

Heritage (Decision about Registration of Glenloch Cork Oak Plantation, Molonglo Valley) Notice 2014

Notifiable Instrument NI2014–42

made under the

Heritage Act 2004, s42 Notice of decision about registration

1 Name of instrument

This instrument is the *Heritage (Decision about Registration of Glenloch Cork Oak Plantation, Molonglo Valley) Notice 2014*.

2 Commencement

This instrument commences on the day after notification.

3 Notice of Decision

Pursuant to Section 40 of the *Heritage Act 2004* the ACT Heritage Council has decided to register Glenloch Cork Oak Plantation, Molonglo Valley to the ACT Heritage Register.

Jennifer O'Connell
Secretariat (as delegate for)
ACT Heritage Council
10 February 2014



ACT Heritage Council

AUSTRALIAN CAPITAL TERRITORY

HERITAGE REGISTER
(Registration Details)

For the purposes of s. 41 of the *Heritage Act 2004*, an entry to the heritage register has been prepared by the ACT Heritage Council for the following place:

Glenloch Cork Oak Plantation

Block 8, Molonglo Valley

DATE OF REGISTRATION

6 February 2014 Notifiable Instrument: 2014–42

Copies of the Register Entry are available for inspection at the ACT Heritage Unit. For further information please contact:

The Secretary
ACT Heritage Council
GPO Box 158, Canberra, ACT 2601

Telephone: 13 22 81

IDENTIFICATION OF THE PLACE

The Glenloch Cork Oak Plantation (the Plantation) is located on Rural Block 8, Molonglo Valley. The plantation covers approximately 8.1ha in a roughly rectangular shape c.500m north-south and c.170-200m east-west.

This statement refers to the Heritage Significance of the place as required in s12(d) of the *Heritage Act 2004*.

STATEMENT OF HERITAGE SIGNIFICANCE

The Glenloch Cork Oak Plantation is significant as the largest and oldest cork oak plantation intended for commercial harvesting in Australia and the only instance of such in the ACT. The commercial aspect of its layout makes it a rare example of past industry and planning of a forestry plantation. [*Criterion (f) and (g)*]

The Plantation is important as evidence of the past commercial process of the harvesting of cork which is now only rarely practised in the ACT as an educational exercise. [*Criterion (c)*]

It is of exceptional interest as it highlights the changing priorities for resources in the ACT and Australia where cork was an essential commodity before the mid-twentieth century, but has since taken on more of a luxury value. [*Criterion (j)*]

The Plantation has strong associations with Walter Burley Griffin and Thomas Charles Weston. Griffin included the idea for a cork oak plantation as part of his planning for the ACT to develop agricultural production. Weston was instrumental in establishing the Glenloch Cork Oak Plantation, amongst many other ACT forestry plantations. [*Criterion (h)*]

The Plantation provides information that significantly contributes to a wider understanding of cultural history in the ACT. It is used for teaching forestry practices, such as silviculture and specialised cork stripping techniques, and contributes to an understanding of the changing importance of cork as a resource in establishing agricultural production in the ACT. [*Criteria (c) and (j)*]

OTHER RELATED PLACES

- Westbourne Woods
-

FEATURES INTRINSIC TO THE HERITAGE SIGNIFICANCE OF THE PLACE

The attributes listed below are assessed as features intrinsic to the heritage significance of the place:

- the existing managed cork oaks (*Quercus suber*), including:
 - their current historic planting patterns;
 - evidence of cork stripping; and
 - evidence of cork oak plantation management.

CONSERVATION OBJECTIVE

The guiding conservation objective is that the Glenloch Cork Oak Plantation shall be conserved and appropriately managed in a manner respecting its heritage significance and the features intrinsic to that heritage significance.

The ACT Heritage Council (the Council) may adopt heritage guidelines applicable to the place under s25 of the *Heritage Act 2004*.

For further information on guidelines applicable to the place, or for advice on proposed works or development, please contact the ACT Heritage Unit on 13 22 81.

REASON FOR REGISTRATION

The Glenloch Cork Oak Plantation, Molonglo Valley, has been assessed against the heritage significance criteria and been found to have heritage significance when assessed against five criteria (c, f, g, h and j) under the *Heritage Act 2004*.

