



Updated Vegetation Mapping in Byron Shire May 2023

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Version	Written by	Date	Reviewed by	Date
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This plan has been prepared by EarthScapes Consulting Pty Ltd

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Acknowledgement

The People of the Bundjalung nation developed and maintained a deep and rich connection with the land of the Byron area. The land nourished all of the person, supplying physical, spiritual, cultural and identity necessities. We wish to acknowledge these First Peoples, and pay our respects to Elders - past, present and future.



Scope of Work

1. Use ESRI ArcGIS software to overlay current aerial photography (Nearmaps and SIX maps) over Byron Shire Council vegetation. Modify the boundaries of the vegetation polygons to reflect changes in boundaries due to improved aerial photo accuracy and/or resulting from clearing.
2. Updates to vegetation type or addition of vegetation (e.g. recent restoration and habitat plantings) is not within the scope of the project.

Datasets Used

Vegetation

- ✧ Byron Shire Council Vegetation mapping 2021. This dataset was originally created by Landmark Ecological Services and updated in 2021 by EarthScapes Consulting.

Aerial Photography

- ✧ NearMaps Byron Shire (latest available).
- ✧ NSW Spatial Services SIX Maps aerial photography.

Project Location

ESRI's Arcgis Pro project file: Byron Shire Council's network location: G:\EPS\NATURAL ENVIRONMENT_Biodiversity\GIS\Veg2022\Veg2022.aprx
G:\EPS\NATURAL ENVIRONMENT_Biodiversity\GIS\Veg22\Veg2022.aprx

Output datasets:

Updated Vegetation Mapping: G:\EPS\NATURAL ENVIRONMENT_Biodiversity\GIS\Veg2022\Veg_Mapping_2023\BSCVeg2023.shp

Projection is GDA 1994 MGA Zone 56

Work Undertaken

Byron Shire Council's 2021 vegetation mapping was updated by reviewing boundaries against NearMaps aerial photography.

Where vegetation no longer exists, the area was excised and the reason for clearing noted in the spatial layer (eg. Road).

These areas were flagged in the spatial layer in the “ToDelete” field.

Results

Table 1 shows that the mapping review resulted in the removal of a total area of 426.8 Ha of vegetation in Byron Shire since the mapping was last updated.

The reasons for this reduction in mapped vegetation include:

- More accurate mapping is possible with higher resolution, more current aerial photography.
- Vegetation communities dominated by exotic species like Camphor laurel have been cleared by some landholders.
- Vegetation clearing has occurred for development and a range of other reasons.

Table 1 - Area of vegetation cover removed from mapping by category.

Category	Area (Ha)
Beach	0.3
Buildings/Gardens/Driveway	77.7
Carpark	0.6
No vegetation cover (e.g. cleared agricultural land)	302.3
Footpath	0.2
Golf course	6.5
Quarry	0.4
Railway	2.2
Road	35.0
Sand	1.5
	426.8

Figure 1 shows the areas (in red) that have been removed from the vegetation mapping across Byron Shire.

Appendix 1 is a list of excised areas by vegetation community.

Note: it was beyond the scope of this project to update the mapping with additions to vegetation, e.g. where new areas have been planted. So the reduction in mapped vegetation of 426.8 ha does not represent a net change to vegetation cover in Byron Shire.

