Hunter Valley Heritage Vineyards

Strategic Study

Ben Ean winery and vineyard, Pokolbin, looking south along McDonalds Road to the Brokenback Range. Source: Author

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EXECUTIVE SUMMARY

Summary Statement of Significance

There can be no challenge to the Hunter Valley's status as Australia's oldest wine region based on continuing production from 1828. In that year James Webber, a wealthy landowner in the Paterson Plains district, sent an order for grapevine cuttings to Governor Ralph Darling, on behalf of the Agricultural Club at Hunter's River.[1]

In the context of the history of New South Wales, the heritage vineyards and cultural landscape of the Pokolbin and Broke Fordwich subregions of the Hunter Valley provide continuing and tangible testament to, and rare evidence of, all phases of the state's viticultural and wine history since that early experimental phase. This continues through the mid 19th century period of settlement and the era of global expansion of the industry towards the end of that century, as viticulture migrated from the flood-prone plains of the Hunter River to the flats, slopes and foothills of the Brokenback Range. Viticulture in the Hunter then survived the challenges of Federation, the Great Depression, and two world wars to embrace the Australian wine renaissance of the 1960s and 1970s, and the second wave of global expansion of the industry from the 1980s to the present, during which time Australia established its identity as a wine producing and wine consuming society.

The Hunter Valley contains an outstanding collection of NSW's oldest vineyards still growing on their original European rootstocks and containing rare and unique genetic material. The Hunter is one of few locations in the world that escaped the Phylloxera epidemic of the late 19th century that devastated European vineyards and vineyards in other parts of NSW, Victoria and Queensland. The genetic material contained in the heritage vines has the potential to contribute to regional, national and global understanding of the historic and contemporary importance of genetic diversity in viticulture, and to the emerging science of genomics that is supporting sustainable viticulture through improved disease resistance, and enhanced quality characteristics in the context of a changing climate, evolving consumer tastes and diversifying markets.

The heritage vineyards and cultural landscape of Pokolbin and Broke Fordwich demonstrate rarity as one of only a few viticultural landscapes in NSW that have remained in continuous production since the inception of the state's wine industry, as almost all other wine regions in NSW ceased production and disappeared from the landscape during the first half of the 20th century. Despite having had its future dismissed in a 1930s report on the Australian wine industry,[2] this unique and resilient viticultural landscape has evolved over all phases of NSW wine history to sustain and provide for a community of dedicated vignerons and winemakers making world-class wines, consumed and appreciated by continuing generations of discerning connoisseurs from within and beyond the region, and produced in an exceptional landscape setting that has supported a flourishing wine tourism industry of growing importance to the population of New South Wales.

[1] J. McIntyre & J. Germov, *Hunter Wine: A History*, NewSouth Publishing, Sydney, 2018, p. 2.
[2] J. Gunn and R. McK. Gollan, *Report on the Wine Industry of Australia,* Government Printer, Canberra, 1931, p. 10.

Summary Analysis

The Project Study team established early that it was the continuity and rarity of wine production through all phases of NSW wine history that was at the heart of the case for state significance of the Hunter Valley cultural landscape. It was clear from an early reading of McIntyre's research,[3] and an examination of the Hunter Valley Vineyards Register (HVVR)[4], that the heritage sites of highest significance would be those connected to the 'Stoic' generation of wine families and wineries who continued wine production through the 20th century when most other regions in New South Wales had ceased production, and this is examined in detail in the Site Visits Summary Table at Appendix C.

The seven 'Stoic' families associated with the Pokolbin and Broke Fordwich Study Area are recognised as being the Lindemans, Draytons, Tyrrells, Tullochs, Wilkinsons, Elliots and McWilliams, and it is correct to say that the physical landscape associations with these families are concentrated around what is described as the 'heritage heartland' of the contemporary Hunter wine region: (i) the Parish of Pokolbin, which is associated with five of the seven families; (ii) the vineyards around Broke Road and lower Hermitage Road associated with the Elliot, Tyrrell and McWilliam families; and (iii) the soldier settlement areas around Fordwich associated with the Elliot and Tulloch families.

It is important to note that other significant families of growers supported continued production during this time, including the Trevena, Stevens and Howard families, also all associated with Category 2 and 3 'rare' and 'heritage' HVVR sites located in the above identified heartland areas, and defined according to planting dates associated with the late 19th and early 20th century phases of Hunter wine history. In addition to their association with the Category 2 and 3 blocks on the vineyard register, these families are also associated with many of the Local Environment Plan (LEP)-listed historic wineries, cemeteries and archaeological sites identified in the Study's investigations. However, the Project Study team also found early in the project that the individual sites of significance associated with the 'Stoic' generation are only one element of the state significance narrative. It was also immediately evident that material fabric in the form of built heritage elements was scarce, due to a history of bushfires in the region.

It was therefore determined that the story of the establishment of successful terroir, and the role of the natural landscape system of the Brokenback Range in contributing to the enduring success of that terroir, and to the aesthetic values of the landscape, was equally at the heart of the state significance narrative. This narrative expanded the sites of significance to Category 5 'historic' vineyard sites that have remained in continuous production, albeit with newly planted vines, and often under multiple custodianships. Successful terroir was thus selected as the subject of investigation for the University of New South Wales research, which

[3] McIntyre & Germov, *Hunter Wine.*

[4] The Hunter Valley Vineyard Register is maintained by the Hunter Valley Grape Wine and Tourism Association. See E. Riley, *Hunter Valley Heritage Vineyards Strategic Study: Vineyard Register and Heritage Mapping* prepared for the Hunter Valley Wine and Tourism Association, 2019.

mapped the abovementioned heartland areas through case studies of three distinct terroir typologies (see Palazzo, Maps 3 to 4).[5] Additional overlaying of the bio-cultural values, elements of significance and landscape relationships across the entire Study Area was also undertaken by Palazzo, and this included mapping the areas identified in current planning documents as 'visually significant' (see Palazzo, Map 1).

When determining the state significance of the cultural landscape in the context of the mapping overlays, and in particular the cultural and social significance of the renaissance era of wine production and the second wave of expansion of vineyards in the second half of the 20th century, it was considered inconsistent to limit the consideration of state significance to the heartland areas. Such a limitation would ignore the organically evolving continuing landscape's defining factor: that grape production in the Hunter expands and contracts on patches of successful terroir within a broader diverse bio-cultural landscape system, and that new generations of producers are always entering the system and enhancing its adaptive capacity to support viticulture.

The historic and ongoing resilience of Hunter wine production has been established through the diversification of compatible land uses that continue to incorporate mixed farming and agritourism enterprise within the larger landscape, and it was determined that these components of the landscape system also need to be recognised and protected. The natural landscape systems, historic associations and the viewshed of the Brokenback Range thus define a larger bio-cultural landscape system across the Pokolbin and Broke Fordwich subregions that underpins the landscape's significance to the 19th century establishment of the state's wine industry, and to NSW's post-war and contemporary identity as a wine producing and wine consuming society.

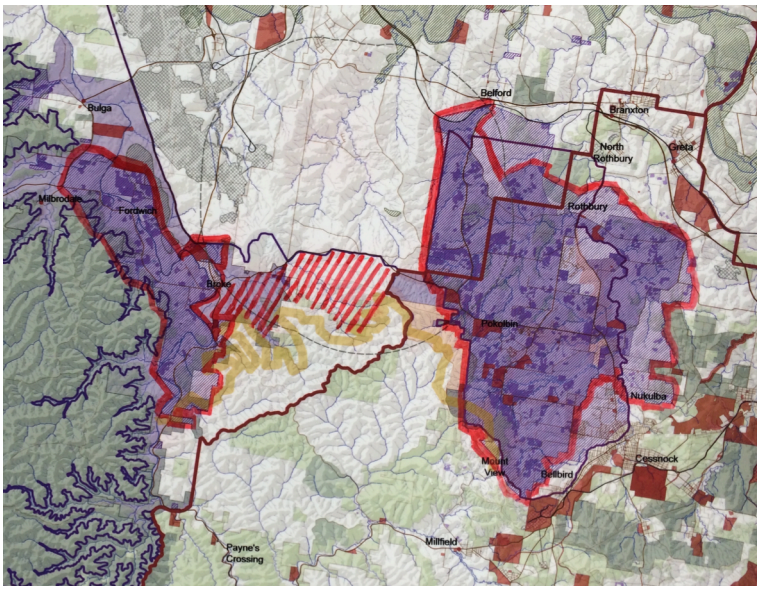
The above analysis is being captured in ongoing mapping and investigation of the Category 4 'old' vineyards between 35 and 50 years old that were established across the larger landscape during the wine renaissance era, often through the revival of historical 19th and early 20th century viticultural sites. It is also the basis for proposed future research by the Hunter Valley Wine and Tourism Association and the University of New South Wales to map all aspects of the landscape's terroir. Finally, it is anticipated that vineyards will keep being added to the Hunter Valley Vineyards Register as they reach 35 years old, creating a living register that will expand to represent contemporary and future phases of Hunter wine history, as the region approaches and moves beyond its 200th anniversary in 2028.

[5] E. Palazzo, *Hunter Valley Heritage Vineyards Strategic Study: Resilience, terroir and landscape mapping* prepared for the Hunter Valley Wine and Tourism Association, April, 2019.

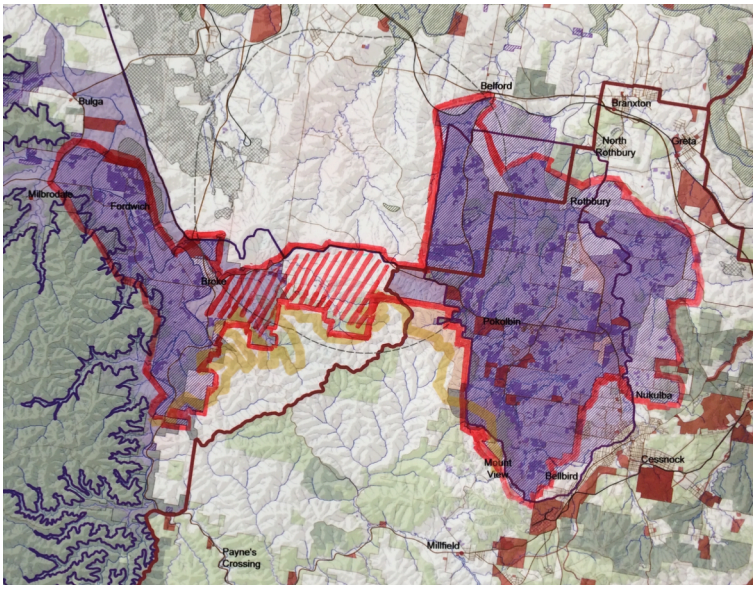
Key Recommendations

1. The heritage vineyards and cultural landscape of Pokolbin and Broke Fordwich are considered to be of state significance under all seven NSW State Heritage Register criteria (a) (b) (c) (d) (e) (f) and (g).
2. The heritage vineyards and cultural landscape of Pokolbin and Broke Fordwich are listed either as a single state significant landscape Heritage Conservation Area, or two serial state significant landscape Heritage Conservation Areas under the *NSW Heritage Act 1977*.
3. The curtilage of the Pokolbin – Broke Fordwich landscape Heritage Conservation Area(s) is defined by one of two curtilages described in Section 4.5 and submitted as Options A and B at Appendix F of the Study.
4. Singleton Council and Cessnock City Council each to endorse resolutions acknowledging the findings of the Hunter Valley Heritage Vineyards Strategic Study and to consider endorsement of the Study's key recommendations.

Curtilage Options A and B



Option A: Two linked state significant landscape Heritage Conservation Areas (solid red boundaries) connected by a new Visually Significant Area (hatched in red). The mustard line marks the ridgeline of the Brokenback Range and limit of its viewshed.
Background map: UNSW Map 1



Option B: A single state significant landscape Heritage Conservation Area (red boundary) that includes a new Visually Significant Area (hatched in red) with mustard line marking the Brokenback Range ridgeline.
Background map: UNSW Map 1

1. INTRODUCTION

The collaborators of the Hunter Valley Heritage Vineyards Strategic Study (the Study), including the primary collaborator, the Hunter Valley Wine and Tourism Association (HVWTA), initiated the Study to seek recognition of the historical vineyards and wine subregions of the Lower Hunter Valley as a viticultural landscape of heritage significance to the state of New South Wales. The Study was supported by a grant from the NSW Office of Environment Heritage 'Heritage Near Me' incentives program, which was designed to build capacity and support local decision making in relation to heritage. It is intended that the Study will form the basis of a future State Heritage Register nomination, with a view to pursuing National and World Heritage listing of the viticultural landscape in the lead up to the 2028 bicentenary celebrations of the establishment of the Hunter Valley wine region.

1.1. Objectives of the Study

The objective of the Hunter Valley Heritage Vineyards Strategic Study (the Study) is to apply standard heritage assessment methodologies developed by the New South Wales Office of Environment's Heritage Division (the Heritage Division) to identify, recognise and celebrate the heritage vineyards and cultural landscape of the Pokolbin and Broke Fordwich wine subregions of the Hunter Valley as a significant heritage item and set of items within the broader Hunter region. These vineyards and their planted stocks trace the evolution of the Australian wine industry, which has had an enduring impact on the history and economic development of the Hunter Valley, and generated a cultural landscape that expresses the interaction between viticultural land use and natural systems over time. The Study's key objective is to identify the natural and cultural heritage values of the landscape in order to consider whether the Pokolbin – Broke Fordwich cultural landscape has significance at the state level in accordance with NSW heritage assessment criteria.

1.2 Location of the Study Area

The Study Area is defined by the boundaries of the Pokolbin and Broke Fordwich wine subregions within which the majority of the Hunter Valley Vineyard Register (HVVR) Category 2 and 3 'rare' and 'heritage' vineyards are located.

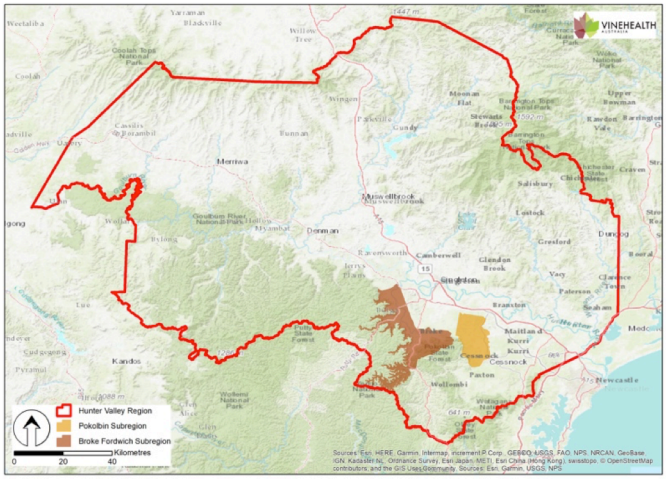


Figure 1. Location of the Pokolbin (mustard area) and Broke Fordwich (brown area) Wine GI subregions within the Hunter Valley Wine GI (red boundary). Source: Vinehealth Australia

1.3 Geographical Indications

The Geographical Indications (GIs) of the Pokolbin and Broke Fordwich wine subregions are internationally recognised boundaries located within the Hunter Valley Wine GI, which spans the entire catchment of the

Hunter River and its tributaries (Figure 1). The *Register of Protected Geographical Indications and Other Terms* is a register kept by the industry body Wine Australia in accordance with the *Wine Australia Act 2013*. It contains a list of geographical indications and traditional wine terms that are protected under Australian law.

A GI identifies a product as originating in a specific territory, region or locality where a particular quality, reputation or other characteristic is essentially attributable to its geographical origin. The process for defining a GI is rigorous, requiring detailed justification through the definition of cohesive natural and cultural geographic systems that establish the regional identity of the product concerned.[6]

1.4 Extent of the Study Area

The Pokolbin and Broke Fordwich GIs make up the two Study Area components and are located on either side of the Brokenback Range, spanning the local government areas of Singleton Council and Cessnock City Council.

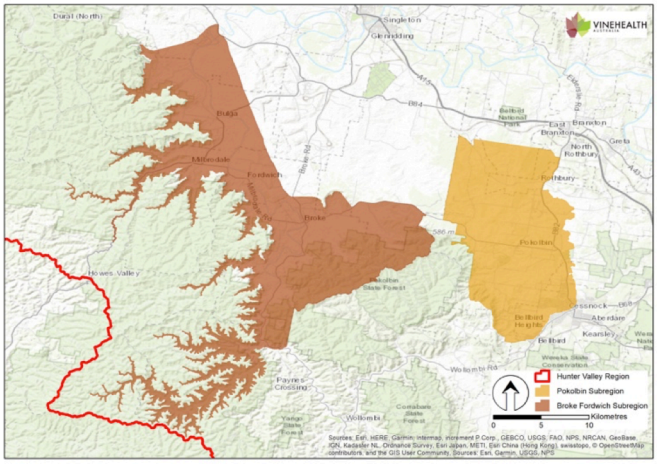


Figure 2. The Study Area is defined by the Pokolbin (mustard area) and Broke Fordwich (brown area) Geographical Indications. Source: Vinehealth Australia

The Hunter Valley Heritage Vineyards Strategic Study was based on strong collaboration between vineyard owners and industry stakeholders, and the participation of the two local councils and relevant state government agencies on a Project Steering Group established in November 2018 to oversee the Study.

1.5 List of key stakeholders

The stakeholders included:

- Hunter Valley Wine and Tourism Association (HVW&TA)
- Wine Australia (WA)
- Winemakers Federation of Australia (WFA)
- NSW Wine Industry Association (NSWWIA)
- NSW Office of Environment and Heritage (OEH)
- NSW Office of Environment and Heritage 'Heritage Near Me' Incentives Program
- NSW Department of Planning and Infrastructure (DPI)
- Cessnock City Council (CCC)
- Singleton Council (SC).

[6] Department of Foreign Affairs and Trade: Registration of geographical indications in Australia https://dfat.gov.au/trade/organisations/wto/intellectual-property/Pages/ip-geographical-indications.aspx

1.6 List of heritage vineyard property owners and custodians

The following property owners participated in the Study through interviews and site visits, and provided information and data to support the historical and physical investigations and mapping of the Study Area. In some cases (where the property owners lease heritage vineyards to other wineries) the names of a vineyard custodian or former custodian (who provided support to the Study) is also provided:

- James Agnew (Agnew Wines, owners of 'Glen Elgin'/'Pooles Rock' heritage vineyards and LEP-listed heritage item; 'Cockfighter's Ghost' Fordwich heritage vineyard; and Audrey Wilkinson Wines (formerly 'Oakdale') LEP-listed archaeological item and historic vineyard, former custodian: Jay Tulloch
- Tony Bainton (Bainton's 'Grapeman' Fordwich heritage vineyard)
- Scott Bolton ('Hawkins' Fordwich heritage vineyard), former custodian: John Tulloch
- Mike De Iuliis ('Steven' heritage vineyard)
- John and Greg Drayton (Drayton's 'Bellevue' heritage vineyard and LEP-listed heritage item)
- Stephen Drayton ('Ivanhoe' vineyard)
- Peter Fogarty ('Lake's Folly' heritage vineyard), custodian: Manager Rodney Kempe
- Matt Harrison, Manager, Wynwood Wines (formerly 'Golden Grape' heritage vineyard and Happy Valley LEP-listed heritage item)
- Glen Howard (Howard's 'Somerset' heritage vineyard)
- Rod McGeoch (The 'Mistress' heritage vineyard), custodians: Iain Riggs and Stuart Horden at Brokenwood Wines
- Brian McGuigan ('Ben Ean' LEP-listed heritage item and historic vineyard)
- McWilliam's Wines ('Mount Pleasant', 'Rose Hill' and 'Lovedale' heritage vineyards), custodian: Steve Fergusson, Vineyard Manager; former custodian: Phil Evans
- Bill Roche ('Tallawanta' heritage vineyard), custodian: Iain Riggs and Stuart Horden at Brokenwood Wines
- Bruce Tyrrell (Tyrrell's '4 & 8 Acres', 'Johnno's', 'Short Flat', 'Baulkham', 'NVC', 'HVD' and 'Old Hillside' heritage vineyards and Ashman's Winery LEP-listed heritage item.)
- Neil Stevens (Stevens' 'Glen Oak' heritage vineyard)
- Ian Tinkler (Tinkler's 'Poppy' heritage vineyard)
- Trudy-Anne Trevena ('Trevena' heritage vineyard)
- John Davis (LEP-listed Halls Ironbark cottage at Peppertree Vineyard).

1.7 Methodology and limitations of assessment

1.7.1 Scoping the project

Based on a project plan developed in consultation with the NSW Office of Environment and Heritage 'Heritage Near Me' incentives program, the HVW&TA established a Project Steering Group (PSG) made up of industry, local and state government representatives, appointed Andrew Margan, committee member HVW&TA Wine Industry Forum, as Project Manager and engaged heritage consultant Stephanie Johnston as Project Consultant.

The Project Manager and Project Consultant then assembled a team of viticultural and cultural landscape experts (the Study Team), including viticulturalist and principal at Vitibit Pty Ltd, Liz Riley; independent heritage consultant Dr Jane Lennon; and University of NSW Senior Lecturer and Research Academic in Landscape Architecture and Urban Design Dr Elisa Palazzo. The historical framework for the Study's thematic analysis was underpinned by the recent research of Dr Julie McIntyre, Senior Lecturer and Research Academic at the University of Newcastle's School of Humanities and Social Sciences, and the associated publication

Hunter Wine: A history.[7] Dr McIntyre was also engaged through the University of Newcastle to read and review the Study.

A list of 27 heritage vineyard sites and 107 heritage blocks was compiled from data collected prior to April 2009 by Bruce Tyrrell and members of the Hunter Valley Wine and Tourism Association for the Hunter Valley Vineyard Register (the Register). These sites were contained to those vineyards in the 'rare' and 'heritage' categories of vineyards that are currently over 50 years old, and which mostly sourced their initial stocks from vineyards within the region. During the scoping stage it was determined that the Register would be a work in progress, and that documentation and mapping of blocks in the 'old' category of vineyards planted between 35 and 50 years ago would be undertaken as a future project. It was also established that as blocks reach 35 years old they would continue to be added to the Register, reflecting subsequent and future stages of the region's continuing viticultural history.

An initial workshop with the identified heritage vineyard landowners and custodians was held to inform them about the Study and to initiate the collection of further data through site visits, ground truthing and mapping of the identified 'rare' and 'heritage' vineyards. Following this workshop, and an initial field visit in early November 2018, the Study Team assisted in defining the Study Area, its component parts, historic themes and the scope of the Study.

The University of New South Wales and wine industry body Vinehealth Australia were engaged to map the larger Study Area, specific landscape components within the Study Area, and the individual 'rare' and 'heritage' vineyards. During the course of the project, viticulturalist Libbie Tassie, of Tassie Viticulture Consulting was commissioned to write a short paper on the scientific value of the heritage vine material.
The format and content of this report was determined by the Project Consultant, in consultation with the Project Manager and Project Steering Group. PSG meetings were held in November 2018, January 2019, March 2019 and April 2019 to oversee progress of the Study.

1.7.2 Desk top review

A number of plans, histories, studies, databases, maps, reports and books were reviewed, including but not limited to:[8]

- The Burra Charter and Practice Notes
- ICOMOS- IFLA Principles Concerning Rural Landscapes As Heritage 2017
- NSW Office of Environment & Heritage, Heritage Manual and online data base
- Heritage Council of Australia, Australian Historic Themes: A Framework 2011
- Heritage Council NSW, NSW Historical Themes 2001
- NSW Office of Environment & Heritage, Cultural landscapes: A practical guide for park management 2010

[7] McIntyre & Germov, *Hunter Wine*. (McIntyre gave permission for the use of her thematic framework in an email to the author dated 29.12.2018.)
[8] See bibliography at the end of this report for a complete list of sources.

- Heritage Council of Victoria, Landscapes of cultural heritage significance, HCOV Assessment Guidelines 2015
- Hunter Estate Heritage Survey 2013
- Bulga Coal Continued Underground Operations: Historic Heritage Assessment 2003
- Environmental Impact Statement Bulga Optimisation Project 2013: Historic Heritage Assessment
- Cessnock Heritage Study 1994
- Cessnock Cultural Landscapes Review 2000
- Cessnock Local Government Area Aboriginal Heritage Study 2014
- Cessnock City Council Heritage Study Review 2017
- Cessnock City Council LEP and DCP
- Singleton Council LEP and DCP
- Singleton Rural Heritage Study 2010
- Cessnock and Singleton heritage data bases, zoning and land-use maps
- Department of Planning and Infrastructure State Environmental Planning Policy (Rural Lands) 2008
- Upper Hunter Strategic Regional Land Use Plan 2012
- Hermitage Road Pokolbin Planning Study 2014
- Vineyards District Community Vision Community Consultation Report, adopted by Cessnock City Council 2012
- Revised Application for the Proposed Subregion of Pokolbin (Lovedale excluded), Robert Lusby and Ken Sloan (unpublished)
- *Broke Fordwich Grape Growing Area*, Andrew Margan (unpublished)
- HVW&TA Hunter Valley Vineyard Register 2019
- *Hunter Wine*, Julie McIntyre & John Germov, 2018
- *First Vintage*, Julie McIntyre, 2012
- *The Wines & History of The Hunter Valley*, James Halliday & Ray Jarratt, 1979
- *Hunter Wine Country*, David Paterson, 1984
- *Hunter Wine*, Max Lake 1964
- *Hunter Valley Australian Wine Regions*, R. Ian Lloyd, Steve Elias & Wendy Moore 2001
- *The Australian Wine Compendium*, James Halliday 1985
- *A Concise History of Australian Wine*, John Beeston 1994
- *Mines Wines and People*, W.S. Parkes, Jim Comerford & Max Lake 2000
- *Australia's Hunter Valley*, Bob Sanders & Seb Jensen 1971.

1.7.3 Investigations and assessment

A historical investigation was undertaken over December 2018 and January 2019 using the resources identified in the in the desktop review and using McIntyre & Germov's thematic framework.[9] Physical investigations were undertaken concurrently with the historical investigation during one three day scoping trip and four five day field trips in November 2018, December 2018, January 2019 and March 2019. The investigations were undertaken with reference to the Burra Charter and Practice Notes, the NSW OEH Heritage Manual, and International Council of Monuments and Sites (ICOMOS) resources relating to the assessment and management of cultural landscapes and organically evolved continuing rural landscapes.

The field trips involved visits to 27 heritage vineyard sites and interviews with the vineyard owners and/or current and former custodians. In addition to inspection and documentation of the 107 individual blocks on those 27 heritage vineyard sites classified as either 'rare' or 'heritage' on the HVW&TA Register, site visits were undertaken to most of the heritage-listed items in the Cessnock and Singleton LEPs that are associated

[9] McIntyre & Germov, *Hunter Wine.*

with the viticultural history of the Study Area. Visits were also made to historical sites celebrated by the Hunter Valley Heritage Award, 'Heritage Cairns', and further interviews were conducted with the custodians of those sites, and historical wine industry identities. While the nature and purpose of the investigation was explained to custodians of the heritage sites, and questions relating to threats to and management of the heritage sites and broader cultural landscape were explored, property owners' views on a future state, national or world heritage listing were not formally canvassed.

The natural and cultural heritage values of the broader cultural landscape of the Pokolbin and Broke Fordwich components of the Study Area were concurrently investigated and documented by the Project Consultant and mapped at the landscape scale by the University of New South Wales. Three representative areas of high heritage significance containing significant clusters of 'rare' and 'heritage' vineyards and demonstrating three different landscape typologies were identified by the Project Consultant for more detailed mapping and investigation, which was performed by the University of New South Wales (UNSW). The mapping and investigations by Vinehealth Australia and the University of New South Wales were undertaken independently of the main investigation; however, the Project Consultant and Study Team assisted with the development of definitions and scope, the sharing of data sets and the collection of data for those investigations.

The Vinehealth Australia and UNSW mapping informed the site selection for the field visits, the collection of additional data around those sites, and the development of two curtilage options for a proposed landscape Heritage Conservation Area. Data capture documents and working databases were used to investigate and document the heritage vineyards at the vineyard scale, and to identify natural and cultural elements including terrain, water courses and orientation of the heritage blocks, as well as wine varieties, planting dates, historically significant buildings, archaeological elements and moveable collections associated with the heritage vineyards. A second data form was used to capture the natural and cultural elements of the Study Area at the landscape scale. This in turn informed the selection of th three representative landscape typologies that were mapped by UNSW.

The significance of the Study Area was then assessed at the state level and at the landscape scale using the NSW heritage assessment criteria. Comparative historic wine regions and/or heritage vineyard sites elsewhere in the Hunter Valley region and state of NSW were identified using the Wine Australia database of NSW wine regions, printed and online versions of James Halliday's *Wine Compendium*, and Dr Julie McIntyre's documentation of early NSW viticultural history.[10] The Study Area's level of significance at the state level and at the landscape scale was then determined by comparison with those identified sites, using the NSW heritage assessment criteria.

[10] Downloaded at https://www.wineaustralia.com on 17.04.2019; J. Halliday *The Australian Wine Compendium,* Angus and Robertson, North Ryde, 1985; Downloaded at https://www.winecompanion.com.au on 17.04.2019; J. McIntyre *First Vintage: Wine in colonial New South Wales,* NewSouth Publishing, Sydney, 2012.

The Study Team's approach to defining a curtilage for NSW State Heritage Register nomination was based on values mapping methodologies developed by Palazzo and adapted by the author for the Mount Lofty Ranges Agricultural Landscape national heritage nomination. These were further adapted to suit the management structure, limitations of scope, and tight time frame of the Hunter Valley Heritage Vineyards Strategic Study project as detailed in Section 4.5.2.

1.7.4 Reporting

The historical and physical investigations and thematic analysis are presented in Sections 2 and 3 of the report, with associated tables and appendices. Vitibit and Vinehealth Australia's GIS mapping and data collection has been submitted to HVW&TA as an independent piece of work.[11] The data was referenced during all stages of the Study, and informed the definition of 5 categories of heritage vineyard in Section 3.4.3, and the definition of two options for a proposed landscape Heritage Conservation Area curtilage in Section 4.5.

Dr Elisa Palazzo of the University of NSW mapped the landscape values and landscape system, and identified three representative terroir components of the Study Area. This work informed the Study's investigations and development of two curtilage options for a proposed landscape Heritage Conservation Area. The four maps and associated report have been submitted to HVW&TA as an independent piece of work.[12]

A public online mapping site with the overlaid GIS data sets and two curtilage options is available at https://www.arcgis.com/apps/View/index.html?appid=bcf5808a0903484fb563defb1a10c718. The comparative analysis, definition of two curtilage options and statements of significance are presented in Section 4 and at Appendices E & F. Recommendations for the development of a future management framework and Consultation and Communications Strategy to support the proposed SHR nomination are provided in Section 5 of the report.

1.7.5 Limitations of the assessment

- An archaeological survey and investigation of the archaeological and/or Aboriginal significance of the Study Area was outside the Study scope.
- Assessment of the significance of individual items, LEP listing processes and proposals to amend local council heritage schedules were outside the Study scope and are to be the focus of a future project.
- Management strategies and processes, including Development Control Plan (DCP) processes were outside the Study scope and will be considered in a future project.
- The canvassing of stakeholders' views on a future heritage listing, and development of a Consultation and Communications Strategy were outside the Study scope, and are to be undertaken as a future project.
- GIS mapping on a platform that can feed into the relevant LGA mapping platforms was outside the Study

[11] Riley, E. *Hunter Valley Heritage Vineyards Strategic Study: Vineyard Register and Heritage Mapping* prepared for the Hunter Valley Wine and Tourism Association, 2019.

[12] [12] Palazzo, 'Hunter Valley Heritage Vineyards Strategic Study: Resilience, terroir and landscape mapping'.

scope. However, usable digital files created by Vinehealth Australia for the Hunter Valley Vineyard Register have been provided to the HVW&TA as a separate piece of work, along with the publicly accessible online map produced as part of the UNSW terroir mapping project.

- The mapping and documentation of 'old' vineyards (defined as 35 to 50 years old) was outside of the Study scope, however the likely location of those vineyards informed the definition of the two curtilage options for a state significant landscape Heritage Conservation Area
- Provision of a list of lots and Deposited Plans for the Heritage Conservation Area curtilage options, and the SHR nomination and listing process was outside the scope of the Study.

1.8 Authorship and acknowledgements

This report was prepared by Stephanie Johnston in consultation with the following members and contributors to the Study Team and Project Steering Group:

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- Sarah Hyatt, Singleton Council
- Emily Riley, Singleton Council
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2. HISTORICAL INVESTIGATION

2.1 Early European settlement of the broader Hunter Region

2.1.1 Aboriginal occupation prior to European settlement

When the Hunter Valley was discovered and settled by European explorers and settlers in the late 18th and early 19th centuries, the landscape had already been shaped by thousands of years of Aboriginal occupation and land-management practices connected to local ecologies. The first people to occupy the region were the ancestors of clan and tribal groups who identify today as the Awakabal of Newcastle, the Worimi of the Karuah River district, the Wonnarua of the Singleton and Cessnock area, and the Darkinjung of the southern area towards the Hawkesbury River.

According to the archaeological record, Aboriginal occupation of the region commenced at least 20,000 years ago; however, the majority of dated Aboriginal archaeological sites are less than 4,000 years old. D. Steele's (2012) report 'Aboriginal Archaeological Overview of the Hunter Region' provides an analysis of pre- and post-contact Aboriginal archaeology as an appendix to the 2013 comparative heritage study *Hunter Estates: A comparative Heritage Study of pre 1850s Homestead Complexes in the Hunter Region*.[13]

Concentrations of Aboriginal archaeological sites are recorded around the Hunter River and its tributaries, Wollombi Brook and Congewai Creek. Mount Yengo and the Finchley Aboriginal Area in Yengo National Park, and the Baiame Cave rock art site located in the Study Area near Milbrodale are state significant cultural sites and areas associated with the period prior to European occupation.

Figure 3. Baiame rock art site near Milbrodale. Source: Author

[13] C. Lucas, Stapleton and Partners *Hunter Estates: A comparative Heritage Study of pre 1850s Homestead Complexes in the Hunter Region Volume 1: Historical Context and Survey of Sites,* NSW Office of Environment and Heritage, Sydney, 2013.

2.1.2 Exploration and early settlement

Exploration and early settlement of the Hunter River was connected to the early colonial economy of coal mining and timber harvesting, which was supported by convict labour. In 1797 escaped convicts and their Aboriginal trackers led Lieutenant John Shortland of the colonial garrison to the river's mouth at Coquun, which he renamed 'Hunter's River' after John Hunter, the acting governor. Shortland noted visible deposits of coal and stands of valuable red cedar, and in 1801 Governor King sent an exploring party to the region led by Lieutenant Grant and Lieutenant-Colonel Paterson.

In 1804 a penal settlement was established at Kingstown, (the site of modern Newcastle), where convicts were stationed to mine coal, cut timber and burn lime for mortar using shells harvested from Aboriginal middens.[14] The first free settlers were permitted into the region from 1813, and subsequent expeditions included John Oxley's exploration of the west and north of the region in 1818, and John Howe's explorations of the interior of the valley, leading to the establishment of an overland route from the Hawkesbury at Windsor to Patrick's Plains on the Hunter in 1819.

The explorers of this period often used Aboriginal guides from other parts of the colony to assist with their expeditions and recorded both friendly and hostile encounters with the local inhabitants as they travelled through the region.

2.1.3 Early surveys and land grants

The Hunter Valley was settled as part of the second main wave of settlement to occur in Australia between 1820 and 1850 that was driven by new government policies structured towards the agricultural development of the economy, and the use of convict labour under the superintendence of wealthy private settlers.[15]
A new phase of settlement began when Surveyor Henry Dangar surveyed the Hunter River in 1822 using a square-mile grid pattern. Over the following decade large land grants, mostly of around 2000 acres, encouraged an influx of wealthy settlers to take up the alluvial land along the river and its tributaries, where the expansive river systems and rich alluvial plains supported large-scale grazing and farming enterprises established with the use of convict labour.

Between 1822 and 1824 towns were established at Maitland and Morpeth, Bulga and Broke, and in 1826 work started on the construction by convicts of the Great North Road through Baulkham Hills, Wiseman's Ferry, Laguna, Wollombi, Sawyers Gully and Maitland to Newcastle, and also northwards via Broke and Warkworth to the Upper Hunter. By the 1828 census, 191 properties of over 1000 acres were established in the region, with cattle grazing the main economic driver. [16]

[14] McIntyre & Germov, *Hunter Wine,* p. 32.
[15] Lucas, Stapleton and Partners, *Hunter Estates.*
[16] The Hunter Valley Timeline, downloaded at http://www.hunterweb.com.au/10/1820s on 31.01.2019.

Among those who took up early land grants were John Macdonald at 'Glenmore' on Black Creek, Pokolbin; John Busby at 'Kirkton' near Branxton, developed as a wine growing property by Busby's son-in-law William Kelman; John Blaxland at 'Fordwich' on the Wollombi Brook; James Phillips Webber at 'Tocal' in the Paterson district; James King at 'Irrawang' near Raymond Terrace; and George Wyndham at 'Dalwood' on the Hunter River.

Figure 4. Joseph Lycett, Lake Patterson, near Patterson's Plains, Hunter's River, New South Wales 1824. Plate 22 from *Views in Australia or New South Wales and Van Diemen's Land*, published by John Souter, London, 1824-25 hand-coloured aquatint and etching printed in dark brown ink 16.8 x 26.2 cm (image) 22.7 x 31.5 cm (plate) 27.0 x 36.8 cm (sheet). Source: National Gallery of Victoria, Melbourne, Joe White Bequest, 2011 (2011.363).