ASSESSMENT AGAINST THE HERITAGE SIGNIFICANCE CRITERIA

Pursuant to s10 of the *Heritage Act 2004*, a place or object has heritage significance if it satisfies one or more of the following criteria. Significance has been determined by research as accessed in the references below. Future research may alter the findings of this assessment.

(a) it demonstrates a high degree of technical or creative achievement (or both), by showing qualities of innovation, discovery, invention or an exceptionally fine level of application of existing techniques or approaches;

The Glenloch Cork Oak Plantation, Molonglo Valley, does not meet this criterion.

Whilst the Plantation has experimental planting patterns, there is insufficient evidence before the Council to suggest that it demonstrates a high degree of technical or creative achievement.

(b) it exhibits outstanding design or aesthetic qualities valued by the community or a cultural group;

The Glenloch Cork Oak Plantation, Molonglo Valley, does not meet this criterion.

Whilst the planting pattern in the northern section is unusual in forestry plantations and has produced radiating cathedral-like avenues which add to the character of the planting, there is insufficient evidence before the Council, at this time, to suggest that the Plantation exhibits outstanding design or aesthetic qualities valued by the community or a cultural group.

(c) it is important as evidence of a distinctive way of life, taste, tradition, religion, land use, custom, process, design or function that is no longer practised, is in danger of being lost or is of exceptional interest;

The Glenloch Cork Oak Plantation, Molonglo Valley, meets this criterion.

The Plantation is of exceptional interest as important evidence of a process no longer practised in the ACT. The process of commercial harvesting of cork is rarely practised in

the ACT, and rarely practiced anywhere else in Australia. The only other example of cork stripping identified in Australia occurred in 2013 in South Australia by Orlando Wines and is of a relatively small scale. The process will not be repeated there for at least seven years.

The Plantation is also of exceptional interest as evidence of a function and design, no longer practiced and in danger of being lost. The Plantation was originally planted to test the suitability of cork oaks as a commercial crop in the ACT and at the time would have been used mainly to supply stoppers for medicine bottles and for insulation and floatation devices. Today cork is mostly harvested elsewhere in Australia and overseas for use in the wine industry and for tiles, gaskets, horticultural products and pin boards. The Plantation highlights the changing priorities for resources in the ACT and Australia.

(d) it is highly valued by the community or a cultural group for reasons of strong or special religious, spiritual, cultural, educational or social associations;

The Glenloch Cork Oak Plantation, Molonglo Valley, does not meet this criterion.

There is insufficient evidence before the Council, at this time, to suggest that the Plantation is highly valued by the community or a cultural group for reasons of strong or special religious, spiritual, cultural, educational or social associations.

(e) it is significant to the ACT because of its importance as part of local Aboriginal tradition

This criterion does not apply to the Glenloch Cork Oak Plantation, Molonglo Valley.

(f) it is a rare or unique example of its kind, or is rare or unique in its comparative intactness

The Glenloch Cork Oak Plantation, Molonglo Valley, meets this criterion.

The Plantation is a rare and unique example of a forestry plantation of cork oaks intended for commercial harvesting. It is the largest and oldest cork oak plantation in Australia and the only example in the ACT.

It is estimated that there were originally between ~7,500 to ~9,500 trees planted between 1917 and 1921, but this number has been reduced to 2,604 living trees by 2013 as poorly performing specimens were thinned out to determine optimal planting patterns.

There are currently two other known examples of cork oak plantations in Australia: the Lindsay Pryor National Arboretum and the Orlando Wines Cork Oak Plantation in South Australia.

The Lindsay Pryor National Arboretum, planted at Yarramundi Reach on the shores of Lake Burley Griffin between 1954 and 1957, has two blocks of several hundred cork oaks in tight rows. These have not been stripped for their cork and were planted primarily to test their suitability as street trees in the ACT and to improve the view from Government House. These trees have performed poorly as they have not been subject to thinning or other forestry practices designed to improve tree growth.

The Orlando Wines Cork Oak Plantation consists of 64 trees planted in 1970 which were stripped for their cork for the first time in 2013. The plantation is a small scale planting along a river bank and follows the European practice of planting cork oaks as a secondary crop on the outskirts of, and to support, a main crop and is not of the same scale or design as the Glenloch Cork Oak Plantation.

