EnSym native vegetation regulation tool spatial data standards

For applications to remove native vegetation and protect native vegetation at an offset site

The EnSym Native Vegetation Regulations (NVR) tool can be used to test native vegetation removal and protection scenarios prior to submitting final proposals to the Department of Environment, Land, Water and Planning (DELWP) for processing. It can also be used to identify areas within Victoria that provide habitat for a specific set of species

EnSym NVR tool uses information contained in GIS shapefiles to determine offset requirements in accordance with the regulations. It also helps identify offset areas that would meet stipulated requirements by generating a map showing locations where a specific set of species can be found. It is also used to calculate potential habitat units of gain available at proposed offset sites.

The EnSym NVR tool can be used by consultants and proponents when planning developments. It will generate reports that can be used to test different scenarios or proposals. A final *Native vegetation removal report* or *Native Vegetation offset report* must be obtained from DELWP for inclusion in any formal applications.

The EnSym NVR tool can use modelled condition scores calculated from the *Condition map* for pre-planning purposes when evaluating options for native vegetation removal. Once proposals are finalised the GIS shapefile with site assessed condition scores must be submitted to DELWP at EnSymNVRtool.support@delwp.vic.gov.au for processing. The EnSym NVR tool can only process a GIS shapefile that complies with data standards described in this document.

EnSym reports

When native vegetation removal data meets the required data standard, DELWP will provide a *Native vegetation removal report* containing:

- the assessment pathway for the proposal

- the strategic biodiversity value score of the native vegetation to be removed

- information about impacts on Victoria's rare or threatened species as required by the *Guidelines for the removal, destruction and lopping of native vegetation* (Guidelines)

- the offset requirements, including the offset amount specified in habitat units, and the relevant offset attributes.

When native vegetation offset data meets the required data standard, DELWP will provide a *Native vegetation offset report* containing:

- the habits units of gain, with relevant attributes available in each zone of the proposed offset site.

General data standards

EnSym NVR tool can only accept GIS data that complies with the following standard:

- a single set of files for all areas of native vegetation to be removed or a single set of files for all areas of native vegetation to be protected

- native vegetation removal data must include all patches and scattered trees to be removed with the correct attributes

- native vegetation to be protected must include all patches, scattered trees and revegetation areas as appropriate, with correct attributes

- data is in ESRI shapefile format, including the following suite of files *.shp, *.prj, *.dbf, and *.shx

- data is in VICGRID94 projection (Datum: Geocentric Datum of Australia 1994

- shapefile must not contain M or Z values

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- polygons must not be multi-part or contain self-intersects

- patch polygons must not overlap and there must be no unintended gaps between polygons

- scattered trees can overlap with each other and can overlap portions of patches, but the centre point of a scattered tree cannot be contained within a patch.

Mapping native vegetation to be removed

All areas of native vegetation to be removed or impacted must be mapped. Refer to the Guidelines and the *Applications to remove, destroy or lop native vegetation – assessor's handbook* for more details.

The Guidelines require that the assessment pathway and the species-general offset test consider:

- past native vegetation removal

- proposed native vegetation removal including

  - areas directly impacted

  - areas of assumed loss (for example impacts to Tree Protection Zones), and

  - areas of consequential loss (for example new property boundary fences) to be included.

Native vegetation is mapped as follows:

- patches are mapped as polygons around the edge of the vegetation to be removed, this would be the tree canopy dripline when trees are present

- scattered trees are mapped as individual circular polygons with at least 36 vertices, with a radius of 15 metres or 10 metres depending on their size

- where only understorey removal is proposed, the area where partial removal will occur is mapped as a patch

- any canopy trees removed from a patch are mapped as a circle as per the scattered tree standard

- polygons should not cross property boundaries unless the project area does, or the tree canopy extends out of the property

- native vegetation to be removed should not be arbitrarily cut by engineering drawings – trees and vegetation edges must stay intact.

Attributes for native vegetation to be removed

The combination of site identifier (HH_SI) and zone identifier (HH_ZI) must create a unique identifier for each polygon within the shapefile.

Where partial removal is proposed two condition fields are populated – one with the original score from the site assessment (HH_H_S) and another with the adjusted (halved) scores (HH_H_SP).

If proposal includes some partial removal and some full removal, the HH_H_SP field must include the adjusted score for areas of partial removal and the full condition score for areas of full removal, there must be no blanks.

