

**From:** [REDACTED]  
**To:** [Native Vegetation Strategy](#)  
**Subject:** Submission WA Native Vegetation Strategy  
**Date:** Monday, 10 February 2020 11:43:44 AM  
**Attachments:** [Vegetation Management Strategy Submission - Ecotones.pdf](#)

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Dear Sir/Madam

Please find attached a brief submission on the Native Vegetation Strategy.

I am happy to be contacted for additional comments and input.

cheers

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## **WA Native Vegetation Strategy - Submission**

This is a very short submission to the Strategy, to emphasis points I (and others) made at the Albany forum.

I am a consultant working in the area of conservation prioritisation and management, in many cases for regional NRM groups. I have been involved in sourcing and analysing GIS data for these groups for over 20 years. During this time I have not only carried out many projects, but have also conducted GIS training for nearly 200 people working in NRM and with State and Local government.

Over this time, one common issue has been the provision and quality of digital datasets. This problem has been rectified to some extent with improvements in data provision through Landgate, and Geoscience Australia at the federal level. However, data quality remains an issue, most notably (in my work) with vegetation data.

Vegetation data is inadequate in two principle ways:

- The quality of vegetation type/association mapping is poor; and
- The quality, but particularly the currency of vegetation extent mapping is poor.

### **Vegetation Type/Association Mapping**

While there are a few very good smaller regional datasets of vegetation type – notably the Albany Regional Vegetation Survey – the only state-extent dataset available is the VegetationComplexes\_SouthWestForestRegion\_DBCA\_047 – more commonly called the Beard vegetation mapping (see Beard et al 2003). This work, originally carried out at a scale of 1:250,000, was never intended to be used as a definitive classification of vegetation in the way it is now used.

We carry out a range of assessments – conservation values, association rarity etc. – often at fine scale, and use this dataset because it is the ONLY available south-west scale resource. At the recent Vegetation Strategy workshop in Albany, the botanists at the table discussing data were unanimous in their condemnation of the dataset, and called for it to be replaced by updated and accurate surveys, to a standard similar to the ARVS.

### **Vegetation Extent Mapping**

Loss of native vegetation is a major and on-going problem in South-Western Australia (and everywhere else in Australia probably). It is one major driver of species stress and species extinctions, and contributes to land degradation through dryland salinity and erosion.

The current commonly used estimates of native vegetation extent are based on work done by the WA Department of Primary Industry and Regional Development (DPIRD) – formerly the WA Department of Agriculture and Food, to develop the 'Native Vegetation Extent' datasets. These datasets contain vegetation extent polygons from the mapping of remnant vegetation in Western

Australia.<sup>1</sup> A significant aspect of the Native Vegetation Extent dataset is that updating of the data is done piecemeal, based on the latest aerial photography for an area, so that in any year's release much of the data is old – up to 20 years out-of-date. Thus the picture given of vegetation clearing is inaccurate: up to 20 years out-of-date.

Similar concerns about the nature of this data are expressed in a recent report done for the WA Biodiversity Science Institute paper by McFarlane and Wallace (2019), which referenced in the Native Vegetation Strategy Issues paper.

These problems are highly significant - because this dataset is intersected with pre-European vegetation mapping and used as the basis for the annual analyses of the conservation status of vegetation produced by DBCA, which informs conservation status rankings under the Biodiversity Conservation Act 2016 and clearing decisions under the Environment Protection Act 1986.

No detailed study has been made of the extent of out-of-date polygons – although I am currently seeking funds to do this. However a first-cut assessment suggests that as of 2020, for the latest vector dataset available from Landgate, in the south west of the State (shown in the map below), approximately 56% of the polygon area is based on photography 10 years old or more! Only 16.7% is based on photography from 5 years or less ago.

