

Riparian Life: a visual navigation of the Hunter River Estuary

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Declaration

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Julianne Tilse

January 2015

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Abstract

RIPARIAN LIFE: a visual navigation of the dynamic nature of the Hunter River Estuary.

The Hunter River Estuary is defined as the intertidal zone of river that stretches from the Newcastle delta to the Oakhampton floodplains at Maitland Vale in New South Wales.

This research of the Hunter River Estuary is unique in its integration of both objective and subjective concepts and finds new expression in an original body of paintings, drawings and photographs. The environmental history and science of the river brings to light many examples of pre-colonial riparian life and colonial antecedents who have attempted to capture the natural environment of the river. Contemporary artists continue to contemplate the inimitable natural environment. However, there has been no previous research that visually documents the dynamic nature of the estuary or that investigates this riparian environment in a creative exchange across empirical known and subjective unknown components of research. This landscape has previously not been examined in the context of interdisciplinary contemporary art practice.

This research project incorporates empirical evidence and practice-based research, which culminate in a body of work that aims to inspire an aesthetic awareness of the dynamic nature and changing ecology of the Hunter River. New and less recognized aspects of knowledge and fresh perceptions of the river emerge with creative arts praxis and practical encounters of being in and moving through this specific riparian landscape.

The liminal nature of this riparian environment is experienced from within and upon the river in a rowing boat, across times and tides. In spite of the specificity of observed riparian sites, the contents often transcend the known and become windows into subliminal unknowns. The works of art echo a deeply felt connection to the river and include a series of paintings on linen, a series of drawings on paper and an album of photo-media. Research outcomes provide a visual navigation of the dynamic nature of the Hunter River Estuary.

Glossary of Terms

In this study I refer to the following interpretation of terms:

Anthropocene – a term used for the proposed epoch that began when human activities had a significant global impact on the Earth's ecosystems; viewed as having begun about 200 years ago with the significant impact of human activity on the environment and eco-sphere.

Hunter River Estuary – the section of the main channel of the Hunter River that is influenced by tidal flow and is inter-tidal; from the upper estuary at Maitland Vale to the river mouth at Newcastle, New South Wales, Australia.

Inter-discipline – Is a generic term for connection with more than one discipline, also referred to by others as *trans-discipline*, *multi-discipline* or *cross-discipline*. I will use the generic term *inter-discipline* to refer to research or knowledge that includes or is informed by knowledge of multiple disciplines or which might span across disciplines or faculties of research and knowledge.

Known – Empirical or objective research, seen from an objective viewpoint, includes previously documented scientific study and existing evidence-based historic research.

Landscape – the framed view or representation of the environment, land or natural scenery, including river-scapes, vistas or panoramic scenes.

Praxis – the practical application of knowledge and skill. The synthesis of both theory and practice. Practice-based research and knowledge derived from the concept of *praxical knowledge* as proposed by Martin Heidegger.

Riparian – pertaining to a river or stream, along the riverbank. Riparian zone = the interface between a river or a natural course of water and land.

Unknown – previously unrecorded subjective encounters and less known or previously undocumented research knowledge of the topic.

The term *Indigenous* is used to refer to the era of time during which Australia was peopled by its original inhabitants. The term *Aboriginal* is used to describe the original inhabitants of Australia.

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Introduction

The framework for creative arts practice continues to evolve, with many cells of knowledge connecting, expanding, shifting and informing the dynamic practices of contemporary art. The heterogeneous nature of contemporary art allows artists to connect with a wide range of concerns, environments and cultures in ways that are unique and thoughtful. As an Australian artist practitioner, I appreciate the significance of having uninhibited freedom to learn, connect and create within a diverse and fertile cultural landscape, however what concerns me most, is the changing natural and environmental landscape.

This research project addresses my quest to better understand the dynamic and changing landscape of the Hunter River Estuary in New South Wales, Australia. The impact that human beings have had upon this natural environment is significant, however I am also privileged to experience the regenerative nature of the river. Within the framework of creative art practice, I investigate components of research that inform a deeper understanding of the Hunter River Estuary.

Science provides knowledge of nature and has a role to play in aesthetic appreciation as our 'love for nature is increased with knowledge.'¹ Conversely, our first hand experience and individual engagement within an environment is equally conducive to advancing appreciation and understanding of nature. Empirical knowledge of the river, from both science and personal observation, leads toward a revelation of what is less known, the not yet known, the less discernable and those that are often unseen or previously unrepresented aspects of the river.

I live on the top of a high section of the riverbank on a picturesque hill overlooking the Hunter River and have observed this diverse riparian landscape daily for more than thirty years. This project is informed by how I have come to know and respond to the river through encounters while living beside, rowing and exploring the river in a boat and from being in and upon the water. Hence tacit and situated knowledge is gained through performative experiences and my connections to this environment. This experience and situated knowledge of the riparian landscape has led to a body of research that has multiple inter-connections with the natural ecology, geography, history, aesthetics and life of the river and my encounters as both a

¹ Alfred Biese cited by Allen Carlson, *Aesthetics and the Environment: The Appreciation of Nature, Art and Architecture* (London: Routledge, 2002). 87.

reflective practitioner and as an objective researcher. This dual role forms the basis of my enquiry.

In this study I have compiled significant components of objective research that are known and that have been published or previously documented. I have then investigated the subjective and less discernable aspects of creative research that have emerged with my personal connection to this environment.

The works of art that emerge with this project are infused with the production of knowledge. However here, the underlying thesis is the unfolding of known discernable and unknown less discernable components of knowledge that contribute to an understanding of the Hunter River Estuary and that have further resonance in new perceptions of this riparian landscape. I examine the components of empirical and scientific knowledge that interconnect with the less known subjective experiences of a practice-based artist/researcher. The creative process, in this instance, is a vehicle for the communication of new knowledge as I continue to explore new ways of thinking about and envisioning the river that shift beyond traditional disciplinary models of research.

I advocate that in order to understand the dynamic nature of the river, research must span across disciplines and fields of knowledge. Humanity cannot entirely account for this riparian ecosystem while knowledge and understanding is contained within one or other individual discipline. Components of interdisciplinary research knowledge in this instance include a compilation of evidence gathered from across the various disciplines of Contemporary Art, Science, Environmental History, Ecology, Archaeology, Geography, Art History, Philosophy and from emerging creative practices that are pertinent to how one might better understand this complex environment. Contemporary creative arts practice provides a framework for the exploration of emergent ideas and an exchange between diverse aspects of theoretical knowledge and practical experience. This landscape has previously not been examined in this interdisciplinary contemporary context.

The riparian landscape is defined here as the section of the environment that is directly connected with the river waterway and exists within the intertidal zone of the river. This project is limited to the main channel of water and the contained environment within the riverbanks that align with the Hunter River: the study is further restricted to the estuary of the Hunter River. The Hunter River Estuary is the tidal section of the river in the lower Hunter Valley that extends from

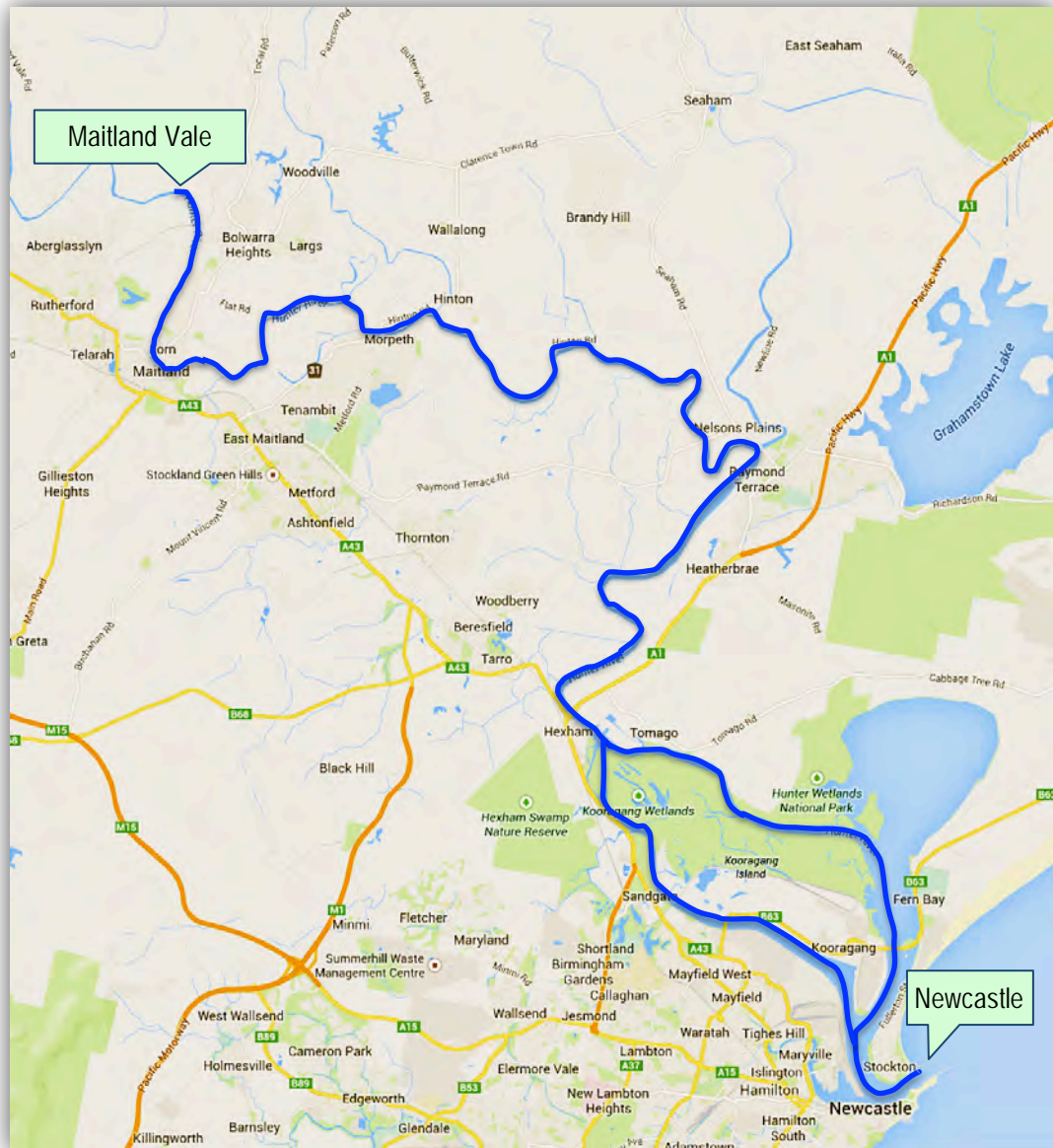


Plate 1 Map of the Hunter River Estuary
Maitland Vale (North West) - Newcastle Harbour (South East)

Maitland Vale at the top of the estuary through to the point where the river meets the ocean at Newcastle. The source of the Hunter River is found above Hunter Springs in the Barrington Tops. The river runs for approximately 470 kilometres through the upper and lower Hunter Valley. However, this project is limited to the lower tidal stretch that is known as the Hunter River Estuary, as illustrated in Plate 1 above. For the purposes of this research project, and to reduce the burden of accurate, yet awkward nomenclature, I also refer to the Hunter River Estuary as “the river”.

This section of the river has undergone significant change since European explorers first arrived. Lieutenant John Shortland provided the first sketch of the Hunter River that he made after he explored the river mouth near Newcastle in 1797.² Since that time, the landscape and ecology of the river has altered significantly and in most instances the impact that Europeans have had upon the environment has been detrimental and irreparable. The empirical evidence of this impact is provided throughout this exegesis as I unfold what is known about the river.

This creative research project raises many questions about the changing and dynamic riparian environment of the Hunter River Estuary; what it would have looked like prior to occupation by Europeans and how it looks now. What do we know about the environmental history and heritage of the river or the ecological community of the river today? How is creative art practice instrumental in the exploration of the interplay that I experience between objective and subjective forces? What outcomes emerge with my connection to the river and my encounters when situated within the riparian landscape? As I investigate the dynamic nature of the river I continue to balance the facts with the less evident and not so well known aspects of this environment.

The riparian environment is multilayered and cannot be fully encapsulated in one individual research project; hence I do not claim to be able to provide universal answers, as my approach is ultimately contingent upon a level of subjectivity. Nevertheless I believe there is a need to amalgamate these questions to establish the focus of this investigation. Throughout this project I aim to inspire an aesthetic awareness of the dynamic and transformative nature of the river and a deeper understanding of the multiple factors that influence how one might engage with or respond to it. Therefore my research is propelled by the following predominant research questions:

- *In a visual navigation of the Hunter River Estuary, what components of known empirical research and less known subjective experiences inform a deeper understanding of this dynamic riparian landscape?*
- *What creative outcomes emerge with an artist's connection to the river and encounters of being in the riparian environment?*

² See Plate 10 (Chapter 3.1) Lt John Shortland An eye sketch of Hunter's River: it lays N.N.E. true, 63 or 65 miles from Port Jackson : discovered this river 9th Sept'r 1797, in the Governor's whale boat ... 1810. Hand sketched map, 20.1 x 21.9cm.

³ Historical knowledge is considered here to be empirical, as individual components of information have been selectively researched and included in the first three chapters of this paper. Empirical (known) accounts in this case are those that have been previously documented and reviewed by peers or published by academic experts

In providing a visual navigation of the river I present a range of current and historic images and textual research that informs my understanding of the river and that might also resonate on a variety of levels with a wider audience. In this way the outcomes of this project are inter-subjective and stretch beyond my individual response to present final works of art that penetrate out into other wider realms and communities for future new interpretations. Thus the images continue to resonate new knowledge that evolves into the future, as the art objects have the capacity to become timeless and enduring.

In undertaking this project I have at one level, sought to provide empirical and scientific knowledge that invokes a new thread of engagement and thinking about the river for those with a propensity to engage with evidential knowledge and those who find connection with objective reasoning of documented knowledge or the physical facts of the river. Equally I have sought to inspire another level of aesthetic sensitivity for the river through consideration of the works of art, visual media, creative research and less known or less discernable forces that emerge with individual encounters with the riparian landscape. Hence I encourage a deeper awareness of the river through multiple layers of knowledge and creative interdisciplinary research that might inform and inspire an aesthetic awareness of the natural environment of the Hunter River Estuary.

This study does not merely regard how the river informs my art practice but is much more concerned with how one approaches the complexity of this riparian landscape and how creative research invokes new layers of knowledge about the river that are inter-relational, that span across disciplines and generate new perceptions of this dynamic riparian environment. I aim to enliven an aesthetic appreciation of the river through creative arts research that is able to act as a conduit for the fertile exchange between multiple discursive components of knowledge and practice. Encounters through field studies and studio processes are integral components of this practice-based research.

I outline multiple components of research that contribute to new knowledge and this investigation of the Hunter River Estuary is not underpinned by one singular theoretical approach and does not focus upon one individual aspect of the river in isolation to the ecosystem of the estuary. The topic requires a multi-faceted approach that gives due consideration to the interconnected network of components of research; elements and factors that connect and integrate with this topic. So how can all these different fields of knowledge be reconciled and more easily understood?

Given the many heterogeneous and discursive aspects of research pertaining to the Hunter River Estuary I have chosen to limit this investigation to the factors that inform my own appreciation of this environment and this exegesis provides an interface to my creative art practice. I acknowledge this bias and that my situated knowledge is contingent upon research undertaken while on my journeys through the river that inform my deeper appreciation of this environment, and, importantly, that has the capacity to also resonate with others. My concern is for the natural environment and therefore I maintain a focus upon the environmental landscape of the river, rather than the broader cultural landscape. Despite these limits and my refined focus area, the project is inclusive of recently documented empirical theory, diverse components of new knowledge and works of art that are multi-layered, relational and will potentially inform a wide audience.

Throughout this exegesis, known and existing accounts of empirical and objective scientific research are investigated across disciplines, before I progress to explore the less-understood components of subjective research and emergent (unknown) components of research which include my individual encounters, studio research and creative art practice. By maintaining an egalitarian approach in respect to the validity of both objective and subjective aspects, the research remains open-ended and allows new knowledge to emerge with no preconceived hypothesis, result or outcome. I do not claim to contrast each of the multi-relational aspects of research, neither do I argue that one is superior to another. Rather I suggest that both known and unknown aspects of research are relevant and contribute to a balanced appreciation of complex environments such as the Hunter River Estuary. I allude to our need to consider a dynamic and more lateral approach whereby there is no hierarchy of disciplines, as the unknown is embraced along with the known and multiple components of knowledge emerge at the same time.

Initial research investigation reveals that the river today is a living legacy of previous events and many years of anthropomorphic and natural changes. Hence historical accounts are critical to understanding the riparian landscape, just as elements of past botanical taxonomies, geomorphology, environmental history and art historical knowledge are relevant to this study.³

³ Historical knowledge is considered here to be empirical, as individual components of information have been selectively researched and included in the first three chapters of this paper. Empirical (known) accounts in this case are those that have been previously documented and reviewed by peers or published by academic experts or government institutions. I include several footnotes that include numerous references and citations for each resource in order to ensure that one can determine the level of accuracy, empiricism and therefore the reliability of each resource.

The paper begins with an explanation of why an interdisciplinary approach is undertaken and the mixed methodologies, philosophical and theoretical groundings of this research project that are the focus of the first chapter. I give an account of why components of interdisciplinary research are relevant to a deeper understanding of this riparian environment. The significance of art praxis, being the interplay between theory, studio and field study research and practice, is also examined in the first chapter.


Chapters 2 and 3 provide accounts of empirical evidence as I outline objective components of research that point to how the river was (Indigenous Life) and how it changed (Colonial Landscape). In my quest to better understand the diverse landscape of the Hunter River Estuary, I have focused upon the Indigenous and Early Colonial period and how the riparian landscape might have appeared prior to exploration by Europeans in the early 19th century. I do not claim to be able to investigate a complete history of this ever-changing landscape. Rather, I begin with a visual navigation of the Indigenous landscape that existed prior to 1797 and then further explore the emergence of a body of artifacts that are clearly connected with, inspired by, and created within the Hunter River Estuary in the Early Colonial period. The imagery produced along the river in this period was most significant and the unique works of art that emerge impart a deeper knowledge and understanding of this ever-changing riparian landscape. I focus upon a rich body of work, created beside the river between the years 1813 and 1818 that builds an image of how the riparian environment once looked and functioned, prior to settlement. Riparian life and natural resources are revealed through an investigation of the visual art and artifacts of the early colonial period.

In Chapter 4 I give a broad account of what we know about the river today in terms of empirical and scientific evidence. In this chapter I draw from previously documented research, known empirical facts and more recent scientific studies of the river. Existing scientific research points to the inter-relationships between native vegetation loss and river health, altered ecology and geomorphology, introduced and threatened species. Empirical research provides broad accounts of the impact of industrial development along the estuary, however governing bodies or funding arrangements, the focus area of a discipline or the individual purpose of each study often limit these investigations.

The following chapters give consideration to the subjective components of this research and show how new knowledge and creative research outcomes emerge from the interplay and exchange between empirical research, field studies and praxical knowledge, across known and

unknown paradigms of knowledge. While drawing upon theoretical concepts, I shift thinking toward situated and tacit components of knowledge and the creative outcomes that emerge with an artist's connection to the river and encounters of being in the riparian landscape. I further discuss the less discernable and unique components of emerging works of art - the liminal, the sensory and the unknown.

A book of photographic images that presents a visual navigation of the Hunter River Estuary accompanies this exegesis. The book has multiple functions and is considered as one of the components of interdisciplinary research that documents experiences in the field, records raw encounters and also serves as an outcome and photographic archive. It provides a visual photo-essay of my journey down the river and each image has an accompanying dataset and global positioning co-ordinates (GPS) of longitude and latitude that locate each image. This printed navy leather-bound book (Appendix A) may be viewed in conjunction with this exegesis and the exhibited works of art.

Throughout this paper I engage with multiple writing genres that are in part hermeneutic and in part auto-ethnographic. In addressing the diverse aspects of interdisciplinary research, I soon realized that I needed to engage with the topic at a personal level in first person dialogue, that captures the essence of my creative practice. However, I also needed to present objective research that is supported with empirical evidence. Hence a third person hermeneutic or academic interpretation of the text is equally important to this topic, as is a less formal discussion of my relationship with the subjective components of creative research. Personal dialogue will intersect hermeneutical interpretation throughout this paper and framed pages of personal creative response provide a contextual connection to my art practice. Hence, throughout this paper, I use a graphic device in the form of blue coloured, outlined boxes: ⁴ 

I have named these boxes Encounters, as they represent a point at which a subjective connection is relevant or timely. These outlined boxes contain visual examples of my studio practice, materials of production, works of art and relevant subjective responses that connect components of personal knowledge with the empirical knowledge that is being objectively evaluated. Thus Encounters are boxes of relational encounters that inject a direct link to my subjective response through art; evidence of the interconnection between riparian life and human experience, as creative art practice reflects my own encounters, being and becoming.

⁴ This graphic device for communicating arts-based inquiry is explored by Lisa Armitage and Janette Welsby in Chapter 10 of the book by J. Higgs, D. Horsfall, and S. Grace, *"Writing Qualitative Research on Practice,"* (2009).

As they before these Rivers' bounds did show,
Here I come after with my pen and row.

John Taylor the Water Poet.⁵

Chapter 1 Theories of Being

I began this project knowing that there would be an extensive amount of knowledge that informs one's understanding of the Hunter River Estuary, as there are many aspects of nature and environmental communities of the river that are not well understood and research is far from being absolute or complete. Research and knowledge continue to evolve and each component of new research builds a better understanding or a new becoming. On this basis I do not claim to provide a finite account of the river and I acknowledge that there are many approaches, journeys, scientific studies, creative encounters, histories and theories that might add to this research in future, as the Hunter River, by its nature, attracts and entails a wide and dynamic system of knowledge. There has been no prior research undertaken that attempts to bring these bodies of knowledge together or that provides an inter-disciplinary study of this environment or visual account of the Hunter River Estuary.

In this chapter I unfold the philosophical orientation and research methodologies that are most relevant to this research project. The ensuing discussion of theoretical concepts provides the contextual framework that locates my creative art practice within the field of contemporary art. The theoretical groundings of how this project interconnects with concepts of being, praxical knowledge, interdisciplinary research, relational connections that bind discursive components of research and the significance of eco aesthetical philosophy are discussed in this first chapter.⁶ These theoretical underpinnings are integral to how I negotiate a path through the multiple components of significant research and the concepts that inform this topic.

⁵ Poetry by John Taylor cited by Simon Schama, *Landscape and Memory* (London: HarperCollins, 1995). 322

⁶ The term 'being' and 'praxical knowledge' in Martin Heidegger, *Being and Time*, 1st English ed., Library of Philosophy and Theology (London: SCM Press, 1962). Praxical knowledge is further discussed by Barbara Bolt, *Heidegger Reframed : Interpreting Key Thinkers for the Arts*, Contemporary Thinkers Reframed Series (London; New York: I.B. Tauris, 2011). 86 – 103. The term 'Being' is discussed by Bolt throughout the book.

1.1 Philosophy and Heidegger

In unfolding the relevant components of research I will begin by framing discussion on ideas of *praxical knowledge* as proposed by the German philosopher Martin Heidegger (1889 – 1976) and the more recent discussion of art-as-research as proposed by the practising artist and contemporary Australian art theorist and writer, Barbara Bolt. The practical thinking of Gilles Deleuze is equally relevant, as each of these theorists provide ways to re-think and move beyond the boundaries and disciplines that would normally confine knowledge to specific categories or criteria of comprehension.

New knowledge is generated with the extraction of diverse resources across disciplines, however this project is essentially located within the requirements of creative arts research. In the ever-expanding frame of Contemporary Art I am best able to integrate empirical, subjective and interdisciplinary components and give a balanced account of the river without being inhibited by traditional disciplinary parameters or doctrines that might otherwise stifle the most valuable and unique emerging elements of this research project. Being an artist and a reflective practitioner has enabled me to maintain an open-ended agenda. The ability to step back from the subject and review the place of the human being and having the ability to reflect upon 'Being-in-the world' is relevant to this project, as scientists and cultural theorists begin to debate new-materialist and post-human thinking.⁷ These cultural philosophies build upon the early ideas of Gilles Deleuze that were further advanced by Manuel DeLanda and Rosi Braidotti in the late 1990s.⁸ More recently new-materialists have placed value upon alternative conceptions of natural phenomena and reject the understanding of humans as distinct from non-human or less capable matter.⁹ Karen Barad (2007) and the French philosopher Quentin Meillassoux (2009) are notable contributors to new-materialist debates that do not privilege culture over nature or matter over meaning but respect the autonomy of the non-human.¹⁰ I am

⁷ Being-in-the-world is quoted by Martin Heidegger and Joan Stambaugh, *Being and Time* (New York: State University of New York Press, 1996).

⁸ Rick Dolphijn, *New Materialism Interviews and Cartographies*, (Open Humanities Press Imprint/ MPublishing, 2012), <http://www.oapen.org/download?type=document&docid=444388>.

⁹ New materialism and human/non-human thinking is discussed in Karen Michelle Barad, *Meeting the Universe Halfway : Quantum Physics and the Entanglement of Matter and Meaning* (Durham: Duke University Press, 2007), and in Peter Baofu, *The Future of Post-Human Probability : Towards a New Theory of Objectivity and Subjectivity* (Hauppauge, New York: Nova Science Publishers, Inc., 2014).

The post-human condition was the subject of debates at the symposium "A Post-Human World?: Rethinking Anthropology and the Human Condition" Department of Anthropology, University of Sydney (13-14 July 2013) <http://rethinkinganthropology.wordpress.com/symposium-summary/>

¹⁰ Barad, *Meeting the Universe Halfway : Quantum Physics and the Entanglement of Matter and Meaning*. Quentin Meillassoux, *After Finitude : An Essay on the Necessity of Contingency*, Pbk. ed. (London ; New York: Continuum, 2009). See also the discussion of new materialist arts practice in Estelle Barrett and Barbara Bolt, *Carnal*

drawn to the concepts of the new materialists who step back from anthropocentric views and encourage discussion across specific disciplinary boundaries of knowledge. I believe the river is a topic that is better understood through these innovative theoretical concepts.

Michel Foucault (1926-1984) is noted for his critique of the idea that human beings are central to all knowledge. In *The Order of Things*, Foucault announced that man was only a recent invention and in his posthumously-published 2008 dissertation titled *Introduction to Kant's Anthropology*, he gives a more comprehensive account of 'how anthropocentrism has shaped our thinking'¹¹ In his recent book titled *New Materialism Interviews and Cartography*, Rick Dolphijn outlines how these statements have formed a basis for current evaluations of new-materialist philosophies that follow from Kant and Foucault's questioning of the place of the human in relationships between nature and culture. Donna Haraway and others have continued this more complex discussion of the concept of *natureculture* in deeper philosophical discussions of new-materialism.¹²

Martin Heidegger (1889 – 1976) began by questioning human existence and the place of our *Being in the world*, where human existence cannot be determined by thinking or theoretical knowledge alone, but must encompass our actions and disposition with the world. Art historian and theorist Daniel Palmer noted:

From beginning to end, Heidegger's thinking revolved around this one basic question of the meaning of being...When Heidegger investigates art he does not do so to determine its characteristics as a specific and isolated region of human experience, but as a possible clue to decipher the meaning of being.¹³

Knowledge : Towards a 'New Materialism' through the Arts (London ; New York: I.B. Tauris, 2013). Also the nature/culture discussion in Donna J. Haraway and Ebook library., *Simians, Cyborgs, and Women the Reinvention of Nature*, (Hoboken: Taylor and Francis, 2013),

<http://ezproxy.newcastle.edu.au/login?url=http://newcastle.ebilib.com/patron/FullRecord.aspx?p=1195818>.

¹¹ Michel Foucault and Ebooks Corporation., *The Order of Things : Archaeology of the Human Sciences*, (Hoboken: Taylor & Francis Ltd, 2001). Cited in Dolphijn, *New Materialism Interviews and Cartographies*. Emmanuel Kant also began his philosophy with a discussion of human beings' relations to nature. This discussion is evaluated by Foucault in his unpublished dissertation "Introduction to Kant's Anthropology" which has subsequently been translated from French to English and is available online at Arianne Bove, "Introduction to Kant's Anthropology from a Pragmatic Point of View," *Generation Online*, <http://www.generation-online.org/p/fpoucault1.htm>.

¹² The term 'natureculture' in Donna Jeanne Haraway, *The Companion Species Manifesto : Dogs, People, and Significant Otherness*, Paradigm (Chicago: Prickly Paradigm Press, 2003).

¹³ Daniel Palmer, "Heidegger and the Ontological Significance of the Work of Art," *British Journal of Aesthetics* 38, no. 4 (1998).397.

Everyday practical experiences and dealing with things formed the basis of Heidegger's concepts of *being-in-the-world*.¹⁴ In regard to Heidegger, Barbara Bolt states:

His grounding of the question of Being (for example, the Being of art) in process and practical knowledge – the knowledge that comes out of being-in-the-world and dealing with things – makes practical sense to a practising artist. More than this, however, it is his tireless commitment to questioning, in itself, that makes Heidegger so relevant for thinking about what art is now, that provides the key to his relevance for us today, since such questioning also lies at the heart of contemporary art and art theory.¹⁵

Heidegger uses the term *Dasein* for the fundamental fact of being right there, having a physical presence and being thrown into, or *being in*, the middle of things.¹⁶ He believes that we cannot understand the world objectively through contemplating theories, but that it is through being there, putting things to use and handling things in concrete experiences that brings knowledge and understanding. This involvement and handling is how Heidegger claims that we come to know the world, as we are thrown into the midst of life.

Heidegger's conception of being-in-the-world resonates with my field studies and engagement with riparian life while being-in the river, encountering the environment from the perspective of being in the middle of the river and within the landscape both literally and spiritually. Field study excursions along the estuary inform my praxis. In this respect Heidegger's theories of *Being* and *praxical knowledge* provide a theoretical grounding and *attunement* to my lived experience of the Hunter River Estuary and my engagement from within it.¹⁷

¹⁴ Being-in-the-world as discussed by Martin Heidegger in his seminal work of 1962, which has since been reviewed and translated. Heidegger, *Being and Time*.(1962) Heidegger and Stambaugh, *Being and Time*.(1996)

¹⁵ Bolt, *Heidegger Reframed : Interpreting Key Thinkers for the Arts*. 6.

¹⁶ The term *Dasein* stems from Heidegger's understanding of *Dasein* as the ontological constitution of human life. Heidegger studied Aristotle and was influenced by Aristotelian determination of praxis and practical philosophy. Aristotle's *Nicomachean Ethics* (1220 -1222) and practical philosophy brought doubt upon singular modes of understanding based upon *theoria* (theory) alone. This concept of practical knowledge and philosophy are further explored in Heidegger, *Being and Time*. Further interpretation and discussion of Practical Philosophy and Praxis can be found in Franco Volpi, "In Whose Name?: Heidegger and 'Practical Philosophy'," *European Journal of Political Theory* 6, no. 1 (2007).

¹⁷ The term *attunement* as proposed by Heidegger and *attunement of a state of mind* in Heidegger, *Being and Time*.175-177. And further analysed by Mark A. Wrathall, *How to Read Heidegger*, 1st American ed. (New York: W.W. Norton, 2006). 37.

The concept of being in the world goes beyond a simple physical location (being in a place). In later writing Heidegger elucidates different modalities of encounters in the world.¹⁸ Heidegger describes being-in-the-world, in relationship with immanence and more intimate encounters that come with care, taking care of, and caring about the world and human existence within the world.



Plate 2. Julianne Tilse *Liminal ii: Swan Reach* 2014
Oil and encaustic on canvas on board 120 x 240cm
Image courtesy of the artist © Julianne Tilse

¹⁸ Heidegger's later work "Letter on Humanism" 1946 is discussed in Fred Dallmayr and Ebook library., *Being in the World Dialogue and Cosmopolis*, (Lexington: The University Press of Kentucky, 2013), <http://ezproxy.newcastle.edu.au/login?url=http://newcastle.ebib.com/patron/FullRecord.aspx?p=1191123>. 19-21.

My creative practice is informed by Heidegger's concept of being, as I seek an understanding of the river that goes beyond the physical location and shifts toward the immanence that is encountered beyond what is known and discernable. Subjective experiences of the sublime and liminal metaphysical riparian landscapes are explored through the process of creating large oil paintings on linen. The painting illustrated in Plate 2 titled *Liminal ii: Swan Reach* provides an example of this interconnection between Heidegger's concept of *being-in* and my creative practice. This painting engenders some of the multiple layers of perception that I encounter while rowing on the river through a dawn mist. Here I contemplate the liminal space that hovers between the safety of a familiar riverbank alignment and what is known and the drift into the unknown void of uncertainty that is less discernable, unmapped and unascertained, yet somehow inviting.

The creative process that I undertake to complete large paintings such as this is inclusive of encounters that explore the reality of what is known, with less-known philosophical concepts of subjective and practical knowledge. The painting process evokes my deeper dealings with concepts, materials and meanings. Knowledge of located river red gums, indigenous vegetation species, river geomorphology and endangered species is passively integrated with painterly expressions of the less discernable sensations of the river, the movement of tidal currents and the mystical and ephemeral perceptions of the shifting landscape.

In this work I explore the concept of a grid pattern that is painted with encaustic techniques. The grid, to me, echoes the ordered conformity of human systems of classification and the understated, yet ever present, influence of the human race. This measured grid surrounds and frames the contrasting organic and dynamic nature of the riparian landscape. The panoramic riverscape encapsulates the known and earthly proximity of the riverbank, remnant indigenous vegetation species (River Red Gum, Casuarina, Common Reed) and the sense of being within the river and drifting into an ambiguous white space. Here the nature-strip shifts into misty voids of the unknown.

1.2 Praxical Knowledge

The term *Praxis* derives from Aristotle's philosophical determinations of the three fundamental movements of life: *theoria*, *praxis* and *poiesis*.¹⁹ In revisiting Aristotle, Heidegger put *praxis* forward as the significant mode of practical wisdom gained through handling and the practical knowledge inherent in *Being*. To Heidegger it is not *theoria* (theory) that is considered supreme but, instead, *praxis*. Although there are alternative interpretations and contexts for the use of the term today, it was broadly understood by Heidegger and his followers to characterize theoretical and practical activity that is linked with understanding, explaining, acting and transforming material and knowledge through practical production or the knowledge that is gained through practical handling.²⁰

Empirical, objective and the known components of this research are more easily definable, being resourced from published, archival or documented and peer reviewed accounts of the topic. The second half of this research paper is driven by generative discussion of the less known components of the sensory, liminal and often unclear inter-relationships between practice and research. This then, is inclusive of practice-led research and creative arts *praxis*. As knowledge emerges with the processes of handling materials, rather than being prescribed in advance, then Heidegger's conception of praxical knowledge provides a better understanding of this process. Following this line of thought, I believe a new understanding of the river is generated through the conduit of creative arts *praxis*. This idea is further advanced with the evaluation of works of art in following chapters and in viewing paintings such as *Liminal ii: Swan Reach* (Plate 2).²¹

In his research paper titled "Praxis and the reflexive creative practitioner," Professor Christopher Crouch outlines how research into creative processes is better accepted in the academy and constitutes new knowledge when 'framed through *praxis*'.²² Crouch evaluates the critical need

¹⁹ Aristotle as evaluated in Volpi, "In Whose Name?: Heidegger and 'Practical Philosophy'."

Theoria meaning - theory. *Poiesis* meaning - to make or production.

²⁰ The term *praxis* is discussed in recent analysis by Stephen Gill, "Towards a Radical Concept of Praxis: Imperial 'Common Sense' Versus the Post-Modern Prince," *Millennium - Journal of International Studies* 40, no. 3 (2012).

²¹ Paintings such as this, are best experienced first hand in order to fully appreciate the tactile quality of the oil and beeswax encaustic surface and the colour and painterly textures of the work of art.

²² Christopher Crouch, "Praxis and the reflexive creative practitioner," *Journal of Visual Art Practice* 6, no. 2 (2007). 105. Professor Crouch is an author and art theorist and is visiting Professor of Fine Art at Beijing National University and Professor of Design History at Huang He University, China. He lectures on Cultural Theory at Edith Cowan University, Perth.

for a reflexive critique of practice and the validity of creative research when praxis is adopted, as praxis is a way to reflect and to connect with the real world.

Praxis encourages a move away from the pitfalls of introspective narcissism and towards an analytical engagement with human interaction, and emphasizes the necessity to clarify the inter-subjective circumstances of the communicative act.²³

I consider praxis as the synthesis of practice and research and I adopt Robyn Stewart's approach that 'praxis, for me, involves the critical and inextricable meld of theory and practice.'²⁴ As this project progresses I explore components of my art praxis and the inter-connections between empirical knowledge and the praxical knowledge that is derived from practice, including practical experiences and field studies combined with sensations of aesthetic engagement and encounters that emerge from *Being-in* the riparian environment.²⁵

Editors Estelle Barrett and Barbara Bolt in *Practice as Research: Approaches to Creative Arts Enquiry*, take up the exploration of practical knowledge and creative praxis.²⁶ Both editors have published extensively on the relationship between practice, theory and new interpretations of practice-led research in academia. This text is particularly informative for Doctoral students negotiating the burgeoning area of practice-led research in university creative arts programs. Estelle Barrett notes that the study is,

Aimed at extending understandings of the processes and methodologies of artistic research as the production of knowledge and assessing the potential impact of such research within the discipline and the broader cultural arena. The emergence of the discipline of practice-led-research highlights the crucial interrelationship that exists between theory and practice and the relevance of theoretical and philosophical paradigms for the contemporary arts practitioner.²⁷

²³ Ibid., 112.

²⁴ Robyn Stewart in Estelle Barrett and Barbara Bolt, (Eds.) *Practice as Research: Approaches to Creative Arts Enquiry* (New York: I.B. Tauris, 2012) 124 See also Robyn Stewart, "Practice Vs Praxis: Constructing Models for Practitioner-Based Research," *Tect* 5, no. 2 (2001). Robyn Stewart is Associate Professor for the Faculty of Arts at the University of Southern Queensland and teaches in the fields of aesthetics, art theory and visual research. Stewart is recognised for her publications and services to Australian art education.

²⁵ 'Being and Being in the world' are discussed in Mark A. Wrathall, *Heidegger and Unconcealment : Truth, Language, and History* (Cambridge ; New York: Cambridge University Press, 2011).

²⁶ Estelle Barrett and Barbara Bolt, *Practice as Research: Approaches to Creative Arts Enquiry* (New York: I.B.Tauris, 2012).

²⁷ Ibid.,1

Barrett proposes that 'artistic practice be viewed as the production of knowledge or philosophy in action' and examines how,

Practice-led research is a new species of research, generative enquiry that draws on subjective, interdisciplinary and emergent methodologies that have the potential to extend the frontiers of research.²⁸

This text reinforces the consideration of artistic practice as being a pragmatic mode for the production of knowledge through doing; handling materials and learning through material or studio practice. Although I support this important principle, I do not go so far as to privilege studio practice (over theory) as the only mode of knowledge production and in this project my praxis is not limited to studio-led research alone. My experiences within the riparian environment, encounters with the landscapes of the river and field study research are essential components. Bolt and Barrett discuss the context of studio-led research and knowledge gained through handling materials. I suggest that in this instance, one's knowledge and understanding is informed by the interchange between text based or theoretical components of interdisciplinary research that are equally valuable along with practical studio and field research.²⁹ As my research is not entirely undertaken in the studio I prefer the term *practice-based* to describe the research that I undertake for this current project. Other researchers may not have adopted this idiom as the term *practice-led* is often more familiar in current broad-based discussions of practice that is research and research that is practice.³⁰

Heidegger's notions of *handlability* and *praxical knowledge* are discussed and later incorporated into practical examples by Bolt and Barrett, highlighting how the term praxis is relevant to current creative contexts.³¹ These concepts are relevant to my work as I acquire new knowledge about the river through creative practice. Throughout my research, handlability is not limited to the use of studio materials alone but is inclusive of textual materials, theory and a history of contemporary materials of production that are further interconnected through art praxis. More recent evolving concepts of new-materialism align with how this project

²⁸ Ibid.

²⁹ Practice-based and practice-led research is discussed by Graeme Sullivan, *Art Practice as Research : Inquiry in Visual Arts*, 2nd ed. (Thousand Oaks [Calif.]: Sage Publications, 2010).

³⁰ See further discussion in Barrett and Bolt, *Practice as Research*. And in Duxbury, Lesley, Elizabeth Grierson, and Dianne Waite. *Thinking through Practice : Art as Research in the Academy*, ed. Lesley Duxbury, Elizabeth Grierson and Dianne Waite (Melbourne: The School of Art, RMIT University, 2008); Beth Jackson, "Down the Rabbit Hole: Reorienting Contemporary Art Practice," *Art Monthly Australia* 266, no. Curious Summer Issue 2013/14 (2014).

³¹ Barrett and Bolt, *Practice as Research*.1-4.

incorporates discursive components of objective and subjective research.³² In this case there are manifold components of theoretical research that link with practical (studio-based) handling of materials that are equally important to my understanding of praxical knowledge.

An essential understanding of my contemporary art praxis as inclusive of relational elements of theory and practice, studio and field study research, environmental and art histories, experiences and creative encounters within the river, are important to this research project. In the current creative context, an understanding of interdisciplinary research and how recent concepts of new-materialism follow from the development of interdisciplinary thought, is most pertinent.

1.3 Interdisciplinary Research.

Throughout this paper *interdisciplinary* is used as a generic term to cover *transdisciplinary* forms of research and knowledge and includes new multi-, cross-, trans-, and other extra-disciplinary interpretations. It is now generally recognized by both science and humanities that disciplinarity and transdisciplinarity are not mutually exclusive and can be complementary, as each assists in the production of reliable knowledge.³³ I acknowledge the differences in these terminologies and their usage, however for the purposes of this study, I have opted to use the generic term - interdisciplinary.³⁴

By marking a territory of knowledge and identifying who speaks authoritatively on a subject and by identifying fields of knowledge that are informed, disciplines produce expertise and reliable knowledge. As the world grapples with new knowledge systems of Google and Wiki it has become increasingly obvious that interdisciplinary research is essential to the understanding of complex issues such as the environment.

³² A full evaluation of the multiple evolving concepts and contradictions of new-materialism fall outside the limits of this research, however, discussion of recent ideas is provided in Dolphijn, *New Materialism Interviews and Cartographies*. and in Barrett and Bolt, *Carnal Knowledge : Towards a 'New Materialism' through the Arts*. and Diana Coole et al., *New Materialisms Ontology, Agency, and Politics*, (North Carolina: Duke University Press,, 2010), <http://library.newcastle.edu.au/screens/EBL-instructions.html>. Earlier discussion of materialsim by Julia Kristeva, *Desire in Language : A Semiotic Approach to Literature and Art*, *European Perspectives* (New York: Columbia University Press, 1980). And in John Lechte and Ebook library, *Julia Kristeva (Rle Feminist Theory)*, (Hoboken: Taylor and Francis, 2012).

³³ Robert Frodeman and Carl Mitcham, "New Directions in Interdisciplinarity: Broad, Deep, and Critical," *Bulletin of Science Technology & Society* 27, no. 6 (2007). 1. And as discussed in Robert Frodeman, Julie Thompson Klein, and Carl Mitcham, *The Oxford Handbook of Interdisciplinarity*, 1 vols. (Oxford: Oxford University Press, 2012).

³⁴ Professor Julie Thompson Klein, has written extensively on the variable interpretations of the terms interdisciplinarity and transdisciplinarity. Klein is Professor of Humanities and Faculty Fellow for Interdisciplinary Development in Division of Research, Wayne State University. See Julie Thompson Klein, "The Transdisciplinary Moment(Um)," *Integral Review: A Transcultural Journal for New Thought, Research, & Praxis* 9, no. 2 (2013).

Professor John D Aram, Division of Interdisciplinary Inquiry at Lesley University, Cambridge, Massachusetts, USA, has undertaken studies to define interdisciplinarity among liberal studies academics. Aram gives an outline of the term *discipline* and traces adaption from the Latin word, *disciplina*, as meaning 'a branch of instruction or education; a department of learning or knowledge.'³⁵ Since the middle ages the term has been used to signify a way of ordering knowledge for teaching and learning.³⁶ The ambiguities surrounding the concept of discipline foreshadows the problem in defining what interdisciplinary research knowledge actually encompasses. Julie Thompson Klein, among others, traced the roots and ideals of interdisciplinarity from Plato and Aristotle and the continued aspirations of scholars to build a unified understanding. Klein identified the need for disciplines to share knowledge and to work together to resolve more complex environmental problems. From a body of classical writings on interdisciplinarity, Klein and Newell define interdisciplinary studies (IDS) as,

...a process of answering a question, solving a problem, or addressing a topic too broad or complex to be dealt with adequately by a single discipline or profession....IDS draws on disciplinary perspectives and integrates their insights through construction of a more comprehensive perspective.³⁷

More recent investigation and publications by Klein highlight major traits of interdisciplinarity to include integration, synthesis of knowledge, interaction of disciplines and holistic thinking. New conceptual categories of interdisciplinarity emerge, 'when the concepts and insights of one discipline contribute to the problems and theories of another.'³⁸ Interdisciplinarity, then, points to the shifting boundaries between diverse branches of knowledge or disciplines as a point of departure for new modes of research.

This study embraces interdisciplinary research as a pragmatic method of unfolding the research questions and considering the multiple elements that influence perceptions of the Hunter River Estuary. On a macro scale, this project has wider connections to global matters of concern for the environment and climate change, where landscapes are changing more rapidly than expected. Interdisciplinary research has evolved with modern science as a necessary

³⁵ Oxford English Dictionary, (1989), 734-5.

³⁶ John Aram, "Concepts of Interdisciplinarity: Configurations of Knowledge and Action," *Human Relations* 57, no. 4 (2004).380.

³⁷ Ibid.,382.And as initially stated in William H. Newell, *Interdisciplinarity : Essays from the Literature*, ed. Association for Integrative Studies. (New York: College Entrance Examination Board, 1998).

³⁸ Klein, "The Transdisciplinary Moment(Um)." 190. Klein goes on to investigate Transdisciplinarity as another level of knowledge creation that moves beyond existing approaches. She explains that 'Inter' is taken to exist between existing approaches, while 'trans' moves beyond them. For the purpose of this current project I will focus upon Interdisciplinary research knowledge.

consideration of multiple components of relational research and in the study of complex systems, such as this river estuary. In addressing the research questions and in order to gain a better appreciation of riparian life, I believe it is necessary to consider the expanded fields and liminal spaces of knowledge that emerge outside systemic disciplines.

Growing interest across the sciences for a hypothesis of a new era of the Anthropocene is consistent with the rapidly growing impact that the human race has had on the universe. Philosophies of post-humanism have emerged from debates that begin to question our thinking of the place of human and non-human beings in the world. Artists and scientists have begun to explore new ways of looking at the environment with humans being within, rather than separate to, the environment.³⁹ These debates have informed my ideas and creative practice.

In conversations of ecologically informed philosophy, the relationships between the human and non-human are becoming recognized. In his paper titled, "On Matters of Concern: Ontological Politics, Ecology, and the Anthro(s)cene," Professor Adrian Ivakhiv discusses object oriented philosophy that has a concern for the world that goes beyond the typically human centered, toward a concern for an ecology where humanity, as we understand it, is one of the many components of the universe.⁴⁰

Drawing upon the writings of Bruno Latour (2004, 2005) Martin Heidegger (1962) and Isabelle Stengers (1997), Ivakhiv unfolds an orientation of world concerns that include subjective and objective aspects of knowledge.⁴¹ Relations between the object and the subject are paramount to a process-relational description of encounters and events that are 'matters of concern' to us today.⁴² To Ivakhiv the object of study is interconnected with processes of its relational environment, as 'there is always an interdependence between a thing and its environment.'⁴³ This process-relational view, following Whitehead (1942) and Pierce (1958), insists that the

³⁹ Adrian Ivakhiv, "On Matters of Concern: Ontological Politics, Ecology, and the Anthro(S)Cene" (paper presented at the UC Davis Environments and Societies, California, 2014).

⁴⁰ Ibid.

⁴¹ Bruno Latour, *Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern* / Bruno Latour (Chicago: University of Chicago Press, 2004)., Bruno Latour, Ebooks Corporation., and Ebook Library., *Reassembling the Social : An Introduction to Actor-Network-Theory*, (Oxford: Oxford University Press, UK., 2005)., Heidegger, *Being and Time*. Isabelle Stengers and I. Prigogine, *The End of Certainty : Time, Chaos, and the New Laws of Nature*, 1st Free Press ed. (New York: Free Press, 1997).

⁴² Ivakhiv, "On Matters of Concern: Ontological Politics, Ecology, and the Anthro(S)Cene." Matters of concern evaluated by Ivakhiv who describes how individuality is linked to a set of relations that matter or are significant to different locations or events and relationships proposed by philosophers Deleuze, Kant, Pierce and Whitehead .

⁴³ Ibid., 8.

world is always in motion and interconnected to networks of knowledge and processes, as organisms and their environments 'mutually shape each other' ⁴⁴.

What matters is what is significant, what is to be taken into account; it is material, but what is material is always also processual, relational, and energetic, always a *mix of the subjective or mental (viewed from the "inside") and the objective or physical (viewed from the "outside")*. ⁴⁵

This relational approach resonates throughout this research project as I encounter a range of factors that influence river landscapes. Environmental and geomorphic history reveal relational processes, such as the removal of native vegetation, that impact change within this estuarine eco-system. The creative process acts like an expansive conduit that intercepts boxes of knowledge and enables an exchange between and across multiple spaces of physical and metaphysical knowledge. In considering the riparian environment across diverse disciplines, a more realistic understanding and deeper knowledge of the river is revealed, and one becomes more aware of the limitations of knowledge systems and what humankind has not yet come to fully understand or know.

1.4 Gilles Deleuze & Felix Guattari

If we can create philosophies, art and science, then this tells us that thought is productive. If we understand the power that drives this production, then we will be able to maximize our creativity, our life and our future...

Science may give consistent descriptions of the actual world, such as the things we observe as 'facts' or 'states of affairs,' but philosophy has the power to understand the virtual world. This is not the world as it is, but the world beyond any scientific observation or experience: the very possibility of life... Life is difference, the power to think differently, to become different and to create differences...

If we want to know what something (such as art, science, or philosophy) is, then we can ask how it serves life... The problem today is that when we ask what art or philosophy are, we tend to feel they should serve some everyday function: making us better managers or communicators. We fail to see that the purpose and force of art and philosophy goes beyond what life is to what it might become.⁴⁶

⁴⁴ Alfred North Whitehead, *Adventures of Ideas*, Pelican Books (Harmondsworth, Middlesex: Penguin Books, 1942). and Charles S. Peirce and Arthur W. Burks, *Collected Papers of Charles Sanders Peirce*, 2 vols. (Cambridge, Mass.: Harvard University Press, 1958). Cited in Ivakhiv, "On Matters of Concern: Ontological Politics, Ecology, and the Anthro(S)Cene." 8.

⁴⁵ Ivakhiv, "On Matters of Concern: Ontological Politics, Ecology, and the Anthro(S)Cene." 8.

⁴⁶ Claire Colebrook, *Gilles Deleuze*, Taylor & Francis e-library ed., Routledge Critical Thinkers (London: Routledge, 2002). 13-14.

This quote echoes the importance of how, in this project, new knowledge emerges through my living enquiry and the processes of current creative research. The productive capacity of thought and new ideas is enlivened through creative research that spans philosophy, art and science and then shifts beyond scientific observation toward the liminal and less discernable. The above quote echoes how, for me, researching the historic, indigenous and environmental histories of the river is instinctive and inextricably connected to the process of undertaking creative research. For me this research and the river is an evolving living enquiry. I have developed an understanding of the river through more than one medium, using more than one encounter and drawing upon a spectrum of relational aspects that contribute to my understanding of the topic.⁴⁷

This river project oscillates between objective documentation of realities and more subjective and sensory components of river encounters. These two forces seem disconnected and different. What binds this project and builds new paradigms of understanding is the sustained fluidity of research and philosophic reasoning across some traditionally disparate areas of study. Recent interdisciplinary understanding of cultural and environmental concerns acknowledge the co-emergence of ideas and posits new interpretations that accommodate the ever-changing flow of information across traditional borders of intellectual practice. Hence I continue to advocate throughout this project that there is no one single or pure component of research that dominates another. Rather the multiple components of emerging new knowledge and recent interpretations of science, art and philosophy are interwoven and co-exist.

In addressing this research topic, the French philosopher Gilles Deleuze (1925-1995) helps guide my exploration. The writings of Deleuze alone and his later collaborations with Felix Guattari (1930-1992) provide a unique basis for deeper cognitive thinking about the exchange between objective and subjective research paradigms. Many of Deleuze's practical concepts resonate throughout this body of work and provide an orientation for the diverse components of interdisciplinary research that this research project encompasses.⁴⁸

⁴⁷ In this context I refer to *becoming* as discussed by Deleuze and the unconcealing processes linked to becoming-other, the infinite possibilities of change and movement in productive thought. A more comprehensive account of becoming can be found in Paul Patton, ed., *Deleuze : A Critical Reader*, ed. Paul Patton, Blackwell Critical Readers (Oxford ; Cambridge, Mass.: Blackwell, 1996).189-192.

⁴⁸ This paper is limited to those aspects of the ideas of Deleuze and Guattari that have a relationship with this river project and hence I do not give account for all of their concepts at length. This could be the subject of future research. However I will attempt to provide linkage across the relevant fields of theory that resonate with this research project and that have relevance to my art praxis.

Following comprehensive reading, re-readings and critical evaluation of many Deleuze and Guattari texts, I find this open-ended way of thinking specifically relevant because it aligns with my approach to interdisciplinary research, whereby knowledge is positioned within a network of inter-relationships to other knowledge systems. The practical application of philosophies of the *rhizome* and ideas of *becoming* provide a trans-disciplinary platform for a deeper contemplation of the components of river research.⁴⁹ Deleuze and Guattari introduce a generative approach that initiates a shift in thinking, opening out unlimited possibilities for linking networks of knowledge across new research paradigms or disciplines.

The concept of the rhizome is perhaps the most appropriate introduction to Deleuze and Guattari as it encourages a realisation of mental becoming and raises new thoughts. The idea of the rhizome is different from dominant Western philosophy that is hierarchical and vertical in the stratification of information. Traditional or formal information systems are based upon linear structures, commonly built from a primary root system of knowledge and structured by higher vertical categories.

In contrast to this manner of thinking, the rhizome has a principle of connectivity, spreads networks of knowledge in all directions, is heterogeneous and has the potential to move into new territories, multiply and transform. The zone of growth and transformation is an area for new explorations, of multiple potentials and lateral expansion that ceaselessly connects with new circumstances and dimensions. There is no domination of one factor over another, as Deleuze and Guattari did not seek to work in opposition to existing linear patterns, rather they sought to show a more holistic picture whereby nothing operates entirely in isolation.

⁴⁹ The concepts of the *rhizome* and *becoming* are discussed in detail by Gilles Deleuze and Felix Guattari in their seminal text, Gilles Deleuze and Félix Guattari, *A Thousand Plateaus : Capitalism and Schizophrenia* (London: Athlone Press, 1988). And see Gilles Deleuze and Félix Guattari, *What Is Philosophy?*, European Perspectives (New York: Columbia University Press, 1994). , C. J. Stivale, *Gilles Deleuze: Key Concepts (2nd Edition)* (Durham, UK2011). Further discussion of rhizome and becoming is in Simon O'Sullivan, *Art Encounters Deleuze and Guattari : Thought Beyond Representation, Renewing Philosophy* (Basingstoke England ; New York: Palgrave Macmillan, 2006).

