particularly DECCW 0.4 -0.9.
<b>Temperature</b>	<p>Mean monthly temperature are predicted to increase by 6% in 2030; 14% in 2050 and 22% by 2070</p> <p>Average max temperature is predicted to increase by 0.89 degrees in 2030; 1.77degrees in 2050 and 2.92 degrees in 2070</p> <p>Average December max temperature may increase by 2 degrees in 2050 and 4 degrees by 2070</p> <p>5 or more days over 35 degrees presently occur every 12.71 years which is expected to decrease to 5.9 years (2030); 1.95 years (2050)</p> <p>Number of days over 35 degrees increase from 1-3 per year at present to 14-16 days per year by 2070</p>
<b>Precipitation</b>	<p>Rainfall is predicted to increase in late spring to autumn and decrease during winter to early spring</p> <p>+ 22% rainfall in summer and - 22% rainfall in winter 2070'</p> <p>3 day intense summer rainfall events are predicted to increase by greater than 20% in 2050 and up to 45% by 2070; Autumn also predicts large increases</p> <p>The present 1 in 50 year event is predicted to equal a 1 in 20 year event by 2070</p> <p>The present 1 in 100 year event is predicted to equal a 1 in 50 year event by 2050</p>
<b>Roads</b>	<p>A 2% increase in temperature may result in an increase of road maintenance by 17%</p> <p>Approx 5% of Councils roads are rehabilitated annually at a cost of \$3,659,000 to maintain current standards; With a carbon price of \$20/ tonne within the next 5 years this amount could increase by \$183,000 (no discount rate); and carbon price is expected to increase to \$84/ tonne by 2030</p> <p>Climate induced increases in maintenance costs in addition to an increased Carbon cost may equate to Business as usual road maintenance costs increasing by \$620, 000 by 2050.</p>
<b>Economic (Council)</b>	<p>Carbon Pricing may result in potential impact on Council expenses from 2-3% in the short term and increase over time.</p> <p>An ageing population may result in the percentage of rateable properties receiving concessions increase by approx 17%.</p>
<b>Economic (General)</b>	<p>Flooding due to intensified precipitation may result in a reduction in gross regional product by 3% by 2050</p> <p>Increases in the no. of hot days may result in a reduction in gross regional product by 1.4% and water availability 1%</p> <p>Over the period 2010 - 2050 the cumulative impact on gross regional product (Nambucca, Bellingen, Kempsey) to the 3 primary hazards is approx. 3.7 billion dollars; this is not considered a catastrophic risk but gives good reason for investment into adaptive measures.</p> <p>The effect of a carbon price will decrease gross regional product, wages and land prices.</p> <p>The strategic opportunities for the region especially in agriculture and tourism under a low carbon economy will tend to boost the local economy, tending to increase each of the three economic indicators.</p> <p>The net effect is the low carbon economy opportunities will tend to partially off-set the effect of physical and carbon price impacts (assuming no adaptation is attempted).</p>







# 4.0 Aquatic Systems - Water

## 4.1 INTRODUCTION

Aquatic resources form an integral part of the environment in the Nambucca Shire LGA. Not only do these provide the scenic backdrop which is integral to the character of the Nambucca Shire, these resources also provide habitat for a diverse variety of flora and fauna species, provide water for urban and agricultural supplies and allow important economic and social activities to take place, such as aquaculture, fishing and boating.

There is a diverse range of aquatic systems that occur naturally in the Nambucca Shire. These include; the Pacific Ocean and associated coastline and beaches, the Nambucca River and its tributaries, intermittently closed and open lakes and lagoons (ICOLL's), wetlands and groundwater aquifers.

The Nambucca River drains its 1,330km<sup>2</sup> catchment that is mostly contained within the Nambucca Shire LGA. Warrell Creek and Taylors Arm are the 2 main tributaries of the Nambucca River.

There are several smaller catchments that are essentially ICOLL's, north of the Nambucca

River. These are; Swimming Creek and Beilby's Creek both in Nambucca, Deep Creek that drains an area south-west of Valla and Oyster Creek that drains a small area north-west of Valla Beach.

Since the commencement of European settlement, the Nambucca River has been altered substantially, the entrance and main channel have been trained with breakwalls and some dredging. The majority of the waterways have been affected by the process of accelerated erosion and deposition, gravel extraction and riparian vegetation removal.

One of the greatest pressures on aquatic systems is urban and agricultural stormwater run off. Stormwater is the untreated run off from hard surfaces and agricultural lands. The stormwater traditionally contains pollutants such as nitrogen, phosphorous, metals (lead, zinc, copper), hydrocarbons, faecal bacteria and grease, not to mention the sediment loads from denuded areas and eroded banks. This all has adverse impacts on the health of the aquatic systems including direct affects on the fishing and oyster industry of the Nambucca River.

Human impacts within the catchment have increased the amount of litter, nutrients, bacteria, heavy metals and sediment being discharged into the receiving waters, thus degrading the quality of our local aquatic systems.

## 4.2 PRESSURES ON OUR AQUATIC SYSTEMS

- Degradation of Shire waterways
- Estuarine and coastal issues
- Macksville, Nambucca, Scotts Head and Bowraville Sewage Treatment Plants
- Septic overflows
- Environmental impacts from businesses
- Quality of stormwater
- Increased development and reduction of pervious surfaces
- Loss of Riparian Vegetation
- Pollution incidents
- Groundwater issues
- Flood events
- Potential Acid Sulfate Soils
- Water supply
- Tourism

Table 4.1 and 4.2 Aquatic System Indicators

Gross Pollutant Traps (GPT's) **	2006/7	2007/8	2008/9	2009/10	2010/11	Movement towards sustainability
Number of GPT's in Nambucca Shire	no data	11	14	14	14	↔
Amount of waste diverted from the Nambucca River (tonnes)	no data	30	47	52	41	↑

\*\* Statistics from Councils Engineering Department

Source of Water Pollution **	2006/7	2007/8	2008/9	2009/10	2010/11	Movement towards sustainability
Construction (sediment, gravel, mud)	1	1	6	6	5	↔
Chemicals (pesticide spills, other spills)	2	4	2	0	0	↔
Biological (septics, animals, offal)	4	9	12	1	2	↓
Total Complaints	7	14	20	7	7	↔
Complaints to DECCW ***	no data	11	21	3	14	↓

\*\* Statistics from Councils Customer Service Requests \*\*\*Statistics from Office of Environment and Heritage (OEH) [www.environment.nsw.gov.au](http://www.environment.nsw.gov.au)



