

# Scarred Tree



## 1.1 Scarred tree

Culturally modified scars on trees are created when the sapwood is exposed on the trunk or branch, following the removal of bark for producing items such as canoes, shields, bowls or building materials. Other scar types include toe holds, where notches were cut into the bark to make the tree easier to climb, or resource extraction holes (known colloquially as 'possum-holes'). Although there are no currently registered carved or decorated trees in Victoria, there are historical accounts of trees being carved or decorated at several locations.

The VAHR only accepts records of scarred trees that are most likely to be of Aboriginal origin. If identification of the Aboriginal origin of the scars on a tree is uncertain, then it should not be recorded. Additional assessment to verify the origin of the scar should be conducted in the course of any management and protection of the tree.

An Aboriginal scarred tree usually includes one or more of the following:

- (a) the tree host is of an Australian native species that occurs naturally in the area, of sufficient age (usually over 200 years old) to carry a scar made using traditional Aboriginal techniques
- (b) there is no other obvious explanation for the marking of the tree (the tree/scar is close to a road, is in contact with a wire fence, a fallen limb from another tree that is in close proximity to the scar, etc.)

Scar characteristics include:


- (a) regular, generally symmetrical shape, often with parallel sides and slightly pointed or rounded ends
- (b) usually stops above ground-level
- (c) exposed dry face free of knots or evidence of a branch at the top of the scar, but the base (and more rarely the top) may show stone or steel axe cuts
- (d) the scar must show evidence of developed overgrowth demonstrating its age and therefore likelihood that it is the result of traditional Aboriginal practices.

Where the Aboriginal origin of a potential scarred tree is unclear or uncertain, the recorder should pursue the following options to determine the most likely origin of the tree:

- (a) consult with the relevant Traditional Owners or appointed RAP,
- (b) consult with a suitably qualified arborist,
- (c) submit a preliminary report to the VAHR (NB: if a CHMP is in preparation, the submitted preliminary report must be resolved before the CHMP can be submitted for evaluation).

A guide to recording scarred trees (Long, 2003) is available on the FPSR website. Long includes detailed observations of the attributes of Aboriginal, European and naturally scarred trees.





Multiple scarred trees can be recorded as one multi-component Aboriginal place on a VAHR form; however each scarred tree must be recorded within individual components.

**N.B.:** Where a scarred tree has been removed from its known growth location, an object collection component form must be completed for the tree's current location. A scarred tree component form must also be registered for the known growth location. If the growth location is unknown, only an object collection component form is required for the current location of the tree.

**N.B.:** In the case of contemporary scarring, documentary or oral evidence regarding its creation, significance and connection to Aboriginal cultural practice must be provided. These, and other types of culturally modified trees, such as ring trees, must be recorded using the Aboriginal cultural place component form, **not the scarred tree** component form.

### 1.1.1 Determining scarred tree extents

The extents of scarred tree components are determined by calculating their estimated root zone<sup>1</sup>. This ensures that the root system of the tree is protected from potential impacts around the Aboriginal place. This extent distance should be the minimum coverage required to protect a scarred tree but can be increased if other types of heritage are associated with the tree.

It should be noted that in cases where a scarred tree is dead, or where the canopy no longer exists, or if the tree is no longer present (destroyed by fire, fallen and removed etc.), the registration of the Aboriginal place remains, and the extent is not reduced in size or removed from the record (s.8 of the Act). However, a record of the tree and/or place's condition (such as destroyed) may be included in the registration.

Use the following formula to calculate the estimated root zone radius. This formula can be applied to living, dead or dying trees.

$$ERZ=(20xTC) \div \pi$$

*Where:*

ERZ = estimated root zone radius

TC = tree circumference (or girth) at breast height (m)

$\pi$  = 3.14 (pi to 2 decimal places)

**N.B.:** Where the Aboriginal place extent is adjacent to other Aboriginal cultural heritage, consideration must be given whether it would be appropriate to record this as a single registration with multiple components.

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<sup>1</sup> It is also possible to determine a scarred tree extent by doubling the measured distance of the outer limit of the drip line (i.e. canopy extent) of the branches of the tree. However, as this may be difficult to measure in some circumstances, and cannot be applied to dead or dying trees, the estimated root zone formula is preferred, as it can be applied to living, dying or dead scarred trees.



## 1.1.2 Completing a new scarred tree application

### 1.1.2.1 Extent descriptions for scarred trees

Where applicable, the following points must be included within extent descriptions for Scarred Trees:

- (a) details on how the scarred tree has been assessed as being culturally modified
- (b) the calculation used to determine the extent and any limitations encountered (e.g. on the bank of a river)
- (c) a summary of any archival research conducted that influenced the extent of the place
- (d) condition of the tree and root zone
- (e) any subsurface testing conducted.

### 1.1.2.2 Other Considerations

- (a) Have other types of cultural material been previously recorded nearby? Should this be a Record Edit? E.g. a scarred tree identified adjacent to a registered artefact scatter.
- (b) Has this tree been scarred in a contemporary context? A cultural place component form must be used to record the values associated for a scarred tree with contemporary significance (not a scarred tree component form).