Scattered trees are assigned a default condition score of 0.20. The condition score of a scattered tree is never halved. Any canopy trees removed from a patch are given the condition score of the patch they are being removed from, this score is never halved. They must be marked as CT in the HH_VAC field.

Fields containing area and condition values must be numeric with the required number of decimal places.

Mapping native vegetation to be protected

All areas of native vegetation to be protected must be mapped. This can include patches, scattered trees and areas of revegetation.

- polygons must not cross property boundaries (except tree canopies may when the tree circle extends beyond the property boundary)

- patches are mapped as polygons around the edge of the vegetation to be protected, this would be the tree canopy dripline when trees are present

- canopy trees that are at least 75 per cent of the large tree benchmark, within a patch that does not meet the condition eligibility specified in section 9.1.3 of the Guidelines can be protected by treating them as scattered trees

- scattered trees are mapped as individual circular polygons with at least 36 vertices, with a radius of 15 metres or twice the canopy diameter, whichever is the greatest

- revegetation areas are mapped as polygons around the edge of the area to be revegetated

- revegetation polygons cannot include the extent of scattered tree circles – scattered trees must be their own polygon within a revegetation polygon.
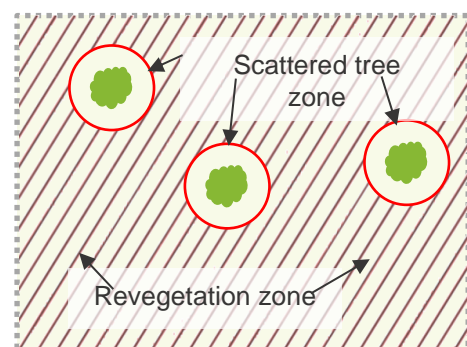
Attributes for native vegetation to be protected

The combination of site identifier (HH_SI) and zone identifier (HH_ZI) must create a unique identifier for each polygon within the shapefile.

Fields containing area, condition and gain score must be numeric with the required number of decimal places.

Sites being registered with the Native Vegetation Credit Register (Credit Register) will require additional fields in accordance with the standards for service providers. These additional fields (shown below) can be included in data processed in the EnSym NVR tool submitted to DELWP for processing. A 6 metre exclusion zone applies along all property boundaries in addition to standard Bushfire Management Overlay eligibility requirements. If you require details of the Credit

Register's full suite of metadata fields contact: the.bushbroker@delwp.vic.gov.au.

How to set fields to meet field type number specification in ArcMap

	Field Type	Pre-cision	Scale	Example
HH_SI	Short integer	2	n/a	89
HH_H_S	Double	3	2	0.12
HH_H_S P	Double	4	3	0.123
G_S	Double	5	4	0.1234
HH_A	Double	10	4	12345.1234

Table 1. Additional attributes for native vegetation credit sites

Attribute name	Field name	Type	Description	example
Standard parcel identifier	SPI	Text	A unique identifier assigned to each parcel of land in Victoria with the purpose of creating a simple and consistent means of identification.	1/LP12345
Landowner agreement	LA	Text	Landowner agreement number	LA06
Land tenure	Tenure	Text	Record the land tenure type Freehold (FH) or Public land (PL)	FH
Catchment Management Agency	CMA	Text	Initials of relevant CMA i.e. PPWP; EG, WG, NE, GB, NC, M, C, GH, W	EG
Local Government Area	LGA	Text	Short name of local council	Bundoora
Total gain in habitat hectares	TG_HZ	Number (4 decimals)	Total amount of gain for the zone in habitat hectare $(Gain\ Score/100)\ x\ Extent$	0.1234
Bioregion	HH_BR	Text	Unique code for each of Victoria's bioregions. Use an underscore not a dash if not 4 characters. Highlands Southern Fall – HSF_ Gippsland Plains - GipP	Brid, CVU_, DunT, EGL_, EGU_, GipP, GleP, HSF_, HNF_, VVP_