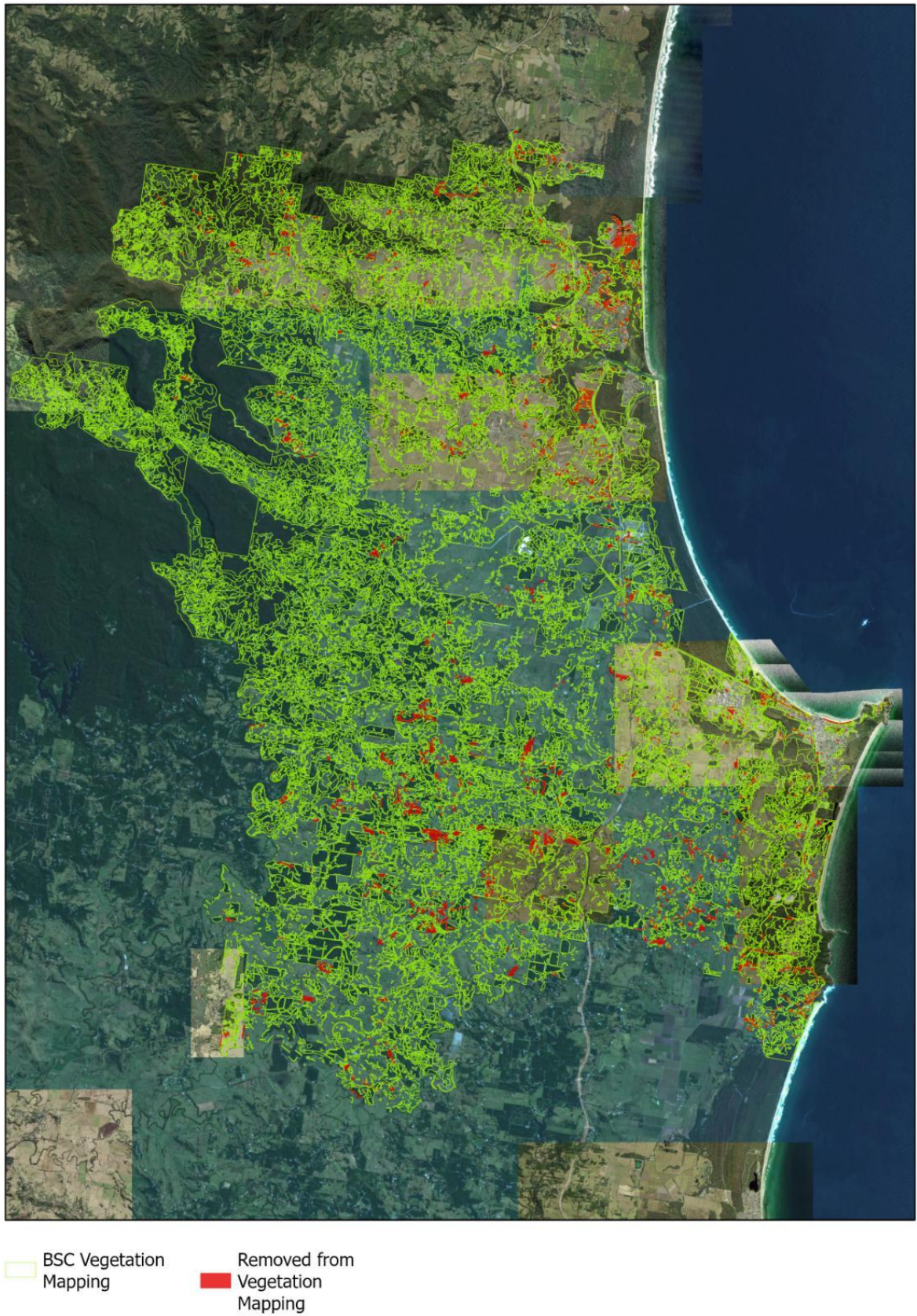


Figure 1- Areas excised from Byron Shire Council excised from vegetation mapping.

Recommendations for Additional Work

Geocortex

- Update Geocortex vegetation mapping once reviewed.
- This version of the vegetation mapping still includes the 2017 HEV attributes. Once the 2022 HEV mapping has been finalised, these fields could be removed. The only fields to keep are shown in Table 2 below.
- Apply a filter to the data using the “Todelete” field. Note: The purpose of this field is to create a filter to remove these polygons, so they are not visible but there is a record of them. This does not have to be a visible field in Geocortex.

Table 2 – Fields to retain in updated vegetation mapping, following finalization of revised 2022 HEV mapping.