Waste Oil Illegally Dumped in Stormwater Drain  
Photo NSC



Paint Poured Down Stormwater Drain Entering Nambucca River  
Photo NSC



Water over Stuart Island Causeway  
Photo NSC



Flooding in Cooper St - Macksville  
Photo NSC

#### 4.3 A SNAP SHOT OF 2010/11

- In August 2010 part of funding for the Mid North Coast under the Coastal Management Program and the Estuary management Program, Council received \$15 000 to finalise and adopt the Nambucca Coastline and Management Plan which provides a planning framework for the management of the Nambucca Coast
- The Minister for Climate Change and Environment, Frank Sartor AO advised that Nambucca Council was successful in attaining \$40 000 for the Nambucca River Flood Study, matching dollar for dollar.
- National Water Week (October 17-23, 2011) is an annual awareness week that aims to raise public awareness and improve understanding of water issues in Australia that provides a national focus for water issues

Nambucca Shire Council is on a permanent Level 1 water restriction that means:

- Sprinklers & non-hand-held hoses are banned between 8 am & 4 pm
- Hand held hoses may be used at any time
- Non-residential gardens may use sprinklers for 1 hour/day between 5 am & 8 am
- Sports grounds may use sprinklers 1 hour/day

Rainwater tanks are commonly used in areas of the Nambucca Shire where there is no other public water supply available. Council supports and encourages the use of water tanks to:

- Reduce demand on town water
- Reduce environmental impacts by conserving the water resource
- Reduce environmental impacts by reducing the severity of stormwater runoff from urban areas
- Provide additional water security to consumers during times of drought and interrupted water supply, and
- Reduce costs to consumer and Council by reducing the demand for treated town water.

- In November 2010 the Nambucca Shire Environmental Levy was allowed to continue through to 2012. This levy secures additional funding for identified projects, these projects include; Nambucca River Flood Study, Deep Creek Flood Study, Coastal Hazard Management Plan,

Riverbank restoration works, Nambucca River and tributary water quality monitoring, rainwater tank rebates, implementation works for the Nambucca River master Plan, continuation of the Indian Myna Bird eradication project and the start of stage 1 of the River Street foreshore improvements in Macksville.

- Councils Rainwater tank rebate continued through the reporting year.
- The Nambucca Valley River Users Group (NRUG) does a clean up of the Nambucca River targeting different areas every 6 months, one in January and one in July.
- Nambucca Valley had its wettest December since 1970 in 2010. The recorded high of 299.3mm although there was no flooding. Flooding occurred in January 2011 where the Pacific Hwy was cut in several places. Localised flooding occurred in many parts of the shire cutting roads for 24 hrs.
- On Tuesday 14 June 2011 after an intense east coast low the shire was inundated with flood waters. The flood peaked in Macksville at 2.7m, higher than the 2009 floods but under the 1974 flood level (2.95m). Bowraville, Scotts Head, Taylors Arm, Gumma, parts of Eungai and Valla were isolated. The Pacific Hwy was cut at Wrights Corner and several other places between Macksville and Nambucca Heads. Macksville was flooded by backed up stormwater along the main road near the Caltex Service station, flood waters reached the corner of Princess and River streets in Macksville.

This rainfall concentrated on the coastal areas and the Nambucca River (South Arm) and Warrell Creek carried the main volume of water.

An evacuation of lower areas of Nambucca Heads occurred late Tuesday night and evacuees were taken to Nambucca Heads High School Gym where they were tended to by volunteers from several community service providers.

Once again Nambucca Shire was declared a natural disaster area. The damage bill was around \$750 000 with landslips on the North Arm Road and damage to bridge approaches on Simpsons Ridge Rd at South Arm.

- Nambucca Valley Landcare (NVL) implemented several projects during the reporting year these included:

- Nambucca valley Borefields Bed Control Project - \$30K NRCMA
- NVL and NRCMA will develop 3 river reach plans across the valley in 2011, upper catchment of North Arm, section at Upper Buccrabendinni and one on Taylors Arm.

Projects can be found at

<http://www.nvlandcare.org.au/pages/projects.html>

- New Flood hazard maps for Nambucca Heads have increased the height estimate of a one-in-100-year flood, to take into account the effects of climate change and sea level rise.

The rise in the lower Nambucca area, from Watt Creek to the river mouth, has been estimated at

500mm-700mm by 2050. The new levels will be taken into account when making decisions about future developments. The maps and study were on display until July 18 2011.

- The Nambucca River Estuary – River Restoration Guide, first produced by NVL in 2000 has been revamped and reprinted by DECCW. Copies available from Council and NVL office.

- As part of a James Cook University ocean monitoring project the Nambucca Shire will form part of a study aimed at monitoring the East Australian Current and coastal zone. The project involves the installation of an ocean monitoring station at Nambucca Heads, which will be part of a wider Australian Coastal Ocean Radar Network (ACORN). The project will provide maps of surface currents and measure wave heights, which influence erosion.



Crosswinds Nature Reserve  
Photo NSC

Table 4.3 and 4.4 Aquatic System Indicators

Regional Indicator - Water Consumption	2006/7	2007/8	2008/9	2009/10	2010/11	Movement towards sustainability
total reticulated water consumption in LGA (ML)* **	1 806	1 658	1 446	1 615	1 768	↓
per capita reticulated water consumed in LGA (kL/person)* **	145.1	122.2	125.28	113	90.2	↑
daily per capita reticulated water consumed in LGA (L/person)* **	397.5	335	343.2	309	247.1	↑
reticulated water daily demand peak (KL)* **	7 928	6 600	6 870	7 522	8180	↓
Population % connected to reticulated water* **	68	72	61	73	67	↔
total reticulated water consumption by Council (KL) **	19 543	20 310	15 300	18 340	18 385	↔
Number of surface water licences***	193	197	193	201	203	↔
Number of bore water licences***	546	562	569	585	573	↔

\* Denotes Regional Indicator \*\* Statistics from Councils Engineering Department \*\*\* Statistics from Office of Water in Dept Primary Industries (DPI) [www.water.nsw.gov.au](http://www.water.nsw.gov.au)

Regional Indicator - Waste Water **	2006/7	2007/8	2008/9	2009/10	2010/11	Movement towards sustainability
Wastewater treated at STP's (ML)*	1 385.8	1 424.0	1 946	1 534.3	1 699	↑
waste water treated to tertiary level (ML)*	1308.1 (94.4%)	1340.0 (94.1%)	1652 (84.9%)	*404.5 (26.4%)	1489 (87.6%)	↑
wastewater treated at treatment plants to secondary level (ML)*	77.9 (5.6%)	84 (5.9%)	294 (15.1%)	*1 129.8 (73.6%)	210 (12.4%)	↑
population % serviced by sewage system*	64	64	60.4	61	62	↔
population serviced by on-site effluent disposal systems*	36	36	39.6	39	38	↔
Number of approved on-site effluent disposal systems*	37	636	642	527		↑
Number of existing on-site effluent disposal system inspections*	449	643	665	881	967	↑

\* Denotes Regional Indicator \*\* Statistics from Councils Engineering Department

\* Tertiary level is when it passes through a UV system, and only Macksville STP had UV in 09/10







# 5.0 Biodiversity

## 5.1 INTRODUCTION

'Biodiversity' is defined as the variety of life forms found within an area, such as the different plants, animals and micro-organisms, the genes they contain, and the different ecosystems in which they are found and form part of.