The rhizome structure in practice is likened to the World Wide Web (www) and the infinite networks and arms of global communication that allow open access to all forms of communication and information transfer. This democratic and organic system has no central ideology yet is 'rooted in a sense of usefulness, intended as a productive philosophy of life'.⁵¹ The interconnections between photo-media technologies, aerial photography, vegetation mapping, geomorphology of the river, environmental history, ecologies, riparian vegetation loss and river siltation are areas of study that might best be understood when aligned with the concepts of rhizomatic thinking, as multiple discursive systems of knowledge might inform our understanding of the riparian landscape in ways that might not have previously been considered viable or authentic. These ideas provide the context for inclusion of diverse relational aspects of research that interconnect in the broad field of creative arts practice.

In keeping with the practical nature of Deleuze and Guattari's theories, I revisit their relational ideas throughout this paper, as practical ideas are most relevant when addressed in direct relationship with works of art or issues of concern. This approach to a new kind of practical philosophy is consistent with Deleuze's approach to forming connections with everyday life. In reading Deleuze and Guattari there is a premise that any interpretation is open to further discussion of possible future interrelationships. This open-ended attitude might be considered a Deluzian presupposition that emanates throughout this project, as the river eco-system is connected to multiple environments and interlinked issues of concern.

Similarly, my paintings and drawings continue to emerge in a process that is imbued with the interconnectedness of multiple issues of concern. Paintings take shape with a cross-fertilization of objective and subjective elements and creative works of art evolve to reflect upon the diverse and ever-changing nature of this riparian landscape.

⁵¹ Damian Sutton and David Martin-Jones, *Deleuze Reframed : Interpreting Key Thinkers for the Arts*, Contemporary Thinkers Reframed Series (New York, London: I.B. Tauris, 2008). p xvi.

1.5 Mixed Multi-method Methodology

The research project is driven by specific research questions and research methods revolve around a compilation of research knowledge to address this focus. Textual research, field study encounters and studio practice are integral components along with archival and interdisciplinary resources. Hence, this project does not conform to traditional paradigms of quantitative and qualitative research methodology, but is a composition of the most relevant resources that address the research questions.

A mixed multi-method is most appropriate for this problem-based study, as it encompasses a diversity of ideas yet helps to maintain the level of accuracy or principle doctrines of each discipline.⁵²

A definitive understanding of research methodology is variable across disciplines as formal and informal processes and practices may be judged appropriate in differing projects and contexts.⁵³ This becomes particularly obvious in the different methodologies used by the arts, when compared to those used by disciplines of science. Often the accuracy of scientific hypothesis is determined with valued levels of objectivity (evidence-based research), whereas creative arts generally place greater emphasis upon the uniqueness of subjective individual concepts or processes.

Mixed method practice-based research methodology continues to be contentious, as artist-practitioner-researchers work beyond the typical qualitative research methodology.⁵⁴ Brad Haseman outlines the debates around how to best articulate a mixed research methodology for

⁵² New interpretations of the application of mixed-method research is informative as outlined in Joanne Mayoh and Anthony Onwuegbuzie, "Surveying the Landscape of Mixed Methods Phenomenological Research," *International Journal of Multiple Research Approaches* 8, no. 1 (2014). Mixed method research methodology is further discussed in Dr Catherine Dawson, *Introduction to Research Methods*, Fourth ed. (Oxford, UK: How To Books Ltd, 2009), Book. Diana Rhoten, Erin O'Connor, and Edward J Hackett, "The Act of Collaborative Creation and the Art of Integrative Creativity: Originality, Disciplinarity and Interdisciplinarity," *Thesis Eleven* 96, no. 1 (2009). See also recent book by Rebecca Coleman, Jessica Ringrose, and Ebook library, *Deleuze and Research Methodologies*, (Edinburgh: Edinburgh University Press, 2013).

⁵³ Gabriele. Griffin, "Writing About Research Methods in the Arts and Humanities," in *Theories and Methodologies in Postgraduate Feminist Research*, Routledge Advances in Feminist Studies (New York, London: Taylor and Francis, 2012).

⁵⁴ Contentious methodologies and shifting criteria for Research Methodology are discussed by Stephanie Springgay, Rita L. Irwin, and Sylvia Wilson Kind, "A/R/Tography as Living Inquiry through Art and Text," *Qualitative Inquiry* 11, no. 6 (2005). And in Peggy Phelan and Irit Rogoff, "'Without': A Conversation," *Art Journal* 60, no. 3 (2001).

creative practitioners who integrate elements of theory and practice.⁵⁵ Haseman discusses how practice-led research is inventive and performative.

Practice-led researchers operating within the performative paradigm have found they too, need to engage a range of mixed methods, especially those that are instigated by and led from the demands of their practice.⁵⁶

Stephanie Springgay proposes an understanding of arts-based research as enacted living enquiry that includes textual and creative components, which she terms *A/r/tography*. In examining the emerging field of serious arts-based research Springgay examines how methodology entails 'moving beyond the use of existing criteria that exists for qualitative research and toward an understanding of interdisciplinarity not as a patchwork of different disciplines and methodologies but as a loss, a shift, or a rupture where in absence, new courses of action unfold'.⁵⁷

Irit Rogoff goes further to suggest the notion of being "without" as an active participatory mode of research that requires a shift in perspective to engage and take part with complex relations of being and the aspects of knowledge that we don't yet know. Rogoff makes the statement that, 'we only know what we know how to know. And what we don't know how to know, we don't know.'⁵⁸ Rogoff and Springgay both probe the formal criteria of disciplinary research. Their concepts resonate with this project by alluding to the power of art to open out and shift beyond existing models of research in order to expose new empowering ways of thinking and understanding the unknown and the uncertain components of new knowledge.

It is important to recognize that as a practice-based researcher, my methodologies do not need to always draw from other tested methodologies or from traditions of quantitative, qualitative or mixed research in order to justify or validate my research. This creative project is unique and hence I engage in methods that are specific to my art praxis and the aims of this research. This research project is inclusive of a mixture of qualitative methodologies that draw from multiple domains of knowledge that are specific and unique to this project.⁵⁹ An acceptance of this multiplicity is vital to a complete understanding of the emergent nature of subsequent

⁵⁵ Brad Haseman, "Identifying the Performative Research Paradigm," in *Practice as Research: Approaches to Creative Arts Enquiry*, ed. Estelle Barrett and Barbara Bolt (London, New York: I.B. Tauris, 2012).

⁵⁶ Ibid., 151. Quote by Brad Haseman in Chapter Eleven.

⁵⁷ Springgay, Irwin, and Wilson Kind, "A/R/Tography as Living Inquiry through Art and Text." 898.

⁵⁸ Phelan and Rogoff, "'Without': A Conversation.", 36.

⁵⁹ Some components of integrated scientific research data have been included that has been derived from broad analysis of quantitative data however this is a minimal component of objective scientific studies undertaken in previous research by others and not relevant to the overall thesis topic of this project.

research. Field study research represents a significant component of information gathering and assemblage. Visual media, specimens and archival materials are components of interconnected research that inform this project. Given the complexity of diverse fields of research, I have sought an orientation that provides simplicity yet is also inclusive of the components that make this project innovative. The concepts of Deleuze and Guattari provide this orientation.

The multiple connections across disciplinary fields of knowledge, genres of writing, field and studio research and the interdisciplinary concepts that drive my research can best be described as layers of mixed multi-method research methodology that collectively address the previously outlined research questions.⁶⁰

Acknowledgement that field studies and creative studio practice are vital and valid components of genuine research, is an essential presupposition to a complete understanding of this research project.⁶¹ I draw upon Heidegger's theories of praxical knowledge, synergies of theory and practice and being-in-the-world. Deleuze and Guattari's productive philosophy of interconnected networks and rhizomatic growth of new knowledge are also useful methodological models. Deleuze's processes of becoming allows for new linkages and a cross fertilization of diverse fields of research as components of the environment, science and art are intertwined with emerging research.⁶²

Subjective and objective aspects of research are considered to be equally important here and therefore a mixed methodology that allows for creative exchange across multiple disciplines is most appropriate for this study of the Hunter River Estuary. Interdisciplinary research encourages the extraction of relevant research from multiple disciplines and diverse fields of knowledge that are inclusive of wide ranging forms of visual and textual media:

⁶⁰ Multi-method research is discussed by Haseman, "Identifying the Performative Research Paradigm." 151.

⁶¹ Practice as research and creative arts enquiry are considered to be valid academic research, as evaluated by Barrett and Bolt, *Practice as Research*. Also in Crouch, "Praxis and the Reflexive Creative Practitioner.", Duxbury, *Thinking through Practice.*, Griffin, "Writing About Research Methods in the Arts and Humanities." Higgs, Horsfall, and Grace, "Writing Qualitative Research on Practice." Sullivan, *Art Practice as Research : Inquiry in Visual Arts.* , Springgay, Irwin, and Wilson Kind, "A/R/Tography as Living Inquiry through Art and Text."

⁶² Becoming is a term used by Deleuze and Guattari and further discussed in evaluation of Deleuze's multiple texts. More recently evaluation of linkage with sciences and arts research is provided in Coleman, Ringrose, and Ebook library., *Deleuze and Research Methodologies*; Aileen Cater-Steel and Latif Al-Hakim, *Information Systems Research Methods, Epistemology, and Applications* (Hershey, PA: Information Science Reference, 2009).

...art is always the coupling of extracted elements from the cosmological order and their integration into the lived experience and behavior of organisms.⁶³

1.6 Environmental Aesthetics

The aesthetics of this natural river environment cannot be overlooked and components of eco-philosophy and more recent eco-aesthetic components of environmental aesthetics overlap this interdisciplinary research. Prominent environmental aesthetician and author Allen Carlson initially proposed an argument that aesthetic appreciation of nature should be directed by scientific knowledge about nature.⁶⁴ Carlson proposed a scientific approach to understanding nature through knowledge of that specific environment, and likens this appreciation with the appreciation of art in that specific types of contextual knowledge inform understanding and meaning. Ronald Hepburn's original essay "Contemporary Aesthetics and the Neglect of Natural Beauty" points to how experiences in the natural world differ from experiences in the art world.⁶⁵ Hepburn discusses the unbounded aspects of nature, contrasted to the framed landscape of art. Noel Carroll and others are critical of Carlson's approach, and place stronger emphasis upon the value of emotional and imaginary responses to nature.⁶⁶ These debates have similarities with this project as they reflect the essence of my research that seeks a balance that draws upon both cognitive objective and non-cognitive subjective aspects of knowledge and research, in appreciation of a natural environment.

Environmental aesthetics encompass wide ranging discussions of traditional aesthetics, ethical environmental management, design aesthetics, human geography systems and environmental participation, landscape architecture, everyday aesthetics and multiple aesthetic appreciations of the natural world, including indigenous and man-made natural environments. Hence some elements of environmental aesthetics are relevant to a discussion of ecologically oriented art.

⁶³ Quote by Elizabeth Grosz, *Chaos, Territory, Art : Deleuze and the Framing of the Earth*, Wellek Library Lectures at the University of California, Irvine (New York: Columbia University Press, 2012); *ibid.* 45.

⁶⁴ Allen Carlson, *Aesthetics and the Environment : The Appreciation of Nature, Art and Architecture*. (London: Routledge, 2000). Arnold Berleant and Allen Carlson, *The Aesthetics of Natural Environments* (Peterborough, Ont. ; Plymouth: Broadview Press, 2004).

⁶⁵ Ronald W. Hepburn, "Contemporary Aesthetics and the Neglect of Natural Beauty," in *British Analytical Philosophy*, ed. B Williams and A Montefiore (London: Routledge, Kegan, 1966). Reprinted in Berleant and Carlson, *The Aesthetics of Natural Environments*. 43-62.

⁶⁶ Berleant and Carlson, *The Aesthetics of Natural Environments*. See Noel Carroll and emotional values 89-107 and Emily Brady highlights imaginary responses, 156-169.

Site-specific land artists, such as Robert Smithson or Richard Long, used land as a source material. These artists attempted to break away from commodification of art, however the artworks 'remained an imposition on the landscape.'⁶⁷ Land art has often been seen as the original art based component of environmental aesthetics, however most early examples of environmental art have not necessarily been environmentally friendly or ecologically sustainable. In many cases the work of art rises above ethically sound environmental issues, as art becomes the object of study, making use of the environment for creative and aesthetic purposes. In comparison, my research is quite the reverse, as the ecology and changing riparian landscape are paramount concerns that drive creative art praxis. Given the complex range of environmental art practices that have evolved, I do not aim to be drawn into a defined category of Environmental Art or Environmental Aesthetics. However the concepts of cognitive aesthetic reasoning resonates with this project as I examine empirical and scientific aspects of knowledge that help to build appreciation and understanding of the river.

Cognitive positions of environmental aesthetics examine how information about histories, functions and interconnections with broader interdisciplinary knowledge inform and influence aesthetic judgments.⁶⁸ However, aesthetic and scientific cognitivists focus attention upon disinterested or closed approaches to knowledge that have limited significance, as this ultimately supports hierarchies of aesthetic judgment that are anthropocentric.⁶⁹ More recent concepts of an aesthetic of the environment continue to evolve with discussions of multifaceted eco-philosophy and the acknowledgement of other relational forces, as contemporary networks of multiple relationships that are more closely aligned to terrestrial realities have surpassed traditional aesthetics.

The January 2013 issue of the journal *Third Text* is dedicated to contemporary art's link to the politics of ecology and new practices and discourses of eco-aesthetics. Contemporary theories of eco-aesthetics, 'investigate[s] the intersection of art criticism, politico-ecological theory,

⁶⁷ Quote originaly by John Grande in the article by Monica Westin, "Recuperating Relational Aesthetics: Environmental Art and Civil Relationality," *Transformations*, no. 21 (2012). 3.

⁶⁸ Martinus Antonius Maria Drenthen, *Environmental Aesthetics : Crossing Divides and Breaking Ground*, First edition. ed., Groundworks : Ecological Issues in Philosophy and Theology (New York: Fordham University Press, 2014).

⁶⁹ Berys Nigel Gaut and Dominic Lopes, *The Routledge Companion to Aesthetics*, Routledge Companions to Philosophy (London ; New York: Routledge, 2001).Disinterested aspects and asthetic judgement proposed by Emmanuel Kant, discussed by Donald W Crawford, 55-69.

environmental activism and post-colonial globalization.' ⁷⁰ This issue of *Third Text* generates a dialogue about how multiple competing approaches to the environment centre around nature and economy. Social compositions and cultural geographies have a critical impact upon environments, as issues of political relations inform the current discussion of eco-aesthetics and ecologically framed art practice. The editor, T. J. Demos introduces examples of how artistic practice is driven by complex environmental concerns. ⁷¹

The numerous contributors address new aesthetic strategies through which current ecological emergencies – including but not limited to the multifaceted crisis of climate change – have found resonance and creative response in artistic practice and more broadly in visual culture. ⁷²

The lasting legacy of Felix Guattari's theory of political ecology, as proposed in *The Three Ecologies* and in *Chaosmosis*, is acknowledged.⁷³ Guattari suggests a *transversal* approach that insists upon simultaneous thinking across subjective, social and environmental factors of concern. His rejection of the separateness of nature and interlinked categories of art and environment has strong resonance with my current work, as ecologically oriented artworks emerge from the synergy of art and environment and I instinctively continue to have a natural affinity for a multi-faceted interdisciplinary approach.

This project has a direct connection with the natural environment, as objective and empirical environmental knowledge is positioned alongside subjective (unknown and discursive) elements of the river environment. A post-human view of the riparian landscape is undertaken whereby the changing landscape of the river is considered from being within and as being a part of this environment, not separate or superior to it. ⁷⁴ My painting, drawing and photography is undertaken from a river perspective, from being in the river stream, on and in the water and connected with this unique environment. As I absorb the concepts and

⁷⁰ T.J. Demos, "Contemporary Art and the Politics of Ecology," *Third Text* 27, no. 1 (2013). Demos accounts for current discourse centered upon the multiple competing approaches to the environment and matters of concern for political ecology: such as social composition, economics, nature and cultural geography.

⁷¹ *Third Text*, "Special Issue: Contemporary Art and the Politics of Ecology," *Third Text: Critical Perspectives on Contemporary Art and Culture* 27, no. 1 (2013). In this issue of the journal, various contributors discuss definitions of political ecology that include Bruno Latour's politics of nature and eco-philosophy, the intertwinement of human and non-human interpretations of the environment and recent creative responses by artists to ecological issues such as the Anthropocene hypothesis.

⁷² Demos, "Contemporary Art and the Politics of Ecology." 1.

⁷³ Félix Guattari and Gary Genosko, *The Three Ecologies*, Athlone Contemporary European Thinkers (London: Athlone Press, 2000).

⁷⁴ In this project post-human thinking is aligned with the relationship of de-centred human beings to the natural world and concepts of new humanities that give consideration to human beings amongst and equal to all non-human elements of nature.

philosophies that I have outlined above, art praxis evolves through the synthesis of human and non-human aspects of riparian life and relational components of interdisciplinary research. Thus my creative process is contingent upon being a researcher/participant who exists as one of the many components of nature, not separate to it. In this way the work of art emerges from multiple realms of knowledge and connections to the riparian environment that go beyond human centered theories of aesthetics.

The ultimate outcome is for the aesthetic appreciation of the resulting works of art and their ability to illuminate new perceptions of the riparian landscape. I aim to evoke a deeper appreciation of the environment through the conduit of creative arts (i.e.: painting, drawing and photography) and hence the outcome is interconnected with environmental aesthetics, however I seek to evaluate creative imagery in response to the environment, rather than evaluate how to view the environment itself. The focus of environmental aesthetics is mostly a concern for developing aesthetics of nature and I do not abrogate these approaches. However, I am located in a privileged position within the environment of the river and have developed a heightened awareness and situated knowledge of it, hence my focus shifts beyond aesthetics to unfold new knowledge and outcomes that are embodied in creative art practice.

In this respect I am informed by elements of Environmental Aesthetics as originally proposed by Allen Carlson however I do not privilege any singular reading or aesthetic judgment but prefer to recognize the multiple relationships that are manifest within environmental communities. While Carlson supports a cognitive approach to aesthetics that values scientific knowledge, my research goes beyond a complete reliance upon objective science and unfolds other equally valid visual, interdisciplinary, creative and subjective components of research that require consideration.

More important to this river project, however, is the understanding of the river as an interdisciplinary community of inter-relational components. Environmental, historical and scientific components of empirical research inform and empower potentialities for new knowledge that emerges from the synchronous connections, the responses of an artist and new perceptions that evolve with the interplay of objective and subjective research.

The connections and relational aspects of the dynamic riparian landscape are relevant as the exchange between what is known and unknown exposes liminal and subliminal spaces of innovative and creative research enquiry. In a visual navigation of the river, one is soon

confronted with imagery of shifting connections between environments, nature and relational ontology of human beings; a history of relationships that have impacted and changed the river from when Indigenous inhabitants once sustained a life more attuned to the dynamic nature of the river.

Every great river gradually grows its own history, its own temperament, its own quite distinguishable personality. To the philosopher it has always suggested the notion of time, perhaps because it never flows backwards (except in mythology or poetry). To the mapmaker it suggests a living artery in the body of the country. But to historians it is always a road... ⁷⁵

⁷⁵ Prose by Lawrence Durrell from *Spirit of Place* as published in 1969, as cited in Harriet Scott, *Historical Drawings of Native Flowers / Harriet and Helena Scott ; Introduced and Selected by Marion Ord*, 2 vols., vol. 1, Ash Island Series Volume 1 (Roseville NSW: Craftsman House, 1988). 15.

Chapter 2 – An Indigenous Life

In a visual navigation of the Hunter River Estuary, a rich and informative assemblage of historic artifacts and material objects becomes evident. Artworks, manuscripts, maps, museum specimens, scientific and natural history collections and documentation provide a treasury of artifacts that collectively contribute to our understanding of the riparian landscape. These diverse components of interdisciplinary research provide evidence of the rich landscape and ecology of the river that existed prior to European intervention, and point to how it has changed over time.

In this chapter I unfold “known” components of research and explore some of the most significant visual treasures that inform our understanding of the Indigenous landscape of the Hunter River Estuary. The Hunter River Estuary has a notable and unique history that is illuminated through the artifacts and works of art that were created within this region.

This project does not attempt to account for cultural change or events that affected the Aboriginal population. The extensive change inflicted upon and endured by Aboriginal cultures cannot be fully accounted for in this research project, although the importance and existence of further significant cultural histories and events are respectfully acknowledged.

2.1 Archaeology

Historical evidence and archaeological articles provide evidence of diverse native flora and fauna species and the rich natural resources of the Hunter River that existed and proliferated in pre-colonial times. Throughout this project, indigenous life and art is strongly interconnected in a living enquiry and this research investigation and journey through the estuary is viewed from an environmental perspective, or what might more recently be regarded as a post-human perspective. Hence, in this chapter I explore the riparian environment from the point of view of the river and its changing ecology. In order to do this however, it is necessary to draw upon a range of human and non-human resources as I examine the earliest known records that help build our understanding of the indigenous landscape, natural ecology and native flora and fauna of the estuary. I begin by looking at indigenous riparian life as it existed prior to 1789. What would the river estuary have looked like when Captain John Shortland first sailed into its mouth? What native riparian environment was known to exist prior to intervention?

The original owners of the lands adjoining the Hunter River have mostly disappeared and there are limited resources available to fully envision how the river might have appeared. A collection of existing associated resources helps to envision the native landscape. We do know many local indigenous names, places and languages that were recorded by the missionary Reverend Lancelot Threlkeld (1788-1859) with the help of the aboriginal leader of the Awabakal clan, Birabahn (c1800-1846), (also known by the name of Johnny McGill).⁷⁶ Threlkeld recorded stories, important places, rituals and compiled a vocabulary of the Awabakal dialect that has helped many generations of scholars and researchers to better understand and communicate historical facts with a higher level of accuracy. Threlkeld's papers and work on the language of the Awabakal, along with pamphlets and correspondence have been compiled and preserved in his original publications.⁷⁷

Prior to the discovery of the river mouth by Shortland in 1797, the Hunter River was named the Coquun by Koori tribes. Features of the landscape, the rivers and mountains of the Hunter region were identifiable by name by Aboriginal people and the mouth of the river was known as Mulubinba or Mulumbinhah, meaning 'place of edible fern.'⁷⁸ Understandably there are very limited visual images and few documented resources of this period, however what does remain are the material artifacts, tribal implements, sacred sites, middens and rock carvings that evidence the existence of a bio-diverse ecology and a healthy nation of people who lived along the Hunter River Estuary many thousands of years before European occupation.

The region provided an ideal home range for the Awabakal, Worimi and Wanarua people, and these tribal groups maintained a sustainable lifestyle in the area for at least 30 000 years. About 2000 Aboriginal sites have been recorded throughout the study area⁷⁹

⁷⁶ L. E. Threlkeld and Niel Gunson, *Australian Reminiscences & Papers of L.E. Threlkeld, Missionary to the Aborigines, 1824-1859*, 2 vols., Australian Aboriginal Studies (Canberra: Australian Institute of Aboriginal Studies, 1974).

⁷⁷ Ibid. Threlkeld's original early publications were titled *Specimens of a Dialect* (1827), *An Australian Grammar* (1834), *An Australian Spelling Book* (1836) and *A Key to the Structure of the Aboriginal Language* (1850) and later L. E. Threlkeld et al., *An Australian Language as Spoken by the Awabakal, the People of Awaba or Lake Macquarie (near Newcastle, New South Wales) Being an Account of Their Language, Traditions and Customs* (Sydney: Charles Potter, Govt. Printer, 1892).

⁷⁸ G Albrecht, "Rediscovering the Coquun: Towards an Environmental History of the Hunter River," in *River Forum* (Hunter River NSW 2000), and in Threlkeld et al., *An Australian Language as Spoken by the Awabakal, the People of Awaba or Lake Macquarie (near Newcastle, New South Wales) Being an Account of Their Language, Traditions and Customs*. Also see prior research documented by the Coal River Working Party in online resources Mulumbinhah and Aboriginal names. Coal River Working Party CRWP, "Coal River Working Party Wordpress," The University of Newcastle, <http://coalriver.wordpress.com>.

⁷⁹ Manly Hydraulics Laboratory (MHL), *Hunter Estuary Processes Study Report No. Mhl 1095*, ed. Manly Hydraulics Laboratory. (Manly Vale, NSW: NSW Department of Commerce, 2003), Report.

Professor Len. K. Dyal undertook research evaluation of local Aboriginal campsites and artifacts within the lower estuary and along the coastline around Newcastle in the 1970s. He gives his description of middens:

The aboriginals dumped their rubbish on the campsites, where it steadily accumulated: heaps of shells, ashes, campfire stones, bones from animals and fish and birds, blunted or broken implements, thousands of waste flakes from the manufacture of stone implements, bits of ochre, and even pretty little pebbles such as the children may have played with. Such an assemblage is called a midden.⁸⁰

The history of the Hunter River (Coquun) is comprehensively documented by Dr Glenn Albrecht and others in resources available through the Virtual Coquun – Hunter River Project.⁸¹ This collaborative resource forms a valuable digital repository of information that is more extensive in scope, yet most relevant to this project. Albrecht's original research paper entitled "Rediscovering the Coquun: Towards an Environmental History of the Hunter River" (2000) gives an evaluation of the Hunter River catchment and evidences changes to the environment of the river, from source to estuary.⁸² My research and this project are greatly informed by the Virtual Coquun Project and prior research by Albrecht.

Indigenous riparian life and evidence gathered from aboriginal implements and the manner in which native vegetation, plants and skins were used, provide rudimentary evidence of the species types that were then available or common to the Hunter Estuary. Knowledge of midden material, archaeological artifacts and rockwork is valuable as it represents the scarcely remaining evidence of how the indigenous riparian landscape would have functioned at that time. The fact that such a significant amount of material has been collected from sites along the Hunter River foreshore at places such as Throsby Creek, Cottage Creek and under the former BHP steelworks industrial site at Newcastle, makes this research even more interesting and relevant. The riparian environment at these sites has since been changed significantly and natural elements of the native indigenous landscape have been removed. This area has since been severely impacted by new land use patterns, river dredging, watercourse landfill and reclamation works, development and industry.⁸³

⁸⁰ L.K. Dyal, "Aboriginal occupation of the Newcastle coastline", *Hunter Natural History* 3, 3 (August 1971): 157.

⁸¹ University of Newcastle, "Virtual Coquun, Hunter River Project," University of Newcastle, <http://libguides.newcastle.edu.au/content.php?pid=94364&sid=705242>.

⁸² Albrecht, "Rediscovering the Coquun: Towards an Environmental History of the Hunter River." *River Forum* (Hunter River, NSW 2000).

⁸³ Philip Haines, Fletcher, Michelle, Snedden, Brad, "Hunter Estuary Management Study September 2009 Final Report," (Newcastle, NSW 2009).

Encounter 1 - Grinding Grooves of Riparian Life



Plate 3 *River Rock Grooves* 3rd April 2010 8:14am. Photograph Julianne Tilse.

I have walked along bedrock ledges that align with the riparian inter-tidal zone of the Hunter River and photographed the carved rock surfaces of grinding grooves that were created many years earlier by the original inhabitants: the Aboriginal groups who used these rocks as an important material for carving and sharpening tools.

The rocks provide an ephemeral connection to previous riparian lives, when indigenous people had a strong connection with the riparian environment - being within it - integrating within the landscape and living upon an abundance of natural resources along the river. These rock carvings and the photographs of them, are vestiges of the indigenous Australians who once subsisted in this region. The carved bedrock beside the Hunter River will remain as tactile reminders to me of the original tribal groups that once lived along the river.

Bedrock platforms below and along the river contain grooved carvings that are often only seen at times of very low water. My photograph of Green Rock (Appendix A) Page 47 shows the bedrock platform at Green Rock; beside the floodgates at Nelson Plains at low tide. Page 6: Photographic images taken of rocks with grinding grooves at sites that I have explored whilst rowing on the Hunter River near Maitland.

The archaeological work of Daniel F. Cooksey (1864 – 1927), who discovered evidence of Aurignacian rockwork, contributes to our understanding of the indigenous landscape.⁸⁵ Copies of his research documentation are held by Cultural Collections at The University of Newcastle however around 5000 objects and artifacts from the Cooksey Collection are located in the British Museum. Cooksey documented the discovery of tools and implements along the south arm of the Hunter River. He describes the rough pebble picks, flakes, oyster spoons, scrapers and axes found within the numerous middens he examined along the Hunter River. In his 1924 report titled “Aboriginal Flakes and Tools of Newcastle, N.S.W. and district” Cooksey describes the sites where he collected artifacts and provides diagrams of the samples with elevation and cross-section illustrations.⁸⁶ Cooksey’s description of the soil stratification provides evidence of sites that may have been in use many thousands of years prior that are found beside and within the river.

Scattered finds of flakes and scrapers have been made in the B.H.P. Co’s property at the Works entrance and also near the Ammunition Shed...Following the bank of the Hunter River from Ingall Street there is almost continuous line of shell heaps with scrapers, to the B.H.P. Golf Ground, at a few feet only above river level....From the Golf Ground the shell heaps are again almost continuous to Shelly Beach...At the river end of the Mill Paddock (Sandgate) some fine stone axes and many rougher tools have been discovered...Continuing past the Government Quarry to the Chinaman’s Garden, which is stated to have been a favourite Corroboree Ground, many good scrapers, etc. can be found on the muddy shore and among the shells on the bank.⁸⁷

Cooksey’s research outlines many Aboriginal sites located along the lower estuary near Mayfield (Newcastle) that contained flakes and shell used for tool-making and the location of shell middens along the river on both sides of the southern river channel at Waratah and on the riverbank on the western side of Stockton. These sites have since been reclaimed and extensively changed as a result of industrial development. However the specimen collection and artifacts have been preserved and the shell and stone pieces exist as tangible evidence of the connection the earliest inhabitants had with the river environment. The Port of Newcastle

⁸⁵ Aurignacian period (40,000 to 28,000 years ago) toolmaking or artistic tradition is an Upper Paleolithic period, most often associated with blade tools made by flaking pieces of stone off a larger piece of stone and also examples in cave art.

⁸⁶ Daniel F. Cooksey and Gionni Di Gravio, *The Papers of the Late D. F. Cooksey (1864-1927) : Being a Record of the Discoveries of Aboriginal Artefacts in Mayfield, Newcastle & Lake Macquarie in 1925* (Newcastle, NSW: University of Newcastle, 2003). Cooksey’s illustrations of specimens 15A to 67 can be found online at <http://www.newcastle.edu.au/Resources/Divisions/Academic/Library/Cultural%20Collections/pdf/cooksey1926pt1>

⁸⁷ Ibid., Cooksey. 3.
<http://www.newcastle.edu.au/Resources/Divisions/Academic/Library/Cultural%20Collections/pdf/cooksey1926pt1>

has recently been sold by the New South Wales Government to a group of foreign investors, industrial developments continue and access to the sites along the river is limited.

Sites and artifacts of many of the original study sites have disappeared. Many archeological sites have since been contaminated with development and urban growth and upper layer artifacts have been removed with land reclamation, industrial development and significant changes to the alignment of the riverbank. What remains of the earlier collections and reports form vital links to what we know about the riparian landscape that existed prior to European settlement.⁸⁸

Specimen collections and documentation within Australian Museums contribute to evidence of the connection that many Aboriginal tribal groups had with the Hunter River Estuary and a livelihood that centered upon the rich ecological resources of this riparian environment. An informative article by William W. Thorpe, an Ethnologist at the Australian Museum titled "Ethnological Notes No1", provides evidence of the archeological significance of swamp shell beds identified within alluvial flats of the lower estuary.⁸⁹ Thorpe discusses prior geological surveys and evidence of the lower estuary region being covered by salt water during Tertiary times.⁹⁰ He makes the following statement:

The Tirrikiba-Tighe's Hill bank is part of the coal measure series, and here shells of the oyster, cockle, and whelk are found in association with the flakework, conclusive evidence that it was once a camp site. Other shell middens and camp sites in the district occur on the recent alluvials, and extend all along the bank of the Hunter from Port Waratah to Sandgate.⁹¹

⁸⁸ The archaeologically significant sites that have been altered and changed with development are mostly located in the lower estuary and delta island areas of Newcastle. Evidence continues to emerge, when and if development applications require an assessment. These individual assessments begin to unfold the rich archaeological and scientifically valuable heritage that remains uncovered in the land and soil stratum below Newcastle. There are many sites that have yet to be investigated and the Hunter River Estuary potentially contains many other artifacts and significant areas for future research. This project is limited to the riparian zone and includes a small sample of artifacts that have been previously recognised and documented as having existed beside or within the channel and alluvial shores of the Hunter River.

⁸⁹ William W. Thorpe, "Ethnological Notes No.1," in *Records of the Australian Museum* (Sydney: 1928). p241, Belinda-Jane. Davis, "Museum Will Unearth History; Indigenous Relics Tell Tale of Ancestors," *Newcastle Herald*, Tuesday, February 18, 2014 2014.

⁹⁰ Thorpe explains the gradual silting up of the estuary as described by Etheridge and David in their study *Records of the Geological Survey*, (N.S.W. II. 2. 1890). 37-52.

⁹¹ *Ibid.*, 244.

An objective archaeological evaluation of specimens is provided by Thorpe, along with a description of the locations and significance of middens and flake specimens collected along the riverbank near Sandgate, Mayfield, Tirrikiba (Tighes Hill and in the vicinity of the since reclaimed Cottage Creek), Throsby Creek and the Port Waratah shorelines.⁹² Recent excavations of sites along Hunter Street, Watt Street and under the old lumberyard in Newcastle are also significant to our understanding of the indigenous landscapes and reveal artifacts that locate the old shorelines and creek beds that originally flowed into the Hunter River at Newcastle.

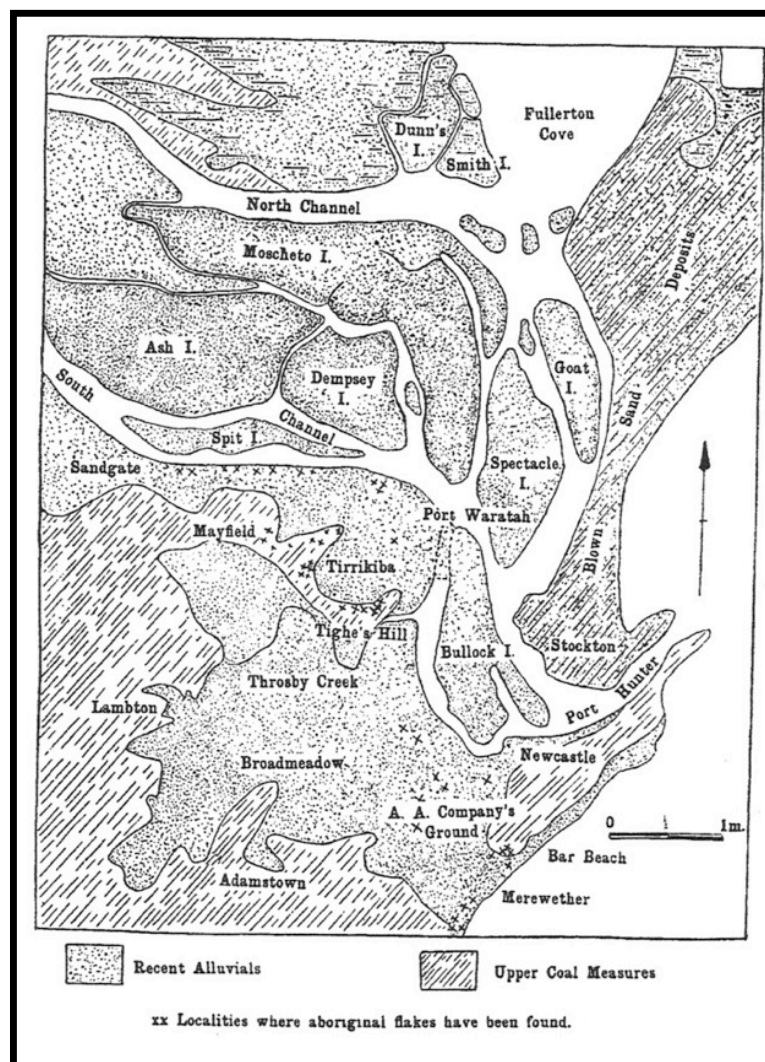


Plate 4 W. W. Thorpe 1928 *Map illustrating Hunter River at Newcastle*.
Records of the Australian Museum Vol.16, Ethnological Notes
'Xx Localities where aboriginal flakes have been found'.
Image courtesy of the Australian Museum

⁹² Ibid., It should be noted that other specimen collection sites exist throughout Newcastle and the Lower Hunter Valley, however, a deeper analysis of these resources is beyond the focus and extent of this research project. Further research of all available indigenous and ethnographic historic collections is a topic for future research.

Thorpe's record from the Australian Museum is most informative because it includes a map showing "Localities where aboriginal flakes have been found"⁹³ (Plate 4) This map is relevant because it illustrates the natural arrangement of estuarine islands and landforms as they existed in 1928. The map also specifically identifies the physical location of Aboriginal midden sites within the delta region of the estuary.

This island arrangement has since been drastically altered, however this map locates the sites where Thorpe and others collected specimens beside the river. Thorpe describes the characteristics of stone implements 'revealed by tidal erosion' and collected prior to industrialization and prior to the large-scale impacts of dredging and land reclamation throughout the lower estuary.

The map directly connects museum artifacts with the riparian landscape. By including the graphic illustration of the map, Thorpe's research enhances our vision of how riparian life has changed and further echoes the importance of visual media, in this navigation of the estuary. Thorpe describes how the characteristics of the museum held specimens indicate that these implements were manufactured along the river and used for 'breaking marine and estuarine shells to expose the edible molluscs'⁹⁴.

Axe grinding grooves, carved into the rocks of the riverbank, remain as enduring reminders of how indigenous people interacted with the river, hunting for food, and utilized many natural resources along the estuary foreshores. The significance of axe grinding grooves, tool making techniques and use of stone for axe making is described by local historian Boris Sokoloff in "Aboriginal Prehistory: Interpretation of Artifacts", in which the making of spear handles and crafting of bark canoes are described.⁹⁵ Articles published in the *Hunter Natural History* record books, provide further evidence of the estuarine diet and lifestyle.⁹⁶ This research all confirms that riparian vegetation; plants, water birds, fish, oysters and mollusc were integral to the indigenous landscape.

⁹³ Thorpe, "Ethnological Notes No.1." 242.

⁹⁴ Ibid.

⁹⁵ Boris Sokoloff, "Aboriginal Prehistory: Interpretation of Artefacts," *Hunter Natural History*.

⁹⁶ ibid. Maitland City Library, Local History collection room.

2.2 Ongoing River Archeology

Recent archeological research and documentation provides new evidence of how the human race has impacted upon the river and how the indigenous landscape has been altered significantly and irreparably. Investigations undertaken under development sites along the western end of Hunter Street, Newcastle are significant and add to the evidence of what is known of the Hunter River at Newcastle, the historic edge of the estuary, the original riverbed location, and the creeks that existed prior to land reclamation and clearing along the river foreshore.

One of the most revealing archeological searches was undertaken in 2011 below the current site of Kentucky Fried Chicken (KFC) at 684 Hunter Street, Newcastle.⁹⁷ This investigation and comprehensive archeological report recovered 5,534 Aboriginal objects, in addition to revealing the fascinating geomorphic history of the ground. At this location, prior to land reclamation, Cottage Creek once met the Hunter River at a place known as Honeysuckle Point. Adjacent sites have also revealed extensive Aboriginal scatter and middens with 4,000 artifacts of mid-Holocene and over 2,900 pieces of shell and fragments of animal bone identified by archeologists in associated excavations.⁹⁸ The research attests to the exceptional significance and rarity of the site at Honeysuckle Point (now Hunter Street) given the discovery of a hearth, the early appearance of backed blades and the research potential and scientific significance of the articles unearthed. Lower basal depths of the site are thought to have been occupied during the Pleistocene period, up to 10,000 years ago. This archeological investigation was limited to a depth of two metres.

The area to the south of Hunter Street was likely to have contained native back swamps and lagoon areas on the lee-side of a dune system. Within the historic estuary site (KFC) a wide variety of tools were evident including hammer-stones, anvils, grinding stones, pebble (chopping) tools, scrapers and backed blades. Information indicates that blade production was a primary activity on this site, which was located on the original bank of Cottage Creek at the junction with the Hunter River, prior to reclamation.

⁹⁷ This site was originally the location of the old Palais Royale and formerly Dangars Meatworks, now a drive through restaurant and carpark known as KFC or Kentucky Fried Chicken, 684 Hunter Street Newcastle NSW.

⁹⁸ Archeological & Heritage Management Solutions (AHMS), "Final Report, Excavation Report for Sba Architects Pty Ltd," no. Section 87/90 Aboriginal Heritage Impact Permit #1098622 (2011), http://coalriver.files.wordpress.com/2011/05/report_final_13may2011.pdf. Archaeological investigations of the site of the now Ibis Hotel at 700-710 Hunter Street Newcastle and surrounding area revealed a large variety of Aboriginal artifacts that were constructed from natural resources along the river.

Shell beds and middens in mid and upper dune layers are evidence of the occupation of estuary marine life dated from approximately 2,000 years ago. Shell middens provide evidence of clams (*Anadara* sp) and oysters (*Saccostrea* sp) and collaborate with recent accounts of healthy growth and the abundance of rock, river and mangrove oysters. Analysis indicates the significant archeological resources present along Hunter Street where 'The site is considered to have high to exceptional cultural and scientific significance.'⁹⁹ Archeological reports that describe further discoveries of aboriginal artifacts throughout the area are held within Cultural Collections at the University of Newcastle.¹⁰⁰ Early maps indicate that the above mentioned site was located close to Honeysuckle Point, on the broadest part of a low sand spit on a meander of the tidal reach of Cottage Creek.¹⁰¹

2.3 Natural Resources

The archives of the *Hunter Natural History* journal and archived newspaper articles published by the *Newcastle Herald* and *Maitland Mercury* all provide literature and visual examples of artifacts, tools, documented evidence and oral history stories that point to a vital and sustained link between aboriginal life and the Hunter River Estuary.¹⁰² Collectively, these articles help to paint a picture of the estuary as a diverse ecosystem and a natural haven for marine life and native vegetation. Rock oysters, mangrove oysters, clam bi-valve and varieties of mollusc, Casuarina trees, Banksia (Honeysuckle) bushes, Mangrove and Saltmarsh were common along the tidal islands and creeks around the river mouth at Newcastle.

John Maynard gives a comprehensive account of the Aboriginal association to the Coquun (Hunter) river site of Muloobinbah (Newcastle). Maynard provides an account of how

⁹⁹ Ibid., 13 and 103.

¹⁰⁰ CRWP, "Coal River Working Party Wordpress". Resources are available online via the University of Newcastle Cultural Collections website, with links to the Awaba project and an article printed in The BHP Recreational Review on 15th July 1925 by Daniel F. Cooksey (transcribed by Gionni Di Gravio) titled "Stone Age Relics - Finds in Port Waratah." <https://coalriver.wordpress.com/dreaming/>

¹⁰¹ (AHMS), "Final Report, Excavation Report for SBA Architects Pty Ltd". 56. The Cottage Creek location and Honeysuckle Point is also referred to by Dr Peter Mitchell of Groudtruth Consulting Pty Ltd in his report 31st August 2009 (Appendix 4 of AHMS report 2011) which also provides soil analysis, soil landscape mapping and geomorphology of the Palais Royale site. Mitchell identifies the likely occurrence of *Banksia serrata* at Honeysuckle Point. 3.

¹⁰² Trove resources - "The Hunter River Gazette and Journal of Agriculture, Commerce, Politics, and News," (West Maitland, N.S.W.: Thomas Strode, 1841). Barbara Brown, *Maitland in the Media, 1841-1845 : Glimpses of Life in Maitland in the Early 1840s as Seen through the Eyes of the Journalists of the Time* (Cessnock, N.S.W.: B. Brown, 2000).

Aboriginals utilized vast local natural resources and explains how 'local clans lived in a veritable paradise of plenty, with an abundance of food supplies' ¹⁰³.

This literature explains the cultural connections of ancient ancestors and their spiritual and everyday interdependence with the estuary environment. Maynard's research reinforces an understanding of the healthy proliferation of natural elements within the estuary, and how they integrated with sustainable indigenous riparian life; the vegetation, fish, oysters, stone, wood, coal and many valuable and naturally occurring river resources. Accounts of thick oyster banks, diverse marine species, bark canoe-making techniques, fishing and netting processes, use of fire and the significant amount of shell middens found along the estuary have been previously described by Maynard, Haslam et al.¹⁰⁴ These earliest observations 'illuminate a scene of serenity and proliferation' ¹⁰⁵.

The lower estuary was scattered with numerous tidal islands with dense vegetation and a mangrove fringed intertidal zone sustained a bio-diverse range of ecological communities. Estuarine mudflats and ephemeral sand islands supported an abundance of oysters, shellfish, prawns, crabs, crayfish, lobsters, worms and microfauna. Lobsters were caught in great numbers and seafood from the Hunter River supplied the Sydney markets throughout the 19th Century.¹⁰⁶ Awabakal tribes had different names for the rock oysters, mud oysters and the oysters that grew on mangroves and research indicates a diverse range of estuarine oysters were common.¹⁰⁷ Ethnographic and archeological findings, museum specimens and reports all add to our understanding of the indigenous landscape and existence of a rich and plentiful marine environment. This diverse riparian environment has been substantiated in the research previously documented by Threlkeld, Cooksey, Brayshaw, Dyll, Haslam and Maynard. ¹⁰⁸

The manuscript entries of Lieutenant James Grant give us the first written descriptions of the Hunter River and how it initially appeared in 1801 when the first boat ventured up the Cedar

¹⁰³ John Maynard. "Mooloobinbah (Newcastle) an Aboriginal industrial presence: past and present." *Journal of the Royal Australian Historical Society*. Vol 87 No 2 Dec 2001. 248 – 266. Quote 250.

¹⁰⁴ Percy A. Haslam, "Digging up Ancient History", *Hunter District Water Board Journal* (Autum 1980): 5-7. Also in Dyll "Aboriginal Occupation". 154-168.

¹⁰⁵ Maynard. "Mooloobinbah (Newcastle)." 250.

¹⁰⁶ John Askew, *A Voyage to Australia & New Zealand Including a Visit to Adelaide, Melbourne, Sydney, Hunter's River, Newcastle, Maitland and Auckland : With a Summary of the Progress and Discoveries Made in Each Colony from Its Founding to the Present Time* (London: Simpkin Marshall, 1857). 242.

¹⁰⁷ Threlkeld et al., *An Australian Language as Spoken by the Awabakal, the People of Awaba or Lake Macquarie (near Newcastle, New South Wales) Being an Account of Their Language, Traditions and Customs*. 54-55.

¹⁰⁸ Ibid. Cooksey and Di Gravio, *The Papers of the Late D. F. Cooksey (1864-1927) : Being a Record of the Discoveries of Aboriginal Artefacts in Mayfield, Newcastle & Lake Macquarie in 1925. and 1926*, Brayshaw 1986, Maynard 2001, Dyll 1971, Haslam 1980 & 1978.

Arm (Coquun) (Hunter River) and explored the river paradise upstream from Port Hunter, from what was then known as Kings Town (Moolumbinhah) (Newcastle), to Ash Island.

We found the harbor here full of flats and shoals...Here we found trees incrustated with oysters, and the shore covered to a great depth with oyster-shells, from which lime might be made on the spot... ¹⁰⁹

The archeology and history of the Hunter River Estuary is relevant because it provides a deeper understanding of what the indigenous pre-European riparian landscape was like and the plant types and natural resources that were common prior to intervention.¹¹⁰

2.4. *The Skottowe Manuscript*

Lieutenant Thomas Skottowe, as commandant of the Newcastle penal settlement from mid 1811 to 1814, described selected species of birds, possums, fish, butterflies, insects, snakes and reptiles in his now famous manuscript. Skottowe commissioned illustrations to be undertaken by Irish convict Richard Browne. Skottowe had an amateur interest in natural history, and collected and arranged the selection of specimens.¹¹¹ The resulting *Skottowe Manuscript* (1813) provides a most enlightening insight into the rich and diverse flora and fauna of the lower Hunter River and Newcastle region. The naivety and originality of the illustration plates gives the manuscript a unique charm, but more importantly the *Skottowe Manuscript* captures the essence of indigenous species and landscapes that have since been destroyed, removed or altered. ¹¹² Some Aboriginal nomenclature inscribed by Browne provides invaluable insight into a life and culture that has since been lost. The manuscript represents the first comprehensive attempt at regional taxonomy and the first effort to visually record the rich natural history of the lower Hunter River. ¹¹³

¹⁰⁹ James Grant, *The Narrative of a Voyage of Discovery, Performed in His Majesty's Vessel the Lady Nelson* (London,: Printed by C. Roworth, for T. Egerton, 1803).

¹¹⁰ Other resources that contribute knowledge of the riparian landscape prior to European intervention may be found in the artworks, manuscripts and maps produced by Ferdinand Bauer, George Caley, Thomas Mitchell (Surveyor) and others. These are referenced in the Bibliography however complete evaluation of each resource is beyond the limits of this exegesis and research project.

¹¹¹ Richard Browne, watercolour painter and natural history artist, was transported to New South Wales after being convicted in Dublin in 1810. He served the majority of his seven-year sentence in Newcastle. Browne prepared illustrations for Skottowe's manuscript. Browne had previously contributed images to publishers under the name T. R. Browne and also I.R. Browne.

¹¹² Thomas Skottowe et al., *The Skottowe Manuscript : Thomas Skottowe's Select Specimens from Nature of the Birds, Animals, &C. &C. Of New South Wales*, 2 vols. (Sydney: David Ell Press : Hordern House, 1988).

¹¹³ The 1988 two volume publication of *The Skottowe Manuscript* is held by Cultural Collections at The University of Newcastle and copies held by the Mitchell Library have been fully digitized with all images available to view online on the NSW State Library website. <http://acms.sl.nsw.gov.au/item/itemDetailPaged.aspx?itemID=423725>

Skottowe's aesthetically arranged coloured plates each illustrate the unique wildlife of the Hunter River Estuary, as the entire manuscript was completed whilst both Skottowe and Browne were located in Newcastle (1811-1814). Browne's watercolours, although crude in parts, are nonetheless exceptional in providing one of the earliest visual records and documentation of a wide range of local native species.

Archaeologist Dr. Helen Brayshaw, provides further evidence of the strong link that indigenous tribes had with the river and outlines their use of riparian resources in *Aborigines of the Hunter Valley*.¹¹⁴ Brayshaw provides details of the diverse natural resources, plants and animals, utilized by indigenous people along the Hunter River. Timber used to make everyday tools give insight into the botanical species that existed prior to colonization. Tea-tree, mangrove (*Avicennia officinalis*), river red-gum (*Eucalyptus camaldulensis*), kurrajong (*Brachychiton populneus*), red cedar (*Toona ciliata*), blue gum, iron-bark, myrtle (*Acacia myrtifolia*), cabbage-tree (*Livistona australis*) and grass-tree (*Xanthoria*) inhabited the river and pervaded indigenous life.¹¹⁵

The publication by Brayshaw includes a photograph of an old bark canoe that was held in the Australian Museum, which has a specimen label attached (E.78217)¹¹⁶ The making of bark canoes is well described in the Brayshaw study. She compares the literature and descriptions of canoe making techniques evidenced by Threlkeld (in Gunson 1974), Ebsworth (1826) and canoes that were seen by Barrallier in 1802.¹¹⁷ Brayshaw evaluates evidence of how canoes were repaired using Tea Tree bark and melted Grass Tree (*Xanthorrhoea*) gum. E.J. Eyre (1859) describes seeing 'canoes made of a single piece of bark capable of holding from six to eight people. Generally these were cut from large river gum trees (eucalyptus)' ¹¹⁸.

¹¹⁴ Helen Brayshaw, *Aborigines of the Hunter Valley : A Study of Colonial Records*, Bicentennial Publication (Scone, N.S.W.: Scone & Upper Hunter Historical Society, 1986).

¹¹⁵ Ibid. The work by Helen Brayshaw is somewhat dated, being published in 1986, however recent accounts have been specifically undertaken in various more isolated locations in the Hunter Valley, where new coal mining operations, roadwork, transport infrastructure or industrial development has been proposed. The more recent archaeological accounts do not relate to the estuary and have only been produced in accordance with mine licensing requirements, or are limited by development or government requirements.

¹¹⁶ Ibid. See black and white photograph of a bark canoe labeled E.78217 Bark Canoe. Australian Museum. Illustrated in Plate 7, 61.

¹¹⁷ Threlkeld and Gunson, *Australian Reminiscences & Papers of L.E. Threlkeld, Missionary to the Aborigines, 1824-1859*. H.T. Ebsworth, *A Letter Book, Kept at Sydney and Port Stephens*. (1826).

¹¹⁸ Quote by E.J. Eyre Autobiographical narrative of residence and explorations in Australia, (1832-39) 1859 : 50-51, as quoted and cited in Brayshaw *Aborigines of the Hunter Valley*. 60

Brayshaw refers to *The Skottowe Manuscript* and the plate by T.R. Browne titled *Native Arms* when she discusses the use of elements of the environment used for manufacture of huts, canoes, weapons and equipment.¹²¹

The evidence put forward by Brayshaw refers to the images of T.R. Browne and the net illustrated on the far right in his *Native Arms* image (Plate 5). Mangrove wood (*Avicennia officinalis*) and other hardwood species were used to construct native shields similar to the two that are illustrated by T. R. Browne and she describes the timbers used:

Boomerangs were of hard wood (Breton 1833:237), one recovered from the Raymond Terrace swamp was of iron bark (McKiernan 1911:892) and Sokoloff (1973:146) indicates that myrtle (*Acacia myrtifolia*) was also used¹²²

Local Historian and educator, Boris Sokoloff, compares ethno-historical with archaeological evidence and points to greater use of organic materials that have not survived as 'weapons, implements and utensils were made of wood, bark, bones, shells, skins, fur and the sinews of animals'¹²³.

The Brayshaw study highlights ethno-historical evidence of a wide range and types of artifacts manufactured in the Hunter Valley, but she notes the meager representation of artifacts held in Australian Museum collections compared with the number of items held overseas. For example, the Smithsonian Institution in Washington D.C. houses a skin rug from the Hunter River. This skin coat is made from 22 skins of the Brush-tailed Possum (*Trichosurus vulpecula*) and a skin of the Grey Kangaroo (*Macropus canguru*). It has a unique incised pattern and was collected by Commander Wilkes on the United States exploring expedition of 1838 – 42.¹²⁴

¹²¹ Ibid., 62. Scottowe Illustration *Plate of Native Arms* is included by Brayshaw in the publication of 1986 and is considered as evidence from the literature.

¹²² Ibid., 65. The quote and references within it are as written by Brayshaw.

¹²³ Boris A. Sokoloff. "Aboriginal prehistory: interpretation of artifacts", *Hunter Natural History* 9,1(February 1977). 19-26.