2.1.4 Summary of the socio-economic and environmental influences on early settlement

The establishment of colonial estates along the Upper and Lower Hunter excluded Aboriginal people from their land and often occurred amid fierce frontier warfare. However, along with convict labour, and influenced by government policies structured towards the agricultural development of the economy, Aboriginal people and Aboriginal labour contributed to the successful establishment of agricultural and pastoral land uses in the region.

2.1.5 Summary of relevant Heritage Council of NSW historical themes

National themes: *Peopling Australia; Developing local, regional and national economies*

NSW themes: *Exploration; Aboriginal cultures; Environment-cultural landscape; Pastoralism; Convict; Agriculture*

Local themes: *Contact, Exploration and Survey; Early settlement; Coal mining; Working the land (Timber harvesting, Agriculture, Grazing, Diversification); Viticulture (Early attempts) Growth of community (Migration, Prominent people)*

2.2 Overview of the history of viticulture and wine production in the Hunter Region

According to Australian wine historian Julie McIntyre 'there can be no challenge to the Hunter's status as Australia's oldest wine region on the basis of continuing production', as 'wine grapes long ago disappeared from production in the Sydney district where Australian winegrowing began'. In the introduction to her book *First Vintage: Wine in colonial New South Wales*, McIntyre notes that, from its very beginnings, the vision for the colony of NSW comprised a determined intention to create a wine industry to supply local and export markets as 'a vineyard of Great Britain', and her second book *Hunter Wine* documents how the Hunter Valley region quickly became an integral part of that vision.[17]

McIntyre's research demonstrates how leading colonial authorities in New South Wales were engaged in developing a wine industry and wine-drinking culture and how these colonial figures saw the wine industry and culture as a sign of civil as well as economic maturity, reflecting 18th and 19th century views on wine cultivation, trade and drinking among elites in Britain and Europe. The research also reveals how winegrowing ambitions influenced distinctive Aboriginal–colonial relationships and colonial immigration, in particular English, Scottish and German migrants, to New South Wales, leading eventually to Australia becoming a wine-drinking society and major global wine exporter, signifying new post-war 20th century demographics of gender, class and ethnicity. These themes are articulated in McIntyre's paper 'Hunter Valley Heritage Vineyards Strategic Study: Sites of globally unique cultivation' at Appendix A.[18]

The evolution of the wine industry and its culture encompassed waves of expansion and contraction of vineyards and wine production across New South Wales and within the Hunter region. By 1888 the total number of wine presses operating in NSW was 360, with 65 located in the Hunter. However, over the next 50 years through to the end of World War Two, only Griffith (established at the beginning of the 20th century), and the Hunter remained in production, with one winery remaining in operation at Mudgee. Outside of these regions, viticulture and wine production effectively disappeared from the New South Wales landscape during the first half of the 20th century.

The continuity of wine production in the Hunter was undoubtedly underpinned by the evolution of successful 'terroir', a term which recognises the combined influences of the physical environment and the 'hand of man'.

[17] McIntyre, *First Vintage* p. 5; McIntyre & Germov, *Hunter Wine*, p. 2. S. Read's 'Early vineyards and viticulture in the Sydney Basin' (unpublished paper presented at the Australian Garden History Historical Society Seminar, Adelaide, 2015) identified Vicary's at Luddenham, established in 1918, as the oldest surviving vineyard in Sydney. However, in November 2015 the winery was closed to make way for Sydney's second international airport.

[18] J. McIntyre, 'Hunter Valley Heritage Vineyards Strategic Study: Sites of globally unique cultivation', 2019. See Appendix A of this study.

McIntyre and others dispute the historical emphasis placed on the role of agriculturalist and author James Busby as the 'father' of the Australian wine industry, a significant source of vines for the Hunter and critical figure in the region's history. McIntyre and Germov's *Hunter Wine* presents a more nuanced history of collaborative endeavour, beginning with the foundation of the Agricultural Club at Hunter's River in 1827, and ending with the advent of the 1980s era of corporate investment in both the Upper and Lower Hunter.

Hunter Wine reveals how the region's winegrowing community possessed significant social and family connections from the outset and, at identifiable points in the region's history, formed agricultural organisations that shared and cultivated those European concepts of terroir, thus creating the foundations for enduring production from 1827 to the present. These included the original 1827 Agricultural Club, the Hunter River Vineyard Association (1847-1876), the Pokolbin and District Vinegrowers Association (1901-c1929) and, since 1972, the Hunter Valley Vineyard Association, now the Hunter Valley Wine and Tourism Association.

The emerging cultural and social significance of the Hunter Valley post World War Two continued to be influenced by immigration and changing patterns of consumption, as well as car ownership and tourism. A growing appetite for wine journalism and wine entrepreneurism was associated with new groups of Sydney-based connoisseurs and consumers. Along with the emergence of a cellar door culture and huge attendances at vintage festivals, societies such as the Rothbury Society (boasting 30,000 members) directly supported the expansion of Hunter vineyards. During this renaissance period, investment syndicates, not unlike the original 'gentleman farmer' enterprises of the early 19th century, were established by city people in the professions wishing to extend their experience of wine and viticulture. And from the 1980s, the Hunter rode a second wave of global investment and expansion.

McIntyre and Germov's thematic framework – summarised in the following sections of this report and employed in the thematic analysis table at Appendix B – follows these key phases of history and provides the basis for the Study's historical investigation. The books *Hunter Wine: A history* and *First Vintage: Wine in colonial New South Wales* are submitted as key supplementary material to the Study, along with the summary paper by McIntyre, commissioned to support the Hunter Valley Heritage Vineyards Strategic Study, and submitted at Appendix A.

2.2.1 Summary of the socio-economic and environmental influences on the evolution of the Hunter Valley cultural landscape

Hunter Wine offers a lens on winegrowing in the Hunter Valley as the evolution of a form of specialist horticulture anchored by vineyards and wine businesses to locale, but at the same time bound, and of increasing significance, to groups of wine traders, connoisseurs and consumers outside the region.

The vineyard landscapes, and the wine-producing community that provides their context, can be viewed as an indivisible warp and weft of the fabric of the Hunter wine region, a previously unrecognised heritage form of embedded Australian settlement, migration and culture.[19]

2.2.2 Summary of relevant Heritage Council of NSW historical themes

National themes: *Peopling Australia; Developing local, regional and national economies*
NSW themes: *Environment-cultural landscape; Convict; Land tenure; Agriculture; Migration; Ethnic influences; Industry; Commerce; Technology; Science; Leisure*
Local themes: *Early settlement, Working the land, Viticulture (Early attempts; Winemakers of the Pokolbin hills); Employment; Growth of community (Migration, Prominent people, Community organisations, Learning and culture).*

2.3 The key thematic phases of Hunter Valley viticulture and wine history

This section needs to be cross-referenced with the Hunter Valley Heritage Vineyards Strategic Study Thematic Analysis Table at Appendix B, and McIntyre & Germov's publication *Hunter Wine*, which is provided as supplementary material to the Study.

2.3.1 Imaginers and instigators 1828-1846

Australia's first vines arrived from Cape Town with the First Fleet. However, some of the earliest vine plantings in the Hunter Valley were sourced from 1828 onwards from the Botanic Gardens collection at Sydney Cove – initially by James Webber of 'Tocal', on behalf of members of the Hunter's River Agricultural Club, formed in 1827.[20] McIntyre documents how in the early colonial era it was a risky business not only to plant a vineyard, but also to expand vine acreage until there was evidence that a grape variety was suited to the location, and that the grape was indeed the variety thought to have been planted. The early settlers of the Hunter experimented by planting vines on land where the crop had never been tried before, and trialled ideas and practices that were to influence succeeding generations.[21]

James Busby first travelled to Australia via Cape Town with his parents and siblings in 1824, when he wrote and published the book *Treatise on the culture of the vine/art of wine making*. Busby's second book *A Manual of Plain Directions for planting and cultivating vineyards and for making wine in NS*W was a timely source of practical information for members of the Hunter's River Agricultural Club, but it was his donation to the Botanic Gardens of a large collection of (over 600) cuttings brought back from a trip to Europe in 1832, that created his reputation as a catalyst for Australian viticulture. It is important to note that while Busby's European collection may feasibly have contributed to the establishment of some early Hunter vineyards, it

[19] McIntyre, 'Hunter Valley Heritage Vineyards Strategic Study: Sites of globally unique cultivation' at Appendix A.
[20] Traces of Webber's original vineyard are believed to be located in an area known as Line Paddock at Tocal Agricultural College, near Maitland (McIntyre & Germov, *Hunter Wine*, p. 46).
[21] McIntyre & Germov, *Hunter Wine*, p. 47.

would by no means have been the sole source of cuttings at the time. Early settlers in the Hunter region would have procured vines from a variety of sources, including the original Botanic Gardens collection of 20,000 cuttings that was distributed prior to Busby's 1832 journey. By 1832 Busby's brother in law William Kelman had established a vineyard on the Busby family property 'Kirkton', from which he continued to distribute cuttings to settlers in the region. Grape varieties at the time included garden grapes such as 'White Sweetwater', 'Black Hamburgh' and 'Black Cluster', as well as varieties that took the name of the location of their source such as 'Burgundy', 'Champagne', 'Roussane', 'Marsanne', 'Frontignac', 'Tokay', 'Madeira' (verdelho) and 'Constantia'. Shiraz, a French variety also known as 'Red Hermitage', has been grown successfully in many parts of the Hunter Valley from the 19th century to the present.

NSW superintendent of convicts Frederick Hely documented nine established vineyards in the Hunter Valley in 1832 (including Kelman's), mostly of around 1 or 2 acres.[22] Edward Parry and William Burnett of the Australian Agricultural Company, are not on that list. They did, however, record the first vintage in the region at 'Tahlee', Port Stephens, in 1832. George Wyndham at 'Dalwood' was also on Hely's list. He complained that the vines he received from Busby were 'dead before I got them', and proceeded to acquire cuttings from other settlers, and from the Darling Nursery established by Thomas Shepherd in Sydney in 1828, where semillon, a variety long associated with the Hunter region (initially known as Shepherd's Riesling or Hunter Riesling) was propagated. In time 'Dalwood' went on to become an important source of cuttings for others in the region.[23] The inclusion of Wyndham's vineyard on Hely's 1832 list makes 'Dalwood' (now trading under its original name) the oldest continuing vineyard (and winery) in Australia. There are however no surviving heritage blocks at 'Dalwood', as defined by the HVW&TA Hunter Valley Vineyards Register.[24]

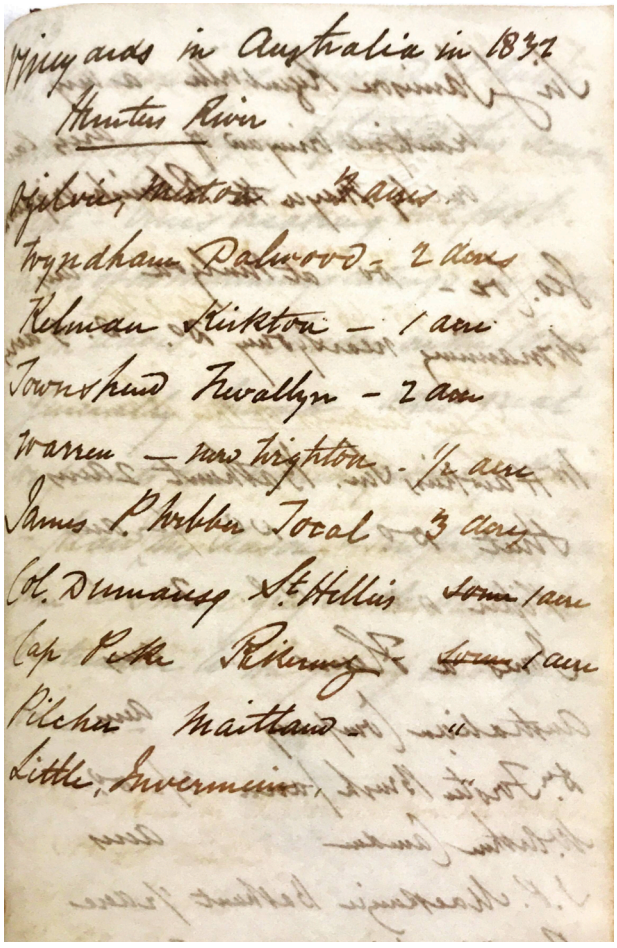
Vineyards in Australia in 1832
Hunters River
Wyndham Dalwood – 2 acres
Kelman Kirkton – 1 acre
Townshend Twallyn – 2 acres
Warren – near Brighton – ½ acre
James P. Webber Toral – 3 acres
Col. Dumaresq St Hellier – some acres
Cap Peter Rickerby – some acres
Richa Maitland –
Little, Invermein –

Figure 5. Frederick Hely's list of early vine growers in the Hunter in his copy of Busby's Manual (1830). Source: Dixon Library (DL) collection, State Library of NSW, Call no. 634.8/B copy

[22] McIntyre & Germov, *Hunter Wine*, p. 48.
[23] McIntyre & Germov, *Hunter Wine*, p. 69-71.
[24] See Section 3 of the Study for an explanation of the Hunter Valley Vineyard Register categories.

2.3.2 Summary of the socio-economic and environmental influences on the cultural landscape during the era of instigation

McIntyre cites southern NSW settler, James Atkinson's commentary on viticulture and winemaking as reflecting the aspirations of a 'better sort of settler' in the Hunter Valley and the planting of vineyards on larger estates became a symbol of respectable, civilised settlement by 'capitalist settlers' and 'gentlemen farmers', as well as university-trained clergy, medicos, lawyers and the higher ranks of the military. The introduction of viticulture to the early Hunter Valley estates also reflected the settlers' notions of 'wasteland-into-wine'; that sandy loams too infertile for annual crops could be planted with grapevines.[25]

The early 19th century Hunter River cultural landscape of large estates and small experimental vineyards started the second main wave of NSW's and Australia's settlement history, when the focus shifted from penal colonies to agricultural development through free settlers, initially supported by Aboriginal and convict labour, and later by the importation of migrants.[26]

2.3.3 Summary of relevant Heritage Council of NSW historical themes

National themes: *Peopling Australia; Developing local, regional and national economies*
NSW themes: *Environment-cultural landscape; Land tenure; Migration; Convict; Pastoralism; Agriculture*
Local themes: *Early settlement, Working the land, Viticulture (Early attempts)*

2.3.4 Experimenters 1847-1876

James King, at 'Irrawang' near Raymond's Terrace brought a trade and manufacturing background to the development of viticulture and winemaking that was different from the approach of other settler capitalists. His interest in science and experimentation, as well as trade and regulation (with a view to export) established him as a pillar of the growing community of vine cultivators and winemakers through the work of the Hunter River Vineyard Association, formed in 1847.[27]

Over the next three decades the association embraced a collective approach to experimentation and the sharing of knowledge through regular meetings and blind tastings. These included King's presentations of correspondence from the German scientist Justus von Liebig, the investigation of espaliering techniques, and William Keene's encouragement of the use of saccharometers, and promotion of concepts of terroir from France. As a result of this growing understanding, and led by Joseph Broadbent Holmes, Philobert Terrier (a French migrant employed by the North British Company (NBC)), Edward Tyrrell, and members of the Drayton and Wilkinson families, viticulture, along with an associated transfer of vines and expertise, slowly moved southwards via Lochinvar, Allandale and Rothbury to better terroir on the flats and rises of the Pokolbin foothills, at the base of the Brokenback Range. At the same time land reform, namely the *Robertson Land Act*

[25] Atkinson cited in McIntyre & Germov, *Hunter Wine*, pp. 40-43.
[26] Lucas, Stapleton and Partners, *Hunter Estates.*
[27] McIntyre & Germov, *Hunter Wine*, pp. 78-81.

1861, allowed for the establishment of smaller, more affordable mixed farms that could be managed without the use of convict labour.

Figure 6. Two years after the first vintage at Irrawang. 'Irrawang vineyard and pottery, east Australia' (picture)/J.Carmichael (?) c1838, Rex Nan Kivell Collection; NK1477, National Library of Australia.

During this time policy initiatives to support wine consumption were established in response to a regional mood against winegrowers, (who had created local antipathy by paying their workers in wine during the economic downturn of 1843). These included the extension of licensing laws, petitions to remove export barriers, and the *Sale of Colonial Wine Regulations Act* of 1862 to establish wine shops across NSW. Campaigns by Dr Henry Lindeman, based at 'Carrawa', Gresford, also promoted the health benefits of wine consumption, as opposed to spirit consumption.

The London Exhibition at Crystal Palace in 1851 heralded an era of regional, intercolonial and international exhibitions and precipitated a rapid scaling up of consciousness from local to global wine marketing opportunities. Newspapers and books also helped boost the importance of the emerging industry in the NSW colony's visions for economic progress.

The recruitment of skilled German immigrants led by Wilhelm Kirchner (in the wake of the cessation of convict transportation) brought understanding and experience from an 'old' wine country to the vineyards and wider social milieu of the 'new' wine country. Influential German vignerons included Richard Weismantel (near Stroud) and Carl Brecht at Rosemount (Denman). The sponsorship of Scottish migrants and investment in the region by the NBC and the Scottish Australian Investment Company added to the social and economic influences of migration. During this time Kaludah (Lochinvar) was established by the NBC and managed by Philobert Terrier.

At the same time Joseph Broadbent Holmes established 'The Wilderness' and 'Caerphilly' (around Rothbury and Allandale) and by 1844 had planted vine stocks from Dalwood on the Wilderness property. The Holmes family donated land and helped fund St Paul's Church, Rothbury where the current LEP-listed Rothbury Cemetery (also known as the Wilderness Cemetery) is located. Charles Philip Holmes later chaired the board of the Hunter Valley Distillery and established a distillery site near Allandale and a winery on Hermitage Road, the archaeological remains of which are on the Cessnock City Council LEP heritage list.

Around 1854 a small vineyard was established and produced wine grapes for a few years on the Macdonald family's Glenmore property on Black Creek, east of the current site of the LEP-listed Glenmore burial ground on Wills Hill Road. (LEP-listed Weronga Homestead is also located on the property.)
In the era of land reform, Edward J Tyrrell established 'Ashmans' on 320 acres in 1858, built a winery in 1863 and made his first vintage in 1864. Around the same time Joseph Drayton purchased 80 acres of land at Pokolbin and established 'Bellevue', where he raised cattle and grew grain. Son William Drayton later planted vines on a 40 acre selection. The Drayton properties slowly expanded from 'Bellevue' to 'Happy Valley' (later known as Saxonvale, Golden Grape and now Wynwood Estate) and 'Crow's Nest'.

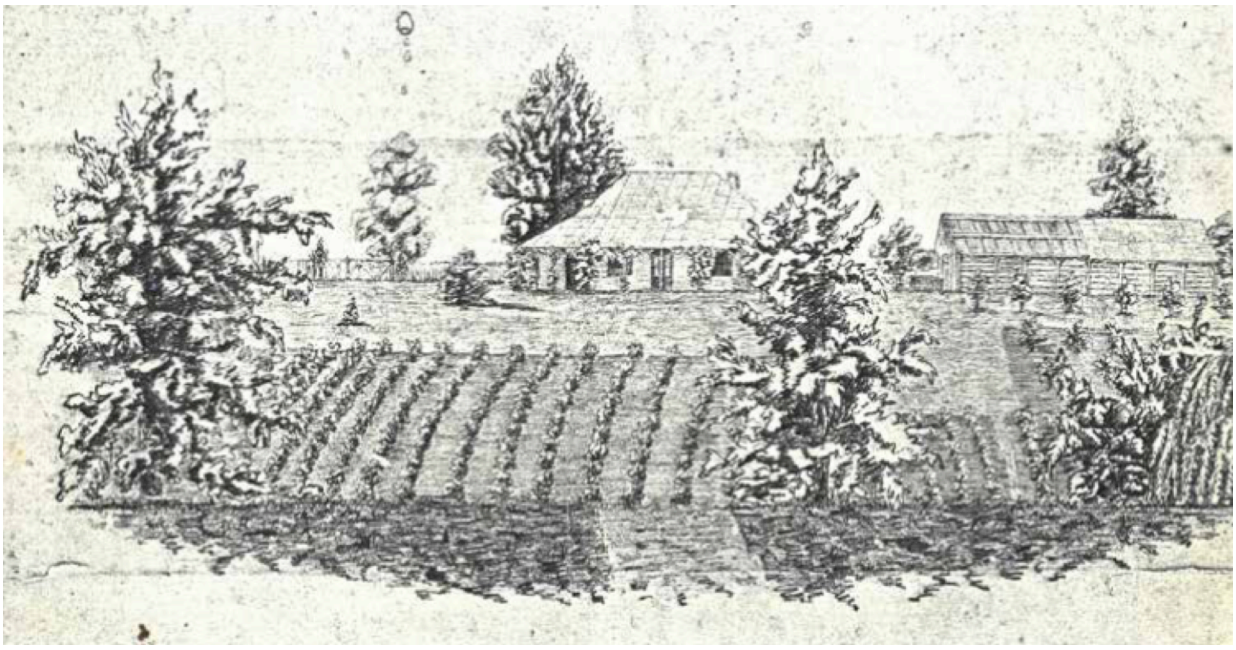

Figure 7. Joseph Broadbent Holmes, 'The Wilderness'. Sketch by Marianne Glennie, c1867, copy held at The Edgeworth David Museum, Kurri Kurri.

From 1866 Frederick Wilkinson practiced his trade as an employee of Wyndham, as his new vineyard at 'Oakdale', Pokolbin reached fruition. He also selected 'Cote d'Or' for his father, and 'Mangerton', 'Coolalta' and 'Maluna' for his brothers, all located on neighbouring spurs of the Brokenback Range overlooking McDonald's Flat.

The arrival of powdery mildew in Australia in the 1860s, (an invasive disease which had devastated vine lands elsewhere in the world), caused a frenzy of concern amongst growers that was quickly solved through the application of sulphur spray. By the mid 1860s plantings of grapes in the Hunter had expanded from around 80 hectares (200 acres) to over 200 hectares (500 acres) and between 1866 and 1876 the region saw further expansion as the acreage of planted vines topped 600 hectares (1500 acres).[28]

2.3.5 Summary of the socio-economic and environmental influences of the experimental era on the cultural landscape

An evolution of a scientific view of viticulture as the relationship between the natural conditions of a place, and the cultivation of vines, enabled greater insight into the most suitable sites for establishing vineyards. This scientific view was developed under the influences of European theories, on-ground experimentation, and the practical knowledge and experience of British and other European migrants. As a result of this growing understanding, and supported by land reform assisting smaller landholdings, viticulture moved southwards to ideal locations on the flats and rises of the Pokolbin foothills, at the base of the Brokenback Range.

The entanglement of winegrowing and worship, and the entwinement of wine families through marriage (reflected in liaisons between Holmes and Glennies, Draytons and Hungerfords, Kelmans and Tyrrells, Tyrrells and Hungerfords, and Hungerfords and Wilkinsons) underpinned an emerging industry made up of family firms in competition for a vertically integrated market, where family-owned and operated businesses grew grapes, made wine *and* sold the wine through wholesale and retail outlets.[29]

2.3.6 Summary of relevant Heritage Council of NSW historical themes

National themes: Peopling Australia; Developing local, regional and national economies
NSW themes: *Ethnic influences; Migration; Pastoralism; Land tenure; Agriculture; Environment-cultural landscape; Religion; Health; Events; Commerce; Industry*
Local themes *Working the land; Viticulture (Winemakers of the Pokolbin hills); Employment; Growth of community*

[28] McIntyre & Germov, *Hunter Wine*, p 285.
[29] J. Simpson, in McIntyre & Germov, *Hunter Wine*, p. 115.

2.3.7 First Wave Globalists 1877-1900

The widespread destruction of European vineyards by the microscopic insect Phylloxera (*Phylloxera vitifolia*) in the 1880s underpinned an export-based boom in the Hunter and in South Australia, which, in contrast with other Australian wine regions, remained Phylloxera-free. In 1878 colonial journalist John Stanley James (better known as 'The Vagabond') visited Dalwood and described the prospering landscape and 'glories of the Hunter Valley' to the wider world. As Hunter wines triumphed at the 1882 Bordeaux Exhibition and 1883 Amsterdam Exhibition, the UK importers PB Burgoyne & Co commenced importing significant amounts of wine to the UK from South Africa and Australia, and in 1889 the company sent Arthur Nicholson to the Australian colonies to investigate and document the range of vineyards and wine varieties. Vineyards and wineries visited in the Hunter included 'Kirkton' (noted as being the oldest in the region), 'Kaludah', 'Wilderness', 'Bebeah', 'Dalwood', 'Eelah', 'Porphyry', 'Coolalta', 'Norwood' at Allandale and 'Orizaba' at Mount View. Nicholson provided details of soil and cultivation methods, and among the many varieties mentioned were 'Hermitage' (shiraz), 'Malbec', 'Pinot', 'Madeira' (verdelho) and Shepherd's Riesling (semillon).

Figure 8. The vineyards of Alexander Munro at 'Bebeah' near Singleton, by W.T. Smedley 1886. Source: Cameron and Jean Archer.

Medal winners at Bordeaux and Amsterdam included wines from Brecht's 'Rosemount', Kelman's 'Kirkton', 'Bebeah', 'Kaludah', 'Dalwood', 'Coolalta', 'Cawarra', 'Porphyry', 'Mount Huntley', 'Ivanhoe', 'Daisy's Hill' and 'Wilderness'. Red hermitage and petit verdot were the dominant medal-winning varietals. In statistics collected at this time, one third of the 360 wine presses counted in the NSW colony were located in the Hunter[30].

[30] McIntyre & Germov, *Hunter Wine*, p. 226.

Figure 9. A turn of the century vintage is captured in this 1903 photograph. Source: E.P. Capper and H.H. Capper, Catawba Wine, 1903, State Library of NSW ML 663.2/7A1

In 1886 John Murray Macdonald[31] established a vineyard at 'Ben Ean', and (in 1895) Branxton-based merchant and postmaster John Younie Tulloch acquired and named 'Glen Elgin' as payment for a debt from a member of the Hungerford family. At the time of the acquisition there was a shiraz block on the property (now known as the 'Post Office' block) that is still in production today. Other continuing heritage vineyards in Pokolbin dating back to this era include the '4 Acres' and '8 Acres' shiraz blocks and 'Old Flat' shiraz and semillon blocks at Tyrrell's 'Ashmans' winery, Steven's 'Old Patch' shiraz block in the 'Old Hillside' vineyard in the Parish of Pokolbin (now owned by Tyrrell's), Mount Pleasant's 'Old Hill' shiraz block planted by Charles King, and Drayton's shiraz and semillon blocks planted on the flat at their 'Bellevue' vineyard. While some of these vineyards retain their original 6, 7 and 8 foot (1.8–2.4 m) wide rows created for an era of horse-drawn ploughing and hand harvesting, many are now distinguished by their 14 foot (4.25 m) 'wide rows', created when every second row was pulled, to accommodate the shift from horse to tractor.

During this time Henry de Beyer supplied the district with 2500 vine cuttings from his Pokolbin nursery, and the Lindeman family bought wine from the new 'Ben Ean' vineyard which produced 'Shiraz', 'Hermitage', 'Madeira' and 'Shepherd's Riesling' (later known as semillon). Albert Stevens established 'Glen Oak' on Marrowbone Road, and William Elliot established 'Oakvale' on an old dairy farm on what is now Broke Road. Tyrrells bought wine from Audrey Wilkinson, who also freighted wine to Sydney. Drayton family members worked for Macdonald, as did Hungerfords and Elliots. Macdonald and Tulloch held central roles in the vineyard hub in the same way that King, Lindeman and Wyndham had in the earlier years of the industry centred further north, while Audrey Wilkinson's diaries, spanning seven decades from 1872, recorded the evolution of this tightly woven web of winegrowing enterprise, and its wider reach of trade connections.

[31] Macdonald used 'Mac' in his own correspondence, however maps and location names have over time adopted the 'Mc' spelling for McDonald's Flat and McDonald's Road. The Study therefore uses the former spelling for references to the Macdonald family and the latter for the adopted place names.

By 1900 the closest resemblance to a 'village of Pokolbin' had formed at the junction of what is now McDonalds Road and DeBeyers Road. Macdonalds 'Ben Ean' estate had at least seven houses, and community buildings included Pokolbin School, Pokolbin Hall, the Church of England, the Methodist Church, the Pokolbin Post Office and later Telephone Exchange. Within a few miles of 'Ben Ean' were Draytons 'Bellevue' and 'Happy Valley', Tullochs 'Glen Elgin', Wilkinsons' 'Oakdale' and numerous other vineyards supplying those wineries. While the Hunter was now indisputably a wine region, mixed farming was practised along with viticulture on all of these properties.

Figure 10. Dalwood's 80 acre vineyard, 1886. Source: H.G. Ballard, Photographs of the Dalwood Vineyards near Branxton, New South Wales, Australia, 1886, State Library of NSW, Call no. PXCD 740/8.

2.3.8 Summary of the socio-economic and environmental influences of the first wave of globalism on the cultural landscape

By the 1880s the Hunter Valley reflected the region's booming colonial, intercolonial and international reputation. Extensive and modest acreages of vines imposed a patchwork on the landscape within a large and prosperous agricultural area bounded by Mayfield, Newcastle in the south-east, Stroud in the north-east, Scone and Muswellbrook in the west and Rothbury and Pokolbin in the south. The hilly Pokolbin landscape around Macdonald's Flat, beneath the Brokenback Range also evoked an aesthetic response; the panoramic

view was described by one visitor travelling through on horseback as 'arcadian … with the morning sun dancing with Ceres and Flora in the land of wine, milk and honey'.[32]

In 1890 the region was challenged by the onset of another economic depression, and in 1893 floods spelled the end of winegrowing on flood plain areas prone to inundation. Nevertheless, by 1900 the Hunter Valley was unequivocally a wine region, with distinctive origins, singular characters and a deepening heritage that endures to this day through continuing generations of vigneron families operating wineries and vineyards dating back to this period.[33]

Figure 11 Pokolbin, c1949. Photographed by Max Dupain, courtesy of the Tulloch family collection

2.3.9 Summary of relevant Heritage Council of NSW historical themes

National themes: *Peopling Australia; Developing local, regional and national economies*

NSW themes: *Migration; Pastoralism; Agriculture; Environment-cultural landscape; Events; Commerce; Industry; Science*

Local themes *Early settlement; Working the land; Viticulture (Early attempts, Winemakers of the Pokolbin hills); Growth of community*

[32] McIntyre & Germov, *Hunter Wine*, pp. 158-160; p 184.
[33] McIntyre & Germov, *Hunter Wine*, pp. 175-184

Figure 12. Loading barrels at Catawba Winery. E.P. Capper and H.H. Capper, Catawba Wine, 1903, State Library of NSW ML 663.2/&A1.

2.3.10 The forgotten generation 1901-1930

In 1901 Federation of the Australian Commonwealth created a national wine industry by removing interstate trade barriers and opening up eastern-state markets to South Australian wine producers. As a result Hunter wine growers were faced with competition in the Sydney market for the first time. In response the Pokolbin and District Vine Growers Association (PDVGA) was formed in 1901 to manage the challenges of the new political landscape of local, state and federal jurisdictions, to promote Hunter wine exports internationally, and to provide a collective voice on behalf of the region. Among other initiatives the association lobbied for the introduction of laws for wine quality (the *Wine Prevention Act 1902*) to safeguard the reputation of the region.

Family-owned vineyards and wineries around Pokolbin and Rothbury continued to operate and included the enterprises of the Holmes, Campbells, Kings, Loves, Tyrrells, Tullochs, Draytons, Kiems, Halls and Wilkinsons. High-profile individuals involved in the Pokolbin PDVGA included Charles Holmes (JB Holmes and Co), John Murray Macdonald ('Ben Ean'), John Younie Tulloch ('Glen Elgin'), George Brown ('Marthaville'), Audrey Wilkinson ('Oakdale'), and Dan Tyrrell ('Ashmans').

Over the next few decades, the wine industry in the Hunter was somewhat eclipsed by the establishment of the steel industry in Newcastle and the expansion of coal mining and the associated growth of Cessnock and Singleton as working class, beer-drinking mining towns. Nonetheless, the era saw a period of corporate growth in the industry, with the South Australian company Penfolds buying into the region, acquiring Dalwood and

leasing, and later purchasing, the Hunter Valley Distillery (HVD) site on Hermitage Road.[34] Lindemans also expanded its operations with the acquisition of a number of historic properties, including Macdonald's 'Ben Ean'. While 'Ben Ean' has since replanted its older vineyards, the HVD semillon and chardonnay blocks on Hermitage Road (now owned by Tyrrell's) date back to this period.

Figure 13. Ben Ean, Pokolbin. Macdonald Family Collection, MS A2/2-17, Box 17, Capricornia CQ Collection, Central Queensland University Library.

The onset of World War One in 1914 brought with it an era of temperance, the introduction of early closing for licensed premises and a shrinkage of domestic and global markets. The shortage of grapes at the end of the war resulted in soldier settlement policies that offered returned servicemen generous terms for small acreages, sometimes complete with cottage and a 10-acre vineyard planted with seedlings, as was the case with the Fordwich Soldier Settlement of 65 blocks established north-west of Pokolbin, between the eastern foothills of the Brokenback Range and Wollombi Creek.

The experiment was not considered a success, and members of the Tulloch and Elliot families were among a number of established farming families who took up the Fordwich settler allocations when the original grantees moved on. A 1923 semillon block and extant settler's cottage on Bainton's 'Grapeman' property at Fordwich, (originally owned by Tullochs), another extant cottage on John Tulloch's former property next door, and the 1920s semillon and trebbiano 'Hawkins' blocks (and remains of a winery purpose built for the soldier settlers) across the road are testaments to this story.

[34] Hunter Valley Distillery had a winery and vineyard on Hermitage Road, and the distillery itself was located at another site on Lovedale (formerly Lochinvar) Road.

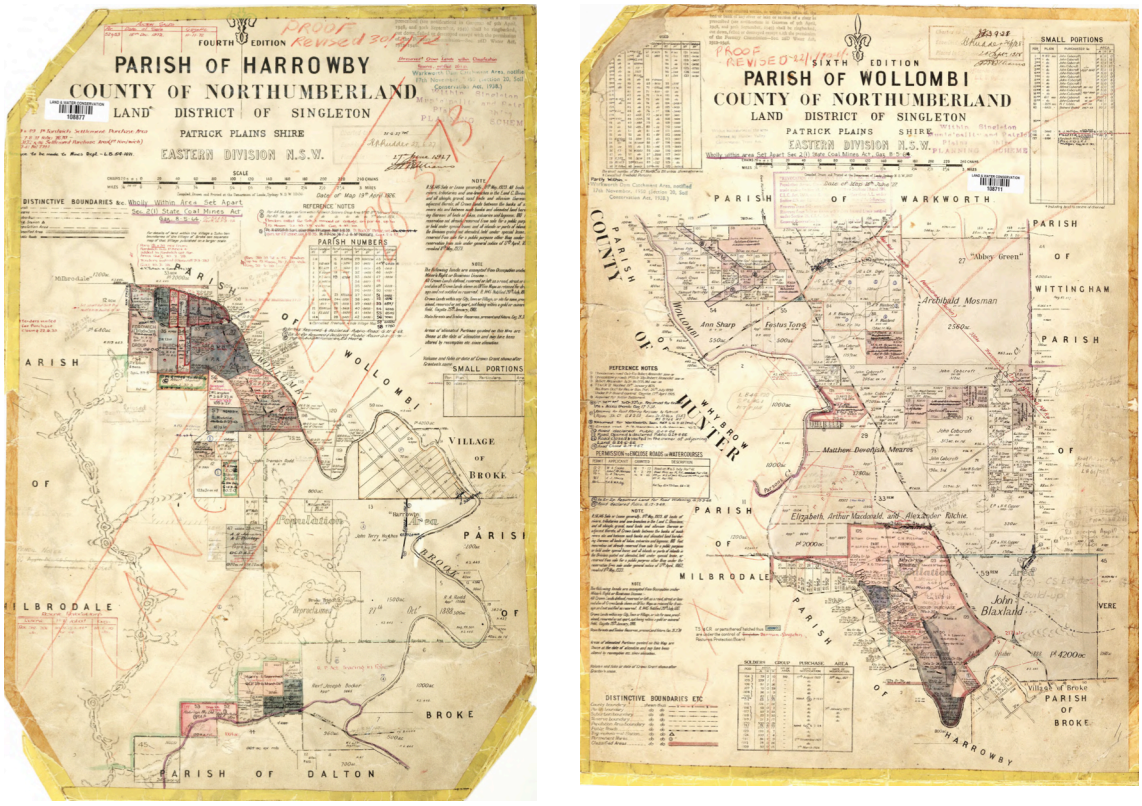

Figure 14. Parish maps of Harrowby and Wollombi showing the post World War One soldier settlement areas on either side of Wollombi Brook in the Fordwich area west of Broke. Source: NSW Land Registry Services

Unfortunately, the heritage vineyards on Tulloch's Fordwich property were recently all grubbed (pulled out) by a new owner. The Trevenas were one of few soldier settler families who *were* able to successfully expand their holdings over successive generations, from an original settler's block on Hermitage Road – where Trudy-Anne Trevena still produces highly sought after semillon grapes on vines dating back to the 1920s.