The biodiversity of an area is constantly changing and is enhanced by genetic change and evolutionary processes, and is reduced by extinctions and habitat degradation.

It is important to conserve biodiversity to protect the life-support systems on earth. These systems include; fresh water provision, climate regulation, the creation of soils, and the natural disposal of pollutants. They are fundamental to our quality of life and our economy.

The climate and geographical lay out of the Nambucca Shire results in a diverse range of sub-tropical and temperate faunal and floral communities, and the conservation of this biological diversity is essential to the health and productivity of the LGA.

Clearing for agricultural purposes since the 1800's has greatly altered the Shire's vegetation. The main

areas are along the flood plains and the coastal fringe. The riparian zones are vital to the functioning of stream ecosystems, however the majority of these areas of emergent aquatic, semi-aquatic and over and understorey plants within the Shire have been extensively altered since European settlement.

Due to their accessibility, the riparian zones of the region were originally cleared for their high quality timber, particularly red cedar. The Cedar getters were followed by the pioneers who extensively cleared the alluvial floodplains for agriculture.

Weed infestation into remnant vegetation communities in the Nambucca Shire are of increasing concern. The main source of these weeds are from urban gardens, where they establish, dominate and then escape into neighbouring green space land where they once again dominate the native vegetation.

The loss of essential sea grasses in the Nambucca River and Deep Creek from sedimentation and damage from boats is cause for concern as these seagrass beds are essential fish breeding and nursery grounds.

## 5.2 PRESSURES ON OUR BIODIVERSITY

- Noxious weeds
- Land clearing
- Stormwater pollution
- Fragmentation and degradation of remnant bushland
- Changes to native vegetation
- Garden escapees
- Illegal dumping
- Feral animals
- Climate change impacts
- Anchoring by boats
- Invasive aquatic flora and fauna
- Overfishing
- Tourism
- 4WD on beaches
- Fauna hit by cars

Table 5.1 and 5.2 Biodiversity Indicators

Status of Flora and Fauna in Nambucca LGA **	2006/7	2007/8	2008/9	2009/10	2010/11	Movement towards sustainability
Number of Threatened Flora Species*	16	16	21	19	10	↑
Number of Threatened Fauna Species*	67	53	74	65	87	↑
Number of Endangered Ecological Communities	no data	7	9	9	9	↔
Number of Native Fauna Species in Shire	no data	421	441	446		↑
Number of Native Flora Species in Shire	no data	1018	1086	1140		↑
Number of Key Threatening Processes	no data	19	24	28	31	↓

\* Denotes Regional Indicator \*\* Statistics from Office of Environment and Heritage (OEH) [www.environment.nsw.gov.au](http://www.environment.nsw.gov.au)

Declared Noxious Weeds under the Noxious Weeds Act 1993 **	2006/7	2007/8	2008/9	2009/10	2010/11	Movement towards sustainability
Number of Noxious weeds reported for Nambucca LGA*	98	104	101	103	100	↑

\* Denotes Regional Indicator \*\* Statistics from Department of Primary Industries (DPI) [www.dpi.nsw.gov.au](http://www.dpi.nsw.gov.au)





Bottle Brush, Preferred Plant for Street Trees  
Photo Google



Banksia Giant Candles, Preferred Plant for Street Trees  
Photo Google



Regent Honeyeater  
*Anthochaera phrygia*  
Photo DECCW



Canoeing in Gaagal Wanggaan  
Photo J. Ashby

### 5.3 A SNAP SHOT OF 2010/11

- Nambucca Shire Council adopted its Tree Planting Guide for the valley in July 2010. A preference has been given to native plants that have striking flowers such as Bottlebrush, Red Flowering Gum and Banksia Giant Candles.

- Nambucca Valley Landcare (NVL) Inc. hosted many field days, workshops and fairs during the reporting year.

In October 2010 was Spring Tree Fair

- Small Farm Management Workshop in Oct 10
- Basic Animal Health in Nov 10
- Waterwatch for Landowners in Nov 10
- Innovative Grass Field Day March 2011
- Nambucca Littoral Rainforest Workshop March 11
- Tree Fair April 11

Nambucca Valley Landcare and the Nyambaga Goori Green Team partnered for a Coastal Protection Project which focused on littoral rainforest, weeds of national significance and coastal community engagement.

The rainforest and weeds section of the project was largely directed to South Beach that has now become Gaagal Wanggaan National Park and is jointly managed by National Parks and a management committee of the Gumbaynggirr People.

The Nyambaga Green Team carried out the control of bitou, lantana and other weeds that were threatening the littoral rainforest there.

The community engagement comprised a number of events. The project delivered 6 workshops and 3 field days totalling 200 people. The workshops included 2 Green Team days, 2 Dunecare days, 1 EDO workshop about vegetation and 1 on the importance of micro bats to littoral rainforest. The Gordon Park site has been added to the permanent monitoring sites for micro bats.

NVL also tried a new strategy for the Nambucca to encourage numbers of short term volunteers. The project developed simple management plans. Volunteer groups were asked to advertise work days and to provide a relaxed environment for new volunteers to participate. 3 new groups have been started and 2 schools have been involved.

The final part of the Caring for Country project was to stabilise 3 access point across the dunes to the beach. By far the biggest project in this section was the upgrade of the Valla 4 wheel drive track. The old track followed a creek line. Some of residents wanted the track closed but it was deemed necessary for emergency vehicles and council workers. This project stabilised the track preserving the nature of the water way whilst still allowing access. The two pedestrian tracks used a new method developed in the Nambucca Shire between Geofabrics Australia and NVL. It uses bunker matting that is designed to hold sand, has next to no visual impact, is cheap to install and is an environmentally friendly material.

The second edition of the Nambucca Valley Vegetation and Planting Guide was reprinted as a result of a \$15K Country Community Action Grant

Projects can be found at <http://www.nvlandcare.org.au/pages/preprojects.html>

- National Tree day was on 1<sup>st</sup> August 2010 and was celebrated by the Nambucca Valley Community Services Council Inc and Macksville Community Gardens giving away plants for your garden. Plants included, Red Cedar, Lilly Pillies, Black Beans, Silk Floss Trees, orchid trees and many more.