Field
ToDelete
LM_Vegtype
K_Hab
Plantation
Obs
Obs_Date
Locality
IVT_Field
PCT_Form
PCT_Class
PCT_Comm
PCT_Code
Notes
Map
Edit_notes
MLand_Code
Lscape_Nam
OC_Veg_type
VerDate
Plantai_1
Landscape_
Canopy_Des
Observatio
Shape_Area

Future and ongoing updates

- To maintain the currency of the vegetation mapping, the boundaries should be updated every 2 years using NearMaps aerial photography.

- Large areas have been planted with native vegetation or the habitat restored in recent years. It would be beneficial to update the mapping with these changes, as including these updates was beyond the scope of work of the current project. Information on recently planted areas is available on Council's *Vegetation – Restoration Mapping Project 2022* layer, and via the ALA koala habitat restoration database.
- Landslips associated with the 2022 flood event have not been mapped. This would be a useful spatial layer for Council staff.
- Review of the net gains and losses of vegetation in Byron Shire and reasons for this. To include:
 - Review of cleared areas identified and comparison with known clearing approvals for DAs.
 - Identification of authorised and unauthorised clearing on rural land, through review of clearing permitted for Private Forestry Agreements and other permitted purposes (e.g. clearing along fence lines).
 - Clarification of the extent of changes in mapped vegetation area that are a result of earlier mapping errors.
 - Identification of newly planted areas.

Appendix 1 - Area of Vegetation Communities being excised from vegetation mapping

Vegetation Community	Area (Ha)
Paperbark-Swamp Oak	0.1
Swamp Oak+Swamp Box, Forest Red Gum, Paperbark	0.1
Rainforest+Brush Box	0.1
Mangrove+Rainforest	0.1
Brush Box-Rainforest-Camphor Laurel	0.1
Hoop Pine-Rainforest+Brush Box	0.1
Paperbark-Wattle-Camphor Laurel	0.1
Flooded Gum-Camphor Laurel	0.1
Forest Red Gum-Paperbark+Rainforest	0.1
Swamp Oak-Sedgeland	0.1
Wattle-Privet	0.1
Swamp Mahogany+Forest Red Gum	0.1
Eucalypt-Brush Box-Rainforest	0.1
Blackbutt-Camphor Laurel	0.1
Hoop Pine-Brush Box-Rainforest	0.1
Littoral Rainforest+Brush Box	0.1
Paperbark+Hoop Pine	0.1
Camphor Laurel-Wattle-Coast Banksia	0.1
Blackbutt-Tallowwood-White Mahogany	0.1
Brush Box+Camphor Laurel	0.1
Rainforest -Camphor Laurel+Paperbark	0.1
Red Mahogany-Brush Box-Willow Bottlebrush	0.1
Rainforest-Hoop Pine	0.1
Tallowwood-Flooded Gum-Pink Bloodwood	0.1
Paperbark+Rainforest, Swamp Mahogany	0.1
Swamp Oak+Rainforest	0.1
Coast Banksia-Camphor Laurel-Rainforest	0.1
Teatree-Paperbark	0.1
Paperbark-Forest Red Gum	0.1
Paperbark-Swamp Box-Swamp Mahogany-Teatree	0.1
Paperbark-Camphor Laurel-Swamp Oak	0.1
Pink Bloodwood	0.1
Eucalypt-Paperbark	0.1
Blackbutt+Tallowwood, Brush Box	0.1
Littoral Rainforest+Eucalypt	0.1
Eucalypt-Camphor Laurel	0.1
Paperbark+Swamp Oak, Swamp Box, Rainforest	0.1
Swamp Mahogany-Brush Box	0.1
Blackbutt+Tallowwood, Pink Bloodwood, Brush Box	0.1
Wattle-Camphor Laurel-Rainforest	0.1
Coast Cypress-Rainforest-Coast Banksia	0.1
Forest Red Gum-Grey Ironbark-Blackbutt-Bloodwood	0.1
Slash Pine-Paperbark	0.1
Tallowwood+Brush Box, Pink Bloodwood	0.1
Brush Box-Swamp Oak	0.1
Mixed Eucalypt-Rainforest	0.1
Swamp Oak-Eucalypt	0.1
Swamp Box-Pink Bloodwood-Grey Ironbark-Rainforest	0.1
Brush Box-Bangalow Palm-Rainforest	0.1
Tuckeroo-Coast Banksia	0.1
Coast Cypress-Coast Banksia-Wattle	0.1