In 1922 the O'Shea family purchased a vineyard (established in 1880 by Charles King) on Marrowbone Road, Pokolbin. French-educated Maurice O'Shea brought innovation and new vigour to the district with the establishment of Mount Pleasant winery, later forming a business partnership with the McWilliams wine company (based at Hanwood in Griffith), to consolidate the future of the enterprise. The 'Old Hill' block planted by King in 1880 is still there, while the extant pinot noir 'Winery' block planted by O'Shea provided the mother vine for the well-known 'Mother Vine 6' (MV6) clone that has been distributed around the Hunter and elsewhere ever since. Both Maurice O'Shea and Audrey Wilkinson continued a tradition of collaboration and sharing of knowledge through the PDVGA, with Wilkinson presenting on ploughing, planting and propagation techniques, as well as notions of terroir, noting for the first time that the 'Flat sandy soil produced white wines best and hilly red marl (limestone clay) chocolate and porous country the best red wines'. Wilkinson also recommended that the 'vineyards should be laid out with the vines planted six feet apart in rows, and the

rows eight feet apart' a typology still evident in rare, pre-mechanisation vineyards such as Drayton's Bellevue vineyard.[35]

2.3.10 Summary of the socio-economic and environmental influences of Federation and the 'forgotten generation' on the cultural landscape

Concurrent combinations of winegrowing people in neighbourly co-operation and competition – influenced by, and influencing, policy and trade at the national and global level – reflected a long history of family and social ties as a source of resilience and economic survival. The landscape also evinced the evolution of vineyard layouts in response to locale, while propagating practices (with no need for phylloxera-resistant rootstocks) enabled further plant acclimatisation to locale.

Figure 15. Barrels of Lindeman's wines on carts bound for London in the early 1900s. Charles Kerry photograph from Allan A. Hedges collection, Sydney Reference Collection SRC18026, City of Sydney Archives.

2.3.12 Summary of relevant Heritage Council of NSW Historical Themes

National themes: *Developing local, regional and national economies*

NSW themes: *Land tenure; Agriculture; Environment-cultural landscape; Events; Commerce; Industry; Science; Cultural endeavour*

Local themes *Working the land; Viticulture (Early attempts, Winemakers of the Pokolbin hills); Growth of community*

[35] A. Wlikinson in McIntyre & Germov, *Hunter Wine*, p. 211

Figure 16. Pokolbin and District Vine Growers Association, date unknown. Source: Tulloch Family Collection, courtesy of J.Y. Tulloch.

2.3.13 The stoics 1931–1954

A 1931 *Report on the Wine Industry of Australia* described the Hunter as 'eminently suitable to the production of high quality dry wine … with sandy, basalt and clay loam soils', but given the lack of demand for dry whites, predicted the demise of the region: 'it appears doubtful whether this area can continue in production'.[36] Over the next few decades the number of vine growers in the Hunter region fell from 100 to 10. However, wine production continued, and the Hunter's reputation for table wines strengthened. During this time Johnnie Walker's Rhinecastle Cellars in Bridge Street, Sydney became a focal point for Hunter vignerons, continuing the strong tradition of social and trade connections between city and region.

The remaining wineries and wine growers – the Drayton, Tyrrell, Elliot, Steven, Trevena, Tulloch and Wilkinson families, and employees of the McWilliams, Penfolds and Lindeman's wine companies – labelled 'the stoic' generation by McIntyre and Germov – demonstrated a resilience that enabled their survival through the combined effects of disease (downy mildew reached the Hunter in the 1920s), widespread flooding, the 'Great Depression', and two world wars. This generation of families is the pillar on which the modern Hunter wine industry was built.

[36] McIntyre & Germov, *Hunter Wine*, p. 215

2.3.14 Summary of the socio-economic and environmental influences of the Hunter's stoic generation on the cultural landscape

The handful of surviving wineries and growers, along with the associated heritage vineyards documented in this Study, reflect an enduring relationship between a community, a product and a region. Aside from a single vineyard at Mudgee, and the irrigated industrial acreages of the Murrumbidgee Irrigation Area, no other NSW region survived the first half of the 20th century.

Figure 17. Mount Pleasant winery before mechanisation. Photograph by Max Dupain, c1950. Tulloch family collection, courtesy of J.Y. Tulloch

A distinguishing factor also emerged over this period – the Hunter terrain was not conducive to larger scale viticulture. Grape production endured on patches of successful terroir within a wider, diverse landscape. Modest volumes of wine were produced and focused on quality, rather than quantity. This created a mosaic typology at a landscape and vineyard scale that is unique in the New South Wales context.

During this time Max Dupain, Australia's most respected and influential black and white photographer documented the scenery, personalities and winemaking activities of the Pokolbin cultural landscape, reflecting its continuing significance to Sydney consumers of wine, and the broader NSW and Australian populations.

2.3.15 Summary of relevant Heritage Council of NSW historical themes

National themes: *Developing local, regional and national economies*

NSW themes: *Agriculture; Environment-cultural landscape; Events; Commerce; Industry; Science; Creative endeavour*

Local themes: *Working the land; Viticulture (Winemakers of the Pokolbin hills); Growth of community*

Figure 18. Max Dupain's images of Pokolbin c1949, Tulloch Family Collection, courtesy of J.Y. Tulloch.

2.3.16 The renaissance generation 1955-1968

Floods again ravaged the Lower Hunter in 1955, and 1959 saw the lowest registered acreage on record.[37] Despite these setbacks, a regional renaissance began when the 1955 referendum ended early closing, and a new era of 'civilised drinking' replaced the infamous Australian six o'clock swill.

Lindeman's were appointed sponsors of the Melbourne Olympic Games in 1956, and from the early 1960s vineyard plantings recommenced in the Hunter and elsewhere, along with new wine styles, new vintage festival traditions and cellar door innovations. Many new personalities contributed to this renaissance, starting with Karl Stockhausen, who entered the industry at Lindeman's Ben Ean winery via the Greta Migrant Camp, riding a new era of electricity and technical innovation, including the use of pressure fermentation tanks. Under Stockhausen's stewardship Lindeman's Ben Ean Moselle eventually becoming the biggest wine brand in Australia, playing a key role in building Australia's (and specifically Australian women's) growing taste for wine.

During this period Leo Buring created Rhinegold, the first commercially successful Hunter semillon. Max Lake established Lake's Folly in 1963, Jim Roberts planted semillon grapes at Belbourie in 1964, and new plantings using heritage vine stocks were established at Tyrrell's 'Short Flat', Drayton's 'Bellevue', Stevens 'Old Hillside', Stevens 'Glen Oak', Howard's 'Somerset' vineyard, and Lindeman's 'Steven' block on Gillard Road, as well as Wilkinson's legendary 'Mistress' block, hidden in the heart of Pokolbin, adjacent to the Wilkinson's 'Oakdale' winery.

'Oakdale' itself went out of production after Audrey Wilkinson's death in 1962, resulting in a lack of continuity of production at that historic site. Production was resumed by syndicate investors in the late 1960s and elements of the original winery, including a number of concrete wine vats, are now preserved as part of the Audrey Wilkinson winery cellar door and outdoor landscaping located on the original winery site. Vineyards were also re-established at other Wilkinson family sites around Pokolbin: Cote D'Or, Mangerton, Maluna and Coolalta during this time.[38]

Figure 19. Gerts from Greta Migrant Centre poses picking grapes (probably at Glen Elgin), 1959 for a photographic shoot to promote immigration. Source: National Archives Australia A1500/K4191

[37] J. Halliday in McIntyre & Germov, *Hunter Wine*, p. 230.

[38] J. Halliday and R. Jarratt *The Wines and History of the Hunter Valley* McGraw-Hill Book Company, Sydney, 1979, p. 104.

Similarly, the pulling of original convict-planted vines at Dalwood in the 1950s, and new plantings following Perc McGuigan's purchase of Dalwood from Penfolds in 1967 means there are no HVW&TA Vineyard Register classified heritage vines at that site, (which is also located outside the Pokolbin GI Study Area). As mentioned earlier in this Study, the Dalwood vineyard has been in continuous production since the 1830s, making it the oldest continuing vineyard in Australia. (The original Dalwood homestead is listed on the NSW state heritage register for its unusual architecture and associations with the early wine industry.)

On his 1966 visit, the globally recognised wine connoisseur André Simon highlighted the Hunter Valley renaissance when he toured the key wineries and vineyards, and referred to the contraction of the region away from the flood-prone areas of its early origins.[39] Bushfires at Pokolbin in 1968 marked the end of this early renaissance period, destroying many winery buildings and homesteads, including Maluna and Daisy's Hill. However, Tyrrell's 'Ashmans', Drayton's original 'Bellevue' winery, Tulloch's 'Glen Elgin' homestead and winery buildings and Lindeman's 'Ben Ean' winery survived to be continuing testimony to the various phases of the Hunter Valley wine story.

2.3.17 Summary of the social, economic and environmental influences of the renaissance era on the cultural landscape

According to McIntyre and Germov, the post-war renaissance 'grew from, and further strengthened, ties to wider and cultural worlds – connoisseurs, non-connoisseurs, tourists, writers, celebrities, corporations'. Also, because the Hunter wine community was based on deep, local, family traditions with ties to the broader scale of wine business (underpinned by its proximity to Sydney), it played an integral role in the establishment of Australia as a wine-drinking nation – a role that went well beyond the region's production capacity at the time.[40]

The emerging cultural and social significance of the Hunter Valley was thus fuelled by increasing wine consumption, as well as car ownership and car tourism out of Sydney and Newcastle, which in turn created an appetite for education about wine. This was barely satiated by the advent of wine journalism and wine entrepreneurism led by personalities like Len Evans, Phil Ryan at Mount Pleasant, Max Lake, and later James Halliday. Evans' 'Cellarmaster' wine column in *The Bulletin*, and his wine business, bar and bistro at Bulletin Place in Sydney became a new focal point for Hunter wine producers and wine education in general, reflecting the significance of the region to city connoisseurs and consumers.

[39] McIntyre & Germov, *Hunter Wine*, p. 241
[40] McIntyre & Germov, *Hunter Wine*, p. 235

Figure 20. Contour ploughing was enforced through government policy in the late 1960s to avoid the soil erosion effects of plant eradication between the vines. See Section 3.4 for further discussion of the contour typology. Source: Iain Riggs

2.3.18 Summary of relevant Heritage Council of NSW historical themes

National themes: *Developing local, regional and national economies*

NSW themes: *Agriculture; Environment-cultural landscape; Events; Commerce; Industry; Science; Creative endeavour; Leisure*

Local themes: *Working the land (Agriculture, Diversification); Viticulture (Winemakers of the Pokolbin hills); Growth of community (Prominent people, Community organisations, Learning and culture, Leisure)*

2.3.19 New corporates and cooperatives 1969-1983

The renaissance continued through the late 1960s stock exchange boom, when new tax systems supported an era of corporate acquisitions and syndicate investment schemes. These quickly doubled wine production across the Hunter, both within the current Pokolbin GI and also around Broke, Fordwich and the Upper Hunter. Among the early syndicate wineries were Rothbury Estate (led by Len Evans and Murray Tyrrell), Hungerford Hill, Hermitage Wine Company, Saxonvale, Mindaribba, Tamburlaine and Brokenwood. By 1973 the Rothbury Estate Society had grown to some 30,000 members, 5000 of whom were committed purchasers of wine, while attendances at the 1973 Hunter Vintage festival exceeded 100,000. The McPhersons (Jock and his winemaker son, Andrew) pioneered a different form of co-operative known as co-ordinated managed investment (CIM) schemes, and these succeeded in opening up a new area of vineyards around the Hermitage and Deasey Road precincts. The McPherson initiatives of the late 1960s and early 1970s included their own winery, as well as Braemore, Marsh Estate, Terrace Vale, Kindred and Bimbadgen.[41] From this time (1969) onwards the source of vine stocks for new plantings became uncertain, as new commercial nurseries supplied the new era of investment. This uncertainty provided the rationale for making 1968 the cut-off date for a 'heritage vine' classification in the HVW&TA Hunter Valley Vineyards Register. (For example, the Howard family at 'Somerset' on Oakey Creek Road, established their heritage classified vineyard blocks of semillon and shiraz before 1969, sourcing the cuttings from neighbours Albert and George Stevens.)

Figure 21. Poster by R. Coulsen for the first Hunter Vintage Festival 1973, which was attended by over 100,000 people. Source: R. Coulson

[41] Halliday & Jarratt, *The Wines and History of the Hunter Valley*, pp. 86-87.

The new corporate era saw the inauguration of a new Hunter Valley Vineyard Association, with founding members including members of the Drayton family, Murray Tyrrell, the Tullochs, Brian McGuigan, Max Lake, Doug Elliot, Christopher Barnes (Saxonvale Wines), Don McWilliam, Simon Currant (Hungerford Hill), David Webster (Hermitage Wine Company), Ivan Howard, Murray Robson (Squire vineyard) and Lance Allen (Tamburlaine Wines).

Brian McGuigan (Penfolds) and Keith Yore (Verona) were key players in the Upper Hunter revival, which was initiated in response to a corporate need to rapidly expand production in order to cash in on the global wine boom. Penfold's Wybong Estate was the catalyst for other small and large ventures, such as the establishment of Horderns' winery at Brogheda Station. Using Israeli drip irrigation technology, Arrowfield Wines (later renamed Hollydene after an earlier Upper Hunter winery), Richmond Grove, Rosemount, Denman Estates and Verona's Denman winery were able to re-establish enormous acreages of vines in an area that had not seen any vineyards or wineries for over 50 years, while Hordern's Wybong Estate was the key boutique winery initiative in the region.

2.3.20 Summary of the socio-economic and environmental influences of the new corporate investment era on the cultural landscape

The 1973 Hunter Vintage Festival, poster map and the 1979 Halliday history map reflect viticulture's expansion back into the Broke Fordwich soldier settlement areas, the Upper Hunter revival and the rapidly expanding social significance of the region. The cultural and social significance of 'Hunter wine country' continued to grow, along with the growth of Sydney-based and other Australian and international connoisseurs and consumers of wine, significant developments in the nature and extent of tourism to the region, as well as renewed Sydney-sourced investment in the region.

Figure 22. Halliday's 1979 map of the Pokolbin vineyards alongside the National Trust's 1982 curtilage of the Pokolbin Cultural landscape. Sources: James Halliday and Cessnock City Council

In 1982 a National Trust report identified the Pokolbin cultural landscape as a 'landscape of likely heritage significance' and defined a curtilage for the cultural landscape that reflects Halliday's 1979 mapping of the vineyards, both of which coincide closely with the contemporary Pokolbin GI boundary.[42]

2.3.21 Summary of relevant Heritage Council of NSW historical themes

National themes: *Developing local, regional and national economies*

NSW themes: *Agriculture; Environment-cultural landscape; Events; Commerce; Industry; Science; Creative endeavour; Leisure*

Local themes: *Working the land; Viticulture (Winemakers of the Pokolbin hills, New vineyards); Growth of community (Learning and culture, Leisure)*

2.3.22 Second wave globalists 1983 – present

The 1980s saw the Hunter Valley ride a second stock market explosion and associated export boom as corporate investment in the region advanced and retreated with global economic cycles. In 2000 a Private Irrigation District (PID) scheme was introduced to pipe water to 'drought-proof' and support the expansion of vineyard acreages in Pokolbin and Broke Fordwich.

Castlemaine Tooheys purchased Tulloch's wines and the associated Glen Elgin property, which were subsequently sold to Penfolds. Penfolds (itself owned by Philip Morris) purchased Lindeman's, including the Ben Ean property and vineyards, following which Penfolds and Lindeman's were bought by Southcorp. The Elliot family sold the historic Oakvale property to Jan And Barry Shields in 1985. The highly successful Wyndham Estate group at Dalwood was floated as a public company in 1985 and in 1990 French drinks giant Pernod Ricard took a majority share through their Australian arm Orlando. In 1998 Lindeman's (then owned by Southcorp) carried out a large-scale renovation of the Ben Ean cellar door for the Sydney Olympic Games.

Corporate retreats following the 2008 downturn included Foster's closure of the Rosemount winery and sale of the Roxburgh vineyard in the Upper Hunter to a mining company; Pernod Ricard's closure of the Wyndham Estate cellar door at Dalwood in 2014; and Lindeman's closure of the Hunter Valley cellar door at Ben Ean in 2016.[43] New independent custodians of historic and heritage vineyards then emerged with the Agnew family's purchases of 'Oakdale', 'Glen Elgin' and a Fordwich settlers block for their Audrey Wilkinson, Poole Rock and Cockfighters labels; Colin Peterson and Brian McGuigan's purchase and renovation of the 'Ben Ean' buildings and vineyards; and Sydney hotel baron Sam Arnaout's purchase of 'Sweetwater', 'Hungerford Hill' and the former Wyndham Estate, and reinstatement of the original Dalwood name. By the end of 2018 De Iuliis Wines had purchased Lindeman's former Steven block and Brokenwood had become the custodians of the 'Verona', 'Tallawanta', and 'Mistress' heritage vineyards under lease.

[43] Hunter Valley Timeline downloaded at http://www.hunterweb.com.au/ on 16.04.2019.

2.3.23 Summary of the socio-economic and environmental influences of the second wave of globalism on the cultural landscape

The turn of the twentieth century has seen the emergence of new conflicts between mining and viticulture. After a hard fought campaign to reduce air pollution from the Kurri Kurri aluminium smelter in the early 1980s, the expansion of open-cut coal mining and coal seam gas exploration since then has become a recognised threat to agriculture, viticulture and equestrian land uses in both the Upper and Lower Hunter.

While the expansion of restaurant, accommodation and other wine tourism-related industries counter-balanced a 2008 down turn in the wine industry, the evolution of new land uses has also created ongoing conflicts between agriculture and tourism. Along with ongoing global market volatility, mining, gas exploration, housing subdivision pressures, biosecurity, bushfires and climate change are also recognised as key ongoing issues for the future of viticulture in the Hunter Valley.

The 1994 City of Cessnock Heritage Study documented Pokolbin as an evolving cultural landscape of significance that nonetheless needs to manage the impacts on the landscape of tourism development and signage, recently introduced European building typologies and dominating modern winery buildings, as well as new landscape elements associated with water storage and distribution.[44]

Renewed interest in regionalism, provenance and concepts of terroir are inspiring reinterpretation of the Pokolbin and Broke Fordwich cultural landscape's value and heritage as Australia's oldest continuing wine region. 'Old', 'heritage' and 'rare' categories of vineyard – some dating back to the 19th century – are being identified and documented by members of the HVW&TA as rare and highly valued testaments to successive generations of wine producing families and the 'survival of the fittest' vineyard sites. The commissioning of the Hunter Valley Heritage Vineyards Strategic Study signifies renewed interest from the community in exploring and establishing the historical, social and scientific significance of the heritage vineyards and the associated cultural landscape of the Pokolbin and Broke Fordwich wine subregions.

2.3.24 Summary of relevant Heritage Council of NSW historical themes

National themes: *Developing local, regional and national economies*
NSW themes: *Agriculture; Environment-cultural landscape; Events; Commerce; Industry; Science; Creative endeavour; Leisure*
Local themes: *Working the land; Viticulture (Winemakers of the Pokolbin hills); Growth of community*

[44] Walker & Associates, *City of Cessnock Heritage Study* .

Figure 23. A community campaign to save a section of the convict built Great North Road along Wallaby Scrub Road from sale to a mining company was unsuccessful. Source: Author

3. PHYSICAL INVESTIGATION

This section needs to be cross-referenced with Maps 1 to 4, and the associated presentations and analysis of natural and cultural landscape relationships and landscape typologies in Dr Elisa Palazzo's 'Hunter Valley Heritage Vineyards Strategic Study: Resilience, terroir and landscape mapping', commissioned as a separate associated study.[45]

3.1 Concept of a cultural landscape

According to heritage assessment and management frameworks established by the Burra Charter, the cultural values of a landscape may be related to its aesthetic, archaeological, historical, scientific, social or representative values, any or all of which may co-exist in the one place.[46] These values may be significant to communities at local, state, national or world (universal) levels. The focus of this Study is to consider whether the Pokolbin – Broke Fordwich cultural landscape has significance at the state level**.**

Cultural landscapes include designed landscapes, such as gardens, parks and reserves, which are increasingly represented in Australian heritage systems. They may also include more complex landscapes that do not readily fit into established Australian cultural heritage frameworks. These latter types are described as 'organically evolved' and 'associative' landscapes. The Pokolbin – Broke Fordwich cultural landscape fits into the category of an 'organically evolved continuing landscape'. Such landscapes express the interaction between land use and natural systems over time, and represent the accumulation of layers of change, without any overt comprehensive design intent (although some limited intent may be exercised, such as through planning controls). In other words, they reflect the process of their organic evolution in their form and component features.

In some cases, the uses that have shaped the landscape may still be evolving, in which case the term 'continuing landscape' is used. In other cases, landscapes may exhibit relics of uses that are no longer practised. For example, the Pokolbin – Broke Fordwich Study Area contains continuing viticultural landscapes, while the Upper Hunter GI (outside of the Study Area) contains mainly relict or 'revived' vineyard sites.

It is important to distinguish the assessment of 'cultural heritage significance' from 'landscape character' assessment. Landscape character assessment is a descriptive process that records the present-day features of a landscape, focusing on physical and visual qualities as seen from key routes or viewpoints, usually including an assessment of sensitivity to change. By contrast, an assessment of the cultural heritage significance of a landscape focuses on the way people have interacted with the physical environment over time. This

[45] Palazzo, 'Hunter Valley Heritage Vineyards Strategic Study: Resilience, terroir and landscape mapping'.
[46] The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance, Australia ICOMOS Incorporated International Council on Monuments and Sites 2013, downloaded at https://australia.icomos.org/wp-content/uploads/The-Burra-Charter-2013-Adopted-31.10.2013.pdf on 16.04.2019.

introduces a particular combination of natural features and living cultural elements that are identified and described in the following sections of the Study.[47]

3.2 Concept of terroir

As referred to in the historical analysis in Section 2 of the Study, it is also useful to view the natural and cultural history and evolving elements of the Pokolbin – Broke Fordwich continuing cultural landscape through the concept of terroir. Developed over centuries of European winemaking, this concept recognises the combined influences of the physical environment and the 'hand of man', leading to modern GI definitions. In short, the concept of terroir views wine as a product of human endeavour that occurs within a defined natural environment or place of origin, (at a landscape scale, or at a farm or vineyard scale) comprising natural and cultural elements that are continually evolving.

3.3 Natural elements of the Pokolbin – Broke Fordwich cultural landscape

3.3.1 Bioregional context

Bioregions are relatively large land areas that are distinguished from one another by broad, landscape-scale natural features and characteristic environmental processes. These are further subdivided into sub-bioregions, which are distinguished by finer differences in geology, vegetation and biophysical attributes.[48] The Broke Fordwich and Pokolbin GI subregions, and the broader Hunter Valley GI are located within the Hunter Sub-bioregion of the Northern Sydney Basin Bioregion, between 32° and 33° S and 150°.50' and 151°E.

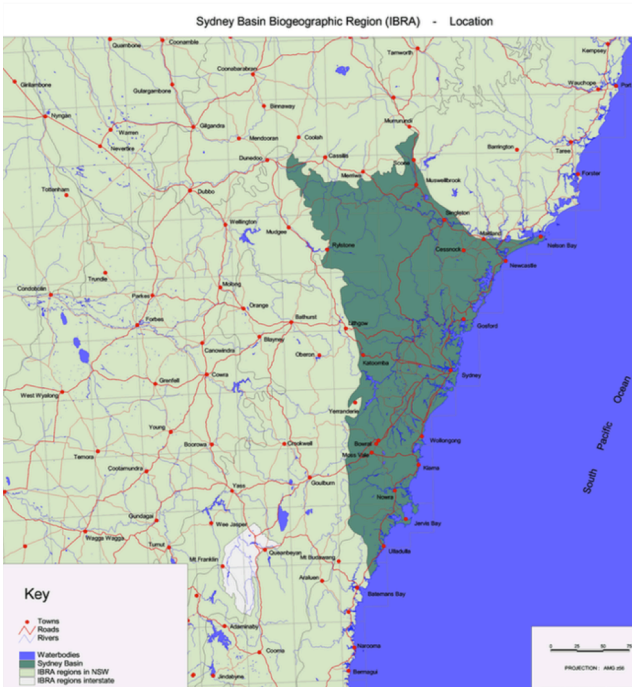

Figure 24. Location of the Northern Sydney Basin Bioregion. Source: IBRA

The Hunter sub-bioregion is primarily defined by geological features (the Sydney Basin and the Hunter-Mooki fault) and ridge lines associated with the Hunter, Liverpool and Great Dividing ranges defining surface water catchments. The Hunter Valley is of great ecological significance within the sub-bioregion as: (i) it represents the only major break in the Great Dividing Range, so providing a link between coastal and inland NSW and (ii) it

[47] Heritage Council of Victoria, Landscapes of Cultural Heritage Significance: Assessment Guidelines, February 2015.
[48] North Sydney Basin Bioregion: Bioregional Assessment downloaded at https://www.bioregionalassessments.gov.au/assessments/northern-sydney-basin-bioregion on 16.04.19.

contains an area of overlap between tropical and temperate zones known as the MacPherson–Macleay Overlap, in which the limits of many taxa are found.[49]

3.3.2 Geography

While the Hunter River and its catchment define both the Hunter Sub-bioregion and the Hunter Valley Wine GI, it is the Brokenback Range, its densely forested ridges, foothills and slopes, rugged escarpments and life-giving watershed that form the dominant natural landmark feature of the Pokolbin – Broke Fordwich cultural landscape. Below the forested range the country is generally undulating to low hills and alluvial and sandy littoral plains, drained by a network of mostly forested creeks and creek lines that eventually feed into the Hunter River through several larger tributaries.

The Broke Fordwich GI subregion is entered from the south through a narrowing of the Wollombi valley at Paynes Crossing, and ends with a similar narrowing of the valley floor north of Bulga. It is bordered by (i) Yengo and Wollemi National Parks (part of the Great Dividing Range) to the west; (ii) the distinctive Yellow Rock escarpment of the Brokenback Range to the south-west; and (iii) Fordwich Sill and Fordwich Hill to the east and north-east. Wollombi Brook (locally known as 'The Cockfighter's Creek') meanders northwards through the broader section of the valley, defining the arable land of the GI subregion, and eventually entering the Hunter River north of Warkworth. Fordwich Crossing, located in the middle of the valley, is the historical crossing point of Wollombi Brook.

Located 25 kilometres east of Broke Fordwich, the Pokolbin GI subregion is bordered to the west by the Brokenback Range and Pokolbin State Forest, and to the east and north by the rises above Black Creek, with McDonald's flat forming the southern border. The Brokenback Range and a forested military area separate the two GI subregions. The Pokolbin terrain below the Brokenback Range is generally characterised by gently undulating low hills, wide valleys, and meandering river systems on wide flood plains, with numerous creeks that can be brackish or saline at low flow. The creek systems feed into Black Creek and Rothbury Creek, the two main Hunter River tributaries.

3.3.3 Topographic elements

The key topographic elements of the Pokolbin – Broke Fordwich cultural landscape are summarised as follows, with some general analysis of their relationship to the viticultural landscape. This analysis is further developed by Dr Elisa Palazzo's mapping of the landscape relationships, terroir typologies and associated report commissioned as a separate element of this Study.[50]

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[49] N.T. Burbidge, 'Phytogeography of the Australian Region', Australian Journal of Botany 8(2), 75–211, 1960, downloaded at https://www.bioregionalassessments.gov.au/assessments/11-context-statement-hunter-subregion/1121-physical-geography#_Ref378100108 on 06.02.2018.

[50] Palazzo, 'Hunter Valley Heritage Vineyards Strategic Study: Resilience, terroir and landscape mapping'.

Figure 25. The Brokenback Range is the dominant natural landmark of the Pokolbin – Broke Fordwich cultural landscape, visible from all parts of the Study Area. These views of the range from the north of Pokolbin (top photograph), from the Parish of Pokolbin to the south (middle) and from Broke Fordwich to the west (bottom) Illustrate other topographic elements – flats, rises, foothills and gentle undulations. Source: Wine Australia

i. Flats - generally occurring adjacent to creeks and of less than 3% slope. Frequently the flats retain significant depositional soil profiles that can support viticulture, so long as they are located high enough above creeks to avoid prolonged inundation or swampy terrain that damages the roots of the vines;

ii. Foothill and hillside slopes - a wide-ranging landform that can be further delineated into lower, mid and upper slopes. Slopes and hillsides are differentiated through slope angle and aspect. The slopes and hillsides that face east – reducing the incidence of morning frost, and protected from the heat of the late afternoon sun – are most prized by winegrowers in the Study Area;

iii. Ridgelines - a flat or very gently sloping linear landform, which is distinguished by its elevation above the general surrounding landscape and its location at the top of a slopes or hillside. The delineation between slopes and ridgelines is not always clear. Hillcrests (sometimes called domes) are similar to ridgelines, but are generally circular, rather than linear in nature;

iv. Spurs - a landform that is defined by its elevation above the surrounding slopes. Unlike ridgelines, spurs are characterised by a clear change of angle between the spur and surrounding slopes and are frequently associated with adjacent ridgelines and/or adjacent creek lines; and

v. Watercourses – a linear landform that retains water and facilitates its movement, generally found in low-lying areas or in the base of valleys and within hill depressions.

Figure 26. The gently undulating low hills and wider flood plains of the broader Pokolbin cultural landscape where remnant vegetation delineates the meandering river systems. Source: Wine Australia

3.3.4 Geology/soils

The following summary of the geological and soil elements of the landscape includes some analysis in the context of the viticultural landscape, which is further developed by Palazzo.[51]

The Hunter Sub-bioregion is a transitional area between the Palaeozoic rock foundation of the New England Fold Belt to the north, and the Early Permian and Middle Triassic period rock formations of the Sydney Basin to the south. Between these two geological areas is the Hunter-Mooki Thrust fault, which gave rise to the Brokenback Range, the dominant geographic feature of the Broke – Fordwich Pokolbin Study Area. The Permian rocks in the central and south-eastern expanse of the Study Area were formed when the area was underneath a shallow marine estuary. This left an extensive network of coal seams that have underpinned the region's coal mining industry since the early nineteenth century, as well as a high degree of salinity in the water table of much of the area. Increasing amounts of Triassic sandstone are found west towards the Brokenback Range, and north towards the Upper Hunter, leading eventually to the carboniferous rocks that form the northern boundary of the Hunter with the New England Fold Belt, and the foothills of the Barrington Tops.

According to the Australian Soil Resource Information System (ASRIS) the soils of the Hunter sub-bioregion are (i) 30% tenosols (alluvial soils flanking rivers); (ii) 27.3% kurosols (mix of coarser sands or loams and finer textured clay located in mid- and lower slope positions and often acidic); and 13.1% ferrosols (also known as 'terra rossa', these are typically deep red, reflecting a high concentration of free iron and are located on upland landscape areas, and on crests, ridges or hill flanks, and ideal for agriculture) – with another seven soil types present.[52] Overall, the Hunter sub-bioregion has more soils (mostly hard, acidic patches of poorly draining heavy clay – the kurosols) that are unsuitable for viticulture, than areas that are ideal for growing grapes.

The soils of the Broke Fordwich and Pokolbin Study Area are diverse, and vary widely from sandy alluvial flats (tenosols), often planted to semillon, to deep friable loam and friable red soils (terra rossa ferrosols) over limestone, often located on the rises and ridges of the landscape, and commonly planted with shiraz. Highly prized among winegrowers, terra rossa is the type of sedimentary soil that forms when carbonate minerals leach out of limestone, breaking down into iron deposits, oxidising and turning the soil a rusty red colour. Shell and other fossils, known as Bryozoan, are found amongst the terra rossa and bear witness to the original Permian seabed. Among the hills of Pokolbin are occasional strips of chocolate brown volcanic basalt (testimony to Hunter-Mooki volcanic activity) that are prized by growers for their tendencies to restrict vigour and concentrate mineral flavours in the grapes.

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[51] Palazzo, 'Hunter Valley Heritage Vineyards Strategic Study: Resilience, terroir and landscape mapping'.

[52] ASRIS, *Atlas of Australian Soils* downloaded at http://www.asris.csiro.au/themes/Atlas.html on 16.04.2019.

The Fordwich Sill in the Broke Fordwich subregion contains some volcanic dolerite, and a highly sought-after pocket of terra rossa. Elsewhere on the Broke Fordwich valley flats are the free-draining alluvial soils and sandy loam that wash off the Brokenback Range, deemed ideal for growing Hunter Semillon.

Figure 27. Sandy alluvial soil on the flats (top) has proven ideal for semillon and classic 'terra rossa' soil on the rises (bottom) for red wine varieties. Sources: Author and Wine Australia.

3.3.5 Climate

The following description of the climatic elements also includes some analysis in the context of the terroir of the viticultural landscape.

The Hunter Valley climate is classified as humid subtropical, with distinctive Pacific Ocean maritime influences, making it one of Australia's hottest and wettest wine regions. The Brokenback Range to the west and the Barrington Tops to the north act as a funnel, pulling cooling ocean breezes into the valley. Without those breezes, quality wine grape production would be nearly impossible. However, with them comes heavy rainfall and periodic cyclonic storms that present a challenge to viticulture.

In summer, the average daily temperature regularly exceeds 22 °C, while during the winter the temperature averages around 14 °C. Temperatures during the peak growing month of January average between 22.7 and 23.3 °C, increasing with progress inland. During the growing season the valley receives an average of 7.3–7.5 hours of sunshine a day, but cloud coming off the ocean tends to diffuse the sunlight, giving vines some protection from heat stress. In winter mid-latitude westerly winds bring high pressure fronts that alternate with cold fronts to create generally drier conditions. In summer, south-easterly winds can bring weather fronts that harbour extensive amounts of moisture, with more than two thirds of the region's annual rainfall falling between October and April – with the January and February harvest months the wettest.

As much as 400–530 mm of rain can fall during harvest, creating the Hunter's biggest viticultural hazard; winter drought can also be a problem. The rain, coupled with the heat, can result in high relative humidity and a subsequent threat of mould. During the growing season of October–April, the 3pm average for relative humidity in the Study Area is 49%.

The microclimate of the Broke Fordwich subregion is hotter and drier than the Pokolbin subregion, with some continental influences, due to the foothills of the Brokenback Range blocking coastal breezes and creating a rain shadow. Around Pokolbin hot summers and freezing winters present a constant challenge to vineyard managers; however, the mountains that circle the valley, the cloud cover and afternoon easterly sea breezes all help mitigate the sun and moderate humidity on the valley floor.

3.3.6 Natural vegetation

Prior to European settlement and the associated land clearing, the dominant overstorey vegetation in the Hunter sub bioregion was: (i) canopy coverage in the range of 10 to 70%, (ii) eucalypt dominated and (iii) primarily of the tree or shrub growth form.[53]

[53] Australian Survey and Land Information Group (AUSLIG), *Atlas of Australian Resources, Vol. 6, Vegetation*. Department of Administrative Services, Commonwealth Government Printer, Canberra, 1990, downloaded at https://www.bioregionalassessments.gov.au/assessments/11-context-statement-hunter-subregion/1121-physical-geography#_Ref378100108 on 06.02.2019.

While investigation of the Aboriginal elements of the cultural landscape is outside of the scope of this Study, it is acknowledged that the natural landscape was managed and shaped by human activity for tens of thousands of years prior to European settlement.

Since European settlement there has been significant vegetation clearing, but presently approximately half of the sub-bioregion contains remnant stands of native forest and woodland, much of which is located in the Pokolbin State Forest in the Brokenback Range, and the Greater Blue Mountains World Heritage Areas of the Yengo and Wollemi National Parks. While those areas are clearly significant in their own right, particularly with regard to their biodiversity, they are also significant for providing views and back drops, and for their influence on the microclimate, as well as water and soil.

Figure 28. Vineyards throughout the Pokolbin subregion are located amidst or adjacent to patches of remnant forest and woodland. Source: Wine Australia

Patches of rainforest brush also occur within the Study Area, and the patchwork of vineyards throughout the Pokolbin subregion is often located amidst or adjacent to patches of remnant forest and woodland. Forest and open woodland of white box, forest red gum, narrow-leaved ironbark, grey box, grey gum spotted gum, rough-barked apple and extensive of stands of swamp oak are also present in the upper reaches and foothills of the Pokolbin – Broke Fordwich landscape, while river oak and river red gum tend to occur along the creeks and creek lines. Much of the vegetation cover is persistent, in that it is 'green' for most of the year, and is associated with the remnant stands of native forests discussed above. Finally, it is relevant to note that City of Cessnock LEP policy associated with the Vineyards District referred to in Sections 1 & 5 of the Study is working to reinstate forested areas planted within the cultural landscape.[54]

[54] Cessnock Development Control Plan 28 (1999) Part E Specific Areas E.3 Vineyards District downloaded at http://www.cessnock.nsw.gov.au/resources/file/BuildingDevel/SLUP/DCP/Part%20E/E3%20Vineyards%20District%20%20.pdf on 16.04.2018.

3.4 Cultural elements of the Pokolbin – Broke Fordwich cultural landscape

The Sydney surgeon and winemaker Max Lake – one of many prominent Sydney identities associated with the Hunter region over its history – evokes a strong sense of terroir in this 1964 description of the natural features and cultural elements of the Pokolbin cultural landscape:

> *To best view the countryside take the road from Cessnock to Mount View lookout in early January. The reward is a perspective that is an artist's delight. The air is charged with an indefinable emotion, a sharp tang of pleasure permeating every fibre of being. Shimmering waves of heat shroud the vines, heavy with ripening grapes. Nature's imminent promise is being proclaimed from the verdant vineyards and pastures. The vaguely sensed creation of wine fills the soul with delight and anticipation. The textures and colours of the greens are infinite in their variety. The dull, dark olive of the Australian bush fingers its way between the chrome greens of the cleared grass paddocks. Buff dirt roads meander along their borders, finally becoming lost in the blue haze over the mountains which enwrap the Valley to the east. Immediately below, grey fibro-roofed mining towns speckle the cultivation; to the north Pokolbin nestles in the caress of gentle hills which slope down from the rugged, often precipitous backdrop of the Brokenback Range. Since the onset of spring, among the patchwork exquisitely regular linear figures of vines have striated the brick red squares of the vineyard soil.* [55]

The same description of the view over the Parish of Pokolbin could have been applied in January 2019, when the fieldwork for the Study was undertaken. While some parts of the Pokolbin GI sub-region have changed considerably with the introduction of new wineries, tourism enterprises, gardens, golf and entertainment venues, as well as new water infrastructure in the form of numerous small dams, the historic cultural landscape of the 'heritage heart' of Pokolbin around Ben Ean and McDonald's flat remains relatively unchanged. James Halliday describes another iconic viewpoint in the Parish of Pokolbin:

> *One of the greatest sights of the Hunter Valley is to be had by driving 400 metres (northwards) past Lindemans … and, at the crest of the hill, pulling onto the picnic area provided by the local council. The view back down the hill is unequalled, with Ben Ean nestling at its base, and thence to the vine-clad foothills of the Brokenback Range rising skywards.*[56]

[55] M. Lake, *Hunter Wine,* The Jacaranda Press, Brisbane, 1964, p 3.
[56] Halliday, *The Australian Wine Compendium*, p 36.