Shire Schools participated in Planet Arks National Tree day on Friday 30 July with planting of trees either in the school grounds or in a community park

- During 2010/11 the NSW Scientific Committee made a final determination to list the:
  - Herb – *Myriophyllum implicatum* as a critically endangered species in part 1 of schedule 1A of the Threatened Species Conservation Act.
  - Regent Honeyeater *Anthochaera phrygia* as a Critically Endangered Species in part 1 of Schedule 1A.
  - Grass *Paspalidium grandispiculatum* as a Vulnerable Species in Part 1 of Schedule 2 of the Act
  - Australasian Bittern *Botaurus poiciloptilus* as an endangered species in Part 1 of Schedule 1 of the Act

- Introduction and establishment of Exotic Rust Fungi of the order Pucciniales pathogenic on plants of the family Myrtaceae as a Key Threatening Process in Schedule 3 of the Act
- Invasion of Native Plant Communities by African Olive *Olea europaea* L. subsp. *Cuspidate* as a Key Threatening Process in Schedule 3 of the Act
- Carex Sedgeland of the New England Tableland, Nandewar, Brigalow Belt South and NSW North Coast Bioregions as a Endangered Ecological Community (EEC) in part 3 of Schedule 1 of the Act.

- The Mid North Coast together with the Northern Rivers and Blue Mountains are the worst areas for domestic animals attacking native wildlife during 2010. Coffs Harbour with 81 attacks (32 from cats & 49 dogs), followed by the Nambucca area with 26 attacks (18 by cats and 8 by dogs). These are the attacks reported to WIRES, hundreds of attacks go unreported and do not include attacks by feral animals.

WIRES has again been out helping our injured wildlife. A Whistling Kite was rescued after she was found lying on her back, after a week of intensive care and feeding she was taken back to the site she was found and released, she may have been poisoned. Without WIRES she would have died.

If you find an injured or orphaned native animal or would like to join WIRES call the rescue hotline on 6564 8661.

- On the 23 April 2010 Gaagal Wanggaan (South Beach) National Park was formally Gazetted, becoming NSW and Nambucca's newest National Park. The states newest national park owned by the Gumbaynggirr people, was created to protect the natural heritage of the Warrell Creek area south of Nambucca Heads.

On 6 November the community celebrated the creation of the park at Bellwood Park, Nambucca Heads. There was entertainment from Gumbaynggirr bands, dancers and singers to celebrate the sixth and newest Aboriginal owned National park in Australia.

As part of the NPWS Discovery Tours, several tours of Gaagal Wanggaan had been programmed for the Dec/Jan school holidays. The focus is from holiday makers and

locals for the opportunity to experience an Aboriginal cultural perspective of the park. Local bush tucker and medicine plants were discussed.

The full discovery program is available <http://www.environment.nsw.gov.au/NationalParks/Tours.aspx>

- In November 2010 a colony of Flying Foxes had set up camp in Gordon Park. It was thought it may be a seasonal camp but a group of 100 Flying foxes have stayed over the 2011 winter.

The Grey Headed Flying Fox is listed as Vulnerable under the commonwealth Environmental and Biodiversity Conservation Act 1999 and harming them or their habitat can attract large penalties.

The Bowraville camp was vacated in March 2010. Council was granted a licence to remove some camphor laurel trees in July 2010. Extensive weeding and replanting by Landcare and volunteers has enhanced the buffer zone between residents and the bats.

Funding (\$40 000) from the Our Living Coast Project has enabled a Plan of Management to be produced and more weeding and revegetation has been secured to enhance Lions Park, Bowraville. This will continue into the 2011/12 year.

- Every holiday season the traditional land owners visit the islands in the Nambucca River to see they have been trashed by people who cut down habitat to make fire and make a camp, some people were ringbarking the trees and clearing away shade trees that were important to the elders. These islands are not only significant to the Gumbaynggirr people but are also key habitat to threatened species such as the Sooty and Pied Oyster Catchers and the Beach Stone Curlews.
- The local Ibis survey was on again on Sunday 31 October 2010. For Information [www.environment.nsw.gov.au/surveys/WhitelbisSurvey](http://www.environment.nsw.gov.au/surveys/WhitelbisSurvey)
- World Wetlands Day occurred on February 2<sup>nd</sup> 2011 and is celebrated each year to mark the signing of the RAMSAR Convention which acknowledges wetlands of international importance.



Myrtle Rust  
Photo NSC



Grey Headed Flying Fox  
Photo Bruce Thompson  
[Auswildlife.com](http://Auswildlife.com)



Possum attacked by a cat  
Photo Google



Garden cuttings dumped in dunes  
Photo Google





Bitou Bush *Chrysanthemoides monilifera*  
Photo DECCW



Feral Species - Indian Myna  
Photo Jamberoomynas



Gloriosa Lily *Gloriosa superba*  
Photo Google



Kudzu Weed *Pueria lobata*  
Photo Google

- o Encroachment of gardens and buildings onto crown land is a continuing problem. Caravan Parks in the Shire are the main offenders allowing dwellings, sheds, awnings and gardens on the public land over a number of years. Houses that back onto crown land are the second offenders that illegally readjust their boundaries or dispose of garden refuse over the back fence.

- o The Indian Myna project continued throughout the reporting year with a boost of \$100 000 from the NSW Environmental Trust to enable the project to continue. So far 1050 volunteers have participated and almost 2500 Indian Mynas have been trapped.

Call the Myna Hotline on 0438 218 261 to report flock sightings, borrow a trap or to get involved.

- o The NSW Land and Property Management with Nambucca Valley Landcare will coordinate a bitou bush eradication project at Scotts Head. NRCMA has funded the \$33K.
- o Several weed species were highlighted during the reporting year, these included; Aquatic Alligator weed, Tropical Soda Apple (*Solanum varium*) that was discovered in August 2010 in the Kempsey Shire and now has spread across the Mid North Coast north to the Far North Coast, Mist Flower (*ageratina riparia*) and Longleaf Willow Primrose (*Ludwigia longifolia*) with an infestation in Taylors Arm in a man made dam.

Removal of willow trees growing near creeks has been found to return valuable water resources to rivers. CSIRO has reported in a recent study that 5.5 ML of water could be saved annually per Ha of willow canopy area removed where trees were in-stream with a permanent access to water.

- o In 2010 a new disease that targets the myrtaceae family of trees (myrtles) has swept over the shire. This Myrtle Rust is a fungus which has been carried by north easterly winds and began to show up on shire farms in March 2011. The myrtle rust also affects eucalypts, lilli pillies, tea trees, grevilleas and bottlebrush.

- o General inspections and re-inspections were performed throughout the Shire with a new established infestation of Kudzu found in the Eungai area. Kudzu (*Pueria lobata*) is a new and

emerging weed with patches found in various locations around the Shire (Missabotti, Taylors Arm & highway). Kudzu is a climbing, coiling, and trailing vine native to southern Japan and southeast China. It spreads by vegetative expansion, via stolons (runners) that root at the nodes to form new plants and by rhizomes. Kudzu will also spread by seeds, which are contained in pods and mature in the autumn, although this is rare. One or two viable seeds are produced per cluster of pods. The hard-coated seeds may not germinate for several years, which can result in the reappearance of the species years after it was thought eradicated at a site.

Follow up inspections were also performed on properties with Broad Leaf Pepper, Yellow Bells and Groundsel Bush. Giant Rats Tail Grass is proving to be a difficult species to manage, with five known infestations throughout the Shire.

