

HERITAGE PLACE

NAME OF PLACE: CHICORY KILNS

ADDRESS/LOCATION OF PLACE: (various) PHILLIP ISLAND

STUDY NUMBER: 111, 131, 132, **HERITAGE OVERLAY NUMBER:** HO128

LOCAL GOVERNMENT AREA: Bass Coast Shire

PARISH: PARISH OF PHILLIP ISLAND



Chicory Kiln, Jeury Road, Cowes, Phillip Island

Image Date: 2002

EXTENT OF LISTING:

Churchill Island (280); Phillip Island Wildlife Reserve, Phillip Island Rd, Cowes (131); 2125 Phillip Island Rd, Cowes (132) (House and chicory kiln) (132) Banksia Park Estate, Phillip Island Rd, Newhaven (134); McFees Rd (400m from Rhyll-Newhaven Rd) Rhyll (282); Harbison Rd, Rhyll (283); Cnr Phillip Island Road and Back Beach Road, Sunderland Bay (113); Richardson's Kiln, Ventnor Beach Rd, Ventnor (567); Graydon's Kiln, 79-83 Lyall St, Ventnor (572); 1145 Back Beach Rd, Ventnor (111); 14-26 Jeury Court, Cowes, including associated shedding.

To the extent of the original structure and any remaining original machinery, equipment, and fittings with a nominal curtilage of 4 metres all round.

CHICORY KILNS

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PropertyNo

File Number

Heritage Study No 111, 131, 132,
134, 280, 282,

HPD Number 204

HI Number

VHR Number

Other Names/s

Precinct

Group Number

Extra Files

Location (various) PHILLIP ISLAND

PARISH OF PHILLIP ISLAND

COUNTY OF MORNINGTON

Planning Authority

Ward

Access Description

Map Number

0

Map Scale 1:100000

Latitude

Longitude

UMG Zone

Easting

Northing

Location Validity

Spatial Accuracy

Extent of Listing

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Published Extent of Listing

Significance

Statement of Significance

The chicory kilns on Phillip Island are of historical, social and aesthetic significance. Chicory growing was an important industry on Phillip Island from the 1870s until the late twentieth century, with the island producing more than half of Australia's national chicory crop through this period. The chicory kilns are of historical significance as the only remaining physical evidence of this industry. Chicory production was a labour intensive activity, with whole families typically becoming involved in the harvesting and drying process. Large numbers of islanders were involved in the industry directly or indirectly. The chicory kilns are thus of social significance for reflecting an important aspect of island life. The kilns are of aesthetic significance for their picturesque appearance, and iconic typology, which has been widely adopted by islanders for use in contemporary buildings.

Gazettal Details

Permit Exemptions

Exemptions Policy

Assessment Against Criteria

AHC A.4 Importance for association with events, developments or cultural phases which have had a significant role in the human occupation and evolution of the nation, State, region or community.

AHC B.2 Importance in demonstrating a distinctive way of life, custom, process, land-use, function or design no longer practised, in danger of being lost, or of exceptional interest

AHC D.2 Importance in demonstrating the principal characteristics of the range of human activities in the Australian environment (including way of life, philosophy, custom, process, land use, function, design or technique).

AHC E.1 Importance for a community for aesthetic characteristics held in high esteem or otherwise valued by the community

AHC G.1 Importance as a place highly valued by a community for reasons of religious, spiritual, symbolic, cultural, educational, or social associations.

Date Assessed

Assessed By

Comparisons

Rare Assessment

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Intact Assessment

Include in VHR Include in RNE Include in Local Planning Scheme No Recommendations for Inclusions

Recommended Management

Heritage Act Categories

Heritage Item Groups

Heritage Item Categories

Heritage place

Farming and Grazing

Chicory Kiln

Title Details

Physical Description

As a building type, chicory kilns appear to be loosely related to other kiln structures used to dehydrate agricultural produce, such as hops, tobacco and timber. The chicory kilns on Phillip Island were not constructed to a standard, consistent design. Individual farmers appear to have designed and erected their own facilities according to their particular needs and the resources available, though each kiln complex contained all the elements necessary for the drying process. Variation in kiln design appears to have related principally to the use of different materials to construct the kiln house, and the degree of internal mechanisation.

On Phillip Island the kiln houses were constructed of three types of fire-proof material - they were brick, concrete or rammed earth/mudbrick, the latter being frequently clad with corrugated iron sheeting to provide weather protection. The kilns were often built using recycled materials. The kiln houses were typically double-storeyed in height with a characteristic pyramid-shaped, corrugated iron clad roof above the drying floor, surmounted by a raised, lantern vent. The distinctive shape of chicory kiln house derives from the functional use of convection to direct vertically rising heat up through the drying floor. Chicory was dried slowly on elevated mesh racks at a relatively low heat. Sufficient space was required between the furnace, the drying floor and the racks to ensure the drying crop was not ignited.