In comparison to the other two cork oak plantations, the Glenloch Cork Oak Plantation is the largest, oldest and best represents the commercial intent of the planting.

(g) it is a notable example of a kind of place or object and demonstrates the main characteristics of that kind

The Glenloch Cork Oak Plantation, Molonglo Valley, meets this criterion.

The Plantation is notable as the largest and oldest example of a commercially harvested cork oak plantation in Australia. It is also the best example of a cork oak plantation that demonstrates the main characteristics of its kind, namely cork oaks of a sufficient age and quality to be harvested, with evidence of previous harvesting still intact.

The Plantation has two different planting patterns designed to produce trees suitable for cork harvesting. It has been subject to forestry practices designed to improve the health and vigour of the trees, has been planted in a traditional commercial style and has experienced relatively continual, albeit minor, stripping of cork from the trees.

There are two other known examples of plantings of cork oaks in Australia at the Lindsay Pryor National Arboretum and Orlando Wines in South Australia.

The Lindsay Pryor National Arboretum cork oaks have not been stripped for their cork and were planted primarily to test their suitability as street trees in the ACT, and to improve the view from Government House. These trees have performed poorly as they have not been subject to thinning or other forestry practices designed to improve tree growth.

The Orlando Wines planting is not of the same scale or design as the Glenloch Cork Oak Plantation. The Orlando Wines plantation was established in 1970 and had its cork stripped for the first time in 2013.

In comparison to the other two cork oak plantations, the Glenloch Cork Oak Plantation is the largest, oldest and best represents the commercial intent of the planting.

(h) it has strong or special associations with a person, group, event, development or cultural phase in local or national history

The Glenloch Cork Oak Plantation, Molonglo Valley, meets this criterion.

The Plantation has a strong association with Griffin and Weston in relation to their silviculture efforts in the establishing the ACT.

Griffin, whose design the ACT is based on and who was appointed Federal Capital Director of Design and Construction to implement his plan, had strong views about the potential of the ACT to be self-sufficient and the nature of the silviculture that should be employed, incorporating them into his planning for the Capital, in particular the creation of a cork oak plantation. Griffin was the driving force behind establishing the cork oak plantation. He persistently pursued sources of acorns for planting and kept pressing Weston for updates of numbers and soil conditions.

Weston, Officer-in-charge of Afforestation (later Parks and Gardens), was instrumental in the development of plantings in and around the ACT and was responsible for establishing the Plantation, including the experimental planting patterns and experimenting with direct and seedling planting of cork oaks.

(i) it is significant for understanding the evolution of natural landscapes, including significant geological features, landforms, biota or natural processes

The Glenloch Cork Oak Plantation, Molonglo Valley, does not meet this criterion.

There is no evidence before the Council to suggest that the Plantation is significant for understanding the evolution of the natural landscape as it is a designed landscape.

(j) it has provided, or is likely to provide, information that will contribute significantly to a wider understanding of the natural or cultural history of the ACT because of its use or potential use as a research site or object, teaching site or object, type locality or benchmark site

The Glenloch Cork Oak Plantation, Molonglo Valley, meets this criterion.

The Plantation provides information that contributes significantly to a wider understanding of the cultural history of the ACT through its use as a research and teaching site.

The Plantation has been used as an educational resource by the Australian National University Fenner School of Environment and Society (Cris Brack, pers. comm. June, 2013) and by The Friends of the National Arboretum who “use it for talks to the public, visits for school groups and interested experts” (Jocelyn Plovits. pers. comm. June 2013).

As a cultural history site it also highlights the importance of cork as a resource in the early 20th century, when it was used for sealing medicine bottles, insulation, backing for flooring products and tiles. Many of these products or uses for cork have been replaced by modern materials, relegating cork products to novelty or specialised applications. The Plantation was originally proposed by Griffin as part of his vision for the ACT to establish agricultural production.

(k) for a place—it exhibits unusual richness, diversity or significant transitions of flora, fauna or natural landscapes and their elements

The Glenloch Cork Oak Plantation, Molonglo Valley, does not meet this criterion.