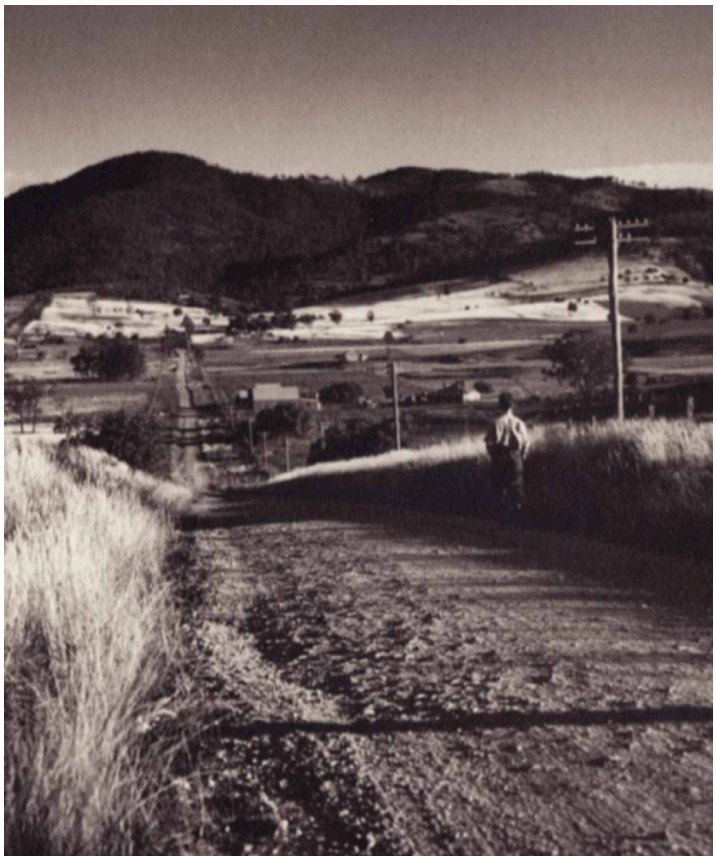

Figure 29. Max Dupain's 1949 photograph of the view along McDonald's Road from the as described by James Halliday in 1985. Source: Tulloch Family Collection, courtesy of J.Y. Tulloch

Figure 30. The contemporary view from the council picnic ground above Ben Ean. Source: Author

The following sections of the Study document the cultural layers and elements overlaying the broader Study Area, and their connection to the different phases of winemaking and viticulture, and to the evolving cultural, social and recreational values of the cultural landscape.

3.4.1 Historic routes, bridges and old survey patterns

Early historic routes through the Broke – Pokolbin cultural landscape include a section of the 'Great North Road' route, built by convicts between 1827 and 1832 from Wollombi through Broke to Warkworth and across to Rothbury, Allandale, Lochinvar and Morpeth; the Putty Road historic stock route from Milbrodale via Bulga to Singleton; and the route from Bulga and Milbrodale to Singleton via Broke. Routes that were established following the arrival of the Great Northern Railway at Branxton in 1862 included the route from Branxton and Lochinvar via Allandale to Cessnock (now Lovedale Road and Wine Country Drive) and from Rothbury to the Parish of Pokolbin (McDonalds Road). The Mountview Road route into the Parish of Pokolbin from Cessnock; the Broke – Cessnock route through central Pokolbin; and the Hermitage Road route connecting Belford and Kirkton to the Broke – Cessnock route and Pokolbin evolved along with the development of smaller farms and landholdings towards the end of the 19th century.

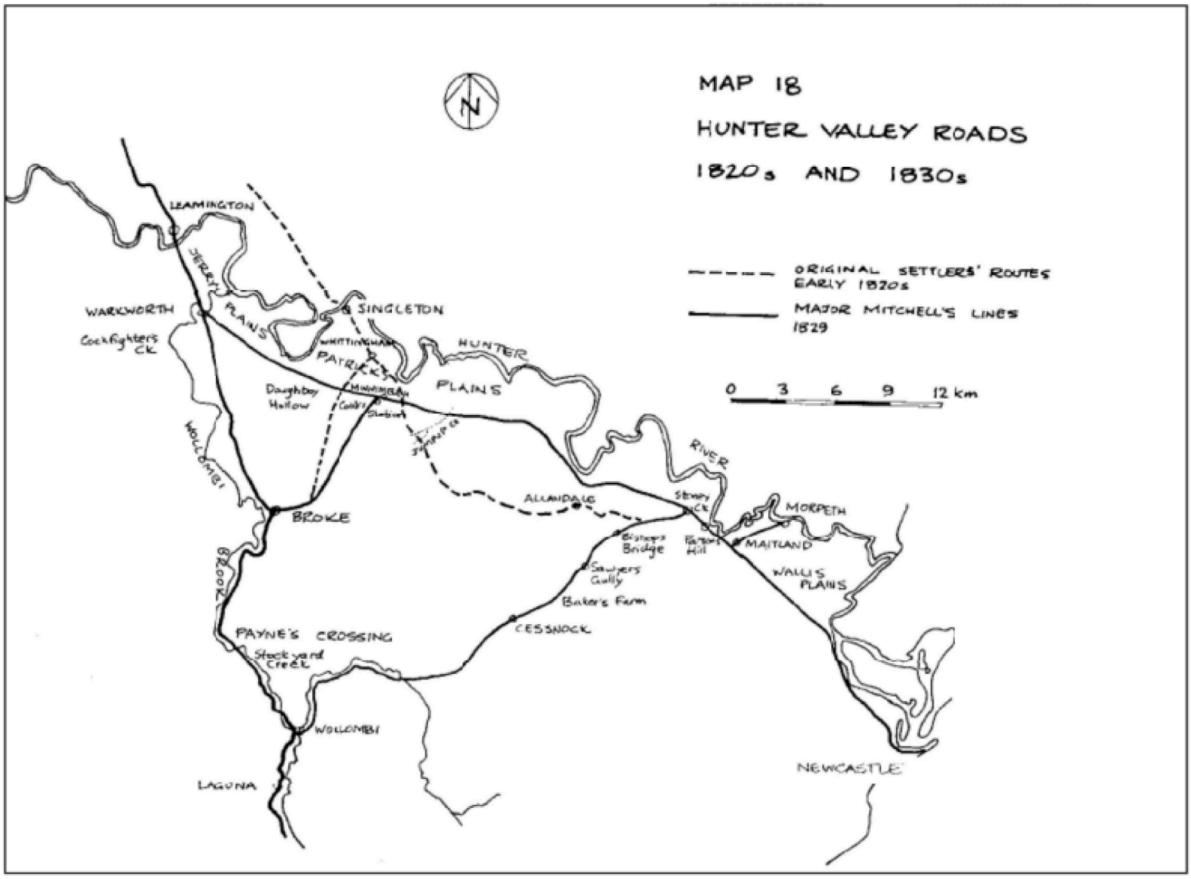

Figure 31. Plan showing original settlers routes including 'Great North Road' and 'Old North Road' routes.
Source: G. Karskens, *The Grandest Improvements in the Country: An historical and archaeological study of the Great North Road, NSW, 1825 - 1836*, University of Sydney, 1985.

The original 19th century land grants and surveys that were overlaid on the land early in the 19th century; the smaller acreages granted following the Robertson Land Act; the establishment of Parish boundaries in the 1880s; and the later post-World War One settler block grants are still evident in the grid layout of the minor road networks of Pokolbin and Rothbury, in modern distinctions around original Parish boundaries, (eg the

'Parish of Pokolbin' tourism precinct) and in the settlement patterns and lot boundaries of continuing rural land titles in both Pokolbin and Broke Fordwich.

The tree-lined back roads of the old routes and the minor road network (including the unsealed section of the Old North Road between Hermitage Road and Rothbury) retain an informal character that is a reminder of the early settlement period. Historic wooden bridges, such as the LEP-listed Gillies Bridge across Black Creek on Wilderness Road also mark the older routes and road networks.

The original McDonald's 1000 acre land grant surrounded by the smaller Robertson Land Act subdivisions is clearly evident in the landscape at McDonald's flat, and on modern maps, in the heart of the Parish of Pokolbin.

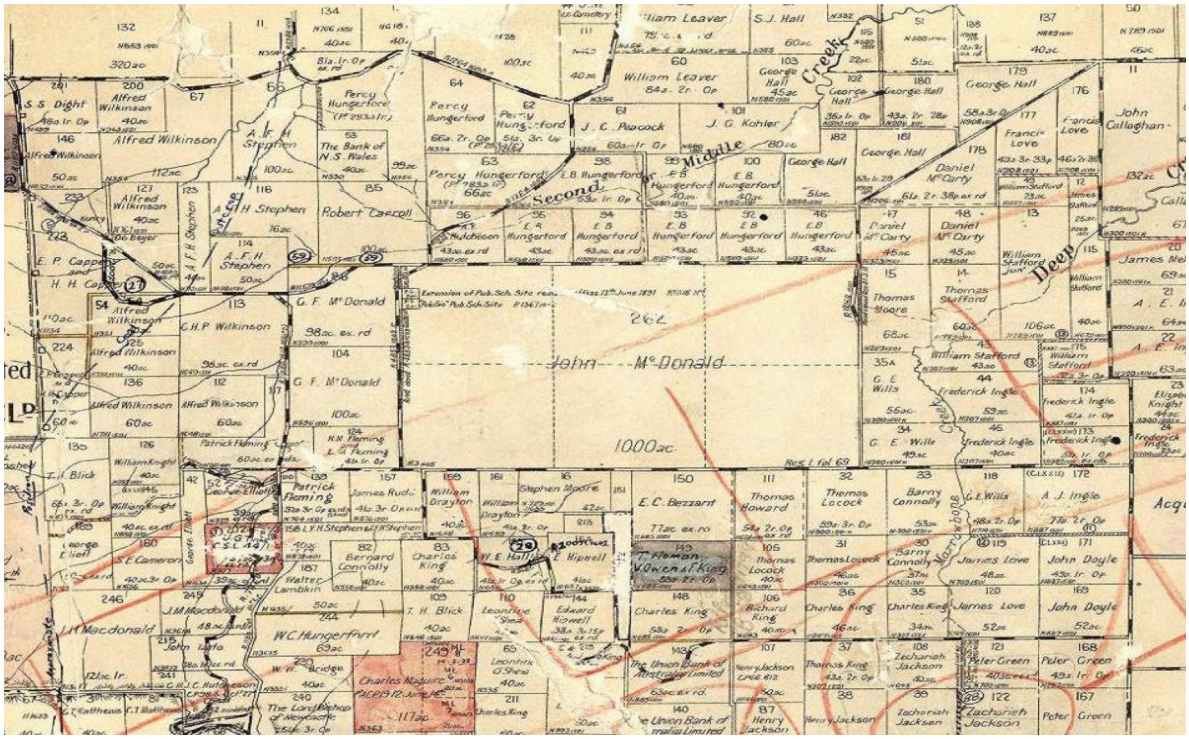

Figure 32. John Macdonald's original 1000 acre land grant surrounded by the smaller acreages that were granted following the Robertson Land Act of 1861, in the centre of the Parish of Pokolbin is now known as McDonald's flat. Source: NSW Land Registry Services

3.4.2 Townships, settlements, and cemeteries

While the Pokolbin GI subregion takes in the north-west section of the mining town of Cessnock above Bellbird Creek, (with the wine history significant LEP-listed sites of 'Marthaville Homestead' and 'O'Neill's Wine Bar' located just outside of the GI boundary on Wollombi Road), concentrated settlement in the Study Area generally occurs as small townships and distinctive rural localities rather than actual towns.

The most substantial of these are Bulga and Broke in the Broke – Fordwich GI, and Rothbury and Nulkaba in the Pokolbin GI. Broke developed as a town servicing the Great North Road stock route connecting Sydney and the Hunter. However, when the Great Northern Railway came via a different route, Broke reverted to being a

quiet township. A number of significant buildings from its heyday survive, including the original post office (1882); the village hall (1898); the public school (1876); the Anglican and Catholic churches; the old police station and the remains of the Blaxland family homestead on Fordwich Road. Similarly, Bulga, also on the early stock route from Sydney to the Hunter River, struggled to survive the advent of the railway, and more recently, coal mining expansion on its doorstep. The 2018 closure of a section of the Great North Road at Wallaby Scrub Road, and its sale to a mining company is symbolic of that struggle, as is the acquisition by the mining company of properties within the township itself. The school, memorial gates and Wollombi Brook bridge at the township's entrance are nevertheless on the LEP heritage register, as well as the properties of 'Mt Leonard' and 'Charlton', while the Baiame Aboriginal Rock Art site near Milbrodale is on the State Heritage register.

As the site of the 'Rothbury Riot' of December 1929, the settlement of Rothbury (which also dates back to the Old North Road stock route) is often associated with the mining industry. The site of St Paul's Church, marked by the LEP-listed Rothbury Cemetery on Wilderness Road, has however, a strong association with vignerons. Joseph Broadbent Holmes and Charles Philip Holmes donated the land for the church and cemetery during the 'experimental' phase of Hunter wine history in the late 19th century, when viticulture and winemaking were moving their way southwards from the Hunter River towards the hills of Pokolbin.

Vigneron families buried there include: Joseph Broadbent Holmes and family; Lambkin family members; Joass family members; Edward Tyrrell and wife Susan Hungerford; EGY ('Dan') Tyrrell; Avery Tyrrell and wife Dorothy Davey; Murray Tyrrell and wife Ruth Church; Alfred Wilkinson, Frederick Albert Wilkinson and families, including Frederick's wife Florence Mary Stephen and her brother Alfred Farish Hindmarsh Stephen; George Campbell and wife Mary; George Alexander Campbell; his son George Alexander Campbell (vigneron at 'Daisy Hill') and wife Vera; Ed Joualt and Murray Robson. The LEP-listed Glenmore burial ground further south along Wine Country Drive (formerly Branxton Road) is home to the graves of George Frederick McDonald and family of 'Glenmore' and 'Ben Ean' who donated the land for the cemetery; Joseph and Mary Ann Drayton and various Drayton family members; Chick family members and more Joass family members. Located just outside of the Study Area near Kirkton is another cemetery of significance to NSW wine history; William Kelman and wife Catherine Busby, and John and Sarah Busby, parents of Catherine and James, are buried there.

The settlement of Nulkaba, on Wine Country Drive (formerly Branxton Road), has a history as quirky as its name. As early as 1829, land was set aside there to build a church and school for the whole district, and eventually St Luke's Anglican Church was built in 1872, and a school in 1877. According to early records, 'The Village of Pokolbin' was formally laid out here in 1884-85, but from then on was referred to as Cessnock, until that name came to be applied to what is now considered to be Cessnock, a few kilometres further south. The name Nulkaba was then used instead, and officially adopted in 1927 – possibly because Pokolbin had established an identity of its own around McDonald's flat, in the foothills of Mount Bright, a few kilometres

west. The LEP-listed brick pottery kilns at Nulkaba date back to the turn of the 20th century and are a distinctive feature of the cultural landscape. However, new housing subdivisions around Nulkaba have affected the historic integrity of the settlement.

Figure 33. HIstoric elements of the Pokolbin – Broke Fordwich cultural landscape. Clockwise from top left: Old North Road; Palmer's Lane, Central Pokolbin; Wilderness Cemetery on Wilderness Road, Rothbury; Maria Immaculate Roman Catholic Church, Broke; Pokolbin Community Centre Memorial Gates, Parish of Pokolbin; and Gillies Bridge Over Black Creek, Wilderness Road, Rothbury. Source: Author

As described in Section 2.3.7, the closest thing to a 'Village of Pokolbin' formed around Ben Ean towards the end of the 19th century at the junction of what is now McDonalds Road and DeBeyers Road, with the LEP-listed memorial gates and a newly built community hall now marking the site of the original hall and school buildings. Down the road one of the original churches (built in 1905) survives as a cellar door for Usher Tinkler wines, a distinctive feature in the cultural landscape around McDonald's flat, in the heart of the Parish of Pokolbin.[57]

Reference should also be made here to Milbrodale and Fordwich (in Broke Fordwich); Lovedale (located mostly outside of the Pokolbin GI, but inside the Cessnock Vineyards District and State Environmental Planning Policy Critical Industry Cluster (SEPP CIC) boundary); and Mountview (located partially inside the Pokolbin GI). These localities take the form of rural communities that grew around the early 19th century estates (such as the Kelman family property 'Orizaba' near Mountview), rather than as concentrated village settlements. Scattered timber cottages and smaller homesteads dating back to the 'First Wave Globalist' era are elements of the cultural landscape in these localities.

At the end of World War One the Fordwich Soldier Settlement Purchase Areas were established west of Broke on both sides of Wollombi Brook, with government co-ordinated plantings of 10 acre vineyards on allotments created on the original 8000 acre land grant awarded to the explorer John Blaxland. (Blaxland opened up the route via Wollombi through the Great Dividing Range, paving the way for the 'Old North Road' stock route, the settlement of Broke, and the establishment of 'Fordwych' estate.) The Tulloch family had acquired a number of the soldier settler allotments on the west side of Wollombi Brook by the 1930s, as settlers soon abandoned them in the face of economic depression and severe hailstorms, which wrecked the vines. John Tulloch tended the Sentry Rock vineyard (also known as Joblins) until 2018, and heritage vines planted in the 1920s remain on the Hawkins and Grapeman blocks adjacent, where original soldier settlers' cottages and an old winery survive. Abandoned and derelict farm buildings are another element of the cultural landscape, especially evident in the more remote parts of Broke Fordwich, in the valley towards Paynes Crossing and around Bulga and Milbrodale.

[57] While this church was identified in the 1994 Heritage Survey it did not make it on to any heritage register; it is recommended to be reconsidered for LEP listing in Section 5 of the Study.

Figure 34. A church serving as a cellar door for Usher Tinkler wines (top left), the last remnant of the turn of the century 'village of Pokolbin' is among early 20th century vernacular fabric associated with the development of the agricultural economy in Pokolbin and Broke Fordwich. Sources: Author

3.4.3 Heritage vineyards and historic vineyards

At the heart of the Hunter Valley Heritage Vineyards Strategic Study are the heritage vineyards themselves, forming a core element of the cultural landscape's testimony to the Hunter Valley's significance as Australia's oldest continuing wine region. The HVW&TA are in the process of establishing the Hunter Valley Vineyard Register (the Register), which, in tandem with this Study, is noting and documenting the following categories of vineyard.

Category 1. 'Relict' vineyards

Many relict sites are located outside the Study Area and date back to the **'**Imaginers' and 'Experimenters' eras between 1828 and 1876 and were planted before the 1893 floods ended production on the flood plains along the Hunter River. Other relict sites relate to the discontinuation of production following the 'First Wave Globalist' period, due to the cultural shift to drinking fortified wines, and the onset of World War One and the Great Depression. Relict sites include important archaeological sites such as the Line Paddock at Tocal, traces of vine plantings in the landscape at the LEP-listed Kirkton Winery and Vineyard archaeological site (the former Busby and Kelman family property near Belford), and former REP-listed archaeological sites 'The Wilderness', 'Caerphilly' and 'Cote D'Or'.

Category 2. 'Rare' vineyards

Planted mostly between 1877 and 1930, these vineyards relate to 'First Wave Globalists' and 'Forgotten Generation' eras, and bear continuing witness to the establishment and enduring success of pioneer families in the Pokolbin and Fordwich subregions. They include the more than a century old blocks of shiraz, semillon and chardonnay on the flats and rises around Tyrrell's 'Ashmans' winery and 'HVD' vineyards; similarly aged blocks of shiraz and semillon on the flats at Drayton's 'Bellevue' vineyard; the Tulloch's 'Post Office' shiraz block on the ridge at 'Glen Elgin'; and the circa 1880 'Old Hill' block planted by Charles King on the hillside at Mount Pleasant. Many of these early 'rare' blocks are distinguished by their 12-16 foot wide rows, where original 6, 7 and 8 foot rows (designed for horse ploughs) had every second row removed to accommodate the early 20th century shift from horses to tractors. Intact 8 foot rows survive at Drayton's 'Bellevue' vineyard, with 6 feet between each vine, according to late 19th century pre-mechanisation practices that were documented by Audrey Wilkinson:

> *Soils should be prepared by ploughing at least three times; one of these should be to a depth of 18 inches* … (the) *vineyard should be laid out with the vines planted six feet apart in rows, and the rows eight feet apart*.[58]

[58] A. Wilkinson in McIntyre & Germov, *Hunter Wine*, p. 211.

Figure 35. 8 foot spaced rows with 6 foot spaced vines on the 'Old Flat' Semillon block in Drayton's 'Bellevue' Vineyard, planted in 1899 according to late 19th century pre-mechanisation practices, and demonstrating the 'whites on the flats' typology of the Hunter, as documented by Audrey Wilkinson. Source: Author

One Category 2 'rare' vineyard on the Register may date back to circa 1867: the 'Old Patch' shiraz block on the 'Old Hillside' vineyard to the west of McDonald's flat, previously associated with the Drayton and Stevens families, and recently purchased by Tyrrell's Wines presents the 'wide rows' and 'reds on the rises' typologies, also documented by Wilkinson:

> *Flat sandy soil produced white wines best and hilly red marl (limestone clay), chocolate and porous country the best red wines.* [59]

The 'rare' Category 2 also includes the post-World War One plantings of vineyards by the Stevens family at 'Glen Oak', by the Elliot family at 'Tallawanta', and the Trevena family on Hermitage Road; as well as similar era vineyards planted by Maurice O'Shea at Mount Pleasant, and at the Tulloch family soldier settlers' blocks at Fordwich.

[59] A. Wilkinson in McIntyre & Germov, *Hunter Wine*, p. 211.

Figure 36. The 'wide rows' of the 'Old Patch' shiraz block, possibly dating back to 1867 in the foreground of the 'Old Hillside' vineyard. The Category 2 'rare' vineyard is still dry farmed, and is said to enjoy the perfect 'reds on the rises' terroir, with east-facing terra rossa slopes, sheltered within the foothills of the Brokenback Range in the heart of the Parish of Pokolbin. Source: Author

Category 3. 'Heritage' vineyards

Planted by the **'**Stoics' and (early) 'Renaissance Generation' between 1931-1968 and now over 50 years old, and planted with cuttings mostly sourced from other vineyards in the region, (thereby establishing a pedigree of early imported vine stocks), these blocks and vineyards are testimony to the era when the surviving 'Stoic' generation of growers and vignerons around Pokolbin started replanting, and new players such as Max Lake at 'Lake's Folly' and Jim Roberts at 'Belbourie' entered the game. They include a number of blocks at Howard's 'Somerset' vineyard, Tinkler's 'Poppy' vineyard, the mysterious 'Mistress' block on De Beyers Road, the expansion of McWilliams' Mount Pleasant Winery operations to the 'Rosehill' and 'Lovedale' sites, Hungerford Hill plantings (now owned by Brokenback winery), and the establishment of the Lindeman's 'Steven' block on Gillard's Road, now owned by De Iuliis wines). Many of these 1960s blocks – and inevitably those referred to as 'contour' blocks – reflect the contour farming typology of the era, when government regulations enforced the planting of vines along contours, and the creation of curved contour rows and banks to control soil erosion. This coincided with an era when all plant life was eradicated between the vines, for fear of encouraging pests or disease (see Section 2.3.16-18).

Figure 37. 1960s government policy contour rows at the De Iuliis 'Steven' vineyard on Gillard's Road, Central Pokolbin.

Category 4. 'Old' vineyards

Vineyards from the modern corporate era post 1968, when syndicate investment schemes, commercial nurseries (with vine stocks of unknown or diverse origin), and modern water management came into play. HVW&TA are creating an evolving category to tie in with the Barossa Old Vine Charter,[60] and other 'old vine' register initiatives around the world, whereby once a vineyard reaches 35 years old, it is classified as 'old', so that vineyards keep getting added to the register as time passes. The mapping of these vineyards is a work in progress and will continue beyond the timeline of the Study. However, it generally reflects the post-Renaissance era expansion of vineyards northwards around the Broke Road, Hermitage Road and Deasey's Road in the Pokolbin GI, and around Fordwich Sill in the Broke Fordwich GI.

Category 5. 'Historic' vineyards

There are a number of continuing historic vineyards in the Study Area that do not contain Category 2 'rare', or Category 3 'heritage' vines as defined by the Register, but which are important continuing historic vineyard sites that reflect enduring and successful terroir, albeit now planted with younger vines. These include the vineyard at Dalwood (formerly Wyndham Estate), the oldest continuing vineyard in Australia, located outside of the Study Area, on the Hunter River near Branxton.

[60] The Barossa Old Vine Charter was downloaded at https://www.barossawine.com/vineyards/old-vine-charter/ on 20.04.2019

Similarly, the vineyards at Ben Ean have been in continuous production since John McDonald established a vineyard there in 1886, while the Audrey Wilkinson vineyard (formerly 'Oakdale'), and other Wilkinson family vineyards at Cote D'Or, Mangerton, Coolata and Maluna only ceased production for a short period in the 1960s, after Audrey Wilkinson died. Many of these vineyards retain their historic layouts, and some will soon qualify as 'old' vineyards on the HVW&TA Register, as they contain blocks dating back to the 1970s and 1980s.

The Elliot family's 'Oakvale' is an example of a historic vineyard that has stayed in production, keeping its original name, but with new owners, a new winery and new vines (all located on the site where the original winery and cellars were destroyed by the 1968 bushfires). Oakvale does, however, retain a rare LEP-listed wooden slab homestead, surrounded by old farm and winery equipment, which currently works as an outdoor museum.

Figure 38. Audrey Wilkinson's historic 'Oakdale' vineyard at Audrey Wilkinson Wines, originally established in 1886, went out of production for a short period following Wilkinson's death in 1962. Wilkinson is now firmly planted in the landscape.

3.4.4 Landscape mosaics of evolving rural land uses at the vineyard scale and the landscape scale

The HVVR heritage vineyards occur as distinct blocks of old vines on their original roots, situated within larger historic vineyards. The larger vineyards usually have a name and are often, but not always, associated with a historic winery or rural property (such as Drayton's 'Bellevue' or Stevens 'Glen Oak'). They are made up of individual blocks of vines of different ages and varieties, also individually named or numbered, and separated by 'headlands' – the aisle-like spaces between individual blocks.

This creates distinct mosaic patterns within each vineyard, and within the broader landscape, particularly evident on the heritage vineyard hillsides of the Parish of Pokolbin, and even more evident from an aerial perspective such as Google Earth.

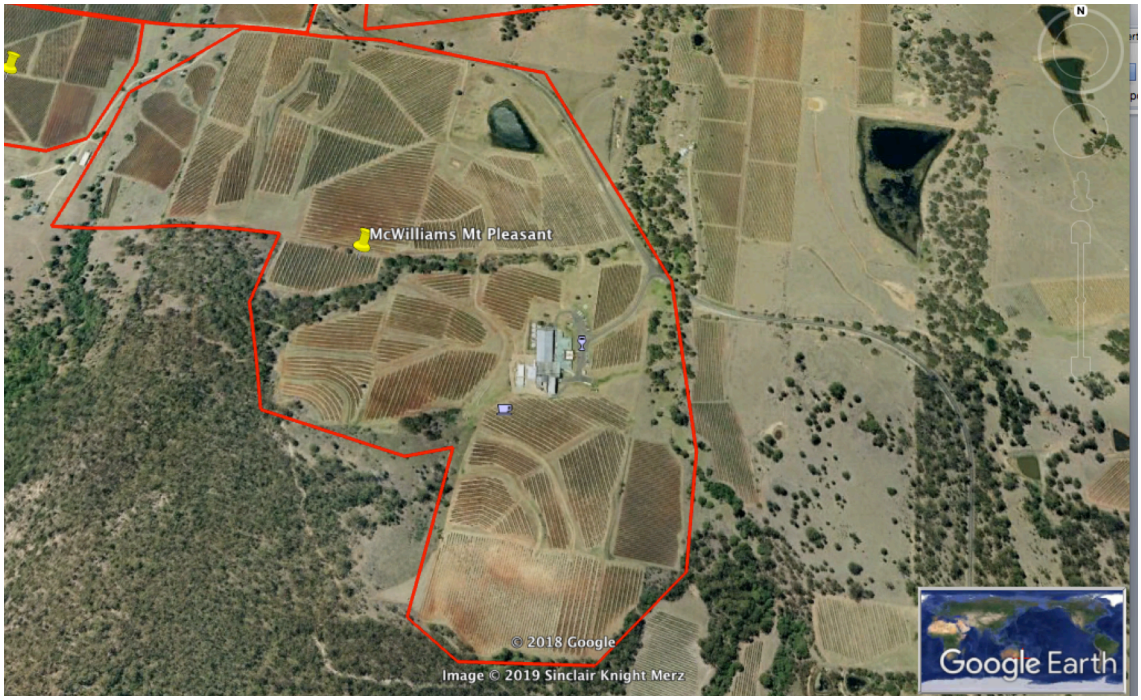

Figure 39. Historic landscape mosaics at the vineyard scale: 'Old Hillside' (above) and 'Mount Pleasant' vineyard viewed from Google Earth (below). A range of vineyard typologies planted between 1880 and the present can be found in the Old Hillside and Mount Pleasant vineyards, including pre-mechanisation 'wide rows' and the 1960s contour blocks. Sources: Author (above) and HVVR (below).

Similarly, vineyards located across the undulating terrain of the Study Area are situated within a larger landscape mosaic of vineyards, cattle grazing pasture and areas of remnant natural forest along the creeks and flats of the flood plains, and among the foothills and upper reaches of the Brokenback Range. More recent rural land uses, such as olive groves, lavender farms, orchards and horse agistment add to the mosaic mix.

Figure 40. Landscape mosaics at the landscape scale. Sources: Author and Wine Australia (remaining photos).

3.4.5 Historic wineries, moveable heritage collections and 'heritage cairns'

Associated with the heritage vineyards and historic vineyard sites are occasional clusters or relics of historical winery buildings and vernacular domestic buildings, although some of these have been absorbed into new winery buildings or cellar doors, while others have become victims of bushfires or the bulldozer.

All of the surviving historic wineries in the Study Area are on the LEP heritage register. A number of the older archaeological sites, namely 'Wilderness', 'Daisy Hill' and 'Caerphilly' that were registered through the (former) REP register are no longer discernible in the landscape and may need further investigation regarding reinstatement on the LEP register, while the Wilkinsons' 'Cote d'Or' homestead, recently collapsed, may warrant specialist archaeological investigation.

Surviving buildings and vineyards on the LEP list that contribute to the cultural landscape around Pokolbin include Tyrrell's 'Ashmans' winery and associated assemblage of domestic and winery buildings (including Edward Tyrrell's original slab dwelling and the winery's original dirt floors); the HVD archaeological site of concrete vats, stone retaining walls and an old brick chimney on Hermitage Road (currently in the process of being reinstated on the LEP list); the 'Glen Elgin' winery and former Tulloch family homestead and workers' accommodation at Pooles Rock Wines on De Beyers Road; the 'Oakdale' archaeological site of old wine vats and winery ruins, now incorporated into the Audrey Wilkinson cellar door museum further along De Beyers Road; the 'Ben Ean' cellars, winery and distinctive (newly restored) distillery and tower on McDonald's Road; and the early galvanised iron and timber cellars and winery that have been conserved within the new larger cellar door at Drayton's winery on Oakey Creek Road.

Figure 41. Edward Tyrrell's original 1858 ironbark slab hut (front right of photo) is part of an assemblage of historic buildings at Tyrrell's Ashman's winery that have evolved over time to accommodate successive generations of family and wine production. Source: Author

LEP AND REP-LISTED ITEMS CESSNOCK COUNCIL			
Item name	**Suburb**	**LGA**	**Item #**
Ashman's Winery & Vineyard	Pokolbin	Cessnock	1166
Bellevue Vineyard and Winery	Pokolbin	Cessnock	1174
Caerphilly Winery & Vineyard	Pokolbin	Cessnock	*1340771*
Cessnock Potteries	Nulkaba	Cessnock	*3329*
Cote D'or Vineyard & Winery	Pokolbin	Cessnock	1169
Daisy Hill Winery & Vineyard (Site of Former)	Rothbury	Cessnock	*1340080*
Dunoon	Annandale	Cessnock	120
Gillies Bridge Over Black Creek, Rothbury	Rothbury	Cessnock	1213
Glen Elgin Winery, Vineyard & Homestead	Pokolbin	Cessnock	1167
Glenmore	Lovedale	Cessnock	*1340501*
Glenmore Cemetery (formerly Peacock Hill Burial Ground)	Lovedale	Cessnock	1222
Great North Road, (The) Cessnock LGA Section		*Cessnock*	*1340170*
Happy Valley Winery and Vineyard (Site of Former)	Pokolbin	Cessnock	1173
Halls (Ironbark) Cottage at Peppertree Vineyard	Pokolbin	Cessnock	1170
Hunter Valley Distillery	Pokolbin	Cessnock	*1340040*
Lindeman's Ben Ean Winery and Distillery	Pokolbin	Cessnock	1171
Marthaville	Cessnock	Cessnock	183
Oakdale Winery and Vineyard	Pokolbin	Cessnock	1168
Oakvale Winery and Vineyard	Pokolbin	Cessnock	1165
O'Neill's Winebar (Former)	Cessnock	Cessnock	180
Old North Road Remnant	Rothbury	Cessnock	1177
Pokolbin Community Centre & Memorial Gates	Pokolbin	Cessnock	1172
Potters Brewery	Nulkaba	Cessnock	1155
Weronga	Rothbury	Cessnock	1179
Wilderness Cemetery	Rothbury	Cessnock	1178
Wilderness Winery (Former)	*Rothbury*	*Cessnock*	*1340071*

Figure 42. LEP listed items and archaeological sites and (former) REP listed items (in italics) related to pastoral, agricultural and viticultural history in the City of Cessnock Study Area.

LEP LISTED ITEMS SINGLETON COUNCIL			
Item name	**Suburb**	**LGA**	**Item #**
Albert Hall	Broke	Singleton	013
Blaxland House	Broke	Singleton	081
Bulga Bridge	Bulga	Singleton	018
Charlton	Fordwich	Singleton	115
General Cemetery	Broke	Singleton	014
Maria Immaculate Roman Catholic Church	Broke	Singleton	016
Milbrodale Homestead	Milbrodale	Singleton	A4
Mount Leonard	Bulga	Singleton	019
Mount Leonard Public School	Bulga	Singleton	110
St Andrews Anglican Church	Broke	Singleton	017
Wambo Homestead	Warkworth	Singleton	1144/SHR 5045018

Figure 43. List of LEP and SHR items related to pastoral, agricultural and viticultural history in the Singleton Council Study Area.

Figure 44. Clockwise from top left: 'Oakdale' archaeological site at Audrey Wilkinson Winery; Interior of Edward Tyrrell's 1858 hut at Tyrrell's 'Ashmans' winery; Ben Ean historic signage; Log press at Drayton's 'Bellevue' vineyard; Ben Ean Distillery; Ben Ean winery original rafters; Concrete vats at the 'Cote D'Or' archaeological site; 'Glen Elgin' homestead at Pooles Rock (formerly Tulloch's winery). Sources: Author

Some of these historic wineries incorporate interpretive displays and moveable museum collections in their cellar door operations. For example, an extensive collection of wine industry paraphernalia and (now dated) interpretive displays can be found at the Wynwood Estate cellar door on Oakey Creek Road, the site of the LEP-listed 'Happy Valley' vineyard planted by Charles Drayton in 1870. Heritage vines dating back to the 1940s and 1960s also survive here, despite recent neglect, numerous owners and property name changes over the years. There is also an old wooden hut located behind the cellar door and museum that warrants further investigation.

Fifth generation family member Greg Drayton is currently amassing a significant collection of Drayton family domestic and farm objects, from mix masters, sewing machines, washing machines and a hand-operated gramophone to farm tools, cask taps, wine barrels, chaff-cutters, grindstones, horse-drawn ploughs, bridlery and bullock wagons. These are all currently housed in a purpose-built shed, complete with vernacular timber entranceway made from timber sourced from the original 'Bellevue' homestead. The design of the display and its interpretation are yet to be devised.

Figure 45. Horse drawn ploughs and freshly-restored wagon wheels form part of the substantial Drayton family museum collection

The LEP-listed Hall's Cottage sits within its own cultural landscape on Halls Road, complete with kitchen gardens, vineyard and transplanted Brigidine convent building. The cottage forms the reception area for the circa 1876 restaurant and is furnished with colonial pieces. There are smaller collections and interpretive displays at the Audrey Wilkinson cellar door museum and newly restored Ben Ean Distillery, and these are among a list of heritage items that have been awarded a 'Heritage Cairn' in acknowledgment of 'landmarks and items of historical importance that have influenced the course of or made a significant contribution to the Hunter Valley Wine Industry'.