A series of storage sheds, usually timber or steel framed and clad with corrugated steel sheeting, were located adjacent to the kiln building and held timber for burning as well as the raw chicory. The water trough for washing the root would also have been part of the shed system. The kiln drying floor at the highest level of the kiln was reached through doorways in the top side of the kiln, which were accessed via a stairs inside these sheds.

The chicory drying process was as follows. The bagged chicory roots were transported to the kilns for processing. At the kilns, the tops were removed, and the roots washed in a large trough, then the roots were sliced into pieces approximately half a centimetre thick. The roots were transported by a hand, horsepower or an engine powered conveyancing system to a special drying floor located 3-4 metres high in the kiln tower above the kilns firebox. Kilns could have more than one drying floor. Here the sliced roots were spread out in a layer 1/3 to 1/2 a metre deep. Once lit, the kiln operated at a temperature of around 75-80 degrees Celcius. The kiln was usually lit 24 hours prior to commencing the drying process which then took between 12 and 48 hours, proceeding more quickly if the farmer turned the chicory over periodically. The dried chicory was then rebagged and dispatched to the Melbourne market.(1)

Key internal elements of a working chicory kiln complex included indoor storage/bagging spaces (also known as separator rooms), washing troughs, a hopper, slicing equipment (chaff cutter), a wood or oil furnace, fuel storage, drying floor/netting screens and water provision/storage, with associated tools such as cutting implements, rakes and ring fixtures to hold bags during filling. Drying floors consisted of wire mesh supported on steel bars, which were often recycled tram tracks.(2) Chicory farmers were inventive in creating their own tools and equipment, as evidenced by the development of a special chicory harvesting digger by Duncan McGregor in 1884.(3)

Mechanical conveyancing systems could be used such as an elevator for moving the sliced chicory, with an associated steam or petrol powered energy source, though conveying was also done manually or using horsepower. The earliest brick kiln on Phillip Island was built in 1878 by John and Soloman West. It contained a steam engine and mechanical appliances for cutting and drying the chicory.(4)

Several dozen chicory kilns were built on Phillip Island from the 1870s until the 1960s. Surviving kilns were surveyed in a report 'Chicory Kilns - Phillip Island' prepared by Bass Coast Shire Council in 2003. This survey concluded there is considerable variability in the degree of intactness of surviving structures, with most being either brick or concrete and only a few remaining examples of rammed earth/mudbrick kiln houses.

ENDNOTES

(1) Alby Adams, 'Westernport's Forgotten Chicory Kilns' in Heritage Australia, p. 20.

(2) David & Jocelyn Bradley, On the Plains of Paradise, p. 66.

(3) Stan McFee, 100 Years of Chicory Growing on Phillip Island, p. 2.

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(4) Bourke and Mornington Journal, 12 June, 1878.

Physical Condition and/or Archaeological Potential

variable

Usage

Associated People

Historical Notes

Chicory is a root crop resembling a parsnip, which is ground and used as a coffee substitute and an ingredient in the manufacture of coffee essence. It requires specific soil types and climatic conditions, and was widely grown in North America and continental Europe by the mid-nineteenth century.

Chicory cultivation and processing is thought to have been introduced to Australasia by Edwin William Trent (1839-1883), who purchased 150 acres near Templeton, New Zealand in 1864 for the specific purpose of growing chicory.(1) Trent was an established coffee miller and merchant, having operated substantial steam coffee mills in Nelson and Christchurch. He soon built a substantial chicory manufacturing complex of interconnected buildings at the Templeton site, which included kilns, a warehouse, chaffhouse and office. Chicory was soon also grown at other places on the South Island of New Zealand, including Prebbleton, Spreydon and Inchclutha.(2)

Chicory is reported to have first been grown on Phillip Island in 1870 by a Mr Knight(3), and was an important economic activity on the island from the late nineteenth century until the 1960s. Soil and climatic conditions made Phillip Island one of the best chicory growing regions in Australia; production spread to nearby French Island and on the mainland at Corinella. The crop was sown between September and November and harvested from April to June the following year. 'Brunswick' and 'Stonbridge' were the plant varieties most commonly grown. An acre of suitable land could produce up to 5,000kg of chicory.(4)

In the early years, the green roots were shipped to Melbourne for processing. Expensive shipping costs were an incentive for growers to consider drying their on the island before transportation. Many writers have suggested the first chicory kiln was built on the island by John and Solomon West in 1873, however a newspaper report in the South Bourke and Mornington Journal in 1878 indicates the brothers opened a kiln on 4th June that year. This was described as a 'handsome brick building ... [containing a] steam engine and all the necessary appliances for cutting and drying the chicory on a large scale.'(5) The second kiln is thought to have been built by Joseph Richardson in 1880.(6) The drying process consumed large quantities of firewood, with about 3,000kg of wood required to produce 1,000kg of dried product.(7) The chicory industry became a significant cause of deafforestation, as farmers combed Phillip Island in search of firewood, eventually importing timber from adjacent mainland districts after the bridge to the mainland was built.