There is insufficient evidence before the Council to suggest that the Plantation exhibits unusual richness, diversity or significant transitions of flora and their elements. The cork oaks (*Quercus suber*) are an introduced single species with genetic provenance from Melbourne, from six plants from Duntroon in the ACT and from unknown regions in Spain and Portugal. At this time there is insufficient evidence to suggest that there is enough genetic diversity in the provenance of the trees to warrant inclusion of this criterion. There is no evidence of value related to fauna or natural landscapes.

(l) for a place—it is a significant ecological community, habitat or locality for any of the following:

- (i) the life cycle of native species;**
- (ii) rare, threatened or uncommon species;**
- (iii) species at the limits of their natural range;**
- (iv) distinct occurrences of species.**

The Glenloch Cork Oak Plantation, Molonglo Valley, does not meet this criterion.

There is no evidence before the Council to suggest that the Plantation is a significant ecological community, habitat or locality for: the life cycle of native species; rare, threatened or uncommon species; species at the limits of their natural range; or distinct occurrences of species. Cork oaks (*Quercus suber*) are a non-native species that are not threatened and are common throughout the ACT, Australia and the rest of the world.

SUMMARY OF THE PLACE

HISTORY AND PHYSICAL DESCRIPTION

HISTORY

The history of the site prior to the plantation is imperfectly known. It is likely to have carried Yellow box/Red gum (*Eucalyptus melliodora/ E.blakelyi*) grassy woodland immediately before Europeans acquired the land for sheep and cattle grazing in the 1830s. Some tree clearing for fuel and farm timber and to increase the grassy component may have occurred. Grazing by domestic animals and rabbits may have affected natural regeneration of eucalypts. Prior to the establishment of the Federal Capital Territory, the land was owned by Joshua Moore from 1824, and later by George Thomas Palmer and the McDonald, Robertson and Smith families (ACT Forests, 1998). The area of the Plantation continued in private ownership until 1913 when it was resumed by the Commonwealth for the creation of the Australian Capital Territory.

The cork oak tree is a native of Mediterranean Europe. "Spain and Portugal are the principal sources of the world's cork, although plantations can be found in many other countries" (ACT Forests, 1998: 5). Cork oaks have a life expectancy of up to 500 years.

Griffin proposed the establishment of a continental arboretum planted with species representative of the different continents. Gray (1999) confirms that Griffin expressed a preference to locate the Plantation "...across the Europe-Africa line..." of his continental arboretum scheme. Cork oak occurs naturally in southern Europe and northern Africa. Weston recommended that the plantation should instead be located further to the northwest where there was better drainage and the possibility to expand to the north and west, placing it in the area earmarked for an agricultural reserve, which Griffin agreed to in December 1916.

"The plantation was established as a trial to evaluate the possibility of producing cork in Australia. In the early 1900s, cork was a strategic commodity and Weston also was experimenting with various species to ascertain their commercial potential. This is why the cork oaks were planted with a view to future harvesting" (ACT Forests, 1998: 19).

The Plantation was part of Griffin's concept to make the ACT a commercially self sufficient capital city. However, he was not able to gain official support for his cork oak plantation and so he became the driving force behind setting it up. He personally sourced much of the acorns from around Melbourne and put in requests for seeds to be sourced from British government sources in Spain. After sending the acorns on to Weston he then sent a steady flow of requests to asking for updates on planting numbers, condition and soil testing. (Gray, 1999)

Cork is a useful commodity and has uses in the wine industry as bottle stoppers, in the fishing industry as buoys and floatation devices, in the automotive industry as gasket material, as insulation, flooring, cork tiles, corkboards, and many other products, although many of these uses can now be substituted by modern materials. The value of cork imports into Australia rose steadily through from c.£62,000 in 1903 to more than £550,000 in 1961, although the weight of cork imports remained relatively stable until after the 1950s when import weights increased fourfold (Archer, 1961; Cameron, 1977; Carver, 1941; Coghlan, 1903; Giblin, 1931; Knibbs, 1910; Wickens, 1922; and Wilson, 1950). When supply chains were disrupted during war many industries were affected and incited some fishers to take it upon themselves to strip decorative cork oaks from gardens to supply float material to keep their nets in place (Sydney Morning Herald, 1949).