¹²⁴ Brayshaw, *Aborigines of the Hunter Valley : A Study of Colonial Records*. Illustrated on page 68 (Plate 9). The skin rug from the Hunter River is held by The Smithsonian Institution as Reg No. 5803 and is also available to view on the Powerhouse Museum website in an essay by Fabri Blacklock "Skin Cloaks held in overseas museums" online resource <http://www.collectionsaustralia.net/nqr/fabri.php>. The cloak is also illustrated and discussed by C.P. Mountford in records of the South Australian Museum, 1960 & 1963.



Plate 6 Joseph Lycett *Corroboree at Newcastle* c1818. Oil painting on wooden panel.
State Library of N.S.W. Collection

The artwork of the convict artist Joseph Lycett is given further evaluation in the following chapter, however at this point an important artwork should be included as a strong image of the indigenous Hunter River landscape. Lycett's, *Corroboree at Newcastle* (Plate 6) shows a corroboree being held on the shores of the Hunter River. This work is most significant as it represents one of the first works of art undertaken *in situ* by a known artist and it illustrates many important aspects of indigenous culture and evidence of a profoundly rich riparian life. Lycett blends landscape and action in unique night-time scenes in a 'relatively undisturbed part of Australia'¹²⁶. This vista has been dramatically altered with settlement and industry. The exact location of this site has recently been an interesting topic of debate by scholars and historians.¹²⁷ However we know that this entire area is currently dominated by urban and industrial landscapes that are devoid of any indigenous vegetation.

¹²⁶ As discussed and quoted by John Turner in John Turner and Joseph Lycett, *Joseph Lycett : Governor Macquarie's Convict Artist* (Newcastle, N.S.W.: Hunter History Publications, 1997). 88.

¹²⁷ Gionni Di Gravio, "The Ancient Corroboee Ground at Wickham (N.S.W)," The University of Newcastle Cultural Collections, <http://coalriver.wordpress.com/?s=Lycett&submit=Search>.



Plate 7. Joseph Lycett, *Aborigines resting by a camp fire near the mouth of the Hunter River, Newcastle, NSW*. c1818, Watercolour National Library of Australia Collection (nla.pic-an2962715-s15)



Plate 8. Joseph Lycett, *Fishing by torchlight, other Aborigines beside camp fires cooking fish* c 1817, Watercolour. Part of *Drawings of Aborigines and scenery, New South Wales 1820*. National Library of Australia Collection (nla.pic-an2962715-s8).

Lycett's painting titled *Aborigines resting by a camp fire near the mouth of the Hunter River, Newcastle, NSW* (Plate 7), illustrates Aboriginal life beside the river, with Nobbys headland clearly visible in the background. These moonlight works are unique in the documentation of traditional moments of indigenous life at that time, and indicate the sustained culture of the original people who occupied the river land and its many natural resources. The painting is exceptional in its moonlit depiction of the Newcastle headland, the untouched Nobby's Island and the surrounding environment of Newcastle Harbour.

The location of the scene in the corroboree paintings has more recently been informed by research undertaken by the Coal River Working Party and by University of Newcastle Archivist Gionni De Gravio.¹²⁸ Aboriginal middens and artifacts have been recovered in this area near Wickham and there is evidence to suggest that the corroboree ground, the subject and vista shown in Lycett's paintings, may have been located between Church and Holland Street, Wickham. This is described in a *Newcastle Herald* newspaper report dated 28th July 1934, in an extract in which Mrs. Farnham describes attending such events near the present site of St James Church of England at Wickham,

Describing the camp, Mrs. Farnham said that it was a huge clearing, surrounded by a dense forest of trees and thick undergrowth. The floor was covered with sea shells. The only approach was a single track, which was guarded at both ends by sentinels. A roaring fire was burning in the centre of the clearing.... After the ceremony, a huge feast was indulged in, and the spectators were invited to participate. Some, braver than the others, did so, and afterwards remarked that "although the food did not look tempting, it tasted good"¹²⁹

This first hand description of the scene aligns with the imagery and location of the corroboree shown in Lycett's paintings. (Plate 7)

The diverse articles and artifacts cited in this chapter provide evidence of the ecologically rich indigenous landscape that existed for many thousands of years prior to European settlement. The plentiful and sustainable environment was characterized by a prolific range of natural resources, a dense variety of vegetation and native flora and fauna that included a wide range

¹²⁸ Daniel F. Cooksey, Gionni Di Gravio, and University of Newcastle., *The Papers of the Late D. F. Cooksey (1864-1927) : Being a Record of the Discoveries of Aboriginal Artefacts in Mayfield, Newcastle & Lake Macquarie in 1925* (Newcastle, NSW: University of Newcastle, 2003).

¹²⁹ As quoted in *Newcastle Morning Herald* 28th July 1934, 5. Further evidence of the location and scene of the corroboree paintings and associated comprehensive research is documented by Gionni Di Gravio, University of Newcastle Archivist, in Coal River Working party wordpress <http://coalriver.wordpress.com> Article titled "The Ancient Corroboree Ground at Wickham (NSW)". Posted January 20, 2014 (as accessed 2/4/14).

of fish and crustaceans. The artwork of the river is valuable in establishing a colourful and complete picture of how the riparian landscape would have looked prior to European intervention.

Perhaps at the time when grooves were being carved, the grinding was carried out under the shade of tall River Red Gum and Australian Red Cedar trees. Indigenous populations lived along the Hunter River at a time when the river was protected by a much larger canopy of trees that overhung the shaded river channel, native fish were plentiful and the river much thinner and deeper.

The river is, has and always will be the life source of the region. It provides for all life: man/woman, birds, animals, plants and in some cases, as powerfully demonstrated during the 1955 Maitland flood, it has the ability to wreak incredible destruction and take lives.¹³⁰

¹³⁰ John Maynard. 'Mooloobinbah (Newcastle) an Aboriginal industrial presence: past and present.' *Journal of the Royal Australian Historical Society*. Vol 87 No2 Dec 2001 248 – 266. Quote 249.

Encounter 2 - An empty canoe

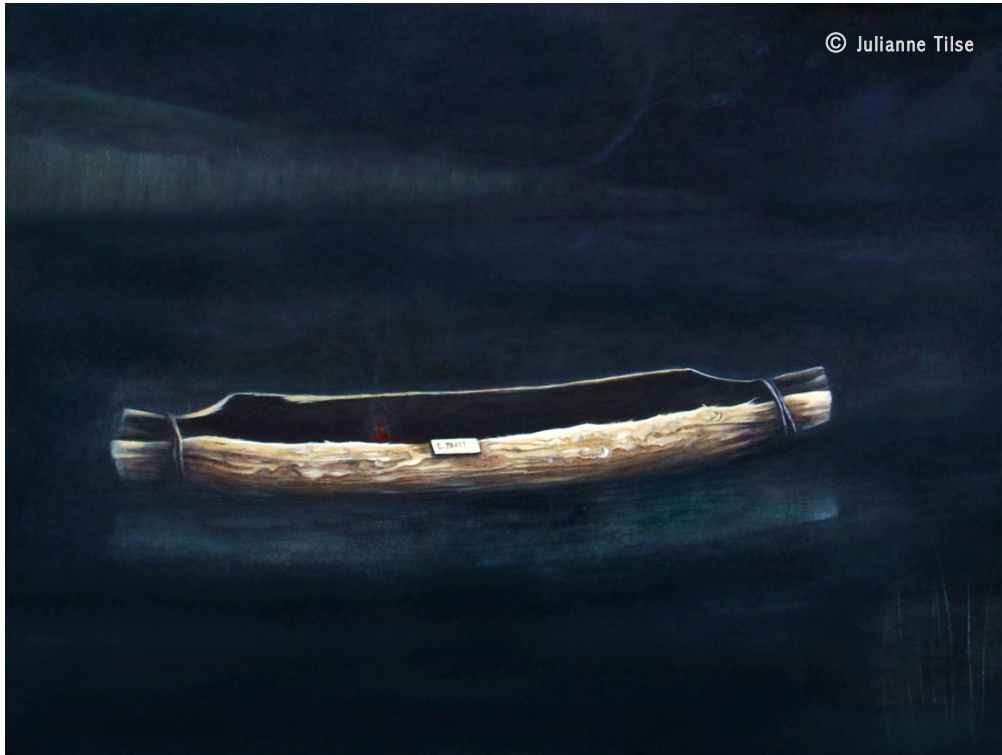


Plate 9 Julianne Tilse *E.78217*, 2014 . Oil and charcoal on canvas on board 90x120cm.

The diverse indigenous landscape that existed prior to 1797 resonates throughout my studio practice and multiple histories of the river are core components of my research. As I row along the river I am constantly reminded of past events that have shaped the river and the legacy of earlier inhabitants. Today remnant native vegetation species such as Redgum, Casuarina, Crinum Lily and shoreline reed species, are seen along the riverbank in isolated pockets between more dominant, introduced, willow and weed species. As I float on top of the water in a modern lightweight single scull (rowing boat) I think how early inhabitants of the river would have negotiated similar tidal currents in bark canoes.

An image of a bark canoe specimen from the Australian Museum, labeled *E.78217*, is pictured in the study by Helen Brayshaw. This specimen of a bark canoe made from river red gum 'from Hunters River' has since deteriorated, however descriptions, diaries and stories remain as reminders of how earliest inhabitants lived a riparian life. The background for this image is the stretch of river known as Swan Reach where a large remnant river red gum tree once stood as a single lone representation of the forest of tall canopy trees that have now disappeared. Similarly the bark canoe floats awkwardly on top of the water, as an isolated specimen. The canoe is drifting along as a lost remnant - lacking orientation - without being.

Chapter 3 – An Early Colonial Landscape

In visually navigating the landscape of the Hunter River Estuary, an evaluation of the colonial landscape, forms a point of departure from the Indigenous or natural landscape. The colonial period was a time of significant and irrevocable environmental change along the river. Diverse accounts of known artefacts and works of art are therefore considered along with documented evidence in manuscripts and publications, as I continue to investigate relevant known components of empirical and objective research that inform a deeper understanding of the river.

In this chapter I focus upon the Early Colonial years (1897 – 1850) as this was the period in history when drastic changes to riparian life were imposed and these changes resonate with how one sees the river today. The impacts of colonization throughout the Hunter River Estuary continue to have an effect upon the ecology, geomorphology and health of the river today. From the very first year of European contact, from 1797 onward, the landscape of this estuary has continued to change. This period set a very strong precedent and is hence vital in the journey toward a deeper knowledge and understanding of riparian life today.

In the following pages I continue to build a picture of how the riparian landscape of the Hunter River Estuary appeared and was recorded by early colonials. An interdisciplinary investigation of diverse resources informs our understanding of how early artists and explorers engaged with this environment. The creative practices, works of art, historic artefacts and visual imagery created during the early colonial period, from 1788 to 1850, was exceptional and unique to the Hunter River Estuary. The distinctive artwork created at this time provides evidence of the contiguous yet conflicting interdependent relationship between human beings and the rich natural resources that once characterised this riparian environment.

This investigation of diverse components of historic research includes published books, reports, articles in journals and other publications. Original accounts also appear in unpublished survey field books, sketches, loose notes and artworks in journals and manuscripts, natural history collections or specimens and their accompanying labels are informative. Works of art, drawings and sketches reveal important details that are linked to, and verified by, reference material and associated publications. Documented reports, correspondence, diaries and various papers have been found to exist in a wide range of archival records. Each article contributes to

knowledge when collectively evaluated. Thus, empirical evidence is compiled here from diverse resources that collectively build an understanding of the riparian landscape.

3.1 An Eye Sketch

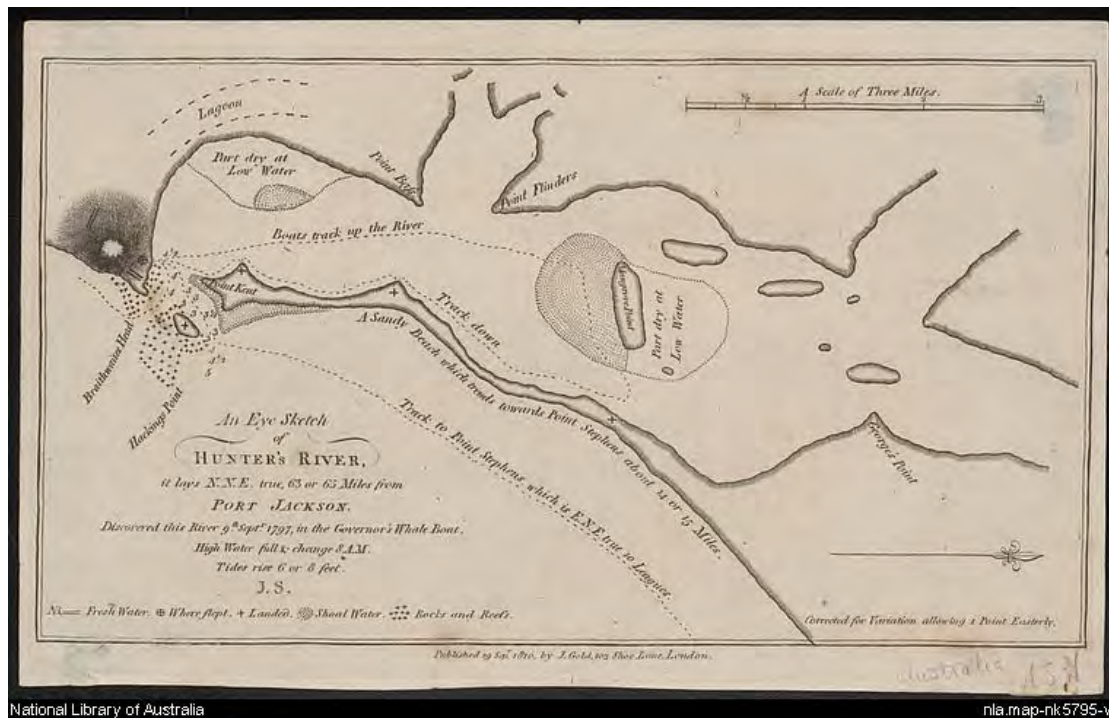


Plate 10 Lt John Shortland *An eye sketch of Hunter's River: it lays N.N.E. true, 63 or 65 miles from Port Jackson : discovered this river 9th Sept'r 1797, in the Governor's whale boat ... 1810.* Hand sketched map, 20.1 x 21.9cm. Image courtesy of National Library of Australia nk5795 .

On 10th September 1797, Lieutenant John Shortland (1769-1810) recorded the first official British discovery of the Hunter River on the British naval ship H.M.S Reliance. There is some conjecture as to whether some escaped convicts or fishermen may have visited the river prior to 1797. In *Historical Records of Newcastle 1797-1897* John Windross gives a description of Shortland's discovery:

...whilst proceeding along the Bight, Shortland observed a small island standing but a short distance from the mainland. The sun at the time shone brightly and displayed the green verdure on the top in an almost dazzling light. Shortland is reported to have remarked to his crew on the pretty picture on the "Nob" as he at once called the island.

He was so struck with the beauty of the "Nob" that he steered a course that brought the boat abreast of the then island, now known as Nobbys.¹³¹

John Shortland entered the mouth of the river beyond Nobbys, landed below the main headland (now Fort Scratchley) and after discovering a prominent outcrop he chipped away a sample of coal for authorities in Sydney and originally named the river - Coal River.¹³² Shortland produced the first rudimentary map titled *An eye sketch of Hunter's River*. (Plate 10) The original of this plan is held in the Hydrographic Department, Ministry of Defence, Somerset, United Kingdom.¹³³ In a later letter to his father Shortland wrote,

In my passage down I discovered a very fine coal river, which I named after Governor Hunter. The enclosed I send you, being an eye-sketch, which I took a little time I was there. Vessels from 60 to 250 tons may load there with great ease, and completely land locked. I dare say, in a little time, this river will be a great acquisition to this settlement....¹³⁴

Shortland's eye sketch shows Newcastle Harbour and the expanse of sand and oysters along the original Stockton peninsula. Inside the harbour the arrangement of sandy islands are shown. Nobbys Island is separate from the headland and numerous rocks and reefs are identified and marked near the entrance between Nobbys and the mainland to the southwest. On the sketch Shortland's course is tracked inside the harbour and he has scribed the end of one larger island - Mangrove Point.

The entrance into Newcastle was reported by many colonial shipmen to be notoriously treacherous, as Terry Callen has documented in the book *Bar Dangerous*.¹³⁵ In following years, prior to harbour dredging and subsequent industrial change, many ships ran aground and sank near the harbour entrance, at the mouth of the river. Numerous vestiges of early shipwrecks are to be found along the existing break-walls at the entrance to Newcastle Harbour. Shortland shows rocky shoals and reefs in the original sketch and the very treacherous entrance with

¹³¹ John Windross and J. P. Ralston, *Historical Records of Newcastle, 1797-1897*, Facsimile Series (Newcastle, N.S.W.: Federal Printing and Bookbinding Works, 1897). 6. This extract is from the text by barrister and journalist John Winross (1858-1929) who also worked as the Shipping Editor for the *Newcastle Morning Herald*.

¹³² *Ibid.*, 6-7.

¹³³ The University of Newcastle Cultural Collections holds a photographic copy of the sketch by Shortland and the original ink on paper sketch has been digitised and is available to view online on the Coal River Working Party (CRWP) website.

¹³⁴ Captain John Shortland in a letter to his father dated 10 Sept. 1798.

¹³⁵ The history of fatalities and the treacherous entrance into the Coal River (Hunter River) is outlined in the book by Terry Callen and Newcastle Region Maritime Museum (N.S.W.), *Bar Dangerous : A Maritime History of Newcastle* (Newcastle: Newcastle Region Maritime Museum in association with the Runciman Press and Varley, 1986).

rocky shoals was later pronounced and described in detail by Ensign Francis Louis Barrallier (1773-1853) in his correspondence to Governor King, when he wrote,

You can see from my map what a fearsome passage one has to traverse in order to reach this beautiful river. The roaring of the waves, crashing one upon the other and breaking with a terrible noise on the steep rocks of the island, and raging as they roll onto the sands of the opposite shore, would make the most intrepid sailor tremble. [If you had been here] you would have seen all the seamen, with terror showing on their faces but remaining firm at their posts, obeying with incredible dexterity their captain's orders in order to extricate him from this almost impenetrable labyrinth. The doctor [Dr Harris] is a man who is truly necessary, for he is indefatigable in whatever he undertakes, and were it not for his great perseverance neither we nor the schooner would have entered the river that day.

- 24 June 1801.¹³⁶

3.2 The Barrallier Plan

One of the earliest and most significant maps of the Hunter River is the 1801 survey plan made by Ensign Francis Barrallier (Plate 11). The original full plan was recently found to exist in the National Archives of the United Kingdom, London and copies made available to The University of Newcastle Cultural Collections.¹³⁷ The Barrallier Plan is significant because it links and locates the earliest accounts of the river to physical geographic features. Associated literature, diary entries and correspondence from the 1801 expedition that was lead by Captain James Grant have links to places and bends of the river that are marked on the Barrallier Plan. The size and shape of rocks and reefs near the river mouth and to the south of the then separate and larger Coal Island (Nobbys) are indicated. The positioning of many river islands and sandy shores within Newcastle (Coal River) harbour, the location of tributaries and lagoons along the Hunter River and the relationship with surrounding hills are shown by Barrallier: this plan is most important as it maps the extent of the first official survey of the estuary that was undertaken.

¹³⁶ Ensign Barrallier to Governor King (King Papers.), *H.R.N.S.W.*, Vol.IV..413,- 414. (Translated by Emeritus Professor Ken Dutton) Francis Louis Barrallier was the son of a French naval surveyor who moved to the United Kingdom in 1793. Francis L Barrallier arrived in Australia in 1800 as an explorer and engineer. He was appointed as an ensign in the New South Wales Corps and employed as a surveyor and later an architect by Governor King.

¹³⁷ University of Newcastle Cultural Collections, "Another Version of Barrallier Survey Plan 1801 Uncovered," The University of Newcastle, Coal River Working Party. Online resource: <http://coalriver.wordpress.com/2008/02/11/another-version-of-barrallier-survey-plan-1801-uncovered/>.

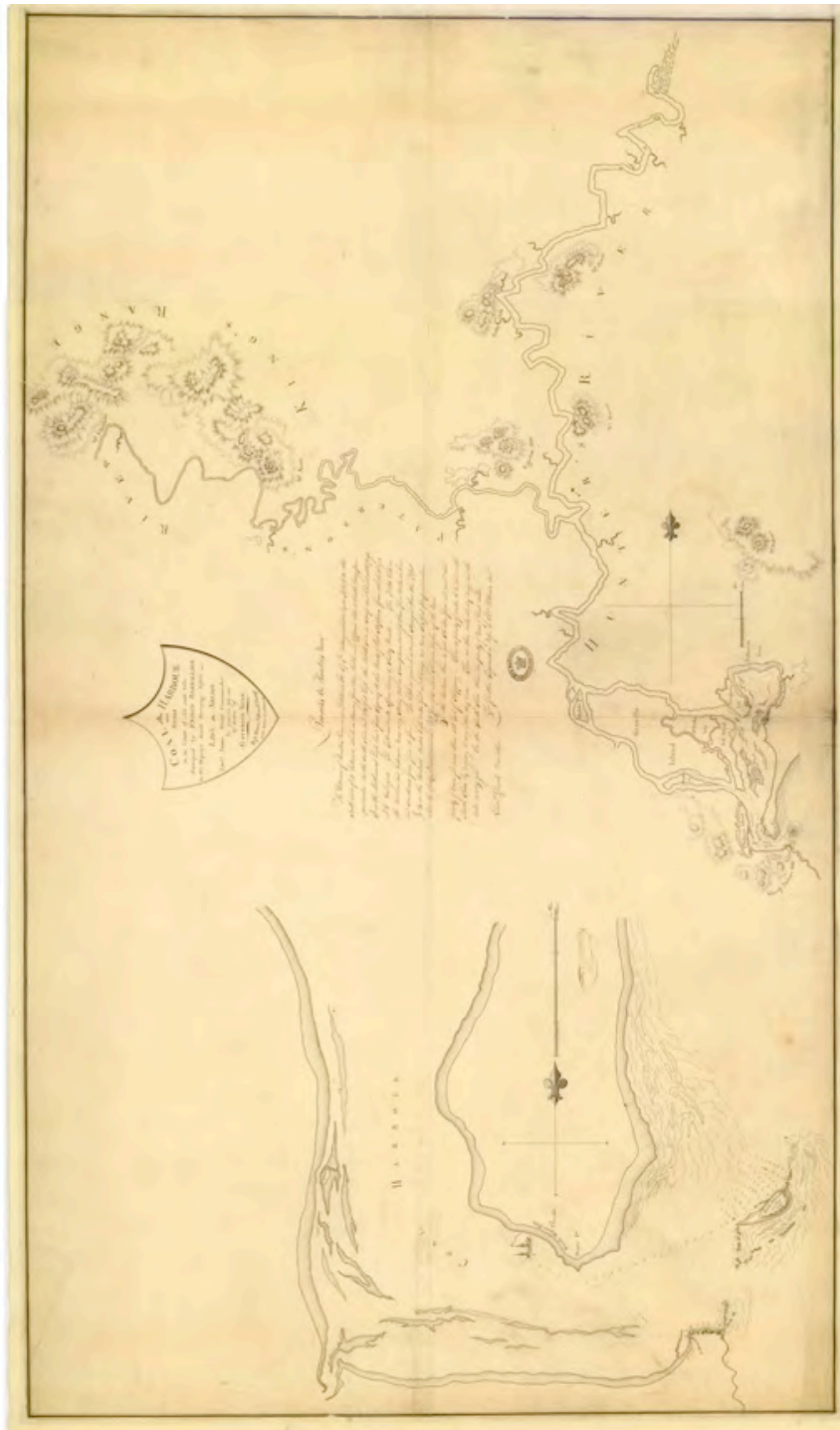


Plate 11 *The Barrallier Plan with inscription 'Coal Harbour and Rivers, On the coast of New South Wales, Surveyed by Ensign Barrallier, In His Majesty's Armed Surveying Vessel, "Lady Nelson", Lieut. James Grant, Commander, in June and July 1801. By Order of Governor King'.*
Copy of Original held in the National Archives United Kingdom CO 700/ New South Wales 16/1.

When overlayed with current satellite Google Earth imagery (Plate 12), and with current topographic maps of the region, the Barrallier Plan is accurate and consistent with the geomorphology and natural features of the river. Given the difficult working conditions on board a small timber boat and the limited survey tools available in 1801, Barrallier's survey is quite remarkable and the 1801 plan aligns with the current satellite imagery.

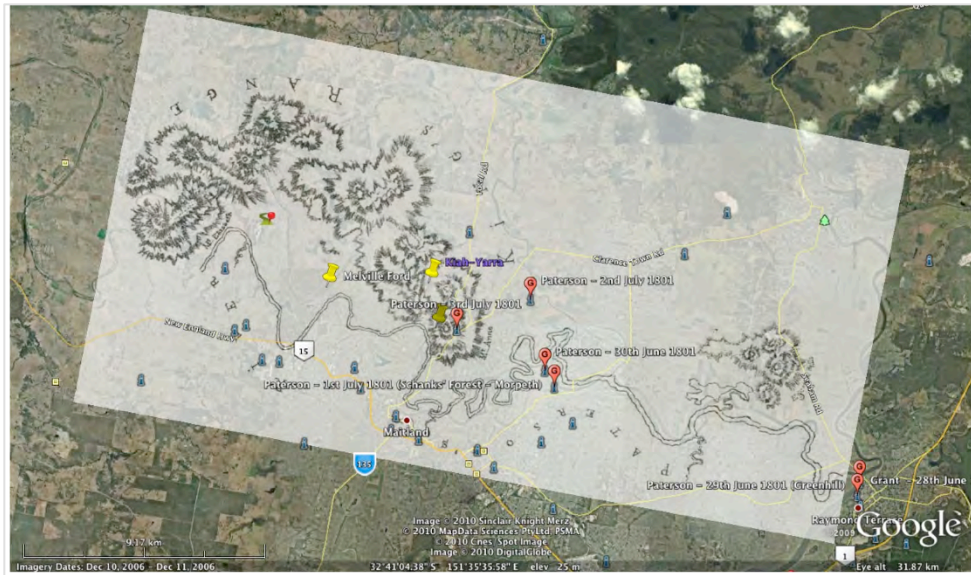


Plate 12. Map of the Hunter River shown in a satellite image from Google Earth (2006) with Barrallier plan overlay — showing the accuracy and locations of the Barrallier Plan.(1801).

Barrallier mapped the arrangement of original and untouched estuary islands that existed throughout the river delta and within the harbour area, prior to the change and extensive reshaping of the river that followed with European intervention. The Barrallier plan provides a valuable record of the geomorphology of the river in 1801. The location of numerous meandering river bends are indicated on Barrallier's plan and provide a benchmark for recent studies of geomorphology and the connection between vegetation loss, erosion and the reduced sinuosity of the Hunter River between Maitland and Morpeth.¹³⁸ These changes are outlined in Chapter 4.7. (Plate 51)

¹³⁸ Scientific studies have begun to incorporate early maps and surveys, environmental and geomorphic history and place based knowledge of the river to evaluate effective management of complex environmental systems such as the Hunter River. See Gary, Brierley, Fryirs, G., Cook, N., Outhet, D., Raine, A., Parson, I., Healey, M., "Geomorphology in Action: Linking Policy with on-the-Ground Actions through Applications of the River Style Framework.," *Journal of Applied Geography* 31 (2011). Gary Brierley et al., "Reading the Landscape: Integrating

3.3 Mount Anne



Plate 13 Detail - The Barrallier Plan with inscription 'Coal Harbour and Rivers, On the coast of New South Wales, Surveyed by Ensign Barrallier, In His Majesty's Armed Surveying Vessel, "*Lady Nelson*", Lieut. James Grant, Commander, in June and July 1801. By Order of Governor King'. (Barrallier's then named Paterson's River is now known as the Hunter River). Copy of Original held in the National Archives United Kingdom CO 700/ New South Wales 16/1.

The important elevated hills of Mt Anne and Mt Elizabeth are clearly marked on the plan by Barrallier and the alignment with satellite imagery verifies the location of Mt Anne. The wide bend in the Hunter River just above Oakhampton, north west of Maitland, is approximately 64km upstream from the river mouth at Newcastle. Mt Anne is most significant to this project as it is at the upper-most limit of the estuary, the tidal limit of estuary research and the place where my visual navigation begins. Barrallier clearly marks this particular position as "Mt Anne" and the name is inscribed on his 1801 map (Plate 13) and is referenced throughout the journals of James Grant, William Paterson, Barrallier and by the colonial botanist John Brown.

Fortunately it was common practice for most English gentlemen to document their explorations in hand written descriptions and sketches and most British officers and gentry who explored Australia in the nineteenth century recorded their findings in well kept diaries, sketchbooks or

the Theory and Practice of Geomorphology to Develop Place-Based Understandings of River Systems," *Progress in Physical Geography* 37, no. 1 (2013).

manuscripts. These accounts were often the main resource for later printed or engraved publications that were consequently produced upon return to London.

Original first hand accounts of the native riparian landscape provide place-based situated knowledge and give the most accurate, often the only, account of native vegetation, flora and fauna species and important elements of geography and topography at the time of first contact. Colonel William Paterson wrote detailed descriptions of the natural resources of the river environment in his diary and included his finding in letters to Governor King. I have included the original text and quotations from these records in order to provide a more objective first hand account of how these first Europeans described the riparian landscape.

Prior to the full survey expedition in late July 1801, Colonel Paterson and Mr Harris attended a brief excursion in Mr Harris's smaller rowing boat earlier in July that year. Traveling upstream from what he named Shanks' Forest Plains and over rapid sections of the river.

Paterson's diary entry states:

July 3 – Set out again early in the morning up the river till 2 o'clock, pulling over some rapid streams. The country now became much higher, with good soil, and the banks of the river covered with cedar, ash and what is called box. The extent of our journey to day was to a beautiful green mount, from which we had a very extensive view of a low country almost surrounded with a high chain of mountains, bearing from N.E. to E.S.E., and about 20 miles distant. This I named Mount Anne, in honour of Mrs. King, being the first mountain commencing a range that extends about 9 miles. A remarkable mountain, in shape not much unlike the Peak of Teneriffe, which I named Mount York, bore S.S.W. This is a good landmark for the entrance into Hunter's River, and is seen at a great distance. Returned to head quarters in the evening. ¹³⁹

Grant, in his journal entries made between 8th and 18th July 1801, wrote about the excursion up from a base made at Shanks' Forest (near Morpeth) and proceeding upstream to Mt Elizabeth, where a tree was marked at that furthest mount. Grant describes the abundance of cedar trees on the way and land fit to cultivate, seeing natives and canoes in a nearby creek and visiting Mount Anne where '[t]he view was extensive and picturesque.' Grant's account is conversant with Col. Paterson's description of Mt Anne. James Grant wrote:

¹³⁹Exerpts from Historical records of New South wales. Vol 1v. Hunter and King. 1800, 1801, 1802.

What Paterson described as Mount York is now known as Sugarloaf Mountain and this cone shaped feature provided a landmark that continues to be recognised today by surveyors as a trig station and is also a beacon for communication and transmission aerials. Mt Anne was spelt differently by explorers and was named with an "e" as *Mt Anne* by Col. Paterson but as *Mt Ann* by Grant, both in 1801.

We again visit Mount Anne [sic]... Cedar grows along the banks of the river in great abundance and great magnitude. The ash, gum-trees of all sorts, the swamp-oak, and tea-tree is also in great plenty and very large, together with various other woods. Of minerals there appears not to be any great variety: those that about the river in general are volcanick. [sic] Birds and plants nature has been bountiful in bestowing here; fish also are plenty, and I suppose, from their leaping, are of the trout kind....¹⁴⁰

It should be noted that there is some confusion in regard to the naming of the three arms of the Hunter River that are noted on the very early maps and in journals. Barrallier did not map the present Paterson River but some took it to be the Williams River. What is now the main Hunter River was termed Paterson's River by Barrallier and others on the 1801 exploration. The existing Hunter was sometimes referred to as the Cedar Arm and also Coal River or Coquun. We can only imagine the river land paradise that would have existed when indigenous people lived along the river, how the river looked in 1801 and what the first european explorers saw; rowing in a wooden boat past Shank's Forest up the Cedar Arm, Coal River or the Coquun as the river was known originally. James Grant wrote in his manuscript of 1801:

The Colonel had erected a comfortable hut, and had been successful in killing a number of new and beautiful birds. The cedar grew here in great plenty, and to a very large size. Colonel Paterson, Dr Harris, Mr Barrallier and myself (James Grant), penetrated ...further up the river, in the course of which we met with many rapids, which obliged us to get out and drag the boats up. The land on the south side of the river was interspersed with lagoons, on which we killed some ducks.¹⁴¹

These original records of the first survey and exploration of the Hunter River Estuary are significant in providing evidence of the natural environment, identifying indigenous species of flora and fauna and each describe and confirm the bio-diversity of the natural landscape that existed prior to colonization. These accounts represent strong empirical evidence because the diaries and letters are gathered from more than one source, can be cross referenced with other articles and they each link to the Barrallier Plan. This investigation of interdisciplinary material reveals new connections to geography, botany, species distribution and verifies the location of early explorers' journal descriptions, which have not previously been considered across different disciplines and resources. In this study valuable components of interdisciplinary research clearly contribute to our knowledge of the river environment and how it has changed.

¹⁴⁰ Historical Documents of New South Wales Vol. IV Hunter and King. 1800, 1801, 1802. Edited by F.M Bladen Sydney: Charles Potter, 1896. 404-409.

¹⁴¹ James Grant, *The Narrative of a Voyage of Discovery, Performed in His Majesty's Vessel the Lady Nelson*.

Encounter 3 - Mt Anne



Plate 14 Julianne Tilse *Being on Mt Anne*, 2012 . Acrylic paint on canvas, 45.5cm x 45.5cm

This painting results from my observation and encounters while being on Mt Anne, located on the top of the riverbank of the Hunter River at Maitland Vale. This is where Barrallier, Paterson and Grant most likely stood 200 years prior, as they describe this picturesque mountain and the outlook to Mt Sugarloaf. The view is a familiar one for me as this is where I live. I look down the Hunter River and out to Mt Sugarloaf to the south-west and from this here I observe the river and encounter riparian life daily. I completed this small square painting while sitting on the edge of the riverbank cliff.

Here I sought to capture the essence of the old native fig tree (Rusty Fig: *Ficus rubiginosa*) as the sunlight shifts to light up the tips of native Kangaroo Grass and the distant flood plain. Contrasting paint colours reflect the darkness of thick vegetation within the sandstone escarpment of the adjacent riverbank and cool enigmatic shadows of the river below. This small canvas began as a simple test sketch, as I aimed to capture the natural contrasts of colour, darkness and light within the landscape. Deeper observation and contemplation of the environment reveal multiple natural contrasts; native vegetation types, weeds, indigenous grasses and the diverse riparian vegetation of this thickly vegetated riverbank, in contrast with developed land of the flood plain. A recent large housing development has since resulted in the transformation of the green hills in the mid-distance. Knowledge of the vegetation types and colours are tested with paint and build toward a better understanding of the ecological diversity of flora and fauna at Mt Anne and the dynamic riparian landscape at this location.

3.4 Lycett's Legacy

A deeper visual analysis of the works of art produced by Joseph Lycett (c1774 – c1828) reveal his many hidden talents. Many of his distinctive works illustrate the Hunter River and provide a unique insight and description of the landscape at that time. What we know of the riparian landscape was captured in part in his albums of artwork, however it also points us to some unknowns. The exact location of each work was not recorded and can only be determined by the analysis of specific features of the topography or landscape. His watercolour artwork *Aborigines hunting waterbirds* (c1817) is included in an album of works that he inscribed *Drawings of the Natives & Scenery of Van Diemens Land 1830*, which is now commonly referred to as *The Lycett Album*.¹⁴² This album contains twenty watercolours on paper painted by Joseph Lycett prior to 1828. Lycett's oeuvre depicts views along the Hunter River at Newcastle, the former Lake Paterson, Wallis Plains (near Maitland) and the river upstream from Raymond Terrace.

In *Aborigines Hunting Waterbirds* (Plate 15), Lycett indicates the nature of the river and riverbank topography that would have existed at that time, with adjoining wetlands and lagoon confluences interspersed along the river. Lagoons, wetland confluences and lakes are described by Grant and Paterson in 1801 and also indicated in the later 1828 survey by Henry Dangar (1796-1861).¹⁴³ The low lying areas of the riverbank were thickly vegetated with native reed and marshland grasses with riverbank fingerlings protruding along the stream rather than the straight man-made channel that is more common today. The illustration of the organic shape of the river interspersed with ponds and lagoons, is a valuable reference as to how wetland areas interconnected with the river, with no definitive straight riverbank. This may have been a view looking west from below Raymond Terrace. Journal entries by Grant and Barrallier also describe and confirm the native vegetation and topography, as painted by Lycett.¹⁴⁴

¹⁴² The *Lycett Album* is held by and available online at http://www.sl.nsw.gov.au/discover_collections/history_nation/macquarie/artists/lycett/index.html

¹⁴³ A large chain of lagoons is shown on the Dangar Plan of 1828.

¹⁴⁴ The stretch of Hunter River below and west from the junction with the Williams is described by Captain James Grant in 1801 and in the diary of Robert Brown 1804 The descriptions of low lying and swampy land and the parkland or cleared areas of lush grassland is consistent with Aboriginal land management practices. The painting may also indicate the area of wetland above Hexham that once connected to Hexham Swamp prior to the construction of roads and railway line. John Brown's 1804 journal describes the vegetation and Joseph Lycett describes proliferate birdlife, waterfowl, fish netting and eels to be found in this location. Lachlan Macquarie



Plate 15 Joseph Lycett, *Aborigines hunting Waterbirds* c1817 Watercolour. 17.5 x 27.7cm Part of Drawings of Aborigines and scenery, New South Wales 1820. National Library of Australia (nla.pic-an2962715-s6)



Plate16 Joseph Lycett *Aborigines Hunting Waterbirds in the Rushes* c1817 Watercolour 17.5 x 27.6cm Part of *Drawings of Aborigines and scenery, New South Wales 1820*. National Library of Australia (nla.pic-an2962715-s21)

Lycett's series of significant works of art collectively inform our understanding of the ecology of the Hunter River Estuary prior to settlement. Lycett's works; *Aborigines hunting Waterbirds* (Plate 15), *Aborigines Hunting Waterbirds in the Rushes* (Plate 16), *Lake Paterson, near Patterson's Plains, Hunter's River* (Plate 17) and *Fishing by Torchlight* (Plate 8) all enliven picturesque vistas of prolific riparian life and the indigenous native landscape.¹⁴⁵ These scenes are most likely located along the Hunter River and we know that the Lake Paterson work depicts the lake that once existed in a chain of large lagoons upstream from the junction of the Hunter and Paterson Rivers.¹⁴⁶ The following plates show paintings by Lycett that depict the riparian landscape and these works are significant to how we visualize the river. The images and text contribute to an assemblage of multi-dimensional textual, visual and empirical knowledge.

The Paterson River is a tributary within the estuary, feeding into the Hunter River near Hinton, and is tidal up to the township of Paterson, NSW. Lake Paterson was located on the south-western side of the current Paterson River between Mindaribba, Bolwarra and Largs and had confluence with ephemeral wetland lagoons and the Hunter River to the west. This area is shown in the artwork titled *Lake Patterson near Patterson's Plains, Hunter River* (sic) (Plate 17). The scenes of Lake Paterson and hunting water-birds are similar to those described by Grant, Barrallier and Paterson who each mention the lagoons and wetland areas, collection of specimens, shooting water birds and the prized black swan. Together the artwork and manuscripts inform our understanding of the ecologically diverse wetland areas and lagoons that adjoined the river prior to the extensive clearing, flood mitigation work and land reclamation practices of early settlers.

The text *Nature's Investigator: the diary of Robert Brown in Australia, 1801-1805* adds evidence of the bio-diversity of the riparian landscape and confirms many of the native vegetation types that Lycett painted.¹⁴⁷ Robert Brown, the respected colonial taxonomist and

¹⁴⁵ Joseph ca Lycett, *View on Lake Patterson, N.S. Wales* [Picture] / J. Lycett, 1820. Accessed from <http://nla.gov.au/nla.cat-vn2429038>. And also *Lake Patterson, near Patterson's Plains, Hunters River, New South Wales*. [Picture] / J. Lycett Delt. Et Executr, 1824. Accessed from <http://nla.gov.au/nla.cat-vn561262>. Published by J. Souter.

¹⁴⁶ Described by Cynthia Hunter in "The Settlers of Paterson's Plains" 1997 Paterson Historical Society. pv

¹⁴⁷ Robert Brown et al., *Nature's Investigator : The Diary of Robert Brown in Australia, 1801-1805* (Canberra, ACT: Australian Biological Resources Study (Flora), 2001). Robert Brown's collection of botanical specimens from Australia and his output of written work is extensive. His papers, notes and manuscripts are housed in the Natural History Museum, London, The Mitchell Library, Sydney, the British Library, the Royal Botanic Gardens, Edinburgh & Kew, Linnean Society of London. Brown became librarian of the Linnanean Society and made important contributions to botany and was a pioneer for use of microscopical investigation of botany. His passage along the



Plate 17 *Joseph Lycett Lake Patterson near Patterson's Plains, Hunters River in Views in Australia, or, New South Wales & Van Diemen's Land delineated : in fifty views with descriptive letter press* by Joseph Lycett Originally published by J.Souter London 1824. Image courtesy of State Library NSW.

botanist who accompanied Mathew Flinders on his voyage around Australia, provides accounts of his journey along the Hunter River from October to November, 1804. Brown documents specific riparian vegetation species with descriptions of the landscape and plant species collected and identified along the Hunter River between Newcastle and Mt Anne in 1804.¹⁴⁸

The images by Lycett each reinforce the importance of the river and the range of water birds and fish that were hunted for food and that were common and easily obtained prior to European settlement along the river. The riparian landscape and the hunting of birds and fish are central themes within *The Lycett Album*.¹⁴⁹

Hunter River in 1804 was in a small boat and his diary and manuscripts of this trip are complex and extensive, with many associated papers that have not been collectively transcribed or evaluated in full. Specific species, taxonomy and locational description is detailed in the book compiled by Vallance, Moore & Groves 2001.

¹⁴⁸ *Ibid.*, 547. See Chapter 24 "Visit to Hunter River, October-November 1804".

¹⁴⁹ Further analysis of Lycett's work is given by Jeanette Hoorn in: Joseph Lycett and Jeanette Hoorn, *The Lycett Album : Drawings of Aborigines and Australian Scenery* (Canberra National Library of Australia , 1990/1990).

In *Views of Australia* the coloured engravings are accompanied by descriptions printed using letterpress. Here Lycett describes the tracts of fine land along the course of the river and the location of lagoons, 'near Paterson's Plains, on the River Hunter'

...This tract of Land is one of the finest in this vast country. It contains many thousand acres of the most beautiful grass, well watered...The land in the *Scrubbs*, or *Brush*, near the side of the River, is particularly good...On the left hand, about two miles from the river, is situated a Lagoon, formerly known by the name of the Big Lagoon, but now called Lake Lachlan, after the Son of the late Governor. It is about six miles in length, and, in some parts, three miles in width. Innumerable Wild Ducks, Teal, Widgeons, Black Swans, &c. are found upon it; and in the neighbourhood are immense flocks of the Forest Kangaroo, some weighing as much as one hundred and eighty pounds each. There are also Emus....vast beds of reeds and sedges...Very large Eels are taken here by the natives who make Canoes of the bark of the large *Eucalyptus*, ... numerous sorts of very beautiful small Birds, together with the *Regent Bird* and the *Satin Bird*. ¹⁵⁰ [sic]

This description by Lycett is relevant to this project because it describes the indigenous landscape, native wildlife and natural watercourse that existed before settlement and change. He also describes the flora and fauna, as well as components of the geography, hydrology and diverse ecology of the estuary. The Lake Lachlan that Lycett refers to, which is separate to Lake Paterson, once existed at Wallis Plains near where the townships of East Maitland and Maitland are located today. Gov. Lachlan Macquarie noted the wide expanse of lagoon that he named Morisset's Lagoon. ¹⁵¹ The lagoons and Lake Paterson are shown on the 1819 map titled *Port Hunter and its branches*, a map that has now been attributed to Edward Close. (Plate 18)

These lakes and large lagoon areas have since been removed and filled as colonial settlers set about draining the land for agriculture in the early 1800s and excavating a series of canals that have changed this landscape considerably. The main railway line and highway now divides the river from the flood plain. There are no signs of Lake Paterson or Lake Lachlan today and all that remain are the images produced by artists and collaborating manuscript descriptions.

¹⁵⁰ Joseph Lycett, *Views in Australia or New South Wales & Van Diemen's Land Delineated, in Fifty Views, with Descriptive Letter Prefs* (Melbourne,: Thomas Nelson (Australia), 1971). Letterpress text accompanying Plate 22 - Lycett, *Lake Patterson, near Patterson's Plains, Hunters River, New South Wales*. [Picture] / J. Lycett Delt. Et Executr.

¹⁵¹ Lachlan Macquarie and Library Council of New South Wales., *Lachlan Macquarie, Governor of New South Wales : Journals of His Tours in New South Wales and Van Diemen's Land, 1810-1822*, Facsimile Series (Sydney: Library of Australian History in association with the Library Council of New South Wales, 1979). 220.



Plate 18 *Port Hunter and its branches*, c 1819. Artist unknown - E.Close (attributed)
State Library of N.S.W.

Lycett describes the abundant waterfowl, Regent Bird and the Satin Bird that have since dwindled in number.¹⁵² The identification of these birds is evidence of the existence of rainforest species common to the Hunter River Estuary in the early half of the nineteenth century. Such a text supports the antipodean assumption that native Australian flora and fauna was there to be taken, with little consideration for future implications for the environment, such as habitat destruction or the endangerment of species. At that time there was a complete ignorance and unawareness of environmental sustainability.¹⁵³

¹⁵² Letterpress on the page accompanying the watercolour in the album held at the State Library NSW, *Views in Australia, or, New South Wales & Van Diemen's Land delineated : in fifty views with descriptive letter press* by J Lycett, Lake Patterson, near Patterson's Plains, Hunters River, New South Wales. [Picture].

¹⁵³ Colonial attitude and limited understanding of the ecology of Australia encouraged a culture of exploitation of resources, in what was seen as a more cultured empirical improvement to what was assumed to be unoccupied and uncultivated land.

Although Lycett's paintings are significant artworks of the time, the authenticity of his landscape has often been questioned and there are many unknown aspects of his work.¹⁵⁴ He may have been required to create an idealized image of the colonial landscape for the purposes of his master, an officer or the Governor, to facilitate the recording of an expanding colonial settlement. Lycett was charged with forgery and sentenced to hard labour for three years from 1815 and any artistic pursuit would certainly have been undertaken under order.¹⁵⁵

Early Australian landscape painting was often discounted as being Eurocentric and not an accurate representation of the Australian environment. Colonial artists, who were mostly trained in Britain or Europe, were more familiar with the greenery of an English countryside and used materials derived from the northern hemisphere. Eurocentric attitudes and ignorance toward the contrasting Australian landscapes and Natural History have previously been researched and well documented. Professor Tim Bonyhady, a foremost environmental lawyer and cultural historian, has researched and written extensively about colonial art history and cultural resistance to accurate environmental aesthetics.¹⁵⁶ Professor Jeanette Hoorn, art historian and curator, maps the idealism and cultural context of pastoral landscapes in her book titled *Australian Pastoral: The Making of a White Landscape*.¹⁵⁷ This research informs our appreciation of colonial cultural context and indicates how strong Eurocentric and Anthropocentric attitudes prevailed throughout the colonial period.

Joseph Lycett would have been influenced by the cultural context of the time as artists strove to create arcadia-like scenes of the picturesque and the beautiful; reinforcing the cultivated "improvements" to native landscapes. Despite such criticism, the artwork remains as a powerful

¹⁵⁴ Lisa Slade evaluates the artworks of Joseph Lycett and his depiction of trees. Lisa Slade, "Can't See the Trees for the Wood," in *Wood, Brick & Stone the Making of the Hunter* (Newcastle NSW: Catchfire Press, 2011). 142.

¹⁵⁵ John Turner describes the crude conditions at Newcastle, Lycett's convict life at Newcastle and his relationship with Captain Wallis and artwork created whilst in Newcastle c 1817. See Chapter 7 in the 1997 book, John (Newcastle: Hunter History Publications, 1997).

¹⁵⁶ Tim Bonyhady, *The Colonial Image : Australian Painting, 1800-1880* (Canberra: Australian National Gallery, Ellsyd Press, 1987). And *The Colonial Earth*, Paperback ed. (Melbourne: Melbourne University Press, 2000). Tim Bonyhady gives a comprehensive account of Australian artists and early conservation concerns. He describes the colonial history of environmental concerns in Australia and a deeply embedded culture of resistance to an accurate environmental aesthetic. Bonyhady considers the role of colonial artists and their need to capture a manicured landscape, in order to please authorities in England; how Australian landscape art was mostly placed secondary to that of the northern hemisphere and perceptions of the native Australian landscape.

¹⁵⁷ Jeanette Hoorn, *Australian Pastoral : The Making of a White Landscape* (Fremantle, W.A.: Fremantle Press, 2007). Picturesque convention and artists who struggled to capture the unique light, vegetation and landscape of the new colony has been previously described in Bernard Smith, *European Vision and the South Pacific*, [3rd ed] ed. (South Melbourne: Oxford University Press, 1989)., Terry Smith, *Transformations in Australian Art. Volume One, the Nineteenth Century, Landscape, Colony and Nation* (St Leonards, N.S.W.: Craftsman House, 2002)., Elwyn Lynn, *The Australian Landscape and Its Artists* (Sydney: Bay Books, 1977). John McDonald, *Art of Australia* (Sydney, N.S.W.: Pan Macmillan Australia, 2008). Bill Gammage, *The Biggest Estate on Earth : How Aborigines Made Australia* (Crows Nest, N.S.W.: Allen & Unwin, 2011).

indicator of the rich riparian life that existed prior to European settlement, the dynamic bio-diverse flora and fauna and indicates how clearing and cultivating began to dramatically alter the landscape. Bill Gammage has previously examined the land management skills and Aboriginal land care practices that resulted in fine tracts of grassland areas, that are consistent with the quoted descriptions presented throughout this paper.¹⁵⁸

Lycett's *View with cattle in the foreground, Hunter River* (Plate 19) and *Inner View of Newcastle* (c1818) (Plate 20) both provide imagery of the riparian landscape and the natural topography and depiction of the estuary at Newcastle is significant. Many thickly vegetated islands are shown within the Hunter River, and the natural geography and sinuosity of the north and south arms of the Hunter River and the port area at Newcastle are depicted. Nobbys Island is painted as it was prior to intervention. Both paintings inform an understanding of the geomorphology of the river, the topography of the estuary and geography of the riparian landscape at a time of significant transition and change.

Joseph Lycett produced a large body of work that illustrates his multiple connections to the Hunter River Estuary; *The Lycett Album*, his *Views in Australia*, the letterpress text and manuscripts together with his oil paintings, all collectively contribute to a much deeper understanding of the river. His work reflects the topography, hydrology, natural bio-diversity, botany and environmental history of the estuary. Natural history specimens and connections with other artists working in or near Newcastle and the Hunter River around 1818 contribute to the accumulated repository of rich and informative resources; all adding to our appreciation and understanding of riparian life.¹⁵⁹ What makes these paintings most engaging and contemplative is the imbued dichotomy of objective scientific information and subjective cultural accounts of the landscape.

¹⁵⁸ *The Biggest Estate on Earth : How Aborigines Made Australia*.

¹⁵⁹ Other artists working in Newcastle c 1818 include Richard Brown, Thomas Skottowe, Captain James Wallis and other unknown artists who contributed to the *Macquarie Collector's Chest*, *The Wallis Album* and *The Skottowe Manuscript*. Edward Charles Close (1790-1866) John W Lewin (1770-1819) Walter Preston and Charles Harry Roberts (1818-1828) all created artworks and sketches of the Hunter River, the Natural History of the estuary and Newcastle Harbour in the years spanning 1813 – 1823.



Plate 19 *View with cattle in foreground, Hunter River*, Joseph Lycett. c1818 oil on canvas.
Newcastle Art Gallery Collection - purchased with assistance from the National Art Collections Fund,
London UK 1961



Plate 20 *Inner view of Newcastle* Joseph Lycett . c1818 oil on canvas.
Newcastle Art Gallery Collection - purchased with assistance from the National Art
Collections Fund, London UK 1961

When viewed in association with other resources, the Barrallier and Dangar maps, informative manuscript descriptions and works of art created, one is able to piece together a vision of the natural environment prior to colonial intervention. This compiled research enlivens our interest and awareness, highlights the dynamic nature of riparian life and the relational connection inhabitants had with the rich resources of the Hunter River.

3.5 Browne and Skottowe

While Lycett's artworks provide a general view of the landscape, the detailed illustrations of Richard (T.R) Browne (1776-1824) that are contained in the *The Skottowe Manuscript* further embellish our understanding of the dynamic life of the river in more detailed illustrative work. (Plates 21-25) This album illustrates local ornithology and entomology of the lower Hunter River in a variety of natural history illustrations, that originate from Newcastle.

Twenty five year old Lieutenant Thomas Skottowe was appointed commandant of the Newcastle settlement by Governor Macquarie in 1811 and served at Newcastle until February 1814. Skottowe was interested in Natural History and instructed the convict artist Richard Browne to illustrate the coloured plates for his manuscript.¹⁶⁰ Browne had previously completed artwork for the Sydney publisher Absalom West and contributed two images to the series of views of Newcastle in 1812 under the name T. or I.R. Browne.¹⁶¹ Although some larger wildlife species are simplistically represented, the smaller insects and fish are very well recorded and the combined album with text and descriptions included by both Browne and Skottowe, gives clear evidence of the unique and diverse birdlife and many other species of plants and animals that were common to the Hunter River area prior to 1813, when the album was compiled by Skottowe whilst commandant at Newcastle.¹⁶² In the text accompanying John Lewin's earlier engravings, he notes that the regent bird, 'inhabited the banks of Patterson's river ... this beautiful species was shot about 30 miles from the settlement of Newcastle.'¹⁶³

¹⁶⁰ State Library of NSW, "Skottowe, Thomas, D.1821," in *Collection: Manuscripts, Oral History and Pictures*, ed. State Library of NSW (Sydney: State Library of NSW, 2009).

¹⁶¹ Elizabeth Ellis, "The 'Newcastle Academy': Art in a Colonial Outpost," in *Treasures of Newcastle from the Macquarie Era*, ed. State Library of NSW and Newcastle Art Gallery (Newcastle NSW: State Library of NSW, 2013).

¹⁶² *Rare and Curious: The Secret History of Governor Macquarie's Collectors' Chest* (Carlton, Vic. Sydney, NSW: Miegunyah Press; State Library of New South Wales, 2010). Boxed book. 69

¹⁶³ Quote by John Lewin in John William Lewin, *A Natural History of the Birds of New South Wales* (London: H. G. Bohn, 1838). Cited in Elizabeth Ellis, *Rare and Curious: The Secret History of Governor Macquarie's Collectors' Chest* (The Miegunyah Press & the State Library of NSW, 2010), Boxed book 70.