HUNTER VALLEY HERITAGE AWARDS HERITAGE CAIRNS		
Year	**Item**	**Site**
2009	Edward Tyrrell's Slab Hut	Tyrrell's Wines
2010	Drayton's Original Winery	Drayton's Family Wines
	Old Vats	Audrey Wilkinson Wines
2011	Ben Ean Distillery	Ben Ean Winery
	Maurice O'Shea's Mount Pleasant Label	Mount Pleasant Winery
2012	Pokolbin Dry Red Label	Tulloch Wines
2013	Hall's Cottage	Circa 1876, Halls Road
2014	Marthaville Homestead	Wollombi Road, Cessnock
	1973 Vintage Festival Poster	Tyrrell's Wines Cellar Door
2017	Rothbury Cemetery	Wilderness Road, Rothbury
2018	Drayton's Bellevue Wine Label	Drayton's Family Wines

Figure 46. HVW&TA Heritage Awards Heritage Cairns

3.4.6 Modern wineries, vineyards, cellar doors and dams

The era of the emergence of 'modern' wineries coincides with 1970s era of syndicate investment schemes, and the 'Second Wave Globalist' period fuelled by the 1980s stock market explosion. These reflect the rapid expansion of Pokolbin as a tourist area and the emergence of a new cultural landscape in parts of the broader Pokolbin subregion. Many of the early syndicates, like the original 'gentleman farmer' enterprises, were established by people in the professions (doctors, dentists, engineers, lawyers and business people) with an opportunity and desire to extend their interest in, and experience of wine. Large-scale national and international corporations then became involved in the second wave of global investment.

Significant increases in the number of wineries, tourism accommodation developments, restaurants and other attractions such as the Hunter Valley Gardens, the Vintage Golf Club, the Oaks Cypress Lakes Resort and the Roche Estate entertainment complex diversified a landscape previously dominated by vineyards, and this is most evident around Central Pokolbin. Flamboyant and self-conscious architectural styles and cellar door operations such as the distinctive Hungerford Hill cellar door located at the gateway to Central Pokolbin on Broke Road, and the monumental Bimbadgen complex on McDonald's Road reflect the excesses of the 1980s in this precinct, where water treatment ponds and irrigation dams are also new features in the landscape.

Winery development since the introduction of the Cessnock City Council Vineyards District DCP in 1999 is considered to have adopted a more respectful approach to cultural landscape heritage and the associated topography of the landscape, and many of these wineries (such as the new Brokenback and Thomas Wines cellar doors) are also incorporating interpretation of viticultural heritage and concepts of terroir into their cellar door operations and displays. Successful screen and clump plantings surrounding new developments, and the sensitive incorporation of water infrastructure are also testimony to the positive influence of the Vineyards District DCP on cultural landscape conservation.

The broader cultural landscape remains strongly influenced by the terroir elements of soil and terrain, by the early road patterns and patterns of residual forest and tree-lined watercourses, and by the visual domination of the Brokenback Range. These natural and cultural elements of the landscape are being reinforced through the establishment of new tourism precincts.

Figure 47. Above: Flamboyant and self-conscious architectural styles reflect the rapid expansion and social significance of Pokolbin as a tourist area from the 1970s onwards, and the emergence of a new cultural landscape around Hermitage Road and Central Pokolbin. Below: Recent new wineries are taking a more respectful approach to the existing cultural landscape: At Brokenback the original 1970s cellar door forms the gateway to the 2019 incarnation.

Figure 48. Urban subdivisions are occurring on the boundaries of the Pokolbin GI subregion, while water treatment ponds and irrigation dams create new features in the landscape. The contemporary cultural landscape however remains strongly influenced by the terroir elements of soil, terrain and rural land uses, by the early road patterns and patches of residual forest along tree-lined watercourses, and by the visual domination of the landmark Brokenback Range. Source: Wine Australia

3.4.7 Tourism precincts, scenic values and the Visually Significant Area (VSA)

The City of Cessnock's 2000 Cultural Landscape Review recommended the identification of distinct precincts within the larger cultural landscape as a basis for the introduction of directional signage to differentiate between different historic localities and destination experiences. Twenty signs have since been erected to define 'Around Hermitage', 'Central Pokolbin', 'Parish of Pokolbin', Mount View', 'Lovedale' and the 'Wollombi Valley' as distinct precincts within the Cessnock LGA.[61] Each sign tells a story about the precinct, bears a precinct logo and colour with pictograms. The project will also see the installation of information bays, gateway signs and other wayfinding directional signage. The 2018 tourism map of the Hunter Valley wine region reinforces the defined precincts with colour co-ordinated touring routes that also include Broke Fordwich as a distinct destination.[62] Some of these routes are protected by the Visually Significant Area DCP provisions of the Cessnock City Council Vineyards District DCP. However, many routes, including the route outside the Cessnock LGA which connects Pokolbin to Broke Fordwich, are not yet protected by the VSA DCP provisions.

The 'Parish of Pokolbin' (POP) follows the historic Parish boundary, contains the largest concentration of

[61] Ecotecture, *Cessnock Cultural Landscapes Review,* prepared for Cessnock City Council, September 2000.
[62] HunterValleyOnline.com.au 2018 Hunter Valley free map and guide.

HVHR Category 2 ‘rare’ and Category 3 ‘heritage’ vineyards and is identified in signage and related texts as ‘the heritage heart of the Hunter’. The POP contains the Visually Significant Area along McDonalds Road, Oakey Creek Road, and Marrowbone Road, which aims to protect views of the vineyards, Mount Bright and the Brokenback Range.

‘Mount View’ is adjacent to the Parish of Pokolbin, and is historically associated with the Category 1 ‘Orizaba’ vineyard, established by the Wilkinson family, which is no longer in production; the Category 4 ‘Mount View Estate’, planted in the early 1970s by Harry Tulloch; and Peterson’s winery, established by Ian and Shirley Peterson, also during the 1970s renaissance era. Mount View Road weaves its way past cattle pastures, vernacular cottages and terraced vineyards on terra rossa terroir, up to the Bimbadeen and Mount Bright lookouts, and it is suggested that the route is included in a future extension of the VSA. (Refer Section 5 recommendations.)

‘Central Pokolbin’ contains Tyrrell’s Ashman’s Category 2, 3 and 4 ‘rare’, ‘heritage’ and ‘old’, vineyards, and the Category 3 ‘heritage’ plantings at Lake’s Folly, Rosehill, Tallawanta and Steven vineyards. It also includes the quieter unspoilt back roads of Palmers Lane and Gillards Road, and associated Category 4 and 5 vineyards, which are recommended to be included in an extension of the VSA (see Section 5).

‘Around Hermitage’ contains the HVD and Trevena Category 2 and 3 vineyards, as well as the Category 4 syndicate-planted vineyards of the 1970s along Hermitage, Mistletoe and Deasys roads. The Old North Road convict route forms the northern border of the precinct, and there are spectacular views of the Brokenback Range across pasture and vineyard landscapes, from all routes through the precinct.

‘Lovedale’ is located mostly outside of the Study Area Pokolbin GI, but is included within the State Environmental Planning Policy Critical Industry Cluster (SEPP CIC) boundary and Singleton Vineyards District RU4 zone. It is recommended for inclusion in the proposed Pokolbin Heritage Conservation Area due to its historic associations with the old routes connecting Singleton to Allandale, and Allandale and Lochinvar to Pokolbin via Wilderness Road and Lovedale (formerly Lochinvar) roads, and the associated migration of viticulture and wine production from the Hunter River to the foothills of Pokolbin via those routes. (See Section 4.5’s discussion of curtilage.) The Wilderness and Glenmore burial grounds document these associations, and there are a number of Category 1 ‘relict’ and Category 4 and 5 revived and historic vineyards in the precinct, including the former ‘Wilderness’ and ‘Glenmore’ estates, as well as the continuing HVHR Category 3 ‘Murphy’s’ vineyard on Wilderness Road.

Due to its location in the Singleton LGA, the Broke Fordwich subregion is not included in the precinct signage project. However, there is no question that several routes through the subregion would benefit from an extension of the VSA and defined Vineyards District into the Singleton LGA to highlight the aesthetic and historic values of the subregion, in particular the old stock routes, the views of the Yellow Rock escarpment,

and the vernacular fabric of the soldier settlement sites. (Wollombi Valley is located outside the Study Area and the town of Wollombi is already listed on the SHR Register as a Heritage Conservation Area.)

Figure 49. New directional signage differentiates between historic localities and destinations.

3.5 Description and documentation of the Hunter Valley Vineyard Register sites

3.5.1 HVW&TA Hunter Valley Vineyards Register

Mapping and dating of Hunter Valley Vineyard Register (HVVR) heritage vineyard sites and compilation of associated referenced data sets has been provided to the HVW&TA as a separate submission by viticulturalist Liz Riley (Vitihealth) and Vinehealth Australia.[63]

The HVVR mapping project has produced six maps – two each for Pokolbin, Broke Fordwich and the Upper Hunter, with maps by age categories and by variety categories covering the Category 2 and 3 'rare' and 'heritage' classifications. The maps exist in a soft format (jpg) and are provisioned for A1 printing. They are complemented by a suite of kml, kmz, and shp files which can be imported into Google Earth or other GIS platforms for viewing.

The files also include the 'by planting date' (age category) and 'by variety' category with block numbers overlayed. The files also include a pop-up reference with block information imported from the vineyard register; that is, reference number, site name, variety, rootstock, clone, historical information.
Data collection and mapping of Category 4 'old' vineyards has commenced, and work undertaken to date is included in the Vitibit/Vinehealth submission.

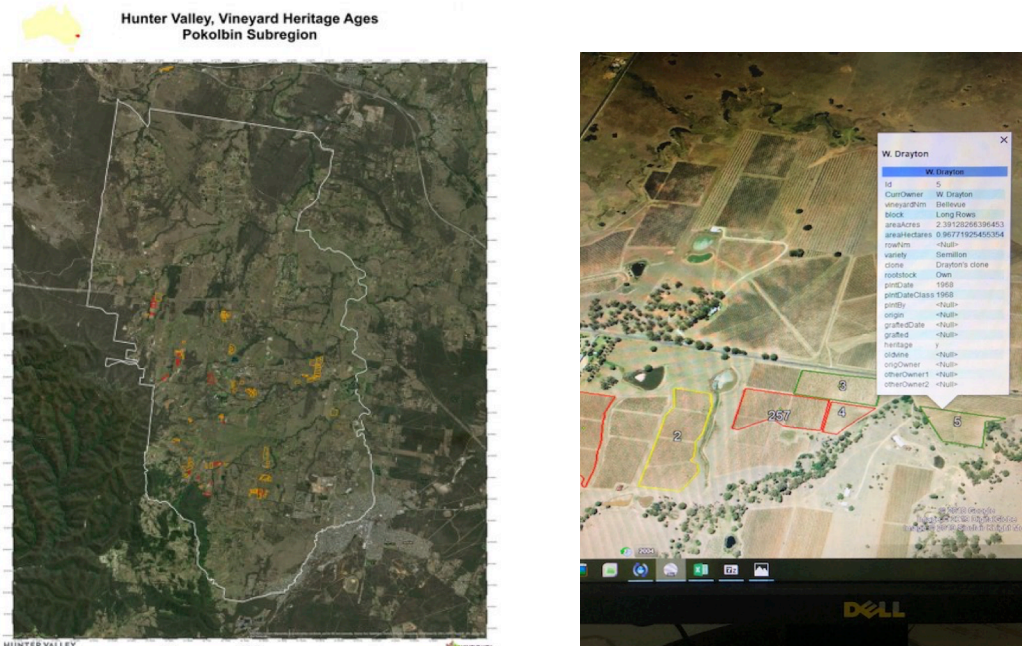

Figure 50. Examples of the Pokolbin HVHR age category map and Google Earth pop up file. Source: Vinehealth Australia

[63] Riley, E. *Hunter Valley Heritage Vineyards Strategic Study: Vineyard Register and Heritage Mapping*

3.5.2 Resilience, terroir and landscape mapping

Mapping of the landscape relationships between the natural and cultural landscape elements and values of the Study Area, and of three representative landscape typologies and terroir systems has been undertaken by Dr Elisa Palazzo, Urban Landscape Architect and Senior Lecturer, Landscape Architecture, University of New South Wales, and provided to the HVW&TA as a separate submission. Dr Palazzo has produced four maps to support the Study's historical and physical investigations of the landscape:[64]

Map 1 overlays the relationships between the landscape elements relating to (i) natural (topography, hydrography, conservation and biophysical areas); (ii) cultural (road and rail routes, place names, heritage sites and visually significant areas); and (3) economic (vineyards, GIs, strategic viticultural, primary production and mining) values.

Maps 2 to 4 present three representative landscape typologies and terroir systems in the Pokolbin and Broke Fordwich subregions. These are (i) rolling hills, (ii) flood plains and (iii) foothill slopes. Each of these maps overlays aerial digital photography and the Hunter Valley cadastre with (i) soil systems, contour lines and hydrography; (ii) HVHR vineyard sites, NSW heritage register sites and data sets; and (iii) GIs and LGA boundaries.

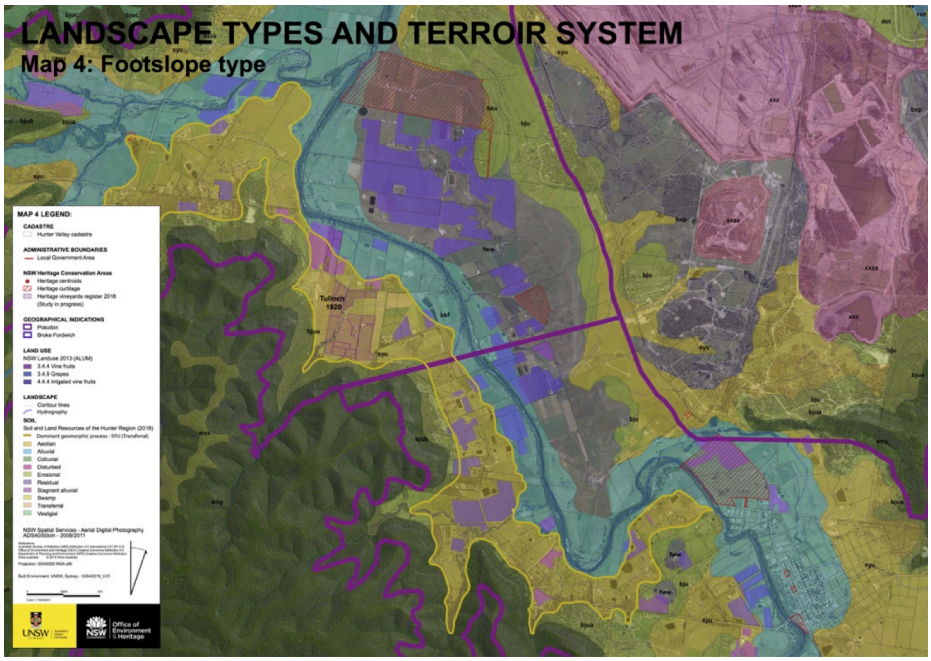

Figure 51. Example of a landscape typology and terroir system map. Source: Palazzo, UNSW

[64] Palazzo, 'Hunter Valley Heritage Vineyards Strategic Study: Resilience, terroir and landscape mapping'

3.5.3 Description and photographs of heritage vineyard sites and identification of associated items of cultural significance with commentary on condition and integrity

A list of 27 heritage vineyard sites and 107 heritage blocks classified as either Category 2 'rare' or Category 3 'heritage' was compiled from HVW&TA Hunter Valley Vineyards Register, and all of those sites were visited during four five day field trips in November 2018, December 2018, January 2019 and March 2019.
(An additional three heritage vineyards were added to the Register after completion of the site visits.)

The field visits employed data sheets and a set of interview questions to collect data and document the (i) vineyard name; (ii) vineyard owner and/or custodian; (iii) block name; (iv) HVHR category (v) HVHR ID#; (vi) LGA; (Vii) GI sub-region; (vii) locality; and (ix) date of site visit. The prepared set of interview questions and associated site inspections collated further information on the (x) natural and (xi) cultural elements of each vineyard site, the (xii) condition and (xiii) integrity of the vineyard sites, the (xiv) related historic themes in the context of the Study's thematic framework, and the (xv) significance of each site according to the NSW heritage criteria.

It is important to note that the 'significance' data set was not intended to individually assess the level of significance of each vineyard, as this was outside of the scope of the Study. The data item is simply an indication as to how the vineyard contributes to the identified state significant values of the larger landscape, by identifying the relevant SHR criteria. The results of the investigation are compiled as an Excel spread sheet at Appendix C, and can be read independently of, or in tandem with the Hunter Valley Vineyards Register (HVVR) Excel data base, GIS files and polygons mapping the exact HVVR vineyard and block locations (with associated pop up data sets on each block).

HUNTER VALLEY HERITAGE VINEYARDS STRATEGIC STUDY: SITE VISITS SUMMARY TABLE

Note 1: Refer also to the Hunter Valley Vineyards Register (HVVR) GIS files with polygons showing the exact vineyard locations and associated data sets on the individual heritage blocks.
Note 2: HVVR planting dates are based on oral history and anecdotal evidence, verified through debate between older members of the HVW&TA (referred to as 'legends'), winery records and other writt
Note 3: Refer also to Appendix H: HUNTER VALLEY HERITAGE VINEYARDS STRATEGIC STUDY: SITE SURVEY PHOTOS SUMMARY TABLE
Note 4: Refer also to UNSW Maps 2 to 4 and associated report by Palazzo (2019) for sample landscape typologies

VINEYARD ID #	VINEYARD NAME	VINEYARD OWNER,	VINEYARD CATEGO	HVVR BLOCK ID#	LGA	GI	LOCALITY	DATE(s) OF	LANDSCAP	NATURAL I	CULTURAL
			2='Rare' (planted to 1930); 3='Heritage' (planted 1931-1968); 4='Old'				POP=Parish of Pokolbin; CP = Central Pokolbin; AH = Around Hermit				
			Note 4: The documentation of Category 3 'Old' vineyards (planted 1969-1983) is a work in progress.								
1	Bellevue	Drayton's Family Wines	2,3,4,5	1;2;3;4;5 & 257	Cessnock	Pokolbin	POP; Oakey (	16.11.18; 12.	Flood plain, f	The 24 acre (	The remains
2	Ben Ean	Peterson/McGuigan fa	4,5	Continuing historic	Cessnock	Pokolbin	POP; McDon	08.01.19	Rolling hills	Located on t	The Ben Ean
3	Somerset	Glen & Rose Howard	3,4,5	21 to 27	Cessnock	Pokolbin	POP; Oakey (	11.12.19; 12.	Rolling hills s	The 50 acre (	The current 2
4	Glen Oak	Neil and Bernadette St	2,3,4,5	119;151 to 161	Cessnock	Pokolbin	POP; Marrow	11.12.19; 12.	Rolling hills (	Glen Oak' vir	Remains of t
5	Golden Grape	Wynwood Estate	3,4,5	194;195;196	Cessnock	Pokolbin	POP; Oakey (	13.12.18	Rolling hills (	The Wynwoc	An unusal m
6	Mount Pleasant	McWilliams family	2,3,4,5	32;33;34;35	Cessnock	Pokolbin	POP; Marrow	11.12.18; 10.	Rolling hills	The 80 acre (	The original
7	Old Hillside	Tyrrell's Wines	2,3,4,5	56;57;58;59	Cessnock	Pokolbin	POP; Marrow	19.11.18; 11.	Rolling hills	The 15 acre (	According to
8	Ivanhoe	S. Drayton	4	Revived historic site	Cessnock	Pokolbin	POP; Marrow	10.01.19; 14.	Rolling hills	The 80 acre (	According to
9	Poppy's	U (Bill) and Ian Tinkler	3,4	93;94	Cessnock	Pokolbin	POP; Pokolbi	13.12.18; 14.	Rolling hills	Poppy's vine	The two heri
10	Poole's Rock Post Of	Agnew Wines	2,3,4,5	49;50;200;261;262	Cessnock	Pokolbin	POP; Debeye	13.12.18	Rolling hills (	The 'Post Off	The 43 acre (
11	Audrey Wilkinson (fc	Agnew Wines	4,5	Revived historic site	Cessnock	Pokolbin	POP; Debeye	13.12.18; 14.	Rolling hills (	The extensiv	The vineyard
12	Mistress Block	Rod and Deeta McGeo	3,4,5	43	Cessnock	Pokolbin	POP; Debeye	12.12.18	Rolling hills	The 3.2 acre	The vine row
13	Tallawanta	Roche Estate/Brokenw	3,4,5	60,61	Cessnock	Pokolbin	CP; Thompso	12.12.18;11.(	Rolling hills, f	The 17.62 ac	The contours
14	4 Acres & 8 Acres	Tyrrells Wines	2,3,4,3	124 to 127	Cessnock	Pokolbin	CP; Broke Ro	19.11.18; 14.	Footslope	The 4 & 8 acr	The rows of t
15	Johnno's	Tyrrells Wines	2,3,4,5	143 to 147	Cessnock	Pokolbin	CP; Broke Ro	19.11.18; 14.	Floodplain	Johnno's 6.3	The blocks h
16	Baulkham, Short Flat	Tyrrells Wines	2,3,4,5	67 to 70; 75 to 81	Cessnock	Pokolbin	CP; Broke Ro	19.11.18; 14.	Footslope, fl	The Short Fla	The older 'Ra
17	HVD	Tyrrells Wines	2,3,4,5	128;131;134;136;13	Cessnock	Pokolbin	AH; Hermita	19.11.18; 14.	Floodplain	The Hunter V	Located adja
18	Trevena's	Trudi Trevena	2,3,4,5	65,66	Singleton	Pokolbin	AH; Hermita	10.01.19	Floodplain	Trevena's 'Ea	The 'Rare' se

Figure 52. Screenshot of the HVHVSS Site Visits Summary Table available at Appendix C

217 photographs of the 27 sites are documented on a separate Excel spread sheet under vineyard ID and vineyard name, with associated photo ID numbers, descriptions, geo-coordinates and dates, with a 'key photograph' identified for each vineyard. An Excel spread sheet, gallery of the key photographs and JPEG files of all 217 documented photographs are available at Appendix H.

HUNTER VALLEY HERITAGE VINEYARDS STRATEGIC STUDY: SITE SURVEY PHOTOGRAPHS SUMMARY TABLE

Note 1: Refer also to the HVHVSS Site Visits Summary Table and the Hunter Valley Vineyards Register (HVVR) GIS files with polygons showing the exact heritage vineyard locations and associated data se
Note 2: Refer to UNSW Maps 2 to 4 and associated report by Palazzo (2019) for sample landscape typologies

VINEYARD ID	VINEYARD NAME	PHOTO ID#	PHOTO DESCRIPTION	GEO CO-ORDINATES	DATE	NOTES
Note the key vineyard photograph is in bold						
1	**Drayton's Bellevue**	**8765**	**View to south from Oakey Creek Road across 'Old Flats' Category 2 'Rare' blocks to Mount Pleasant**	**32 48 31S 151 17 20E**	**12.12.18**	**Established by Joseph Drayton on an o**
1	Drayton's Bellevue	8736	Looking south across Category 3 'Bull Paddocks' to Mount Pleasant vineyard and Mount Bright	32 48 31S 151 17 03E	12.12.18	
1	Drayton's Bellevue	8743	Looking east from winery across dam to 'Old Flats' blocks and creek line boundary	32 38 33S 151 16 57E	12.12.18	
1	Drayton's Bellevue	7447	Looking west across 'Old Flat' shiraz block to winery on the rise and Brokenback Range in distance	32 48 36S 151 17 23E	06.11.18	Struggling vines in foreground due to cc
1	Drayton's Bellevue	7459	Looking east across the '3 Corner Block' to creek, showing vine death due to competition with creek t	32 48 36S 151 17 23E	06.11.18	
1	Drayton's Bellevue	7462	Draytons 'Bellevue' Vineyard sign on Oakey Creek Road	32 48 31S 151 17 20E	06.11.18	
1	Drayton's Bellevue	7461	8 foot rows in the 'Old Flat' shiraz block, looking north to Oakey Creek Road, with John Drayton in fore	32 48 37S 151 17 21E	06.11.18	8 foot rows and 6 foot between vines d
1	Drayton's Bellevue	7445	Layered vine in the Old Flat semillon block	32 48 34S 151 17 24E	06.11.18	Layering replaces old vines while maint
1	Drayton'sBellevue	7444	8 foot rows in the Old Flat semillon block looking north to Oakey Creek Road	32 48 34S 151 17 24E	06.11.18	The block was the source of the Drayto
1	Drayton's Bellevue	7424	The original Drayton's winery, built by Joseph Drayton and later extended by William Drayton	32 48 32S 151 17 00E	06.11.18	The winery was operational between 1
1	Drayton's Bellevue	7421	Hunter Valley Heritage Award Heritage Cairn commemorating the original Drayton's winery	32 48 32S 151 17 00E	06.11.18	
1	Drayton's Bellevue	7418	Hunter Valley Heritage Award Heritage Cairn commemorating the original Drayton's label (close up)	32 48 32S 151 17 00E	06.11.18	
1	Drayton's Bellevue	7422	Hunter Valley Heritage Award Heritage Cairn commemorating the original Drayton's label	32 48 32S 151 17 00E	06.11.18	
1	Drayton's Bellevue	7441	Site of original Drayton family homestead east of winery marked by a palm tree and well	32 48 32S 151 16 59E	06.11.18	The homestead burnt down in 1985
1	Drayton's Bellevue	7413	The old log press which was originally located at the back of the original winery	32 48 30S 151 17 00E	06.11.18	The log press was last used in 1965 whe
1	Drayton's Bellevue	8529	Domestic items in the Drayton Family Museum collection	32 48 33S 151 17 01E	12.12.18	In May 2019 the museum is still a work
1	Drayton's Bellevue	8665	Barrell tap from the Drayton Family Museum collection	32 48 33S 151 17 01E	12.12.18	
1	Drayton's Bellevue	8682	Horse ploughs from the Drayton Family Museum collection	32 48 33S 151 17 01E	12.12.18	
1	Drayton's Bellevue	8708	Wagon wheels from the Drayton Family Museum collection	32 48 33S 151 17 01E	12.12.18	
1	Drayton's Bellevue	8119	Drayton wine barrells with museum entrance in background	32 48 33S 151 17 01E	18.11.18	The entrance to the museum uses timb
2	**Ben Ean**	**9679**	**View to south from the council picnic ground along McDonalds Road over Ben Ean vineyard and wir**	**32 47 41S 151 16 58E**	**08.01.19**	**Born at Glenmore (on Pokolbin's origir**
2	Ben Ean	8906	The distillery tower has always been distinctive feature of the historic Ben Ean winery	32 47 41S 151 16 58E	13.12.18	
2	Ben Ean	7567	The new Ben Ean sign which uses the historic logo	32 47 48S 151 16 55E	16.11.18	Ben Ean is a Category 4 ('Old" and Cate
2	Ben Ean	9495	Historic photo of the gates of Lindemans Ben Ean winery Circa 1920	32 47 48S 151 16 50E	08.01.19	The photograph is on display in the Dist
2	Ben Ean	9523	The Ben Ean distillery is housed in the tower adjacent to the winery	32 47 48S 151 16 50E	08.01.19	The distillery was built by John McDona
2	Ben Ean	9520	Original iron gate sign in the distillery room museum collection	32 47 48S 151 16 50E	08.01.19	
2	Ben Ean	9521	Original iron gate sign in the distillery room museum collection	32 47 48S 151 16 50E	08.01.19	
2	Ben Ean	9543	The newly renovated winery retains its original roof form and rafters	32 47 49S 151 16 49E	08.01.19	
3	**Howard's Somerset**	**9902**	**View to south-west from Oakey's Creek Road to the east-facing Somerset and Glen Oak vineyards**	**32 48 45S 151 19 00E**	**08.01.19**	**Original 1863 land grant awarded to th**
3	Howard's Somerset	8052	View to east from Howard's Road to the west-facing Somerset vineyard	32 48 53S 151 18 15E	18.11.18	
3	Howard's Somerset	8809	Category 3 'Heritage' semillon block located on flat alluvial soils looking northwards towards the cree	32 48 53S 151 18 26E	12.12.18	Follows Hunter typlogies of whites on t
3	Howard's Somerset	8814	Category 3 'Heritage' shiraz block on the west-facing rise on terra rosa clay looking northwards	32 49 00S 151 18 29	12.12.18	Follows Hunter typlogies of whites on t
3	Howard's Somerset	8815	View west across the west-facing vineyard and creek to the Howard homestead and Brokenback Rang	32 49 10S 151 18 24E	12.12.18	The Howard family like their neighbour

Sheet1

Figure 53. Screenshot of the HVHVSS Summary Table available at Appendix H.

4. ASSESSMENT OF SIGNIFICANCE

4.1 Statement of Significance

The heritage vineyards and cultural landscape of the Pokolbin and Broke Fordwich subregions of the Hunter Valley wine region are exceptional in providing continuing and tangible testament to, and rare evidence of, all phases of NSW's viticultural and wine history from 1828. In that year James Webber, a wealthy landowner in the Paterson Plain district sent an order for grapevine cuttings to Governor Ralph Darling on behalf of the Agricultural Club at Hunter's River. Viticulture continues from that experimental phase of winemaking led by gentleman farmer settlers in the early and mid 19th century, to the era of global expansion of the industry towards the end of the century, through the challenges of Federation, the Great Depression and two world wars, to the Australian wine renaissance of the 1960s and 70s, and the second wave of global expansion of the industry from the 1980s to the present, during which time Australia established its cultural identity as a wine producing and consuming society.

The Hunter Valley's viticultural landscape is directly associated with important 19th century NSW vignerons and members of the influential Hunter River Vineyard Association who played a key role in distributing imported vine cuttings throughout the region, and in establishing viticulture and winemaking in NSW in the latter half of the century. Leading colonial authorities in New South Wales were also engaged in developing a wine industry and wine-drinking culture as a sign of civil as well as economic maturity, reflecting 18th and 19th century views on wine cultivation, trade and drinking among elites in Britain and Europe.

The heritage vineyards and cultural landscape of the Hunter Valley also have a strong and special association with some of NSW's best known intergenerational wine families, with the legendary early 20th century NSW vignerons Audrey Wilkinson and Maurice O'Shea, and with the industry bodies of the 20th century that continued to support research and experimentation, and to influence policy and trade. These include the original 1827 Agricultural Club, the Hunter River Vineyard Association (1847-1876), the Pokolbin and District Vinegrowers Association (1901-c1929) and, since 1972, the Hunter Valley Vineyard Association, now the Hunter Valley Wine and Tourism Association. Additionally, the contemporary cultural landscape is associated with NSW wine identities from the 1960s and 1970s such as Dr Max Lake, Len Evans and James Halliday, and with the syndicates, societies and co-operatives of Sydney-based investors in Hunter Valley viticulture and winemaking from that period.

The distinctive mosaic aesthetic of vineyards interspersed with pastoral landscapes and remnant native vegetation among the foothills and flats of the Brokenback Range are important as they demonstrate the cultural landscape's distinguishing factor: that the Hunter terrain is not conducive to large-scale viticulture. Vineyards survive on patches of successful terroir located within a broad and diverse landscape system of alluvial plains, hills, rises and ridges defined by the escarpment watershed, and produce modest volumes of

wine focused on quality rather than quantity. Similarly, within individual vineyards, a long and evolving history of agricultural practice has shaped the location and design of the varietal blocks and rows of vines within a framework of headlands, creating an exceptional viticultural tapestry not evident in other NSW wine regions, and which expresses the combined influences of the physical environment and human endeavour over two centuries.

The heritage vineyards and cultural landscape of Pokolbin and Broke Fordwich have strong and continuing cultural and social significance to a tightly-woven and exceptional community incorporating diverse ethnicities that have become entangled over generations through wine enterprise, worship and marriage. Those family and social ties are a source of ongoing resilience that is recognised and appreciated beyond the region through associated eponymous family wine labels. The Hunter's close proximity to Sydney, the quality of its wine, and the region's association with established intergenerational families such as Wyndhams, Lindemans, Draytons, Tullochs and Tyrrells, and with distinctive varietals such as Hunter Hermitage (now Hunter Shiraz), and Hunter Semillon, have created a long and special tradition of trade, investment, social connections, tourism and wine appreciation that is of continuing significance to discerning groups of Sydney- and NSW-based consumers and connoisseurs, and inextricably tied to Sydney and NSW's identity as a wine-drinking society. The Royal Agricultural Society of NSW, the Wine and Food Society of New South Wales and the NSW chapter of Wine Communicators of Australia are among the groups that continue to value and recognise the Hunter region's distinctive terroir through numerous awards and extensive review coverage.

The Hunter Valley's heritage vineyards contain an outstanding collection of NSW's oldest vineyards still growing on their original European rootstocks and containing rare and unique genetic material. The Hunter is one of few locations in the world that escaped the Phylloxera epidemic of the late 19th century that decimated European vineyards and vineyards in other parts of NSW, Victoria and Queensland. The genetic material contained in the heritage vines has the potential to contribute to scientific understanding of the historic and continuing importance of genetic diversity in viticulture, and to the emerging science of genomics, which is supporting sustainable viticulture through improved disease resistance, and enhanced quality characteristics in the context of a changing climate, evolving consumer tastes and diversifying markets. For example, the 'Drayton' semillon and Mount Pleasant 'Mothervine 6' pinot noir clones are highly valued and extensively grown across New South Wales and elsewhere.

Finally, the historic vineyard districts of Pokolbin and Broke Fordwich demonstrate the principal characteristics of an organically evolved continuing viticultural landscape that expands and contracts within a broader diverse landscape, expressing the interaction between the land use and natural systems. The warp and weft of the cultural landscape and its associated communities is exceptional in representing the accumulation of layers of change over all phases of NSW viticultural history, and presents a hitherto unrecognised heritage form of embedded NSW settlement, migration and culture.

4.2 Assessment of significance against the NSW State Heritage criteria

Criterion (a): *An item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area).*

The Hunter Valley wine region is the oldest continuing wine region in New South Wales and dates from the 1820s. The agricultural landscape bears witness to the second main wave of New South Wales' settlement history, when the focus shifted from penal settlements to agricultural development by free 'gentleman farmer' settlers, supported firstly by Aboriginal and convict labour, and later by European migrant labour following the end of convict transportation in the mid 19th century. During this time leading colonial authorities in New South Wales were engaged in developing the wine industry and wine-drinking culture as a sign of civil as well as economic maturity, reflecting 18th and 19th century views on wine cultivation, trade and drinking among elites in Britain and Europe. The origins of the vine stocks used in the Hunter are also tied directly to the economic, social and cultural development of colonial New South Wales through connection to; for example, the early Botanic Gardens of Sydney, and key colonial figures such as Governor Thomas Brisbane, the Macarthur family and the Whitlam family.[65]

The heritage vineyards and cultural landscape of the Pokolbin and Broke Fordwich subregions of the Hunter Valley are also important in providing continuing and tangible evidence of all subsequent phases of NSW's wine history, from the era of global expansion of the industry towards the end of the 19th century, when the Phylloxera virus wiped out the vineyards of Europe and other parts of NSW and Australia, through Federation, the Great Depression and two world wars, (when the acreage of vineyards in the Hunter shrank to around 500 acres, and most other NSW wine regions ceased production), to the Australian wine renaissance of the 1960s and 70s, and the second wave of global expansion of the industry from the 1980s through to the global financial crisis of the early 21st century.

Assessment:

The heritage vineyards and cultural landscape of Pokolbin and Broke Fordwich are assessed as satisfying the guidelines for inclusion under Criterion (a) as defined in the NSW Heritage Manual and fulfilling Criterion (a) at the state level.[66]

Inclusion guidelines satisfied:

- shows evidence of a significant human activity
- is associated with a significant activity or historical phase(s)
- maintains or shows the continuity of a historical process or activity

[65] J. McIntyre, 'Hunter Valley Heritage Vineyards Strategic Study: Sites of globally unique cultivation'. See Appendix A of this study.

[66] Please see the Comparative Analysis in Section 4.3 and Appendix E for a more detailed analysis.

Criterion (b): *An item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the cultural or natural history of the local area).*
The Hunter Valley's viticultural landscape is associated with influential early NSW pioneers Thomas Shepherd and James Busby (whose vine cuttings were distributed in the region and elsewhere in Australia), Busby's brother-in-law William Kelman (based at Kirkton, where Busby's parents are buried), James Webber, George Wyndham, James King, Henry Lindeman, and members of the influential Hunter River Vineyard Association, who played a key role during the experimental era of vine growing and wine production between 1847 and 1876.

The heritage vineyards and cultural landscape of Pokolbin and Broke Fordwich are also strongly associated with some of NSW's best known intergenerational wine families (Lindemans, Draytons, Tyrrells, Tullochs, Elliots and Wilkinsons), with the legendary early 20th century NSW vignerons Audrey Wilkinson and Maurice O'Shea, and with influential industry bodies of the 20th century, the Pokolbin and District Vine Growers Association, and Hunter Valley Vineyard Association, which influenced policy and trade at the state, national and global levels. The contemporary cultural landscape is also strongly associated with NSW wine identities from the renaissance era of winemaking: Max Lake, Karl Stockhausen, Len Evans, James Halliday, Brian and Fay McGuigan, Phil Ryan and Iain Riggs, as well as the syndicates, societies and co-operatives of Sydney-based investors in Hunter Valley viticulture and winemaking such as the Rothbury Estate and the 30,000 members of the Rothbury Estate Society.