The Canberra Times (1940) reports a shortage in cork for bottle sealing due to increased military demand. The Allied Forces considered cork as a resource to be important enough for cork oak forests in Sardinia to be a military target for bombing in 1941 (*The Canberra Times* 1941). Special import licences were issued in 1942 to help build up a stockpile of cork and was mostly restricted to sizes required for sealing medicinal bottles (Northern Star 1942).

Despite several calls to start cork oak plantations in Australia from at least the 1890s through to the 1950s (e.g. Bairnsdale Advertiser and Tambo and Omeo Chronicle, 1896; Lindsay, 1952; Rowe, 1935; South Australian Weekly Chronicle, 1881), the Glenloch Cork Oak Plantation, remains the only significant plantation of its type in the country (ACT Forests, 1998).

“T. C. G. Weston (the horticulturalist responsible for much of the early forest plantings in and around the ACT) established the plantation as a trial to evaluate the potential for growing cork for the Australian market” (ACT Forests, 1998: 6). During May of 1916, Griffin sent Weston a supply of cork oak acorns sourced from the Melbourne Botanic Gardens to establish the plantation as a trial to evaluate the potential of growing cork for the Australian market; it was the first of several shipments from differing sources. The Yarralumla Nursery Records (Australian Capital Territory) show that 6 seedlings were sourced from acorns collected at R M C Duntroon, ~3,000 seedlings from Spanish acorns and ~6,000 seedling from acorns collected in Melbourne (ACT Forests, 1998; Banks, et al, 1990). The Yarralumla Nursery Records show that, in total, ~9,000 cork oaks were planted in four phases. The first plantings occurred in October 1917, consisting of 615 seedlings sourced from the Melbourne Botanic Gardens and R M C Duntroon. The second phase of planting occurred during April to May 1918, consisting of ~2,200 seedlings and ~1,100 in-situ sowing of acorns all sourced from Melbourne. The third planting phase occurred in May 1919 with ~520 seedlings and 400 in-situ sowing of acorns all sourced from Melbourne. The final phase of plantings occurred in July 1920 of ~3,200 seedlings, the majority of which were sourced from Spain with only ~160 sourced from Melbourne.

In May 1918, Weston reported that “an area of 10 acres had been added to the existing oak plantation (doubling its size) and a trial sowing of 100 acorns was made in-situ.” Planting in-situ is evidence of Weston's understanding of the growth pattern of cork oaks which quickly develop a long taproot and would not thrive in the conical terracotta pots which were then in use (Banks, et al, 1990). The Yarralumla Nursery Records indicate that ~1,500 acorns were planted in-situ with another ~6,500 planted as seedlings raised in 4” clay pots.

In June 1918 Weston received advice that the S.S.Boorara which was carrying a shipment of acorns from Spain for the plantation was torpedoed and the shipment lost (Banks, et al, 1990). The Yarralumla Nursery Records show that a sample of 14 acorns were sent separately, but failed to germinate. However, this same record card (26J) also notes that in March 1919 there were 708 plantings from this record (not included in the summary of plantings due to the spurious nature of the information).

Two distinct planting patterns are evident in the plantation. The original planting pattern at the southern end consists of a 2.4m grid containing 61 by 84 rows, for an estimated 5124 trees within 4ha (10 acres). The later planting (northern end) consists of wider spaced trees, based on a 5 by 7.5 m rectangular grid with additional trees planted at the intersection of the grid diagonals (ACT Forests, 1998). An estimated 2500 trees in 69 rows were planted to this pattern over an area of about 5.0ha. In 1990, Banks et al. estimated that 4,500 trees remain. A 2013 report to accurately map the plantation was conducted by Robert Ey, in which the number of trees was systematically surveyed, revealed that there are currently 2,604 living trees, with an estimated original planting of 7,470 trees. However, it should be noted that few of the trees were removed because of the death of the tree, but rather as a part of forestry practices of thinning poor growing specimens to promote better growing conditions for the remaining trees, thus preserving the integrity as an experimental commercial plantation.