Mangrove +Forest Red Gum, Rainforest	0.1
Blackbutt-Brush Box	0.1
Paperbark+Camphor Laurel	0.1
Forest Red Gum-Swamp Oak	0.1
Forest Red Gum-Littoral Rainforest	0.1
Coast Wattle-Swamp Oak	0.1
Scribbly Gum-Blackbutt-Grey Ironbark	0.1
Brush Box headland rainforest	0.1
Coast Banksia-Eucalypt-Rainforest	0.1
Swamp Oak+Pink Bloodwood, Swamp Box	0.1
Coast Banksia-Camphor Laurel	0.1
Coast Wattle-Tuckeroo	0.1
Swamp Mahogany+Paperbark	0.1
Brush Box-Forest Red Gum-Grey Ironbark	0.1
Rainforest+Hoop Pine	0.1
Lantana	0.1
Eucalypt-Brush Box	0.1
Pink Bloodwood-Blackbutt	0.1
Wattle-Rainforest-Slash Pine	0.1
Brush Box-Tallowwood-Rainforest	0.1
Grey Ironbark	0.1
Paperbark-Rainforest-Swamp Oak	0.1
Coast Banksia-Littoral Rainforest	0.1
Rainforest-Brush Box-Camphor Laurel	0.1
Brush Box+Mixed Eucalypt	0.1
Coast Banksia-Coast Wattle-Rainforest	0.1
Wattle-Paperbark+Teatree	0.1
Grey Ironbark-Pink Bloodwood	0.1
Paperbark-Rainforest regrowth	0.2
Eucalypt-Rainforest-Camphor Laurel	0.2
Tobacco-Lantana	0.2
Paperbark-Pink Bloodwood-Swamp Mahogany	0.2
Grey Ironbark-Blackbutt	0.2
Tallowwood-Brush Box+Bloodwood, Swamp Mahogany	0.2
Blackbutt-Grey Ironbark	0.2
Flooded Gum-Brush Box-Camphor Laurel	0.2
Blackbutt+Brush Box, Ironbark, Pink Bloodwood	0.2
Hoop Pine	0.2
Forest Red Gum+Swamp Oak, Paperbark, Swamp Box	0.2
Swamp Oak-Rainforest	0.2
Blackbutt+Tallowwood, Pink Bloodwood	0.2
Forest Red Gum-Swamp Oak+Swamp Mahogany	0.2
Coast Cypress-Rainforest	0.2
Swamp Oak+Swamp Box	0.2
Rainforest-Brush Box	0.2
Brush Box+Rainforest	0.2
Forest Red Gum+Rainforest, Brush Box	0.2
Paperbark-Rainforest+Landscaping	0.2
Slash Pine-Camphor Laurel-Wattle-Rainforest	0.2
Paperbark+Swamp Mahogany	0.2
Brush Box-Coast Banksia-Rainforest	0.2
Wattle-Eucalypt-Camphor Laurel	0.2
Brush Box-Tallowwood	0.2
Camphor Laurel-Lantana	0.2
Forest Red Gum-Swamp Oak-Paperbark-Swamp Mahogany	0.2