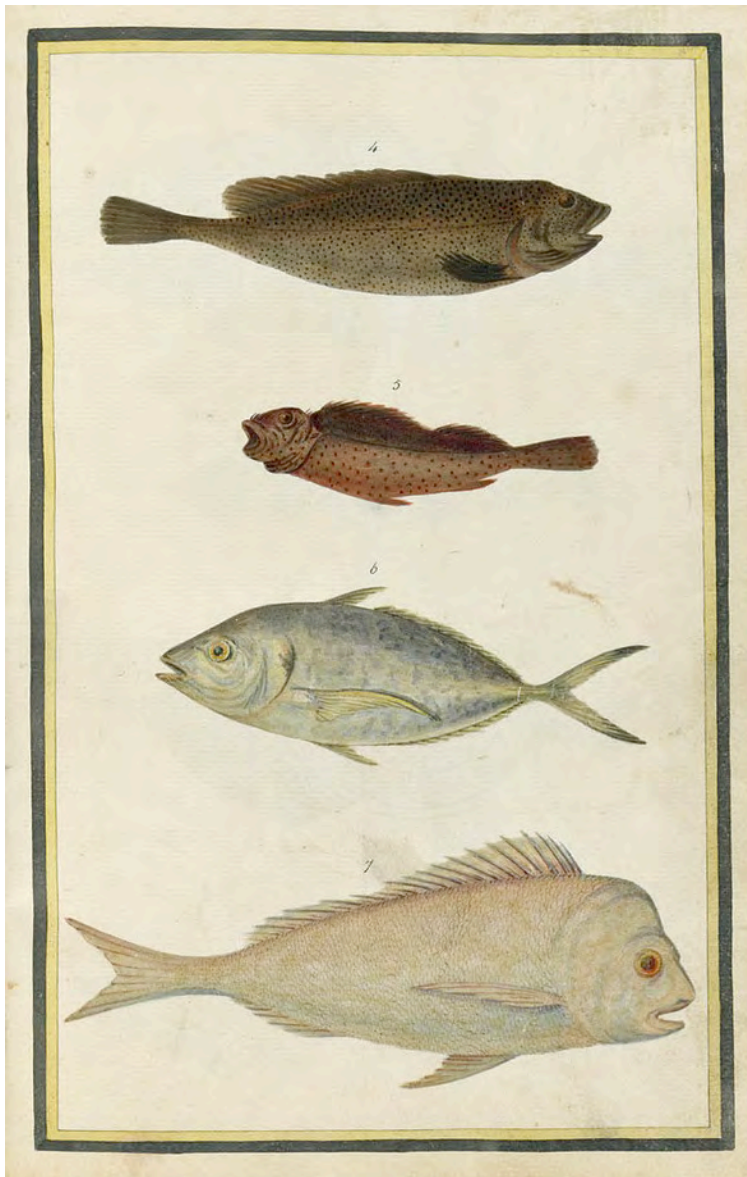


Plate 21

From top:

Rock Cod
(River blackfish)

Gurnett (Blenny)

Trevaille or Cavallia (Silver
trevaille)

Snapper (Snapper))

*Select Specimens From
Nature of the Birds
Animals &c of New South
Wales Collected and
Arranged by Thomas
Skottowe Esqr.
The Drawings By T.R.
Browne. Newcastle New
South Wales 1813.*

Image courtesy of the
State Library of N.S.W.



Plate 22 Regent (Regent Bowerbird) *Select Specimens From Nature of the Birds Animals &c of New South Wales Collected and Arranged by Thomas Skottowe Esqr. The Drawings By T.R. Browne.* N.S.W. Newcastle New South Wales 1813.
Image courtesy of the State Library of N.S.W.

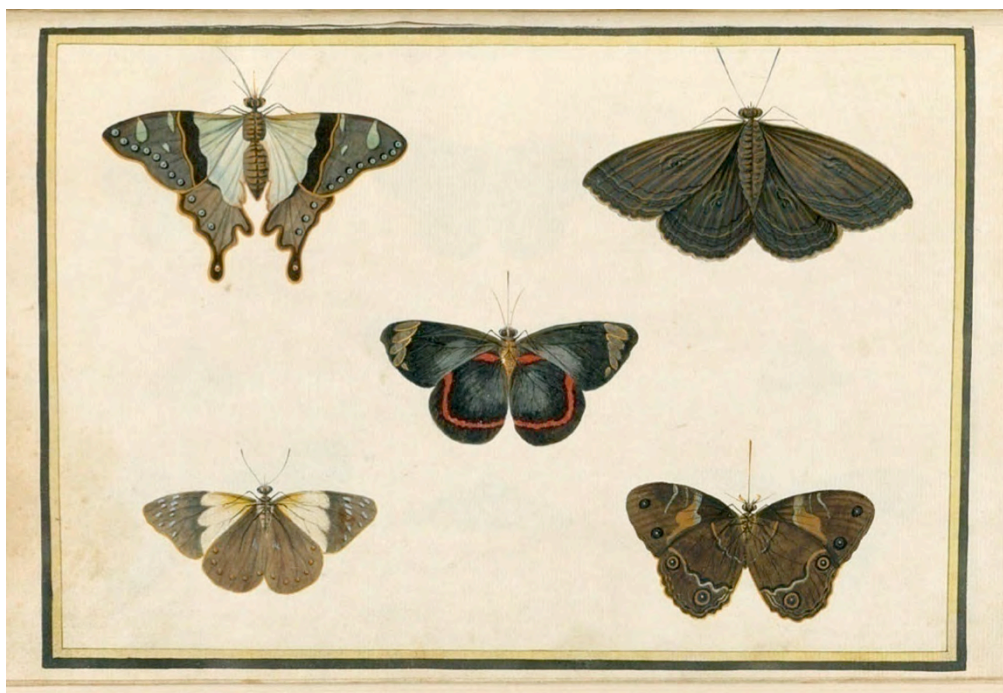


Plate 23 (l. to r.) Macleay's swallowtail butterfly; old lady moth; **Common jezebel butterfly**; Nysa jezebel butterfly; Sword-grass brown butterfly in *Select Specimens From Nature of the Birds Animals &c of New South Wales Collected and Arranged by Thomas Skottowe Esqr. The Drawings By T.R. Browne.* N.S.W. Newcastle New South Wales 1813.
Image courtesy of the State Library of N.S.W.

John W Lewin illustrated the same notable yellow and black male regent bird in his engravings in *Birds of New South Wales* of 1804.¹⁶⁴ Richard Browne depicted the Regent Bird in the Skottowe Manuscript (Plate 22) and a Regent (Bower) Bird (*Sericulus chrysocephalus*) specimen is included in the drawers of the Macquarie Chest (1818) (Plate 29). John and Elizabeth Gould whilst visiting Ash Island in 1838 also described this species.¹⁶⁵ Natural History Illustrations confirm taxonomic characteristics and environmental histories point to how habitat destruction and environmental connectivity affect the populations of forest birds such as this.¹⁶⁶



Plate 24 *The Black Swan in Select Specimens From Nature of the Birds Animals &c of New South Wales Collected and Arranged by Thomas Skottowe Esqr. The Drawings By T.R. Browne.* N.S.W. Newcastle New South Wales 1813.
Image courtesy of the State Library of N.S.W.

¹⁶⁴ John William Lewin has a connection to the group of artists in Newcastle and the Macquarie Collectors' chest as the birds he illustrated are each included as specimens.

¹⁶⁵ Glenn Anthony Albrecht, Jillian Albrecht, and Monash University. Centre for Bibliographical and Textual Studies., *The Goulds in the Hunter Region of N.S.W. 1839-1840, Naturae*, (Clayton, Vic.: Centre for Bibliographical and Textual Studies, Monash University, 1992).

¹⁶⁶ The Regent Bower Bird is not an endangered species, however the population has dwindled along the Hunter River. There have been limited studies in the area to confirm the current status of this previously common species. This species of bower bird should not be confused with the Regent Honeyeater (*Xanthomyza phrygia*), which has a similar appearance (yellow and black male birds) The endangered Regent Honeyeater has been the topic of recent studies throughout NSW and the Hunter Valley where bird populations and native habitats have declined.

The female Common Jezabel Butterfly, (*Delias nigrina fabricius*) is illustrated by Browne in *The Skottowe Manuscript*. (Plate 23) A pinned out specimen of this same species is also in the top compartment of the Macquarie Chest in glazed cases of *Lepidoptera*.¹⁶⁷ (Plate 31) The comparison of the entomological specimen in the chest with the artwork in the manuscript reveals how accurately Browne has depicted the butterfly and that it was commonly found in the Newcastle / Hunter River region. The work by Browne is a testament to the healthy collaboration between the artist and the commander. In the accompanying text in his manuscript, Skottowe confirms that he personally collected the specimens for Browne to illustrate. The majority of colours are accurate, given the age and potential fading that may have occurred to either object over the two hundred year time period. This triangulation of interdisciplinary research is again valuable.



Plate 25 *The Skottowe Manuscript* Plate 8 Nankeen Bird (*Rufous Night Heron*) in *Select Specimens From Nature of the Birds Animals &c of New South Wales Collected and Arranged by Thomas Skottowe Esqr. The Drawings By T.R. Browne*. N.S.W. Newcastle New South Wales 1813. Image courtesy of the State Library of N.S.W.

¹⁶⁷ Ellis, *Rare and Curious : The Secret History of Governor Macquarie's Collectors' Chest*.a shows photo of the drawer of butterfly species (*Lepidoptera*), which were thought to be all once common to the Hunter River Estuary. 84.

The quantity, range and uniqueness of colonial artwork created in the Hunter River Estuary prior to 1820 is remarkable: many previously unknown Australian plants, birds, fish and insects were first recorded by artists in the lower Hunter River region. Thick rainforests within the Hunter Estuary around Morpeth and Maitland provided the habitat for a proliferation of colourful rainforest species. Wetland areas around Hexham as well as the lagoons and ponds which had an ephemeral confluence with the Hunter and Paterson Rivers and Wallis Creek, provided a wildlife paradise for the native flora and fauna of the estuary prior to colonial settlement and subsequent land clearing and drainage.

It was common practice at the time to capture, shoot and kill each specimen to be illustrated and artists would have worked from limp dead specimen skins. Richard Browne's depiction of Australian fauna was not always proportionally correct and some works, such as the Tawny Frogmouth, seem distorted or proportionally inaccurate. In most cases however the feather details and colours are well represented. This may account for the stiff and unnatural appearance in artworks depicting larger mammals; the kangaroos and the dingo. The use of killed specimens led to discrepancies in the physical posture of each specimen, and many larger birds are elongated or distorted in Browne's work. Plate 21 illustrates a variety of indigenous fish of the Hunter River and is further evidence of the bio-diversity of the estuary at that time (1813). Fish and smaller insects are remarkably well represented and *The Skottowe Manuscript* provides one of the first known accounts of the native species endemic to the Hunter River Estuary.

The lower Hunter region could be described as the home of an academy of artists, natural history illustrators and collectors who initially recorded the unique fauna and flora of the Hunter River Estuary. Richard Browne, Thomas Skottowe, James Wallis and other unknown artists contributed to the *Macquarie Collectors' Chest*, *The Wallis Album* and *The Skottowe Manuscript*. Edward Charles Close (1790-1866), John W Lewin (1770-1819), Walter Preston (1777-18??)¹⁶⁸ and Charles Harry Roberts (1818-1828) are all relevant artists who created work connected to the Hunter River in the years spanning 1813 – 1823.

¹⁶⁸ Walter Preston, a convict engraver, was born in 1777 and died sometime after 1819. The exact date remains unknown and there is no record of his death. Preston was sent to the penal settlement at Newcastle in 1814 and received a pardon in 1819.

3.6 The Wallis Album

The Wallis Album represents yet another significant artifact created in the lower Hunter River Estuary when Captain Wallis was stationed at Newcastle between 1816 and 1818.

This album of artwork and text depicts the natural history and colonial landscape of New South Wales and includes a number of images of the Hunter River Estuary and Newcastle, along with portraits of Aboriginal people. This fascinating album was only recently found to exist and was acquired by the State Library of NSW in 2011.¹⁶⁹ The images provide yet another link to the riparian landscape, illustrating and identifying plants, birds and also indigenous people of the region. *Native Cherry, Hunters River N.S. Wales* is inscribed below a native lily-pilly watercolour work. (Plate 26) On the same coloured collage plate is an illustration labeled *Native Rose Borronea serrulata* and an untitled hawk. This specific Borronea plant grows along the riverside and wet areas of the estuary and is endemic to the Hunter River.



Plate 26 Joseph Lycett /James Wallis. The Wallis Album *Plate 4*
Native Cherry, Hunters river N.S.Wales. Native Rose, New South wales,
Borronea serrulata and Untitled drawing of a hawke n.d. Watercolour and
collage c 1817-18. Illustration from the Wallis Album.
Image courtesy of the State Library of N.S.W.

¹⁶⁹ State Library of NSW, "The Commandant and the Convict: Drawings by James Wallis and Joseph Lycett," State Library of NSW, http://www.sl.nsw.gov.au/discover_collections/history_nation/wallis/. Discovered in Ontario, Canada as part of a deceased estate, the Wallis album was purchased at auction by the State Library of New South Wales in October 2011. The Wallis Album verifies that Lycett, rather than Wallis, was the artist of the original drawings. Their association has been debated and has puzzled colonial art historians for many years.

Captain James Wallis (1785-1858) was appointed commandant of Newcastle in June 1816 and it is no co-incidence that the numerous artworks produced during his leadership were unprecedented. Wallis was an amateur artist who enjoyed sketching the landscape. He was known to use a *camera lucida* device and to have undertaken many explorations of the Hunter River environment. The reliable assistant and indigenous leader who he called Jack or Burigon, Chief of the Awabakal, whose portrait appears repeatedly throughout The Wallis Album, often accompanied Wallis.¹⁷⁰ The hunting and collecting skills of the Aboriginal people are well documented and it is likely that they assisted in the collection of specimens for Wallis.¹⁷¹

Walter Preston was an engraver who, like Lycett, was a convict sentenced to imprisonment for secondary punishment at Newcastle. Lycett and Wallis provided sketches for Walter Preston and this relationship between the convict artists, Lycett and Preston and their masters, Wallis and also Governor Macquarie, was exceptional. This rare academy of parties came together to collectively produce some of the most prized and exclusive colonial artworks and artifacts of the colony and their work is featured throughout the Wallis Album.

The artists of the Hunter River Estuary seemed to be collaborative from 1816 to 1818, as many works were produced in the lower Hunter region under Captain Wallis and just prior to the departure of Governor Macquarie from Sydney. It was under Wallis that Joseph Lycett's artistic oeuvre was realized. Wallis was thought to have purchased the paint and art materials used by Lycett and it was the only time that Lycett was able to paint in oil, which was in short supply in the colony. Some of Lycett's work was painted on timber panels made from Australian Red Cedar (*Toona ciliata*), which was then common to the Hunter River Estuary.¹⁷² The cedar trade was in full swing by 1818 and the Hunter River contained thick sections of forest rich in red cedar.¹⁷³

¹⁷⁰ Ellis, "The 'Newcastle Academy': Art in a Colonial Outpost." 4. Captain James Wallis's interest in natural history collection, landscape sketching with *camera lucida* and his relationship with the Aboriginal Chief of the Awabakal, Burigon, is documented by Ellis with evidence from Wallis's Memoir c 1835, 1 leaf ms, in *Album of Manuscripts and Artworks*, PXD1008, vol.1. f.1 Mitchell Library, State Library of New South Wales.

¹⁷¹ Glenn Albrecht et al., *Transdisciplinary Analysis of the Destruction of Indigenous Peoples* / Glenn Albrecht, Nick Higginbotham and Sonia Freeman (South Melbourne Oxford University Press, 2001.). And evidence of Indigenous peoples knowledge of the environment in John Maynard, *Awabakal Dreaming Stories* / Researched by John Maynard (Newcastle, N.S.W. Unpublished paper, 1996.).

¹⁷² Ellis, "The 'Newcastle Academy': Art in a Colonial Outpost."

¹⁷³ Slade, "Can't See the Trees for the Wood." 144. The prolific growth and demise of the Red Cedar tree is also discussed in John Vader et al., *Red Gold: The Tree That Built a Nation*, Rev. ed. (Frenchs Forest, N.S.W.: New Holland, 2002).

The most enlightening discovery in *The Wallis Album*, which is relevant to my research and art practice, was the revealing of a plate depicting the Giant Swamp Lilly. (Plate 63, Chapter 5.3) The illustration provides a perfect example of the native *Crinum pedunculatum*, commonly known as River Lily that is seen growing along the Hunter River from Oakhampton to Newcastle and which has been a subject for my own work. The River Lily (*Crinum pedunculatum*) has become, to me, a symbol of survival, resistance and the recovery of indigenous vegetation. I give a more detailed evaluation in chapters 5.3 and unfold subjective encounters and a deeper understanding of this plant.



Plate 27 (Detail - cropped view) Joseph Lycett / Capt. John Wallis "No. iX (Plate 9) View of Hunter's River. Newcastle. New South Wales. C1818." Engraved by W.Preston. From a drawing by Capt. Wallis in the Wallis Album. (Original sketch attributed to J Lycett).
Image courtesy of the State Library of NSW

The engraving in *The Wallis Album* titled 'View of Hunter's River, Newcastle, New South Wales' (Plate 27) shows a typical colonial landscape with cultivated farmland representing progress in the antipodes and a small group of Aboriginal peoples beside a fire in the marginal foreground. What is interesting and relevant to this research project is the background landscape showing the native vegetation of the estuarine islands in the middle background and the depictions of thick native vegetation along the Stockton foreshore on the far right. This artwork provides

evidence of how the estuary looked in the early half of the nineteenth century prior to the removal of almost all the native vegetation, which was used as fuel to fire lime-burning kilns at Fullerton Cove and on Stockton peninsula.



Plate 28 No. V (Plate 5) *Newcastle Hunter's River New South Wales*. C1818
Engraved by W. Preston From a drawing by Capt. Wallis. In the Wallis Album. (Original sketch attributed to J Lycett). Image courtesy of the State Library of N.S.W.

European intervention and colonial settlement practices meant the beginning of significant removal of natural resources and the degradation of the environment. The time of the flourishing growth of settlement and increasing trade along the Hunter River, was a time when dramatic changes began to impact upon the riparian landscape. The imagery and text for Plate Five (Plate 28) of the Wallis Album attest to this period of change and are worthy of inclusion here as the first hand description provides a uniquely subjective yet important account of the colonial landscape as it was described by Wallis and Lycett:

(Plate5) No. V. Is a View of Newcastle; a settlement beautifully situated on the south side of the entrance of Hunter's River, which is sixty miles north of Sydney. From hence Sydney is supplied with coal, of a good quality, a shaft having been lately sunk there; and also with lime, burnt from shells, and with timber of every description. About thirty miles from the sea, Hunter's River is formed....The scenery on the banks of these rivers is very fine; some parts being low and thickly wooded, while other parts present to the view sloping banks, luxuriant herbage, and majestic trees, scattered in beautiful profusion, and assuming the appearance of a gentleman's park in England. Black swans, pelicans, wild ducks, widgeons, and many other sorts of water fowl, are found in abundance; and the forests are thickly inhabited by kangaroos and emus; and the harbour swarms with fish. ...The entrance to the harbour is difficult: Governor Macquarie has, however, commenced a work of magnitude, and is now occupied in erecting a pier, to extend from the main land to the island called Nobby's[sic], situated in the channel. This work, when completed, will, by confining the waters to one channel, deepen and perfectly secure the principal entrance... ¹⁷⁴

The works in the Skottowe and Wallis Albums, combined with Lycett's oeuvre, collectively provide visual evidence of a very close connection that artists, collectors and explorers all appeared to have with the Hunter River and the environment of the river. The works of art that were created at this time, attest to the dynamic nature of the riparian landscape and the diversity of flora and fauna that was collected and illustrated by a significant number of colonial artists who seemed to have been drawn to the river for inspiration.

Evidence of the rich and diverse natural history is yet again made more apparent in one of the most captivating and curious artifacts of colonial antiquity; Governor Macquarie's *Collectors' Chest*.

¹⁷⁴ James Wallis and Joseph Lycett, "Album of Original Watercolours, Drawings and Engravings by James Wallis, Joseph Lycett and Walter Preston (the Wallis Album)," ed. Mitchell Library (N.S.W.) (PXE 1072, A5491001-86, c.1817-18). *The Wallis Album* includes etchings from *Views of New South Wales, 1813-1814* and also the historical account publication with text by Joseph Lycett and James Wallis, *An Historical Account of the Colony of New South Wales and Its Dependent Settlements* (London,: Printed for R. Ackermann by J. Moyes, 1821). An online digital copy of the entire album may be viewed on the State Library of NSW website.

3.7 The Macquarie Collectors' Chest : 1818

It is still a matter of historical curiosity that the most ambitious and creative attempts to describe native Australian fauna in the second decade of the nineteenth century came not from Sydney but from Newcastle.¹⁷⁶

Plates 29 -31 show photographs of *The Macquarie Collectors' Chest*, which was thought to be constructed by the cabinetmaker Patrick Riley on the banks of the Hunter River at Newcastle. This remarkable cabinet of curiosities is an exquisite culmination of collaborative creativity. It represents the connections that many contributors must have had with the natural environment of the Hunter River. This crafted timber chest is an important Australian collectors cabinet and also one of the 'rarest, most complex and most mysterious of colonial artifacts'¹⁷⁷.

Handcrafted in Newcastle from Australian native timbers, Australian Cedar and Rosewood, the chest houses thirteen hand painted panels. The cedar panels painted by Joseph Lycett are of the Hunter River Estuary; river scenes of water birds with Christ Church Cathedral and Newcastle Hill in the background. Jabiru, pelicans, waterfowl, spoonbills and egrets are painted beside the river foreshore. One large panel of fish is miniaturist in detail and finished with a jewel like quality. All the fish species identified in the fish panel painting are to be found in the waters surrounding Newcastle.

Within the simple exterior façade, the chest folds out and reveals compartments and secret drawers that house brilliantly hued arrangements of natural history specimens. Each article within the chest relates to its site of production and all the included ornithological specimens are known to have existed in the Newcastle and the lower Hunter region. The birds, insects, spiders and natural specimens have been well-preserved.¹⁷⁸ The unique display of flora and fauna is an authentic example of living history; all contained within one masterful and truly unique creative object.

Captain Wallis is considered the likely architect and person to have arranged the complex campaign that must have been put in place to achieve the resulting artifact; the chest being a gift for Governor Macquarie or perhaps to Mrs. Macquarie, which was most likely given to them prior to their departure back to England in 1822.

¹⁷⁶ Elizabeth Ellis and State Library of New South Wales., *Rare & Curious : The Secret History of Governor Macquarie's Collectors' Chest* (Carlton, Vic.: Miegunyah Press, 2010). 69.

¹⁷⁷ *Ibid.*, 1.

¹⁷⁸ A bottom drawer contains miscellaneous artifacts originating from outside Australia and four separate painted panels are taken from William Westall's drawings done on Flinders' voyage in HMS *Investigator*.



Plate 29 *The Macquarie Collectors' Chest*, circa 1818. Attributed to Joseph Lycett. Cedar and Rosewood with oil paintings and specimens.

Image courtesy of the State Library of N.S.W.



Plate 30 *The Macquarie Collectors' Chest*, circa 1818 - detail of inside top lid painted panels with paintings attributed to Joseph Lycett. Oil painting on cedar panel. Both panels show river landscapes with native wildlife and indigenous vegetation. Right - Hunter River view includes Christ Church Cathedral, Newcastle in the background.

Image courtesy of the State Library of N.S.W.

Many similarities have been found between artworks and specimens of Hunter River natural history and the artwork included in *The Wallis album*, *The Skottowe Manuscript*, Lycett's paintings and *The Macquarie Collectors' Chest*.¹⁷⁹ It was the feature object in the 2013 exhibition; *Treasures of Newcastle from the Macquarie Era*, held at the Newcastle Art Gallery, when the chest was briefly returned to its place of birth at Newcastle for the first time since leaving the shores of Newcastle Harbour in 1822.

Elizabeth Ellis (OAM) from the State Library of NSW, has published a detailed evaluation of the chest and all its contents in *Rare and Curious: The Secret History of Governor Macquarie's Collectors' Chest*.¹⁸⁰ This comprehensive and skillfully elucidated book provides an excellent account of both the Macquarie Chest and contrasts it with the similar sister piece, the *Dixon Chest*.¹⁸¹



Plate 31 *The Macquarie Collectors' Chest*, circa 1818. Attributed to Joseph Lycett.

Cedar and Rosewood with oil paintings and specimens.

Image courtesy of the State Library of N.S.W.

¹⁷⁹ Similarities between artworks that illustrate select species of birds, plants and fish that are endemic to the Hunter River Estuary are discussed by Ellis in Ellis, *Rare and Curious*. 69-70.

¹⁸⁰ *Rare and Curious : The Secret History of Governor Macquarie's Collectors' Chest*.

¹⁸¹ The book by Elizabeth Ellis is boxed and presented in full colour with associated documented imagery, comprehensive cross references and has extensive research evidence provided in Appendixes and referenced endnotes.

In the accompanying exhibition catalogue Ellis makes the comment:

The *pieces de resistance* of Wallis' artistic endeavors in Newcastle are the Macquarie Collectors' Chest and its close relation, the Dixon Galleries Collectors' Chest. These objects have no precedents or successors in the colonial pantheon but stand as testimony to a unique collaborative venture celebrating the exotic, strange and beautiful in their place of origin on the banks of the Hunter River ¹⁸²

The collaboration of artisans and craftspeople, who contributed their individual skills in the making of the *Macquarie Collectors' Chest*, would have involved a complex co-ordination process. The process, or the chest itself, was not documented by Wallis or Macquarie and its construction process mostly remains a mystery. We know that the finished Macquarie Chest required precise co-ordination and collaboration between cabinet-maker, artist, natural history collectors, preservers and taxidermists.

This collective artistic effort was unprecedented and the resulting object has many connections with the Hunter River and riparian life, which each artisan who worked and collaborated on the chest would have appreciated in order to complete such a task. In the creative arrangement of components within the chest, Wallis and his artistic "academy" in Newcastle had displayed their affinity with the natural local environment. ¹⁸³ Rosewood and Red Cedar used in *The Macquarie Chest* were native trees that grew most profusely in the riparian zone, along the riverbank of the Hunter River. The lumberyard, where all the Hunter River cedar was milled into planks, was located beside the harbor at Newcastle and was the most likely place of production for the *Macquarie Collectors' Chest*. Patrick Riley, carpenter, gave evidence to commissioner Bigge in 1820 and clearly describes use of cedar (for fittings), rosewood (for fine furniture and veneering) and other timbers; flooded gum, iron bark, spotted gum, pine, beefwood, honeysuckle, tea tree and mangrove. ¹⁸⁴

Elizabeth Ellis makes the point that between 1812 and 1822 'a remarkable legacy of works of art was created' and she describes how during this time,

¹⁸² Alex Byrne, Ron Ramsey, and State Library of New South Wales., "Treasures of Newcastle from the Macquarie Era : A State Library of Nsw & Newcastle Art Gallery Partnership Exhibition ; [Exhibition Catalogue]," (Sydney: State Library New South Wales, 2013). Quote by Ellis. 7.

¹⁸³ Elizabeth Ellis evaluates the academy of artists at Newcastle between 1812 and 1822 in Ellis, "The 'Newcastle Academy': Art in a Colonial Outpost." In the exhibition catalogue by Byrne, Ramsey, and State Library of New South Wales., "Treasures of Newcastle from the Macquarie Era : A State Library of Nsw & Newcastle Art Gallery Partnership Exhibition ; [Exhibition Catalogue]." 1-13.

¹⁸⁴ J. W. Turner, *Newcastle as a Convict Settlement : The Evidence before J. T. Bigge in 1819-1821*, Newcastle History Monographs (Newcastle, N.S.W.: Newcastle Public Library in association with Newcastle and Hunter District Historical Society, 1973). 164. Evidence of Patrick Riley, carpenter, January 1820. Transcripts and records of the Newcastle settlement and the entire enquiry by Bigge and the related documents are researched and documented by John Turner in this comprehensive monograph publication.

Colonial Australia's first spontaneous art movement – a virtual 'Newcastle academy' – emerged as an immediate visual response to the landscape, the original Indigenous inhabitants and the local fauna and flora.¹⁸⁵

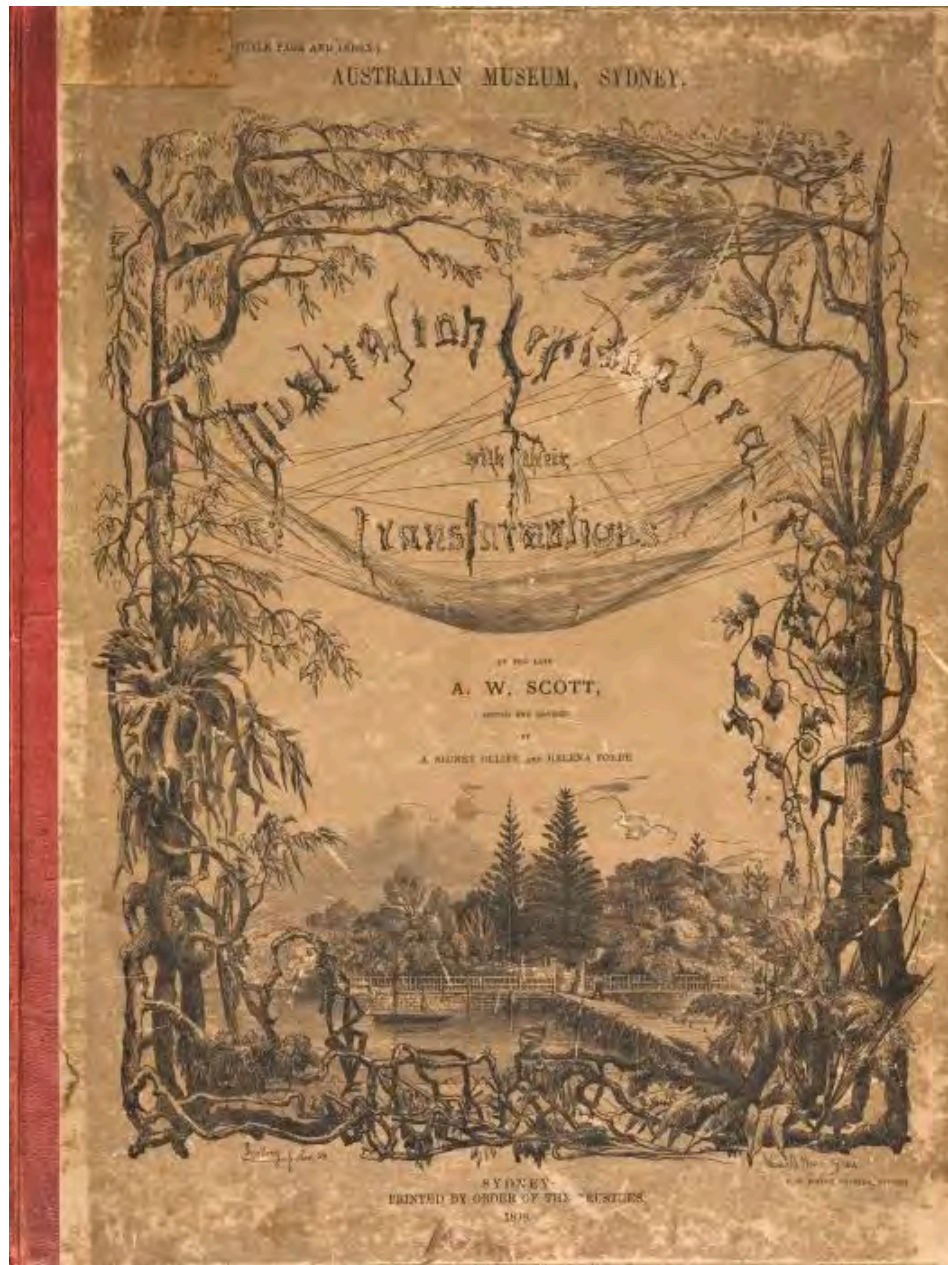


Plate 32 *Australian Lepidoptera and Their Transformations* - Volume Two.
Cover Published 1875. Image courtesy of the Australian Museum.

¹⁸⁵ Ellis, "The 'Newcastle Academy': Art in a Colonial Outpost." 1.

3.8 Artists at Ash Island

Harriet and Helena Scott illustrated the natural history of the Hunter River Estuary from their home on Ash Island, which is situated at the confluence of the north and south arms of the Hunter River. Their father, Alexander Walter Scott, took up his grant of 2,560 acres on Ash Island in 1826 and the sisters lived on the island from 1846 to 1866, pursuing their interest in natural history.¹⁸⁶

On this island paradise Harriet and Helena Scott collected specimens and studied the natural history of the estuary from the seclusion of the great ash, casuarina and eucalyptus forest that was then common to the estuary island surrounds. Although many large trees were felled on the islands soon after 1801, the land retained remnant pockets of forest and mangroves. Here the two sisters were 'able to master, under their father's eye, the intricate, exact techniques of painting and knowledge of botany and entomology necessary to natural science illustrators' ¹⁸⁷.

The cover of Volume Two of *Australian Lepidoptera and Their Transformations*, (Plate 32), features an illustration of the Scott's property and wharf on the northern tip of Ash Island, drawn by the Scott sisters and showing the then thick vegetation, thick canopy of trees and timber wharf on the Hunter River. This image is consistent with early descriptions by Barrallier who also noted the thick forest.

Lieutenant-Governor Paterson and Ensign Barrallier 's discovery of the island in 1801, is later described by H.W.H Huntington:

One of the greatest pleasures of the surveying party was the examination of the cluster of islands at the mouth of the Hunter, where they constantly found something new to engage their attention. Objects were presented to their view which afforded fresh matter for study and contemplation, the species of indigenous Australian plants (now assessed as above 10,000 species), the varieties of animals (there being 100 species...)...the black swan, and great variety of beautiful birds; the numerous reptiles of which there are 60 different

¹⁸⁶ Harriet Scott (1830 - 1907) Helena Scott (1832 - 1910) both born in Sydney were daughters of A.W. Scott and his wife Harriet. Helena married Edward Forde in 1864 and left Ash Island that year, whilst Harriet left in 1866 to work in Sydney after the death of her mother and following the bankruptcy of her father. A. W. Scott's bankruptcy forced the girls to seek employment and they suffered the perceived social shame of doing so, as at that time women were not permitted to attend University and were more likely expected to take up amateur hobbies. See Caroline Jordan, *Picturesque Pursuits* (Melbourne: Melbourne University Press, 2005). 145-156.

¹⁸⁷ Harriet Scott, *Historical Drawings of Native Flowers / Harriet and Helena Scott ; Introduced and Selected by Marion Ord*, 1.

species; the abundance of fish and aquatic animals...proclaimed the Hunter to be a place of anomalies and the naturalist's paradise¹⁸⁸

Harriet and Helena Scott completed a magnificent collection of watercolour plates for their father A.W. Scott's publication *Australian Lepidoptera and Their Transformations* (Vol I published 1864 and Vol II 1890-1898).¹⁸⁹ They executed much of the artwork for scientific literature that was produced in Sydney in the 1860s. Today the Australian Museum in Sydney holds the Scott family collection which includes the detailed and illustrated *Journal of Harriet Scott* (Plate33) and the manuscripts, correspondence, research notes, observational notebooks, sketches, dried botanical specimens and the spectacular final watercolour publication plates completed by the Scott sisters. The sketches, field-note books and dried specimens were all made in the 1950s at Ash Island.



Plate 33. *Journal of Harriet Scott.* Ash Island 1838.

Image courtesy of the Australian Museum

¹⁸⁸ Quote from the book by H. W. H. Huntington, *History of Newcastle and the Northern District* : [Photocopy of a Series Appearing in the Newcastle Morning Herald. No. 1-No. 150, August 1897-July, 1898, 1 vols. (Newcastle: s.n.).

¹⁸⁹ Alexander Walker Scott, Helena Forde, and Arthur Sidney Olliff, *Australian Lepidoptera and Their Transformations*, 2 vols. (London,: J. Van Voorst, 1864). See the Austrlian Museum website: <http://australianmuseum.net.au/image/Phloiopsyche-venusta-Scott#sthash.CSe7ksim.dpuf>.

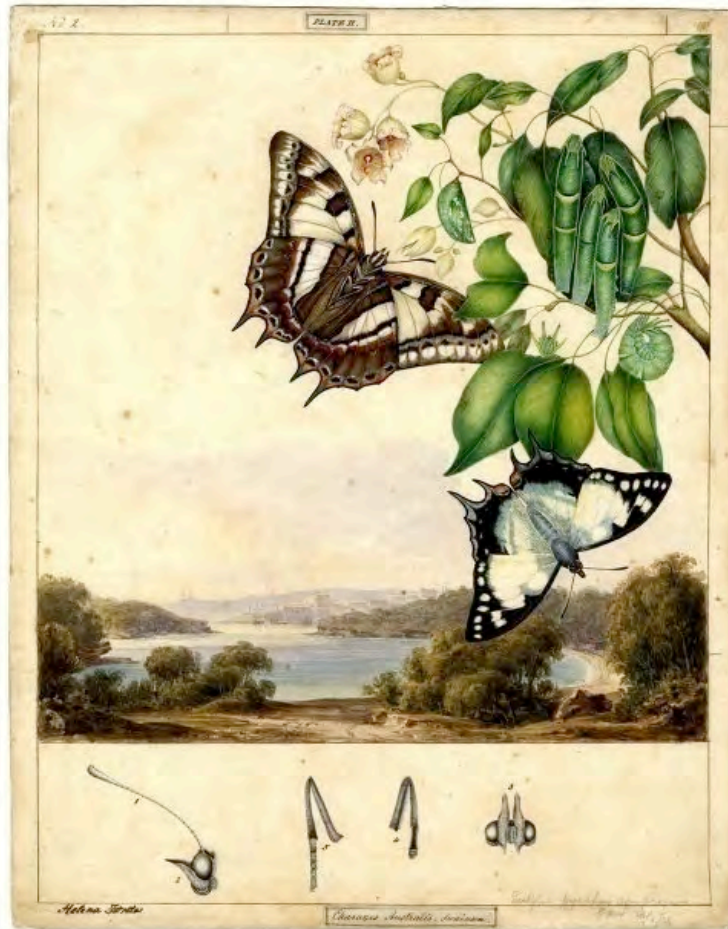


Plate 34. *Charaxes Australia swainson* c1864.
Original watercolour by Helena Scott. (AMS193/18).

Image courtesy of the Australian Museum

The sisters not only illustrated the natural history of the Hunter River Estuary but also studied each species and documented entomological findings in journals such as the one featured in Plate 33. Various researchers, botanists and entomologists undertaking studies of the indigenous and endemic species of Ash Island and the estuary use the diary notes, specimens and illustrations today. This unique combination of documentary records and artwork are most significant to, not only our understanding of 19th century natural history, but as a reference for the rehabilitation of Ash Island. Today volunteer groups are replanting the area with native species, identified in the Scott collection, in an effort to regenerate Ash Island.



Plate 35 Conrad Martens *Ash Island May 12th, 1841*. Pencil sketch on paper.
Image courtesy of the State Library of N.S.W. PXC284 / SL.



Plate 36 Conrad Martens *Nobby's Newcastle*. Unsigned. Undated. Untitled.
[1843?] from *Portfolio collection of views, mainly in New South Wales, volume 5, ca. 1836-1873*. Ink and wash on paper. Mitchell Library, State Library of NSW
See similar pencil sketch titled *Nobby Rock, Newcastle, 13th May 1841*. Item 77 in *Sketches in Australia, 1835-1865* confirming artwork by Conrad Martens.

The Scott sisters' collection resonates with this investigation as it is composed of scientific, theoretical and creative components. The works of art have elements of science (entomological and botanical detail) placed on the same page with illuminated landscapes and elements of the picturesque. This interesting contrast between objective and subjective components of the composition are therefore most informative and relevant to this investigation.

The background landscapes incorporated into the Scotts' illustration plates were copied from the works of other landscape artists.¹⁹⁰ The landscapes of Conrad Martins, a friend of A. W. Scott, were often featured in the distance and this creative compositional device gave the work by the Scott sisters' a rare and individual dimension. The landscape backgrounds were executed in contrasting pale ink washes or in a paler hue, so as to highlight the vibrancy of the detailed entomological and scientific illustration in the foreground. This is exemplified in Plate 34 and 64, Chapter 5.3.

Conrad Martins (1801-1878) and Ludwig Leichardt (1813 – 1848?unknown) both made visits to Ash Island and the Hunter River region throughout the years in 1841 -1842.¹⁹¹ Martens sketched and painted various features of the landscape at Newcastle and along the Hunter River and travelled upstream to Morpeth. His album of *Sketches in Australia, 1835-1865*, includes pencil sketches of Nobbys at Newcastle (Plate 36), and the riparian landscapes of the lower Hunter Valley.¹⁹²

Plate 37 *View looking N from Churchyard* shows Marten's pencil sketch of the estuarine islands illustrating the thick vegetation along Stockton peninsular and multiple small islands within the river delta near Newcastle. This riparian landscape, as viewed from the churchyard (Christ Church Cathedral, Newcastle) today, is urban and industrial in nature with very little native vegetation.

¹⁹⁰ Vanessa Finney, "The Butterfly Effect Lives of the Scott Sisters," *Explore / The Australian Museum* 33, no. 3 (2011). And Conrad Martens landscape sketches in background as described by the Australian Museum online. Digital catalogue and images of the Scott sisters Lepidoptera works are available to view online at <http://australianmuseum.net.au/Scott-Sisters-Butterfly-and-Moth-Drawings>.

¹⁹¹ The date of Leichardt's death remains a mystery. He visited Newcastle from September to December 1842 and stayed at Scott's house for 3-4 days from September 23rd, 1842. During his time in Newcastle he travelled extensively throughout the lower Hunter before riding to the Hunter Valley on horseback. Posted January 29, 2013 <https://coalriver.wordpress.com/tag/ash-island/>

¹⁹² Conrad Martens, *Sketches in Australia, 1835-1865*, 1835-1865. Held by Mitchell Library, State Library of NSW. See also *Conrad Martens : Journal of a Voyage from England to Australia 1833-35*, Facs. ed. (Sydney: State Library of NSW Press, 1994).



Plate 37 Conrad Martens *View looking N from Churchyard, Newcastle, May 14 1841* in *Sketches in Australia, 1835-1865* by Conrad Martens. Pencil sketch on paper. Mitchell Library, State Library of NSW



Plate 38 Illustration by Elizabeth Gould. Engraving in *Birds of Australia – folio Vol 4 (N1-a4)* Plate 10. Satin Bower Birds and their bowers were recorded at Mosquito Island Sept 1839 in the diary of Elizabeth Gould, State Library of NSW.

John Gould (1804-1881) and Elizabeth Gould (1804-1841) made a sojourn to the Hunter River region in 1839 - 1840. They both documented the natural history and abundant birdlife that they encountered while staying in a tent at Mosquito Island (now Ash Island) and while travelling along the river aboard the *William the Fourth* paddle steamer. Both John and Elizabeth investigated, documented and collected natural history along the Hunter River when they stayed at Maitland from 23rd to 29th September 1839. The diary of Elizabeth Gould, her album of plant drawings and other original materials are held at the State Library of NSW.¹⁹³ John Gould recorded seeing an abundant variety of birdlife, identifying Brolga, Jabiru, the Great Egret and a wide range of avifauna typical of the brush or literal rainforest of the river islands. He describes seeing, or at times shooting and collecting, specimens of Grey goshawk, Regent bowerbird, Regent honeyeater, Satin bower bird, Figbird, Olive-backed oriole, Eastern whip-bird, Bell-bird, Yellow-tailed black cockatoo and nectar eating parrots and lorikeets which were sited in large numbers near Maitland.¹⁹⁴ Swamp Wallaby (*Wallabia bicolor*) were observed by John Gould on the islands of the estuary:

The islands at the mouth of the Hunter, particularly Mosquito and Ash, are not unfrequently flooded to a great extent, yet it leaps through the shallow parts with apparent enjoyment, and even crosses the river from one island to another.¹⁹⁵

Gould mentions seeing Platypus (*Ornithorhynch anatinus*) and wrote of his concern for its wholesale destruction by human beings. John and Elizabeth Gould visited the wild scenery beside the river at a time when thick forests surrounded the township of Maitland, giant red cedar, enormous native fig trees, climbers, ferns and stag horns flourished and dense brush and tall rushes edged the river.¹⁹⁶ This was also a time when extensive land clearing and agricultural operations were about to alter this landscape irreparably.

The information gathered by the Goulds when exploring the brush along the river was later referenced and used in illustration plates for Gould's large and revered folio publication *Birds of Australia*. Elizabeth Gould completed much of the scientific illustration for her husband's publications. Plate 38 shows Elizabeth Gould's illustration of a Satin Bower Bird as seen and recorded by her at Mosquito Island in 1839.

¹⁹³ Melissa Ashley, "Leaves of a Diary: Searching for Elizabeth Gould in the Archives of the Mitchell Library," *Text* 17, no. 2 (2013). Albrecht, Albrecht, and Monash University. Centre for Bibliographical and Textual Studies., *The Goulds in the Hunter Region of N.S.W. 1839-1840*. The manuscripts and papers of John Gould include significant drawings and artwork by his wife and scientific natural history illustrator; Elizabeth Gould.

¹⁹⁴ *The Goulds in the Hunter Region of N.S.W. 1839-1840*. 7-13.

¹⁹⁵ Gould 1973:51 cited in *ibid.*, 10.

¹⁹⁶ Walter Allan Wood, *Dawn in the Valley: the Story of Settlement in the Hunter River Valley to 1833* (Sydney,: Wentworth Books, 1972). 2.

Glenn and Jillian Albrecht's publication titled *The Goulds in the Hunter Region of N.S.W. 1839-1840* provides details of the Gould's observations of the environment and an appendix with a full list of birds mentioned in Elizabeth Gould's *Hunter Diary* and in John Gould's publications.¹⁹⁷ This provides an important benchmark for scientists to analyze the status of species and the empirical evidence informs this project. Resources are also available through the Virtual Coquun-Hunter River Project Guide website and the online resource provides links to a valuable network of resources that outline the rich environmental history of the river and how it has been altered over time.¹⁹⁸ This interdisciplinary research and linked digital repository of information further inform our knowledge of the riparian landscape.¹⁹⁹

This project exposes some of the multiple components of empirical research; revealing a rich diversity of material that was created within the Hunter River Estuary in the early years of settlement; a time of significant vegetation removal and environmental change. Anthropogenic impacts can be better understood when we look back at how the riparian landscape once appeared and consider how the landscape was dramatically manipulated to accommodate a dominant culture.

Each of the artists mentioned in this chapter had travelled along the river and this body of exceptional artistic output provides evidence of the likely connection, interest or concern that these artists must have had for the indigenous landscape and native plants and animals of the river. Their relationship with diverse aspects of riparian life resonates from the imagery and the subject matter, and alludes to the variety of species available to each artist. These colonial works of art are included because I believe diverse audiences and communities engage with these archival images and the works continue to be admired for their intimate connection to the local natural environment.

The natural history illustrations form a connection between the science and the art of the river, as the artwork provides information for scientists in the depiction of anatomic details, colour, size and variety of specific riparian species. In this manner the works of art and the associated environmental issues are given new interest and become the topic of discussion. Historic archival imagery continues to be appreciated by a wide audience and invigorates further

¹⁹⁷ Albrecht, Albrecht, and Monash University. Centre for Bibliographical and Textual Studies., *The Goulds in the Hunter Region of N.S.W. 1839-1840*.

¹⁹⁸ Newcastle, "Virtual Coquun, Hunter River Project".

¹⁹⁹ *ibid.*

dialogue about the location or details of the works, the context of the artists, the place of production and the changing and dynamic environmental landscape.

Further comparison is drawn when viewing imagery of the river as it exists today. In describing the current state of the river I refer to Appendix A.



Plate 39 *Ash Island Saltmarsh and Wetland 18th October 2010 4.30pm*

Photograph by Julianne Tilse.

An image of Ash Island taken showing the current landscape of the Hunter River Estuary as recorded in Appendix A – *Riparian Life: a visual navigation*. Page 56 Navy leather bound book of photo-media images that document the Hunter River Estuary. Julianne Tilse 2014.

ENCOUNTER 4: A Visual Navigation - Photographic Book



Plate 40 – Hunter River at Berry Park. Photograph by Julianne Tilse. Image from Appendix A – *Riparian Life: A Visual Navigation*. Page 19 Navy leather bound book of photo-media images that document the Hunter River Estuary. Julianne Tilse 2014.

The navy leather bound book that accompanies this exegesis is attached as Appendix A. This book of photographic images provides a summary of the photo-archive that I have compiled as a documentation of my recent encounters within the Hunter River Estuary.

I have navigated along the estuary on numerous occasions and photographed the dynamic nature of this environment. The state of the Hunter River Estuary today is captured visually in my album of photography (Appendix A). The navy leather bound book entitled *Riparian Life: A Visual Navigation* is a representation of how the river currently appears and is a compilation of photos taken over several years and which documents the entire estuary. This album provides a visual navigation of the river that begins at the upper tidal limit of the estuary at Mt Anne, Maitland Vale and ends at the coastal end of the estuary at Nobbys headland, Newcastle. The book includes the time, date and GPS coordinates to locate each photograph within the estuary. This album is an important component of research as it provides a visual navigation of the current reality of everyday riparian life.

Chapter 4 The Known: Objective Research

In my quest to better understand the dynamic nature of the river I continue to be informed by diverse components of objective scientific knowledge and empirical evidence; what I refer to here as “the known”. Interdisciplinary research is important to how one unmask what is known about the river and the community of interconnected ecologies; environmental, historical, cultural and scientific components of empirical research that inform my practice and that contributes to an informed appreciation of the riparian landscape and how it is today. In this chapter I will provide a summary of the most discernible forces and issues of concern that are known to exist from current empirical and scientific research.

Rather than unfold my own purely subjective response, in this chapter, I take more of a “soft-eye” approach that encompasses a wider vision and encourages inclusion of peripheral components of research that might normally fall outside specific fields or disciplines. This approach is often used in forensic investigations of a crime scene as it helps one unmask the whole environment and, in this instance, helps me to un-veil the multiple complexities of nature rather than focus upon one limited or disconnected area of study. Hence I have sought to shift thinking away from a human centric response, toward a broader examination of the community of issues and components of research that influence one’s perceptions of the river.

The effect of the Anthropocene is evident where natural river processes and human activity interact in altered environments. Given the diverse range of scientific evidence that supports the changing nature of the riparian landscape, the Hunter River Estuary and Newcastle Harbour might be seen as an interesting example of an anthropocene landscape; as changes to the ecology, geomorphology, fluvial flow, sediment and channel disturbance, stream erosion and widening are interlinked with climate change and human intervention.²⁰⁰

²⁰⁰ The Anthropocene is a topical issue that is now mostly recognised by scientists as being the anthropogenic impact that the human race has had upon the earth. Many scientists associate human activity with climate variation, as described by Joan L. Florsheim et al., “Thresholds of Stability in Incised “Anthropocene” Landscapes in Geomorphology of the Anthropocene: Understanding the Surficial Legacy of Past and Present Human Activities,” *Anthropocene* 2, no. 1 (2013). and Gary Stinchcomb et al., “Using Event Stratigraphy to Map the Anthropocene – an Example from the Historic Coal Mining Region in Eastern Pennsylvania, USA,” *ibid.*, Anne J Jefferson, Karl Wegman, and Chin Anne, “Geomorphology of the Anthropocene:,” *ibid.*

In evaluating what is known about the river, the executive summary by Manly Hydraulics Laboratory (Hunter Estuary Processes Study) provides the following statement:

The natural processes that shaped the estuary morphology over the millennia have been altered by a range of human activities implemented over the past 200 years of European settlement. These activities include the clearing of the fertile river flats and catchment areas for agricultural use; grazing of the riparian zone; construction of the entrance groynes for navigation; construction of levees for flood mitigation; dredging of sand and gravel from the upper estuary and river for building materials; dredging of the lower estuary for port infrastructure; construction of floodgates and drainage channels to convert low-lying waterlogged lands to agricultural use; construction of bank stabilization works to protect assets; reduce bank erosion and maintain a constant channel alignment; and urban development.²⁰¹

This statement sums up the major and many critical interventions that have shaped the riparian landscape of the Hunter River Estuary. It is clear that the landscape of the river has been, and continues to be, altered by the processes of human occupation and development. These changes have mostly been detrimental to the landscape and ecology, while change has been commensurate with urban and industrial development, economic growth and prosperity. From 1797 onward human cultural economy has held domination over most natural ecologies of the river.

4.1 Environmental change

The environmental changes of the colonial years set a precedent that continues to impact this environment today. During the early years of settlement major structural change was imposed upon the environment. Vegetation of the Hunter River Estuary was removed, marine shell melted for lime, rainforests cleared for cedar and major works such as the construction of piers, dykes and ballast walls extensively changed the landscape.

The dramatic changes to the landscape of the Hunter River Estuary are perhaps best symbolised in the iconography of Nobbys Island; the small island that is the key feature of the landscape at the very point where the river meets the sea. Nobbys Island, initially named Coal

Ramita Manandhar, Inakwu O Odeh, and Robert G Pontius, "Analysis of Twenty Years of Categorical Land Transitions in the Lower Hunter of New South Wales, Australia," *Agriculture, Ecosystems and Environment* 135 (2010)., Garreth Kyle and Michelle R. Leishman, "Functional Trait Differences between Extant Exotic, Native and Extinct Native Plants in the Hunter River, NSW: A Potential Tool in Riparian Rehabilitation," *River Research & Applications* 25, no. 7 (2009).

²⁰¹ Manly Hydraulics (MHL), *Hunter Estuary Processes Study Report No. MHL 1095 2003*. Executive Summary pii.

Island, was deemed to be 203 feet (62m) high in 1801 by the colonial engineer and surveyor Ensign Francis Barrallier.²⁰² Thomas Mitchell and others calculated a height of approximately 43m.²⁰³ The original shape was said to resemble a high slice of plum pudding and early images confirm that coal seam strata was visible in the original island before it was cut down and reshaped. Local Aboriginal tribes have had more than an 8,000-year association with the island now called Nobbys, also known as Why-bay Gamba or Whibayganba.²⁰⁴



Plate 41 *Nobbys Island and pier, Newcastle, January 23rd, 1820 (Watercolour and Ink).*
Attributed to Edward Close. Image courtesy of the State Library of NSW

The cutting down of the island and reshaping of Nobbys was coupled with the construction of a break-wall to connect Nobbys Island to the mainland. The Macquarie Pier break-wall was constructed to improve the safety of vessels entering the harbour. The higher island was

²⁰² Coal River Working Party, John Prof. Fryer, and Russell Rigby, "What Was the Original Height of Nobbys?," in *Coal River Working Party* wordpress, ed. Gionni Di Gravio (Newcastle: The University of Newcastle, Posted January 13, 2011).