Possible reasons for the death or poor growth of some of the trees including changes in soil profile over the site are discussed by Banks et al (1990) and Lopez (2000). Efforts to improve the health of the trees has included thinning, a forestry practice which removes some trees to favour development of the remaining ones, which has occurred at various times, the last being in 1993.

Livestock grazing has been used as a management tool to reduce fire risk by keeping fuel sources down. It has also had the effect of keeping seedlings down by trampling, eating newly sprouted plants and eating of the acorns on the ground. (ACT Forests, 1998)

Cork harvesting which removes the outer bark without damaging the tree is a skill and an art. Cork harvesting at the Glenloch Cork Oak Plantation began in the late 1940s and has continued sporadically (Banks, et al, 1990). In 2001 two Portuguese workers, Manuel Silva and Manuel Graca, skilled cork strippers, were brought to Canberra to harvest cork as they had skills and experience that were not available in Australia (Legislative Assembly for the ACT: 2001 Week 3 Hansard (6 March pp. 604-605)).

The plantation has been used regularly for forestry education and more recently for public education. It is also used for recreation and at least one wedding has been recorded there.

The plantation escaped the 2001 and 2003 bushfires. It is in the area which the Government announced in 2003 would become an International Arboretum. It was suggested by Banks and Brack (2004) that the cork oak plantation become part of the International Arboretum and a visitor centre for the Arboretum be in the general vicinity of the cork oak plantation.

The plantation is now included in the National Arboretum Canberra and can be viewed by visitors.

DESCRIPTION

The place consists of approximately 8ha of Cork oak, (*Quercus suber*), plantation west of Tuggeranong Parkway near Glenloch Interchange. The area is accessible to pedestrians. There are roads and car parks to assist visitation through the National Arboretum Canberra.

The original planting pattern at the southern end consisted of a 2.4m grid containing 61 by 84 rows, within 4ha (10acres). The later planting (northern end) consisted of wider spaced trees, based on a 5 by 7.5 m rectangular grid with additional trees planted at the intersection of the grid diagonals, or a quincunx pattern. This later planting contained 69 rows and covered about 5ha. A 2013 systematic survey of the remaining trees revealed a total of 2,604 living trees.

As of February 2013 (Ey, 2013) there was evidence of 1823 trees having their cork stripped since 2001 (estimated), 229 trees with stripped cork dating back to the 20th Century and 552 trees that have never been harvested.

Some trees have produced coppice shoots from the stumps, there are several suckers emerging between trees and seedlings from fallen acorns are starting to gain in number as grazing within the plantation has ceased. The current land manager, the National Arboretum Canberra, is investigating appropriate control methods that will be incorporated into a maintenance plan which is in preparation (Adam Burgess, pers. comm. 2013).

Unfortunately, vandalism including illegal removal of bark has occurred (ACT Forests, 1998). A site visit in June 2013 also noted recent removal of cork that was not cleared by the land manager and damage to some of the trees where cork had been removed by non-experts.

Physical condition and integrity

A site visit on 17 June 2013 by the ACT Heritage Unit found the Plantation to be in good condition with the integrity of intrinsic features intact. This assessment is also backed up by internal reports produced by the National Arboretum Canberra (Ey, 2013; Burgess, 2013). The health and vigour of individual trees varies across the plantation, but they generally appeared to be in good condition with many trees that were severely stressed by drought conditions recovering well. Although the number of extant trees is significantly less than the original plantings (it is estimated to be 27% to 35% of its original number) the site retains the different patterns of planting in the southern and northern areas, and evidence of cork stripping.

SITE PLAN



Image 1. Glenloch Cork Oak Plantation boundary

IMAGES



Image 2. South plantings showing tight planting pattern in rows. (ACT Heritage Unit, June 2013)



Image 3. Radiating avenues in the northern plantings that also show signs of cork stripping and thinning. (ACT Heritage Unit, June 2013)



Image 4. Northern section planting pattern showing wider planting and quincunx pattern (the central tree has been removed, but its position can still be ascertained by the stump). (ACT Heritage Unit, June 2013)



Image 5. Harvested trees showing markings that date the harvesting using the last digit of the year, i.e. 2005. (ACT Heritage Unit, June 2013)

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