Assessment:
The heritage vineyards and cultural landscape of Pokolbin and Broke Fordwich are assessed as satisfying the guidelines for inclusion under Criterion (b) as defined in the NSW Heritage Manual and fulfilling Criterion (b) at the state level.[67]

Inclusion guidelines satisfied:

- shows evidence of significant human occupation
- is associated with a significant event, person, or group of persons

Criterion (c)*: An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW.*
The distinctive mosaic pattern of vineyards interspersed with pastoral landscapes and remnant native vegetation on the foothills and flats of the landmark Brokenback Range has been described, painted, photographed and appreciated by locals, visitors and the broader NSW population since European settlement. The Brokenback Range is considered to be the single most important unifying landmark element in the cultural landscape, significant for its role in connecting the two sub-regions of Pokolbin and Broke Fordwich, and in

[67] Please see the Comparative Analysis in Section 4.3 and at Appendix E for a more detailed analysis.

underpinning the landscape system that supports the successful and enduring terroir elements of the continuing viticultural landscape, and associated aesthetic characteristics. Those landscape-scale aesthetic characteristics, along with the farm-scale mosaic patterns of varietal blocks and vine rows located within the individual heritage vineyards, are also important in reflecting the cultural landscape's distinguishing factor: that the Hunter terrain is not conducive to large-scale viticulture. Vineyards are planted on patches of successful terroir located within a broad and diverse landscape system of alluvial plains, hills, rises and ridges defined by the escarpment watershed, and producing modest volumes of wine focused on quality rather than quantity.

Within individual vineyards, terroir has shaped the location and design of the varietal blocks and rows of vines within a framework of headlands, creating a distinctive viticultural tapestry not evident in any other NSW wine region, and which expresses the combined influences of the physical environment and human endeavour over two centuries. Within the mosaic aesthetic of the heritage vineyards are diverse typologies and planting patterns reflecting rare pre-mechanisation layouts of vines and rows, adaption of those layouts to mechanisation through the removal of every second vine row, as well as the government-enforced contour typologies of the 1960s, and more recent vineyard layouts incorporating drought-proofing water infrastructure and dams, and modern organic approaches to pest and disease control.

Assessment:

The heritage vineyards and cultural landscape of Pokolbin and Broke Fordwich are assessed as satisfying the guidelines for inclusion under Criterion (c) as defined in the NSW Heritage Manual and fulfilling Criterion (c) at the state level.[68]

Inclusion guidelines satisfied:

- is aesthetically distinctive
- has landmark qualities

Criterion (d)*: an item has strong or special association with a particular community or cultural group in NSW for social, cultural or spiritual reasons.*

The heritage vineyards and cultural landscape of Pokolbin and Broke Fordwich have strong and continuing associations with the district's grape growers and producers of wine, who form a tightly-woven and widely recognised community of diverse ethnic origins entangled through wine enterprise, worship and marriage, with family and social ties a source of ongoing resilience for the region. At identifiable points in the Hunter's history, this community formed agricultural organisations that clearly demonstrate the connectivity between people determined to continue this form of production. These include the original 1827 Agricultural Club, the Hunter River Vineyard Association (1847-1876), the Pokolbin and District Vinegrowers Association (1901-

[68] Please see the Comparative Analysis in Section 4.3 and at Appendix E for a more detailed analysis.

c1929) and, since 1972, the Hunter Valley Vineyard Association, now the Hunter Valley Wine and Tourism Association.

Cultural and social entanglements are also evident in public and private cemeteries and burial grounds where Holmes and Glennies, Kelmans and Tyrrells, Tyrrells and Hungerfords, Hungerfords and Draytons and Hungerfords and Wilkinsons are laid to rest, and in continuing relationships based around the evolving ownership and management of the heritage vineyards and their highly-valued produce. Those social networks are recognised and appreciated beyond the region through the distribution of eponymous family wine labels such as 'McWilliams Mount Pleasant', 'Wyndham Estate', 'Lindeman's Ben Ean', 'Draytons Family Wines', 'Hungerford Hill', 'Tyrrells Wines', 'Lake's Folly' and 'Margan Wines'.

The heritage vineyards and cultural landscape of Pokolbin and Broke Fordwich also have strong and continuing associations with NSW connoisseurs and consumers of wine. The Hunter Valley's close proximity to Sydney, its quality of wine and association with flagship wines and distinctive varieties such as 'Hunter Semillon' and 'Hunter Hermitage' (now Hunter Shiraz), have created a long and special tradition of trade, investment, social connections, tourism and wine appreciation that is inextricably tied to Sydney and NSW's cultural identity as a wine-drinking society. In addition to the regional associations, wine trade bodies such as Wine Australia, NSW Wine, and the Royal Agricultural Society of NSW, along with groups such as the Wine and Food Society of New South Wales and the NSW chapter of Wine Communicators of Australia are among the communities of connoisseurs and consumers who continue to value and recognise the Hunter region's distinctive terroir through organised tastings, awards and review coverage. Tasting societies, individual winery-subscriber clubs, quarterly and monthly wine clubs and bottle-shop clubs extend the social and cultural significance of the Hunter Region to consumer groups in all parts of the state.

The Hunter Valley is also NSW's most visited wine region, attracting over 60 per cent of all cellar door visits within the state, and close to 1.5 million tourists each year. The distinct sense of place embodied in the historic toponym 'Hunter Wine Country' resonates across the state of NSW, while the heritage vineyards themselves continue to be recognised through sought-after single vineyard releases such as the Pooles Rock 'Post Office', Tyrrell's '4 Acres', Mount Pleasant's 'Old Paddock Old Hill' and Brokenback's 'Mistress Block' releases.

Assessment:

The heritage vineyards and cultural landscape of Pokolbin and Broke Fordwich are assessed as satisfying the guidelines for inclusion under Criterion (d) as defined in the NSW Heritage Manual and fulfilling Criterion (d) at the state level.[69]

[69] Please see the Comparative Analysis in Section 4.3 and at Appendix E for a more detailed analysis.

Inclusion guidelines satisfied:

- is important for its associations with an identifiable group
- is important to a community's sense of place

Criterion (e)*: An item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area).*

The unique genetic material contained in the heritage vineyards of the Hunter Valley has the potential to contribute to regional, national and global understanding of the historic role and continuing importance of genetic diversity in viticulture, and to the emerging science of genomics, the branch of molecular biology concerned with the structure, function, evolution and mapping of genomes. Specifically the value of the Hunter's heritage vine material is due to its unique, potentially large and diverse intravarietal population, and the associated genomics research in isolating genetic codes that will support sustainable viticulture through improved disease resistance and quality characteristics in the context of a changing climate, evolving consumer tastes and diversifying markets. For example, the Drayton semillon and Mount Pleasant Mothervine 6 (MV6) pinot noir clones are already highly valued and extensively cultivated, while a number of significant individual and collaborative European biodiversity projects have already captured, characterised and ultimately conserved their pool of *Vitis vinifera* and related germplasm to reverse the universal trends of selection to a smaller gene pool.[70]

Assessment:

The heritage vineyards and cultural landscape of Pokolbin and Broke Fordwich are assessed as satisfying the guidelines for inclusion under Criterion (e) as defined in the NSW Heritage Manual and fulfilling Criterion (e) at the state level.[71]

Inclusion guidelines satisfied:

- has the potential to yield new or further substantial scientific and/or archaeological information

Criterion (f)*: An item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area).*

The Hunter Valley's heritage vineyards contain a significant collection of NSW's oldest vines still growing on their original European rootstocks and containing rare genetic material. The Hunter is one of few locations in the world that escaped the Phylloxera epidemic of the late 19th century which destroyed around 80 per cent of European vineyards, and a similar proportion of vineyards in Victoria, NSW and Queensland. The subsequent grafting of European vines onto Phylloxera-resistant American rootstocks is the context for the rarity of vineyards at Mount Pleasant, Pooles Rock (formerly Glen Elgin) and Tyrrells wineries that predate Phylloxera's first official detection in NSW in 1885, and other heritage vineyards on the Hunter Valley Vineyard Register

[70] See Libby Tassie, 'Hunter Valley Heritage Vineyards Strategic Study: The potential scientific and research value of the heritage vines of the Hunter Valley', 2019 at Appendix D.

[71] Please see the Comparative Analysis in Section 4.3 and at Appendix E for a more detailed analysis.

that were planted with the early imported stocks prior to the distribution of cuttings and rootlings of unclear provenance via newly established commercial nurseries from the late 1960s.

The heritage vineyards and cultural landscape of Pokolbin and Broke Fordwich also demonstrate rarity as one of only a few continuing viticultural landscapes in NSW that survived the significant contraction of the NSW wine industry between the early 20th century and its rebirth in the 1960s. Other viticultural landscapes in NSW do not demonstrate this level of historical continuity or association with a community of vignerons, winemakers and wine industry trade associations, nor do they possess the Hunter Valley's level of cultural and social significance to wine connoisseurs or consumer groups located across NSW. The absence or scarcity of rare and heritage vineyards containing pre-Phylloxera European vine stocks in other NSW regions means those viticultural landscapes do not have the same potential to yield genetic information of historic and scientific value in the future, and nor do they exhibit the rare aesthetic characteristics of the Hunter's historic vineyard layouts. Similarly, no other viticultural landscape meets the rarity criterion in terms of the acreage and number of vineyards documented by the Hunter Valley Vineyards Register as surviving the social, economic and environmental challenges of the twentieth century.

Assessment:

The heritage vineyards and cultural landscape of Pokolbin and Broke Fordwich are assessed as satisfying the guidelines for inclusion under Criterion (f) as defined in the NSW Heritage Manual and fulfilling Criterion (f) at the state level.[72]

Inclusion guidelines satisfied:

- demonstrates a process, custom or other human activity that is in danger of being lost
- shows unusually accurate evidence of a significant human activity
- shows rare evidence of a significant human activity important to a community

***Criterion (g)**: An item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places or environments (or a class of the local area's cultural or natural places or environments).*

The heritage vineyards and cultural landscape of Pokolbin and Broke Fordwich are important in demonstrating the characteristics of the typology of an organically evolving, continuing viticultural landscape which expands and contracts within a broader diverse landscape, expressing the interaction between the land use and natural systems. As such the Pokolbin – Broke Fordwich cultural landscape can be viewed as an exceptional example of a class of organically evolved, continuing NSW viticultural landscape, in contrast with industrial broadacre viticultural landscapes found in the Riverina wine region and elsewhere where the heavy use of irrigation allows for huge tracts of land to be planted, so achieving high yields.

[72] Please see the Comparative Analysis in Section 4.3 and at Appendix E for a more detailed analysis.

While a number of other New South Wales wine regions demonstrate the organically evolved, continuing typology, they are mostly much younger landscapes, albeit often located in 'revived' historic vineyard regions originally established in the 19th century. In this context the Pokolbin – Broke Fordwich cultural landscape is an exceptional example in its representation of the continued accumulation of layers of change over all phases of NSW viticultural history since the mid 19th century experimental era.

The individual heritage vineyards also demonstrate a number of historical typologies at the vineyard scale that are important in demonstrating the characteristics of the particular era of their planting. Relict narrow rows and wide rows of surviving late 19th and early 20th century Category 2 'rare' vineyards are evidence of a vineyard typology associated with an era prior to mechanisation, which has now largely disappeared from the NSW landscape. The contour rows and contour banks of Category 3 'heritage' vineyards of the 1960s demonstrate NSW government erosion-management policies of that era that were applied to farming across the state, and subsequently abandoned. Surviving Category 2 10 acre soldier settler blocks on the HVW&TA register around Hermitage and Fordwich are another 'rare' remnant of another largely unsuccessful post war government policy that was implemented across the state.

Similarly, typologies related to terroir are evident at the vineyard scale. These demonstrate the classic Hunter typology of 'whites on the flats and reds on the rises' whereby the semillon heritage vine blocks are more likely to have survived on the alluvial soils of the flats, while the surviving shiraz heritage vine blocks are mostly found on the (east-facing) terra rossa limestone and brown basalt soils of the rises and hillsides of the vineyard landscape. Further comparative analysis is required to establish whether similar typologies exist elsewhere in NSW.

Assessment:

The heritage vineyards and cultural landscape of Pokolbin and Broke Fordwich are assessed as satisfying the guidelines for inclusion under Criterion (g) as defined in the NSW Heritage Manual and fulfilling Criterion (g) at the state level, at both the landscape scale and the vineyard scale.[73]

Inclusion guidelines satisfied:

- is a fine example of its type
- has the principal characteristics of an important class or group of items
- is part of a group which collectively illustrates a representative type

[73] Please see the Comparative Analysis in Section 4.3 and at Appendix E for a more detailed analysis.

4.3 Comparative analysis of the Hunter Valley cultural landscape with other viticultural landscapes in NSW

This section should be cross-referenced with the Hunter Valley Heritage Vineyards Strategic Study Comparative Analysis Table at Appendix E. The following discussion focuses on the four comparative historical wine growing areas of Sydney, the Hunter, Mudgee and the Riverina, while the table at Appendix E compares the Hunter Valley heritage vineyards cultural landscape with all contemporary NSW Wine GI regions, with commentary provided under each of the NSW State Heritage Register criteria.

4.3.1 Overview of the spread of viticulture and wine production in NSW

The First Fleet landed with vine cuttings on board in 1788, and Australia's first vines were planted in Governor Phillip's residence at Sydney Cove. In 1792 wine was made from vines grown at Parramatta.[74] From 1800, experimentation with vine growing spread first across Cumberland County (Richmond, Windsor, Eastwood, Emu Plains and the banks of the Nepean and Hawkesbury Rivers) then south-west to Camden, fanning out with the spread of settlers over the Great Dividing Range to Bathurst, up the coast to Newcastle, and then up the river to the Hunter Valley and north to Port Macquarie. Vines also followed settlers westward from Sydney to Mudgee, Orange and Cowra, then north-westward to the Liverpool Plains and New England, south to the Illawarra, and further north to the Northern Rivers. Between 1815 and 1912 a viticultural map of NSW had thus been drawn, essentially encompassing the (present-day) Sydney metropolitan area, the Hunter Valley, Mudgee and the Riverina.

It is only in the Hunter Region that the planting of vineyards and production of wine remains unbroken since that early 19th century experimental era, and the subsequent era of expansion associated with the first wave of globalism at the end of the century.[75] Mudgee can claim continuity of production from the mid 19th century through the Craigmoor (now Robert Oakley) vineyard and winery, and the Riverina from the early 20th century through the Murrumbidgee Irrigation Scheme – unless you count early production at Albury and Corowa – but they are technically outside the modern Riverina GI and do not contain any rare or heritage vineyards, partly due to the impacts of the Phylloxera epidemic of the late 19th century.

For the most part, NSW wine regions reflect a history of planting and pulling and replanting, caused by natural and socio-economic influences such as the Phylloxera epidemic, the establishment of vines on unsuitable terroir, and the onset of two world wars and the Great Depression of the first half of the 20th century, which affected wine production across Australia. As discussed earlier in the Study, the opening up of Sydney markets to other wine regions in Australia through the removal of tariffs at Federation also had a significant influence on grape growing and wine production in NSW, as did the switch in popular taste to fortified wines around the

[74] McIntyre & Germov, *Hunter Wine*, p. xi and Read, 'Early vineyards and viticulture in the Sydney Basin'.
[75] McIntyre, *First Vintage: Wine in Colonial New South Wales*, p. 176.

same time. It is important to emphasise that 11 of the 15 New South Wales GI wine regions recognised today (including the Upper Hunter Valley subregion), have come into existence since the early 1970s, some with an early history of wine making, but none demonstrating continuity of production from the 19th century.

4.3.2 Sydney metropolitan area

The vines that were planted at Governor Phillip's residence on the foreshores of Sydney Cove (where the InterContinental Hotel now stands) produced a few bunches of grapes the following year, but then faded from history when attacked by black spot disease.[76] Key wine industry pioneers in the new colony were Captain John Macarthur and Gregory Blaxland. John, James and William Macarthur assembled a large collection of cuttings during an 18 month trip to Europe in 1815 and 1816. Not many survived, but those that did formed the basis of a substantial vineyard and winery the Macarthur family established at Camden Park. Gregory Blaxland produced the first commercial wine at Brush Farm on the banks of the Parramatta River, near the present-day suburb of Ermington. He is recognised as being the first person to export wine to England, in 1823, and again in 1828, although there is some evidence a bottle of wine may have been sent to England from Australia 20 years earlier.[77]

The recognised 'father of viticulture in New South Wales' was James Busby, who, as previously discussed, brought some 547 cuttings back from Europe in 1831, including six cuttings of shiraz from the 'Hill of Hermitage' in the northern Rhône Valley. Busby's cuttings not only found their way into the Hunter region (where his parents and sister had established themselves), but also to Victoria (1838), South Australia (1839), Western Australia (1840) and Queensland (1866).[78] The Macarthurs, however, played a much more significant role in vine distribution, sending 34,000 cuttings to South Australia in the 1840s, with the Camden Park nursery the main supplier to early vineyards of Victoria and South Australia. [79]

The urbanisation of western Sydney has removed any continuity of its early vineyards, with the last nail in that coffin being the closure of Vicary's at Luddenham in November 2015, to make way for Sydney's second international airport.[80] That said, the Hawkesbury's Ebenezer still has a late 19th century vineyard at Tizzana (established by prominent Sydney surgeon and viticulturalist Dr Thomas Fiaschi), which, although historically discontinuous, is once again is producing vintages in the hands of the Auld family. While Camden Park isn't producing wine, it retains barrels of its wine and bottles in extensive cellars. There are also slate-lined brick wine vats cut into a hillock south of the homestead, and evidence of three sets of altitudinal-climbing vineyards.[81]

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[76] J. Halliday, downloaded at https://www.winecompanion.com.au/wineries/new-south-wales on 22.04.2019.

[77] McIntyre, *First Vintage*, p. 49.

[78] Buck, 1969 in Read, 'Early vineyards and viticulture in the Sydney Basin'.

[79] NHWGGA/Norrie in Read 'Early vineyards and viticulture in the Sydney Basin', with amendment to the date in light of McIntyre reading of the Study.

[80] Downloaded at https://westernweekender.com.au/2015/09/last-call-vicarys-winery-to-close-after-92-years/ on 22.04.2019.

[81] Downloaded at https://www.dailytelegraph.com.au/travel/australia/nsw-act/colonial-history-comes-to-life-on-a-visit-to-camden-park-house-home-to-john-and-elizabeth-macarthur/news-story/0199e911c81d1a96b1e2cd38d914f8ce) on 22.04.2019

In summary, there are still a few sites around greater Sydney and the Hawkesbury that provide testimony to the colony's early wine history, but there are no continuing viticultural landscapes.

4.3.3 The Upper Hunter Valley

Brief reference needs to be made to the rise and fall of the Upper Hunter Valley subregion of the Hunter Valley Wine GI, which is located north-west of the Pokolbin – Broke Fordwich Study Area, on the higher slopes of the Hunter Valley around the town of Muswellbrook.

The Upper Hunter played a role from the earliest phase of settlement. Ogilvie (at Pickering, near Denman) and Little (at Invermein) were on Heley's list of early settlers with established vineyards.[82] German settler Carl Brecht planted the area's first commercially successful vineyard in 1860 at the junction of Wybong Creek, and Brecht's wines won numerous gold medals at international wine competitions in the 1870s. Brecht's success spurred some interest in the area, but the same events that saw decline throughout the Hunter Valley (the 1890 depression and 1893 floods) had virtually extinguished all viticulture in the Upper Hunter by the turn of the 20th century. It wasn't until the 1960s, when Penfolds purchased land near Brecht's old Wybong estate, that significant viticultural interest in the Upper Hunter re-emerged.

One of those early initiatives was the Hordern family's Wybong Estate, established at Brogheda Station on Yarraman Road. Now known as Wybong vineyard and historic winery, and owned by Hollydene Estate Wines, both vineyard (planted in 1967) and winery (built in 1969) are recognised as being the oldest in the Upper Hunter. John Hordern's Horsehoe vineyard, planted at Martindale in 1968 by another branch of the Hordern family, is the only other remaining vineyard in the Upper Hunter that dates back to the early Renaissance era. Through many years of trial and error, the viticulturalists at Penfolds were able to determine that the area was most suitable for white wine grape varieties, and the region developed with the second wave of globalisation, associated corporate investment, and the use of drip-irrigation from the 1980s onwards.

The Upper Hunter has experienced a huge decline in vineyard area since the onset of the global financial crisis, and the withdrawal of large wine producers Rosemount and Arrowfield from buying large quantities of Upper Hunter grapes. Vast areas of abandoned vineyards around Sandy Hollow (where Rosemount took over from Penfolds) are testament to the withdrawal of winemaking from the region, while the landscape around Jerry's Plains where Arrowfield once ruled with a huge area under vines, has largely converted to horse studs.

[82] McIntyre & Germov, *Hunter Wine*, p. 48.

4.3.4 Mudgee

a. Historical significance

Mudgee was established considerably later than the Hunter. However, its settlement period coincides with the settlement of Pokolbin, and the shift in NSW settlement history from penal settlement to agricultural development by 'gentleman farmers' supported by Aboriginal and migrant labour. The first known vine plantings were in the 1850s and 60s by German migrants supporting gold mining and grazing, and by the 1880s there were 55 vignerons and six wine presses in the region, compared to 197 vignerons and 64 presses in the Upper and Lower Hunter.

Mudgee can claim continuity of production through all phases of NSW wine history apart from the early 19th century experimental era, as one winery survived the lean years of the mid 20th century – the Roth family's Craigmoor vineyard and winery, established in 1858 by Fred Bucholtz, maintained as a cellar door by Montrose winery in the 1980s, and now the cellar door for Robert Oatley Wines. While the number of vineyards dwindled in the early 20th century, German settler descendants Alf and Laura Kurtz led the 1960s renaissance of the region with the establishment of Mudgee Wines.

b. Strong or special associations

The German settler influence on early winemaking was as important in Mudgee as it was in the Hunter. The region's first winemaker Fred Bucholtz won prizes in Paris (1878), Sydney (1879), Melbourne (1880) and Calcutta (1883), but Mudgee winemaking is historically associated with Adam Roth and descendants, who took over the original Buchholtz property and eventually named it Craigmoor. Third generation family member Adam (Jack) Roth kept the original 1860s winery in production until his death in 1969. As mentioned above, descendants of early settler Andreas Kurtz also sustained viticulture through the generations.

The Mudgee Wine Growers Association was formed in the 1880s to oppose new licensing laws, and at the turn of the century the region became associated with Italian-born and trained surgeon and expert viticulturist, Dr Thomas Fiaschi, who had also established a winery at Tizzana on the Hawkesbury.[83] According to James Halliday, 'even when the region's renaissance came, it was essentially driven by a few energetic enthusiasts' and, according to Julie McIntyre (whose grandfather Alf Kurtz was one of those enthusiasts), there are no longer any intergenerational families with continual ties to vineyards preceding the 1960s who are engaged in contemporary wine production.[84]

[83] A firm believer in wine as a medicament, Fiaschi also planted the Tizzana vineyard on the Hawkesbury, and had cellars in Little George Street, Sydney. President of the Australian Wine Producers' Association of New South Wales in 1902-27, a councillor of the Royal Agricultural Society of New South Wales and an active member of the local Royal Society, he served in World War One and later became head of Sydney Hospital. His lecture 'The various wines used in sickness and convalescence' was published at the time of its delivery in 1906, and again posthumously in 1928. Australasian Medical Publishing Company, 1928 "Reprinted from 'The Australasian Nurses' Journal', November and December issues, 1906"

[84] J. McIntyre email to author dated 29.12.2018 and J. Halliday downloaded at https://www.winecompanion.com.au/wineries/new-south-wales/mudgee on 22.04.2019. At the time of the Study descendants of the Roth family were involved in viticulture to very a limited degree.

c. Aesthetic characteristics and technical or creative achievement

The cultural landscape around Mudgee reflects the region's rich and diverse history of gold mining, grazing and winemaking, with a town centre of substantial historical sandstone buildings located amid a groomed green landscape. Mudgee's relatively small scale of winemaking creates an intimate mixed agricultural landscape of significant aesthetic value nestled north of the town within two concentric circles of hills, reflecting the Aboriginal meaning behind the town's name – 'nest in the hills'.[85]

The larger cultural landscape around Mudgee could be considered aesthetically significant at the state level with the inclusion of the town's numerous heritage sandstone buildings and heritage-listed houses and streetscapes, three items of which are already on the State Heritage register, with two of them listed under criterion c. The aesthetic significance of the cultural landscape is not, however, tied as strongly to historical themes around viticulture and the establishment of successful terroir, (as with the Hunter Valley), but to broader regional development themes including grazing, gold mining, and more recently, heritage tourism.

d. Social and cultural significance

Mudgee's distance from Sydney, and relatively small scale of wine production means the region has never been as socially or culturally significant to NSW's viticulture and wine culture as the Hunter region, although it is recognised that along with other regions in NSW and elsewhere, non-branded wine from Mudgee has long bolstered Hunter wine production. Mudgee is also NSW's second most visited wine region, attracting 20% of the state's cellar door visits in comparison to 63% for the Hunter Region.

While Mudgee has played a historical role in the NSW wine industry, with German families in particular playing an important role, the minimal involvement of continuing intergenerational families with contemporary wine production means the history and culture of winegrowing and wine enterprise does not have the same level of significance to Mudgee's own community, nor to the broader NSW community as it continues to have in the Hunter, and the Pokolbin subregion in particular.[86]

e. Potential to yield information

Mudgee's early establishment as a wine region, and continuity of production at the Craigmoor/Robert Oatley Winery means that it still contains vines with valuable genetic material sourced from early European stocks, although not to the same extent as the Hunter Valley region. For example, although primarily a producer of robust red wines, Mudgee was the cradle in which a particularly good chardonnay lay unrecognised for 50 years, which may feasibly have descended from a Busby mother vine or other early genetic source, and which became the source block for much of Australia's chardonnay.[87]

[85] The nest reference may also relate to Mudgee's abundant native bird life.

[86] At the time of the Study descendants of the Roth family were involved in viticulture to a limited degree.

[87] J. Halliday, *The Australian Wine Compendium*, p. 93-94

Alf Kurtz took cuttings from Craigmoor in the late 1950s and early 60s and those heritage category vines are still standing at Mudgee Wines, also with potential to provide valuable genetic information.[88] Established in the renaissance era of the mid 70s, Montrose Winery also broke new ground in that era's experimentation with emerging varietals by planting some of the first Barbera and Sangiovese vines in Australia. The cuttings from those vines then found their way to the Hunter Valley, where most of the established vines of these varietals have Montrose as their source.[89]

f. Rarity

The vineyards at the former Craigmoor property (now Robert Oatley wines) warrant further investigation, given the continuity of that site as a vineyard since the mid 19th century. Mudgee has no formal heritage vineyards register, but it is anticipated that any rare, heritage or old vineyards will likely become registered in some form, as the interest in old vines grows, and that the most likely locations for such vineyards will be the old Craigmoor property, and the Mudgee Wines vineyard.

g. Typology

Continuity of a single vineyard and winery through to the 1960s has not been sufficient to create the kind of organically evolved continuing historical landscape mosaic that can be found in the Parish of Pokolbin, around Tyrrell's winery in central Pokolbin and at the Fordwich settlers' area. Vineyard typologies (such as early horse-era spacing of vines and contour ploughing from the 1960s) may be present at the former Craigmoor and Mudgee Wines vineyards, and this warrants further investigation.

Mudgee shares a history of expansion and contraction of its vineyard landscape with the Hunter, however its situation on the western slopes of the Great Dividing Range gives it a very different climate to that of its neighbour on the coastal side. Spring frosts and cold nights delay budburst; rainfall and humidity are lower; sunshine hours are longer; and irrigation is essential on all but the most favoured sites. The brownish coloured soils are typical of those found through the majority of the wine regions of NSW and Mudgee's production has historically been restricted more by inadequate water supply than by any deficiency in its soils.[90]

4.3.5 Riverina

a. Historical significance

The historical significance of the Riverina region derives from its association with the Murrumbidgee Irrigation Scheme established around Leeton and Griffith between 1906 and 1912. Riverina winemaking however began in Wagga Wagga in the 1840s, and, although technically outside of the current Riverina GI, the electorate of Albury produced the most wine of any district in the NSW colony in the 1870s, underpinned by German migrant influences.

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[88] J. McIntyre email to author dated 29.12.2018

[89] Downloaded at https://www.thewinecollective.com.au/blogs/wineries/montrose on 22.04.2019.

[90] Downloaded at https://www.mudgeewine.com.au/about-the-region/ on 22.04.2019.

Corowa, across the river from Rutherglen was another early NSW vineyard area, put on the map with the establishment of Lindeman's Corowa winery in 1877, but the continuity of production there was interrupted by Phylloxera at the end of the 19th century. The electorate of Murrumbidgee also recorded 47 vignerons and six wine presses in the 1890s.[91]

b. Strong or special associations

The McWilliam wine family has a deep historical association with both the Riverina and the Hunter. Samuel McWilliam was first based at Lindeman's Corowa vineyard from 1877 and, after establishing a winery at Junee (in the Gundagai region) in 1896, son J.J. McWilliam moved operations to the Murrumbidgee Irrigation Area, planting vines there in 1913 and McWilliams are now one of only a few families from that time still in business.

After World Wars One and Two the region formed a strong association with Italian wine families that continues to the present – the De Bortoli family, the Calabrias of Westend Estate, the Bruno family of Toorak and the Casella family are among them.[92]

c. Aesthetic characteristics and technical or creative achievement

The technical achievements of the Murrumbidgee Irrigation Scheme are highly significant in NSW history. The system is still regarded as a major engineering achievement comprising an elaborate series of weirs, canals and holding ponds fed by upstream rivers and dams. The purpose-built towns of Griffith and Leeton were designed by Walter Burley Griffin, (the architect of Canberra's layout).

Third generation Glen McWilliam pioneered the trial of table wines and led the way with new production technologies adapted to the region's fiercely hot summers.

d. Social and cultural significance

The social and cultural significance of the Riverina relates to its establishment as a planned agricultural community, supported by new irrigation technologies and its association with Italian immigration, and the adaptation of Italian food and wine culture to Australian conditions.

A Wine and Irrigation Museum Centre opened in Griffith in 2013, the centenary of the establishment of the irrigation scheme. Although one of the largest grape producers, holding around half of the state's producers, the region does not attract significant numbers of tourists.

[91] McIntyre, *First Vintage*, p. 226.
[92] McIntyre, *First Vintage*, pp 185-188.

e. Potential to yield information and f. Rarity

Remnants of the original 1913 vineyards are preserved at the McWilliams Hanwood winery, and cuttings from those vineyards made their way to the Mount Pleasant vineyards at Rose Hill in the Hunter in the 1940s.[93] Further research could be undertaken to establish the source of the original Hanwood cuttings and whether that stock preceded the Phylloxera epidemic.

g. Typology

The landscape here reflects winemaking on an industrial scale. While the Riverina is responsible for around half of the total wine production of NSW and half of its producers, it only sports around 16 wineries, owing to a focus on such industrial-scale operations, where the heavy use of irrigation allows for huge tracts of land to be planted with high yields.

4.3.6 Comparative Analysis Summary

Mudgee provides the closest comparative historical vineyard cultural landscape to the Hunter Valley; however, it does not possess the same depth, breadth and continuity of significance to the history of NSW's regional development, nor to the history of the development of the state's wine industry. The Mudgee landscape is tied to a broader story of gold mining and grazing, and while the history of its winemaking has been underpinned by a few resilient intergenerational families of German origin, it does not have the Hunter's history of an extensive, resilient and tightly woven community of inter-generational vignerons and winemakers of diverse ethnic origins, and Mudgee's founding wine families are no longer deeply involved in contemporary production.

While Mudgee's popularity as a festival and cellar door destination has dramatically increased over the past 20 years since the turn of the 21st century, it does not demonstrate the same long and special tradition of trade, investment and social connections, tourism and wine appreciation over many generations that has been brought about by the Hunter's proximity to Sydney, the globally recognised quality of its wine, and its close links to the city's cultural identity as a wine-drinking society.

Similarly, although one of the largest grape producers, the social, historical and cultural significance of the Riverina cultural landscape relates to its establishment as a planned agricultural community at the beginning of the 20th century, and its continuing association with Italian immigration and the adaptation of Italian food and wine culture to Australian conditions. Additionally, it is the technical achievements of the irrigation system involving an elaborate series of weirs, canals and holding ponds fed by upstream rivers and dams, and its Burley Griffin-designed service towns, rather than the aesthetics of an organically evolved cultural landscape that are of state significance here.

[93] Phil Ryan, interview with the author, 10.01.2019.

Other viticultural landscapes in NSW do not demonstrate the level of historical continuity or historical associations with a community of vignerons, winemakers and wine industry trade associations, nor do they represent the Hunter Valley's level of cultural and social significance to the broader Sydney and NSW populations. The absence or scarcity of rare and heritage vineyards containing pre-Phylloxera European vine stocks in other NSW regions means those landscapes lack the potential to yield genetic information of historic and scientific value in the future. Similarly, no other viticultural landscapes meet the rarity criteria to the same extent, in terms of the acreage and number of vineyards documented by the Hunter Valley Vineyards Register, as surviving the challenges of the 20th century.

Finally, with regard to the typology and aesthetics of an organically evolved and continuing viticultural landscape, the Pokolbin – Broke Fordwich cultural landscape can be viewed as representative of a number of historical and more recently evolved or revived NSW viticultural landscapes. The cultural landscape is however unique in the extent of its uninterrupted evolution over all phases of NSW wine history.

4.4 Commentary on the significance of the individual components of the bio-cultural landscape system

It is important to note that an assessment of the *relative* significance of the individual cultural, natural and bio-cultural elements of the Pokolbin – Broke Fordwich cultural landscape is outside the scope of the Study. Section 4.5 describes how a McHargian layering approach was instead used to reveal densities of significance within potential management frameworks to define two alternative options for a curtilage for the proposed state-significant Heritage Conservation Areas. This was based on mapping of the multi-layered bio-cultural landscape system by Palazzo, and cross-referencing those maps with the locations and concentrations of items and elements identified and described in the Study's historical and physical investigations.[94]

The significance of the individual items and elements is explored in the investigations in Sections 3 and 4, in the separate submissions of Riley and Palazzo, in the supplementary analyses of McIntyre and Tassie at Appendices A and D, and in the Heritage Vineyards Site Visits Summary Table at Appendix C. In addition, the following comments are offered to highlight how the relative contributions of both tangible and intangible items and elements to the state significance of the proposed Heritage Conservation Areas were incorporated into determination of the proposed curtilages.

The Project Study team established early that it was the continuity and rarity of wine production through all phases of NSW wine history that was at the heart of the case for state significance of the Hunter Valley cultural landscape. It was clear from an early reading of McIntyre's research, and an examination of the HVW&TA vineyards register, that the sites of highest significance would be those connected to the 'Stoic' generation of

[94] Palazzo, 'Hunter Valley Heritage Vineyards Strategic Study: Resilience, terroir and landscape mapping'.

wine families who continued wine production through the 20th century when most other regions in New South Wales had ceased production, and this is examined in the Site Visits Summary Table at Appendix C.

The seven 'Stoic' families of the Pokolbin and Broke Fordwich Study Area are recognised as being the Lindemans, Draytons, Tyrrells, Tullochs, Wilkinsons, Elliots and McWilliams, and it is correct to say that the physical associations with these families are concentrated around what is described as the 'heritage heartland' of the contemporary Hunter wine region: (i) the Parish of Pokolbin, which is associated with five of the seven families; (ii) the vineyards around Broke Road and lower Hermitage Road associated with Elliots, Tyrrell's and McWilliams Mount Pleasant wineries; and (iii) the soldier settlements at Fordwich associated with the Elliot and Tulloch families.

It is important to note that other significant families of growers supported production during this time, including the Trevena, Stevens and Howard families, also all associated with Category 2 and 3 'rare' and 'heritage' HVVR sites located in the above identified heartland areas. In addition to their association with the Category 2 and 3 blocks on the HVW&TA vineyard register, these families are also associated with many of the LEP-listed historic wineries, cemeteries and archaeological sites identified in the Study's investigations. However, the Project Study team also found early in the project that the individual sites of significance associated with the 'Stoic' generation are only one element of the state significance narrative. It was also immediately evident that material fabric in the form of built heritage elements was scarce, due to a history of bushfires in the region.

It was therefore determined that the story of establishment of the successful terroir itself, and the role of the natural landscape system of the Brokenback Range in defining that successful terroir, and in contributing to the aesthetic values of the landscape, was equally at the heart of the state significance narrative. This narrative expanded the sites of significance to Category 5 'historic' vineyard sites that have remained in continuous production, albeit with newly planted vines and multiple custodians. Successful terroir was thus selected as the subject of investigation for the University of New South Wales research, which mapped the abovementioned heartland areas through case studies of three distinct terroir typologies (see Palazzo, Maps 3 to 4). Additional overlaying of the bio-cultural values and elements of significance across the whole Study Area was also undertaken by Palazzo, and this included areas identified in current planning documents as 'visually significant' (see Palazzo, Map 1).

When determining the state significance of the cultural landscape in the context of the mapping overlays, and in particular the cultural and social significance of the renaissance era of wine production and the second wave of expansion of vineyards in the second half of the 20th century, it was considered inconsistent to limit the consideration of state significance to the heartland areas. Such a limitation would ignore the organically evolving continuing landscape's defining factor: that grape production in the Hunter expands and contracts on

patches of successful terroir within a broader diverse bio-cultural landscape system, and that new generations of producers are always entering the system and enhancing its adaptive capacity to support viticulture.

The historic and ongoing resilience of Hunter wine production has been established through the diversification of compatible land uses that continue to incorporate mixed farming and agritourism enterprise within the larger landscape, and it was determined that these components of the landscape system also need to be recognised and protected. The natural landscape systems, historic associations and the viewshed of the Brokenback Range thus define a larger bio-cultural landscape system across the Pokolbin and Broke Fordwich subregions that underpins the landscape's significance to the 19th century establishment of the state's wine industry, and to NSW's post-war and contemporary identity as a wine producing and wine consuming society.