²⁰³ Heights and survey plans presented by Russell Rigby in research for Coal River Working Party. See CRWP article at <http://coalriver.wordpress.com/2008/10/23/mitchells-1828-field-book/>

²⁰⁴ "Whibayganba" name recorded by Sir Thomas Mitchell in 1828 and Aboriginal dreamtime story about Nobbys is recorded by Rev R Threlkeld in 1855 – the history is described in Noel Davies, *Convict Nobbys : The Story of the Convict Construction of Macquarie's Pier and the Reconstruction of Nobbys Island* (Newcastle, N.S.W.: s.n., 1996). 17, and Aboriginal story is also discussed by Gionni Di Gravio, University of Newcastle Archivist in Byrne, Ramsey, and State Library of New South Wales., "Treasures of Newcastle from the Macquarie Era : A State Library of NSW & Newcastle Art Gallery Partnership Exhibition ; [Exhibition Catalogue]."17.

deemed to be responsible for many sailing mishaps in adverse wind conditions as the island took the wind out of sails and caused them to lose steerage and flounder as ships had to also negotiate rock shelves and reefs within the hazardous narrow channel. Consequently many vessels became grounded or tossed onto shoals, as depicted by Conrad Martens (Plate 36)

Various maps and artworks capture the changes to the river mouth and the gradual removal of rock from Nobbys and Colliers Point (Fort Scratchley), from the project's inception in early 1800, through to the official completion on 9th June 1846.²⁰⁵ The watercolour painting by Edward Close (Plate 41) shows the original shape of Nobbys Island with a noticeable darker coal seam layer. Work on the pier is indicated in the mid ground below the headland of what is now known as Fort Scratchley.

Environmental or aesthetic concerns were not an imperative for colonial rulers at that time and material from both the headland and island were used to construct this significant structure that would change the flow of tide, the river, the harbour view and landscape. In 1853 government authorities cut the top layers off Nobbys and levelled the area for a lighthouse. The Government plan to blow up and demolish Nobbys was set in place by Colonel Barney in 1854 when tunnels were dug ready for explosives. Consequently Newcastle's first environmental action took place when concerned residents and local protestors petitioned the Government and averted this action in order to retain Nobbys Island.²⁰⁶

Fortunately the small island, commonly known as Nobbys, has remained to become a significant icon of the region and continues to be synonymous with the landscape of Newcastle. While many artists and illustrators have been inspired by Nobbys and Newcastle harbour, no prior visual exhibition or investigation has been undertaken that includes objective and subjective concepts, gives an account of the indigenous environment or that includes the river estuary. Contemporary artists have mostly been drawn to the port at Newcastle and Nobbys, whereas the connected ecosystem of the estuary and the dynamic nature of the lower Hunter River are of greater interest and relevance to my research.²⁰⁷

²⁰⁵ Macquarie Pier began with the laying of a foundation stone on 5th August 1818. Davies, *Convict Nobbys : The Story of the Convict Construction of Macquarie's Pier and the Reconstruction of Nobbys Island*.

²⁰⁶ G Albrecht, "Rediscovering the Coquun: Towards an Environmental History of the Hunter River," (2000), <http://libguides.newcastle.edu.au/chrp>.

²⁰⁷ Many well known artists have illustrated and painted Nobbys Island, including Margaret Olley in 1971, Brett Whiteley in 1991, Tim Storrier in 1992, . Numerous historic and contemporary works of art are documented in Kevin Brown and Mark Jurisich, *The Nobby's Collection* (Carrington, N.S.W.: The Authors, 1993).

Richard Browne illustrated the landscape at the mouth of the river in two works dated 1821. *View of Hunters River, near Newcastle, New South Wales, taken from Prospect Hill* (Plate 42) and *Newcastle, New South Wales with a distant view of Port Stephen, taken from Prospect Hill*. (c1812. Engraved by Walter Preston from a drawing by T.R Browne) (Plate 43).



Plate 42 *View of Hunters River, near Newcastle, New South Wales, taken from Prospect Hill* c1812. Engraved by Walter Preston from a drawings by T.R Browne.

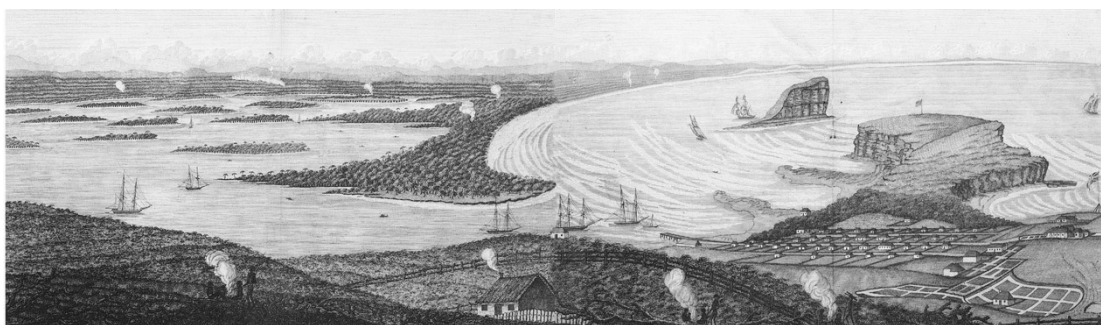


Plate 43 *View of Hunters River, near Newcastle, New South Wales, taken from Prospect Hill* adjoined with *Newcastle, New South Wales with a distant view of Port Stephen, taken from Prospect Hill*. c1812. Engraved by Walter Preston from a drawings by T.R Browne. This image shows the two engravings placed together to form a panorama of the Hunter River mouth at Newcastle. The original layout of the estuary and islands is clearly visible in this engraving of the landscape c1812.

When joined together these two works provide a panorama of the Hunter River at Newcastle as viewed in 1812 from the top of the hill overlooking Newcastle harbour. The drawings and etching show numerous vegetated islands and the protruding higher trees that dominate the estuarine landscape. Nobby's and Newcastle has open grassland vegetation. The earlier evidence of fire stick farming practices is reinforced in this work, and numerous smoke columns emerge across the landscape. Bill Gammage gives a full evaluation of the use of fire by Aboriginals this in his award-winning book titled *The Greatest Estate On Earth*.²⁰⁸ Gammage examines the manner in which indigenous tribes managed the landscape by burning tracts of cleared open grasslands for hunting purposes. Using pictorial imagery from past colonial works of art, Gammage describes how the indigenous landscape may not have been entirely natural, however the land was utilised sustainably by Aboriginal people.



Plate 44 Aerial photograph of the Hunter River at Newcastle 2006

²⁰⁸ Gammage, *The Biggest Estate on Earth : How Aborigines Made Australia*. (Sydney. Allen & Unwin, 2011).

4.2 Lime and Industry

The most dramatic changes to the Hunter River Estuary have been brought about with processes of industrial development and associated human interventions that have continued to change the riparian landscape.²⁰⁹ At the time of first contact the area known as Coal River would have resembled a natural river delta with mud flats, estuarine inter-tidal islands and significant wetland and saltmarsh zones. Today the river mouth and industrialized port zone has little native riparian vegetation remaining, while the closely connected river and estuary at Fullerton Cove, Ash Island and Kooragang Island, in stark contrast, are home to significant coastal wetlands and mangrove populations.

The river mouth has been adjusted for shipping and large coal-loading structures dominate the landscape. The harbour entrance is lined with manmade break-walls and a series of dykes and ballast walls line the realigned and straightened shores of the river. Most of the original estuary islands have been removed or amalgamated to make way for larger wharf areas and shipping facilities. The delta was altered to accommodate heavy industrial development on the lower (southeast) end of Kooragang Island and extensive earth works have altered the riverbank alignment of the north and south arm of the Hunter River at Newcastle. Multiple port expansion operations continue to dramatically alter the structure and ecology of the Hunter River Estuary, yet I have found there is limited research available that clarifies the impacts this has had on the environment.

The production of lime at Newcastle signifies the beginning of industrial development that has continued to this day. Vast environmental change escalated from the early 1800s with the melting down of shells to make lime. The riparian landscape was changed by, not only removal of oysters, but by the removal of native timbers for burning the kilns that melted the oyster shells down to produce lime. The River Oak (Casuarina or Swamp Oak) trees that grew on Stockton Peninsula and mangrove trees from numerous estuarine islands were used to fuel the fires of lime-burning kilns. The native vegetation was stripped and cleared along the river bank

²⁰⁹ Environmental change and human intervention as evident in Healthy Rivers Commission of New South Wales., *Hunter River : Independent Inquiry into the Hunter River System : Final Report* (Sydney: Healthy Rivers Commission of New South Wales, 2002). Also discussed in R. J. Williams, F.A. Watford, and V. Balashov, "Kooragang Wetland Rehabilitation Project : History of Changes to Estuarine Wetlands of the Lower Hunter River," ed. NSW Government (Cronulla, NSW: NSW Fisheries, Office of Conservation, 2000)., Christopher Thomas and Bruce Druery, "Geomorphology of the Lower Hunter River, Nsw Managing the Legacy of the Past," (Hobart: 23rd Hydrology and Water Resources Symposium, 1996). Tim Bonyhady and Andrew Macintosh, *Mills, Mines and Other Controversies : The Environmental Assessment of Major Projects* (Annandale, N.S.W.: Federation Press, 2010). And Philip Haines, "Hunter Estuary Management Study September 2009 Final Report." and also well documented in Albrecht, "Rediscovering the Coquun: Towards an Environmental History of the Hunter River".

and lower foreshores, as all available trees were cut down and used to obtain enough heat in the kilns to melt the shells.



Plate 45. *Australia East Coast New South Wales 1871 Hunter River surveyed by J.T.Gowlland assisted by J.F. Loxton 1871. Scale [ca.1:12 160] [Sydney : S.T.Leigh & Co. Lith], 1871. 1 map : col. ; 87.5 x 176 cm. Ferguson Collection Map F 863. (Courtesy of the National Library of Australia). Map of Hunter River (Raymond Terrace to Newcastle).*

Early reports by Barrallier and Grant describe the great amount of oysters and thick piles of discarded oyster shells that were visible when the first ships sailed in to Coal River and Oyster Cove (Fullerton Cove). The southern point of Stockton sand spit was known as the Oyster bank and many shipwrecks refer to the rough oyster rocks and reefs on the northern entrance to Coal River (Hunter River). Oyster Bank was on the ocean side of the spit and the oyster reefs and beaches are marked upon most maps of the area.

The map of the Hunter River (Plate 45) shows the Hunter River Estuary from Raymond Terrace to Newcastle as it existed in 1871. Scott's Point is the pointed left end at the confluence of the north and south arms of the river. Between Scott's Point and Newcastle there are a number of delta islands shown to exist: Upper Moscheto, Moscheto Island, separated by Moscheto Channel, Dempsey Island, separated by Dempsey Channel, through to Spit Island and Platt's Channel. Moving down through to the north of the harbour was Spectacle Island and to the south near Throsby Creek was Bullock Island. The Oyster Bank and mudflats are indicated as they existed in multiple areas throughout the delta area. These islands have mostly all been removed and realigned in large-scale structural changes that were gradually implemented to

accommodate heavy industry and trade operations. Plate 46 shows an image of the port operations and coal ships docked in the south arm of the Hunter River off Kooragang Island.

All of the islands were industrially “glued” together with slag and other industrial pollutants and refuse as a convenient dumping ground to create our modern day Kooragang Island. As the backbone of the Australian Industrial establishment arrived in the form of B.H.P. and its companion industries, they transformed what was then seen as useless swamplands along the south arm of the Hunter River, into Industrial heartlands. The river and islands were re-designed, modified and sculptured by engineers to enable it to function as an industrial port.²¹⁰



Plate 46 Julianne Tilse *Hunter River South Arm Newcastle*. 2013 Photograph

²¹⁰ This statement is made by Gionni Di Gravio, Archivist and Chair of the Coal River working Party, University of Newcastle as it appears in Wordpress CRWP, "Kooragang Island in 1871". Posted February 7, 2013 by University of Newcastle Cultural Collections. Accessed 10 September 2014.

Glenn Albrecht has previously described the impacts of industrial development and Western models of agriculture:

The river itself was not to be spared major, engineered change from its original course and shape. Spit Island, which was isolated by the south channel of the river to the north and Platt's Channel to the south, was obliterated in the 1950s when BHP filled the channel with blast furnace slag, coal washery slurry, fly ash and various oil and tar wastes in order to 'reclaim' it and the island for expansion of their industrial site.²¹¹

The early colonial period was a time of transition; as the riparian landscape was changing from its natural indigenous state to a settlement that began a strong relationship with the industrial landscape. Industry today is best described through imagery and hence throughout this project I make reference to the album of photographs that I have taken that record the river as it exists today.

4.3 Coal and the Port

Coalmines were opened and worked by convicts in the cliff face at Nobbys in 1804, when Newcastle was a government penal colony with restricted access. The river mouth and port at Newcastle today is the largest coal loading and transportation facility in Australia and a fourth coal loader is planned to encroach onto Kooragang Wetlands in the near future. Hence coal trade continues to drive extensive development and change along the river. Coal mines themselves are generally now located outside the riparian zone, however in most cases the water used to wash and produce coal and generate power is pumped or channelled to mine sites from the Hunter River. Mines can impact ground water tables and aquifers. The water height and flow in the Hunter River is impacted by water regulation, controlled release of mine water and by dams and weir structures. Plate 46 shows coal loading at the port of Newcastle.

In the last 25 years the Upper Hunter region has become one of the world's leading producers of black coal... The area of land subject to open-cut mining has doubled during the last decade to over 500 sq km. Newcastle is now the world's leading port in terms of tonnages of black coal exported, with coal comprising 96% of the total exports of the Hunter. The Upper Hunter also generates 70% of electricity for New South Wales.²¹²

²¹¹ Albrecht, "Rediscovering the Coquun: Towards an Environmental History of the Hunter River".

²¹² Alexandra Spink et al., "Has River Rehabilitation Begun? Social Perspectives from the Upper Hunter Catchment, New South Wales, Australia," *Geoforum* 41, no. 3 (2010). 3.

Environmental scholar, Tracey MacDonald states: 'The degradation of habitat and loss of biodiversity within the Hunter River Estuary is intrinsically linked to the ongoing settlement, urbanisation and development of the Hunter estuary catchment.' In the lower estuary industrial development and port facilities have reduced native habitat cover and bio-diversity.²¹⁴ During coal mining operations salty water is pumped from mines and enters the Hunter River above the estuary. Large and extensive coal operations are located outside the parameters of the estuary and hence a complete analysis of coal mining is not included in my research. However the seepage of coal fragments and increased salinity of river waters are significant issues of concern. The closure of the BHP steelworks in 1999 restored coal as the dominant industry. The mining, transport and export of coal is known as the Coal Chain and this dominating major industrial force has unknown potential effects.²¹⁵

There remains to be a lack of data available to the general public and limited transferal of information regarding the impact of industry on the environment. Data collection and monitoring of river water and the relationship of results to port operations, coal loading infrastructure and development remain unknown. Interdisciplinary studies have been limited and regulated by government authorities, with no consistent results that indicate effects upon the natural environment. Recent research has centred upon air quality and the sources, emission and concentrations of particle matter and coal dust.

A recent 2014 study by A/Prof. Howard Bridgman and Dr. Nancy Cushing identifies the problem of monitoring and the conflicting positions in the accurate interpretation of research data, and monitoring the results.²¹⁶ This study also points to the spectacular growth in coal exports from the Port of Newcastle from just over 60 million tons per year (MTY) in 2000, to exceeding over 149 MTY in 2013.²¹⁷ Other major industries and services that operate within the Hunter River Estuary include coal, petroleum and grain storage facilities, as well as chemical and fertilizer manufacturing plants, aluminium smelting, steel and wire manufacturing industries, fishing and soil extraction industries, agriculture and other subsidiaries.

²¹⁴ (MHL), *Hunter Estuary Processes Study Report No. Mhl 1095*. xii, NSW Department of Primary Industries NSW DPI, "Acid Sulphate Soils Priority Investigations for the Lower Hunter River Estuary " (2008).

²¹⁵ Howard Bridgman and Nancy Cushing, "Science and Perceptions of PM Problems in Newcastle, NSW since the Closure of Heavy Industry," *Air Quality and Climate Change* 48, no. 4 (2014). 27

²¹⁶ *Ibid.* 33

²¹⁷ *Ibid.* 27

Soil contamination and pollution remain topical issues of debate and sources of pollution are not fully accounted for within any prior peer reviewed published research investigation, although research indicates that contamination does exist.²¹⁸ Researchers at Manly Hydraulics report that 'Sediment contamination from industry is of particular concern in the port area'.²¹⁹ There seems to be a lack of data or any clear solution available, as there remains to be no consistent approach to strict regulation and monitoring of pollution throughout the estuary.²²⁰ Currently the New South Wales State Government is deemed to be responsible for monitoring and protecting the environment, however the development of the port, coal export facilities at the port of Newcastle and mine development in the lower Hunter Valley are also under the control of the State Government. The Environmental Protection Authority has administered fines for breaches of policy in the past, but does not provide a fully endorsed plan of management, research or outcomes that are relevant and publically available.

4.4 Cedar and Vegetation

Escaped convicts began cutting down Australian Red Cedar (*Toona ciliata*) trees soon after the Hunter River was discovered in 1797. A Cedar camp was established near Maitland in 1801 and Cedar was floated down the river by convict gangs to be stockpiled at the Lumberyard at Newcastle, prior to being loaded on ships and sent to Sydney to overseas markets. After Cedar trees close to the mouth of the river were removed entirely, Cedar gangs worked their way along the estuary in Cedar-getting parties; a group of convicts with overseers and a deputy for each gang of thirty men. John Vader in *Red Gold: The Tree that Built a Nation* describes how, 'a gang was usually required to cut one hundred logs from 12 to 16 feet (3.6 – 4.8 metres) long in one month.'²²¹ Vast amounts of Red Cedar were rafted down the river and the lower valley and river banks were cleared of all large trees, as Rosewood and River

²¹⁸ M Hodda and W.L. Nicholas, "Nematode Diversity and Industrial Pollution in the Hunter River Estuary, NSW, Australia," *Marine Pollution Bulletin* 17, no. 6 (1986)., GR, "Pollution in Hunter Becoming Major Problem," *Newcastle Herald*, February 8, 2013., Williams, Walford, and Balashov, "Kooragang Wetland Rehabilitation Project : History of Changes to Estuarine Wetlands of the Lower Hunter River.", Michelle. Fletcher and Philip. Haines, "Hunter Estuary Coastal Zone Management Plan (Hunter Estuary Management Plan)," (Newcastle, NSW: NSW Government Estuary Management Program, 2009)., K Edge et al., "A Biomarker of Contaminant Exposure Is Effective in Large Scale Assessment of Ten Estuaries," *Chemosphere* 100 (2014).

²¹⁹ (MHL), *Hunter Estuary Processes Study Report No. Mhl 1095*; *ibid.*, 42.

²²⁰ Mark P. Taylor and Cynthia F. Isley, "Measuring, Monitoring and Reporting but Not Intervening: Air Quality in Australian Mining and Smelting Areas," *Air Quality & Climate Change* 48, no. 2 (2014). Pollution and water quality are often reported by the community and in news reports however there is limited comprehensive research investigation. See GR, "Pollution in Hunter Becoming Major Problem."

²²¹ Vader et al., *Red Gold: The Tree That Built a Nation*. New Holland Publishers:Sydney (2002) 32.

Redgum trees were used for construction, making furniture or for fire wood. Because of the large amounts of cedar found the Paterson River was initially named Cedar Arm.

W. Allen Wood, author of *Dawn in the Valley*, describes the riparian vegetation;

Behind the mangroves bordering the lower reaches of Hunter's river were limited stands of Coal River Pine that were soon cut out. The rest of the low country was occupied by swamp oak and flooded gum trees, tea-tree scrubs, and wide tracts of swampland.²²²

The Coal River Pine refers to trees from Ash Island, near Hexham, which was so named after the large forest of trees resembling Ash that were found there. Removal of native vegetation coincides with colonisation and as early as 1801 a sawpit was built on Ash Island and operated whilst all large trees were felled upon the estuary islands.

Thick rainforest vegetation once existed adjacent to the township of Maitland and historical reports provide collaborative accounts that confirm the density of riparian vegetation along the riverbanks at Oakhampton, Bolwarra, Lorn, Maitland and through to Morpeth. Open sections of less dense vegetation were interspersed and grassy parklands existed further away from the river. The surveyor Henry Dangar, in 1822, refers to 'dense brush which made the riverbank inaccessible' and on 3rd June 1833, George Boyle White made the point that 'the northern bank of the Hunter from Lorn downward was lined with jungle or brush almost impenetrable'²²³.

Changes to vegetation of the Hunter River were rapid and dramatic as the first cedar cutting gangs were aggressive in their search for the valuable timber. They exploited the native vegetation and fought with any settlers to remove the much sought after Red Cedar and Rosewood. The river was the major channel for transportation and trade and hence exploration and exploitation occurred via the river because it was the main link connecting the inland and Hunter Valley with trade ports of Newcastle, Sydney, London and the world.

Glenn Albrecht has previously described the environmental history of the Hunter River in his research, *Rediscovering the Coquun: Towards an Environmental History of the Hunter River*.²²⁴ Albrecht evaluates the transformation of the Lower Hunter, the large Cedar trees that were

²²² Walter Allan Wood, *Dawn in the Valley; the Story of Settlement in the Hunter River Valley to 1833*. Wentworth Books, Sydney, (1972). 1.

²²³ Both quotes are found in *ibid.*, 2. See also evidence of vegetation in L Hill, "The Natural Vegetation of Maitland Local Government Area, New South Wales," (Maitland: Maitland City Council, 2003).

²²⁴ Albrecht, "Rediscovering the Coquun: Towards an Environmental History of the Hunter River".

removed and outlines the flora and fauna species that are now endangered or extinct in this region, such as the extinct Bustard bird and the endangered Regent Honeyeater.

It has been estimated that 99% of the vegetation on the central valley floor of the major rivers has been removed and in local government areas such as Maitland, over 85% of the native vegetation has been lost ... the Bustard has been regionally extinct for well over one hundred years. Other birds such as the Regent Honeyeater that moved through the "apple tree flats" or Angophora open forest of the Hunter in their thousands in the early nineteenth century are among the most endangered birds in the world with estimates of total population of only a few hundred.²²⁵

In the Bigge Report, colonial carpenter Patrick Riley describes the various trees and superior qualities of timber used, notably Red Cedar, Rosewood, Pine, Flooded Gum, Blue Gum, Honeysuckle and Ironbark. Riley describes great quantities of Flooded gum being 'on both sides of the river'.²²⁶ The significance of Red Cedar trees has been previously documented, however very few reports have focused upon the ecological cost and degradation of the landscape that occurred as a direct result of clearing and removal of riparian vegetation. Higher canopy trees, such as the Red Cedar and Rosewood that were sawn down, were vital to sustainability of the ecosystem and forest diversity.²²⁷

Before the axemen came, giant red cedar and fig trees bore their tall boles upward through the interspersed myrtle and other softwood brush trees and interlacing climbers, crowning all with their widespreading leafy heads. Within the outer tangle of "Bolwarra vines", clematis and other climbers, and shrubby plants of the rainforest, a man could in many places walk erect beneath the thick green roof of leaves in the cedar brush. There the light was subdued, and the sun never shone on the thick mat of decaying leaves and mould.²²⁸

²²⁵ Ibid.

²²⁶ Turner, *Newcastle as a Convict Settlement : The Evidence before J. T. Bigge in 1819-1821*. 164.

²²⁷ Marco Van De Wiel and Stephen Darby, "A New Model to Analyse the Impact of Woody Riparian Vegetation on the Geotechnical Stability of Riverbanks," *Earth Surface Processes & Landforms*. 32, no. 14 (2007). , Ashley A Webb and Wayne D Erskine, "A Practical Scientific Approach to Riparian Vegetation Rehabilitation in Australia," *Journal of Environmental Management* 68, no. 4 (2003).

²²⁸ Wood, *Dawn in the Valley: the Story of Settlement in the Hunter River Valley to 1833*.2.



Plate 47 *The Hunter River from the Bishop of Newcastle's Garden.* Watercolour 8th June 1853. From the journal sketchbook of Baron Henry John Douglas-Scott-Montagu.

This watercolour by Baron Montagu of Beaulieu illustrates the remnants of forest area that is described by Lang, Breton, Wood and others. The artwork shows the effective practice of ring barking on large trees that once held the soil in place at Phoenix Park. View is looking north across Phoenix Park from Morpeth Common on Morpeth Road / Swan Street NSW.

Image courtesy of the National Library of Australia (nla.pic-an3099166)

Early artworks, such as the image by Baron Montagu, titled *The Hunter River from the Bishop of Newcastle's Garden* of 1853, provide a remarkable visual record that augments another dimension in our appreciation of how the landscape once appeared and how humans are a major contributor to loss of biodiversity. This image illustrates the clearing practices of early settlers and the dramatic impact upon the landscape. The area of ring-barked forest trees shown in Montagu's watercolour has been specifically mentioned in other individual historical accounts, providing us with unequivocal evidence of the large trees and dense vegetation along this section of the Hunter River (between Lorn and Morpeth. NSW).

The large peninsula known as Narragan to the Aboriginals (now Phoenix Park) is described by John Dunmore Lang (1788-1878) in detail:

Phoenix Park is without exception the finest piece of land, both for quality of soil and for beauty of scenery and situation, I have ever seen, - being entirely of alluvial formation, and bounded on all sides, with the exception of the narrow isthmus that connects it with the main-land, by broad and deep rivers, the banks of which are ornamented with a natural growth of the most beautiful shrubbery; while over its whole extent, patches of rich grassy plain, of thirty or forty acres each, alternate with clumps of trees or narrow belttings of forest, as if the whole had been tastefully laid out for a nobleman's park by a skilful landscape gardener.²²⁹

Allan Wood also describes this area, as these collaborative components of research describe the cedar brushes and confirm the nature of this rich indigenous landscape as it existed prior to settlement and clearing:

A little further upstream the rich alluvial lands commenced, with their cedar brushes, vine entangled scrubs, and contrasting strips of open flooded country.....chains of long narrow lagoons remained from former river courses. Other lagoons had silted up, leaving natural clearings in the jungle, with grassed patches of forty acres alternating with strips of brush over the whole extent of Phoenix Park...at Wallis Plains were large areas of open swamp...cedar brush covered most of Wallis and Paterson's Plains²³⁰

Phoenix Park is across the river just below and north from Morpeth. This rich alluvial flood plain is now cleared and the view from Morpeth Common (formally the Bishop's Garden) remains picturesque, yet the scene today consists of a patchwork of cultivated farmland and the wider expanse of the Hunter River above Morpeth. Lieutenant William H Breton (d.1887) in his *Excursions in New South Wales and Van Diemen's Land, 1830-1833* recorded that behind the town of Maitland:

Close to the township there is a lake or lagoon, several miles in circuit ... there is one of the thickest vine brushes in New South Wales, so that it is difficult to penetrate even a few yards. Here I saw an enormous tree ... known by the title of the great fig. The form of the trunk is triangular, the side facing the south-east being eighteen feet in width; ... The trunk does not rise more than perhaps thirty feet before it separates into branches of such magnitude as to equal trees of considerable size. Will it be credited that the former owner of the farm had actually commenced felling this 'giant of the forest?'...he was only prevented from fulfilling his intention by the remonstrance of the settlers around. This noble specimen of vegetation still bears the marks of the axe, a memento of the Vandalic [sic] taste of him who could contemplate the destruction of such an interesting object.²³¹

²²⁹ John Dunmore Lang, *An Historical and Statistical Account of New South Wales, Both as a Penal Settlement and as a British Colony*, 2 vols. (London: Cochrane and M'Crone, 1834).95.

²³⁰ Wood, *Dawn in the Valley; the Story of Settlement in the Hunter River Valley to 1833*. 1-2.

²³¹ William Henry Breton, *Excursions in New South Wales, Western Australia and Van Diemen's Land, During the Years 1830, 1831, 1832, and 1833* (London: Richard Bentley, 1833).122-123.

The connectivity of vegetation is an important element of healthy ecological sustainability and these accounts and descriptions attest to how the river formed a connection with surrounding ecological communities that are dependant upon a range of vegetation species. The three accounts by Lang, Wood and Breton confirm the vegetation pattern along this stretch of river and reinforce the vital connection between the river and ecology, specifically between Maitland and Morpeth. Scientific researchers have investigated the relationship between canopy trees and understorey biodiversity.²³² More recent investigations attest to the complexity of connections between ecologies that interrelate and how human activities have directly and indirectly impacted birdlife, water quality, and geomorphology.²³³ In the study titled "A practical scientific approach to riparian vegetation rehabilitation in Australia" the authors, Webb and Erskine make the statement that 'it is now widely recognised that vegetation exerts a significant influence on fluvial geomorphology by affecting resistance to flow, bank strength, sediment storage, bed stability and stream morphology' ²³⁴.

Interdisciplinary studies show how large indigenous trees contribute to botanical diversity and practical scientific approaches include remnant vegetation surveys and environmental histories. This multi-disciplined approach is now considered by some scientific researchers to be more successful for rehabilitation, future management and regeneration along the river.²³⁵

Prior to 1800 the lower Hunter River landscape, along the floodplain, was dominated by forest and wetlands that sustained a complex range of flora and fauna. Forest and Cedar brush that once covered areas of Wallis and Paterson's Plains has been removed and many lagoons and swamps along the riparian zone have been reclaimed for agricultural use or urban development.

²³² Carla Harris et al., "How Does Restoration of Native Canopy Affect Understory Vegetation Composition? Evidence from Riparian Communities of the Hunter Valley Australia," *Restoration Ecology* 20, no. 5 (2012). Brierley, "Geomorphology in Action: Linking Policy with on-the-Ground Actions through Applications of the River Style Framework.."

²³³ Brierley et al., "Reading the Landscape: Integrating the Theory and Practice of Geomorphology to Develop Place-Based Understandings of River Systems." and in Florsheim et al., "Thresholds of Stability in Incised "Anthropocene" Landscapes in Geomorphology of the Anthropocene: Understanding the Surficial Legacy of Past and Present Human Activities." *October* 2013 2. Zum Volltext.

²³⁴ Webb and Erskine, "A Practical Scientific Approach to Riparian Vegetation Rehabilitation in Australia." 1-2.

²³⁵ Ibid., Sarah Mika et al., "Inside the "Black Box" of River Restoration: Using Catchment History to Identify Disturbance and Response Mechanisms to Set Targets for Process-Based Restoration," *Ecology and Society* 15, no. 4 (2010). Spink et al., "Has River Rehabilitation Begun? Social Perspectives from the Upper Hunter Catchment, New South Wales, Australia." 1.

Clearing of the riverbank has had a most detrimental and lasting impact upon other elements of the river's environmental community; geomorphology, water quality, siltation, salinity, ecology and other interconnected elements of the river eco-system. Research has shown that these components of the environment are interdependent and relational.²³⁷ Removal of large Cedar and native Redgum forest trees has severely impacted lower storey plants and has allowed introduced species to invade.²³⁸ Planting exotic willow species has been equally detrimental.²³⁹ Loss of the upper story canopy has shown to alter the temperature of the river water as the stream loses its protective canopy and is exposed to more sunlight, encouraging the growth of toxic algal blooms, influencing native estuarine marine invertebrates and impacting upon hydrology, conductivity and species richness.²⁴⁰

Loss of riverbank vegetation has had a dramatic effect on erosion as the alluvial riverbank soils fall into the river causing siltation, sedimentation and widening. Bio-diversity has been reduced and lost habitat has impacted co-dependent bird species. Introduced Willow trees (*Salix spp*) have the ability to become hybridized and dominate the riverbank, at the expense of native flora and fauna. Introduced species of hardy fish such as Carp, invade the river, tolerate warmer water temperatures and feed on native species. This cycle of impact continues to resonate throughout the complex riparian eco-system.

Hunter-Central River Catchment Management Authority has published and distributed many well researched resources and information kits that encourage riparian-based land owners and others to care for the river and help to re-establish native plants along catchment streambeds.²⁴¹ Appendix C provides a list of native riparian vegetation species of the Hunter Estuary and the recommended stream-bank positioning for planting the listed species that are indigenous to the Hunter River Estuary. (Appendix C – Pdf file on USB memory stick)

²³⁷ Webb and Erskine, "A Practical Scientific Approach to Riparian Vegetation Rehabilitation in Australia."; Van De Wiel and Darby, "A New Model to Analyse the Impact of Woody Riparian Vegetation on the Geotechnical Stability of Riverbanks."

²³⁸ Garreth Kyle et al., "Growth and Survival of Riparian Plantings in Relation to Weeping Willow Canopy in the Upper Hunter River," *Ecological Management & Restoration* 9, no. 2 (2008). , Harris et al., "How Does Restoration of Native Canopy Affect Understory Vegetation Composition? Evidence from Riparian Communities of the Hunter Valley Australia."

²³⁹ Kyle et al., "Growth and Survival of Riparian Plantings in Relation to Weeping Willow Canopy in the Upper Hunter River.", Kyle and Leishman, "Functional Trait Differences between Extant Exotic, Native and Extinct Native Plants in the Hunter River, NSW: A Potential Tool in Riparian Rehabilitation."

²⁴⁰ Mika et al., "'Black Box' River Restoration: Using History." *Ecology and Society* 15, no.4 (December 2010):1-20

²⁴¹ Hunter-Central Rivers Catchment Management Authority (CMA), *Where Land Meets Water Resource Kit - a Guide to Riparian Management in the Hunter Valley* (2007), Resource Kit.

ENCOUNTER 5 – Hybrid Willow



Plate 48 Julianne Tilse *Hybrid Willow : Salix spp* 2013. Watercolour on 300gsm paper 76x56cm.

This watercolour painting shows a hybrid variety of willow tree (*Salix spp.*)

Exotic willow trees were planted along the river bank in the 1950-60s when it was thought that these trees might stabilize the bank and reduce erosion. Today the willow is classified a weed and the prolific growth of willows along the estuary has resulted in mono-cultures with willows having dominance over native vegetation species. The willow provides limited habitat for native birds and causes bank degradation when the trees uproot and collapse into the river.

This watercolour work developed from sketches and multiple observational field trips to this tree to record the habitat and prolific root and shoot growth. My encounters with this habitat from the waterline and the surrounding intertidal zone communities was observed over a period of three years prior to execution of this watercolour painting.

4.5 Objective Research and Issues of Concern.

A range of institutions, government bodies and individuals have undertaken qualitative and quantitative research pertaining to issues that impact the river. The resulting reports and articles provide evidence of the complexity of the river system and outline the main issues that we might begin to 'know' and understand about the river.²⁴²

The Newcastle City Council (NCC) website provides an outline of the Hunter Estuary and has links to the management plans and research studies that are endorsed by relevant councils and government bodies. Under the heading of 'Fragile Ecosystems,' the authors from the council's department of Natural Resource Planning, issue the following statement on their webpage and provide links to three associated documents:

The Hunter Estuary is arguably one of the most complex estuaries to manage in NSW due to the different types of land use and ownership....The Hunter Estuary provides a diverse range of habitats including saltmarsh, mangroves, wetlands, reed swamps and forested areas. The Hunter Estuary is home to a high diversity of bird species, including seasonally migratory birds that are protected by international treaties (JAMBA and CAMBA).

The Hunter Estuary National Park is located within the lower portion of the estuary and covers an area of over 4000 hectares. The National Park includes Hexham Swamp, Stockton Sandspit and part of Kooragang Island. The National Park is the largest wetland reserve within a single estuary in NSW. Shortland Wetlands and part of the Hunter Estuary National Park are listed as a RAMSAR site, which means that these wetlands are of international significance.

The Port of Newcastle is also located in the Hunter Estuary. The Port is the largest coal export port in Australia and is of local and national economic significance. A range of other commercial activities exists within the estuary, including tourism, commercial and recreational fishing, and general industry.

²⁴² Further extensive information is available within the literature as cited:

Philip Haines, "Hunter Estuary Management Study September 2009 Final Report." And Fletcher and Haines, "Hunter Estuary Coastal Zone Management Plan (Hunter Estuary Management Plan)." (MHL), *Hunter Estuary Processes Study Report No. MHL 1095*. And further research Hill, "The Natural Vegetation of Maitland Local Government Area, New South Wales." Williams, Watford, and Balashov, "Kooragang Wetland Rehabilitation Project : History of Changes to Estuarine Wetlands of the Lower Hunter River.", Glenn Albrecht et al., *Sustainability and the Hunter Region / Glenn Albrecht and Jutta Gutberlet* (St Leonards, N.S.W. Allen & Unwin, 2000.). , D. Allsop, Manly Hydraulics Laboratory., and New South Wales. Dept. of Public Works and Services., *Hunter River Estuary Data Collection 9 October 1996 [I.E., 1995]*, 1 vols., Dlwc Report (Manly Vale, N.S.W.: The Laboratory, 1996). , Alan Cameron Archer, "Social and Environmental Change as Determinants of Ecosystem Health: A Case Study of Social Ecological Systems in the Paterson Valley Nsw Australia," *Faculty of Science and Information Technology, School of Environmental and Life Sciences Research Doctorate* (2007). , Brieley, "Geomorphology in Action: Linking Policy with on-the-Ground Actions through Applications of the River Style Framework." , Elizabeth A. Daley, "River Futures: An Integrative Scientific Approach to River Repair," *Austral Ecology* 34, no. 6 (2009).

An integrated approach to the management of the Hunter Estuary is required to protect and maintain its social, economic and environmental values...Over the past 200 years, since European settlement, the Hunter Estuary has changed significantly with the introduction of mining, agriculture, urban areas and Port infrastructure. Changes to land use within the catchment have led to a number of impacts on the estuary, including a reduction in natural habitat and diversity, an increase in sediments and pollutants entering the estuary and changes to the flow patterns of the river ²⁴³

This statement gives a simple and direct account of the river and the Newcastle City Council website provides the following three attached documents in support of these claims:

1. Hunter Estuary Process Study (Manly Hydraulics Laboratory (MHL) 2003) ²⁴⁴
2. Hunter Estuary Management Study (Dr Philip Haines BMT WBM September 2009) ²⁴⁵
3. Hunter Estuary Management Plan (Fletcher and Haines September 2009) – final report. ²⁴⁶

Other research studies include

4. The Hunter Central Rivers Catchment Action Plan 2013-2023 (Hunter Central Rivers Catchment Management Authority 2013) ²⁴⁷

All four studies identify the following list of relevant issues that impact the Hunter River Estuary: Loss of habitat, port operations, erosion, flooding, pollution, water quality, sand and gravel extraction, recreational impacts, heritage, fishing, acid sulfate soils, climate change.

These documents give evidence of the diversity of issues and complexity of factors that influence the ecological management of the Hunter River, given the numerous stakeholders and opposing natural, environmental, cultural and socio-economic forces. ²⁴⁸

These research documents and the literature outlined above represent the link between what we know to exist in reality and the future change and development that is controlled by Local and State Governments. In evaluating this literature one is made increasingly aware of the

²⁴³ Natural Resource Planning Newcastle City Council, "Estuary Management," http://www.newcastle.nsw.gov.au/environment/coast_and_estuary/estuary_management. Subtitle - 'A Fragile Ecosystem' Accessed 10 Feb 2014

²⁴⁴ (MHL), *Hunter Estuary Processes Study Report No. MHL 1095*. 2003.

²⁴⁵ Haines, "Hunter Estuary Management Study September 2009 Final Report."

²⁴⁶ Fletcher and Haines, "Hunter Estuary Coastal Zone Management Plan (Hunter Estuary Management Plan)."

²⁴⁷ HCRCMA, "Hunter-Central Rivers Catchment Action Plan 2013-2023," (Paterson NSW: NSW Government, 2013).

²⁴⁸ Ibid.

diverse components of interdisciplinary research and the multiple interrelated processes that impact upon the estuary. This group of reports verifies details of my research and informs a deeper knowledge of the riparian landscape. The studies provide important scientific evidence and empirical grounding for the concepts and ideas that I explore through creative art that are a part of my living enquiry and have helped to build a broader and deeper understanding of issues that are a concern to this environment.

4.6 Ecology

A comprehensive evidence based account of the ecology of the Hunter River falls well beyond the scope of this project. However a summary of the main ecological concerns is important here and I am able to draw briefly upon prior scientific evidence and empirical accounts. The following full quotation by Sarah Mika, et. al., is presented in the language format of its source, indicates referenced resources in brackets and provides a relevant summary of empirical knowledge of Hunter River ecology and hydrology.

The changed channel morphology, the desnagging practices, and the loss of riparian shade likely reduced the habitat availability for fish and aquatic invertebrates (e.g., Pusey and Arthington 2003). Desnagging also removed retentive woody material that, under natural conditions, delayed the downstream transport of native leaf litter, allowing for litter conditioning and breakdown by microbes and shedding by invertebrates (Boulton et al. 2004, Wolfenden et al. 2005) The accumulation of fine-grained sediments in the gravel bed reduced hydrological exchange between the river and its aquifer, thus impairing hyporheic processes (e.g., Kasahara et al. 2009), and the clearing of riparian vegetation probably caused aquatic food webs to increasingly rely on instream (autochthonous) production instead of floodplain and riparian (allochthonous) production, hence causing a net shift from heterotrophy towards autotrophy (Wolfenden et al. 2005) ²⁴⁹

The history of the river provides vital information for future rehabilitation plans and historical knowledge is acknowledged by researchers as being a significant factor that improves understanding of the river eco-system and 'how understanding catchment history can reveal disturbance and response mechanisms, thus facilitating process-based restoration.'²⁵⁰ Mika highlights the multiple interrelationships within the natural environment, as many factors of concern have a flow on effect to other elements within the complex estuary eco-system.

²⁴⁹ Mika et al., "'Black Box' River Restoration: Using History."

²⁵⁰ Ibid.

The bed of the Hunter River and much of the associated foreshores and tributaries have been classed as having a high probability of acid sulphate soil.²⁵¹ Detailed distribution of acid sulphate soil remains largely unknown.²⁵² Acid sulphate soil (ASS) has a wide-ranging impact upon soil and water quality, farming practices and the fishing industry.²⁵³ Acid discharge entering waterways has a detrimental effect upon the aquatic ecosystem and leaching of acidic water into estuaries has been found to result in fish, crustacean and shellfish mortalities.²⁵⁴ The 2008 *Lower Hunter Acid Sulphate Soils Investigations Report* outlines results of a detailed on-ground assessment that detected acidic materials at varying degrees of severity at sites in the estuary.²⁵⁵

Of the threatened species listed under State and Commonwealth legislation the Hunter estuary provides habitat for at least twenty three bird species, and one amphibian. (Green and golden bell frog) Threatened ecosystems and ecological communities of Coastal Saltmarsh, Hunter Lowland Redgum Forest and Freshwater Wetlands are noted to be declining and are significant to the estuary ecosystem.²⁵⁶ A summary of threatened plants, animals and ecosystems is attached in appendices and provides a list of the threatened species within the Lower Hunter Valley Floor Region prepared by the Hunter-Central Rivers Catchment Management Authority. This list gives the most recent relevant summary of threatened species of the river and local environment in the upper sections of the estuary.²⁵⁷ (Appendix B – Threatened Species List) The Hunter Estuary and wetlands are of international significance and are listed under the Ramsar wetland convention. The Hunter Estuary Wetland Ramsar site supports 112 known water-bird species and at least 45 migratory species that are protected by International Migratory Bird Agreements.²⁵⁸

²⁵¹ (MHL), *Hunter Estuary Processes Study Report No. MHL 1095*.

²⁵² Primary NSW DPI, "Acid Sulphate Soils: Lower Hunter River Estuary."

²⁵³ Haines, "Hunter Estuary Management Study September 2009 Final Report." 13; Geoff Winning and Neil Saintilan, "Vegetation Changes in Hexham Swamp, Hunter River, New South Wales, since the Construction of Floodgates in 1971," *Cunninghamia: a journal of plant ecology of eastern Australia* 11, no. 2 (2009): 185.

²⁵⁴ Tracey Anne MacDonald and University of Newcastle. Discipline of Biological Sciences., "Investigating the Estuarine Wetlands of the Lower Hunter River Rehabilitation Potential of Tidal Reinstatement Following Degradation Caused by Tidal Restriction," (2001). 20.

²⁵⁵ The 2008 project investigated soils in five wetland areas: Kooragang Wetlands, Tomago Wetland, Shortland Wetlands, Hexham Swamp and Fullerton Cove, culminating in a final report NSW DPI, "Acid Sulphate Soils: Lower Hunter River Estuary." The full report series is available online at <http://www.dpi.nsw.gov.au/fisheries/habitat/publications/threats/acid-sulphate-soils>.

²⁵⁶ Threatened ecosystems and species lists are available by accessing the NSW Department of Environment and Heritage. HCRCMA and NSW Environment and Heritage, "Threatened Species in Hunter C.M.A. Sub-Region," <http://www.environment.nsw.gov.au/threatenedspeciesapp/cmaSearchResults.aspx?SubCmaId=758>.

²⁵⁷ Tricia Hogbin et al., *Our Local Threatened Species* (Total NSW: Hunter-Central Rivers Catchment Management Authority. HCRCMA, 2007). 51-54

²⁵⁸ Department of the Environment Australian Government, "Hunter Estuary Wetlands," <http://www.environment.gov.au/cgi-bin/wetlands/ramsardetails.pl?refcode=24>.

Many unknown aspects of scientific knowledge become apparent when evaluating groundwater. Aquifer water and groundwater inflows are not fully understood and have not been comprehensively studied however they are relevant to the hydrology and ecology of the river. Base flows of the Hunter River system are formed from discharges of groundwater from underground aquifers.²⁶⁰ Aquifers have recently been found to exist deep under the river in the vicinity of the junction of the Hunter and Paterson Rivers however research is not available and has not been undertaken to determine the connection that aquifer waters have with the river ecosystem. This is a valid area for future research that is most relevant given the current progression of coal seam gas fracking that has been approved in the wider catchment.

In 1845 dredging first commenced in the Hunter and has continued to today.²⁶¹ 'Annual maintenance dredging in the harbour removes around 300 000 cubic meters of sand and silt each year, with the majority of the material disposed offshore'.²⁶² All previous research investigations recognise that whilst dredging of Newcastle Harbour is important for commercial shipping the effects on aquatic flora and fauna have not been fully evaluated. The river mouth continues to be dredged to create a deeper harbour and accommodate larger passenger and trade vessels. After 1845 many islands and mudflats were removed and the entire island river delta has consequently been manipulated to improve maritime safety, trade and port facilities and cater for the great many significant ships that enter the river mouth.²⁶³



Plate 49

Ralph Snowball.
B&W Photograph
glass negative
Photograph taken 5th May
1901.

Image shows the dredge
known as Castor at Walsh
Island (now part of
Kooragang Island).

Image courtesy of the
University of Newcastle

²⁶⁰ HCRCMA, "Hunter-Central Rivers Catchment Action Plan 2013-2023."

²⁶¹ Dredging from 1845 as outlined in (MHL), *Hunter Estuary Processes Study Report No. Mhl 1095*. p vii. And historic evaluation of river channel change in New South Wales Parliament. Legislative Assembly. Select Committee on Deepening the River Hunter and William Hanson, *Progress Report from the Select Committee on Deepening the River Hunter, Together with the Proceedings of the Committee and Minutes of Evidence ; Final Report from the Select Committee on Deepening the River Hunter, Together with the Proceedings of the Committee, Minutes of Evidence and Appendix / ed.* New South Wales Parliament (1857).

²⁶² (MHL), *Hunter Estuary Processes Study Report No. Mhl 1095*. vii.

²⁶³ Windross and Ralston, *Historical Records of Newcastle, 1797-1897*. The Harbour Works outlined.16-17.



Plate 50 Julianne Tilse *David Allen Dredge, Newcastle Harbour*
27th April 2013 12.07pm. Photograph - J Tilse

Today dredging is carried out by the *David Allen* dredge that regularly continues to remove tons of sand and silt from the bottom of the river and ensure the greater depth of around 14 to 16 m AHD of the river for shipping. The *David Allen* is a common sight on Newcastle Harbour, but few people would consider the impact that dredging has upon the river ecology and very few people would be aware that native sea grass in the port of Newcastle is non-existent.²⁶⁴ Native riverbed vegetation, sea-grass, ferns, nematodes, worms and crustaceans have been removed as a result of dredging, industrial development and intensive port operations.²⁶⁵

²⁶⁴ Haines, "Hunter Estuary Management Study September 2009 Final Report." 69-73

²⁶⁵ (MHL), *Hunter Estuary Processes Study Report No. MHL 1095*. xii

Epiphytes and organisms such as algae growing on the surface of sea-grasses have also been removed. The presence of benthic invertebrates such as small crustaceans, crabs, molluscs, marine worms, amphipods, isopods and copepods are difficult to determine in the Hunter Estuary and there have been limited studies of them. Species of macro-fauna (marine snails and worms) would normally be found on the surface of mudflats and the majority of micro fauna (less than 1mm) live in the top 1cm of sediment.²⁶⁶

Extensive dredging in the lower estuary has resulted in a deeper channel for larger transport and trade vessels to navigate, however dredging has altered natural riverbed environments and affected natural processes of the river channel.

Water depth between Hexham and Morpeth is between three and nine metres. Above Morpeth the channel is often reduced to pools or shallows less than a metre in depth. In times of drought, sections of river may stop flowing, however water level is influenced by humanly controlled dam and mine water release and other variable inflows along the upper Hunter River.²⁶⁷

Human impact continues to influence the river as sand and gravel extraction from the bank and bed of the river occurs throughout the estuary. The Carrington Dyke was constructed by degrees, starting from 1874 and Carrington was built up from the ballast discharged from coal ships. Mangroves and mudflats were replaced with rubble that originated from a wide range of countries across the world and sections of Newcastle are founded upon reclaimed earth and ballast dumps. The scale of change in the lower section of the Hunter River Estuary is consequently contiguous with larger scale processes of development and trade that have continued to dominate the riparian landscape. Agricultural practices in the early 1800s were ruthless and lack of environmental knowledge and over-clearing brought dramatic change to the natural environment and the riparian landscape.²⁶⁸ Flood protection works, levee banks and flood gates were constructed from the late 1850s.

²⁶⁶ Daley, "River Futures: An Integrative Scientific Approach to River Repair." MacDonald and University of Newcastle. Discipline of Biological Sciences., "Investigating the Estuarine Wetlands of the Lower Hunter River Rehabilitation Potential of Tidal Reinstatement Following Degradation Caused by Tidal Restriction."

²⁶⁷ Water flow release and environmental impacts are assessed in Peter J Hancock and Andrew J Boulton, "The Effects of an Environmental Flow Release on Water Quality in the Hypoheic Zone of the Hunter River, Australia," *Hydrobiologia* 552, no. 1 (2005). Also discussed briefly in New South Wales. Environment Protection Authority., *Hunter River Salinity Trading Scheme : Working Together to Protect River Quality and Sustain Economic Development*, Epa (Sydney, N.S.W.: Environment Protection Authority, 2003)., Natural Resource Planning Newcastle City Council, "Estuary Management,"

http://www.newcastle.nsw.gov.au/environment/coast_and_estuary/estuary_management.

²⁶⁸ (MHL), *Hunter Estuary Processes Study Report No. Mhl 1095*.pvi

4.7 Erosion, Geomorphology and Floods

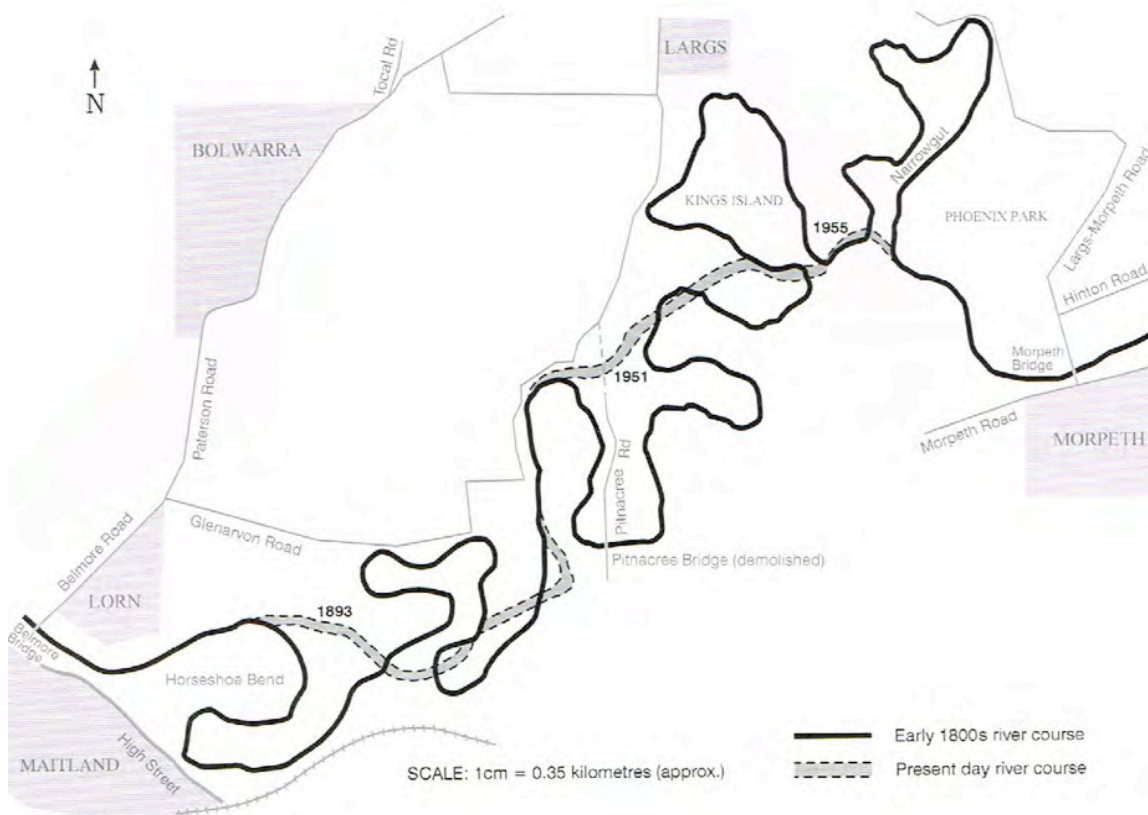


Plate 51 Changes in the course of the Hunter River from Maitland to Morpeth after 1860. Map by Department of Public Works 1964, Walsh & Archer 2007.

The clearance of riparian vegetation, combined with the impacts of flood or drought periods, and cattle access, are factors that impact fluvial processes and riverbank erosion. Erosion and sedimentation in turn influence the geomorphology of the riparian landscape. Riverbank stability and sedimentation have been significant issues in the Hunter River Estuary since early settlement.²⁶⁹ A section of river at the top of the estuary tidal limit at Oakhampton was the site of extensive sediment and soil erosion in the devastating flood of 1955. The displacement of soil in 1955 changed the composition and fertility of the alluvial floodplain at Oakhampton and below Maitland, and the riparian landscape altered as a result of flood deposits, soil fertility loss and riverbank erosion. Large amounts of sediment are 'washed into the upper estuary due to deforestation, overgrazing and bank erosion. Changes to flood patterns, together with the

²⁶⁹Ibid., x.

clearance of riparian vegetation have led to riverbank destabilization and substantial bank erosion' ²⁷⁰.