Coolatai infestations on main arterial roads throughout the Nambucca Shire have been treated with herbicide, with good results. Giant Rats Tail Grass (*Sporobolus pyramidalis*) infestations have also been targeted in the road reserves in the Talarm and Valla rural areas.

Riparian zones in the Missabotti, Bowraville and Taylors Arm areas were inspected, with no new weeds found to be present. Tung oil (*Vernicia fordii*) is establishing along the length of the Missabotti system, with an old plantation site the seed source of this invasive tree species.

Extensive control works have been performed in the coastal reserve system, with Glory lily, asparagus fern, Creeping Groundsel (*Senecio angulata*), Bitou bush, Turkeys rhubarb and Senna targeted. A cooperative project between Landcare, NRCMA and Council has been initiated targeting WoNs species and reducing weed species within rainforests in the Nambucca area. Woody weeds have also been targeted within the Council managed reserve system, with Lantana, Camphor laurel and Privets the main species.

- o The OEH (EPA) Pollution Hotline **131 555** received 11 calls from concerned shire residents about removal of native vegetation and 1 call about threatened species in the reporting year. Six calls were forwarded to Council for action.

# 6.0 Atmosphere

## 6.1 INTRODUCTION

Air pollution typically results from a range of human activities. The primary source of air pollution in Nambucca Shire is burning vegetation followed by motor vehicles and woodfire heaters. Other sources are industrial processes, construction and demolition, incineration, solid waste disposal and domestic heating.

The effect of air pollution can be far reaching and may impact on climate, human health, visibility, property, flora, fauna and water quality.

Nambucca Shire's air quality is perceived to be quite good, although during the winter season (low fire risk) the air quality is lower with rural burning and extensive bushfire hazard reduction in rural areas.

It is the urban and rural residential areas that are increasingly subject to air pollution associated with illegal

backyard burning, bushfire hazard reduction and internal combustion heaters.

Other areas of concern are from the dust disturbance from unsealed roads in the shire, particularly after a long dry spell.

Air pollution issues may increase in the shire in direct correlation with population increase and the already heavy dependence on the motor vehicle for transport.

## 6.2 PRESSURES ON OUR ATMOSPHERE

- Urban air pollution
- Wood fire heaters
- Backyard burning
- Rural burning
- Motor vehicle emissions and road dust
- Commercial business operators (saw mills, quarries, food shops)
- Construction and demolition
- Greenhouse Gasses

Tables 6.1 and 6.2 Atmosphere Indicators

Source of Air Pollution **	2006/7	2007/8	2008/9	2009/10	2010/11	Movement towards sustainability
Smoke	8	13	8	3	8	↓
Odour	8	9	2	5	7	↑
Dust	3	2	0	7	1	↑
Total Complaints	19	24	10	15	16	↓
Complaints to DECCW ***	6	13	12	17	24	↓

\*\* Statistics from Councils Customer Service Requests \*\*\*Statistics from Office of Environment and Heritage (OEH) [www.environment.nsw.gov.au](http://www.environment.nsw.gov.au)

Greenhouse Indicators **	2006/7	2007/8	2008/9	2009/10	2010/11	Movement towards sustainability
Council electricity usage (GJ)	8550	9012	23 442	11 122	8 110	↑
Total greenhouse (CO2) emissions produced by Council operations (tonnes)	3 989	4 168	4 058	3 996	2 411	↑
Number of Vehicles in Council's Fleet	68	68	69	69	69	↔
Number of Vehicles that are powered with gas/hybrid	4	4	4	1	0	↓
Total greenhouse (CO2) emissions produced by Council fleet (tonnes)	900	793	867	690	690	↔
Number of vehicles registered in Nambucca Shire Council Area ***	16 142	18 401	17 475	17 963	18 788	↓
Total km of cycleways in LGA	no data	3	3.4	5.4	5.4	↔

\*\* Statistics from Councils Engineering Department \*\*\* Statistics from NSW Roads and Traffic Authority (RTA) [www.rta.nsw.gov.au](http://www.rta.nsw.gov.au)

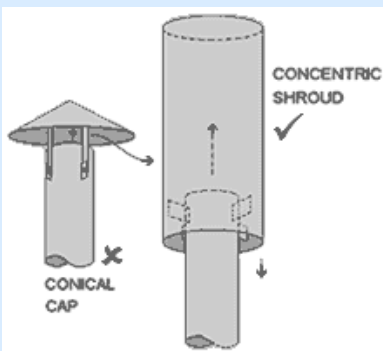




Bike Racks Outside Council Chambers  
Photo NSC



New Cycle/walkway at Bellwood  
Photo NSC



Domestic Solid Fuel/Woodfire Heating Policy – good and bad Chimney Shrouds



Chipper at a Sawmill  
Photo NSC

### 6.3 A SNAP SHOT OF 2009/10

- Council reviewed its Cycleway plan in May 2010. Funding has led to extensions of the existing cycleway from Bellwood south along the Hwy to just north of Kingsworth Estate, Nambucca Heads and River Street in Macksville. Cycleways are an alternative commuter choice to travel to work and link schools, shops, sport centres and town centres.
  - The Nyambaga Green Team have been working on the continuation of the Nambucca Heads to Macksville cycleway through Bellwood to Kingsworth Estate. A wooden walk/cycle bridge was built across Teagues Creek to enable the concrete cycleway to continue adjacent to the Pacific Hwy.
  - Newee Creek sawmill has been operating smoke free for over a year with the introduction of a chipping machine. The chipper chips all the off cuts and logs instead of burning them. The high grade wood chips are exported and the lower grade chips and wood butts are purchased by sugar cane refineries. This activity has improved air quality within the local area. It is hoped that more saw mills will look at this alternative to burning.
  - At 5pm Wednesday 19 January 2011 cyclonic winds ripped through the Talarm area of the Shire. The winds felled many trees blocking roads and completely tearing roofs off two houses. The storm raged with violent hail, rain and cyclonic winds. Talarm and Congarinni Road North were the worst affected
  - A second violent storm ripped across the valley on the 1 March 2011. Again many trees were felled across the shire particularly at Scotts Head and North Arm Road. The storm caused power outages in 3000 homes across the Mid North Coast. A tree partly blocked the Pacific Hwy at Eungai.
  - Council adopted the Domestic Solid fuel / Woodfire Heating Policy in March 2011. This policy aims to decrease smoke pollution in townships in winter. The policy only applies to new installations and Council approval needs to be obtained before installing any solid fuel heater.
- The policy is available online  
<http://www.nambucca.nsw.gov.au/cp/res.asp?id=3016>
- The Shire residents have an average vehicle fleet age of 13.3 years, Bellingen 13 yrs, Kempsey 13.7 yrs and Coffs Harbour 11.7 yrs as apposed to Botany with 6.2 years (youngest). The oldest fleet is in Weddin LGA with 14.5 yrs (RTA 2011).
  - There are 1.32 vehicles for every licensed driver in the Nambucca Shire.
  - Council has now improved its vehicle fleet by replacing their vehicles with a more fuel efficient ones, including swapping the 6 cylinder vehicles with 4 cylinder models. All the models comply with the Green Vehicle Guide.
  - In the 2010/11 reporting period Council outlaid approximately \$20,000 in energy efficient works to reduce Councils environmental footprint, these works included:
    - Energy efficient lighting for the Nambucca Entertainment Centre,
    - Energy efficient lighting and fixtures to Macksville and Nambucca Heads libraries, and
    - More energy efficient lighting for the Administration building.
- The energy efficient lighting and fittings are 15% more efficient than the standard ones and the new bulbs have a life of 5 years.
- It can be seen that Council has reduced its electricity usage by 541GJ and saved 160t of CO<sub>2</sub> by investing \$120 000 in the last two years on energy efficiency actions in the Council owned buildings.
- In the reporting year there were 29 complaints made to the OEH (EPA) Pollution Hotline **131 555** of those 5 were referred to Council to deal with.
  - Hazard reduction burning has been done in areas around the shire for essential reduction of vegetation fuel in the case of a wildfire and protects the natural vales of the reserve. There were 260 prescribed burns in NSW covering 92 000ha.