The above analysis is being captured in ongoing mapping and investigation of the Category 4 'old' vineyards between 35 and 50 years old that were established across the larger landscape during the wine renaissance era, often through the revival of historical 19th and early 20th century viticultural sites. It is also the basis for proposed future research by the Hunter Valley Wine and Tourism Association and the University of New South Wales to map all aspects of the landscape's terroir. As discussed earlier in the Study, it is anticipated that vineyards will keep being added to the Hunter Valley Vineyards Register as they reach 35 years old, creating a living register that will expand to represent contemporary and future phases of Hunter wine history, as the region approaches and moves beyond its 200th anniversary in 2028.

4.5 Definition and justification of two curtilage options

> *Today, designing with nature should also mean designing with history. In the context of climate change and the many recent hurricanes, earthquakes, and wildfires, designers must be cognizant of the lessons of the past. We have seen disasters before, sometimes in these very same places. Designers cannot simply resist these human- and nature-induced forces, but instead need to intervene in ways that account for and respond to them. This could mean choosing not to build somewhere, choosing to build differently somewhere, or just taking the long view over short-term fixes. Taking a historical perspective reminds us of that longer temporal frame. Perhaps the signs have long been there to design in this way; but turning to history should empower designers to heed their call. To design with nature today means to survey the history of a site—and of places like it. This requires excavating the history of its land, buildings, people, and politics. Now more than ever, to design with nature, we must listen and respond to the experiences of the past.* [95]
>
> – Francesca Ammon, McHarg Centre, University of Pennsylvania

[95] F. Ammon, What does it mean to design with nature now? Accessed at https://mcharg.upenn.edu/conversations/what-does-it-mean-design-nature-now on 16.05.2019.

4.5.1 McHargian analysis and GIS mapping

The Project Study team decided to take a McHargian approach to the definition of a curtilage for the Pokolbin – Broke Fordwich cultural landscape. Renowned for his seminal work *Design with Nature,* Ian L. McHarg (1920-2001) was one of the most influential environmental planners and landscape architects of the 20th century, when the expanding urban environment was being recognised for its destructive effects on natural systems. During the 1960s McHarg developed an ecological approach to landscape planning, and devised values-mapping techniques so planners and designers could envision not just the finished products of human development, but also their complex interaction with watersheds, natural habitats, viewsheds, archaeological, rural and cultural heritage, and anything else that could be represented as a layer on a map.[96] Today Geographic Information Systems (GIS) produce complex databases in the form of maps that organise information into the kinds of 'layers' that McHarg proposed. These are effectively digital versions of the tissue paper and mylar overlays of his original vision and technique.

4.5.2 Definition and justification of two curtilage options through GIS mapping

The Study Team's approach to defining a curtilage for NSW State Heritage Register nomination was based on McHargian methodologies developed by Palazzo and adapted by the author for the Mount Lofty Ranges Agricultural Landscape national heritage nomination (Figure 53). These were further adapted to suit the management structure, limitations of scope, and tight time frame of the Hunter Valley Heritage Vineyards Strategic Study project as follows:[97]

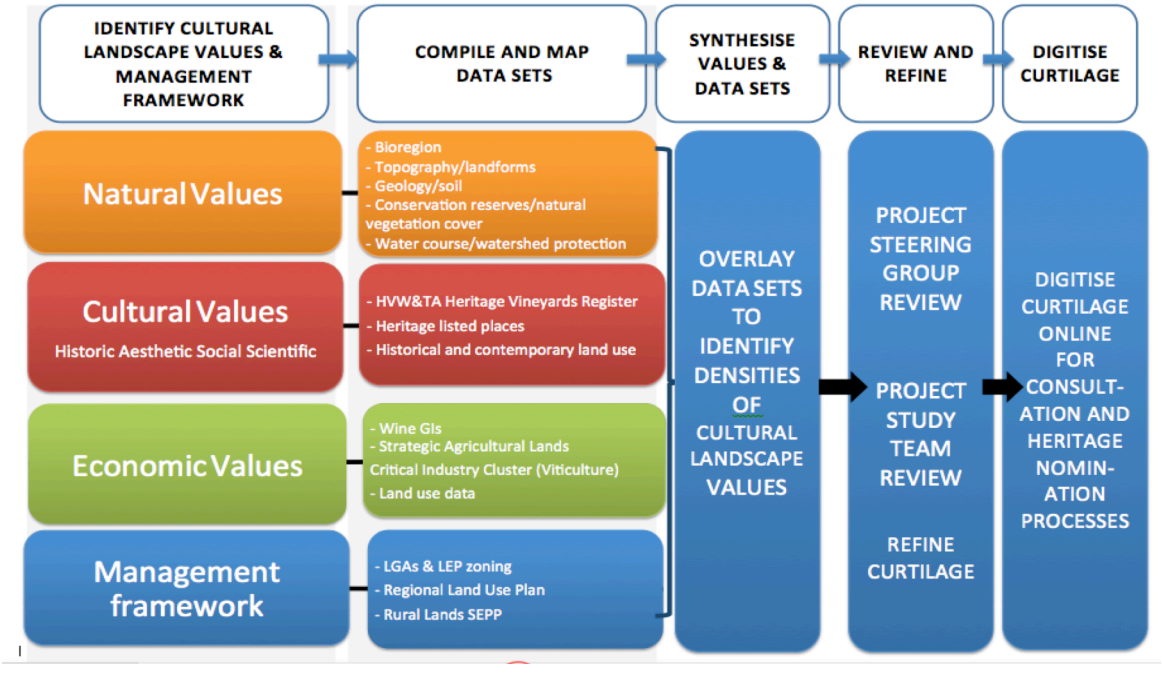


Figure 54. Conceptual framework for determination of a curtilage for the Pokolbin – Broke Fordwich cultural landscape State Heritage Register nomination. Source: Adapted by the author from Palazzo E. et al (2017)

[96] Ian L. McHarg, *Design With Nature*, published for the American Museum of Natural History [by] the Natural History Press, Garden City, N.Y., 1969.
[97] E. Palazzo et al, *Roadmap for the definition of a shared world and national heritage boundary*, Mount Lofty Ranges World Heritage Bid Final Report, 30/03/2016 and S. Johnston et al, Mount Lofty Ranges National Heritage Nomination, 2017 downloaded at http://www.mountloftyranges.org/library.html on 25.04.2019.

i. A first draft of the UNSW Map 1 of the landscape relationships overlaying natural, cultural, economic and land management data sets provided the basis for a focus group made up of the Project Steering Group members to come together after their review of the first draft of the Study and associated assessment of significance. The group explored curtilage options in the context of the densities of layers of bio-cultural heritage values and land use elements represented on the draft map.

ii. In the absence of historical aerial photography and completed mapping of the Category 4 'old' and Category 5 'historic' vineyards, the assumption was made that the location of those categories of vineyard would likely correspond with the 2013 vineyard data set used for the UNSW Map 1. This assumption was based on information from HVW&TA members, from historic mapping that informed the determination of the Pokolbin and Broke GI subregions, and using the evidence of historical vineyard mapping from the 1970s to the present in James Halliday's *The Wines and History of the Hunter Valley*, *The Australian Wine Compendium,* and subsequent annual editions of the *Halliday Wine Companion*.[98]

iii. Areas that were considered to detract from the identified densities of heritage significance, such as those areas impacted by mining around Bulga, Warkworth, and the Wallaby Scrub Road section of the Great North Road north of Putty Road, and areas affected by recent housing subdivisions and built developments unrelated to viticulture around Nulkaba and the western fringes of Cessnock, (east of Mount View Road), were removed from the curtilage through this process.

iv. Contemporary land uses that were considered compatible with the cultural landscape, such as the Hunter Valley Gardens and Vintage Golf Resort, were left inside the curtilage, albeit recognising that the location of such land uses will need to be carefully managed in the future. (For example, proposals for new housing developments presented as recreational, tourism or aged-care facilities may need to be listed as prohibited development as recommended in 5.2.2.)

v. An area of the Lovedale precinct located outside the Pokolbin GI Study Area but inside the Cessnock Vineyards District and SEPP SAL CIC (viticulture) boundary was included inside the curtilage due to its historic associations with the 19th century routes connecting Singleton to Allandale and Morpeth, and connecting Allandale and Lochinvar to Pokolbin via Wilderness Road and Lovedale (formerly Lochinvar) Road, and with the associated 19th century migration of viticulture from the flood plains of the Hunter River to the foothills of Pokolbin via those routes. (The LEP-listed Wilderness, Glenmore and Blick family burial grounds document these associations, and there are also a number of Category 1 'relict' and Category 4 and 5 'historic' vineyards in the extended area, including parts of John McDonald's original 'Glenmore' estate.) A number of Lovedale vineyards are also associated with the late 20th century renaissance period.

[98] Halliday, *The Wines and History of the Hunter Valley*; Halliday, *The Australian Wine Compendium*; J. Halliday, Halliday Wine Companion 2019, Hardie Grant, Melbourne, 2018; Lusby, R. & Sloan K., 'Revised Application for the Proposed Subregion of Pokolbin (Lovedale excluded)', (unpublished); and Margan A., 'Broke Fordwich Grape Growing Area', (unpublished).

vi. Singleton Council identified a small area scheduled for rezoning from RU1 to RU4 north east of Old North Road and east of Hermitage Road for inclusion in the curtilage on the basis of its historic association with the Old North Road convict-built settlers route, its desired future as viticultural or horticultural land use, and its proposed inclusion in an expanded Visually Significant Area with views south to the Brokenback Range and north across the Hunter River to the Barrington Tops.

vii. Focus group participants were invited to identify other potential new areas of visual significance. These were linked to views from historic routes across the rural mosaic of natural, pastoral and cultivated landscapes towards various aspects of the Brokenback Range. The purpose was to incorporate these areas into one or more expanded Visually Significant Areas within the proposed landscape Heritage Conservation Area(s), to be supported by strengthened development control provisions (see Section 5).

viii. A draft curtilage for two landscape Heritage Conservation Areas, based on the focus group session and defined by the densities of significance, values data sets, and inputs of the participants, and using existing planning boundaries such as the RU4 zone and SEPP SAL CIC (viticulture) boundaries was subsequently circulated for review by the Project Steering Group and Project Study Team. The draft also mapped possible locations for new Visually Significant Areas.

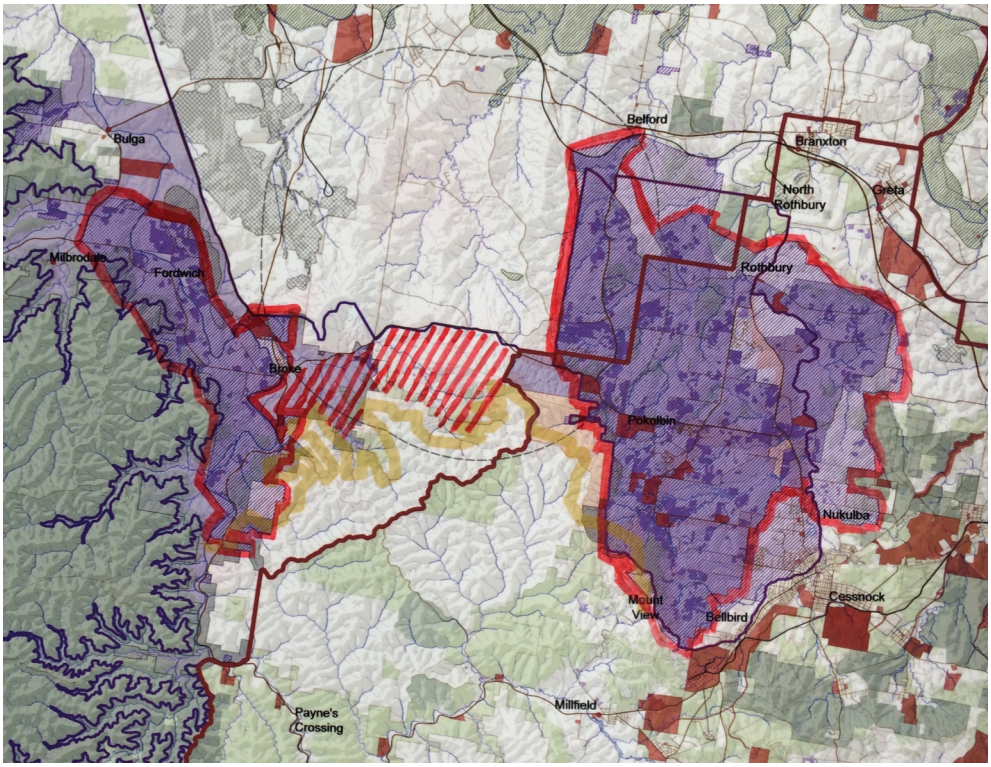
ix. The Study Team also reviewed the draft curtilages in the context of the location of the natural and cultural sites and elements identified through the Study's investigations, to ensure that identified and potential Category 1, 2, 3, 4 and 5 HVHR sites, relevant LEP-listed sites and the three UNSW heartland typology case study areas were all included within the final boundary, while acknowledging that further mapping of land-use change and historical terroir resilience could further inform refinement of the proposed curtilage options.

A key finding of this process was that the landscape's dominant scenic landmark and basis of its successful terroir systems, the Brokenback Range, remains largely unprotected. The Pokolbin State Forest, which covers a significant area of the ranges, is however managed by the Forestry Corporation of NSW as a productive forest, and there are some identified areas of residual native cover around the base of the ranges in the Pokolbin subregion, and in the foothills south of the Broke/Cessnock Road connecting the two subregions.

This led to the development of two curtilage options (Figure 55), which are described in detail at Appendix F and mapped online at https://www.arcgis.com/apps/View/index.html?appid=bcf5808a0903484fb563defb1a10c718.

Option A connects the curtilages of two proposed SHR landscape Heritage Conservation Areas with a new Visually Significant Area (VSA) defined by the viewshed of the Brokenback Range between the Broke/Cessnock Road to the north and the Pokolbin State Forest to the south. This includes the pastoral and viticultural land and residual native cover areas at the base of the range. Option B includes that new connecting Visually Significant Area within a single SHR landscape Heritage Conservation Area curtilage.

Curtilage Option A



Curtilage Option B

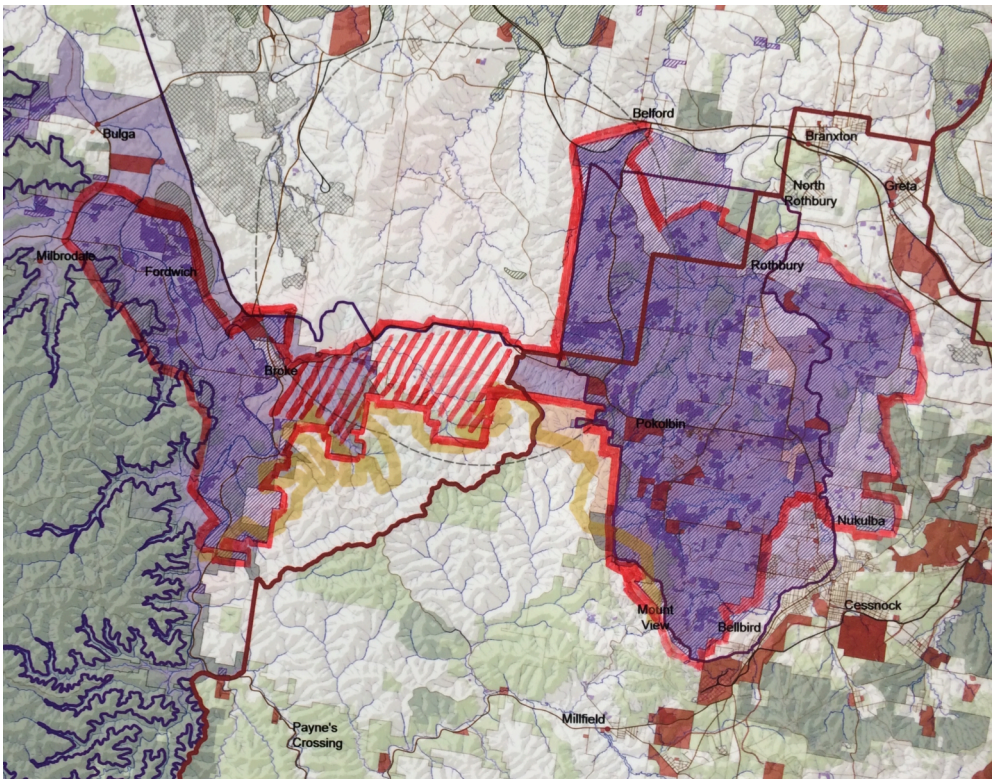


Figure 55. Option A: Two linked state significant landscape Heritage Conservation Areas (solid red boundaries) connected by a new Visually Significant Area (hatched in red). The mustard line marks the ridgeline of the Brokenback Range and limit of its viewshed. Option B: A single state significant landscape Heritage Conservation Area that includes the new Visually Significant Area. Background map: UNSW Map 1

5. RECOMMENDATIONS

5.1 Planning context

5.1.1 State and regional planning context

Along with an area around the Hunter River in the Upper Hunter Valley, the Study Area components of Pokolbin and Broke Fordwich have been mapped as part of a State Environmental Planning Policy (SEPP) Critical Industry Cluster (CIC) for viticulture. SEPP CICs are defined as concentrations of highly productive industries within a region that are related to each other, contribute to the identity of that region, and provide significant employment opportunities.

The Pokolbin – Broke Fordwich (Lower Hunter) CIC is recognised as a highly integrated concentration of vineyards and tourism infrastructure within a rural landscape, where the unique terrain, climate, heritage vines and diversity of soil type contribute to the characteristics of the grapes produced, in particular the historical regional varieties of semillon and shiraz.

The natural environment, visual landscape attributes and proximity to the metropolitan area are all recognised through the SEPP CIC (Viticulture) as underpinning the social and economic values of wine production and consumption and wine tourism to the region, and to the state of NSW.

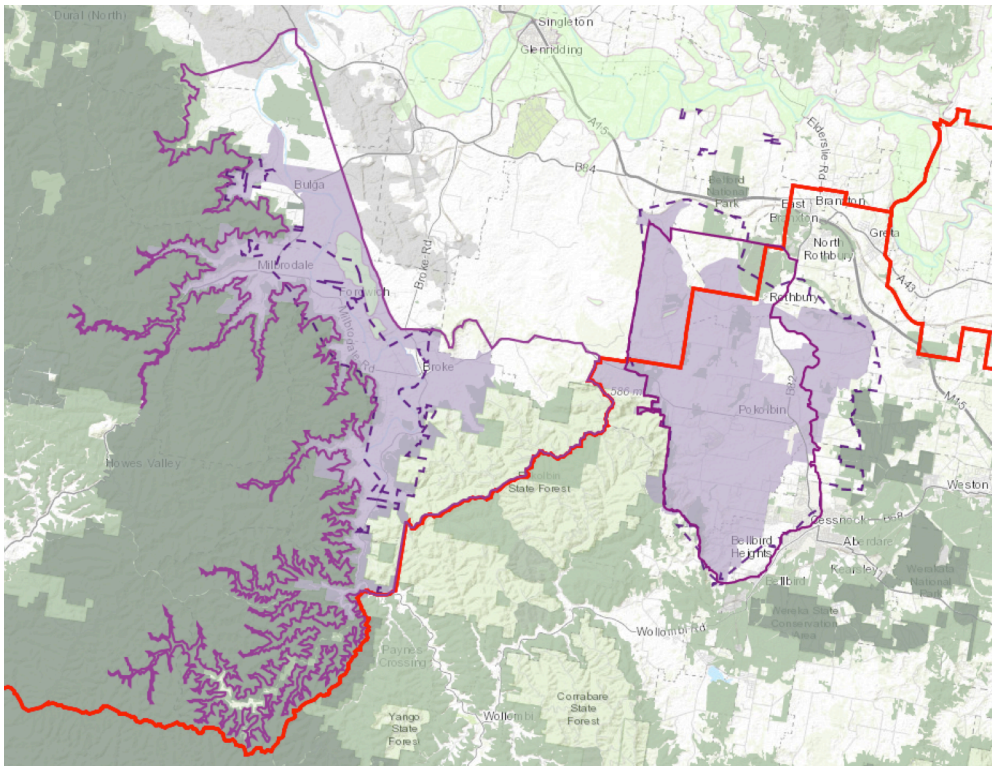


Figure 56. The Study Area (solid purple boundaries) in relation to the Rural Lands Critical Industry Cluster (broken purple boundaries), the RU4 zone and Vineyards District (purple shaded areas) and the LGA boundaries (in red). Source: Hunter Valley Heritage Vineyards Strategic Study Online Map

The Rural Lands SEPP aims to identify and implement rural planning principles and policies such as Agricultural Impact Assessment to assist in the proper management, development and protection of the rural lands, and to identify state-significant agricultural land for the purpose of ensuring the ongoing viability of agriculture on the land, having regard to social, economic and environmental considerations.

At the regional level the Upper Hunter Strategic Regional Land Use Plan 2012 provides a clear strategic framework to manage the land-use conflicts arising from the location of high-quality agricultural land and the mining and coal seam gas (CSG) industries. An integral component of the Regional Land Use Plan is a Gateway process requiring early stringent assessment of the potential impacts of mining and coal seam gas development on agricultural land and water resources.

5.1.2 Local planning context

The Broke Fordwich component of the Study Area is contained within the Singleton Council LGA with land use controlled under the Singleton Local Environment Plan (LEP) 2013 and Singleton Development Control Plan (DCP) 2013, which were developed in consultation with the Hunter Valley Wine and Tourism Association and other industry stakeholders.

The Broke Fordwich GI is mostly located within the LEP's RU4 Primary Production Small Lot Zone, with a minimum lot size of 40 hectares, and a key objective 'To recognise Hunter Valley Wine Country and the adjoining environs of Broke-Fordwich as a major viticultural and tourist destination providing additional opportunities for compatible tourist uses'.

The Broke Fordwich and Pokolbin GIs are separated by the Brokenback Range and Singleton Military Area.
A significant proportion of the Pokolbin GI is contained within the Cessnock City Council LGA with land use controlled through the Cessnock LEP 2011 and Cessnock DCP 2010, which defines the Cessnock LGA Vineyards District as a Specific Area with the following objectives:

(a) to maintain prime viticultural land and promote the economic and ecological sustainability of the Vineyards District;
(b) to recognise and protect vineyards and wineries (dominant land uses) from inappropriate uses in the zone;
(c) to encourage appropriate tourist development consistent with the rural and viticultural character of the Vineyards District;
(d) to minimise conflict between viticultural and non-viticultural land uses by the sympathetic location and design of those uses, and the maintenance of the rural/viticultural character of the landscape;
(e) to enable the continued rural use of land which is complementary to the viticultural character of land within the Vineyards District;
(f) to protect the water quality of receiving streams and to reduce land degradation;
(g) to actively promote the need to conserve and enhance the biodiversity of the Vineyards District; and
(h) to conserve the Aboriginal archaeology and European heritage of the Vineyards District.

Two smaller components of the Pokolbin GI (around Hermitage Road and Sweetwater north of Old North Road in the north west part of the GI) are located within in the Singleton LEP RU1 and RU4 zones.

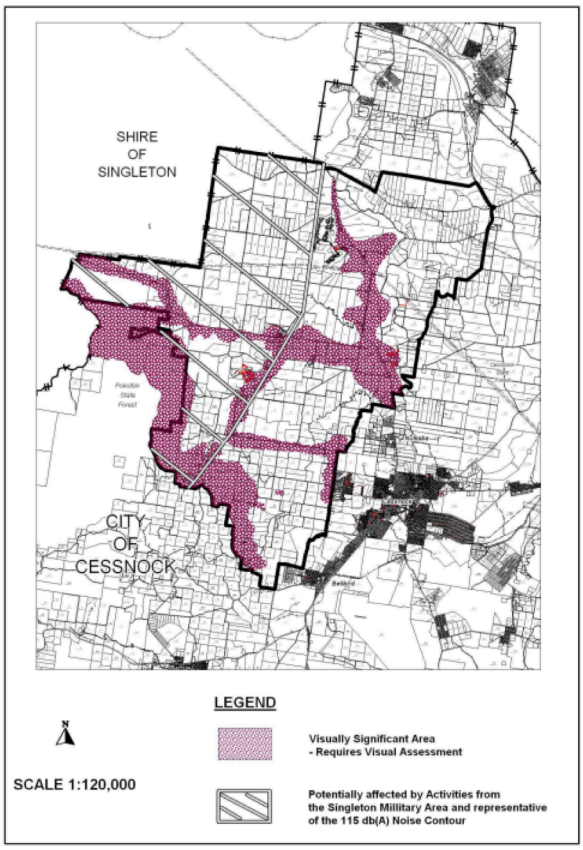


Figure 57. Cessnock City Council Vineyards District Specific Area showing the Visually Significant Area, which requires visual impact assessment. Source: Cessnock City Council

5.2 Future Management Framework

5.2.1 Key recommendations

The Hunter Valley Heritage Vineyards Strategic Study makes the following recommendations:

1. The heritage vineyards and cultural landscape of Pokolbin and Broke Fordwich are considered to be of state significance under all seven NSW State Heritage Register criteria (a) (b) (c) (d) (e) (f) and (g).
2. The heritage vineyards and cultural landscape of Pokolbin and Broke Fordwich are listed either as a single state significant landscape Heritage Conservation Area, or two serial state significant landscape Heritage Conservation Areas under the *NSW Heritage Act 1977*.
3. The curtilage of the Pokolbin – Broke Fordwich landscape Heritage Conservation Area(s) is defined by one of two curtilages described in Section 4.5 and submitted as Options A and B at Appendix F of the Study.
4. Singleton Council and Cessnock City Council each to endorse resolutions acknowledging the findings of the Hunter Valley Heritage Vineyards Strategic Study and to consider endorsement of the Study's key recommendations.

5.2.2 Further recommendations on a future management framework

Subject to Singleton Council and Cessnock City Council resolving to endorse the key recommendations of the Study, the Hunter Valley Heritage Vineyards Strategic Study makes the following additional recommendations for future management of the proposed landscape Heritage Conservation Areas;

1. The Singleton and Cessnock City Councils declare two landscape Heritage Conservation Areas in their Local Environment Plans (LEPs) that align with the proposed SHR Heritage Conservation Areas, and each prepare a dedicated Development Control Plan (DCP) or a dedicated chapter, 'Specific Item' or 'Specific Area' within an existing DCP that supports the Heritage Conservation Areas with appropriate cultural landscape heritage protection provisions, so that any development that complies with the DCP policies and provisions (apart from an associated list of non-exempt types of development) is exempt from requiring approvals under the Heritage Act; *or*

   the Singleton and Cessnock City Councils expand the Cessnock City Council Vineyards District to align with the proposed SHR Heritage Conservation Areas, and each support an expanded Vineyards District with a dedicated DCP or a dedicated chapter, 'Specific Item' or 'Specific Area' within an existing DCP, with appropriate cultural landscape heritage protection provisions so that any development that complies with the DCP policies and provisions (apart from an associated list of non-exempt types of development) is exempt from requiring approvals under the under the Heritage Act.
2. The Singleton and Cessnock City Councils consider preparing a list of prohibited development for the landscape Historic Conservation Areas and/or prepare an associated list of types of development that would NOT be exempt from requiring approvals under the Heritage Act.
3. The Singleton and Cessnock City Councils consider including the list of Category 2 'rare' and Category 3 'heritage' vineyards on the Hunter Valley Vineyard Register as contributory items to the landscape Heritage Conservation Areas, and expanding that list to include Category 4 and 5 'old' (defined as 35 years old or greater) and 'historic' vineyards as the data collection is verified and completed,
4. The Singleton and Cessnock City Councils consider including existing LEP-listed heritage items, relevant former REP-listed archaeological items not yet listed on the LEP, and some newly identified items associated with the development of viticulture and winemaking as contributory items within the proposed SHR Heritage Conservation Areas, pending further research and investigation.
5. The Singleton and Cessnock City Councils consider extending the existing Visually Significant Area to a number of new routes within the proposed Heritage Conservation Areas, and in particular to the route connecting the two landscape Heritage Conservation Areas as discussed in Section 4.5 and submitted as Option A at Appendix F of the Study; *or*

   the Singleton and Cessnock City Councils consider extending the existing Visually Significant Area to a number of new routes within the proposed Heritage Conservation Areas, and including the route connecting the two Heritage Conservation Areas into a single curtilage submitted as Option B at Appendix F of the Study.

5.3 Overview of the NSW State Heritage Register listing process

The process for listing a place or item on the NSW Heritage Register is based on the statutory requirements of the NSW Heritage Act. It is intended that the Hunter Valley Heritage Vineyards Strategic Study will provide the basis for a proposed future State Heritage Register (SHR) nomination to be undertaken by the HVW&TA in collaboration with identified local and state government stakeholders according to the process outlined below.

5.3.1 Review of nomination by the Heritage Division

Following the receipt of a completed nomination form, the Heritage Division reviews, prioritises and progresses the item when it is satisfied that adequate consultation has been undertaken and the management implications have been properly considered. Timeframes for this review stage vary depending on the complexity of the site and number of stakeholders who need to be consulted. Due to the large size and number of affected owners in the proposed Pokolbin – Broke Fordwich Cultural Landscape Heritage Conservation Area, dedicated external resources and a detailed Consultation and Communications (C&C) Strategy will be required to facilitate community consultation for a future SHR nomination.

The Heritage Division would require participation in the design and implementation of the C&C Strategy, which is the financial responsibility of the nominator. This would involve a commitment from the nominator and local government stakeholders to achieve the requirements for listing, including identifying and corresponding with all affected owners, planning and promoting consultations and public forums, and responding to public enquiries. (Refer to Section 5.6 of this report for further discussion and recommendations around a C&C Strategy.)

In order to progress a highly complex, large-scale nomination of this type, a thorough understanding of the future management of the proposed listing also needs to be established. However, the assessment of significance is conducted separately from consideration of management issues, in accordance with the Burra Charter principles.

Management of a State Heritage Conservation Area can be achieved through (a) dedicated Development Control Plan(s) (DCP(s)) or through a dedicated chapter, 'Specific Item' or 'Specific Area' within an existing DCP (such as the existing Vineyards District Specific Area Item in the City of Cessnock's DCP). Another option would be to declare the defined Cessnock Vineyards District as a Heritage Conservation Area under the Cessnock Local Environmental Plan (LEP) and extend the Vineyards District and associated LEP Heritage Conservation Area to a defined curtilage within the Singleton RU4 zone, possibly based on an existing curtilage such as the Department of Planning and Infrastructure's State Environmental Planning Policy (SEPP) (Rural Lands) 2008 curtilage for the Viticultural Critical Industry Cluster (CIC), which spans both LGAs and wine subregion GIs.

Updated heritage provisions relating to the management of vineyards on the HVW&TA Hunter Valley Vineyards Register, and management of the broader cultural landscape could then be developed within the DCP item(s) for a larger Vineyards District and/or Heritage Conservation Areas spanning the two LGAs. However the item is defined, the DCP provisions would need to supply the mechanism and guiding principles for controlling development activity that might impact on the various levels of heritage significance across the listed area, and for managing change across different precincts or properties.

The DCP(s) or DCP chapters would need to be prepared by the local Councils in consultation with HVWTA and other stakeholders, so that, if approved by the Heritage Council, any development that complies with the DCP policies would become exempt from requiring approvals under the Heritage Act. The Heritage Division would provide advice and review the DCP(s), but their creation would be the responsibility of local Councils. A list of types of development that would NOT be exempted from requiring approval under the Heritage Act could be also prepared.

OEH has confirmed that the establishment of (a) local Heritage Conservation Area(s) with (a) dedicated DCP(s) as a first step would create a thorough, clear, well-considered pathway for SHR listing by establishing a mechanism whereby property owners within the defined area can better refine their plans/application for development approval in the context of the heritage significance of the cultural landscape. OEH has clarified that while any proposed curtilage may align with existing GIs, or existing LEP, DCP or SEPP boundaries, the curtilage of the Heritage Conservation Area(s) needs to be based on the assessment of heritage significance.

Similarly, it is possible that a management framework or Conservation Management Plan based on existing state and local government planning mechanisms (with processes in place for improving those mechanisms over time) may be approved as an exemption mechanism by the Heritage Council, should the combination of planning mechanisms and processes be viewed as providing a robust management framework for managing change in the context of the assessment of heritage significance.

For example, a combination of the current Department of Planning and Infrastructure's State Environmental Planning Policy (SEPP) (Rural Lands) 2008 requirements for Agricultural Impact Statements for the Viticultural Critical Industry Cluster (CIC), Local Environment Plan (LEP) provisions for managing existing LEP listed heritage items, LEP provisions for minimum allotments sizes, RU4 zoning for Primary Production Small Lots and related DCP Provisions for Specific Areas (such as the Cessnock Vineyards District) and for Specific Forms of Development (such as Rural Tourism and Commercial Vineyards) could provide the framework for Heritage Council exemptions.

OEH has, however, clarified that a great level of detail would need to be provided in the policies of any planning instrument(s) in the case that they would be approved as exemptions, and that to date, only purpose-

written DCPs or Conservation Management Plans with detailed heritage-specific policies have been approved for this purpose.

Similarly, a detailed management framework or Conservation Management Plan based on a combination of government- and industry-managed planning and management mechanisms with detailed heritage-specific policies (such as an industry referral mechanism for assessing and managing the grubbing of registered heritage vineyards) could be submitted for approval as an exemption mechanism.

It is important to note that CMPs can only be endorsed by the Heritage Council for a five year period. Should a management framework be based around an endorsed CMP, the Heritage Council would seek a review of the CMP at the expiry date of the five year period and these reviews would need to be funded by the party responsible for the preparation of the CMP.

5.3.2 Public notification

The statutory process set out in the Heritage Act is instigated when a Notice of Intention to List report is presented to the Heritage Council of NSW (the Heritage Council). Should the Heritage Council agree to proceed with Notice of Intention to Consider Listing, public notification is undertaken as follows, as part of the Consultation and Communications Strategy referred to in 5.1.1:

- Formal letters are sent to all stakeholders notifying of the Heritage Council's intention to consider listing;
- Proposed listing and information are advertised on Heritage Division website;
- Proposed listing is advertised in local and state newspapers; and
- Submissions from interested parties are invited over a minimum period of 14 days.

5.3.3 Heritage Council Recommendation

Following completion of the advertising period all submissions are included in a report, which is presented to the Heritage Council. Should the Heritage Council make a Recommendation to List to the Minister:

- Letters are sent to all stakeholders notifying of Heritage Council recommendation; and
- The recommendation is sent to the Minister for Heritage.

5.3.4 Ministerial Decision

A recommendation (for or against) is referred to the Minister for Heritage for his/her consideration and final decision:

- Following the Minister's decision letters are sent to all stakeholders; and
- A listing becomes legal when it is published in the NSW Government Gazette.

5.4 Identification of key threats to the heritage values of the Pokolbin – Broke Fordwich Cultural Landscape

The 2000 Cessnock Cultural Landscapes Review identified the following threats to the Pokolbin Vineyards Cultural Landscape, and these threats may equally be applied to potential inappropriate development of the Broke Fordwich subregion: [99]

The major threat to the heritage significance of the Vineyards Landscape is that of excessive tourist-based development with little if any connection to the historic vineyard/pastoral characteristics of the area or its ongoing active vineyard use, and which in fact may displace such activities. Particular threats include:

- *The loss of the open landscape character with expanses of vines and pasture with scattered clusters of buildings, to one dominated by buildings ranged more densely along the roads;*
- *The loss of active winemaking on many vineyards (especially ones under corporate ownership) with large scale facilities concentrated at a few sites;*
- *The introduction of overly-embellished or European inspired buildings and associated structures (e.g. entry gates) and landscaping (e.g. avenues of exotic trees or large formal gardens) dominating more traditional forms;*
- *The loss of the rural character of the road corridors i.e. unformed gravel roads, trees to sides;*
- *The introduction of large-scale new developments with no relationship to the historic character of the area (e.g. golf courses, residential complexes);*
- *The idea that 'vines with everything' make any development acceptable, no matter how small the area of vines in relationship to the development.*

It is fair to note that many of the above threats were identified at the peak of a global corporate investment boom, ahead of the 2008 global financial crisis and wine industry downturn. The pace of change to the landscape has slowed considerably since then, and development provisions have been put in place to avoid and mitigate the identified threats. Even so, the above summary remains relevant to the kind of development issues that could affect Pokolbin – Broke Fordwich cultural landscape heritage values in the future, especially as tourism takes increasing economic precedence over wine production.

It is important to understand the potential threats to appreciation of the natural elements of the cultural landscape, in particular the landmark natural element that connects the two sub-regions – the Brokenback Range. The Range is considered to be the single most important unifying landmark element in the entire cultural landscape, significant for its role in underpinning the landscape system which supports the successful terroir elements of the continuing landscape, as well as the landscape's aesthetic and social significance. Views of the Brokenback Range from all parts of the cultural landscape, in particular the uninterrupted views of the Brokenback Range Yellow Rock sandstone escarpment across the undeveloped rural landscape south of the Cessnock/Broke Road connecting route need to be protected, possibly through extension of the Visually Significant Area and associated Development Control provisions. (Refer Section 5.3.1 for suggested policy detail.)

The soldier settlers' heritage vineyard area in the Broke Fordwich subregion, the heritage and historic vineyard areas and cultural landscape of the Parish of Pokolbin (around McDonald's Road, Debeyer's Road, Mountains

[99] Ecotecture, *Cessnock Cultural Landscapes Review*, prepared for Cessnock City Council, September 2000.

Road, Oakey Creek Road, Marrowbone Road and Mount View Road), and the landscape around Tyrrell's Ashman's winery and the HVD heritage vineyard sites on Broke Road and lower Hermitage Road are considered to be of high heritage significance and therefore more sensitive to change than the recently developed area around the Broke Road and McDonald Road intersection in Central Pokolbin, and the sections further north along Hermitage Road that have been impacted by the introduction of newer styles of winery and tourism development since the 1980s. (Refer Section 5.3.1 for suggested policy detail.)