Research of Hunter River geomorphology confirms that between 1879 and 1959 the length of the river between Maitland and Morpeth has reduced from 24km to just 9.6kms. ²⁷¹ The change to the river morphology is thought to be due, in part, to the removal of riparian vegetation that once held the riparian landscape in place. Clearing of large trees and altered land-use has prompted drastic morphological change. ²⁷²

Plate 51 illustrates the loss of sinuosity and length of the river between Maitland and Morpeth. This map shows how the geomorphology of the river is relevant, as the river has straightened and changed direction remarkably over the past century. Riverbank changes, loss of vegetation, siltation and erosion contribute to this change. The river channel confluence with adjoining lagoons and flow from Wallis Creek was altered upon construction of roads and railways. It is interesting to note that the area shown on the map, between Maitland and Morpeth, is the area where large amounts of cedar and thick forest vegetation were cleared for agriculture soon after settlement.²⁷³

The ecology of the river and benefits of a flood mitigation scheme form an interesting and confronting argument, as mitigation structures block natural tidal flows. ²⁷⁴

Flooding is a major issue of concern ... which resulted in the construction of significant flood mitigation structures. While these structures, which include levees, floodgates, spillways, controls and drains, have reduced the incidence of flooding in small events and improved the predictability of flows and drainage following large events, they have also had significant impacts on natural processes in the estuary.²⁷⁵

²⁷⁰ Dr. Philip. Haines, Michelle. Fletcher, and Brad Sneddon, "Hunter Estuary Management Study," ed. WBT. BMT (Broadmeadow NSW: Newcastle City Council, 2009). 13.

²⁷¹ Thomas and Druery, "Geomorphology of the Lower Hunter River, Nsw Managing the Legacy of the Past."

²⁷² Haines, Fletcher, and Sneddon, "Hunter Estuary Management Study." 9.

²⁷³ Wood, *Dawn in the Valley; the Story of Settlement in the Hunter River Valley to 1833*.

²⁷⁴ C.M.M Steinfeld and T Kingsford, "Disconnecting the Floodplain: Earthworks and Their Ecological Effect on a Dryland Floodplain in the Murray-Darling Basin, Australia.," *River Research & Applications* 29, no. 2 (2011).

²⁷⁵ (MHL), *Hunter Estuary Processes Study Report No. Mhl 1095*. 141.



Plate 52 Julianne Tilse *Floodgates at Duckenfield* 2013. Photograph

Scientific research points to the many benefits of removing flood gates and removal of some flood gates and the natural tidal flow that results have proven to have had significant environmental and ecological benefit.²⁷⁶ Existing ecological research reveals how flood gates adversely impact biodiversity: 'Restriction of tidal inundation has severely impacted upon estuarine habitats, resulting in the conversion of saltmarsh and mangrove areas to monospecific / brackish wetlands. Reduction of habitat diversity has had subsequent effects on biodiversity in the area'²⁷⁷.

Devastating floods were first recorded in 1826, with many violent floods in the lower Hunter River occurring throughout the 19th and 20th centuries. In the book titled *Dawn in the Valley*, author W. Allen Wood, has documented early examples of flooding along the river and explains how, in January 1826, a family was detained by floodwaters that filled the large lagoons at Wallis Plains (East Maitland). Lake Lachlan, on the western side of Wallis Creek, and the lagoons on the eastern side had formed a large sheet of water across the plains.

²⁷⁶ MacDonald and University of Newcastle. Discipline of Biological Sciences., "Investigating the Estuarine Wetlands of the Lower Hunter River Rehabilitation Potential of Tidal Reinstatement Following Degradation Caused by Tidal Restriction." Kerrylee Rogers, Neil Saintilan, and Craig Copeland, "Managing Retreat of Saline Coastal Wetlands: Challenges and Opportunities Identified from the Hunter River Estuary, Australia," *Estuaries and Coasts* 37, no. 1 (2014).

²⁷⁷ Manly (MHL), *Hunter Estuary Processes Study Report No. MHL 1095 2003*. xii,140.

Wood transcribes from Ellen Bundock's memoirs how, 'It rained so heavily that night that in the morning the whole plain was flooded, and in a lagoon where the plain had been we saw (Aborigines) paddling in canoes made of bark, the ends tied with kurrajong bark and sealed with grass-tree gum' ²⁷⁸.

These descriptions attest to the presence of an extensive wetland and river confluence that has since been drained and cultivated. Dr Cameron Archer has previously studied social and environmental change and ecosystem health in the Hunter Valley, with a focus on the Paterson River Valley. His research outlines how land management has impacted the alluvial soils and landscape of this region. He states that, 'The arrival of the Europeans saw the destruction of a complex ecosystem...The removal of the rainforest on the alluvial flats and the draining of wetlands created significant short term wealth from agriculture, however, many changes were to occur over the next 180 years.' ²⁷⁹

The estuary has continued to be impacted by flooding events and the history of floods in the lower Hunter River has previously been comprehensively researched and documented. ²⁸⁰ Many historians, historical societies and libraries hold well-documented accounts of the floods that occurred in the Hunter River Estuary from 1826 onward. ²⁸¹ The Hunter Central Rivers Catchment Management Authority (now known as Local Land Services: Hunter) has published many noteworthy articles and resource kits in an effort to improve education for people affected by floods. ²⁸² Maitland City Council and State Emergency Services, Local Councils and Catchment Management Authorities provide collaborative research documentation and education programs that examine the history and current management plans for the flood plain of the Hunter River Estuary. ²⁸³ The exact extent of the impact that flood mitigation, vegetation removal, climate change and other human influences have on flood severity remains unknown.

²⁷⁸ Wood, *Dawn in the Valley; the Story of Settlement in the Hunter River Valley to 1833*. 102. Sourced from the memoirs of Mrs Ellen Bundock.

²⁷⁹ Archer, "Social and Environmental Change as Determinants of Ecosystem Health: A Case Study of Social Ecological Systems in the Paterson Valley Nsw Australia." 206

²⁸⁰ Brian Walsh et al., *Maitland on the Hunter* (Paterson, N.S.W.: CB Alexander Foundation, 2000). Chapter 10: Floods. Healthy Rivers Commission of New South Wales., *Hunter River : Independent Inquiry into the Hunter River System : Final Report*. Earlier flood events between 1828 and 1893 are recorded by Windross and Ralston, *Historical Records of Newcastle, 1797-1897*. 40-42.

²⁸¹ Maitland City Library, Local History room holds a comprehensive collection of articles documenting flood histories.

²⁸² HCRCMA and State Emergency Service, *Are You Floodsafe?* (Hunter Central Rivers Catchment Management Authority, NSW State Emergency Service), DVD.

²⁸³ Chas Keys, *Maitland, City on the Hunter* (Paterson NSW: Hunter-Central Rivers Catchment Management Authority, 2008). HCRCMA, "Hunter-Central Rivers Catchment Action Plan 2013-2023." (CMA), *Where Land Meets Water Resource Kit - a Guide to Riparian Management in the Hunter Valley*



© Julianne Tilse

Plate 53 *View of the Hunter flood plain from Mt Anne 11 June 2007 7:02am.*

Photograph Julianne Tilse. Appendix A : Riparian Life photo-media album. 4-5.

This image is significant as I capture the exact moment when floodwaters breach the flood spillway at Oakhampton and spill into the flood plain just above Maitland. The spillway was breached at 7am 11th June 2007 following an intense rain and storm event. This flood in the river occurred when the *Pascha Bulka* was being washed onto Nobbys Beach at Newcastle in preceding storms.



Plate 54 Unknown photographer. *Hunter River Wallis Creek n.d.*

Image gives an indication of diverse riparian vegetation and habitat that includes significant strands of *Casuarina* (River Oak or She Oak).

ENCOUNTER 6 – Flood



Plate 55 Julianne Tilse 2012 *Queen's Wharf in Flood* Charcoal on paper 56cm x 76cm

This charcoal drawing evokes my post-colonial thoughts and was created after floodwaters swept through the estuary. I render enduring remnants of the old Queen's Wharf at Morpeth, when in flood. The white post in the foreground is an historic icon as it is all that remains of the large wharf and dock that was once the center of productivity and trade at Morpeth during the colonial period, when the river was the only reliable mode of transport.

In the background of this drawing I have included a modern day nautical speed limit sign, a circle with the number 40 that represents the enforced boat speed of 40 knots. Casuarina trees (She Oak) line the river and indicate the usual alignment of the riverbank, when not in flood. I created this drawing in an attempt to capture the unpredictable nature of the river, the shifting might and power of floodwaters that continue to glide downstream and the enduring surface patterns of the water as it negotiates large tree trunks and overhanging branches. The historic timber post stands as an isolated reminder of the old wharf structure that was eventually taken away by similar floodwaters. The force of the flood is echoed in the turbulence as branches of Casuarina trees attempt to interrupt the natural flow of floodwater. While sketching the trees I became aware of the natural design and shape of Casuarina branches and the long needles of this species that are able to survive because of the flexibility and elongation of the foliage.

The drawing juxtaposes the dynamic forces of nature and historic remnants of a forgotten colonial culture. The iconography of current culture is symbolically tested as the distant speed-limit sign becomes consumed by rising waters and shifting ambiguities of the unknown darkness below the surface of the river are revealed in the ebb and flow of raging floodwaters.



Plate 56 Julianne Tilse, *Aerial photography 20th March 2010 4.52pm.*
Junction of the Hunter and Paterson Rivers with the white bridge of the
crossing over the Paterson River at Hinton.

4.8 Vegetation Mapping

The extensive alteration of vegetation and loss of estuarine wetland within the Hunter Estuary is an issue worthy of greater attention. Tracey MacDonald, in her PhD research, successfully utilises colour aerial photography to map the vegetation communities of estuarine wetlands at Kooragang Island.²⁸⁴ This study investigates estuarine wetland degradation, the impact of floodgates and the effect of tidal restoration on wetland vegetation rehabilitation within the Hunter River Estuary. The research evaluates declining coastal saltmarsh where tidal hydrology had been interrupted by man-made flood structures such as floodgates. Coastal Saltmarsh provides habitat for a diverse range of invertebrate fauna and migratory wading birds and are important to macrofauna and the ecology of the river, however Saltmarsh has become an Endangered Ecological Community.²⁸⁵

Vegetation types of the Hunter River Estuary are generally diverse and include Mangroves, Saltmarsh, Brackish Grassland, Casuarina and Melaleuca (paperbark) as well as remnant

²⁸⁴ MacDonald and University of Newcastle. Discipline of Biological Sciences., "Investigating the Estuarine Wetlands of the Lower Hunter River Rehabilitation Potential of Tidal Reinstatement Following Degradation Caused by Tidal Restriction."

²⁸⁵ Dr Lesley Hughes. NSW Government Coastal Saltmarsh in the NSW North Coast, Threatened Species Listing. 2004 <http://www.environment.nsw.gov.au/determinations/CoastalSaltmarshEndSpListing.htm>

Eucalyptus camaldelensis (River Red Gum) and *Eucalyptus tereticornis* (Forest Red Gum) in the upper reaches of the estuary. Freshwater and brackish swamps and wetland areas along the river nurture many native grasses, saltmarsh, *Phragmites australis* (Reed) swamps, *Casuarina glauca* (She Oak) and remnant riparian vegetation and native reeds that provide important refuge habitat for fish and prawns. A full list of botanical species that are most common to the estuary is provided in Appendix C - Native species list.²⁸⁶ The list is relevant to future riparian management and was developed by the Hunter Central Rivers Catchment Management Authority and is used in their resource kits for rehabilitation and management of riparian areas.²⁸⁷

More recent estuary specific research studies of the impact of industries and changes to port structures have been limited, and highlights the uncertainty of what we do not know about our river resources. Authorities simply refer to the Management Studies and Plan that I have outlined previously. However recent theses and doctoral research studies are available and give further evaluation of the significant impact of vegetation loss, human intervention and the many anthropocentric influences upon the river.²⁸⁸ There have been objective evidence based research studies undertaken that point to some of the major land-use issues that influence the river system, alter the landscape and impact the ecology of this estuary; being agricultural land use and industrial development.²⁸⁹

Dr Cameron Archer's 2007 PhD research investigates the relationship between vegetation change and land-use patterns in correlation to ecological health. The transformation of the landscape by early European land use practices and important positive ecological influences that Aboriginal people had on the landscape are evaluated in relevant chapters of his thesis

²⁸⁶ Appendix - George Schneider, *Where Land Meets Water Resource Kit* (Tocal NSW: Hunter Central Rivers Catchment Management Authority, 2007), Resource Kit. Appendix 1. 130.

²⁸⁷ Ibid. 130 The Hunter Central Rivers Catchment Management Authority was restructured by NSW State Government in 2014 and has been renamed Local Land Services: Hunter.

²⁸⁸ Alan J Genders, "Distribution and Abundance of Larval Fishes and Invertebrates Along the Hunter River Estuary, New South Wales, Australia, with Specific Reference to the Effects of Floodgates," ed. School of Biological and Chemical Sciences University of Newcastle (Newcastle NSW: Auchmuty Thesis 2412, 2001). , Mary Greenwood, "Predicting the Effects of Salinity on Three Dominant Macrophytes: An Anticipatory Approach to the Restoration of Degraded Coastal Wetlands in NSW, Australia" (University of Newcastle, 2008).

²⁸⁹ Manandhar, Odeh, and Pontius, "Analysis of Twenty Years of Categorical Land Transitions in the Lower Hunter of New South Wales, Australia." , Kyle and Leishman, "Functional Trait Differences between Extant Exotic, Native and Extinct Native Plants in the Hunter River, NSW: A Potential Tool in Riparian Rehabilitation." "Plant Functional Trait Variation in Relation to Riparian Geomorphology: The Importance of Disturbance," *Austral Ecology* 34, no. 7 (2009). Elizabeth A. Daley, "River Futures: An Integrative Scientific Approach to River Repair," *ibid.*, no. 6. , Greenwood, "Predicting the Effects of Salinity on Three Dominant Macrophytes: An Anticipatory Approach to the Restoration of Degraded Coastal Wetlands in NSW, Australia."

titled "Social and environmental change as determinates of ecosystem health: a case study of social ecological systems in the Paterson Valley NSW Australia." ²⁹⁰

Archer makes the following statement:

Europeans walked into a manicured parkland and quickly exploited this delicately balanced natural resource. The new state was then influenced by successive changes in European technology, economics and values...The removal of the Aboriginal people from the landscape was a significant influence on the future form of the landscape, but not as dramatic as the actions of Europeans, but nevertheless important and probably underestimated by many ²⁹¹

A collaborative scientific study conducted in 2010 found that restoration of the native riparian landscape is possible and the outcomes of this comprehensive study of vegetation restoration identify the need for interdisciplinary modeling as a solution for management of the complex river system.²⁹² Documented results are enlightening and the authors make the statement that 'despite the extent of geomorphic flow degradation, flow regulation and poor condition of the riparian vegetation, prospects for restoration along the upper Hunter River are greater than initially envisaged.' ²⁹³ This 2010 study confirms the devastating impact that vegetation loss has had upon the ecosystem as the 'shift in plant functional types markedly changed the ecosystem structure and function. The change from woody species to grasses and forbs reduced shade, increased soil and water temperatures, and increased light available for instream photosynthesis' ²⁹⁴.

Plate 57 shows a chart that represents these complexities and how interdisciplinary research is better aligned to determine the diverse factors that influence the river. The above example and research by Mika et al is a very good example of interdisciplinary research in action, as the dynamics of interdependent habitats and the complexity of environmental ecosystems was better understood when research from multiple disciplinary fields was considered and evaluated.

²⁹⁰ Alan Cameron Archer, "Social and Environmental Change as Determinants of Ecosystem Health: A Case Study of Social Ecological Systems in the Paterson Valley NSW Australia," *ibid.* Research Doctorate (2007). The Paterson River is a major tributary of the Hunter River and the Paterson Valley interconnects with the Hunter Estuary below the township of Paterson near Largs, Hinton and Morpeth. The study by Archer contains data that is common to both rivers and information is relational to the Hunter River Estuary.

²⁹¹ *Ibid.*, 118.

²⁹² Mika, Sarah, Joanna Hoyle, Garreth Kyle, Timothy Howell, and Kirstie Fryers. "Inside the "Black Box" of River Restoration: Using Catchment History to Identify Disturbance and Response Mechanisms to Set Targets for Process-Based Restoration." *Ecology and Society* 15, no. 4 (December 2010): 1-20.

²⁹³ *Ibid.*, 9.

²⁹⁴ *Ibid.*, 10.

Plate 57 The interdisciplinary conceptual model of the contemporary starting point (2003) for restoring instream and riparian structure and function in the Upper Hunter River Rehabilitation Initiative.

Image courtesy of Mika et. al. Inside the “Black Box” of River Restoration: Using Catchment History to Identify Disturbance...’ *Ecology and Society* 15. Vol 4. (December 2010): p12
www.ecologyandsociety.org/vol15/issue4

The authors make the following analysis of the model in their concluding discussion,

the apparent complexity of the model implies completeness, but this is not true: significant knowledge gaps remain in the UHRRI conceptual model. For example, the model is focused only on the biophysical components of restoration and lacks a direct socioeconomic perspective....Although these knowledge gaps and uncertainties must be explicitly acknowledged, they do not preclude the usefulness of the model for predicting the probable consequences of the stated restoration strategies of riparian replanting and the reintroduction of instream wood. Instead, the process of developing the conceptual model actually clarified where knowledge gaps, uncertainty, and mismatches of scale occurred in our understanding of this complex ecological system.²⁹⁵

This statement by the researchers demonstrates how the chaos and complexity of nature has been visualized by scientists who have used interdisciplinary methodologies and used graphic imagery to communicate the conceptual model. Imagery of the river is vital in the communication of ecological river issues and audiences gain an immediate impression of important river issues through direct engagement with visual media.

Alexandra Spink and a group of collaborative researchers propose that river processes and rehabilitation factors are better understood under a geo-social, transdisciplinary approach. In their 2010 study of social perspectives and river repair in the Upper Hunter catchment, researchers identified that: 'Effective visions for river management are developed through an interactive process that is embedded in the historical context of specific places.'²⁹⁶.

In their 2010 research investigation the complexities of river repair were considered and the trans-disciplinary approach to the topic included interviews with the community and local subjective knowledge of the river. The interviewed participants saw river management as a technical scientific process and hence the community had felt disconnected from the issues affecting the river.

Essentially, historical river management was viewed as a technical process that failed to incorporate social values and aspirations, and which gave inadequate consideration to local knowledge and experience. Participants identified the need to address both diversity

²⁹⁵ Mika et al., "Inside the "Black Box" of River Restoration: Using Catchment History to Identify Disturbance and Response Mechanisms to Set Targets for Process-Based Restoration." *Ecology and Society* 15, no. 4 (December 2010): 14.

²⁹⁶ Spink et al., "Has River Rehabilitation Begun? Social Perspectives from the Upper Hunter Catchment, New South Wales, Australia." 9.

and commonality in vision-building and the need for greater confidence and transparency in river science and management.²⁹⁷

In the research by Spink et al, the results showed that on-ground participation and practical communication improves cultural respect and understanding of the ecosystem of the river as 'respondents recognized that all forms of knowledge, from local to scientific, were required to understand and manage their river effectively'²⁹⁸. The results of the Spink study have been influential to my research and the way in which I present and communicate using a diverse range of visual media. The importance of situated and practical knowledge is reinforced along with the many significant benefits of maintaining an interdisciplinary approach.

Practical interdisciplinary research exposes the multiple complexities and inter-relational factors that impact the riparian environment and that resonate with my creative research and practice. Hence I continue to find a grounding in the orientations of Gilles Deleuze and associated new-materialist ideas that support a multi-faceted approach that is better aligned with the chaotic nature of riparian life, recognizes the contingencies of scientific knowledge and shifts beyond a purely objective approach. This multi-dimensional approach is important to how diverse and often disparate components of research knowledge are interspersed throughout this exegesis and multiple components of knowledge operate in concert with my creative response.

Despite the significance of textual and objective evidence that is documented in writing, I continue to be informed and inspired by archival imagery and visual material that has the ability to enliven a text and give an immediate visual representation of the riparian landscape. Objective and empirical evidence presented in text is often limited in its ability to reach out to a wide audience or instigate an immediate response. Throughout this paper I have integrated images and works of art that provide an engaging representation of the riparian landscape and often enliven the text. This acknowledgement of the power of visual media has informed how I have chosen to frame this project and present creative outcomes, as visual media has the capacity to openly convey a deep appreciation of the environment and multiple concepts, ideas, processes and research outcomes.

²⁹⁷ Ibid., 1.

²⁹⁸ Ibid., 1.

Chapter 5 Praxis and Process

The knowledge of the soul admittedly contributes greatly to the advance of truth in general, and, above all, to our understanding of Nature, for the soul is in some sense the principle of animal life.²⁹⁹

Aristotle acknowledged that there is no single method for solving difficult questions of nature, however he positioned the soul as being inseparable from animal life. He goes further to suggest the soul is entangled with an infinite number of elements, senses and matter and hence thinking and knowledge are not inseparable from concurrent affections of the complex body and multiple sensations that are tangible and intangible, physical and metaphysical.³⁰⁰

The philosophies that inform my practice have been outlined in the first chapter of this paper: Heidegger's concept of Being, praxical knowledge and how this project is aligned to practice-based research that connects theory and practice. In Chapter 1 I outlined how mixed multi-method methodology is inclusive of textual research, field study encounters, studio practice and archival interdisciplinary resources. Environmental aesthetics, interdisciplinary research, and the notion of the Anthropocene, where humanity is one of the many components of the universe, interconnect with Deleuze and Guattari's concepts of rhizomatic thinking and the multiple networks of knowledge that support my praxis and process.

Previous chapters have outlined what is known of the river in terms of documented tangible evidence. In this chapter I look at my art praxis, the interplay between knowledge and subjective experiences and the materials of creative arts research that I engage with. I suggest that knowledge is multi-layered and an appreciation of the river cannot be separate to one's subjective experience and the unknown aspects of knowledge; the less discernable sensations and encounters that build aesthetic sensitivity. These less known subjective encounters, less discernable experiences, sensations, emotions, affects and percepts and other less certain conceptions of the environment are what I consider as unknown components of this research. They evolve with creative arts research and practice, or what is often referred to within the arts as praxis, as new knowledge emerges through handling the materials of art and in practical encounters.

²⁹⁹ Encyclopedia Britannica and University of Chicago, *The Works of Aristotle: Vol 1*, ed. Robert M. Hutchins, trans. W.D. Ross, 2 vols., vol. 1, Great Books of the Western World (Chicago : William Benton, 1952). 631.

³⁰⁰ *ibid.*, 631-668.

In the remaining chapters of this exegesis I address the creative outcomes that emerge with my connection to the river and the less known subjective experiences and creative processes that contribute to new perceptions of the Hunter River Estuary. These less discernible components of research continue to evolve with my practical experiences of being in the river and in the studio. Hence creative outcomes are often emergent and open ended. In building an aesthetic sensitivity to the riparian environment the process by which I encounter the river objectively and subjectively might be used to communicate and share a concern for this environment. Harnessing the knowledge gained from the synthesis of different perspectives helps one to learn from the differing approaches and creative art practice provides an open platform for this interdisciplinary exploration of the riparian landscape.

In this chapter I outline the processes of a living enquiry that drive my approach and then describe the practical field studies and studio art practices that are integral components of my life and art; less discernable elements that are subjective, less known and not generally as easily recognized, yet add a deeper level of understanding to riparian life. Through case study examples I show how this research and the resulting works of art are imbued with objective and empirical knowledge that is counterpoint to, and flows along with, subjective or situated knowledge. This interconnection opens out unique visual perspectives and new alternative ways to perceive the river.

5.1 Contemporary Cultural Context

Knowledge acquisition and definition of objective knowledge and understanding are matters of ongoing debate in fields of epistemology and much practice-based research has a connection with 'questions of epistemology.'³⁰¹ Susan Kelly makes the point that 'practice as a form of intellectual inquiry crucially allows us to consider different registers of social, bodily, material, unconscious, spatial, and visual experience as forms of knowledge.'³⁰² In unfolding a deeper understanding and knowledge of the dynamic riparian landscape, the contingency of knowledge itself deserves consideration.

³⁰¹ Questions of epistemology as discussed by Susan Kelly, Chapter 20 in Shannon Rose Riley, Lynette Hunter, and Palgrave Connect Theatre & Performance Collection 2010, *Mapping Landscapes for Performance as Research: Scholarly Acts and Creative Cartographies*, (New York: Palgrave Macmillan, 2009), <http://ezproxy.newcastle.edu.au/login?url=http://www.palgraveconnect.com/pc/doi/10.1057/9780230244481>.

³⁰² Susan Kelly, "Medium," in *Mapping Landscapes for Performance as Research : Scholarly Acts and Creative Cartographies*, ed. Shannon Rose Riley and Lynette Hunter (Basingstoke: Palgrave Macmillan, 2009). 142.

Throughout this creative research project I refer to subjective and situated knowledge as it relates to the knowledge that is gained through engaged observation, experience and creative arts practice. *Situated knowledge*, a term coined by Donna Haraway in her 1988 essay "Situated Knowledges", is best understood simplistically as knowledge specific to a particular situation.³⁰³ In her explanation of this term, Haraway emphasizes the partiality of science and the need to acknowledge the contingency of knowledge on other aspects of ethical and political accountability. Haraway's concept of situated knowledge, although often seen as being complex, has relevance to the way in which alternative and more entangled politics of knowledge and science become intertwined with the subjective propositions of metaphysics and philosophy.³⁰⁴

Like Heidegger before her, Haraway questions the objectivity of science and reworks the status of objective sciences as being already partial and influenced by the specificity of one's location or set of culturally ingrained biases. Hence the politics of the production of knowledge is called into question. Haraway goes further to introduce strategies of fragmented boundaries and political orientations.³⁰⁵ The basic philosophies of Heidegger and Haraway are relevant to my art praxis and this research topic, as the boundaries between objective and subjective components of research are shifting with post-human thought. Post human valuations place emphasis upon humankind being within and integral to situated knowledge systems, as opposed to humanity being separate to (looking from above or at) the object of an environment. In my understanding of the river I acknowledge that this account of the Hunter River Estuary will indelibly be contingent upon the politics of my location and the relational context through which research and information is gathered and disseminated.

This account of objective known and subjective unknown components of research resonates with Karen Barad's thinking of 'relational ontology'.³⁰⁶ Barad, a quantum theoretical physicist

³⁰³ Donna J. Haraway and Ebook library, *Primate Visions Gender, Race, and Nature in the World of Modern Science*, (Hoboken: Taylor and Francis, 2013). Also in Donna Jeanne Haraway, *The Haraway Reader* (New York ; London: Routledge, 2004).

³⁰⁴ Melanie Sehgal, "Diffractive Propositions: Reading Alfred North Whitehead with Donna Haraway and Karan Barad," *Parallax* 20, no. 3 (2014).

³⁰⁵ Recent articles by Peta Hinton follow on from Haraway to discuss feminist practice that emphasizes the need to foreground a speaking subject with political specificity. Haraway introduced the concept of the transgressive cyborg as a postmodernist strategy for fragmented boundaries and political orientations. Haraway and Ebook library, *Simians, Cyborgs, and Women the Reinvention of Nature*. For further discussion of situated knowledge and new-materialism see Peta Hinton, "'Situated Knowledges' and New Materialism(S): Rethinking a Politics of Location," *Women: A Cultural Review* 25, no. 1 (2014).

³⁰⁶ Barad, *Meeting the Universe Halfway : Quantum Physics and the Entanglement of Matter and Meaning*. And relational ontology discussed in Hinton, "'Situated Knowledges' and New Materialism(S): Rethinking a Politics of Location." 106.

and professor of philosophy, feminist studies and history of consciousness at the University of California, seeks to build meaningful discussion between the sciences and other areas of study. She describes relational theories of reality and proposes, 'to demonstrate how and why we must understand in an integral way the roles of human and nonhuman, material and discursive, and natural and cultural factors in scientific and other practices' ³⁰⁷.

Barad's book *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*, is an insight into the multi-layered and complex philosophy of science; current debates around discursive practices and the authority of objectivity and performativity. Her provocative approach to understanding aligns with my synthesis of theoretical, scientific and practice-based components of research. Barad's thinking helps me articulate and explore creative ways to better understand the complex relationships between the history, science and nature of the river and the rapidly changing world that we co-habitat.

Irit Rogoff, Professor of Visual Culture at Goldsmiths, University of London, is a theorist and curator who suggests interdisciplinary practice is not methodological but is participatory, as we approach visual culture with new sets of questions that are practice-based. Rogoff discusses the notion of being "without", whereby research is not organized around a subject or method, but intimates process and alludes to the condition of doing work without the certitudes of disciplines or methodological limitations. Rogoff makes the statement,

So the notion of being "without" is not one of being at a loss, of inhabiting a lack, of not having anything, but rather an active, daily disassociation in the attempt to clear the ground for something else to emerge. ³⁰⁸

Rogoff looks to a moment of un-belonging that goes beyond the moment of critical analysis and any given cultural practice and the politics that frame it. Her concepts specifically align with this exegesis as I look to shift beyond traditional fields of art to locate my practice and undertake work without the certitudes of a single style, certain genre or pure discipline. This is not to turn away from those doctrines but is rather an acknowledgement that there are other unique and innovative performative ways to frame works of art in the changing politics of contemporary culture. I find these ideas most relevant when discussing, or moving beyond, an assumed context or genre in which to locate my work. Like Rogoff, I explore the interconnections

³⁰⁷ Ibid., 25.

³⁰⁸ Phelan and Rogoff, "'Without': A Conversation." 34.

between the *creative* and the *theoretical* that come to light with new alternative or undisciplined formats of research knowledge.³⁰⁹

The unknown and subjective components of research that I encounter may be likened to a living enquiry of the river. In an informative journal article titled "A/r/tography as Living Enquiry", Stephanie Springgay outlines active processes and conditions of creative research that align with the duality of textual and visual components of research. In moving beyond existing criteria of research she 'proposes an understanding of arts-based research as enacted living enquiry, which we call a/r/tography.'³¹⁰ Springgay unfolds interdisciplinarity as a place of being *without* and the multiple sensual and textual components of interdisciplinary research that are 'attentive to the sensual, tactile and unsaid aspects of artist / researcher / teachers' lives.'

Text based knowledge of the river is significant to this research project and previous chapters of this exegesis exemplify textual material that might contribute to a cognitive understanding of the river. The concept of A/r/tography is an art based research practice that, as in my research, inquires in the world through processes of art making and writing. This encourages exploration of artistic ways of knowing and being, whereby the creation of art is inclusive of the living inquiry and experiences of an artist who is also a researcher and practitioner. 'A/r/tographers anticipate performative, visual, and textual inquiry as they move from one role to another, learning through the uniqueness of each role'³¹¹.

Springgay goes further to explain how visual, written and performative processes are enacted through the living practice of art making and researching. Living inquiry is embodied in encounters that are rendered through visual and textual understandings of experiences. Springgay and Rogoff are both well-respected authors of arts-based research writing and their theories are most relevant to my research through their specific articulation of the visual, sensual and textual conditions of arts-based research. This project and how this research fits into the context of contemporary art is closely aligned with the recent ideas put forward by these relevant theorists who, like myself, place importance upon relational conditions and concepts of the creative research process. Concepts of *without* and *a/r/tography* encourage

³⁰⁹ Ibid., 40. Rogoff's concepts of academy and knowledge in Irit Rogoff, "Turning," *e-flux*, no. 10 (2008).

³¹⁰ Springgay, Irwin, and Wilson Kind, "A/R/Tography as Living Inquiry through Art and Text." 899.

³¹¹ Ibid., 901.

interdisciplinary research and practice that openly embraces the less discernable and often unknown possibilities of research that is dynamic, inter-subjective and fluid.³¹²

These concepts and theories provide the context that situates this research project within the broad field of contemporary art and new emerging fields of interdisciplinary studies. Throughout this study, the known and empirical components (history, environmental science, ecology, geography, art history) help me build connections with the unknown and subjective aspects of research (sensory, liminal, tacit and situated knowledge) as what we know from empirical history and science foreground a contemporary subjective response. This relevant and current contemporary art context provides me with a flexible, inter-relational and creative framework for my practice and reinforces recent cultural philosophies that synthesize and locate my ideas and practice.

The concepts and ideas of practice-based research are best described by looking at examples. I introduce two case studies that exemplify my creative process and emerging artworks that embody aspects of interdisciplinary thinking, a/r/tography and my living enquiry

5.2 Living Enquiry Case Study 1 - Bolwarra (*Euromatia laurina*)



Plate 58 Julianne Tilse *Bolwarra: Euromatia laurina* 2012.
Digital media, pencil and watercolour on Arches paper.

³¹² Ibid.

I seek an approach to art praxis that, like Springgay's A/r/tography, is a form of living enquiry that encourages a fertile interchange between many diverse elements. This exchange is echoed in the artwork titled *Bolwarra: Europomatia laurina* (Plate 58) as I make use of significant components of historic imagery and remnants of vegetation from a lost riparian landscape. In this work I have integrated archival imagery of dried plant specimens and a very early botanical illustration that exists in the journals of Robert Brown from his excursions and collection of botanical species undertaken along the Hunter River in 1804.³¹³ The Australian Plants Society describes the dense rainforest and huge trees and prevalence of the native rainforest species known as *Brown's brush* or *Bolwarra*, that once existed along the river.³¹⁴

The historic illustration of the native Bolwarra plant (*Europomatia laurina*) was included in the published journals of Mathew Flinders, from papers produced by Robert Brown, but its place of origin has previously not been explored. The drawing is associated with Brown's botanical descriptions while in Australia from 1801-1804, however it was likely to have been rendered by the botanical artist, Ferdinand Bauer (1760-1826) when he visited the Hunter River with Brown.³¹⁵ I was delighted to find this historic early drawing of the same plant that once dominated the riverbanks of the Hunter River and my discovery of the drawing of this native plant was a most inspiring moment in my unfolding of innovative research.

The discovery of the archival drawing of the Bolwarra plant is significant as it was most likely collected from the Hunter River and illustrated by Bauer. Robert Brown's journal entries document his exploration of the river up to Mt Anne in October 1804 and my research reveals links to early descriptions of this native riverbank vegetation by Grant and Paterson in 1801. This concurs with Barrallier's letters, manuscripts and survey plan of 1801 (as outlined in Chapter 3.3). This connection has previously not been examined and this new knowledge of the origin of the plant informs our understanding of the native species of the river, the names given to landforms and the locations along the river where botanical specimens were collected,

³¹³ Brown et al., *Nature's Investigator : The Diary of Robert Brown in Australia, 1801-1805*. Chapter 24 outlines native vegetation of the river identified by naturalist John Brown in excursions along the Hunter River and to Mt Anne, October-November 1804.

³¹⁴ Michael Belcher and Australian Plants Society Hunter Valley, "Beautiful Bolwarra," *The Maitland Mercury*, Wednesday, June 8, 2011 2011. 17.

³¹⁵ Flinders' voyage and the 1801 expedition to Australia in the *Investigator* was sponsored and arranged by Sir Joseph Banks in London. Banks recruited Ferdinand Bauer as botanical artist and Robert Brown as naturalist. The drawing of the *Europomatia laurina* may have been the work of Ferdinand Bauer who went with Brown on the expedition along the Hunter River March-April 1804. The naturalist and collector George Caley and Bauer had taken an earlier trip to the Hunter River in March-April 1804. The image is included in Appendix iii of Matthew Flinders, William Westall, and Robert Brown, *A Voyage to Terra Australis : Undertaken for the Purpose of Completing the Discovery of That Vast Country, and Prosecuted in the Years 1801, 1802, and 1803, in His Majesty's Ship the Investigator*, 2 vols. (London: G. and W. Nicol, 1814).

illustrated and sent back to London by Brown. The illustration made by Bauer brings descriptive text to life in a scientific drawing. This rainforest species and the botanical specimens that are held in London and the resulting drawing are most likely to have originated from the brush that was located upstream from Maitland, below Mt Anne. Early explorers noted the native plant *Europomatia laurina* as it formed a thick understory brush.³¹⁶ This rainforest species was found in the thick-forested cedar brushes that once inhabited the Hunter River Estuary at Phoenix Park and near Maitland, especially at Bolwarra. The suburb of Bolwarra was hence named after this once common shrub or small tree, which is currently no longer common to the Hunter River Estuary.

In the Bolwarra work (Plate 58) I contrast the old and the new, in a representation of lost elements of the environment, lost rainforest vegetation and consequential threatened riparian ecological communities and landscapes. I rendered a new drawing on archival paper that evolved from my hand-drawn sketches, pressed specimens and scans of the original archival natural history illustration. In creating this composition I have combined traditional techniques of hand-painted watercolour and pencil sketch that are juxtaposed with new media technologies of digital sketching with a computer stylus pen, botanical specimen scans and new formats of digital media manipulation.

I have drawn upon what is known and documented and I am informed by many components of empirical and objective knowledge as outlined in Chapter 4 of this exegesis; specifically the environmental history and the evidence outlined in chapter sections 4.4 Cedar and vegetation, 4.5 Objective research, 4.6 Ecology and 4.8 Vegetation mapping. Historic evidence and knowledge of the riparian landscape, as previously described in Chapter 3 in section 3.2 The Barrallier Plan and 3.3 Mount Anne and archival research, inform this work.

Interdisciplinary and practice-based research is currently encouraged at many Australian art schools and universities. For example, there was a relevant series of keynote lectures and symposia held in Melbourne for the Art Association of Australia and New Zealand (AAANZ) *Interdiscipline* 2013 conference.³¹⁷ PhD students presented papers outlining diverse approaches to artistic practice. Keynote lectures addressed current theories of multiplicity in contemporary art theory and practice, which help locate my work in the current contextual

³¹⁶ Belcher, "Beautiful Bolwarra." June 8, 2011.

³¹⁷ Art Association of Australia and New Zealand, "AAANZ Interdiscipline Conference 2013" (Panel discussion and presentation at the AAANZ Conference 2013, University of Melbourne, 8th December 2013).

frame of interdisciplinary research. The wider network of relational media that is linked to the contemporary art world is relevant to how I build ideas across disciplines.³¹⁸ The conference confirmed for me that a diverse spectrum of research topics, styles and methodologies are pertinent in the field of creative arts today and how the interconnections between art, science and philosophy might open out new fields of knowledge. The participants revealed a range of creative arts practices that were often open-ended and discursive, as creative art outcomes were not predetermined, but valued for being emergent in the way that fresh outcomes “emerge” from the creative process. I identify with this understanding of contemporary art that is described as being *emergent* as creative outcomes are embodied in generative creative processes and practices. The process of rowing and exploring the riparian landscape via field study experience exemplifies this idea whereby works of art and new perspectives emerge with the mixed sensations and percepts of being propelled by the rhythm of moving through the water and along the river as my art emerges from practical encounters.

I have found alignment with the theories of Deleuze that re-emerge in various debates, along with post-human concepts, new-materialism and diverse formats of interdisciplinary practice. Interdisciplinary practice includes relational and eco-aesthetical components along with textual and historic theories of art. For example Sarah Crowest is an artist/practitioner who works across disciplines of sculpture, video and installation to explore fundamental processes of art making and un-making. Crowest has elaborated on her use of less recognized methodologies and using *soft eyes* that is a form of relaxed, unfocused vision that allows for a wider scan of an entire scene. As previously mentioned, I have adopted this wider gaze technique to record visions of the river while rowing by using decentering, peripheral vision and watchfulness.³¹⁹

This conference was pivotal to my PhD research as it helped me locate my work in the current relational framework of contemporary art that shifts across media, disciplines and environments. Many wide ranging political, environmental and interdisciplinary media are examined within the

³¹⁸ Professor David Joselit discussed the issue “Where is Painting?” and the role of visual culture and screen based media in lectures presented at the AAANZ 2013 Conference. See <http://melbourneartclass.com/2014/01/30/where-is-painting-lecture-by-david-joselit-lecture-notes/> Paul Wood keynote lecture, explored how multiplicities and global inter-connections continue to shift the boundaries of Contemporary Art beyond Western models. These notions are further expounded in Paul Wood, *Western Art and the Wider World* (Oxford, UK: Wiley Blackwell, 2014)

³¹⁹ Art Association of Australia and New Zealand, “AAANZ Interdiscipline Conference 2013.” Sunday 8 December 2013 9 -11am Victorian College of the Arts, Melbourne. Panel A Second speaker Sarah Crowest – “Tumbling with soft eyes”. Crowest presented her research using tumbleweed, soft eyes and extra rapid thinking as methodologies. She acknowledges the Eastern philosophy of soft eyes used by Japanese Aikido to relax the muscles around the eyes to be receptive and perceive a wider field of vision.

field of creative art today and my current body of work need not be restrained by traditional boundaries of fine art, painting, photography or sculpture. I make use of multiple media platforms and disciplines in order to examine the research topic. The themes of discussion at workshops and conferences have given me confidence that my creative art practice fits within the porous boundaries of contemporary art as artists take up current issues of concern and integrate a wide range of processes and practices that might address such issues.

This enquiry and the creative processes that I use to build an understanding of the riparian landscape, is best described through the following case study.

5.3 Living Enquiry Case Study 2 – *Crinum* (*Crinum pedunculatum*.)



Plate 59 Julianne Tilse *Crinum in rocks* Pencil Sketch in visual diary 2012

My study of *Crinum pedunculatum* (river lily or swamp lily) exemplifies how my creative process is enmeshed with a creative exchange between empirical research and less known subjective experiences. In the study of this common lily, I explore the connections between diverse components of knowledge, as the art, science and philosophy of the plant inform my practice. In getting to know the *Crinum* I draw upon the evidence provided in earlier chapters that contribute to my understanding of the environmental history, colonial art and indigenous vegetation of the river. Archival natural history illustrations and empirical research (Chapter 3.6 *The Wallis Album*) establish that *Crinum pedunculatum* is known to have grown along the river for at least the past two hundred

years.³²⁰ Indigenous tribes used this plant for medicinal purposes and to make flax. Colonial artists have illustrated it in numerous excellent works of art and I have observed the growth cycle of this enduring plant species. The *Crinum* survives in the most adverse locations along the river, emerging from rocky man-made riverbanks as a vibrant example of resistance and regeneration. Plate 59 gives an example of my field study sketches. Plates 60 & 62 represent a brief selection of photographs that show, at water level, the unusual habitat and diversity of this enduring species.

I have sketched and painted the riverbank habitat surrounding *Crinum pedunculatum* on many occasions, however further research of this plant undertaken from 2011 to 2014, invigorates a much deeper appreciation of the significance of this common yet stoic native estuarine lily.



Plate 60 Julianne Tilse *Crinum pedunculatum* in flower (with hybrid willow in foreground.) Hunter River GPS: S32 43.323 E151 38.672. Photograph

³²⁰ James Wallis, *An Historical Account of the Colony of New South Wales and Its Dependent Settlements*. The artwork by Lycett and Wallis establish its existence c1818-21.



Plate 61 Julianne Tilse *Crinum pedunculatum* 2012
90 x 76cm Watercolour and Ink
on Arches 300gsm hot-pressed watercolour paper.

Plate 61 shows my painting titled *Crinum pedunculatum*, a detailed study of the plant and surrounding habitat. In this watercolour I wanted to capture the unusual structure of the lily hovering awkwardly on the edge of the riverbank. When viewed from where I sit at water level the lily appears to shoot out from the grey ballast rock that forms a harsh shoreline.



Plate 62 Julianne Tilse *Crinum pedunculatum* growing in willow tree roots. GPS S32 43.243 E151 38.181. Photograph

I became slightly obsessive in my recording of the life cycle and diverse habitat of this lily, as I repeatedly noticed how its bright stems emerge from dark rock crevices, from beneath rubbish piles and in between the strangling roots of introduced weeds or hybridized willow trees that often dominate the intertidal zone. I have admired the vitality of the tubular structure and have been inspired to capture the strange fortitude that this plant continues to exhibit, as it survives in the most adverse locations along the Hunter River Estuary. I began this water-colour work prior to discovery of the *Wallis Album* and had not seen Lycett's nineteenth century illustration of the same species.

The illustration displayed in Plate 63 of a *Crinum pedunculatum* was recently discovered when *The Wallis Album*, which was originally created in Newcastle c1817-18, was found to exist in the back of a cupboard in Canada in 2011 and has since been purchased by the NSW State Library.³²¹ This illustration was contained in the album of works by Joseph Lycett and James Wallis. Richard Neville, Mitchell Librarian at NSW State Library, makes the point,

³²¹ The *Wallis Album* is previously evaluated in Chapter 3.6. The artist is believed to be Joseph Lycett.

The Wallis Album really is without a doubt the most significant pictorial artifact to have been made in colonial NSW during the 1800s, and is also the only known collection that relates so directly to Wallis' time in NSW.³²²

There are many unknowns, such as where the plant was located and why either Lycett or Wallis chose to illustrate it and why Lycett was not originally acknowledged as the artist. However we do now know that the work originated from Newcastle while Wallis was stationed there as commandant and this artwork was found amongst other drawings completed by Lycett, illustrating important aspects of natural history along the Hunter River.³²³



Plate 63 *Album of original drawings by Captain James Wallis and Joseph Lycett, ca 1817-1818 bound with An Historical account of the Colony of New South Wales ..., published London, Rudolph Ackermann, 1821.*

Image courtesy of State Library of N.S.W

The *Crinum pedunculatum* must have been a notable or intriguing plant that existed when Wallis and Lycett explored the Hunter River region prior to 1817. Harriet Scott (1830-1907) was equally inspired to illustrate the *Crinum pedunculatum* and her vibrant illuminated composition provides an excellent representation of the plant's multiple stamens in flower.³²⁴ (Plate 64) Scott captures the life cycle of the lily and the interdependent species of moth now known as *Spodoptera picta noctuidae* or Lily Caterpillar.³²⁵

³²² Carol Duncan, "The Wallis Album Returns to Newcastle," (Newcastle NSW: 1233 ABC Newcastle, 2012).

³²³ The signature of Joseph Lycett has been found to be on the work originally attributed to Captain James Wallis. See Steve Meacham, "Library Bids Return Rare Pictorial Treasure," *The Sydney Morning Herald*, October 14, 2011. See my earlier evaluation of the Wallis Album in this exegesis - Chapter 3.6

³²⁴ Plate 54 in Harriet Scott et al., *Historical Drawings of Moths and Butterflies*, Ash Island Series (Roseville, N.S.W.: Craftsman House, 1988). p142 Originally drawn by Harriet Scott and published by A.W. Scott in London, 1864. Scott, Forde, and Olliff, *Australian Lepidoptera and Their Transformations*.

³²⁵ *Spodoptera picta noctuidae* or Lily Caterpillar is a moth of the Noctuidae family, described by Guérin-Meneville in 1838. Previously named as *Polio festiva* Donovan. The larvae live upon *Crinum pedunculatum* and feed by

Vanessa Finney, manager of Archives and Records at the Australian Museum, describes the illuminated colour plates by the Scott sisters, the Crinum work and the manner in which the landscapes of Conrad Martens are often used as background landscapes.³²⁶ As was the custom at that time Harriet and Helena Scott were not acknowledged as professional artists and hence their work was printed under the name of their father, Alexander Walter Scott (1800-1883).



Plate 64 Harriet Scott *Crinum (River lily)* 1840 -1860
Collection of The Australian Museum

boring into the leaves and bulb W. F. Ang, S Teo, and et al, "Late Instar Caterpillar and Metamorphosis of *Spodoptera Picta* Guerin-Meneville (Lepidoptera: Noctuidae: Noctuinae) with Notes on its Cannibalistic Behaviour," *Nature in Singapore* 3 (2010).

³²⁶ Vanessa Finney makes mention of the local landscape and how in this image of the *Crinum pedunculatum* Harriet Scott has incorporated a sketch of the river by Conrad Martens, who was a family friend of the Scotts and had visited Ash Island and Newcastle throughout 1841-1842. See Finney, "The Butterfly Effect Lives of the Scott Sisters." See also previous outline of artists at Ash Island as evaluated earlier in Chapter 3.8 of this paper.



Plate 65 Dorothy English Paty *Native Lilly* –Nov 29th 1833 – Newcastle
Three folded panels Watercolour in Album: 'Wild Flowers around Newcastle, New South Wales, 1833-1836.' National Library pic-vn362199.

This amateur tradition is again seen in the work of Dorothy English Paty, who also illustrated the River Lily. Paty signed her work and includes the inscription "Native Lilly-Nov.29th 1833 – Newcastle". Dorothy English Paty (1805-1836) was a natural history painter, resident in Newcastle, NSW, and an observer and recorder of plants native to the area. Her works are valued for botanical identification and aesthetic merit. The fact that Joseph Lycett, Harriet Scott and Dorothy English Paty each composed carefully rendered scientific illustrations of the same species of *Crinum pedunculatum* is most fortuitous, considering the age of each of the works of art and the historical context of each unique representation of the lily. Each artist must have had a very good understanding of plant anatomy and an affiliation with the riparian or wetland habitats of the species in order to render it accurately.

The collected work is quite exceptional as each artist must have found this plant noteworthy, considering that no other singular plant species was included in the portfolio of works by the three artists and there are few examples remaining that give such strong representation of a single indigenous botanical species. The crinum structure and anatomy illustrated by Lycett/Wallis (1817-18) Scott (1840-60) and Paty (1833) inform my illustration of this species, as details of the flowers, buds, shoots, leaves and stamens at different stages of the plant's life cycle are captured by all three artists. My original fascination with the riverside growth of the lily was further amplified with the discovery that Lycett, Scott and Paty each recorded this riparian plant in individually exquisite and collectively unique works of art.

I am interested in capturing the environment surrounding each *Crinum* plant and therefore include the diverse riparian habitat of each plant as I find them growing along the riverbanks of the Hunter River. I have documented my field study experiences in journals, sketches and photographs, as displayed in Plates 59, 66 & 67. The crinum is also recorded in the album of photo-media Appendix A – Riparian Life: a visual navigation, pages 10-13.



Plate 66 Julianne Tilse Riparian vegetation study: *Crinum pedunculatum*,

Hunter River, Duckenfield. 2013 Photograph

Image courtesy of the artist © Julianne Tilse



Plate 67 Julianne Tilse *Sketching: Hunter River* 2012. 45 x 65cm Oil on canvas.

Image courtesy of the artist © Julianne Tilse

My painting entitled *Sketching – Hunter River* (Plate 67) evolved in response to what I know and understand about the river, my encounters in the field and the many habitats, species and natural phenomena that often remain a mystery to humankind. My investigation of the *Crinum lily* exemplifies how, for me, art praxis includes components of visual, practical, theoretical, historic, environmental and botanical research. Thus creative processes include observations and perceptions combined with field study sketches, photo-media, visual diary notes and my recollections or tacit knowledge of environmental experiences that I encounter while rowing. Thus, I have developed a specific understanding of the riparian landscape that is situated within the context of a creative practitioner / researcher.

Similar to how colonial explorers first ventured upstream, my relationship with the river began with the physical activity of exploring the river in a boat and the experiences that followed with my practical engagement while being in and interacting with the river environment. The act of rowing and being physically engaged and doing something, triggered a desire to know more that led me to seek out information about the river through empirical research. Practical field and studio research is hence informed by theoretical knowledge and the creative process is interwoven in an ongoing fertile exchange between practical encounters and empirical theory.

5.4 Field Studies



Plate 68 Julianne Tilse Field study encounters while rowing - at the junction of the Hunter and Paterson River 2013. Photographic Image courtesy of the artist © Julianne Tilse

Something in the world forces us to think. This something is an object not of recognition but of a fundamental *encounter*.³²⁷

Having examined both the empirical knowledge pertaining to the riparian zones of the river and having acknowledged several theories that underpin my approaches to representing these zones visually, I return again to the notion of practice-based research by way of my field work.³²⁸ Throughout this project the process of investigation, documentation, observation and encountering the everyday nature of the river, is what I regard as Field Studies. The events, recordings and data of observation that I produce in the field and in a boat upon the river, are critical components of research and are the most informative and immediate method of data collection that informs my understanding of the river and is integral to my creative process. This data is collected in the form of photo-media imagery, video and sound recordings, pencil sketches, diary annotations, and observational multi-sensory or perceptive memoirs of less tangible sensations or feelings that emerge while being in the river. I often return to observe and record information at specific riparian locations and explore new intuitive and creative ways of recording and responding to the riparian landscape. Plate 68 shows the swirling undercurrent that is felt from my position at the junction of the Hunter and Paterson River, and the white triangular end of my rowing scull. The photo captures the filtered light and its effect on

³²⁷ Deleuze cited in O'Sullivan, *Art Encounters Deleuze and Guattari : Thought Beyond Representation*. 1.

³²⁸ Practice-based research as previously discussed in Chapter 1, p17

water. In the distance I am aware of the large willow tree on the right that has fallen into the river and collapsed the bank, in the continued cycle of erosion that I have watched unfold.

The philosophies put forward by both Deleuze and Heidegger become relevant to field studies as the practice of *being-in* the landscape is important and works of art emerge through multiple connections. Creative outcomes, for me, include the knowledge and understanding that emerges through field studies and this process of data collection provides the raw materials for my paintings and drawings.

The physical act of participating and interacting with the river and rowing along the estuary, collecting specimens and documenting them, are integral components of research practice and this process becomes performative; providing new and intuitive ways to view the river. At the same time my knowledge of the river is informed by interdisciplinary research and empirical knowledge of the riparian landscape. Through this exchange across theory and practice (thinking and doing) I build concepts and create works of art that are informed by multiple interconnections between known and unknown forces.

Whilst rowing and observing the river from a single scull, I am able to quietly drift with the tide, move along the edge of the river at the same pace as the river and passively observe the fascinating life that exists within the intertidal zone. This perspective of being within the riparian landscape, sitting on the water line and being in the river cannot be fully described or captured by photo or video. Hence the act of rowing becomes an integral, performative component of the work of art and the photos and videos of this act are used to convey something of the experience and feeling of being in the river and moving through the landscape.

My field studies include a considered exploration of the entire estuary and the unique perspectives I encounter while being situated in the river at water level. I have rowed along the Hunter River Estuary three to four days per week over the past ten years and observed the dynamic nature of the intertidal zone of the river. During this time I have recorded thousands of photographic images of the river. Five longer excursions were undertaken in a motorized boat (tinny) whereby I travelled the full length of the Hunter River Estuary (approx. 65km) and recorded river life using wide-angle video and photography.

From my home overlooking the river I observe and engage in the life of the river each day. I am well situated to record events, observe the relationships between diverse species of the river, the coming and going of flora and fauna and changes in water quality and flow. In this way the

processes of the river have become integral to my living enquiry as my life and art and tacit understanding of the river are interdependent yet independent.



Plate 69 Julianne Tilse Field studies photographic archive

Image courtesy of the artist © Julianne Tilse



Plate 70 Julianne Tilse Field studies photographic archive

Image courtesy of the artist © Julianne Tilse

My engagement with the environment is further enhanced by living beside the river, being attuned to daily and seasonal changes and having a unique interaction with the riparian environment through dealing with the everyday events and life along the river. Hence my knowledge and appreciation of this environment has developed with many unique everyday experiences. I have come to know riparian flora and fauna while walking along the riverbank and through my daily observations of the changing riparian landscape over a thirty-year period.

In the field I utilize a range of devices that assist me to record the riparian landscape and each situation may require a combination of the following recording tools or individual methods:

1. Observation and memory.
2. Pencil sketches and detail drawings on paper.
3. Acrylic or oil painted sketches on canvas pad or small boards (c 35 x 45 cm).
4. Photography using a Canon 60D EOS camera with EFS18-200mm zoom lens, a Panasonic Lumix underwater camera and a Sony waterproof panoramic camera.
5. Video using a GoPro waterproof video camera - held or mounted on my rowing boat or on a photography pole.
6. Collected specimens and river ephemera.