# 7.0 Waste & Resource Recovery

## 7.1 INTRODUCTION

As people buy and consume more products, the rate of waste generation increases. This general trend places pressures on the environment and Council's waste management systems.

People who reside, visit or work in Nambucca Shire, can reduce this impact by taking more responsibility for their waste. This involves actively avoiding waste generation, recycling more, and disposing of non-recyclable materials responsibly. This includes utilising councils green waste service as apposed to illegally burning off in urban and rural – residential areas which increases air pollution.

Council is constantly improving its capacity to handle waste effectively and to reduce the initial generation of waste by implementing various plans, policies, strategies and education programs.

Council regards a large percentage of waste as a valuable resource, and is constantly increasing efforts to divert waste from landfill by improving resource recovery throughout the LGA.

The landscape, streetscape, mix of housing types and the characteristics of residents, visitors and businesses are not uniform across the Shire, neither are the waste avoidance and resource needs and challenges.

Nambucca Shire Council has various responsibilities regarding the management of a range of waste products throughout the Shire. The form of these wastes is variable and includes the solid waste products generated in households and local industries and the liquid waste treated by the local wastewater treatment plants and on-site effluent disposal systems. In conjunction with other State Departments, Council is also responsible for monitoring and collecting data from a number of sites classified as potentially contaminated or contaminated.

## 7.2 PRESSURES ON OUR WASTE SYSTEMS

- Population increase
- Littering
- Illegal dumping
- Decrease in availability of landfill
- Disposal costs
- Managing negative environmental impacts from landfill sites (leachate, greenhouse gasses)

Table 7.1 & 7.2 Waste Indicators

Environmental Indicator **	2006/7	2007/8	2008/9	2009/10	2010/11	Movement towards sustainability
Municipal waste disposed to landfill (tonnes)	12459.3	9578.55	8954.86	2427.63	2675.79	↓
Recyclables diverted from landfill (tonnes)	no data	123.3	232.5	316.2	338.48	↑
Greenwaste diverted from landfill (tonnes)	335.35	671.85	662.23	350.8	348.36	↓
Scrap metal diverted from landfill (tonnes)	276.78	194.64	252.69	280.4	153.34	↑
Batteries diverted from landfill (tonnes)	6.81	8.12	4.99	3.28	4.35	↑
Motor oil diverted from landfill (litres)	1600	7500	5300	5500	7550	↑
Hazardous Materials diverted (tonnes)	no data	no data	6.213	2.922	4.611	↑
Dumped Rubbish Complaints	no data	no data	10	27	14	↑

\*\* Statistics from Councils Engineering Department

Nambucca Shire LGA Generated Kerbside Waste* **	2006/7	2007/8	2008/9	2009/10	2010/11	Movement towards sustainability
Recycling (tonnes)	no data	1984.5	2006.82	2116.54	2232.48	↑
Organics (tonnes)	no data	2668.86	2754.44	2940.8	3169.76	↑
General Waste (tonnes)	no data	2127.08	2472.74	2718.16	2653.77	↑

\* waste is processed at the Coffs Harbour transfer station \*\*Statistics from Coffs Coast Waste





Rubbish from Clean Up Australia Day 2011  
Photo NSC



Plastics diverted from landfill  
Photo NSC



Dumped Asbestos along the Nambucca River  
Photo NSC



Dumped Rubbish in Deep Creek  
Photo NSC

### 7.3 A SNAP SHOT OF 2010/11

- 250,000 L of effluent was collected from the sale yards in 2010/11. The effluent was re-used as fertiliser on agricultural land in the Shire.
- National Recycling Week 2009 started 9 November 9. The week focused on our 3 bin system of recycling with Coffs Coast Waste cracking down on bins containing unacceptable levels of contamination. Cameras in the trucks makes it easy to identify those bins (and owners) who are not doing the right thing.
- Bowraville Local Aboriginal Land Council (LALC) received \$50 000 to clean up illegally dumped waste. The grant money will be used to clean up and rehabilitate the old Nambucca Shire tip site on the Bowraville LALC. This project aims to develop a sense of ownership and pride and increase awareness of the impact of illegally dumped rubbish on country.
- Clean-Up Australia Day 2011 The Nambucca Valley River Users Group (NVRUG) organised this years clean up day in March and focused on the local estuaries and waterways. A total of 1.8 tonnes of rubbish was collected by community groups, individuals and school groups.
- Drum muster was run in May 2011.

- There has been an increase in the number of illegal dumpings in the Shire. This can be attributed to the increased costs of disposing rubbish at the Nambucca Heads transfer station. Council's ranger continues to investigate dumpings and issues clean up notices regularly.

A further increase in dumpings along Old Coast Road has prompted Police to patrol the area. Police say there is now five times as much rubbish appearing in the forest since last year.

Council has two successful prosecutions of individuals who dumped in the forest.

Persons found to be dumping rubbish illegally can be fined up to \$1500.00 on the spot and made to clean it up.

**To DOB in a dumper call the OEH (EPA) Pollution Hotline on 131 555**

# 8.0 Noise

## 8.1 INTRODUCTION

Noise pollution can be defined as unwanted or offensive sounds that unreasonably intrude into our daily activities. It has many sources, most of which are associated with urban development such as roads, air, transport, industrial noise, neighbourhood and recreational noise. The impact of noise in our community can reduce public amenity, and adversely affect health and communication.

Noise pollution can cause a major reduction in the quality of life. However, some unavoidable activities, such as demolition, construction and excavation, are inherently noisy and need to be well managed rather than prevented.