### 1.1.2.3 Name & Location tab

Where fields are mandatory, they have been marked with an asterisk (\*).

#### Component name

This field is an opportunity to specify a unique name for a component when there are two or more components, especially of the same component type.

#### Component location

This section is composed of three fields that specify the location of the component:

Easting\*

Northing\*

Zone\*

The system automatically pre-populates these fields based on the Primary Grid Coordinate (PGC) for the place, but they may be changed if necessary.

Considerations:

- (a) The component Easting and Northing for at least one-component Aboriginal place must be the same as those of its PGC.
- (b) Where there is more than one component, each subsequent component must have a unique Easting and/or Northing.

### 1.1.2.4 Analysis tab

#### Tree Description

Composed of six fields, this tab requires details about the tree and the scar(s).



### Species\*

Use a reliable tree identification guide to determine the tree species (e.g. (Costermans, 1999). The tree leaf, bark and fruit are all important indicators of species.

Use the drop-down menu to choose from the following major species options:

black box	box (non-specific)	casuarina	cypress pine
grey box	mallee	other gum	red gum
stringybark	swamp gum	uncertain	yellow box
other (specify)			

### Condition of Tree\*

Select an option from the drop-down menu to describe the condition (or health) of the tree. See the glossary for the definitions of scarred tree condition options.:

good health	deterioration evident	poor health (dying)	dead (standing)
fallen	removed	destroyed	

### Total Number of Scars\*

Record the total number of scars present on the tree. Include any toe holds in the total count.

### Girth (m) at 1.5 metres high

The girth is the circumference of the tree, measured at 1.5 m above the ground. Recorders must provide the tree girth in metres (m), which is used to calculate the component extent.

### Number of Toe Holds

Record the total number of toe holds present on the tree. See the glossary for a definition of toe holds.

### Scar Table and Scar Detail

This table records the specific details of individual scars present on a tree. By recording the scar using these criteria, it is possible to revisit and monitor the condition of the tree over time.

### Scar Number\*

Where there is more than one scar (including different scar types) on the tree, each scar should be assigned a scar number.

### Scar Length\*, Width\*, and Height\*

Record scar length, width, and height in metres (m).

For consistency, measurements are taken from the internal dimensions of the extant dry face, rather than attempting to estimate the original dimensions of a scar panel.

Length is measured between the outer bands of tool marks, where present.





## Type of Axe Marks

This category records the type of axe marks present. Use the drop-down menu to select the following options:

criss-cross      linear (singular)      parallel (curved)      parallel (linear)      random

### 1.1.2.5 Supporting Documentation tab

#### Non-Spatial Attachments

Files of various types may be uploaded using the *Choose file to upload* tool.

**N.B.:** For each attached file, indicate the presence of sensitive material.

The following files **must** be included:

- (a) Photographs of the tree and scar(s)\*
  - (i) detailed photo(s) of each scar including toe holds and axe marks
  - (ii) contextual photo(s) of the tree within the landscape including the canopy that would aid in relocation of the tree and are illustrative of the condition of the place components, including any locations containing disturbance or harm

Photographs must be fully labelled using the following convention for file names:

name of Aboriginal place / image title      date / year      photographer      description

E.g.: Talking Dog artefact scatter\_12\_Apr\_2012\_Joe Bloggs\_Nth view of artefact scatter.jpg


The following **optional** documents can also be uploaded:

- (a) component extent plan
- (b) an outline of the tree shape and indication of the direction from which the scar was viewed. Show the location and relationship of any multiple scars, overgrowth, toe holds or axe-marks on the tree. Allocate individual numbers to identify the location of detailed scar sketches/ photographs on the tree (see below)
- (c) a sketch of each scar including the shape and vertical orientation of the scar along with any other distinguishing features (e.g. axe marks). If there is more than one scar, indicate the corresponding scar number that correlates with its details in the *Scar Table* on the *Analysis* tab.
- (d) Photogrammetry / 3D model

#### General note on non-spatial attachments

Where documents are attached, an indication of their sensitivity must be provided. VAHR policy states that documents automatically gain a sensitivity rating where they contain specific details relating to Aboriginal Ancestral Remains. However, a Registered Aboriginal Party or Traditional Owner may request a document be marked as sensitive for other reasons.

If **Yes** is selected, a reason for the document's sensitivity must be provided in the text field.



It is preferable that where documents relate specifically to one component, that they are uploaded to that component form. However, if necessary, documents may be added to the *Supporting Documentation* tab on the place form.

### **Spatial Attachments**

Types of spatial data that may be uploaded include:

- (a) a dataset containing a polygon feature of the component extent
- (b) a dataset containing a point feature of the component grid coordinates
- (c) a dataset containing the extent of the canopy

**N.B.:** All spatial data must be provided in either ESRI shapefile or MapInfo .TAB file formats, with a GDA94 projection.

### **Additional Information**

This is a free text field which can be used to describe any other details about the component which cannot be recorded elsewhere.