As a participant working within the river environment I have acquired knowledge of the river by simply being there and observing nature. Tacit or embedded knowledge might allow me to know the power and direction of the tide through surface water patterns or to identify vegetation types by the associated surrounding insect or bird life, colour, sounds or other relational perceptions that I have come to know from being in the river and moving along the estuary while rowing a boat through estuarine habitats.³²⁹

Less discernable sensations of the river are better understood through participatory and performative experiences that build ones aesthetic sensitivity. Thus unique sensations of the river are aligned with tacit or situational knowledge that comes with being in and taking care of an environment. I have recorded video footage and compiled an archive of video that documents my encounters using water-proof video cameras that are mounted on my boat or attached to an extended photography pole. This allows me to capture imagery of specific

³²⁹ I do not aim to enter the ongoing epistemological debates concerning knowledge, however 'tacit knowing' and 'personal knowledge' was introduced into philosophy by Michael Polanyi in 1958 Michael Polanyi, *Personal Knowledge : Towards a Post-Critical Philosophy* (London: Routledge & Kegan Paul, 1958). and *The Tacit Dimension* (London,: Routledge & K. Paul, 1967).

habitats and make video still photographs. The video also acts as a documentary of my encounters and is used as a technological tool, as the video is a material that I manipulate throughout my practice. The imagery created helps me capture the multi-dimensional sensations of rowing through the river. The philosophies of *being-in* put forward by Heidegger support this idea that individual experience and dealings in the world become the material of artists and understanding is enlivened through practical involvement.³³⁰

In sensory experience, there unfolds both the becoming of the subject and the happening of the world. I become insofar as something happens, and something happens (for me) only insofar as I become. The Now of sensing belongs neither to objectivity not to subjectivity alone, but necessarily to both together. In sensing, both self and world unfold simultaneously for the sensing subject; the sensing being experiences himself and the world, himself in the world, himself with the world. ³³¹ (Straus 351)

Following Straus, I find innovation is driven by sensations that are experienced when something happens and with the encounters in practice, in the field and in the river.



Plate 71 Julianne Tilse Field Study: video still from 'GoPro' video camera and underwater video of a unique encounter with a king tide and the fallen River Redgum that has been the subject of my paintings. Video Still
Image courtesy of the artist © Julianne Tilse

³³⁰ Heidegger's 'understanding' is discussed by Bolt, *Heidegger Reframed : Interpreting Key Thinkers for the Arts*. 22-28. In this instance Bolt gives an example of a work of art by Sophie Calle.

³³¹ Straus cited by Grosz, *Chaos, Territory, Art : Deleuze and the Framing of the Earth*. 8.



Plate 72 My Studio

5.5 Studio Research

This research project is located within the field of creative art, and hence the creative works of art are a vital component of research that embodies new knowledge. The resulting works of art embody new praxical knowledge that begins to unfold in the studio and the studio is where I experiment and test the materials of art.

An exhibition of final works of art will include

1. A series of works on paper.
2. A series of paintings on linen and board.
3. Installation / video.
4. A photo-media book and prints.

This range of media is selected to encapsulate the essence of this project and to integrate the components of studio research that contribute to a deeper understanding of the riparian landscape; knowledge gained through handling materials and practice-based research. The studio is where creative outcomes emerge from my connection to the river and encounters of being in the riparian environment.

My studio is situated on the picturesque riverbank escarpment of Mt Anne, overlooking the Hunter River, with a view down the floodplain of the lower Hunter Valley. This studio contains a wide range of most valued tools and equipment; such as drawing boards, pencils and brushes, charcoal, paints, beeswax and encaustic equipment, oils, easels, sanding and framing materials, fine art and illustration papers, drawing folios and chests of drawers holding works on paper, sketches, graphic media, bookcases, books and journals, microscope, specimens, collected ephemera, sound equipment, a sink and music.

I consistently test new materials in the studio and experiment with recipes for paint and alternative media. The following plates (Plates 73 & 74) provide images from my visual diary that show paint colour, canvas and linen sample tests undertaken to select the most appropriate weave, thickness and texture of canvas to paint on. Canvas, linen types and roll width are also factors that I consider prior to selection of the best canvas to be used on



Plate 74 Images show 1. (left) linen sample and paint tests on canvas/linen samples to determine the appropriate surface texture and quality of weave. 2. Linen (right) with clear gesso was tested for colour handling. The luminosity of each colour on raw linen and rabbit skin glue is tested.

Plate 73 shows a paint colour test chart that was used to test paint colours and brand variation in colour, with the aim to match the colours of specific riparian vegetation types. This test was carried out alongside collected vegetation species (weeds and willows) that held a specific colour. Each painting often required a similar test for colour, paint hues, colour mixes and textures.

The knowledge gained through handling materials and undertaking experiments with media is considered an important and valid form of research. As outlined in the first chapter, I am informed by contemporary studies of art praxis, practice-as-research and the interchange between practical studio research and theoretical or textual research is integral to my creative process. This form of praxical knowledge informs my understanding of the riparian landscape as I become more attuned to the subtleties of the colours and textures of riparian vegetation through practical handling and experimenting with colour palettes and studio materials. Evaluating specific qualities of different types and brands of paint or the texture and weave of linen or canvas is relative to the composition and elements such as the surface texture of botanical species that are represented. This knowledge of materials and media is an important

component of praxical research that enables me to better capture, or simply suggest, a specific quality (colour, texture or light) of the riparian landscape.

In my studio I experiment with egg tempera recipes and grind dry pigments with fresh egg yolk to make my own tempera paint. This is used to create the first compositional tonal layers of larger oil paintings on linen. The fresh egg yolk is separated from the white and placed onto paper towel. I have a specific technique of folding the towel around the egg yolk and piercing the yolk so that the internal contents of the yolk flows into a glass container while the skin of the yolk is held back on the paper towel.

I grind my own dry pigments that I have collected over many years from various natural resources that include elements gathered from plants, shells, resins of trees, soils or rock particles. Some pigment colours, such as ultramarine blue and titanium white, have been purchased. The tempera is mixed slowly as I fold small amounts of finely ground dry pigment into the egg yolk and mix to a smooth consistent paste. I usually add a few drops of disinfectant (Dettol) to ensure the paint does not grow mouldy. Tempera must be kept cool while not in use and I often store egg tempera paint on ice while working with it in my studio, as the paint will begin to smell and spoil if left un-refrigerated for more than one day.

I have refined the process that I use to stretch good quality raw Belgium linen over stretcher boards. These stretched linen boards are used to support oil paintings. A carefully proportioned mixture of warm rabbit skin glue ground is applied to tighten the linen weave so that it is suitable for drawing onto with carbon pencil and charcoal. Linen also provides a beautifully uniform weave that gives a tactile yet balanced quality to oil paintings and this surface texture resonates with the surface qualities of the river water. Belgium linen weave and rabbit skin glue surface qualities help me illuminate and express some of the deeper reflections that are enmeshed in the drawing and painting layering process and multiple studio techniques that I utilize to help me to capture some of the essence, colour and sensations of the river.

The application of numerous layers of the ground is interspersed with highlights that I apply with egg tempera paint. This use of traditional tempera under-painting and rabbit skin glue layering is a method that I have refined in my studio over many years and builds the foundational tonal composition for further oil glazes that are later applied in timely layers. Each layer must dry for a week or so prior to the next and hence the process requires time, patience and an insect /dust free studio.

The experimentation with recipes for grounds, mediums and oil paint glazes are examples of praxical knowledge that, as expounded in the philosophies of Martin Heidegger, emerges with the handling of materials. I have experimented with mixtures of walnut oil, melted beeswax and damar resin extracts and mediums that are applied in thin glazes to add to the luminosity of the under-painting. Each glaze is adjusted to add warm or cool accents and transparent pigment colours are added to glazes to achieve depth and colour hues that are specific to each individual composition. The temperature and humidity of the studio are factors that I consider when selecting canvas or mixing paints and mediums to apply to drawings and paintings.

The studio is where I examine ideas and experiment with materials that might best capture the essence of field study experiences. Thus riparian encounters are enacted through multiple studio practices. Selecting appropriate media and materials is a vital component of the evolving creative process whereby materials are selected, manipulated and incorporated into conceptual ideas for paintings and drawings. This praxical research and handling of materials in the studio is important to the process of enlivening a visual awareness of the river.

Chapter 6 Outcomes of Being

Art proceeds on the assumption that we can never know the outcome in advance and that knowledge is emergent rather (than) prescribed ³³²

In this chapter I provide examples of the creative outcomes and works of art that emerge through my connection with the river and encounters while being in the river. I give an account of the practice-led research that is entwined with interdisciplinary practice and the outcomes of an innovative creative exchange between field experiences, studio research and theoretical study. I look briefly at how other artists have explored the connections between landscape and environment and revisit the contemporary context that frames my creative art practice.

6.1 Creative Exchange: Becoming

Like Martin Heidegger I believe that art and philosophy produce movement in thought. This movement arises from our being in the world; our handling and how we act in the world through relationships with other human and non-human beings. Heidegger's *being-in* and *being-there* means that we must begin with our everyday experience in the world. However Heidegger distinguishes between the social cultural world of *being* and *Being* itself, which is more concerned with the ontology of the Being. In this regard the everyday is not related to social context but rather through our essence, in happenings and unfolding or *un-concealment*. In "The Origin of the Work of Art," Heidegger elaborates how the essence of art is in the essence of our Being and not in the art world context or through social structures of art objects.³³³ Heidegger believed art plays a privileged role in the un-concealing of being and was able to reveal an entity's essence of truth through its dealings in the world. In this regard, I unfold my dealings in the world through the ontology of Being in synthesis with practical encounters of being in the river. I find this philosophical approach brings authentic and original ways to think about and perceive the river through an embodiment of these concepts in creative art outcomes. In an evaluation of Heidegger, Hubert L Dreyfus and Mark A Wrathall make the following statement;

³³² Bolt, *Heidegger Reframed : Interpreting Key Thinkers for the Arts.*:150.

³³³ Wrathall, *How to Read Heidegger. and Heidegger and Unconcealment : Truth, Language, and History.* 71-75.

Works of art can show us a new way of understanding what is important, central and marginal, demanding of our attention and concern...the work of art is something to which we can be drawn, and in being drawn to it, our sensibilities can be shaped. As we become attuned to the sense of the world embodied in a work of art, our ways of being disposed for everything else in the world can change also.³³⁴

I experience a deeper engagement that comes with my *being-in* the landscape. This engagement builds new responses and connections with the indefinite and less tangible elements of the riparian landscape such as perceptible sounds, smell, touch and multiple sensations of pleasure, fear, confusion, harmony and diverse affective movements that are felt with practical experience. This exchange between objective and subjective percepts and affects is imbedded in my creative practice as responsive works of art emerge from the cross pollination of theoretical and practical components of research.



Plate 75 Julianne Tilse *Being-in* 24.12.2011 6.41am . Photograph.

Image courtesy of the artist © Julianne Tilse

As I have outlined in the first chapter, multi-faceted topics find an orientation with the organic structure of Deleuzian rhizomatic thought and ideas of becoming. This is not a theory or metaphor but is simply a way of thinking. This transversal approach allows simultaneous

³³⁴ Hubert L. Dreyfus and Mark A. Wrathall, *Heidegger Reexamined* (New York: Routledge, 2002). pxii

thinking across subjective and objective realms and across multiple disciplinary boundaries. This form of inclusive creative exchange is most appropriate, with no one concept or element having domination over another. In this manner my studio practice and paintings progress with the accumulation of diverse connections between what is known and what is un-known. These components of research are simultaneously progressive and promote new knowledge through a creative praxis that encourages growth and becoming in this creative exchange between known and unknown forces.

Using Deleuze's concept of the rhizome, a network of relationships, connections, objects, subjects, events and encounters are given egalitarian existence within a progressive system of expansive thought processes.³³⁵ There is a networking of inter-relationships within this trans-disciplinary eco-philosophical project and hence a dynamic orientation of concepts is most effective. A rhizomatic organization of diverse components accommodates future expansive ideas and experimental zones of transition across disciplines.

The rhizome, when seen as an interlinking system of relational forces, gives orientation to the multiple issues that inform my work and that influence the riparian landscape, such as the physical geography, morphological shifting of the stream over time, river bank erosion and native vegetation loss, ecological bio-diversity and water quality, macro-environments and micro-organisms that inhabit the inter-tidal zone, human interruptions to natural environments, pollution, industrial and cultural forces. Equally important to my subjective knowledge of the river is my immersion within the environment, events and experiences, rowing through mysterious mangrove marshes or the eerie sensation of being enclosed by whiteouts of thick fog and other encounters that transport my senses toward tacit and unexplainable spaces or voids.

At these points of departure I experience a new or transformative sensation, vision or thought process that is similar to Deleuze's concept of 'becoming'; where 'lines of flight are created at the edge of rhizomatic formation'.³³⁶ Deleuze's idea of 'becoming the virtual' opens a gateway to more enlightening growth of thoughts and processes. This is simply a mode of thought that is flexible and does not dominate other concepts. An enthusiasm for deeper understanding has

³³⁵ Deleuze and rhizomatic growth and relationships in Deleuze and Guattari, *A Thousand Plateaus : Capitalism and Schizophrenia*. Also described by E. A. Grosz, *Chaos, Territory, Art : Deleuze and the Framing of the Earth*, The Wellek Library Lectures in Critical Theory (New York: Columbia University Press, 2008).

³³⁶ Sutton and Martin-Jones, *Deleuze Reframed : Interpreting Key Thinkers for the Arts*. p6 and in Chapter 4 "Becoming Art". 65-81.

driven me to persevere with the intensity of Deleuze's divergent notions of 'forming, inventing and fabricating concepts'. Damian Sutton makes the point that 'art exists to reveal and give shape to the problems and concepts with which philosophy grapples.'³³⁷ I agree with this statement as my practice encourages debate to raise awareness of issues through passive, yet thought provoking renderings that are imbued with layers of iconography and interpretation; painting and drawings that evoke the threatened environments or dynamic aspects of the river as outlined in case study examples. I do more than illustrate the river and I would hope that the works of art I create are contemplative, invoke multiple interpretations and raise questions. These questions might be about specific habitats that I have included, types of species referenced in the works, the dynamic nature of the riparian landscape, the influence of human beings and inter-relational concepts of the Anthropocene that are associated with environmental humanities. Indeed if this is the case I will have achieved an important goal.

An understanding of the philosophical processes of Deleuze are relevant because they embrace multiplicity and engender creative production, as rhizomatic thinking encourages endless growth of both thought and artistic practice that is uninhibited by boundaries of categorization. Change and interchange develops potential points of renewal and innovation as exchange of ideas progresses into a constant 'coming-into-being' or 'becoming'.³³⁸ In effect this is where my artwork reaches beyond objectivity to embrace multiple aspects of the subjective unknown and further interrelationships between the thinking body of an artist, the living environment and the creative art produced.

Relational concepts are echoed throughout the river project in the way that disparate components of information are placed alongside each other as discursive aspects of river research have connections across disciplines. Subjective encounters intersect with objective and empirical research and theoretical and praxical knowledge is interchanged, embodied and expressed through the production of creative artwork. I am instinctively drawn to this inclusive multi layered approach to the multiple sensations and responses that emanate from riparian life.

This research and the articulation of creative outcomes is aligned with the research of artist/scholar Liza McCosh, who makes the point,

³³⁷ Ibid., 65.

³³⁸ Ronald Bogue, *Deleuze on Music, Painting, and the Arts*, Deleuze and the Arts (New York ; London: Routledge, 2003).; Simone Bignall and Paul Patton, *Deleuze and the Postcolonial*, (Edinburgh: Edinburgh University Press., 2010), <http://newcastle.ebilib.com/patron/FullRecord.aspx?p=564500> (accessed May 27, 2014).

awareness of nature and place is heightened through the materials and creative process of painting. The paintings become mediatory objects inscribed with the interactive relationship between artist and world; a co-emergence manifested in a new form via the materials of creative production.³³⁹

6.2: Outcome Example 1 - Mt Anne : Kiah-Yarra

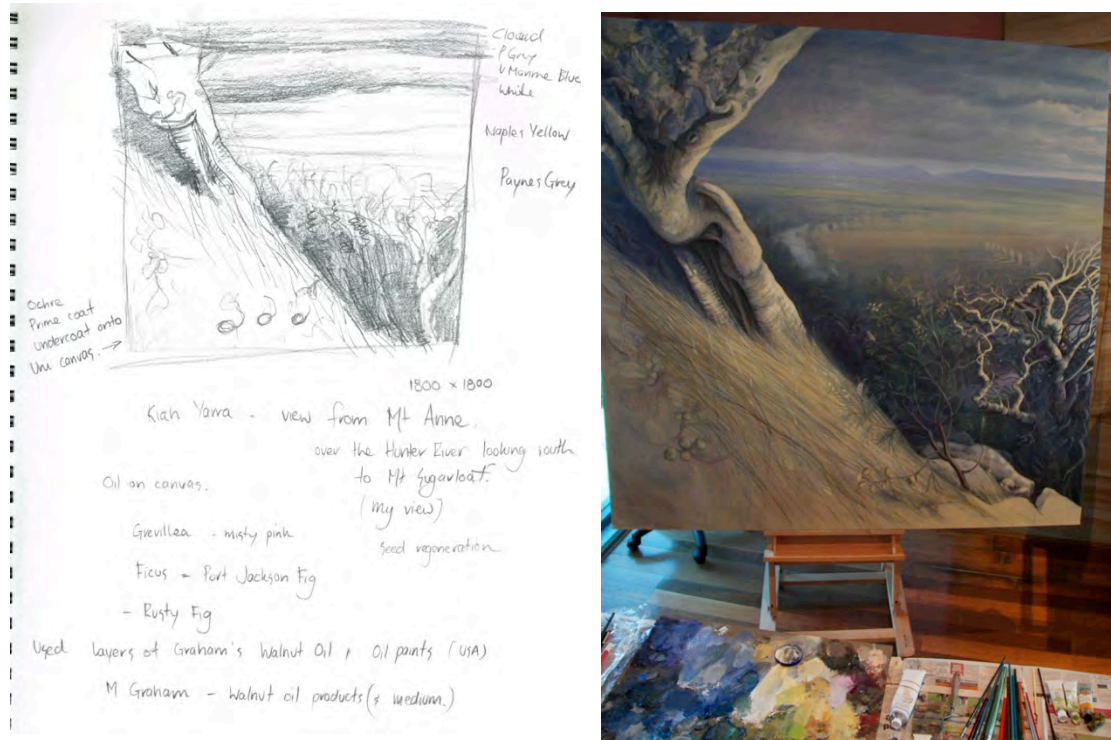


Plate 76 Sketch book and work in progress — *Mt Anne, Kiah-Yarra* painting 2012.

Image courtesy of the artist © Julianne Tilse

The painting titled *Mt Anne, Kiah-Yarra* began as an idea and a vision which I sketched out into my journal, as shown in Plate 76. I then sat on the cliff-side at Mt Anne and re sketched this idea a number of times; using graphite, charcoal and pastels. I completed a smaller acrylic sketch from life using acrylic paint, as I have outlined in *Encounter 3*, Plate 14. Through sketching, drawing and painting I resolve ideas and turn concepts into imagery.

³³⁹ Liza McCosh, "The Sublime: Process and Mediation," in *Carnal Knowledge: Towards a New Materialism through the Arts*, ed. E Barret and B Bolt (London: I.B. Tauris, 2013):135.



Plate 77 Julianne Tilse *Mt Anne, Kiah-Yarra* 2014. 150cm x 150cm. Oil on canvas

Image courtesy of the artist © Julianne Tilse

The larger 1.5m square painting on canvas on board (Plate 77) evolved from the smaller acrylic sketch. In this larger painting I progressed ideas of sustainability and include details of native vegetation and the botanical details of the Native Rusty Fig, also known as Port Jackson Fig (*Ficus rubiginosa*). This particular tree is over 200 years old. I include references to the regenerative life cycle and regrowth of native species in the sketched pencil and charcoal under-drawings and illustrated details of fruit and seeds that emerge with summer rains. (Plate 79) This old tree has been swept over by westerly winds and yet remains stoutly standing upon Mt Anne as an icon of natural endurance, supporting multiple co-inhabitants, species of insects, birds, mosses, fungi, micro bats and flying foxes.

This tree would have been standing on Mt Anne when Barrallier, Capt. James Grant and Col Paterson climbed to the top of Mt Anne and documented their accounts of the landscape in 1801. (As described in Chapter 3.3 and in smaller oil sketch shown in Plate 14) This painting evolved with my contemplation of the view from Mt Anne that is informed by the history of this riverbank and knowledge of the indigenous plants that have survived here. I envisioned who else may have stood at this very location and observed the fig tree, the river and perhaps found their orientation to Mt Sugarloaf to the south. I wondered if indigenous tribes had used the bark of the large river red gum and forest trees to make canoes in the river below and how many cedar trees were removed from this section of the river.

The large final painting of Mt Anne was completed *en-plein-air* where I was immersed in the location and able to emulate some of the natural patterns and colours of nature, the textured surface of the gnarled Rusty Fig, wisps of Kangaroo grass as well as the fruit and seeds of the native species. I have planted a Grevillea bush that, to me, is representative of new life and a new kind of regeneration that comes through seeds. The fig seeds are endemic whilst the Grevillea are introduced to this location. Plate 78-79, show details of the under-drawing of these botanical species that are revealed with one's closer engagement with the work.

When viewed from a distance this large-scale painting permeates a strong sense of the Australian landscape and the riparian habitat of Mt Anne in summer. The sensation of being there and looking through the landscape is heightened with the botanical details of the foreground and the compositional devices used to take the eye of the viewer on a tour through the picture frame to become immersed in the new space and multiple sensations of the painting. The composition is warm and alluring with interwoven layers of drawing and textures of the native grasses that catch the sunlight and engage the eye to travel through the vegetation and become engaged in the vista that opens out in the space and perspective of the distant river valley. The eye travels through the rustic entanglements of branches and down to the unknown shadows of the underlying riverbank that is painted in cooler oil colour layers and finer brushstrokes that capture the light and shade of the riverbank foliage.

The large painting of Mt Anne requires no translation and each viewer brings a new interpretation that might exhume a new perception of this landscape, which has not previously been revealed to them. 'Kiah-Yarra' has been the name of my residing property for three decades and is this place is my home. The property name originally derived from the aboriginal words Kiah - *beautiful place on a hill* and Yarra - *the river*.



Plate 78 Julianne Tilse Detail 1 from *Mt Anne, Kiah-Yarra*
2014. Oil on canvas.

Image courtesy of the artist © Julianne Tilse



Plate 79 Julianne Tilse Detail 2 from *Mt Anne, Kiah-Yarra*
2014. Oil on canvas.
Image courtesy of the artist © Julianne Tilse

The outcomes of my research are multi-layered and are able to transcend the original process and meanings that I posit. For me the paintings permeate a sense of each framed section of the environment and I hope to transmit my synthesis of these multiple sensations and encounters through works of art that are engaging and contemplative.

I find I am able to infuse each painting with a distinctive original and previously unknown aspect of the riparian landscape that I have come to know through my being and being-in the river. The final works of art I find most successful, are those that provide a resounding sensation of the original encounter, which I had while being in the river. The following example is used to explain the outcomes that emerge with my connection to the river and encounter of being in the riparian landscape.

6.3 Outcome Example 2 - Pitnacree Willow

Prior to sunrise one winter morning, I rowed to a location on the Hunter River almost mid-way between Morpeth and Maitland, on a stretch of river that was once dominated by thick forest.³⁴⁰ I located a special shaded under-bank that contained a pocket of native plants and has provided a canopy to thicker greenery below. Here I became immersed in a small micro-habitat of diverse wildlife and vegetation amongst a variety of *Casuarina glauca* (swamp oak), *Melaleuca quinquinervia* (paperbark), *Crinum pedunculatum* (river lily or swamp lily), some older *Salix spp.* (willow), one isolated clump of *Phragmites australis* (common reed) and encroaching introduced weeds. Further upstream sections of cleared grassland and eroded exposed sandy sediments fall into the stream as the riverbank continues to erode and the river geomorphology progressively widens. I have observed dynamic changes occurring alongside this section of river and the extensive upgrade to roads, traffic and river access points. This stretch of river is one that I have illustrated and studied for many years and have also photographed and recorded. Photo imagery is included in the album of photo-media that accompanies this research project and exhibition. (Appendix A: Riparian Life, Pages 16,17,21).

³⁴⁰ As outlined in Chapter 4 of this exegesis: section 4.4 Cedar and vegetation loss.



Plate 80 Julianne Tilse *Pitnacree Willow (Salix spp.)* 2013. 90 x 120cm. Oil on Canvas on board
Image courtesy of the artist © Julianne Tilse

From the water I observed the labyrinth-like growth patterns and spreading branches of dominating willow trees. The hybrid nature of the willow allows them to adapt and rapidly regenerate. The unusual shapes and methods of survival of these trees are intriguing, with so many hybridized forms of willow infesting the river with massed entanglements of side-shoots, which have become a menace to native vegetation and that dominate the riverbank.³⁴¹ I took time to observe and contemplate the riverbank habitat and the surreal effect of the dawn sunlight streaming through overhanging entanglements of vegetation. The resonating aura of the experience is not captured in words, however the image of a passing moment of shifting and reflecting effects of light on rocks and vivid *Crinum pedunculatum* foliage prompted me to plan a painting based upon this experience.

³⁴¹ Kyle et al., "Growth and Survival of Riparian Plantings in Relation to Weeping Willow Canopy in the Upper Hunter River."

The oil painting titled *Pitnacree Willow (Crinum & Salix spp.)* (Plate 80) illuminates my response to this encounter. In my studio I created a visual response using oil paint on canvas, building the underpainting from the sketches and drawings I had made. I began with a strong composition and the base layer drawing was initially laid down in charcoal and then sepia graphite onto the canvas. Egg tempera was mixed and applied as a tonal underpainting. This egg and oil layer forms a dry tonal base that resonates through the outer glazed layers. The tempera and early layers of drawing created a distinctive *pentimento* effect in the background layer that allowed me to redraw and continue to build layers of drawing and tempera.³⁴² This painting was built up slowly using traditional techniques of thinly applied layers of oil paint. Each layer must dry completely for a few days prior to application of the next new drawing. Following layers were continually worked over with thin detailed brush strokes and then painted walnut oil and spike lavender glazes added to enhance the warmth and depth of the oil colour. Glazed layers engage the viewer in reflected sensations of the river water and capture the unique aspect of the view from the level of the tide. Filtered early morning sunrise is expressed through rays of titanium white light that illuminate this pocket of the intertidal zone.

A new encounter with the environment was re-enacted through the studio process, as the mute tones of the environment emerged with the purity of the paint pigments, applied in combination and exchange with tacit knowledge and recollections of my encounter within the natural environment. This technique is repeated in many later paintings that illuminate new visions of the river that reflect upon my encounters whilst being in the landscape. The dynamic nature of the habitat is encapsulated in the purity of painted glazes and I have left raw canvas areas of white that reveal the luminosity of the early morning sun. The work breathes with the texture of white canvas and egg tempera underpainting that helps to capture the shape and character of the elongated willow branches that reach out over the river.

The painting reveals the shapes and reflections of the river habitat and the original aura of early morning light that I recall from being there. I aspired to enliven a unique view of the riverbank within the misty pallid monotones of the vegetation and the overall purity of white washed light. I feel that the final painting is inculcated with my original encounter. In this way the dynamic nature of the river is given new light.

³⁴² The *pentimento* effect refers to the visible trace of the under painting and drawing that is beneath the outer layers. I have used this word, as sourced from dictionaries, to describe the layers of drawing and traces of underpainting that I work with in my drawings and paintings. One of my early student art exhibitions at Watt Space in Newcastle was titled *Pentimento* and I have continued to use this term and technique since that time.

6.4 Outcome Example 3 - *Riparian Life: a visual navigation*



I have composed a printed book of photo-media images that provides a photo-media archive and record of my encounters in a visual navigation along the course of the Hunter River Estuary. The book begins from Mt Anne at the head of the estuary, the upper limit of the tide, and the photographs provide an account of the estuary moving downstream through Maitland, Raymond Terrace, Kooragang Island and through to Newcastle Harbour, where the river meets the sea near Nobbys Headland. Each image is tagged with the GPS coordinates of the location and the album provides a documentation of riparian life as it exists in recent years (Appendix A – navy album titled *Riparian Life*).

The photography was mostly undertaken from my perspective while in a boat and the album represents a condensed archive of life along the river. The album also acts as a documentary recording of my encounters of being in the landscape and the journeys I take along the estuary.³⁴³ Often the photos include traces of my being there as I leave small indicators in photographs, such as a magenta oar blade, the tip of a rowing scull, a slight disturbance in the

³⁴³ I have included a small number of photographs taken from the air that were captured while flying over the river in an ultralight aircraft.

water surface or a reflected shadow; this serves to locate me within a specific riparian environment. In this way I use photography as a means to capture multiple environmental encounters and to record aspects of the creative process that is initiated through practical experiences of moving through the riparian landscape.

I consider the album *Riparian Life* as a resource that is quintessentially connected with the participatory and practical aspects of art practice; the handling of materials. The album provides an empirical form of documentary archive of the river as I find it, in its raw state of being. However the album is also imbued with my subjective engagement and experiences of being in the river, the percepts and affects of a navigation of the Hunter River Estuary. This synthesis of physical and metaphysical and known and unknown, resonates throughout the album of photo-media *Riparian Life: a visual navigation* (Appendix A) and throughout this project.

6.5 Contemporary Art: an expanded field

This project is aligned with the expanded field of contemporary art that is open and inclusive of a diverse range of media.³⁴⁴ Throughout this paper I have made reference to the relational aspects of interdisciplinary art praxis and how I find allegiance with contemporary artist practitioners who integrate theory and practice and question the need for categorization of art objects. As previously outlined, the theories of Irit Rogoff resonate with how my work is located within the current cultural context of art practice. Rogoff's being 'without' initiates discussion around the process of art practice, rather than objects of art and their location in a predetermined genre. Contemporary artists, researchers, painters and practitioners such as Stephanie Springgay put this into practice through concepts of A/r/tography, while Barbara Bolt expands upon practice as research, praxical knowledge through handling materials, material thinking and more recent concepts of new-materialism.³⁴⁵ Each of these thinkers is a practising contemporary artist emphasizing new formats of interdisciplinary art practice that give prominence to practice and process, rather than the genre or the contextualization or objectification of final art objects.

³⁴⁴ There has been much debate about the multiple media formats and discursive attributes of art that extend the boundaries of art practice. The expanded field of contemporary art was originally evaluated by Rosalind Krauss, "Sculpture in the Expanded Field" *October* 8, no. Spring 1979 (1979).

³⁴⁵ Barbara Bolt, "The Magic Is in Handling," in *Practice as Research: Approaches to Creative Arts Enquiry*, ed. E. Barret and Barbara Bolt (London, New York: I.B. Tauris, 2010).

I find the interplay between objective knowledge and situated knowledge is an area that generates a new approach that does not conform to disciplinary doctrines or contextual frameworks for traditional evaluation of fine art. I am inspired and informed by multiple contemporary concepts and artists and hence I will briefly look at a range of artists whose creative practice has a bearing upon my creative process and artists who have sought to respond to natural landscapes or elements of the environment with which I find a connection.

I continue to follow the progress of many contemporary Australian artists whose work I find inspirational. This includes Australian artists Fiona Hall, William Robinson, Bea Maddock, Danie Mellor, John Wolseley, Margaret Woodwood, Rew Hanks, Alexander McKenzie and international artists Walton Ford, Richard Long, Hamish Fulton, Mark Dion, Andy Goldworthy, Lucy and Jorge Orta and Swedish artist Henrik Hakansson. I continue to draw components of information from the wider spectrum of contemporary art and artists to take on board specific concepts or techniques that inform my practice.

Lucy and Jorge Orta work with the media of drawing, sculpture, installation, fashion, photography and performance, as the couple are inspired by issues of sustainability. I am encouraged by their use of multiple media that come together in response to experiences on expeditions to significant environments, such as the Amazon.

Patricia Piccinini and Fiona Foley are Australian contemporary artists who deal with issues of nature and the complex relationships between culture and nature. Both express concerns for the environment in works of art that incorporate three dimensional installation, painting, drawing and multi-media formats that are highly diverse depending upon the concept of each work. Foley began working with photography while Piccinini initially began with drawing and painting. In a recent exhibition and interview Piccinini discussed the emphasis she places on making a 'connection' with the audience and her emphasis upon 'empathy'.

Piccinini makes the comment; 'I am inspired by the implications of the science that shows how closely related all earth life is...Connection and empathy are at the heart of my practice'³⁴⁶ I am informed by the multi-dimensional works of Piccinini that are initially alluring, yet have a deeper connection to human and post-human concepts and contemporary debates about the future directions of scientific research.

³⁴⁶ Exhibition text by Patricia Piccinini Newcastle Art Gallery, "Exhibitions - Like Us: Patricia Piccinini 29 November 2014 - 22 February 2015," NCC, http://www.nag.org.au/exhibitions/present/artist/like_us_patricia_piccinini.

I have attended video art workshops at the Museum of Contemporary Art (MCA) Sydney, that were presented by the contemporary Australian video artist, Todd McMillan, who described his use of 8mm film to record the sea and the flight patterns of an albatross.³⁴⁷ McMillan explained how video art today may be thought to be highly technological, however he prefers to use a very basic video camera, or video footage taken on a mobile phone, that gives a grounded and realistic appeal. Video artists today continue to explore the everyday experiences and the quotidian appeal of non-professional video and live amateur footage that is more intuitive, immediate and appealing.

McMillan's video art and the processes learned at the MCA workshop inspired the way in which I document the river using an underwater wide-angle video camera attached to my boat. Similar to McMillan's videos of quotidian scenes, I have recorded the life along the river in a simple video journey. I have manipulated the video to create an edited video loop that simply captures the sensations of rowing and moving through the estuary, in a journey along the river from the unique perspective of being just on, and sometimes under, the waterline.

The poet William Wordsworth composed most of his poetry while walking through the landscapes of The Lake District. Contemporary British artist, Hamish Fulton (1946 -) considers his walks to be his art. His direct physical engagement with the landscape is central to his work. When walking Fulton photographs moments in time however he contests that the photograph is not the work of art, as the art is in the act of walking and photography provides a tool to recall his walks. Although I am not claiming that the act of rowing is the art-form, I do include it as a component of my art praxis that contributes to new knowledge of the river. Similarly the album of photo-media acts as both a documentary and an artwork that records and describes my journey through the Hunter River Estuary.

³⁴⁷ Digital Studio and exhibition of video art in the Primavera exhibition, November 2012 Museum of Contemporary Art, Sydney.

...as I cast my eyes
I see what was, and is, and will abide:
Still glides the stream and shall forever glide;
The Form remains, the Function never dies:
While we, the brave, the mighty and the wise,
We men, who in our morn of youth defied
The elements, must vanish.

William Wordsworth 'After-Thought'³⁴⁸



Plate 81 W C Piguenit *The Flood in the Darling* 1890. 122.5 x 199.3cm Oil on canvas
Image courtesy of the Art Gallery of N.S.W.

In *The Flood in the Darling* 1890 W.C Piguenit (1836-1914) captures the symphonic celebration of nature that he experienced after a large and devastating flood that inundated the outback near Bourke NSW in 1890. (Plate 81) Piguenit focuses upon the vast expanse of water and reflected cloudy skies that reach toward the viewer in this riparian landscape of the Darling River. The calm scene evokes the irony of the tranquility of a rejuvenated riparian environment after one of the most devastating floods in history. I am drawn to the glimmer of iridescent white

³⁴⁸ William Wordsworth, „Afterthought“ was written in a series of sonnets between 1806 to 1820, as he followed the river Duddon from its source to the sea.

on the distant horizon and how Piquenit, through the medium of paint on canvas, manages to capture how flood brings recovery, regeneration and hope to natural wetland habitats.

This painting and group of trees in the distance reminds me of the remnant pockets of river red gum (*Eucalyptus camaldulensis*) trees that I have seen die out along the Hunter River because they have not enjoyed the required revitalization of fresh flood waters.³⁴⁹ Piquenit's use of warm and cool colour and reflected light techniques add to the sensation of being within this vast riparian landscape and I have been inspired to use sensitive application of oil paint that captures colour and light and accentuates the reflective quality of water.

The size and colour of paintings by Phillip Wolfhagen are inspirational. I admire the skills that Wolfhagen employs in order to arrive at the refined colour and texture in his large landscape paintings. I have studied the studio techniques of old masters and, like Wolfhagen, appreciate the timely studio processes of experimenting and testing colour combinations to achieve luminosity and purity. Use of transparent paint colours such as aureolin can augment darker colours and achieve a natural transparency that more accurately reflects nature. Wolfhagen takes time to fine-tune his paint pallet, mixing beeswax with oil paint in a slow process of refining the colour hues that are applied to linen frames in painterly layers. This process was articulated in a video which accompanied Wolfhagen's exhibition titled "Illumination; The art of Philip Wolfhagen".³⁵⁰

Wolfhagen's paintings resonate colonial histories and I am drawn to his handling of paint, capturing the sky, depicting the natural landscape and the manner in which the paintings link to the past. His work titled *Thirteenth journey* (Plate 82) is a tribute to the style of 17th century French painter Claude Lorrain as he captures the luminosity of clouds and the light sky in contrast to darker foreground foliage and native casuarina vegetation.³⁵¹

³⁴⁹ River Red Gums or *Euc. Camaldulensis* were once common along the Hunter River Estuary but have been mostly cut down for use as fire wood and for construction purposes. One small group of original indigenous *Eucalyptus camaldulensis* (River Red Gum) remain on the river flats below Mt Anne. Scientific studies provide evidence of how the riparian landscape has been altered by earthworks and mitigation structures that restrict the impact of flood waters, impact vegetation and ecology and modify the extent of wetland species. See Steinfeld and Kingsford, "Disconnecting the Floodplain: Earthworks and Their Ecological Effect on a Dryland Floodplain in the Murray-Darling Basin, Australia.." and Andrew Bennett, Dale Nimmo, and James Raddford, "Riparian Vegetation Has Disproportionate Benefits for Landscape-Scale Conservation of Woodland Birds in Highly Modified Environments," *Journal of Applied Ecology* 51 (2014).

³⁵⁰ Philip Wolfhagen and Newcastle Art Gallery, *Illuminations: The Art of Philip Wolfhagen* (Newcastle: Newcastle Art Gallery, 2013), Catalogue in publication. Exhibition at Newcastle Art Gallery, 22 June-11 August 2013 included a video made in Wolfhagen's studio at Longford, Tasmania. Studio equipment and painting tools were also included in educational displays which gave an account of the artist's materials and practice.

³⁵¹ Alex Speed, "Tasmanian Artist Philip Wolfhagen Is a True Natural," *The Australian*, October 15, 2011.



Plate 82 Philip Wolfhagen *Thirteenth journey* 2013.

200 x 160cm Oil and beeswax on linen.

Image courtesy of the Artist and Dominik Mersch Gallery, Sydney.

Image removed due to copyright requirements

Plate 83 (Above) Philip Wolfhagen, Lionel Bawden, Maria Fernando Cardoso, Esme Timbery, Loise Weaver, Scott Mitchell *The Newcastle Chest* 2010 closed: 53 x 71 x 46 cm Australian red cedar (*Toona ciliata*), NSW rosewood (*Dysoxylum fraserianum*), River red gum (*Eucalyptus camaldulensis*), tartan, glass and brass fittings Commissioned by Newcastle Art Gallery.

Plate 84 (Below) Philip Wolfhagen *The Newcastle Chest*. Detail. Oil on red cedar panel.
Newcastle Art Gallery Collection

Image removed due to copyright requirements

Wolfhagen completed paintings on red cedar panels for his commissioned contribution to *The Newcastle Chest*. (Plate 83 and 84) This handcrafted timber chest and the collaborative works of art it contains, was displayed in the exhibition entitled *Curious Colony* at Newcastle Art gallery in 2010. The chest represents a contemporary response to the historic 1818 *Macquarie Collectors' Chest*, and features works of art by five contemporary artists, however the contemporary chest does not feature local artists and does not connect to the river. *The Newcastle Chest* and works by Wolfhagen are nonetheless relevant reminders of ephemeral landscapes.

I am drawn to the purity of painting that is found in work by Alexander McKenzie. The sentimental and romantic landscapes depicted by McKenzie are best understood when the paintings are viewed and seen first hand. I visited the exhibition *The Keep* at Martin Browne Fine Art in 2010.³⁵² This group of large terrestrial landscape paintings consisted of oil paintings on linen that were all over 1.2 x 1.2 metres in size. The large scale, depth, three dimensional linear perspective and monochromatic contrast of colour had an instantly engaging and consuming effect upon me, as the onlooker is drawn in by the subtle romantic and imaginative visual illusion of the paintings. I encountered an immediate and memorable engagement with McKenzie's work. His treatment of wetland streams of water and estuarine subjects is admirable and evocative of similar still water reflections, moments in time or personal encounters that I experience while rowing along the Hunter River.

The exhibition of moody large wetland paintings by Alexander McKenzie was significant and pivotal for this project, as my engagement with the paintings clarified to me how painted landscapes continue to have powerful and seductive qualities that I might explore further in my work. I realized the lasting appeal and enduring quality of oil on linen and that the genre of romantic landscape painting continues to engage and appeal to diverse audiences across the broader spectrum of Australian Art. After attending McKenzie's exhibition I decided to focus on creating large oil paintings that have the potential to convey some of the multiple sensitivities and concepts that I encounter through my experiences in and on the waters of the Hunter River. The transformative appeal of still water and exclusive or enchanted habitats that I visit along the river came to mind, as I viewed the mystical wetlands and seductive streams that entice the viewer to enter into McKenzie's larger oil paintings. The paintings triggered a response that inspired me to paint the large square painting of Mt Anne (Plate 77) and to further investigate

³⁵² *The Keep* an exhibition of paintings by Alexander McKenzie at Martin Browne Fine Art, Potts Point NSW. September – October 2010.

the aesthetics of mystical landscape painting that might better resonate the atmosphere and mood of the riparian landscape and, at the same time, entice connection or empathy.



Plate 85 Alexander McKenzie *The Lost Key* 2010. 153 x 153 cm. Oil on linen.

Image courtesy of the Artist and Martin Browne Contemporary, Sydney

I find the large oil paintings by Alexander McKenzie are inspirational as I am drawn into the mystical stillness and tone of his waterscapes. My early perspective paintings are inspired by McKenzie's oil paintings as I attempt to capture a similar deep aerial perspective and illusionary mood that is enlivened through contrasting tonal colour palettes and smooth brush strokes.

Like McKenzie I use the colours Paynes Grey and Dark Violet for deep shadow hues and monotone background perspectives that are tinted with pure layers of titanium white. Similarly traditional oil painting brush stroke techniques that lightly braze the linen surface enliven the texture of the linen and add reflective qualities to water scenes. These tactile surface qualities can only be seen when viewing the works of art first hand and a larger gallery space allows viewers to move in and engage with the work at any desired distance from it. This ability to step into the picture, view the texture and step back out to view the landscape, seemed to me to be an important element of the painting.

6.6 Riparian Aesthetics

Documented scientific accounts and studies of the river are limited in their capacity to capture the essence of the river that I experience; the mood, sounds, movements, colour, mystery, atmospheric and other emotional sensations of the river. One's appreciation and understanding of the nature of the river is heightened through a subtle approach that is immersive and encourages the viewer to find a connection to the river by providing a window into seductive environments.

I find allegiance with environmental aestheticians who place greater value upon a multi-sensory appreciation of nature and the ineffable qualities of our experience in nature that are felt as well as observed, when one is encompassed in the aesthetics of engagement. While being situated within the river one becomes more adept at reading the riparian landscape through the performative aspects of practical site-specific experience. (rowing, being-in the river)

In his account of environmental aesthetics, the well known environmental aesthetic scholar, Allen Carlson examines how the aesthetics of engagement stresses our sensuous involvement with nature. The emotional arousal that nature might elicit is, for him, an essential aspect of aesthetic appreciation.³⁵³ As outlined in Chapter 1 (p29) of this paper, more recent eco-philosophies that interconnect with the politics of ecology and interdisciplinary research have broadened the field of study of aesthetics.

The interaction between landscape, artist and environment is complex and these cognate terms need some clarification for the purpose of this discussion. The philosopher and scholar, Holmes Rolston outlines some of the complexities of human perception and how humans 'cannot appropriately appreciate what we do not understand.'³⁵⁴ Rolston outlines his understanding of the different, yet sometimes overlapping, interpretations of the four words: environment, ecology, nature and landscape. While these terms remain contended across disciplines, Rolston has offered the following summary,

An environment does not exist without some organism *enviored* by the world in which it copes....An environment is the current field of significance for a living being...Environments are settings under which life takes place, for people, animals, plants.

³⁵³ Allen Carlson, "Environmental Aesthetics," in *The Routledge Companion to Aesthetics 2nd Edition*, ed. G Berys and D McIver Lopes (New York: Routledge, 2005). 547.

³⁵⁴ Holmes Rolston, "Does Aesthetic Appreciation of Landscapes Need to Be Science-Based?," *The British Journal of Aesthetics*, no. 4 (1995). 377.

Ecology...is the interactive relationships through which an organism is constituted in its environment... myriads of species of fauna and flora are at home in their niches...

Nature is the entire system of things, with the aggregation of all their powers, properties, processes, and products – whatever follows natural law and whatever happens spontaneously.

Landscape is a section of the countryside that can be seen from some place...is the scope of nature, modified by culture, from some locus, and in that sense landscape is local, located. The question arises whether landscapes exist without humans....Humans have both natural and cultural environments; landscapes are typically hybrid.³⁵⁵

For me nature exists with and without human interaction, however a landscape is what I consider as a framed section of nature or a limited situated segment or slice of a selected environment. As such I have previously described indigenous and colonial landscapes that are situated in human centric knowledge paradigms of science and history. These terms and their interpretations remain contested and open to debate.³⁵⁶ A complete analysis of nature, environment and landscape would extend well beyond the limits of this research investigation, however it is important to establish that a landscape is not the same as nature or an environment.³⁵⁷

As I aim to invoke a deeper understanding and build aesthetic sensitivity of the river through art, then components of aesthetics become relevant. Aesthetic sensibilities have been sundered through natural history and scientific enquiry since the Enlightenment and the compound relationship between art, the environment and science has perpetuated over centuries.³⁵⁸ In the 18th century an understanding of the world was sought as explorers sort to categorize the environment into understandable fields or disciplines, at a time when Linnanean classification of botany was paramount. As I have shown in previous chapters of this paper, in the colonial years and most of the 19th century the environment of the river was not considered in relationship to a more complex whole of nature and colonial developers did not associate their actions with the interconnected environmental damage that occurred.

³⁵⁵ Ibid., 379.

³⁵⁶ Malcome Miles, *Eco-Aesthetics* (London: Bloomsbury, 2014); Eric C. Mullis, "Nature and Landscape: An Introduction to Environmental Aesthetics by Carlson, Allen," *The Journal of Aesthetics and Art Criticism* 69, no. 2 (2011); W. J. Thomas Mitchell, *Landscape and Power*, 2nd ed. (Chicago, Ill. ; London: University of Chicago Press, 2002) ; Timothy Morton, *Ecology without Nature: Rethinking Environmental Aesthetics* (Cambridge: Harvard University Press, 2007).

³⁵⁷ Yuriko Saito, "The Aesthetics of Unscenic Nature," *The Journal of Aesthetics and Art Criticism* 56, no. 2 (1998).

³⁵⁸ This relationship is examined in detail by Bernard Smith in his book. Smith, *European Vision and the South Pacific*.

In the 19th century, Prussian geographer and naturalist, Alexander von Humboldt (1769-1859) insisted that poetry and etchings should be used alongside empirical science in the observation of physical landforms and processes of nature.³⁵⁹ This notion was seen as flawed at the time. Today however researchers have revisited his holistic views that value the unity of nature and the more complex interrelationships within the arts, sciences and nature.

Researchers today acknowledge the biases of the 1800s when 'critical analysis was associated with the sorting and categorizing of observations, with the ultimate goal of pulling out from this wealth of material a generalizable set of processes.'³⁶⁰ Practical natural sciences, cartographies and geomorphological data of the 18th and 19th centuries were recorded in practice through field journals, maps, collected specimen or sketched and painted imagery. Black and white photography came into use in Australia in the 1850s. I have previously given many examples of imagery from journals and manuscripts of explorers who visited the Hunter River in the early 1800's. A romantic science grew out of this 18th century Enlightenment period that brought, as Richard Holmes describes, 'a new imaginative intensity and excitement to scientific work'³⁶¹.

This broad sweep of aesthetic knowledge and the romantic appeal of archival imagery continues to permeate perception and understanding of nature today as the history of Environmental Aesthetics parallels an unraveling of objective and subjective concepts of knowledge. My knowledge and appreciation of the riparian landscape is not unlike the unfolding history of aesthetics as environmental aestheticians are often divided into cognitive and non-cognitive followers. As described in the first chapter of this paper Allen Carlson's response is based upon the cognitive argument that scientific categories of knowledge provide a more accurate assessment and that an appropriate aesthetic appreciation is informed by relevant knowledge of what is to be appreciated. Environmental aestheticians today generally agree that context and genesis matter in order to find an appropriate conceptual structure for analysis.

As I seek out the components of knowledge that inform a deeper understanding of the riparian landscape, these theoretical debates inform my understanding. The theories of Heidegger and Carlson have resonance as I appreciate the ambient dimension of the aesthetic experience

³⁵⁹ Deborah P Dixon, Harriet Hawkins, and Elizabeth R Straughan, "Wonder-Full Geomorphology: Sublime Aesthetics and the Place of Art," *Progress in Physical Geography* 37 (2013). 4.

³⁶⁰ *Ibid.*, 228.

³⁶¹ Richard Holmes, *The Age of Wonder : How the Romantic Generation Discovered the Beauty and Terror of Science* (London: Harper Press, 2008). xvi.

while being in the riparian landscape. These aesthetic qualities are interwoven and add another level of engagement shared through creative art that can convey concerns and inspire others to think about the river by emulating, in paintings or drawings, some of the aesthetic qualities that are common to both art and nature. Hence my creative practice is imbued with an aesthetic sensitivity that draws upon nature, yet resonates beyond the original experience of nature.

Although my work does not generally fit into the art of relational aesthetics, as originally put forward by Nicholas Bourriaud in the 1990s, some components of his ideas are taken up in the way that the relationships between theory and practice are integral to the creative concept.³⁶² Throughout this project historic and scientific knowledge of the river is placed alongside philosophy and art. In the exhibition of art I include works in the form of pure painting and also include photo-media and a book of images that convey my relational encounters with the riparian environment. In this way I have incorporated the inter-relationships of the environment, rather than the social relationships that are normally associated with relational aesthetics.

I am informed by the basic elements of Bourriaud's theories, and practising artists such as Sophie Calle (1953-), who place an emphasis on the multiple interconnections that evolve through the processes of creative arts praxis.³⁶³ In the final exhibition of my artwork I present original works of art that have the potential to continue to form multiple new connections with a wider future audience and resonate new knowledge, which evolves and endures with the longevity of each art object, well beyond the time frame of the single original exhibition.

³⁶² Bourriaud, Nicolas. *Relational Aesthetics*. France: Les presses du réel, 2002. Bourriaud's concepts do not align to this project as I have placed a strong focus upon the environment rather than upon human centred cultural relationships.

³⁶³ I refer here to the French artist /writer/photographer/installation artist, Sophie Calle and her work in the Venice Biennale in 2007 titled *Take Care of Yourself*, that I saw and which initiated my further consideration of the effective inclusion of relational components of art.

6.7 Mangroves



Plate 86 Julianne Tilse *Kooragang Mangroves* 2013. Oil on canvas 90cm x 120cm.

Image courtesy of the artist © Julianne Tilse

My paintings of the mangroves at Hexham, as shown in Plates 86 and 87, were inspired by the colour effect of filtered light on the twisted rows of mangroves that front the Hunter River in vast sections of the lower estuary below Raymond Terrace. The painting on canvas titled *Kooragang Mangroves* (Plate 86) shows a work that mirrors the mangrove's bodily reflections in the still waters of the estuary wetlands. The work gives life to the forest of trees that take on an anthropomorphic quality, as the variegated colours of smooth bark allude to human skin tones and the figurative form of the limbs seem to stretch out in the filtered rays of light. I aimed to capture an expression of the variegated colour and character of each tree and intrinsic value of each individual living plant that collectively contributes to the forest. I have completed a series of drawings and paintings that attempt to capture the known and unknown life that is manifest within the bodies of the trees. The mangroves, by their pattern and shape, form a protective barrier that seems to stand guard along the river.

Mangroves are critical to the health and life of the river as they produce large amounts of organic matter that is eaten by other aquatic animals such as crabs and prawns. Mangroves provide habitat for many juvenile and adult fish species, give shelter to many forms of wildlife and birds and act as a buffer, reducing erosion and maintaining water quality.

I was initially intrigued by the strange vertical peg roots known as *pneumatophores* that spiked up out of the river water and caught the sunlight when I was paddling through a group of Grey Mangrove (*Avicennia marina*). This encounter prompted me to examine the life cycle and habitat of these salt tolerant plants and the important adaptations that have allowed them to thrive in intertidal areas: the salty sap, waxy coating, salt-secreting pores on the leaves that allow the plant to remove excess salt and unusual root system. While painting the mangrove series I was informed by research outlined previously in Chapter 4.6 - 4.8. The plant's specialized peg roots act like snorkels to draw air into the underlying root system. These strange looking roots allow the plant to breathe, survive and grow in soils that are too poorly aerated to allow other terrestrial plants to establish.³⁶⁴ Painting the highlights on peg roots instigated my deeper curiosity to understand their function.

The resulting painting was intended to be an enticing representation of the connate beauty and function of mangroves, their colour and indelible design and shape. I include peg, stilt and knee roots and use the texture of the canvas to build multiple layers of oil medium glazes that infuse life into the imagery and reflections. I have rendered the mangroves in a way that aims to enliven their life sustaining qualities. While painting the images I did not intend to romanticize the mangrove forest, however in highlighting the unique characteristics of the trees and enhancing their colour or humanlike skin tone I have produced somewhat empathetic imagery that encourages a new found appreciation of a common wetland environment that is still so often not understood.

³⁶⁴ N Duke, *Australian Mangroves* (Brisbane: University of Queensland, 2006)., Rogers, Saintilan, and Copeland, "Managing Retreat of Saline Coastal Wetlands: Challenges and Opportunities Identified from the Hunter River Estuary, Australia."



Plate 87 Julianne Tilse pencil sketch on paper(top) and oil sketch on Arches Huile paper.
- preparation sketches for larger paintings of mangroves.

