

# Wingecarribee protect and grow roadsides program: a data driven strategic approach

## COUNCIL NAME

Wingecarribee Shire Council

## WEB ADDRESS

[www.wsc.nsw.gov.au](http://www.wsc.nsw.gov.au)

## SIZE

2,689 square kilometres

## POPULATION

47,054

## Overview

Wingecarribee Shire Council has developed a tool to prioritise environmental weed management across their roadsides. With over 1150km of roadsides in the Shire with exceptional biodiversity value, strong environmental interest from residents, and finite resources for weed management, the strategic prioritisation tool was developed to use data and GIS systems to highlight roads with the highest environmental need and focus resources for long term management outcomes.

## Background

Council did not have a strategic and objective approach to the prioritisation and implementation of roadside native vegetation restoration work, particularly for environmental weed control. Works were often ad-hoc creating problems with maintenance logistics. The development of a geographic information system (GIS) model was identified as the best way forward to create a data driven, strategic framework for all roadside management.

The project was designed to create a single spatial GIS data layer through the aggregation of a diverse set of data and the application of an agreed set of criteria. Other objectives included:

- To prioritise all Council maintained roadside vegetation across the Shire according to its known biodiversity values.
- To develop a work program, based on the priority ranking of roadsides generated by the model, upon which cost estimates for implementation can be based.

The project was funded through Council's Environment Levy and was designed to:

- Undertake roadside vegetation management to achieve the best biodiversity outcome
- Identify opportunities for potentially sourcing and applying for other funding
- Identify strategic locations for roadside markers (a future proposed program)
- Identify areas of high biodiversity value where specialist environmental weed contractors are required to deliver work
- Leverage the investment in roadside vegetation management and other biodiversity management investment on adjoining properties.

## Implementation

Work on the project initially commenced in late 2013 and completed its first full prioritisation of all roadsides in the Shire by April 2015. The project steps included to:

- **Establish an agreed set of criteria for ranking the biodiversity values of roadsides in the Shire.** Ranking road segments based on known biodiversity values and spatial relationships was essential at the outset of the project. This step identified what data would be used and how



- **Develop a GIS model.** ArcGIS was used as the software platform for utilising a diverse set of environmental, land use and other spatial data including: road parcels, Council maintained roads, roadside vegetation class (historic data), native vegetation, threatened species location, biodiversity corridors and properties applying private land conservation, etc. GIS was used to aggregate data and also determine spatial relationships between data. For example the proximity of roads to properties with current investments in biodiversity conservation.
- **Testing the results and identifying data gaps.** A single GIS map layer was produced, summarising all data used and a priority ranking code applied to each road segment.

## Outcomes

The project has achieved its objectives of developing a strategic planning tool, a single map layer from the GIS model and the identification of data gaps. Good strategic decision making relies on good data, and it was obvious from the initial results of the modelling that the lack of data in some areas was affecting the results, particularly in relation to threatened species data. This constraint was turned into an opportunity for the organisation to engage a specialist contractor to collect the necessary data. This data will be added to the NSW Government's BIONET and incorporated into the GIS model, which will then be re-run to update priority rankings.

The priority ranking GIS map layer has promoted collaboration across different branches in Council by providing a layer as a single point of reference and summarising a diverse range of data. It has enabled staff to clearly identify areas of responsibility and improve the consistency of messaging between Council and the community. It has also developed a system where new data, captured in the field or updated from other sources, could be easily updated.

## Key Learnings

The project has been a success due to the collaboration across Council, and ongoing commitment to the project has been ensured through the formal adoption of the GIS model by Council. The model offers broader opportunities:

- The deployment of the map layers on Councils' intranet mapping system will enable access to all staff. Work is underway to include it through ArcGIS online, enabling the data to be available on smart phone / tablet devices in the field;
- Investigations are underway on using the model and map layer to assist other Council processes or community enquiries including Part 5 Environmental Assessments and the preliminary evaluation and resident applications for works within a road reserve under s138 of the *Roads Act 1993 (NSW)*.

## Contact

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**This project was the 2015 winner of the Roadside Environment Award at the LGNSW Excellence in the Environment Awards.**