Similarly the scenic routes and back roads of precincts in the Broke Fordwich and Pokolbin subregions that retain their historic rural character, and retain views of the natural and cultural landscape elements of mountains, rolling hills, vineyards, pastoral land, remnant forest, alluvial flats and creek lines (such as Wollombi Road, Milbrodale Road, and Fordwich Road in Broke Fordwich, and Old North Road, Deasey's Road, Palmer's Lane, Gillards Road, Wilderness Road, Lovedale Road and Talga Road in Pokolbin) are also considered more sensitive to change than the central part of Central Pokolbin into the future. (Refer Section 5.3.1 for suggested policy detail.)

Other threats to the cultural landscape identified during the course of the Study include;

i. The expansion of open-cut coalmining and coal-seam gas exploration. This is particularly critical in the Broke-Fordwich subregion where mining has already wiped a section of the historic Great North Road off the map, is a direct and immediate threat to the survival of the town of Bulga, and is starting to detract from views towards Fordwich Hill from Milbrodale Road. Noise, explosions and dust are also threatening the agritourism enterprises which underpin the sustainability, continuity and evolution of the subregion's viticultural heritage;
ii. The emergence of conflict between agriculture and tourism land uses in the form of spray drift, noise and odour, and the impact of tourism on itself – the 'killing the goose that lays the golden eggs' syndrome of excessive and inappropriate tourism development destroying the scenic values and historical significance of the cultural landscape that attracted the tourists in the first place;
iii. Increasing real estate values and housing subdivision pressures, as the population of Sydney and NSW continues to expand, make it difficult for grape growing to compete economically with housing and other forms of developments. Housing subdivisions disguised as tourism or golf developments, or aged-care facilities that might seek to 'bend the rules' around housing development in the Vineyards District and RU4 zone are a particular threat;
iv. Biosecurity and climate change, and the associated impacts of disease, bushfires and floods have been identified as key threats to susceptible heritage vineyards, and rare and old vines, as well as viticulture in general;
v. Climate change also influences the wine varieties that can be produced in a particular region, and so can thereby threaten the viticultural heritage (e.g., continuity of the Hunter's historic identity with semillon and shiraz);

vi. Economic pressures and global market volatility are a key threat to agriculture and viticulture in general, and to the Hunter in particular, as the region is already viewed as a marginal wine region due to its subtropical climate and low volume of wine production; and

vii. A lack of understanding of the potential value of heritage vineyards and old vines by new landowners is a key threat to their survival.

5.3.1 Review of existing policy and commentary on how the significance, values and issues facing the future management of the Pokolbin – Broke Fordwich cultural landscape

It is useful to review the history of local government planning policy recommendations around management of the viticultural landscape that have been made since the National Trust first identified the potential heritage significance of the Pokolbin Vineyards Cultural Landscape in 1982, and their subsequent incorporation into Cessnock City Council LEP and DCP policy.[100]

The 1993 Gardner Browne Cultural Landscapes Study[101] recommended the following conservation actions:

> *For Pokolbin it is important to retain the remains of early evidence of settlement in the area but to accept that economic pressures have created a new cultural landscape which has dominated the area's early heritage. Recent developments have introduced elements inspired by European viticultural landscapes. These can compete for attention and detract from traditional elements of the cultural landscape, such as the ordered pattern of vines, pasture, forest and roads. A broad-scale planting program on private property in accordance with a set of locational guidelines could reinforce and further develop these traditional patterns. The road system, together with roadside planting and roadside signage provides opportunities to create unifying elements in areas controlled by the Council. Some visual restructuring of the area could reinforce the image of the area as a collection of identifiable historic localities and could assist with and simplify directional signage.*

The 1994 City of Cessnock Heritage Study[102] carried these recommendations further, suggesting the DCP be reviewed and augmented to:

- *Properly describe and explain the vineyard landscape and its components – vegetation, buildings (scale and shape), siting of buildings – to provide a base point by which the effect of new development can be judged*
- *Provide more detail and thereby strengthen Council's ability to control the siting of new development so that it does not intrude onto the landscape, and to control the scale, shape, colours and materials of new buildings; and*
- *Encourage the retention of essential elements of the cultural landscape such as the un-sealed roads, with informal roadside eucalypt plantings, and older buildings, and encourage their continued use and re-use*
- *Review the signage code with the aim of preparing a hierarchy of signs consistent with RTA principles for directional signage, in order to avoid signage proliferation.*
- *Prepare a landscape DCP to (i) increase massed plantings to ameliorate the impacts of new tourism development; (ii) develop a road policy that retains the narrow carriageways, low vehicle speeds, and soft un-curbed edges of the back roads; (iii) coordinate with local residents and property owners to*

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[100] *A Report on Landscapes of Likely Heritage Significance, Hunter Region Heritage Study*, prepared by the National Trust of Australia (NSW), September 1982.

[101] Gardner Browne Planning Consultants *Cessnock Cultural Landscapes – Wollombi, the Coalfields and the Vineyards*, 1993, in association with Penelope Pike, Meredith Walker & Associates, *City of Cessnock Heritage Study*, 1994.

[102] Pike, Walker & Associates, *City of Cessnock Heritage Study.*

encourage clump plantings around private development and along water courses; and (iv) develop a list of species indigenous to the area for that purpose

- *Provide assistance to vineyard owners to properly record, care for and display historic records and artefacts, including operating machinery.*

The 2000 Cultural Landscape Review[103] further reinforced the 1994 study's recommendations, while acknowledging that they had already largely been incorporated into the 1999 Vineyards District DCP. The review also took the signage recommendations further:

- *Identify different precincts within the area and use as the basis for directional signage. These might be based around the road names e.g. DeBeyers Road, McDonalds Road (which already have some general role in this way) or by historic localities e.g. Allandale, Lovedale, Mt View (as suggested by the 1994 Heritage Study). Precincts could be used as the basis for directional signage, with only regionally significant items having specific signage from main roads. This could also be used to give emphasis to historic wineries.*

It is important to note that the Parish of Pokolbin, Central Pokolbin, Lovedale, Hermitage and Mountview precincts have since been identified through the Cessnock City Council Precinct Signage Project, which has seen the installation of information bays, city gateway signs, and wayfinding directional signage, while the Vineyards District DCP provisions define a separate comprehensive signage code for private enterprise signage within the district. The Precinct Signage Project also highlights the Parish of Pokolbin as the 'heritage heart' of the broader Vineyards District. (See Section 3.4.7 of the Study). The installation of the new signage and information bays and the use of satellite navigation has however made extensive older signage at intersections across the Vineyards District redundant, and this signage now needs to be removed to avoid proliferation, (despite the old signage retaining a certain heritage charm).

The 2000 Cultural Landscape Review also made the following landscape management recommendations, while noting that the retention of existing native vegetation and the provision of development incentives to facilitate additional native vegetation planting had already become an integral part of the Cessnock Vineyards District DCP at the time of the review:

- *Maintain sharp divisions within the landscape between vines, open pastures and forest. Encourage land uses that will help to maintain these different activities.*
- *Maintain and enhance native plantings along gully/stream lines and roads. Encourage extra planting within private property adjacent roads for a depth of 20m. Planting is often best in clumps rather than continuous to allow views out from the road, particularly where the views are a prominent part of the landscape.*

The 2000 Review made the following siting recommendations, noted their incorporation into the provisions of the Cessnock Vineyards District DCP for identified Visually Significant Areas (VSAs), and recommended the provisions and guidelines be extended to the whole of the Vineyards District:

New buildings should be sited:

- *with a large setback from the road*
- *so as not to obscure prominent views from the road*
- *so as not to dominate any historic buildings on the site.*

[103] *Cessnock Cultural Landscapes Review* prepared by Ecotecture for Cessnock City Council, September 2000.

It is important to note that the Landscape and Design Guidelines for the VSAs now apply to the whole Vineyards District. However, a visual impact assessment is still only required for development within a VSA.[104]

The 2000 Cultural Landscapes Review also acknowledged that control of development in the vicinity of listed historic buildings was covered in the LEP and Vineyards District DCP item at the time of the review, but noted that this could be extended to include 'contributory' items within the cultural landscape that may not be listed, such as other winery complexes, farm buildings, dams, and significant stands of trees.

Similarly, 'rare' and 'heritage' vineyards on the Hunter Valley Vineyard Register that have been documented as elements of the cultural landscape by the HVHV Strategic Study could be listed as contributory items in (a) future Heritage Conservation Area(s), with associated DPC guidelines, and this could be extended to those registered as 'old' vines over time. Industry stakeholders however recommend that any assessment ahead of the grubbing of vines on the Heritage Register needs to be made by an industry body, such as Vinehealth Australia, and not by local or state government bureaucratic bodies (refer Section 5.2).

Other historic vineyards, and historic cottages, such as the extant soldier settlers' cottages and relict winery at Fordwich, and vernacular timber cottages and farm buildings scattered throughout the cultural landscape could also be identified as contributory items, and possibly listed and referred to in the context of the site analysis and site planning guidelines through future amendments to the Vineyards Districts DCP item, and/or extension of Vineyards District into the Singleton LGA.

It may be useful for future Vineyards District DCP policy to make distinctions between precincts within the Vineyards District and Singleton RU4 zone that have retained their historic rural cultural landscape elements, such as mountains, rolling hills, vineyards, pastoral land, remnant forest, alluvial flats and creek lines, (e.g., the soldier settlement district at Fordwich, the Parish of Pokolbin, the area around Tyrrell's winery and HVD site, as well other undeveloped back roads of Pokolbin, Broke Fordwich, Lovedale and Mountview), and those that have undergone significant change, (that is, Central Pokolbin, around the McDonald's Road and Broke Road intersection, and the more developed sections of Hermitage Road).

Views of the landmark landscape feature (the Brokenback Range), from all parts of the cultural landscape, in particular the uninterrupted views towards Brokenback Range and the Yellow Rock escarpment across the undeveloped rural landscape south of the Cessnock/Broke Road connecting route, could be protected by extending the Visually Significant Area and associated Development Control provisions to the Singleton DCP.

[104] Cessnock Development Control Plan 28 (1999) Part E Specific Areas E.3 Vineyards District downloaded at http://www.cessnock.nsw.gov.au/resources/file/BuildingDevel/SLUP/DCP/Part%20E/E3%20Vineyards%20District%20%20.pdf on 16.04.2018.

The Parish of Pokolbin, and in particular the surroundings of Ben Ean, McDonalds flat, De Beyers Road, Oakey Creek Road and Marrowbone Road, is a highly sensitive area in the context of (i) the concentration of heritage and historic vineyards and wineries; (ii) the legibility and integrity of a cultural landscape that has remained largely unchanged since the early 20th century; (iii) the distinctive and distinguishable mosaic pattern of the historic vineyards that represent all the phases of Hunter Valley wine history; and (iv) the landscape's situation in the Brokenback foothills overlooking McDonald's flat, the location of John Maconald's highly discernible original 1000 acre settler's grant.[105]

It is therefore recommended that Cessnock City Council consider expanding the Visually Significant Area to cover other parts of the Parish of Pokolbin precinct, along with the requirement for a professional visual analysis and accompanying photomontage showing the impact of any proposed development in the context of the site and its containing landscape.

The introduction of Visually Significant Areas to the Broke Fordwich subregion should also be considered, especially with regard to existing scenic routes along Wollombi Road, Milbrodale Road and the section of the Broke/Cessnock Road that connects the two GIs, in order to protect the views towards the Yellow Rock Escarpment and Fordwich Hill.

It is also critical for the future of Broke Fordwich as a wine heritage region that a visual buffer between the RU4 zone, and the coal mines located on the north-east side of the Fordwich Hill ridgeline along Charlton Road is maintained, and this should also be at the heart of any management framework for the landscape Heritage Conservation Area. Alternatively, a future Conservation Management Plan, or amended DCP for the Heritage Conservation Areas, or an expanded Vineyards District that includes the Singleton RU4 zone could consider extending the VSA, and requirement for a professional visual impact assessment to the entire HCA and/or expanded Vineyards District.

The impetus for the following recommendation in the 2000 review is likely based on the fact that exotic plantings in the immediate vicinity of rural estates have often been a facet of traditional Australian rural settlement:

- *Exotic plantings and/or formal gardens should be restricted to the immediate building area.*
- *Ensure that vineyards are not arbitrarily included in developments within the LGA but outside the Pokolbin area as an adjunct to development. (i.e. "vines with everything" attitude.) While it would not be appropriate to prohibit vineyards outside the area, in such areas they must be the main focus of any development and not just a "gimmick".*

It may be appropriate to simply encourage a diversity of rural land uses that will naturally follow existing allotment patterns, and thereby remain clearly distinguishable from each other in the landscape.

[105] The Study uses John Macdonald's spelling of his own name for references to the Macdonald family, and the adopted spelling McDonald for place names such as McDonald's flat and McDonald's Road.

Other recommendations in the 2000 Cultural Landscapes Review centre around the form and clustering of development, and control of lot sizes:

- *Buildings should generally be a collection of detached/semi-detached pavilion style structures with a hierarchy of sizes. Screening by landscaping may be appropriate to minimise visual impact.*
- *Lot size limitations should be placed to control subdivision.*

It is important to note that both the Singleton and Cessnock councils have a minimum lot size of 40 hectares in their RU4 zones and this is generally supported by the wine community as being the most effective way of encouraging commercial primary production (as opposed to hobby farming or the 'gimmick' viticulture referred to in the 2000 review). Design guidelines for clustered pavilions and vernacular style development are also now incorporated into the current Vineyards District guidelines. Some further recommendations in the 2000 review were around ancillary land uses:

Other activities (e.g. guest accommodation, restaurant, retail) should be subservient to the general vineyard and rural character of the area. That is, they should:

- *be setback well away from the road and/or be screened by landscaping or the topography*
- *include a commercial scale vineyard on the site*
- *A higher level of visibility would be acceptable where the development is only modest in scale.*

It should also be noted that many vineyard owners recognise the need for diversity of production and diversity of income sources and would not therefore support a zoning policy that restricts land use to viticulture only. This is reflected in the existing RU4 zoning and DCP provisions for soil and land capability analysis. Policy therefore needs to enable viticulture to expand and contract within a broad and diverse rural landscape system. It may therefore be useful to continue referring to 'primary production' rather than 'viticulture' in zoning policy provisions that promote the subservience of ancillary activities to rural land uses.

The 2014 Hermitage Rd Pokolbin Planning Study reviews the planning framework for four vineyard areas across Australia (the Cessnock Vineyards District, Mudgee, the Barossa and Rutherglen) and makes useful policy comparisons between them on the basis of (i) zoning objectives; (ii) minimum lot sizes and other subdivision restraints; (iii) dwelling entitlements; (iv) tourist accommodation provisions and constraints; (v) setbacks; and (vi) permitted and prohibited uses, suggesting these are the key broader policy tools for management of an evolving vineyard landscape through a planning scheme.

The 2014 study noted policy failure in the Mudgee planning scheme around an attempt to tie applications for new dwellings to ancillary primary production (there was no method for enforcing or monitoring the establishment of horticulture or viticulture after a dwelling was built), while also revealing how the combination of Barossa Valley state and local government policy is the most clearly defined with regard to placing primary production ahead of other land uses.

The 2014 study's case study of the Cessnock Vineyards District noted that Cessnock Council had recently considered the suitability of the Vineyards District to accommodate permanent residential occupation in association with major tourism developments.[106]

The 2006 review found that there was little justification to amend Council's LEP to support permanent residential occupation in and around the various nominated major tourist resorts, either existing or proposed, within the Vineyards District, as such a proposal would be inconsistent with local and state policy and have the potential to detract from the character of this area that is primarily dedicated to winemaking.

Accordingly, Cessnock Council resolved not to support any additional permanent residential occupation as part of any major tourist development in the Vineyards District, and this direction was supported in its City Wide Settlement Strategy 2010.[107] It is considered essential to the future management of the Pokolbin – Broke Fordwich cultural landscape that residential subdivisions of any form continue to be regarded as a prohibited land use within the Vineyards District and RU4 zone.

At the time of writing the Study Cessnock City Council is calling for expressions of interest (EOI) for community members interested in participating in a working group that will help inform the Cessnock Vineyards District Planning Project. Landowners, viticulturalists, wine and tourism professionals, recreation and accommodation providers are encouraged to apply, and the objective of the project is to 'develop a suite of clear policy outcomes for the Cessnock Vineyard's District that allows for and considers land use differentiation between the District's existing 'character' precincts'. It will be important to incorporate the content and findings of this Study into the Cessnock Vineyards District Planning Project so that the historical and heritage messages are understood in the planning context; that is, the statement of cultural significance and what are the identified elements of the cultural landscape.

Similarly, the content and recommendations of the Study need to inform current regional strategic regional planning processes being undertaken by the HVWTA, Singleton Council, Cessnock City Council and the Hunter and Central Coast Department of Planning and Environment.

5.5 Future Management of the Hunter Valley Vineyard Register

5.5.1 Recommendations on the future management of the significance and value of the heritage vineyards on the Hunter Valley Vineyard Register

The continuing identification, documentation, classification, data collection, mapping and registration of Category 2 'rare', Category 3 'heritage', and Category 4 'old' vineyards through Vinehealth Australia is

[106] Cessnock Development Control Plan 28 (1999) Part E Specific Areas E.3 Vineyards District downloaded at http://www.cessnock.nsw.gov.au/resources/file/BuildingDevel/SLUP/DCP/Part%20E/E3%20Vineyards%20District%20%20.pdf on 16.04.2018.

[107] Peter Anderson & Associates, *Hermitage Road Pokolbin Planning Study*, p. 30

considered essential to the future management and protection of the vineyards, as a lack of understanding of the locations, significance and potential value of heritage vines and old vines is the key threat to their survival.

The Register needs to extend the mapping of the 'rare' and 'heritage' vineyards that were planted prior to 1931 and 1969 respectively to the mapping of 'old' vineyards (more than 35 years old) that were planted before 1983. (This has commenced but needs more funding to be completed. The funding could feasibly be secured from the wineries that stand to gain the most from seeing their vineyards registered and recognised as 'old vineyards'.)

The University of NSW could also continue expanding the mapping and analysis of the landscape system and terroir context of the vineyards to 'old' vineyard locations and precincts across the broader landscape, which represent the later 20th century phases of the Hunter's renaissance as a wine region, as well as the terroir of 'Historic' vineyards that have been planted with new plantings.

5.5.2 Practical management and maintenance of heritage vineyards

The maintenance of the continuity of a heritage vineyard is managed through propagation methods that retain the original root system. These include;

- Layering: When a long dormant cane is extended down into the ground to establish a new vine. It has the same genetics as the mother vine and is usually connected for 5-6 years before being cut off.
- Leg up: When the trunk of an old vine is in poor condition, e.g., heart rot or trunk disease, a sucker that grows in spring is retained to form the base of the vine, and then brought up as replacement trunk. The old trunk is then cut off in year 2 or 3 at pruning time, subject to the success of the leg.

Both of these methods are considered to retain old vine integrity on the basis of their retainment of the root system. Valuable genetic material can also be conserved by taking cuttings or rootlings from a successful mother vine by:

- Cuttings – a section of cane that is cut from dormant canes in winter – usually then placed in a nursery to grow on for 12 months to get a root system established.
- Callused cuttings – the cuttings are buried for a short period; e.g., 6-8 weeks and then planted out without roots.
- Rootlings – when a one year old 'cutting' has roots it is a rootling – this is the preferred way to plant new vines as they have a better survival rate – the weaker plants have died off and the survivors have sufficient roots to be able to source water and nutrition.

Cuttings are not considered to retain old vine integrity but they may be used in combination with layering and leg-ups to maintain the integrity of an old vineyard. Cuttings can also transplant historic genetic material to new locations, as has occurred throughout the history of the Hunter. Refer to Liz Riley's independent report *Hunter Valley Heritage Vineyards Strategic Study: Vineyard Register and Heritage Mapping – April 2019* for a more detailed discussion.

Figure 58. Layering at Drayton's Bellevue vineyard to replace vines while maintaining heritage vineyard integrity.
A long dormant cane is extended into the ground to establish a new vine which has the same genetics as the mother vine and is usually connected for 5-6 years before being cut off from the mother vine.

5.5.3 Management of the grubbing of heritage vineyards

It is important to note that there is growing global interest in vine material that survived the Phylloxera epidemic of the late 19th century and that a number of significant individual and collaborative European biodiversity projects have already captured, characterised and ultimately conserved their pool of *Vitis vinifera* and related germplasm, to reverse the universal trend of selecting from an ever-decreasing gene pool.

Specifically, the value of the Hunter's heritage vine material is due to the potential for associated genomics research in isolating genetic codes that will support sustainable viticulture through improved disease resistance and quality characteristics in the context of a changing climate, evolving consumer tastes and diversifying markets. While some heritage vineyards have survived for over 100 years, it is feasible that some heritage vineyards on the Hunter Valley Vineyard Register will lose their viability. The Heritage Vineyard owners interviewed during the Study suggest that an industry body could be made responsible for assessing an application for removal of a heritage vineyard, and for applying a set of assessment criteria for how and when a heritage vineyard may be grubbed.

Potential criteria for assessing the condition and viability/sustainability of a heritage vineyard might be:

i. Historic value – continuity of production/continuity of vineyard typologies
ii. Production value (quantity)

iii. Quality of fruit (economic value of distinctive/rare/consistent fruit and flavours)
iv. Aesthetic value of the historic mosaic pattern of vineyard layouts in the landscape
v. Branding association and the story-telling value of recognised heritage vineyard to the marketing of specific wine labels, winery and cellar door operations
vi. Scientific research value and value of genetic diversity of potentially rare genetic material.

In recognition of the potential value of the plant material to global genomics, a process for the assessment and possible storage of any valuable genetic material would need to be put in place. The requirement for an industry referral of any proposal to grub a heritage vineyard could be incorporated into an LEP item and the listing and referencing of vines on the Hunter Valley Vineyard Register as contributory items in the LEP would assist this process.

5.5.4 Education around the value of old vines and heritage vineyards

As new landowners may not be aware of the value of heritage vines that are on their property; it will be important to educate them about the value of the Hunter's heritage vineyards, and the existence of the HVW&TA Heritage and Old Vine Register.

Many producers now consider that the older the vine, the better the wine, as the root system on a 100-year-old vine, depending on the type of soil, can be extraordinarily deep; in loose soils, gravel or loam, root systems can go down five metres or more. The older vine, however, tends to produce far fewer bunches with smaller, more concentrated grapes dense with flavour. Because vines produce fewer grapes as they age, commercial vineyards across the world tend to uproot and replant once vines reach 25 to 30 years old. It is now however commonplace to see 'old vine' on a wine label, and the consumer message is simple; the wine inside the bottle tastes better because the vines are old.

The consumer may need to be educated that behind that equation lies a complicated history that actually places the Old World and New World wines on a more level playing field. As discussed throughout the Study, the knowledge that the oldest vines in the world aren't necessarily in the Old World is no secret to the Hunter wine industry, as Phylloxera decimated Europe's original vines in the second half of the 19th century, ahead of the First Wave Globalist export era of expansion of the Australian wine industry. The story that needs to be told, therefore, is the story of the continuity of the wine history of Hunter region on which the recommended state heritage listing is based. In what now seems a miracle of timing, in the 1830s, a little over a decade before the introduction of Phylloxera to Europe from the United States, Australia had begun importing a significant number of vine cuttings derived from the original European genetic material, and this material endures in the heritage vineyards of the Pokolbin – Broke Fordwich subregion of the Hunter Valley wine region to this day.

5.6 Future management of the Pokolbin – Broke Fordwich cultural landscape

Any management of an extended Vineyards District or LEP-listed Heritage Conservation Area as (a) future SHR-listed Heritage Conservation Area(s) will need to recognise the cultural landscape's distinguishing factor: the Hunter terrain is not conducive to broad-acre viticulture, as grape production endures on patches of successful terroir within a diverse landscape, producing modest volumes of wine focused on quality, rather than quantity. Landscape management policy therefore needs to allow viticulture to expand and contract within a broad and diverse rural landscape system.

It is important to note that regulation alone cannot protect an organically evolving and continuing cultural landscape or heritage vineyard. A rural landscape or vineyard needs to be economically viable to survive, and any management framework for the broader cultural landscape and for its heritage vineyards will need to take this into account. In this context, heritage listing is increasingly being viewed as a branding mechanism, which, like a Geographical Indication, reinforces the regional provenance of a product, underpins the vertical integration of primary production, and adds value to the food and wine value chain, thereby supporting the continuing conservation and evolution of the viticultural, agricultural and pastoral heritage of the cultural landscape.

The original application for the Pokolbin GI subregion called attention to the role of 'agrotourism' (now known as 'agritourism') in sustaining the viticultural heritage of a region, and it needs to be recognised that this motivation is also behind the recent World Heritage listings of a number of significant European viticultural landscapes. It is also worth noting that Hunter Valley wineries are taking provenance, terroir and heritage increasingly seriously by investing in the interpretation and promotion of wine and viticultural heritage through bricks and mortar cellar door museums and interpretive displays, through online interfaces with the general public, and through the naming, branding, description and promotion of individual and, in particular, single vineyard wines. Historic wineries such as Drayton's Family Wines, which are in the process of developing a winery museum, should be encouraged to seek professional assistance through heritage funding schemes, small museum grants and/or professional assistance from institutions such as the Newcastle Museum to design and curate their displays.

It should also be noted that many practical cultural landscape management measures have been put in place over the 30 years of policy development since the Pokolbin Vineyards Cultural Landscape was first identified by the National Trust, and that some of these could be extended into the Broke Fordwich subregion, either through extension of the Vineyards District and Visually Significant Area overlays and/or through applying the proposed Heritage Conservation Area overlay to the relevant Singleton RU4 zone located within the SEPP Critical Industry Cluster (Viticulture) curtilage.

Most of the historically significant wineries in the Study Area are already listed on the Cessnock and Singleton LEP heritage registers. However, some key archaeological sites identified on the REP list are not yet

incorporated on the LEP heritage lists. These may require further research to ascertain the exact location of the archaeological sites.

As the last remnant of the turn of the century Pokolbin settlement, the timber church on McDonald's Road in the Parish of Pokolbin (now Usher Tinkler's cellar door) is an obvious significant element in the Pokolbin cultural landscape that has not been listed to date.
The soldier settlement cottages and relict winery vineyards associated with the Fordwich soldier settlement heritage vineyards (Grapeman, Joblins, Hawkins and Cockfighters), are worth further investigation for LEP listing, either independently, or as contributory items to a future Heritage Conservation Area. Early 20th century timber cottages along Oakey Creek Road and Marrowbone Road, and in particular cottages associated with the Drayton and Howard families and the Mount Pleasant vineyard could also be documented as contributory items to a future Heritage Conservation Area.

It is important to note that while the management of individual heritage-listed and contributory items is one aspect of cultural landscape management, the key policy tools for management of the evolving vineyard landscape will continue to be (i) zoning objectives; (ii) minimum lot sizes and other subdivision restraints; (iii) dwelling entitlements; (iv) tourist accommodation provisions and constraints; (v) setbacks, building envelopes and specific design guidelines; (vi) new tree and shrub planting guidelines; and (vii) permitted and prohibited uses.

It is recommended that the existing provisions for minimum lot sizes, dwelling entitlements and constraints on housing subdivisions within the Vineyards District and RU4 zone be retained. It is likely that tourism accommodation provisions and constraints, setbacks, floor area limits, building envelopes and other design guidelines including tree and shrub planting guidelines, along with permitted and prohibited uses will need to be further refined, and possibly linked to provisions around the proposed expanded Visually Significant Areas, and associated requirement for professional visual impact assessment.

As state government referral exemption mechanisms under the NSW Heritage Act are developed, accompanying lists of types of the development that may NOT be exempt from referral may need to be developed. Provisions for the preferred locations of retail precincts or future shopping villages will need to be developed, and these should be located outside the proposed expanded Visually Significant Area and/or the more sensitive historic areas, such as the area around McDonald's Flat in the Parish of Pokolbin. Similarly, large-scale tourism development will need to be located carefully in areas that are less sensitive to cultural landscape heritage impacts.

It should be noted that increasing recognition of the value of the region's heritage to the marketing of its produce is working to support conservation, interpretation and understanding of heritage and the associated

landscape values, and this trend should be encouraged and supported through future local and state government heritage grants policy.

Finally it should be noted that the Rural Lands SEPP Critical Industry Cluster mapping already recognises the proposed curtilages in Section 4.5 as state significant viticultural land, with rural planning principles and policies such as Agricultural Impact Assessment already in place to assist in the proper recognition, management, development and protection of the rural landscape at the state level, and this will need to be cross-referenced with any future State Heritage Register listing or Conservation Management Plan.

5.7 Consultation and Communications Strategy

This section needs to be cross-referenced with the Consultation and Communications Strategy Framework provided at Appendix G.

5.6.1 Recommendations for communicating the findings of the study and engaging the community with the recommended State Heritage listing

The results and key recommendations of the Study will need to be communicated to key Stakeholders and to the general public through media outlets immediately following completion of the Study. The Project Steering Group also recognises that a longer term Consultation and Communications Strategy (C&C Strategy) is needed to determine (i) with whom to consult and communicate; (ii) how and when to consult and communicate; and (iii) what information should be provided so as to secure broad community and stakeholder support for State Heritage nomination and listing. The Project Steering Group therefore recommends that that both Singleton and Cessnock City Councils, along with OEH consider having an integral role in developing the C&C Strategy with HVW&TA, and in determining how it will be implemented, while recognising that the process is not yet incorporated into any current council or NSW government work plan.

Funding and resources will need to be allocated for the development and implementation of the C&C Strategy. However, initial consultation on the improvement of cultural landscape management mechanisms could be part of the current Cessnock Vineyards District Planning Project, which should in turn inform any future LEP/DCP/Vineyards District/Heritage Conservation Area amendment processes, while recognising that those future processes are not yet incorporated in any current council work plan.

The Strategic Study's recommendations for State Heritage listing, and its Statement of Significance and documentation of the natural and cultural elements of the Pokolbin – Broke Fordwich Cultural Landscape, should inform the Cessnock Vineyards District Planning Project and Strategic Lands Use regional planning and consultation being undertaken by the Hunter and Central Coast Department of Planning and Environment.
It is important to note that under the NSW Heritage Act all affected landowners must be notified of a nomination for State Heritage listing formally by letter, either through digital and/or printed communication.

In addition to landowners, it is also an SHR listing requirement for lessees to be consulted as part of the SHR listing process. All landowners and lessees are required to be identified for SHR nomination. While heritage vineyard landowners have been consulted as part of the Study, there are hundreds of other landowners who would need to be consulted as part of SHR listing process of the broader landscape. As this process needs to be undertaken in collaboration with the councils (who, along with NSW Lands hold those databases), Singleton Council and Cessnock City Council will need to commit to involvement in stakeholder notification. A list of all Lot and Deposited Plans (DPs) within the proposed curtilage will need to be prepared using NSW Lands data bases.

The C&C strategy needs to determine the extent and nature of communication including what level of consultation (if any) might be needed with affected Aboriginal groups early in the process, noting that the vineyards in the proposed Cultural Landscape Heritage Conservation Area would not be subject to Native Title claims as they are freehold.

It will be important to communicate early that State Heritage Register listing will not interfere with the existing fundamental development rights of those landowners, such as existing allotment sizes, dwelling rights and subdivision rights. It also needs to be communicated that it will be 'business as usual' regarding 'red tape' before and after listing; that the exemption mechanism, if achieved, means that ordinary development applications will be assessed at the local government level, based on local government LEP and DCP provisions. Only significant developments would require referral, and Councils would be responsible for preparing a list of the type of development that would NOT be exempt from State Heritage approvals. The key will be to involve stakeholders in changes or amendments to LEP and DCP provisions head of listing in order to secure exemption under the NSW Heritage Act.

In summary, HVW&TA will need to prepare a C&C Strategy and associated timeline, based on the draft framework provided at Appendix G, and take into consideration the following:

i. HVW&TA will need to secure in principle support for the Study's recommendations from the two councils (through formal resolutions of the elected members of the councils), and also from the HVW&TA board, relevant wine and tourism industry bodies, relevant state government departments, and Heritage Vineyard owners and custodians.
ii. It will be helpful for HVW&TA to secure the 'in principle' support of the Minister responsible for heritage in the recently epected NSW government.
iii. Singleton and Cessnock City Councils will need to review the Study's recommendations for landscape management and protection, and heritage vineyard management and protection in consultation with all members of the Project Steering Group.
iv. Singleton and Cessnock City Councils will need to develop a DCP amendment process in consultation with OEH and invite stakeholder/landowner review.
v. Singleton and Cessnock City Councils will need to develop an internal Council strategy for consultation

on the processing of DPC amendments.

vi. Singleton and Cessnock City Councils and OEH could consider implementing the necessary LEP and DPC amendments, and processing SHL listing simultaneously.

vii. It is important to note that the policy recommendations documented in this Study are not considered to be comprehensive. Detailed management and communications frameworks and policies will need to be further developed through future consultation between the Councils, the relevant state government agencies, industry stakeholders and the broader community, and through local government LEP and DCP policy development processes.

viii. A draft (high level) framework for the C&C Strategy is provided at Attachment G.

5.8 General recommendations

1. Communicate the key recommendations of the Study to stakeholders and to the general public through industry events and media outlets immediately following release of the Study. It will be important to communicate early that State Heritage Register listing will not interfere with the existing fundamental development rights of landowners, such as existing allotment sizes, dwelling rights and subdivision rights, and that ordinary development applications would continue be assessed at the local government level, based on evolving local government LEP and DCP provisions.
2. Follow up on the Study findings and recommendations through the Hunter Valley Wine Country Alliance made up of HVW&TA, Cessnock City Council and Singleton Council.
3. Proceed with the SHR nomination concurrently with local government DCP amendment processes if and when resolutions to support the nomination process are secured from Singleton Council and Cessnock City Council.
4. Incorporate the Study findings and recommendations into the 2019/2020 Cessnock Vineyards District Planning Project and associated stakeholder consultation.
5. Incorporate the Study findings and recommendations into the 2019/2020 Singleton Council strategic planning processes and associated stakeholder consultation.
6. Incorporate the Study findings and recommendations into 2019 strategic regional planning processes being followed by HVWTA, Singleton Council, Cessnock City Council and the Hunter and Central Coast, NSW Department of Planning and Environment.
7. Integrate the Study findings and recommendations into the Hunter Energy Transition Alliance network and other regional economic transition initiatives.
8. Consider preparing a National Heritage nomination concurrently with the State Heritage nomination processes and extending the comparative analysis to comparable national historical wine regions.
9. Extend the historical vineyard mapping and terroir mapping to Category 4 ‘old’ vineyards covering the Renaissance Era (plantings between 1969 and 1983).
10. Expand the research and documentation of successful terroir to Category 5 ‘historic’ vineyards demonstrating successful continuing historic terroir that has been planted with new vines, and also to

unsuccessful terroir, where historic vineyards and wine production have been abandoned.

11. Establish an industry-managed process for assessing applications for removal (grubbing) of a heritage vineyard with a set of assessment criteria for how and when a heritage vineyard may be grubbed, and a process for the assessment and storage of any valuable genetic material.
12. A more detailed analysis of the varying degrees of significance of individual heritage elements and items and their representation of the different historic phases within the cultural landscape would assist with ongoing landscape management, and the tailoring of development control policy with regard to the landscape's sensitivity to change.
13. A literature review and preparation of an archaeological assessment of the Study Area may assist in the ongoing management of the cultural landscape and associated Development Control Plan policy.

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ABBREVIATIONS

ASRIS	Australian Soil Resource Information System
CCC	Cessnock City Council
CIC	Critical Industry Cluster
CSG	Coal Seam Gas
DCP	Development Control Plan
DP	Deposited Plan
GI	Geographical Indication
HCOV	Heritage Council of Victoria
HVD	Hunter Valley Distillery
HVHVSS	Hunter Valley Heritage Vineyards Strategic Study
HVVR	Hunter Valley Vineyards Register
HVW&TA	Hunter Valley Wine & Tourism Association
IBRA	Interim Biogeographic Regionalisation for Australia
ICOMOS	International Council of Monuments and Sites
IFLA	International Federation of Landscape Architects
LEP	Local Environment Plan
LGA	Local Government Area
NBC	North British Company
NSW	New South Wales
NSWWIA	NSW Wine Industry Association
OEH	Office of Environment and Heritage
POP	Parish of Pokolbin
PSG	Project Steering Group
RU4 Zone	Rural Small Lots Zone
SC	Singleton Council
SEPP	State Environmental Planning Policy
SEPP CIC	State Environmental Planning Policy Critical Industry Cluster
SHR	State Heritage Register
UNSW	University of New South Wales
VSA	Visually Significant Area
WA	Wine Australia
WFA	Winemakers Federation of Australia

APPENDICES

Appendix A: Summary historical, cultural and social significance paper by Dr Julie McIntyre

Appendix B: HVHVSS Thematic Analysis Summary Table

Appendix C: HVHVSS Site Visits Summary Table

Appendix D: Summary scientific significance paper by Libby Tassie

Appendix E: HVHVSS Comparative Analysis Summary Table

Appendix F: Maps of curtilage options

Appendix G: HVHVSS Consultation and Communications Strategy Framework

Appendix H: HVHVSS Site Survey Photographs Summary Table, key photograph gallery and JPEG files

SUPPLEMENTARY RESOURCES

First Vintage

Hunter Wine

Hunter Valley Heritage Vineyards Strategic Study Online Map accessible at
http://www.arcgis.com/apps/View/index.html?appid=956b54cf20a64c209b14c48a10f1b96a