Table 2. Attributes for native vegetation removal data

Name of attribute	Field Name	Field type	Description	Example
Project application identifier	HH_PAI	Text	Unique identifier for project	PP-123_Coburn
Date	HH_D	Date	Date of the assessment	29012017
Collector Person	HH_CP	Text	Name of the person who collected the data (accredited assessor)	John Smith
Site ID	HH_SI	Integer	Unique site identification number. (0,1,2,3,4…)	1
Zone ID	HH_ZI	Text	Zone identification reference (A-Z)	A
Vegetation assessment category	HH_VAC	Text	The category of vegetation Patch (P) Scattered tree (ST) Canopy tree (CT)	P
Bioregion and EVC descriptor	HH_EVC	Text	Combination of Bioregion code and Ecological Vegetation Class code. This may be the derived EVC for scattered trees	VVP_0175_61 Brid0160
BioEVC bioregional conservation status	BCS	Text	Measure of extent and quality based on original (pre-1750) extent and condition Presumed extinct (X); Endangered (E); Vulnerable (V); Depleted (D); Rare (R); Least concern (LC)	E
Large tree count	LT_CNT	Integer	Number of large trees within the zone (polygon) Large trees have a DBH equal or greater than the large tree benchmark in the relevant EVC (0,1,2,3,4…). A large ST or CT has a count of 1, small ST or CT has a count of 0.	10 1 0
Past removal identifier	IS_PAST	Text	Identifies zones of past removal and must reflect the regulations at play at the time as follows: - Framework are marked FW - Biodiversity assessment guidelines are marked BAG2013 - Guidelines introduced in 2017 are marked Guideline2017 - Proposed removal = No	FW BAG2013 Guidelines2017 No
Partial removal identifier	IS_PARTIAL	Text	Identifies habitat zones where partial removal is proposed (Partial removal = Yes; Full removal = No)	No Yes
Habitat (Condition) score	HH_H_S	Number between 0.00 and 1.00 (two decimal places)	Final zone habitat score from the VQA (called condition score). Zone condition score plus landscape context score divided by 100. Scattered trees are assigned a score of 0.20. Canopy trees are assigned the condition score of the patch.	0.42
Habitat (Condition) score partial	HH_H_SP	Number between 0.000 and 1.000 (three decimal places)	Adjusted (halved) habitat (condition) score Any polygons of full removal are populated with the original condition score Tree scores remain the same	0.215
Area (hectares)	HH_A	Number (four decimal places)	Area of the polygon calculated in VICGRID94 projection	2.3345

Table 3. Attributes for native vegetation offset site data

Name of attribute	Field Name	Field type	Description	Example
Project application identifier	HH_PAI	Text	Unique identifier for project Trust for Nature begin with TfN, Sec 69 begin with BBA, First party begin with FPO and Crown land begin with CLU	TFN-C1689_12
Date	HH_D	Date	Date of the assessment	29012017
Collector Person	HH_CP	Text	Name of the person who collected the data (accredited assessor)	John Smith
Site ID	HH_SI	Integer	Unique site identification number. (0,1,2,3,4…)	1
Zone ID	HH_ZI	Text	Zone identification reference (A-Z)	D
Vegetation assessment category	HH_VAC	Text	The category of vegetation Patch (P) Revegetation (RV) Scattered tree (ST)	P
Bioregion and EVC descriptor	HH_EVC	Text	Combination of Bioregion code and Ecological Vegetation Class code.	VVP_0175_61 GipP0132_62 CVU_0047
BioEVC bioregional conservation status	BCS	Text	Measure of extent and quality based on original (pre-1750) extent and condition Presumed extinct (X); Endangered (E); Vulnerable (V); Depleted (D); Rare (R); Least concern (LC)	E
Number of large trees	LT_CNT	Integer	Number of large trees within the zone (polygon) Large trees have a DBH equal or greater than the large tree benchmark in the relevant EVC. (0,1,2,3,4…)	10
Habitat (Condition) score	HH_H_S	Number between 0.00 and 1.00 (two decimal places)	Final zone habitat score from the VQA (called condition score). Zone condition score plus landscape context score divided by 100. Scattered trees are assigned a score of 0.20.	0.42
Gain score	G_S	Number between 0.0000 and 1.0000 (four decimal places)	Gain score for the zone from the gain calculator, this is the sum of prior management, security, maintenance and improvement gain. Scattered trees use a standard maintenance gain score of 5.6 when it is at least 75% of the large tree benchmark and 13.6 if it is at least 100% of the large tree benchmark. The gain score is divided by 100.	0.2155
Area (hectares)	HH_A	Number (four decimal places)	Area of the polygon calculated in VICGRID94 projection	2.3345

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