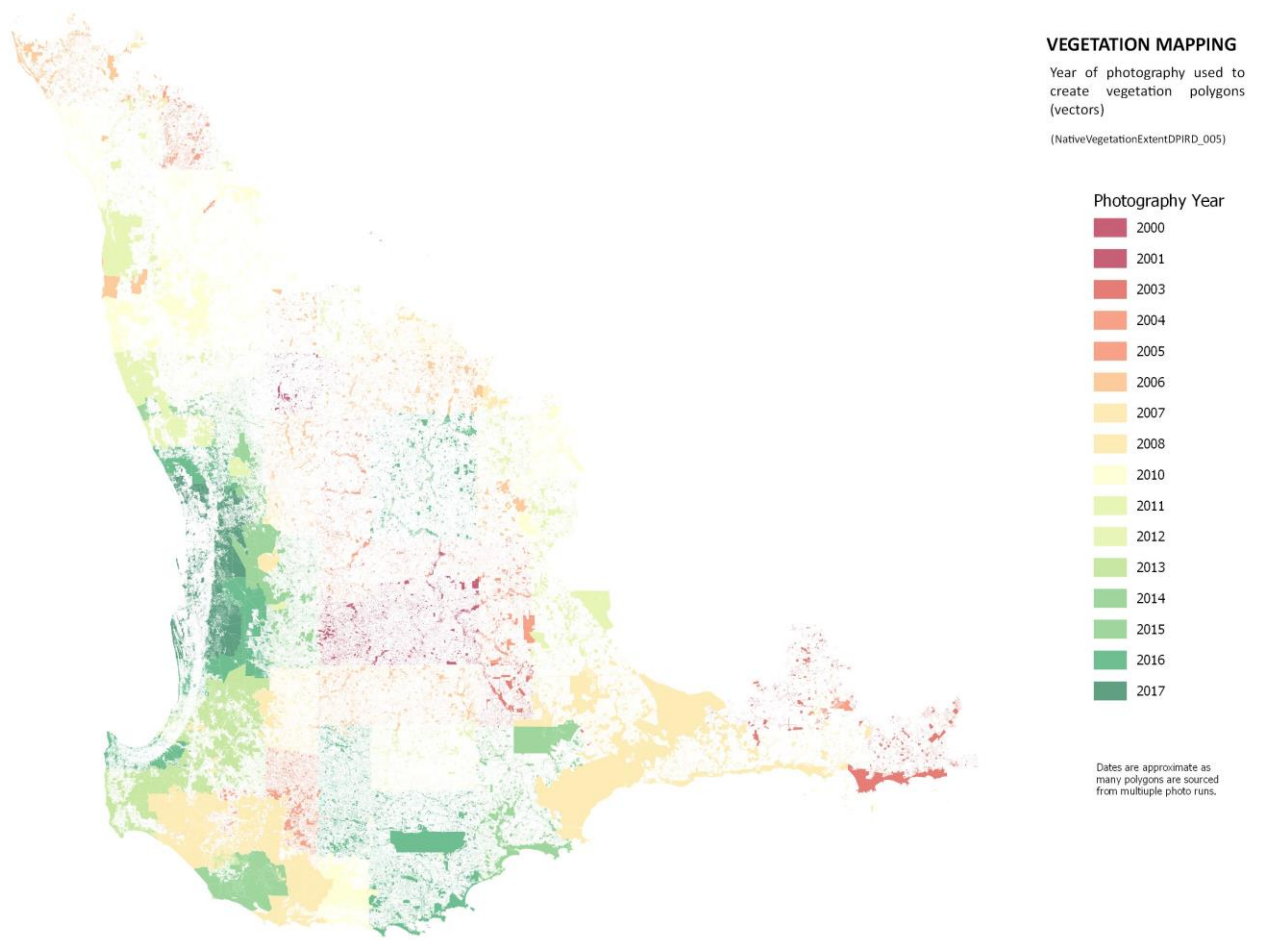
The situation will be much worse in some areas of the south-west. The simple map below indicates that substantial parts of the Wheatbelt – where the most severe clearing for agriculture has taken place, and where vegetation associations are most under threat - have not been updated for up to 20 years.

A recent review of vegetation mapping in WA (McFarlane and Wallace 2019) has outlined these and other issues with native vegetation mapping as part of a review of measurement of native vegetation extent and condition using remote sensing technologies. This paper argues for moving to the use of remote sensing for resolution of some of the issues with vegetation extent and condition.

My experience is that while the technologies may exist, the platforms for their promotion and distribution to the spatial data-using community have yet to mature, and require significant investment in order to roll out a simple and effective platform that replaces the existing (if very flawed) vegetation extent dataset.

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<sup>1</sup> The data was originally compiled as part of the vegetation theme of the National Land and Water Resource Audit (NLWRA), and in the intensive land-use zone (ILZ) in south-western Australia was derived from 1995 LandSat TM satellite imagery. It has been progressively updated and corrected over time using digital aerial photography (orthophotos) by DAFWA/DPIRD post-NLWRA with assistance from CALM/DEC/DPAW/DBCA.



### Recommendations:

- If the 'Native Vegetation Extent' dataset is to continue, it must see an injection of funds to:
  - Source appropriate aerial photography for areas currently out-of-date;
  - Provide additional digitising staff to update the dataset on this new photography.
- The State Government should immediately implement the recommendations of McFarlane and Wallace (2013), especially as they relate to establishing vegetation extent, and if feasible, condition.
- The State Government should provide funds to properly make available existing data on vegetation extent as provided through Land Monitor and other platforms, and support efforts to make this data useful to practitioner-level users.

### References

Beard JS, Beeston GR, Harvey JM, Hopkins AJM and Shepherd DP (2013). The vegetation of Western Australia at the 1:3,000,000 scale. Explanatory memoir. Second edition. Conservation Science Western Australia 9, 1–152.

McFarlane, D.J. and Wallace, J.F. (2019). Measuring native vegetation extent and condition using remote sensing technologies – a review and identification of opportunities. The Western Australian Biodiversity Science Institute, Perth, Western Australia.

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