The Department of Environment and Climate Change (DECC), the NSW Police Service, and Council all play a part in monitoring and regulating noise control.

The *Protection of the Environment Operations Act 1997* and the *Protection of the Environment Operations (noise Control) Regulation 2008* are the principal legislation applied throughout NSW to address environmental noise issues.

The regulation of noise falls on many different departments, such as DECC, NSW Police, Local Government, RTA, Commonwealth Government and RailCorp.

There are various Acts and Regulations, both Commonwealth and State to govern noise. For example Nuisance dogs.

## 8.2 PRESSURE ON OUR ENVIRONMENT FROM NOISE

- Increased population
- Barking dogs and crowing roosters
- Traffic and transport
- House and car alarms
- Swimming pool pumps
- Mechanical ventilation systems (air conditioners)
- Parties
- Off Road Vehicles
- Construction noise
- Industrial estate noise
- Garbage collection
- Licensed venues

Table 8.1 Noise Indicators

Source of Noise **	2006/7	2007/8	2008/9	2009/10	2010/11	Movement towards sustainability
Commercial & construction	4	10	28	6	8	↓
Dogs	31	26	14	35	16	↑
Roosters	10	11	10	11	17	↓
Other	14	16	5	13	15	↓
<b>Total Complaints</b>	<b>59</b>	<b>63</b>	<b>57</b>	<b>63</b>	<b>56</b>	<b>↑</b>
Complaints to DECCW ***	7	0	1	21	26	↓

\*\* Statistics from Councils Customer Service Requests \*\*\* Statistics from Office of Environment and Heritage (OEH) [www.environment.nsw.gov.au](http://www.environment.nsw.gov.au)





Trail Bike Noise  
Photo Google



Construction Noise  
Photo Google



Barking Dog  
Photo Google



Crowing Rooster  
Photo Google

### 8.3 A SNAP SHOT OF 2010/11

- In the reporting year there were 56 noise complaints received by Council. Council responded by carrying out inspections and taking the appropriate regulatory action. Most complaints were resolved at this stage.
- Over a third of all noise complaints were attributed to barking dogs (16). This is a significant decrease from last years reporting period of 35. Dogs bark usually due to insufficient space, provocation, lack of exercise or adequate shelter, ill, or an unstable diet. The majority of these complaints were resolved through mediation and negotiation. However, in the case of ongoing problems, Notices of Intent to issue Nuisance Orders, and Dog Nuisance Orders were issued under the *Companion Animals Act 1998*.
- Complaints about roosters crowing have been increased steadily, complaints are up by 6 from last year (11). The custom of keeping fowl for eggs and meat in yester-years is now creating a nuisance in the built up urban areas. Roosters create problems of noise in the early hours of the morning. To abate the crowing, owners must dispose of the rooster all together.

Council's 'Keeping of Animals Policy' states that the keeping of roosters in residential, urban or village areas is prohibited.

- There has however been a dramatic increase in trail bike noise in large lot residential (rural residential) in the reporting year. Many of the complaints stem from children riding along their property boundary after school and on weekends. Other issues are when large dirt bike tracks are built for the family to use and noise is not taken into consideration when they are designed.

Most complaints were dealt with through mediation of the two parties.

- In the reporting year 30 complaints were logged through the OEH (EPA) Pollution Hotline **131 555** of those 4 were referred to Council for action.

# 9.0 Aboriginal & Non-Aboriginal Heritage

## 9.1 INTRODUCTION

Heritage is defined as a place, object, custom or culture that has historic, scientific, cultural, social, archaeological, aesthetic, natural or Aboriginal significance. Heritage consists of those places and objects that we as a community have inherited from the past and wish to hand on to the future generations.

Our heritage gives us a sense of living history and provides a physical link to the work and way of life of earlier generations. It enriches our lives and helps us to understand who we are today.

Nambucca Shire's heritage is diverse and includes buildings, objects, monuments, Aboriginal places, gardens, bridges, landscapes, archaeological sites, shipwrecks, relics, bridges, streets, industrial structures and conservation precincts. Lists of heritage items are listed in the comprehensive SoE chapter 9 Tables 9.1, 9.2 and 9.3.

Aboriginal sites are the physical remains of a culture that is more than 40,000 yrs old. It is important that Aboriginal sites are recorded, studied and preserved as part of the cultural heritage of the Aboriginal people in the Nambucca Shire and as part of the wider communities historic and cultural heritage.

Aboriginal culture is about a deep belief of all living things and beyond. Their relationship with the land and nature encompasses all that exists for living in this world, everything is connected. It's about a spirituality that stems from ancestors that practiced, listened, understood and preserved beliefs, language and customs. With these traditions there is a profound sense of respect for Elders and their knowledge.

Most Aboriginal sites have significance to Aboriginal people for the reasons that they were visited, ceremonial, tracked, births, deaths, burials and therefore stories connect us to that land. Depending on who used the site, men or women, has particular significance because of certain 'business' that had been performed there. These are the sites that are imperative to the life and death of all Aboriginal and non Aboriginal people and should be recorded and respected as such.

Aboriginal culture and heritage in the Nambucca Valley still exists and as yet not all sites have been located and recorded. Aboriginal culture is not as simple as this all sounds, there are parts of Aboriginal culture and heritage that are complex yet, has never been written, but has been handed down, orally, for over 40,000 years.

## 9.2 PRESSURE ON OUR ABORIGINAL AND NON-ABORIGINAL HERITAGE

- Lack of enforceable maintenance provisions for listed sites and Insufficient expertise in dealing with listed items
- Lack of understanding and recognition of Native Title rights and interests
- Erosion and damage of sites from wind, water, sun and human activities

Table 9.1 Heritage Indicators

Heritage Sites	2006/7	2007/8	2008/9	2009/10	2010/11	Movement towards sustainability
Aboriginal Heritage Sites **	169	173	249	251	256	↑
Aboriginal sites altered, destroyed or damaged **	0	0	0	2	0	↑
Non-aboriginal Heritage Sites ***	37	37	40	41	42	↑
Conservation Areas ***	2	3	3	3	3	↔

\*\* Statistics from Office of Environment and Heritage (OEH)  
www.environment.nsw.gov.au

\*\*\* Statistics from NSW Heritage Dept.  
www.heritage.nsw.gov.au





Rusty Iron Rally – Macksville  
Photo Nambucca Guardian



NAIDOC 10 Poster



Australian Hospital Ship Centaur  
found in December 2009  
Photo news.com.au



Nambucca Heads Cenotaph  
Photo ABC News

### 9.3 A SNAP SHOT OF 2009/10

During the year there were many historic and cultural events both Aboriginal and European that involved the community.

- NAIDOC 2010 "Unsung Heroes – Closing the Gap by Leading Their Way" ran from the 4-11 July 2010 was filled with many activities. A NAIDOC week march along Bowra Street in Nambucca Heads marked the start of NAIDOC week. The march was attended by local elders, community members and school children on 3 July.