The growth of chicory farming reflected a pattern of small landholdings and intensive agriculture, with the whole family including children, often involved in harvesting the crop. 231 acres of the crop were being grown across Victoria by 1881, yielding a harvest of 960 tons.(8) Half of this was grown on Phillip Island, with small scale crops also grown at Corinella, French Island, Bacchus Marsh, Bairnsdale, Romsey and Shepparton. At least 25 chicory kilns had been constructed Phillip Island by 1920.(9) The earliest kilns were built of fired brick, or mud/mudbrick, concrete becoming the standard construction material by the 1940s.

The island played a pre-eminent role in national chicory production through the twentieth century. The industry's fortunes have fluctuated over the years. The Phillip Island Chicory Growers Co-operative Association was created in 1922 in response to price instabilities. This was replaced by the Chicory Marketing Board in 1936, which regulated the sale of chicory across the state.(10) In the late 1930s, Holland had become the major producer of chicory. However, the German invasion of Holland during the Second World War resulted in the doubling of the international price of chicory, stimulating demand for the Phillip Island product. Wartime labour shortages and the demand for chicory saw Scotch College and Melbourne Grammar students working on the Island to help harvest the crop during 1943.

By the 1960s, with the emergence of new chemical based substitutes, and instant coffee, the industry was in decline. By 1970 chicory was only grown in Australia in two places - one was Phillip Island and the other Rendlesham, South Australia. A series of bad growing seasons accelerated the shift by farmers to new crops. The last kiln built on the island was erected by the McFee family at Rhyll in 1968. However, it ceased to operate in 1985.(11)

ENDNOTES

(1) <http://library.christchurch.org.nz/Heritage/LocalHistory/Industry/Chicory/>

(2) Ibid

(3) Stan McFee, 100 Years of Chicory Growing on Phillip Island, p. 1.

(4) South Bourke and Mornington Journal, 12 June, 1878.

(5) David & Joyce Bradley (ed.), Within the Plains of Paradise, p. 65.

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- (6) Stan McFee, 100 Years of Chicory Growing on Phillip Island, p. 1.
 - (7) George Seddon, Phillip Island: Capability and Compromise, p. 68.
 - (8) Stan McFee, 100 Years of Chicory Growing on Phillip Island, p. 1.
 - (9) Ibid, p. 7.
 - (10) Ibid, p. 1.
 - (11) Alby Adams, 'Westernport's Forgotten Chicory Kilns' in Heritage Australia, p. 20.
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Historic Themes

Thematic Environmental History

10.0 Primary Production: The climate and soil structure of Phillip Island was found to suit the growth and production of the vegetable, chicory. Within a decade of the harvesting of the first crop of chicory on Phillip Island in 1870, chicory had developed into a major industry. In 1881, 960 tons of chicory were harvested from 231 acres. Chicory 'dominated the lives of Island people' as families could derive a regular income from its production. According to one writer, 'never less than 50% of the chicory grown in Victoria came from the island, and in the 1940s the proportion from the Western Port area reached 75%'.

Listings

References

Author	Title	Year	Shelf	Location
	South Bourke and Mornington Journal, (12 June, 1878).	1878		
Alby Adams	'Westernport's Forgotten Chicory Kilns' in Heritage Australia	1990		
Bass Coast Shire Council	Chicory Kilns - Phillip Island (report)	2003		
David & Joyce Bradley (eds)	Within the Plains of Paradise	1997		
George Seddon	Phillip Island: Capability, Conflict and Compromise	1975		
National Trust of Australia (Victoria)	Research file B2616			
Stan McFee	100 Years of Chicory Growing on Phillip Island	1976		
www.library.christchurch.org.nz/heritage/localhistory/industry/chicory	Chicory: An Early Christchurch Industry	2004		

Conservation Plans

Owner Type

Section 32 Recommendation

Owners/Occupants/Managers

Other Notes

Application Detail

Adviser Comments

Planning Scheme Amendments

Overlay Controls

Planning Scheme Schedule

External Paint Controls?	No	Included in Vic Heritage Register?	No
Internal Alteration Controls?	No	Prohibited uses may be permitted?	Yes
Tree Controls?	No	Name of incorporated plan	No
Outbuildings/fences not exempt?	No	Aboriginal Heritage Place?	No