

# WSSP Trend Analysis Green Paper

A trend analysis is proposed as part of the strategic assessment of the Western Sydney Strategic Plan (WSSP). Biosis and RMIT University have been engaged to undertake this work, with assistance from the Open Lines consulting team.

This green paper is intended to set out the key concepts, goals and requirements for the trend analysis. It is hoped that this will serve as a foundation for ongoing discussions and lead to a sound methodology for conducting and interpreting this analysis.

## Background

The WSSP is expected to guide development in the Priority Growth Areas (PGAs) for 30 years. The PGAs sit largely within the Cumberland Plain, with small areas that extend outside the Cumberland Plain on its south-eastern edge. These areas are small, so for the purposes of this paper the Cumberland Plain is considered to include these additional areas.

Understanding trends in biodiversity in the Cumberland Plain over this time scale is essential to any meaningful discussion of the impacts and benefits of the WSSP, or comparison of a strategic assessment to other planning approaches.

Temporal trends influence a range of interdependent features relevant to the WSSP, including:

* Condition and extent of vegetation
* Availability, cost and condition of offsets
* Scale, severity and management of landscape level threats
* Extent of development and changes to land management practices.

## Purpose

The trend analysis will be used to support decision making around two key questions for the strategic assessment:

1. What (if any) are the likely benefits to biodiversity conservation under the WSSP compared to site by site assessments under the BC Act and EPBC Act?
2. How will the WSSP and site by site assessments perform against the evaluation criteria set out for landscape scale assessments under the BAM?

The trend analysis is also an opportunity to better understand the relative influence of different drivers of change in biodiversity on the Cumberland Plain. It is hoped that the trend analysis will help to determine:

* The importance of landscape level threats to conservation outcomes on the Cumberland Plain
* The affects of concentrating development within the PGAs
* The difference between strategic and piecemeal approaches to offset acquisition
* The importance of acquiring offsets as soon as possible.

## Method

Biosis are better placed than Open Lines to identify a sound method to meet the purpose set out above. We think that the following steps will be required.

To answer the two key questions set out above, the trend analysis will need to be conducted for three scenarios for future development on the Cumberland Plain:

1. The Baseline case. No further development on the Cumberland Plain, and continuation of existing land management practices. This model should include the Western Sydney Airport, since this has been approved
2. The Business As Usual (BAU) case. Continued development under the BC Act and EPBC Act using site by site assessments
3. The WSSP case. Implementation of the WSSP.

Comparison of the WSSP and BAU scenarios should answer question 1. The evaluation criteria for landscape scale assessments under the BAM are still under development, but should be addressed by comparison of the WSSP, BAU and Baseline cases.

The model should consider:

* Vegetation extent and condition
* Landscape context and fragmentation
* Landscape level threats at a local and landscape level over time
* Clearing for development over time
* The condition, landscape context, and availability of offsets over time.

Open Lines anticipates that the model will need to include a level of uncertainty around these and any other key parameters and conditions.

**Data requirements**

Spatial date:

* Data depicting the Cumberland plain study area (including additional areas outside the Cumberland plain)
* Land parcel layer
* Landuse layers depicting the PGAs, public land, private land, commonwealth land etc…
* Layers depicting on the current extent of all the relevant vegetation communities
* Data on the current condition of the relevant vegetation communities
* For each of the scenarios (baseline BAU, WSSP) the following information:
  + How development is likely to roll out over time within the PGAs or other areas
  + Where offsets will be implemented in response to the development
* Layers depicting on the major threats to the relevant vegetation communities in question (eg African love grass and African olive invasions)
* [if cost is to be investigated, then some sort of spatial data on offset cost will be required]

Non-spatial data

* Information on how condition of the vegetation will change through time under different management conditions:
  + As an offset
  + On public land
  + On private land (benign neglect)
* Information on how this change in condition might be impact by major threats identified and how to model this through time and space
* [if cost is to be investigated, then some data on how cost might change through time?]

**Summary of outputs**

Main outputs

CPW

In tact

Thinned

Scattered paddock trees

Grassland

Natural temperate grassland

Limitations