Paperbark-Swamp Oak-Camphor Laurel	0.2
Flooded Gum-Rainforest-Privet	0.2
Brush Box-Grey Ironbark+Pink Bloodwood, Blackbutt	0.2
Flooded Gum	0.2
Brush Box	0.2
Forest Red Gum+Paperbark	0.2
Blackbutt+Grey Ironbark	0.2
Paperbark-Swamp Mahogany	0.2
Blackbutt-Grey Ironbark-Tallowwood	0.2
Paperbark+Swamp Oak	0.3
Blackbutt+Tallowwood	0.3
Paperbark-Teatree-Rainforest	0.3
Eucalypt-Rainforest	0.3
Tallowwood-Brush Box	0.3
Rainforest-Wattle-Coast Cypress	0.3
Blackbutt+Bloodwood, Swamp Mahogany	0.3
Camphor Laurel-Slash Pine	0.3
Wattle-Forest Red Gum+Paperbark, Camphor Laurel	0.3
Tallowwood-Pink Bloodwood	0.3
Brush Box-Wattle-Ironbark	0.3
Mangrove	0.3
Coast Banksia regrowth	0.3
Paperbark+Rainforest	0.3
Brush Box-Eucalypt	0.3
Rainforest+Paperbark	0.3
Forest Red Gum+Swamp Oak, Swamp Box, Paperbark	0.3
Wattle-Rainforest-Eucalypt	0.3
Mixed Eucalypt-Brush Box	0.3
Hoop Pine-Rainforest	0.4
Blackbutt+Brush Box	0.4
Swamp Oak+Paperbark, Eucalypt	0.4
Sedgeland-Fernland-Grassland	0.4
Tallowwood-Swamp Mahogany-Forest Red Gum	0.4
Eucalypt-Wattle-Camphor Laurel	0.4
Eucalypt-Swamp Oak-Rainforest	0.4
Forest Red Gum	0.4
Coast Banksia	0.4
Swamp Oak-Paperbark-Wattle	0.4
open water-Forbland-Sedgeland	0.4
Rainforest-Coast Banksia	0.4
Swamp Mahogany-Paperbark	0.4
Swamp Oak-Mangrove	0.4
Slash Pine	0.4
Willow Bottlebrush-Wattle	0.5
Rainforest+Wattle	0.5
Rainforest-Wattle	0.5
Eucalypt	0.5
open water	0.5
Coast Cypress	0.5
Wattle-Mixed regrowth	0.5
Brush Ironbark Wattle	0.5
Native Guava-Coast Banksia-Three-veined Laurel	0.5
Swamp Oak-Paperbark	0.5
White Mahogany-Pink Bloodwood-Blackbutt	0.6
Paperbark-Rainforest-Camphor Laurel	0.6

Camphor Laurel-Wattle-Privet	0.6
Mixed Eucalypt-Rainforest-Wattle	0.6
Willow Bottlebrush-Rainforest	0.6
Ficus	0.7
Coast Banksia-Wattle-Tuckeroo	0.7
Paperbark-Rainforest	0.7
Flooded Gum-Wattle-Camphor Laurel	0.7
Rainforest regrowth	0.7
Swamp Mahogany	0.7
Tallowwood	0.8
Tallowwood-Flooded Gum-Brush Box	0.8
Wattle-Camphor Laurel	0.8
Mixed Regrowth	0.8
Rainforest -Camphor Laurel+Hoop Pine	0.9
Forest Red Gum-Swamp Mahogany	0.9
Forest Red Gum-Paperbark	0.9
Coast Banksia-Rainforest	0.9
Wattle-Rainforest	1.0
Scribbly Gum	1.1
Swamp Oak+Paperbark	1.1
Paperbark-Teatree+Camphor Laurel	1.2
Wattle-Rainforest-Camphor Laurel	1.4
Forest Red Gum-Swamp Mahogany-Pink Bloodwood	1.7
Coast Wattle-Coast Banksia	1.7
Wattle	1.9
Littoral Rainforest	2.2
Brush Box-Rainforest	2.3
Blackbutt	2.7
Black Sheoak-Rainforest-Brush Box	2.8
Camphor Laurel-Privet-Rainforest regrowth	3.8
Mixed Eucalypt	4.0
Paperbark-Teatree	6.6
Swamp Oak	6.6
Paperbark	10.8
Rainforest+10-50% Camphor Laurel	26.0
Rainforest	31.7
Camphor Laurel 51-80%	69.0
Camphor Laurel >80%	97.1
PL *	103.5

*PL refers to Plantations, including the following plantation types:

- Eucalyptus species inc Koala plantings
- Exotic Pine
- Hoop Pine
- Rainforest mixed species plantings includes Paperbark sclerophyll.
- Orchard
- Landscaping/Mixed Plantings mainly exotic species.