Other NAIDOC week events included:

- Celebrations at Macksville High School and Public School, Nambucca Heads Primary School, Frank Partridge VC Public School, Bowraville Central School and others
- Photography exhibition at Nambucca Heads High School
- Gumbaynggirr Elders Choir
- Bush tucker catering at Miimi Mothers
- NAIDOC games
- Community awards
- Indigenous cultural and heritage will be explained by way of interpretative signage now erected at Nambucca Heads and Scotts Head. The signs would be in English and Gumbaynggirr. The signs will portray points of interest and a summary of the lifestyle of the Nambucca Valley and Gumbaynggirr homeland.
- The Nyambaga Green Team is seen as a showcase for indigenous people in Australia, and continues to train locals.
- The Rusty Iron Rally once again revved up on 4 and 5 September 2010 presented by the Mid North Coast Machinery Restoration Club. The 2010 special feature display was of International Tractors and Lister engines.
- National Heritage Week was welcomed on 4 September with 2010 theme of "Faces in the Street." A walk around 'Old Macksville Town' with the committee researching history of the development of Macksville from the 1830's when the first wave of cedar cutters came to the district.
- The Australian Hospital Ship Centaur was torpedoed by Japanese submarines on May 14, 1943, there were 64 survivors.
- A local, Doctor Bernie Hindmarsh was with those who died (there is a memorial garden in Macksville that honours him). The wreckage was found late 2009 with the wreck of the HMAS Sydney. On September 24 2010 a memorial service was held to honour those who died and a plaque has been mounted on the deck of the Centaur that includes the names of the dead, the survivors and messages from family members.
- Traditional 11am Remembrance Day ceremonies were held throughout the shire by RSL Sub-branches.
- The Frank Partridge VC Military Museum opened its new extensions in Feb 2011 which comprises of a large vehicle gallery and a new display area. The extensions were funded by a State and Federal grants and donations by the public. The State Governments Community Building partnerships grant of \$40 000 went towards the Dept of Veteran Affairs grant of \$3 000 and a \$2 000 donation from the Nambucca Heads RSL.
- National Servicemen's Day was celebrated at the Nambucca Heads Cenotaph in February 2010.
- Year 12 students from the Central Coast visited Bowraville as part of a re-enactment of the 1965 Freedom Ride in February 2011. The students retraced the 2 300km journey taken by Charlie Perkins and the Freedom Riders. Bowraville Local Aboriginal Land Council CEO, Phillip Hall remembered the Freedom Riders and shared his emotions of the original ride with the students. The members of the 2011 Freedom Ride collected names on a message stick and comments in a book and took them to the expert advisory panel for constitutional change.
- Reconciliation Week was celebrated in June 2011 with many schools in the Shire celebrating.
- Looking Back to the Future was showcased in June 2011 after a 12 month project which focused on early-onset dementia in the Aboriginal community. The project enabled participants to recall and record their stories and share them with the community using digital media and story-telling techniques. The project was funded by the Federal Government's Dept of Health and Ageing's dementia community grants program and run by Nambucca Valley Community Services Council Inc.

# 10.0 Glossary

ASS	Acid Sulfate Soils
AHD	Australian Height Datum
ALLUVIAL	A deposition of sediment over a long period of time by a river; an alluvial layer; pertaining to the soil deposited by a stream (alluvium)
ANZECC	Australian and New Zealand Environment and Conservation Council.
CARBON FOOTPRINT	is "the total set of greenhouse gas (GHG) emissions caused by an organisation, event, product or person." Greenhouse gases can be emitted through transport, land clearance, and the production and consumption of food, fuels, manufactured goods, materials, wood, roads, buildings, and services. For simplicity of reporting, it is often expressed in terms of the amount of carbon dioxide, or its equivalent of other GHGs, emitted.
CONGLOMERATE	is a rock consisting of individual stones that have become cemented together.
DECCW	Department of Environment, Climate Change and Water
DNR	Department of Natural Resources.
DOLORITE	is a mafic, holocrystalline, intrusive igneous rock equivalent to volcanic basalt
DL	Department of Lands
ELEOCHARIS	is a genus of 250 or more species the Cyperaceae (sedge family). They are known commonly as spikerushes
ELEOCHARIS WETLAND	wetland dominated by spikerushes
EPIPHYTIC ALGAE	algae existing on the surface of a plant or plant organ without causing infection (epiphyte)
EUTROPHICATION	is an increase in the concentration of chemical nutrients in an ecosystem to an extent that increases in the primary productivity of the ecosystem
ESD	Ecologically sustainable development
FOOD MILES	is a term which refers to the distance food is transported from the time of its production until it reaches the consumer. Food miles are one factor used when assessing the environmental impact of food, including the impact on global warming. This type of metric is sometimes used as a carbon emission label on packaging.
ha	Hectare
HACC	Home and Community Care services
ICOLL	Intermittently closed/open lakes and lagoons.
kl	Kilolitre.
L	Litre.
LAB	Liquor Administration Board.
LALC	Local Aboriginal Land Council
LEMP	Landfill Environmental Management Plan.
LEP	Local Environmental Plan.
m	Metre.
mg/L	Milligrams per litre.
ML	Megalitre.
mm	Millimetres.
NPWS	National Parks and Wildlife Service.
NRCMA	Northern Rivers Catchment Management Authority
NSC	Nambucca Shire Council
NVL	Nambucca Valley Landcare Inc



# Glossary Continued

OEH	Office of Environment and Heritage (previously known as DECCW)
OFFENSIVE NOISE	means under POEO, noise: (a) that, by reason of its level, nature, character or quality, or the time at which it is made, or any other circumstances: (i) is harmful to (or is likely to be harmful to) a person who is outside the premises from which it is emitted, or (ii) interferes unreasonably with (or is likely to interfere unreasonably with) the comfort or repose of a person who is outside the premises from which it is emitted
PALUDAL	pertaining to marshes, marshy, palustral, especially designating a plant's habitat
PASS	Potential Acid Sulfate Soils
PHYLLITE	is a type of foliated metamorphic rock primarily composed of quartz, sericite mica, and chlorite
POEO	<i>Protection of the Environment Operations Act 1997.</i>
PSR	Pressure-state-response model.
RIPARIAN	is the interface between land and a stream. Plant communities along the river margins are called riparian vegetation
RTA	Roads and Traffic Authority.
SANDSTONE	is a sedimentary rock composed mainly of sand-size mineral or rock grains
SCHISTOSE	laminated; having a formation resembling a schist - schists form a group of medium-grade metamorphic rocks
SLATE	a fine-grained metamorphic rock that can be split into thin layers
SEPP	State Environmental Planning Policy.
TERTIARY BASALTS	solidified lava from a geologic period 65 million to 1.6 million years ago
TRACHYTE	is an igneous, volcanic rock with an aphanitic to porphyritic texture

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