This may include a summary of the component including its overall dimensions in square metres, and a note of any other associated components for multi-component Aboriginal places.





## 1.2 Component glossary – scarred tree

**bark removed** (scarred tree scar type): only the bark has been removed, heartwood is unmarked.

**carved tree** (scarred tree scar type): a tree in which the heartwood within a scar has been incised with patterned marks.

**dead (standing)** (scarred tree condition): the tree has died but is still upright.

**destroyed** (scarred tree condition): the scarred tree has been destroyed (for example the tree has been destroyed by fire).

**deterioration evident** (scarred tree condition): the tree is showing signs of deterioration including natural degradation (for example fallen branches) or senescing (deterioration with age).

**dry face** (scar face) the dead, exposed timber that forms the scar surface. The dry face becomes increasingly cracked and weathered with age. Axe or tool marks where the bark was cut and prised away are often present towards the top, bottom and occasionally the centre of the dry face.

**fallen** (scarred tree condition): the tree has fallen over.

**good health** (scarred tree condition): generally, most living trees can be described as being in good health.

**heartwood removed** (scarred tree scar type): both the bark and part of the heartwood has been removed.

**overgrowth** (scar detail): this is sometimes called regrowth. At the edge of the scar the bark heals and forms a curved surface abutting the heartwood. This overgrowth continues to grow during the life of the tree and will cover, eventually, the scar damage.

**poor health (dying)** (scarred tree condition): should only be used where it is clear that the death of a tree is imminent (for example loss of majority of foliage).

**removed** (scarred tree condition): the tree has been removed from its original context to another location. In this case the actual tree should now be recorded as an object collection.

**resource extraction** (scarred tree scar type): incidental scars/tree damage not connected to collecting bark; e.g. toe holds or possum-holes.

**scar**: scars on trees are created when the sapwood is exposed on the trunk or branch, following the removal of bark.

**stem regrowth** (scar detail): this is also known as epicormic regrowth, that is, the growth of a new branch stem at the base of a scar, which often grows as a natural response to damage.

**toe holds** (scarred tree description): toe holds are small scars resulting from the cutting of bark for climbing. These are rare as they are generally now entirely grown over and are usually only seen on old, dead trees.



## 1.3 Scarred tree registration checklist

**Table 1. Scarred tree registration checklist**

	Registration Detail	Completed?
1	Check PGC and place extent spatial data	<input type="checkbox"/>
2	Describe how the place extent was determined, and what characteristics were identified to interpret the scarring as cultural	<input type="checkbox"/>
3	Tree description:	<input type="checkbox"/>
	a) species* (black box, box (non-specific), casuarina, cypress pine, grey box, mallee, other gum, red gum, stringybark, swamp gum, yellow box, uncertain, other (specify))	<input type="checkbox"/>
	b) condition of tree* (good health, deterioration evident, poor health (dying), dead (standing), fallen, removed, destroyed, unable to locate)	<input type="checkbox"/>
	c) total number of scars* (include toe holds)	<input type="checkbox"/>
	d) girth (m) at 1.5m*	<input type="checkbox"/>
	e) number of toe holds	<input type="checkbox"/>
4	Scar Table - scar detail provided for each scar:	<input type="checkbox"/>
	a) Scar number*	<input type="checkbox"/>
	b) Scar length (m)*	<input type="checkbox"/>
	c) Scar width (m)*	<input type="checkbox"/>
	d) Scar height (m)*	<input type="checkbox"/>
	e) Overgrowth - top (m)	<input type="checkbox"/>
	f) Overgrowth - middle left (m)*	<input type="checkbox"/>
	g) Overgrowth - middle right (m)*	<input type="checkbox"/>
	h) Overgrowth - bottom (m)	<input type="checkbox"/>
	i) Type of scar*	<input type="checkbox"/>
	j) Scar/Heartwood preservation*: (excellent: (80–100% intact); good: (60–<80% intact); fair: (40–<60% intact); poor: (20–<40% intact); very poor: (<20% intact); destroyed)	<input type="checkbox"/>
	k) Number of axe marks	<input type="checkbox"/>
	l) Axe marks method (steel, stone, unknown)	<input type="checkbox"/>
	m) Type of axe marks (criss-cross, linear (singular), parallel (curved), parallel (linear), random)	<input type="checkbox"/>
	n) Stem regrowth (present/absent)	<input type="checkbox"/>
5	Supporting documentation:	<input type="checkbox"/>
	a) Detailed photo of each scar, toe holds and axe marks*	<input type="checkbox"/>
	b) Contextual photo of the tree within the landscape including canopy*	<input type="checkbox"/>
	c) An outline of the tree or sketch of each scar	<input type="checkbox"/>



## 2 References

- Burke, H., Morrison, M., & Smith, C. (2017). *The Archaeologists Field Handbook* (2nd ed.). Crows Nest: Allen & Unwin.
- Costermans, L. (1999). *Trees of Victoria and Adjoining Areas*. Melbourne: Costermans Publishing.
- Long, A. (2003). *Scarred Trees - An identification and recording manual*. Melbourne: Aboriginal Affairs Victoria.