Image courtesy of the artist © Julianne Tilse

The works displayed in Plates 86-88, indicate the progression of studio painting and compositions that have been invigorated by extended field study encounters along the lower estuary and into coastal wetland forest at Kooragang Island. I have undertaken larger scale paintings on Belgium linen that generate a deeper contemplative image. The materials of a painter and compositional devices used help to capture an essence and enliven the ambience of a wetland excursion through and between the mangroves. I have become increasingly aware of the Heidegger's concept of *being-in* and having that idea in mind as I sketch out the composition and represent, in paint, the feeling of being on the water and situated within the riparian environment; closer to this dynamic wetland habitat, which is also known as *mangal*.³⁶⁵

The painting titled *Mosquito Creek* (Plate 88) is a more recent painting, which I feel is more alluring as it leaves space for onlookers to enter into the environment, rather than to merely view it from a distance. Raw canvas sections are left open and I have worked slowly to ensure the composition is not over worked, leaving areas for brush strokes, thin washes and glazes to express the feeling and solitude of Mosquito Creek as 'artistic encounters reunite mind and body such that the "experience" can become "knowledge"' ³⁶⁶

This image shows the end of Mosquito Creek where the next new coal loader (T4), is planned to be built on Kooragang Island. The future of these mangroves is unknown, as they are likely to be removed to make way for the proposed expansion to coal loading infrastructure in the port of Newcastle. This mangrove forest is located immediately beside the coal rail line on the south east end of Kooragang Island and the forest borders the existing large coal loading facilities where Mosquito Creek has been terminated. My journey down the creek was unique in the unparalleled combination of tidal flow, morning light, colours and shapes of the trees, hovering sea eagles and sounds of the adjacent railway shunts and coal loading machinery encountered at a time when the future of these trees seems liminal.

This resulting larger scale painting was inspired by this enlightening encounter while rowing and the sublime experience that I had when I paddled to the very far end of the creek where it flows through the wetland and where I drifted with the outgoing tide that took me through the large forest of mangroves. As with the previous paintings of mangroves I again sought to give life to each tree in painted form.

³⁶⁵ The plant community of a mangrove swamp is most commonly termed 'mangal', also known as mangrove swamp forest. Species that inhabit the outer coastal portion and saturated mud flats are adapted to saline soils

³⁶⁶ Ian Sutherland and Sophia K Acord, "Thinking with Art: From Situated Knowledge to Experiential Knowing," *Journal of Visual Art Practice* 6, no. 2 (2007).133



Plate 88 Julianne Tilse *Mosquito Creek* 2015. Oil on Belgium linen on board
120cm x 240cm. Image courtesy of the artist © Julianne Tilse

In this large oil on linen work I have refined the use of thin egg-tempera highlights and tonal charcoal under-drawing on fine textured Belgium linen. The separated layers of under-painting and layered oil glazes over a tonal drawing combined with the perspective of being located in the river have resulted in a painting that resonates more of the movement and flow of the river current. In this way I have aimed to create an effect that is seductive or engaging as the viewer is invited to step into this environment. The composition and perspective of this painting is important as the line of vision is such that one is encouraged to feel a part of the environment and be fully immersed within the mangrove habitat.

Chapter 7 Liminal: a Becoming

The most beautiful experience we can have is the mysterious - the fundamental emotion which stands at the cradle of true art and true science.

— Albert Einstein



Plate 89 Julianne Tilse *Liminal 1* 2014. 120cm x 180cm. Oil and encaustic on linen on board

Image courtesy of the artist © Julianne Tilse

7.1 An Epiphany

Gliding through a pre-dawn mist, I recall rowing toward a wide and familiar stretch of the Hunter River above Swan Reach to a familiar lone remnant river red gum tree that I had observed for some years. This enormous tree had begun increasingly, to lean out from the riverbank and hover uncomfortably over the river. This exercise of setting out in a small rowing boat (scull) is common practice for me, however each time I visit the same tree the environmental landscape is never the same. On this occasion I remained in the centre of the river and began to watch the sheets of fog drift upstream toward me. A slight shift in the breeze brought down an extremely thick cloud of fluffy white fog that rolled in from the western bank and fell in around me, passing over the top of the water in an opaque white blanket that flowed through to envelop me. Vision was suddenly cut short to less than one metre so that I lost sight of the riverbank. At this moment my orientation within the landscape disappeared. I remained perfectly still and decided to embrace this strange encounter and enjoy the sensation of being enclosed by the fresh dawn mist, knowing that any movement I made would further disrupt my already dislocated orientation within the river.

This complete white-out fog had taken away the horizon and consumed all familiar navigation markers so that north and south became inconsequential to my being. I sat in the middle of the river in my single scull holding my oars to balance while I consciously embraced that moment and the feeling of being at the mercy of the shifting dynamic of nature. This was when I realized how, despite thousands of hours of research and observation, I could never fully describe, know or account for the powerful uncertainties of nature. I was not afraid of the fog but more in awe of the phenomenal wave of change that had silently passed over me. As I observed the shifting fog I realized how much I do not know about the river; the contingency of human knowledge and the manifold concepts that remain unexplainable in words.

The fog brought me to an epiphany: an insightful revelation that the unknown, uncertain and liminal aspects of the river are significant to my research. I thought about how I might capture this moment in a painting, knowing that the complexity of this sublime encounter can ultimately never be captured entirely. The challenge to express this feeling and sensation in paint, on a two dimensional surface, was motivating and I realized that it is the uncertainty of the unknown that I find most inspirational. At that moment, in the fog, I reached a turning point, as the profundity of the riparian landscape was realized when attention is shifted to what is *not* known

and the indiscernible otherness that exists beyond the limits of humanity and human knowledge systems.

In this chapter I discuss the liminal and uncertain components and the outcomes of new knowledge that is manifest in a series of paintings, drawings and photo-media that explore the relationship between certainties of objective science and the uncertainty of subjective sensations. The works discussed build an aesthetic awareness of the river by acting as a vehicle for new knowledge. I unfold how visual arts are able to convey many diverse concepts, ideas and environments that contribute to one's understanding of the riparian landscape and how new perceptions of the river are unveiled in wider panoramas, new perspectives and imagery that continues to resonate beyond the original frame.

My engagement with the riparian landscape was initiated by doing something, by being in the landscape and by experiencing the diversity of this unique river environment while rowing. Previous chapters have outlined my creative process, encounters of being in the riparian landscape and the field and studio research that I have refined in order to create a body of work that enlivens my relationship with, and response to, riparian life. Larger scale paintings have emerged through these components of creative praxis and I have continued to explore visual media formats that reflect an essence of my encounters.

On many occasions I have contemplated how to best share my experience and enable others to engage with the river through new knowledge of some of the related elements that may be relevant to their appreciation of it. As an artist I am best able to do this through a series of seductive paintings and visual imagery that enhances or enlivens an awareness of the dynamic nature of the river. I utilize my ability to convey an essence of riparian life through creative practice that acts as a reflection or a meme that is imbued with a network of cognitive known and subjective unknown references.³⁶⁷

Throughout my research I have attempted to engage in the natural environment of the river, actively experience riparian life and disrupt the traditional way a landscape is viewed, by creating works that resonate with how I move through the estuary.

³⁶⁷ Meme is regarded as a word that describes how ideas, information, behaviour and new media spreads and is transmitted across many platforms, with more recent internet platforms that rapidly transmit imagery and ideas in ways likened to a virus. Estelle Barrett discusses the notion of the meme in creative research practice whereby the cultural artifact is a vehicle for the meme. See Barrett and Bolt, *Practice as Research*. 160-163.

Historically artists have tended to place themselves outside the environment and a landscape is seen from the perspective of an interested onlooker who views nature from a distance or with a detached viewpoint. In previous centuries of art and science, humanity has been empowered as the knowing being; superior to nature or separate to it. In contrast I have sought to place the viewer into the environment of the river. Through my experiences of being in the river and encountering the environment while moving through the landscape I am able to bring a unique perspective to share with the onlooker.

This body of work attempts to shift the emphasis from landscape to environment. By moving through the environment and locating myself within and alongside riparian habitats I have found a way to engage with nature and create art that inspires new visual perspectives and multi-dimensional modes of experiencing and understanding this diverse riparian environment.

7.2 The Seduction of Art

Seeing comes before words. The child looks and recognizes before it can speak.³⁶⁸

The genre of landscape painting has seduced audiences for many years and the process of selecting a particular tract of land and translating it into a painting has been the favored domain of artists who enact their vision of a place onto two-dimensional surfaces. Artists have a unique multitude of subjective responses to nature and representations of it, which we view through oil paintings. The enduring capacity of oil painting inspired me to pursue this medium in order to convey my ideas in works of art that are permanent and have the capacity to sustain interest over decades or even centuries.³⁶⁹

According to Deleuze, art transcends time as 'the artist creates blocs of percepts and affects, but the only law of creation is that the compound must stand up on its own'. In this regard art has an 'independent and self-sustaining existence in the world'.³⁷⁰ Likewise I aspire to create images that are able to stand independently, enliven philosophy and science and address issues afresh in works that exist beyond their original existence or that continue to resonate and find new meaning in an endless becoming. I capture the sensations of being in, and rowing

³⁶⁸ John Berger, *Ways of Seeing* (London: Penguin Books, 1972). 7.

³⁶⁹ Some of the oldest known oil paintings exists in Afganistan dating back to the mid 7th Century A.D., attesting to the longevity of oil painting. Walnut and poppy-seed oil were most likely used as the key ingredient. Eti Bonn-Muller, "Oldest Oil Paintings: Bamiyan, Afghanistan," *Archeology* 62, no. 1 (2009).

³⁷⁰ Deleuze quoted in O'Sullivan. *Art Encounters Deleuze* (New York ; Palgrave, 2006). 53-4.

through the river and reframe sensations in the unique and enlivening frame of the painting. Thus my paintings “metabolise” a new set of sensations that embody a segment of the chaos of nature. Elizabeth Grosz makes the statement that I assimilate:

Art ...captures an element, a fragment, of chaos in the frame and creates or extracts from it not an image or representation, but a sensation or rather a compound or a multiplicity of sensations, not the representation of sensations already experienced or available beyond or outside the work of art, but those very sensations generated and proliferated only by art. Framing is the raw condition under which sensations are created, metabolized, released into the world, made to live a life of their own, to infect and transform other sensations.³⁷¹

Through my encounters within the landscape of the river, I seek out unknown habitats within the riverbank and between the rocks and reeds that sit on the watermark of tides. Here I explore remnant vegetation and introduced hybrids that have inhabited the riverbank and formed unusual pockets of vegetation. While discovering new growth areas, I am also constantly reminded of the history of this river as I come across remnants of stonework, boat fragments, carriage wheels or sections of historic wharves that once lined the river. Rustic farm equipment, or punt cables appear after the wash of a king tide has passed over to reveal sediments of the past lives of the river. The history of riparian life becomes apparent through simple observation and these events have inspired me to acknowledge the diverse histories that shape the environment and how nature has become enmeshed with human cultures that have left their mark, in varying degrees, along most sections of the estuary. In this way the natural environment of the river has, in places, become contentious, unknown and less discernable from the human culture that has shaped it over the past 200 years.

Oil painting, for me, has the potential to resonate with these events and histories. Solid linen on board frames allows me to draw and paint in multiple layers that are imbued with many components of knowledge, concepts and ideas. The outcomes are generative of new ways to view the river and encourage multiple new interpretations of it. This body of work might generate an immediate response that is empathetic to the river or gives an expansion of knowledge through an enriched understanding of the forces that shape the riparian environment. The works of art may also offer refuge from the known and enable us to enter into the mystical unknowns or metaphysical otherness of multiple possible perceptions and sensations that are equally immersive. I concur with Malcolm Andrews' statement,

³⁷¹ Grosz, Elizabeth. *Chaos, Territory, Art* (New York: Columbia University Press, 2012). 18.

Landscape pictures can be like maps – we value both for introducing us to places that we may otherwise not know. They are information and invitation. They can mediate the passage from what we know to what we don't know.³⁷²

Conveying an authentic connection to land is critical to my practice and thus my subjective encounters give my work its unique appeal and allow me to bring forward new ways to appreciate and illuminate concepts of the river. The painting studio is where I take up issues of concern and create artworks that intuitively shift focus from what is known and objectively discernable to the liminal spaces at the edge of cognition that are ambiguous and uncertain. I have continued to experiment with this shift and handle the materials and media of paint to examine the inter-relationships between these objective known and subjective unknowns, as they evolve through drawing and onto canvas. Empirical accounts and past understandings of a subject are a resource from which to examine the unknown and expose what is not understood or reveal the intangible and liminal elements of the subject.

My perspective of the environment is from a location within the river where I am synchronously aligned with the waterline and movement of the tide. Here the river currents deposit new sediments in ephemeral layers of dynamic change and renewal. High tides bring regenerative fresh water, while low tides expose the underbelly of life along the riverbank. In order to harness and express the essence of this environment, I seek out painterly devices and compositional formats that might embody the lateral limits of the incoming and outgoing tide, the extended width, the unbounded waterline and the shifting horizon of the riparian landscape.

I use the physical *handlability* qualities of oil painting, the enticing romantic qualities of the subject matter and an ability to render particular atmospheric sensations related to place, in order to seduce the viewer into “entering” this riparian world.

Plate 90 shows the painting titled *Swan Reach* and this work reflects my view from a position in the river to which I regularly row, at the top of the long straight section of the Hunter River³⁷³ This work is an example of my experimentation with an elongated or wider format canvas shape that has created a heightened awareness of my location within the river, at close proximity to the water where my association with the flow of the tide is one of attunement.

³⁷² Malcolm Andrews, *Landscape and Western Art*, Oxford History of Art (Oxford ; New York: Oxford University Press, 1999). 77.

³⁷³ This location on a wide bend is where rowers often stop either before or after negotiating the longer straight stretch of the river downstream that is known as Swan Reach. This location is below Hinton and upstream from Berry Park. It is also known as ‘the1800.’ Longer races begin from the top of the reach and this is the 1800m mark used for rowing regattas.



Plate 90 Julianne Tilse *Swan Reach*. Oil on linen 2013 60cm x 120cm.

Image courtesy of the artist © Julianne Tilse

By cropping the height and the sky, the composition becomes more interesting as vision is directed closer to the waterline. In planning this composition, and in original charcoal under-drawings, I aimed to engage the viewer in a line of sight that moves from the smooth highlighted ripples of the water surface in the foreground, along the riverbank and through to the far distant horizon, circulating back along the distant riverbank. This very simple linear perspective is used to allure the onlooker to feel a sense of connection with the work by moving through the landscape. I have included the riparian vegetation and foliage that is typical to this location. In this way the work is seductive yet also reflects the native plants and reeds and exotic willows that inhabit the intertidal zone.

In this instance I looked to include the warm sunlit foliage on the right in contrast to the darkness of the river edge prior to sunrise, where I often encounter snags and reeds that are more difficult to see when in the shadows. The deeper shadows often contain the less known and camouflaged habitats of various hidden species of plants and animals that live along the riverbank. In this painting I use darker tones of Paynes Grey (paint colour) and multiple oil glaze techniques that echo the ambiguity and shadowy unknowns of the under-bank area on the left.

Being in the river at water level often feels like being enclosed in an inter-tidal world that exists between the riverbanks and willow trees. The wider format of the *Swan Reach* painting (Plate 92) allowed me to emulate the feeling of being within and on the water and the juxtaposition of habitats in the periphery of sight. Smooth glass-like qualities of the water's surface along the waterline, shimmer with the tidal movement that so often draws my boat downstream. In this painting the painted surface pattern of the outgoing tide directs vision to the distant horizon.

The uninhibited wider perspective and sensations that I experience while rowing through the natural environment is enhanced through use of artistic compositional devices, such as wider format panoramas, close focus perspectives and alternative depths of field that have often originated from my encounters on the water and observations of unusual environments, habitats or events. While rowing I visualize a frame and envision the composition that might best encapsulate the sensations and feel of the location. Thus in visualising each work the composition, proportion and perspective become vital to the outcome of each work of art. Adjusted perspectives that are close to the water surface help to produce a special vision, or capture the play of light, contrasting elements of each habitat, lines of sight, controlled focus or a cropped frame, which may help enliven the painting or drawing. In this way the resulting work of art is able to communicate an original atmospheric quality or previously unseen and unknown element of the riparian environment.

The controlled view and painterly verisimilitude were original innovations of the panorama, and this device was historically employed in efforts to replicate the sublime experience and profundity of nature. The English painter Robert Barker is credited as the inventor of the panorama who patented the idea in 1787.³⁷⁴ Barker regarded panoramas to be an improvement upon painting in the way that they replicate the vastness and unlimited boundaries of nature.³⁷⁵ Similarly I have made use of this device, although not in the colossal scale of earliest gallery sized installations. I simply seek out ways to suggest the expansive yet exclusive horizontal lineation that resonates with the continuous yet contained intertidal zone within riparian landscapes. I often use a panoramic section within a composition as a device that engages the viewer and that is used in my work to blur the boundary between landscape and the environment.

³⁷⁴ Stephan Oettermann, *The Panorama : History of a Mass Medium* (New York: Zone Books, 1997).

³⁷⁵ Mimi Colligan, *Canvas Documentaries : Panoramic Entertainments in Nineteenth-Century Australia and New Zealand* (Carlton South, Vic.: Melbourne University Press, 2002).



Plate 91 Edward Charles Close *Panorama of Newcastle* 1821. 41.5cm x 364 cm. Watercolour

Edward Close (1790 – 1866) created a panoramic view of Newcastle and the Hunter River Estuary in 1821.³⁷⁶ Early panorama paintings such as this one by Close (Plate 91), were typically detailed as artists aspired to reproduce a three dimensional vision in a geographically accurate transcript of nature. Canadian photographer, Jeff Wall claimed that panoramas were ‘an experimental response to a deeply-felt need, a need for a medium that could surround the spectator and plunge them into a spectacular illusion.’ With this in mind, I have created paintings that attempt to draw one into the selected environment and give an impression of being a part of nature, at the level of the surface of the river or within a selected habitat. I am aware of Sydney Nolan’s *Riverbend* panorama and have studied the painterly style and colours used by him in this large work.³⁷⁷

I have used panoramic formats to negotiate a shift in attention from objective documentary realities of known geographic landscapes to the liminal subjectivities of the encountered sensations of being.

This shifting focus is explored in paintings such as the oil and beeswax painting titled *Liminal II*, shown at the beginning of this chapter in Plate 89. In this work, the security and known alignment of the riverbank is consumed by a transient mist of white ambiguous space that is unknown or uncertain, as the normally ever-present horizon line merges into an ephemeral misty void that is represented in the tactile painterly surface of beeswax, oil paint and walnut oil. This painting emerged with a particular encounter and I have given a vivid recollection of the moment of epiphany and affect that came to me in the midst of a thick fog. This heightened emotional encounter has resonated with me and I appreciate the powerful seductiveness of the mysterious and the unknown.

³⁷⁶ The panorama by Close has the following inscription in ink on the third sheet from right. ‘N.B. This Corrobory [i.e. corroboree] has no business here as it is never danced in the day-time. Taken at and finished in Newcastle on Hunter River. June 11th 1821. E. C. Close’. Edward Close was in Newcastle from 1820 to supervise engineering works and later took up a large portion of land at Morpeth, on the Hunter River.

³⁷⁷ Sydney Nolan *Riverbend* 1964-65, oil on board, nine panels. 1.5m x 10m overall. The Australian National University Collection.



Plate 92 Julianne Tilse *River Study* 2014. Charcoal and graphite sketch on canvas 30cm x 120cm.

Plate 92 shows a sketch of an unusual section of the river that is exposed in winter, when the willow trees die back and lose their greenery. The image was made on an overcast and very still day. This drawing represents a work that I regard as a failure, as although the composition was successful I began to use very soft dark charcoal on the fine polyester canvas. I overworked some sections of this drawing and the canvas was not responsive to removal of the dark patches of charcoal. My attempts to rub back or over-paint the darker tones resulted in an unworkable mess and the work was discarded. I have since found better quality fine loom-state linen that I use rather than the synthetic canvas. Both fabrics have a smooth weave that is acceptable to drawings, however the smooth acrylic primer on the polyester canvas did not accommodate multiple layers of drawing or rubbing. Therefore this work is not included in my exhibition, however the subliminal effects of the original composition and darker tonal areas present an opportunity to revisit this image in future.

Drawing remains a significant expressive component of all my work and is visible in many exhibited works as I have continued to use old and new technologies and media as tools for sketching ideas and in rendering expressive line.

A firm and determined outline gives stability to objects, it defines their relationship to each other and to the space in which they are situated. The Sublime, with its emphasis on obscurity, vacuity and indeterminacy, destabilizes and disorients; in terms of landscape art it seeks to represent less the objects that strike the viewer than the sensations experienced by the viewer – or it is a combination of the two? ³⁷⁸

³⁷⁸ Andrews, *Landscape and Western Art*. 147.



Plate 93 Julianne Tilse *Coquun @ Honeysuckle Point 3* 2015. 60cm x 120cm.

Acrylic, Oil and beeswax encaustic on linen on board

Image courtesy of the artist © Julianne Tilse



Plate 94 Julianne Tilse 2015 Panoramic view of *Coquun @ Honeysuckle Point 1*, *Coquun @ Honeysuckle Point 2* and *Coquun @ Honeysuckle Point 3*. 60cm x 120cm x 3 (360cm O/A).
Acrylic, Oil and beeswax encaustic on linen on board. Image courtesy of the artist © Julianne Tilse

The clinical appearance, fine outlines and illustrative style of the Coquun series is perhaps not initially mysterious or seen as sublime, yet to me, the paintings are built upon layers of knowledge, which are seductive. The above quote highlights how clear outlines provide certainty and stability. I often incorporate fine lines that provide an illustrative reality and line and brush strokes help me to express ideas, clarify or bring forward the aspects of the landscape that I wish to bring into focus.

The paintings of the river at Newcastle are titled *Coquun @ Honeysuckle Point 1*, *Coquun @ Honeysuckle Point 2* and *Coquun @ Honeysuckle Point 3* (Plate 94). When the three works are hung in alignment, they form a panoramic triptych that is 360cm wide and 60cm high, as shown above. As I move along the estuary, past the mangroves of Ash Island and Mosquito Creek and into the harbour at Newcastle, I am confronted with a vastly altered environment. In this painting I sought to capture both the beauty of industrial infrastructure and the harsh reality of an industrial landscape.

As the titles suggest, I evoke consideration of the stark reality of this landscape today in contrast to how it was two hundred years ago, when species of honeysuckle were known by Aboriginals. This location was also called *Meekarlba* (Honeysuckle: plenty of honey) and refers to the *Banksia integrifolia* and *Banksia serrata* or white and red honeysuckle and the nectar collected from these trees, at a time when indigenous life thrived.³⁷⁹ The word *Coquun* was the name given to the Hunter River by local Aboriginal tribes and I make subtle references to indigenous plant life that once grew in the place illustrated in this painting. Honeysuckle Point is located where Cottage Creek joined the Hunter River at approximately the same place as the viewer stands when looking at this painting.³⁸⁰ Once again the empirical knowledge outlined in earlier chapters of this exegesis permeates these works of art.

³⁷⁹ It should be noted that there may be other tribal languages and alternative terms used to refer to *Banksia* and *Honeysuckle*. *Meekarlba* is the one noted in 'Aboriginal words of the coquun', online document. NSW Department of Lands and Hunter Development Corporation, "Honeysuckle," enigma, http://honeysuckle.net/sites/default/files/pdfs/precincts/linwood_interpretive_trail_0.pdf.

Red and white honeysuckle trees were identified as timber used by the carpenter Patrick Riley in 1820. See Turner, *Newcastle as a Convict Settlement : The Evidence before J. T. Bigge in 1819-1821*. pp164-168. The species are further verified by Turner's footnote 2 and references supplied by the Forestry Commission of NSW botanical species named Red Honeysuckle (*Banksia serrata*) and White Honeysuckle (*Banksia integrifolia*).

³⁸⁰ I am informed by E H Gombrich's analysis of images and the painting *Las Meninas* by Velasquez.

The panorama provides a format that allowed me to explore the contrasts of the river as the original, organic riverbank has been morphed into angular wharves, docks, coal loading facilities, ships and the port infrastructure that dominate the riparian landscape. The painting of this section of the river stimulates a possible re-thinking of how this view has been altered or what is missing in this representation of the riparian landscape. The format and linear composition were informed by multiple concepts that draw from objective research, the indigenous and colonial history of this section of the river, the altered ecology and riparian vegetation loss, altered geomorphology, the skyline of industrialisation, the Anthropocene hypothesis as well as broader based knowledge of the present day value placed upon the resources of the harbour and the Port of Newcastle.

The title I use, links the work to the history of the location and the painting may be considered in relation to the earlier panorama watercolour work by Edward Close (Plate 91) and the images shown in Plate 19 by Lycett in 1818, and in Plate 37 by Conrad Martens, as described in Chapter 3.4 and 3.8 of this exegesis. My composition and decision to render this panorama of the river at Newcastle, was informed by the environmental history of the estuary and how early colonial artists have rendered the river mouth in the past. I am also reminded of the view as it existed in 1812 drawn by T.R Browne and engraved by Walter Preston in *View of Hunters River, near Newcastle, New South Wales, taken from Prospect Hill* adjoined with *Newcastle, New South Wales with a distant view of Port Stephen, taken from Prospect Hill*. c1812. (Plate 43) These historic images indicate the indigenous nature of numerous smaller estuarine islands and the thick vegetation of the river prior to European settlement. In evaluating historic imagery, one is made aware of how the river has changed and the impact of the removal of the smaller estuarine islands.

The white void and emptiness is reiterated in the titanium white and lack of any colour in the background sky of the Coquun triptych paintings, as the more detailed outlined illustration work highlights the angular man-made structures that dominate this cool industrialized horizon. This silhouette effect and the use of defining illustration lines are my way of expressing concern for the changing landscape and the Anthropocene hypothesis; recognising the impact that the human race has had upon the earth's ecology, impacting the geomorphology of the river and this predominantly man-made

horizon. In this work the titanium white enhances the empty sky and surrounding space of the void. As I applied layers of beeswax encaustic and pure titanium white paint, I highlighted what is not present and what has been lost from this landscape. In contrast to the harsh background and voided sky, I have embellished the harbour waters to reflect the regenerative colours and life that floats into the harbour with fresh ocean tides.

The mathematical grid is a device that to me is symbolic of the concepts of mathematical order and the known; scientific classification and humanity's desire to systematically arrange and classify things in order to understand them. The contrast between rational mathematic order and the organic sensations of my encounters in the river has been a recurring concept in many of my drawings and paintings. The textured beeswax and encaustic grid adds to the linear compositional qualities and an understated geometry that also unites the sliced frame. The global positioning (GPS) of the located photo-media images with datasets of time and location, as shown in the photo-book, provides an interesting contrast to the partial disorientation of later paintings and drawings that shift between a definable location and less known encounters, where scientific realities become abstracted.

7.3 A Liminal Dynamic

The mystical elements of nature are something that I have been in a position to experience first hand by being in the river very early in the morning, being close to the waterline and experiencing both the predictable and unpredictable powers of the river water currents. I depict my response to one such experience in the painting titled *Misty morn: Hunter River* (Plate 95). Despite my original rejection of the "romantic sublime" label I have come to accept that my practical experiences have facilitated many diverse encounters that are actually quite sublime and when I paint these experiences, in paintings such as this one, the outcome often evinces the ethereal elements. The abstracted form, muted light, blended monotone colour and purity of paint on linen suggest the mysterious and allude to the liminal and dissolving certainty of the distant riverbank. I place the oar on the surface where it provides buoyancy.

The beauty and uncertainty of the deeper and darker tones convey a sense of both the melancholic foreboding and the delight of this location from the perspective of being in the river and close to the waterline. Here I looked to build empathy for the river in the sensuous allure of



Plate 95 Julianne Tilse *Misty Morn: Hunter River* 2014. 90cm x 120cm. Oil on linen

Image courtesy of the artist © Julianne Tilse

the surface water, blended brushwork and softened tone of the foreground. As Patricia Piccinini has noted, 'empathy' and 'connection' are relevant aspects of contemporary art and I feel that some of my inner feelings, reverence, awe, delight and heightened sensitivity for the river are embodied in the painting of *Misty Morn: Hunter River*. For me this work achieves what I have aimed to achieve through carefully blended tonal base layers, thin tinted oil glazes, softer brush strokes, muted tones and the contemplative new perspective that captures the sensations of being in the river, thereby invoking an aesthetic sensitivity and deeper awareness of the dynamic nature of the riparian environment.

I have outlined how my art evokes a becoming of unknown and known, and the liminal position I feel that is at a threshold and occupying a position that is on two sides of a boundary, whereby I am informed by multiple components of knowledge that resonate with empirical and scientific certainties and also less certain unknown sensations. This thinking is also aligned to the disciplines and former traditional boundaries of creative art practice and my background as both a natural history illustrator and a contemporary creative artist.

My *liminal dynamic* position is unlike transcendence. Previous concepts of transcendence shift beyond the real and disengage reality in order to enter into the spiritual or metaphysical world. This is not something new and artists such as Mark Rothko (1903-1970) and Vasili Kandinsky (1866-1944) have previously expounded theories of transcendence 'beyond the material world' and beyond consciousness.³⁸¹ However what makes my research different from prior concepts of transcendence is that I retain a connection with environmental reality whilst also encountering the unknown, the unexplained or the voids of all existence. I take a *liminal* position that acknowledges the objective values of science and empirical knowledge, but at the same time place equal value upon the perception and sensations of subjective encounters, non-human and human materials of the environment, both the known and the unknown.

In my conception of being in a *liminal dynamic* the objective and subjective are not opposed and the qualities of both are realized and interwoven. This concept is expressed in the recent large encaustic paintings that place the geometric grid alongside organic spliced panoramas. (Plate 2, 89, 93, 94, 96)

I am informed by the research of contemporary artist and scholar, Liza McCosh, who makes the point that 'Defining art purely through a transcendental framework ignores the implications of matter in the making of meaning.'³⁸² Like McCosh, I hold a balance between material and meaning and do not follow the path that privileges 'mind and conscious thought above body, matter and experience'.³⁸³ Here again the notion of the rhizome is relevant, as my liminal position is where multiple components of knowledge become fertile and are given consideration, through art. My investigation has revealed the multiple outcomes that stem from interdisciplinary research and the co-emerging inter-relational knowledge that comes from creative art practice. In answering the research question, the materials of a painter, the interactions of materials and co-emerging inter-relational outcomes are important components of this investigation.

In order to appreciate what I refer to as being liminal and the liminal dynamic, it is necessary to look to theories arising from the sublime and the beautiful put forward by Edmund Burke (1729-1797) and Emanuel Kant (1724-1804), and in later romantic and neo-romantic movements of

³⁸¹ McCosh, "The Sublime: Process and Mediation." 128. Mark Rothko et al., *Mark Rothko : The Decisive Decade, 1940-1950* (New York: Skira Rizzoli ;, 2012). Slavoj Zizek, *The Sublime Object of Ideology*, Phronesis (London ; New York: Verso, 1989).

³⁸² Lisa McCosh, "The Sublime: Process and Mediation." 128.

³⁸³ Ibid. 128

art history. These philosophies have been well documented.³⁸⁴ My interest in the topic is purely driven by my practice and practice-based research, and as such I do not delve into a full account of either the romantic or the sublime, other than to outline those components of knowledge that are revealed through my art, and relevant to the creative outcomes that emerge with my connection to the river.

Edmund Burke described the interrelationship between terror and pleasure with this point:

When danger or pain presses too nearly, they are incapable of giving any delight, and are simply terrible; but at certain distances, and with certain modifications, they may be, and they are delightful, as we everyday experience.³⁸⁵

Kant contrasted objective and subjective qualities and elaborated upon the absence of objective principles in the chaos or irregular disorder of nature. He outlined the subjective indeterminacy of the sublime and how it is essentially a human-centred quality that is generated from human emotion or reaction. As such, the sublime was considered by Kant as an attribute of the mind, and not in the same realm as nature. Kant placed human intellect and reason outside nature as he argued humanity *transcends* nature. German philosopher, Georg Wilhelm Friedrich Hegel (1770-1831) was influenced by Kant however he suggested that 'no existence in nature is able, like art, to represent divine ideals.'³⁸⁶ Philosophy and science now tell us that vision is a cognitive act that involves the senses and the mind.

Kant describes two fields of the sublime that have relevance; the *mathematical* and the *dynamical* sublime.³⁸⁷ The mathematical relates to the existence of pure ideas that may be rationalised but extend outside human comprehension. The idea of *infinity* or *void* is an example of mathematical sublime that extends beyond the grasp of definable cognition. In contrast to this the *dynamical* sublime is experienced with the power and awe of overwhelming physical forces of nature and this aspect is more closely related to the romantic approaches that have often been taken up by artists.

Contemporary theorists challenge Kant's use of such binaries. William Cronon, in his essay *The Trouble with Wilderness*, is opposed to the implication that there is a separation of human

³⁸⁴ Edmund Burke and James T. Boulton, *A Philosophical Enquiry into the Origin of Our Ideas of the Sublime and Beautiful*, Rev. ed. (Oxford: Basil Blackwell, 1987); Immanuel Kant and J. H. Bernard, *Critique of Judgment*, The Hafner Library of Classics (New York: Hafner Pub. Co., 1951).

³⁸⁵ Burke cited in McCosh, "The Sublime: Process and Mediation." 129.

³⁸⁶ Darren Huson Hick, *Introducing Aesthetics and the Philosophy of Art* (London: Continuum, 2012). 185

³⁸⁷ Simon Gregg, *New Romantics : Darkness and Light in Australian Art* (North Melbourne, Vic.: Australian Scholarly, 2011). 23

and non-human in Kant's philosophies, that give authority or mastery of one subject over a threatened other.³⁸⁸ Following Cronin, Christopher Hitt suggests an *ecological sublime* that would 'offer a new kind of transcendence which would resist the traditional reinscription of humankind's supremacy over nature'³⁸⁹ Current re-interpretations of the sublime allude to the intrinsic value and individuality of nature that might jolt us out of the reliance on technology and present a new perspective that is outside human constructs of the mathematical cosmos, order and reason. I am informed by Neo-Romantics who acknowledge how the sublime is a state of mind that can be re-enacted through the process of art-making and I find allegiance with recent contemporary interpretations of the sublime whereby the *threatening other* may be seen as the human consumer.³⁹⁰ My artwork and ideas are further informed by recent conceptions of the *postmodern sublime* whereby sublime encounters are evoked by the devastation of nature, rather than by nature itself. Hitt concludes with;

In an age of exploitation, commodification, and domination we need awe, envelopment, and transcendence. We need, at least occasionally, to be confronted with the wild otherness of nature and to be astonished, enchanted, humbled by it. Perhaps it is time – while there is still some wild nature left – that we discover an ecological sublime.³⁹¹

In the edited volume titled *Carnal Knowledge: Towards a 'New Materialism' through the Arts*, artists and scholars address the concept of new materialism and how 'art allows us to map the complex relations between nature and culture, between the body, language and knowledge'.³⁹² In the chapter dedicated to the *material sublime* McCosh provides an insightful evaluation of the sublime in art and how the materials of a painter and concepts of the sublime involve a co-emergence that dissolves notions of binaries. McCosh outlines the relationships between the sublime experience and the process of painting that she undertakes in her studio. She makes the comment,

My paintings exemplify my relationship with the tangible and intangible aspects of the environment that I experience. My awareness of nature and place is heightened through the materials and creative process of painting. The paintings become mediatory objects

³⁸⁸ William Cronin, *The Trouble with Wilderness: Or, Getting Back to the Wrong Nature* / William Cronon (Durham, N.C. American Society for Environmental History and Forest History Society, 1996.).

³⁸⁹ Christopher Hitt, "Toward an Ecological Sublime," *New Literary History* 30, no. 3 (1999). 5.

³⁹⁰ Harold Bloom and Ebook Library., *The Sublime*, (New York: Infobase Publishing., 2010), <http://ezproxy.newcastle.edu.au/login?url=http://www.newcastle.ebib.com/patron/FullRecord.aspx?p=510043>. Miles, *Eco-Aesthetics*., Simon Morley, *The Sublime*, Documents of Contemporary Art (London: Whitechapel Gallery ; MIT Press, 2010).

³⁹¹ Hitt, "Toward an Ecological Sublime.", 13.

³⁹² Barrett and Bolt, *Carnal Knowledge*. Back cover text

inscribed with the interactive relationship between artist and world; a co-emergence manifested in a new form via the materials of creative production.³⁹³

Similarly, I acknowledge the relevance of new-materialism and how new concepts of the landscape and the sublime can emerge through the processes and materials of artists. I suggest that in a liminal dynamic conception of reality there is no hierarchy, the unknown is embraced along with the known and multiple components of knowledge co-emerge synchronously through creative practice.

In the 2011 book titled *New Romantics: Darkness and Light in Australian Art*, the author, Simon Gregg, gives a comprehensive survey of artists who have recently embraced the mystical and unsettling awe and atmosphere of Australian landscape painting. I have previously discussed how Alexander McKenzie's large scale wetland paintings have influenced my work (Chapter 5.7 Plate 85) Gregg parallels historic romanticism with contemporary Australian art practices of the 21st century using examples from a significant group of painters and photographers who embrace the strange and the mystical and the return to beauty in Australian art.³⁹⁴

Gregg provides evidence of a significant group of neo-romantic Australian artists who have revisited the concepts of the master painters of the sublime, such as Francisco de Goya and J.M.W. Turner and 19th century romantics such as Casper David Friedrich and the Australian painter, Eugene von Guerard (1811-1901). Australian landscape artists have continued to be inspired by the aura and melancholy of the Australian landscape and to draw upon concepts of the Neo-Romantics³⁹⁵ I have visited the Melbourne exhibition space of artist Kathryn Ryan and viewed her vast shadowy landscapes that allude to romantic sensations and poetic landscapes of pastoral Australia. Memories of my engagement and the allure felt in response to viewing her paintings first hand and being able to step forward to see the canvas textures, remain with me.

This project is concerned with the river-scape of the Hunter River Estuary; that is the environment of the river found within the adjoining riverbanks. Therefore an evaluation of pastoral, urban or agricultural landscapes is mostly beyond the scope of this study and I continue to paint without being particularly influenced by any specific art historical movement or painterly trend. However my relational connection to the atmospheric and ephemeral landscapes that reflect upon 'the unknown' has emerged out of my subjective experiences and through the processes of making art.

³⁹³ McCosh, "The Sublime: Process and Mediation." 135.

³⁹⁴ Gregg, *New Romantics : Darkness and Light in Australian Art*. Endpapers.

³⁹⁵ Ibid., 2.

After further analysis of my early paintings, I sought ways to shift beyond the known and have sought out the quintessence of the river, which can be manipulated with paint medium; capturing the unknown and less discernable qualities of being that breathe out from my encounters with the river. After contemplating the mood and perspective of the painting of *Swan Reach* (Plate 90) and *Misty Morn: Hunter River* (Plate 95), I continued to explore ways to capture the less certain, ambiguous and unknown qualities of the riparian landscape in response to my experiences of being in the river. Through my personal encounters with the river I have often contemplated the beauty and mystery that invoke the dynamic sublime. I encounter the extremes of nature, such as the darkness and fear of hailstorms, turmoil of suddenly changing southerly winds, the smack of mullet hitting you in the back while rowing or the turbulent forces of river eddies during king tides or while rowing through the estuary under a full moon. These distinctive, subjective experiences drive my passion to embody the encounter in multi-layered works of art.

Burke spoke of the unknowable power and sensation of the sublime, the circumstances of obscurity, vacuity, darkness, solitude and silence and the absence of determined form. Friedrich's painting *The Monk by the Sea* of 1809 is so often associated with these sentiments. Malcolm Andrews, in examining Burke, makes the point that 'The deprivation of clear contours and co-ordinates generates fear as it stimulates the imagination to recover familiar configurations' ³⁹⁶.

This statement and the loss of contours, evokes memories of the many encounters I have had with the river, particularly my epiphany while disoriented by thick fog. In the midst of the unboundedness and awe of nature I have felt the security of knowing my location and maintaining an orientation with known elements such as the riverbank or the horizon. My paintings often include these references; an aligning riverbank or distant shoreline that I place in contrast to the unknown forces of nature such as flood or tidal currents or unpredictable undercurrents that sweep across the river. The security of the river's edge becomes uncertain when the weather shifts or when the horizon line is lost or altered. The encaustic panorama paintings titled *Liminal I* (Plate 89) and *Liminal ii* (Plate 2) are both stimulated by a lost horizon, location and dislocation. The grid pattern of the encaustic hints at logical positioning systems and the lineal order that humans impose upon the land to locate, position and classify nature. These concepts have been explored throughout this project and in the exhibition of art.

³⁹⁶ Andrews, *Landscape and Western Art*. 146.



Plate 96 Julianne Tilse *Ancient Forest Redgums* 2014 120cm x 180cm.

Oil and encaustic on board. Image courtesy of the artist © Julianne Tilse

The most recent outcomes of my research are embodied in the series of works that further propagate the concept of the liminal landscape that has emerged with paintings and through experimentation in the studio, to capture my experiences of being at the edge of what is known, as I delve into the unknown. I explore the liminal places at the edge of the river and at the precarious threshold of knowing or understanding nature. I have experimented with how to propagate the sensations of being in a liminal position through the materials of painting, beeswax and pigment, colour and light, grids, and voids of white space. In these works my focus has been on drawing the viewer's attention to the river by creating paintings that build connections and which aim to provide insightful sensitivity or a deeper empathy.

In each of these paintings, the order of a mathematic grid is interrupted by the organic nature strip, and the central panoramic landscape is aligned with the buoyant freedom of the river. In the panorama paintings I have invented a technique of rendering a textural mathematic grid that is painted with beeswax in alternative squares. This compositional device has been refined in numerous paintings and can be seen the liminal series *Liminal I* (Plate 89) and *Liminal ii* (Plate 2) and in the three *Coquun @ Honeysuckle works*, (Plate 93 and 94) and in *Ancient Forest Redgums* (Plate 96).

The painting titled *Ancient Forest Redgums* (Plate 96) is the final work that I discuss and this painting of the upper estuary at Mount Anne, gives an interesting contrast to the previously described paintings. The Coquun at Honeysuckle Point and the changed environment of the river delta and bottom of the estuary at Newcastle has been significantly impacted by human civilization, industrialization and development, while the riverbank at Mt Anne contains some of the last remaining remnants of riparian rainforest, red gum forest and indigenous vegetation.

This work emanates from my visceral approach to the top of the estuary and the ancient trees that have held this section of the riverbank in place for more than two hundred years. The large tree in focus is thought to be over six hundred years old. The painting reveals the progression of my ideas that have shifted with a deeper awareness of the ecological diversity of the river and my desire to physically and mentally engage with the landscape from a *liminal dynamic* position. In this work I reflect upon the moods and atmospheres of a more melancholic encounter and use dark colours and tactile encaustic surface textures that evoke the deep haze of dawn along the river valley. This artwork began as a visual document of my connection to Mt Anne and to the river below, but it has evolved to embody much deeper consideration of

mortality and loss as well as the characteristics of this environment which continue to endure and regenerate.

River-Flat Eucalypt Forest on the Coastal Floodplain, Lowland Rainforest and Hunter Lowland Redgum Forest are threatened ecosystems that have been identified and listed, as outlined in Chapter 4, and in Appendix B –Threatened Species List. River Redgum (*Eucalyptus camaldulensis*) appears on both the threatened species list and also is listed as one of the riparian native species suggested for riverbank planting. (Appendix C – Native riparian plant species of the Hunter Estuary - Digital pdf files attached in Appendices).³⁹⁷

This painting reflects my response to empirical research and the known facts of extinction and the impact of exotic vegetation. The dark future of native species within the Hunter River Estuary and across Australia is concerning, as we are in the midst of a crisis in extinction rates of native wildlife and the ecology has been upset by introduced species.³⁹⁸ Along the Hunter River introduced Willow (*Salix*), Giant Reed (Elephant Grass) and noxious weeds often dominate long stretches of the riverbank and hence the conservation of the riparian forest is critical to the survival of threatened ecological communities of the Forest Redgum. I sought to convey, through paint media, a deeper sentiment for this special place, my darker sense of foreboding and the eerie feeling of the surreal landscape I encounter while being in this remnant forest. In this painting a new visual language describes the beauty and contemplative darkness of the environment. I hope to propagate sensations and arouse sentiments through misty layers paint using muted tones, intuitive brushwork and the contrasting formalist grid of encaustic texture. I feel the final outcome has the capacity to build connection and empathy in a resonating image that might shift beyond representation to embrace mixed emotions and the inner feelings of what will become a critically endangered and rare landscape. In this way the work of art is able to communicate more affectively and immediately than written text.

My research continues to include a search for how to best express my connection to the river and as I plan larger paintings I have visited many art galleries and contemplate how other artists have explored connections to the environment or to a river. In one of my regular visits to Sydney galleries in 2013 I came across an insightful exhibition titled 'Hawkesbury' by the

³⁹⁷ (CMA), *Where Land Meets Water Resource Kit - A Guide to Riparian Management in the Hunter Valley* 130

³⁹⁸ Professor David Bowman and Aine Nicholson, "Ship Australia's Wildlife out to Sea to Save It from Extinction," *The Conversation*, <http://theconversation.com/ship-australias-wildlife-out-to-sea-to-save-it-from-extinction-35855>.

7.4 Virtual Multiplicity



Plate 97 Julianne Tilse *Being in: Swan Reach* 2013 Video still

Image courtesy of the artist © Julianne Tilse

...Principles of connection and heterogeneity: any point of a rhizome can be connected to anything and must be ... A rhizome ceaselessly establishes connections between semiotic chains, organisations of power, and circumstances relevant to the arts, sciences, and social struggles.⁴⁹⁰

Often a deeper appreciation of the riparian landscape may be gained through photography and I have made use of new media technologies in order to capture specific moments in time, an event or encounter. At times the more complex and various subtleties of the environment are captured in multiple photographs and I have compiled a comprehensive visual library of images and video recordings that document my experiences, raw encounters and journeys along the river and throughout the estuary.

⁴⁹⁰ O'Sullivan *Art Encounters Deleuze* 17

Photo-media, as a multi functional and multi-modal tool, is one of the many components of creative research that I have used to convey a deeper understanding of the river. Photography, in this case, builds new knowledge through the universality of the medium that speaks to all audiences and is not limited to a single purpose; as the book of photographs builds an archive, registers events, documents experiences in the field, records raw encounters, intensifies aesthetic sensation and raises awareness of the state of the river and the anthropocentric impacts of humanity.

Throughout this exegesis I have made numerous references to the book *Riparian Life: A Visual Navigation* (Appendix A) and have included photographs where they relate to a specific discussion in this paper. I do not claim that the book of photographs should be viewed as a pure work of art however it serves as an archive, a documentation of my creative art practice and my connection to the river. Photographs are able to enliven ideas and bring issues of concern to the foreground and throughout this project I have continued to make use of a range of media and images that help to build a stronger connection or improve understanding. The images help to intensify an aesthetic sensitivity and evoke a desire to further understand the important issues and habitats within the Hunter River Estuary that deserve further attention.

Field excursions to specific sites along the riverbank have involved experimentation with video capturing devices and the multi-dimensional capacity of digital imagery. Plate 97 shows a video still photograph derived from the video footage that I have recorded while rowing that helps document my journey and inform my practice.⁴⁹¹ The dynamic nature of the river and the multiple sensations, movements, moods, perceptions and affects are examined through my experimental video recordings of being in the river. The video and photos provide a reference for future works of art and enable me to share my experiences with a wider audience.⁴⁹²

Appendix D shows examples of the video sketches that I make and use as reference material for paintings and drawings. The simple raw video sketches and the archive, help me to recall details and add to a deeper understanding of the dynamic nature of the estuary. I have developed an archive of video footage that records my journey through the entire estuary while

⁴⁹¹ This image of a remnant River Redgum adds to an archive of images that record the life cycle of this particular tree and the video imagery informs my paintings of the landscape, as shown in Plate 91 and Plate 2. Further use of photo-media techniques are discussed in Chapter 5.4 Field Studies.

⁴⁹² See online ABC Radio website and podcast with photo library that includes imagery and video stills from the photobook. [http://www.abc.net.au/local/photos/2011/11/01/3353406.htm?§ion=photo&date=\(none\)](http://www.abc.net.au/local/photos/2011/11/01/3353406.htm?§ion=photo&date=(none)); Radio series produced by Phil Ashley-Brown, "River Stories - Exploring the Hunter River and It's People," (1233 ABC Newcastle, 2012). Audio podcast available at <http://www.abc.net.au/local/audio/2011/11/01/3353362.htm>.

in a boat on the water. This resource material is archived to be used for future research projects and creative study.⁴⁹³ (Appendix D – Video sketch movie files attached)

Over the course of this study I have referred to Deleuze's concept of the *rhizome* and *multiplicity* and examined the immersive powers of sound recordings combined with video and new media imagery.⁴⁹⁴ I have drawn upon the notion of multiplicity that, as Simon O'Sullivan elucidates, 'announces a different attitude to the world; an understanding of the later (the world) as a plane of immanent connectivity and complexity'⁴⁹⁵. These recordings provide references that I have used while painting. The video gives a strong and immediate connection to the multiple sensations of the river, my emersion and the unique feeling derived from moving through the riparian environment while rowing.

Using lens technologies I am better able to penetrate habitats along the edge of the river, at the point where the water meets the land, and to examine new materials and hidden environments which often have an ephemeral existence and shift with the tide. As the video artist Todd McMillan described it, amateur video is intuitive and responsive; it gives a degree of authenticity and provides the rawness of the experience that is integral to the living enquiry and the subjective encounter. Video footage I have taken is most often used as reference material for my drawings and paintings and played on a screen in my studio. They replace a traditional field sketch and are an efficient way for me to recall events.

In an evaluation of this body of work, I place emphasis upon how seductive compositions are able to echo some of the less discernable forces of nature and simultaneously present some of the realities of riparian life. The series of paintings and drawings have allowed me to layer empirical knowledge of the environment with my unique encounters of being in the river, in multi-layered works that I hope will enrich aesthetic and intellectual understanding. The resulting body of work offers multiple new perspectives of the dynamic nature of the Hunter River Estuary.

⁴⁹³ Early video footage was collected using a hand held waterproof camera and is hence unstable, although informative. Recent technological advances in underwater video cameras, sports cameras, high definition (HD) GoPro cameras and better attachments have allowed me to capture higher quality imagery in recent years. The archive holds recorded footage of the river at Newcastle, through the waterways of Kooragang and Ash Island and the footage records various experiences and documents the river upstream to Maitland Vale, from 2009 to 2015.

⁴⁹⁴ Multiplicities and the multiple connections that emanate from rhizomatic thinking as examined by Simon O'Sullivan in *Art Encounters Deleuze and Guattari*, (New York: Palgrave, 2006)

⁴⁹⁵ Ibid, p28

When the processes of connectivity and multiplicity are given consideration within the realm of art, then outcomes are inclusive of the interconnections between art and a wider world that acknowledges both known objective realities and unknown subjective responses. In this way art, science and philosophy are not separate or opposing, but work in exchange, are relational and co-emergent. Environmental concerns for the ecology are better served through this inter-relational approach. Art provides a platform for an exchange of knowledge and understanding and my art praxis acts as a conduit in the exchange between the aspects of knowledge that are relevant to our deeper understanding of the river.

Art theorist David Joselit makes the point that modern art has an 'unlimited capacity for meanings and action, standing for the passage of time' and he speaks of the 'ability of art to transcend time, to reside in a state of both timelessness and timeliness'⁴⁹⁶ He cites how Velasquez' paintings are still appreciated today and remain relevant to contemporary audiences well beyond the original time period and context of creation. In this vein I have created enduring visions of the river, in the form of large oil paintings and a photo-media archive, that may each be the medium to occupy a range of time zones and to resonate into the future to potentially unlimited and wider audiences. The research outcomes and resulting art objects thus have the ability to reverberate across multiple cultural contexts and continue to raise awareness of riparian life.

The final installation and exhibition represent a creative assemblage of diverse aspects of research and new encounters that inform a deeper consideration of the Hunter River Estuary. New knowledge that has been unfolded through creative praxis and process provides a visual navigation that shifts thinking beyond the known and goes beyond representation toward unknown and less discernable encounters and the network of interconnected outcomes that expand our perceptiveness and enliven a more astute sensitivity for, and knowledge of, the river.

The outcomes of this research are manifest in the paintings, drawings, photo-media archive, documentation and writings and in works of art that resonate with an aesthetic awareness of the Hunter River Estuary. A much deeper attunement and understanding emerges as a result of innovative and creative research.

⁴⁹⁶ Professor David Joselit lecture: *Where is Painting?* Monash University, Melbourne 10th December 2013.

7.5 Reflection

The final body of work, exhibited at The University Gallery in March 2015, was arranged in parallel to my expedition through time and tides. Beginning at the eastern end of the gallery I gathered a series of sketches on paper that allude to the beginning of the process of practice based research and building knowledge through doing and making. I made sketches, rowed through the estuary, took photographs and experimented with materials in my studio. The folio of drawings and sketches provide evidence of my need to express ideas graphically. I used charcoal and graphite on paper to capture elements of nature that I encountered along the riverbank: an eagle in flight flashing through windswept casuarina needles, in search of river mullet. I consider the folio of drawings to be equally as valuable to this project as are the paintings and the included book of photographs. I included my journals and sketchbooks in the final art exhibition as they were, to me, significant to the outcomes; my quest to better understand the river and inspire an aesthetic awareness of the dynamic nature and ecology of the Hunter River. My journals and sketches continue to help me to recall moments, capture details of vegetation types, test materials or reflect upon ideas. Components of the sketched works were often incorporated into larger paintings. I consider each drawing to be a relevant element of both my creative process and the final outcomes.

The selection of works included in the gallery were positioned to reflect my journeying between objective observations and subjective encounters. As one moved through the gallery space from west to east the works of art were hung in an order that moved from narratives of natural history illustration, including strong acknowledgement of past histories and indigenous life along the river, toward the less known atmospheric paintings and the liminal dynamic works at the eastern end of the linear gallery space. The final art gallery exhibition is shown in Plate 99 and 100.

The painting titled "1801 Coquun" was significant to this journey from the known to the unknown. This longer shaped diptych helped synchronise the exhibition by linking past riparian histories with present atmospheric panoramas, bringing the viewer through the elongated exhibition space toward the large white 'Liminal ii: Swan Reach' painting (Plate 2, 99 and 100) that occupied the feature end-wall of the gallery. Upon reflection I feel that "1801 Coquun" was a success, not so much for its aesthetic quality, but because so many members of the audience found a strong connection to the intrinsic narrative of the imagery.

This work built a connection between objective and subjective elements as the imagery depicted life as I imagined it would have been in 1801, when indigenous vegetation and indigenous culture coexisted in a rich ecology. The painting illuminates the vegetation types that proliferated at that time and how British soldiers encountered this environment in 1801, rowing in whaleboats up the Hunter River from Newcastle to Morpeth. This work draws upon historical manuscripts and colonial accounts, however I wanted to create a work that presents a view from the perspective of being located within the indigenous landscape. I aimed to capture elements of a utopian riparian life that would have existed when the first colonial inhabitants invaded this bio-diverse indigenous environment. I incorporated sketched elements from my journals, botanical detail and imagined riverside environments, with grinding grooves and distant figures providing evidence of a healthy Aboriginal presence. The positive feedback and engagement that many people had with this work went well beyond my expectation. "1801 Coquun" is on permanent display in a public space and continues to be admired by a wider audience, visitors to the University of Newcastle and the staff and students at The Wallotuka Institute.⁴⁹⁷ I believe I succeeded in my quest to build a deeper understanding and empathy for the riparian landscape by reaching out to new audiences through this work of art.



Plate 98 Julianne Tilse *1801 Coquun* 2015 (Diptych) Oil on canvas 90 x 240 cm

Image courtesy of the artist © Julianne Tilse

⁴⁹⁷ The "1801 Coquun" painting is part of the permanent collection of The Wallotuka Institute and on display at the University of Newcastle. I gratefully acknowledge the assistance offered by Dr. John Maynard, the Awabakal people and the Aboriginal nations who have inspired my research.

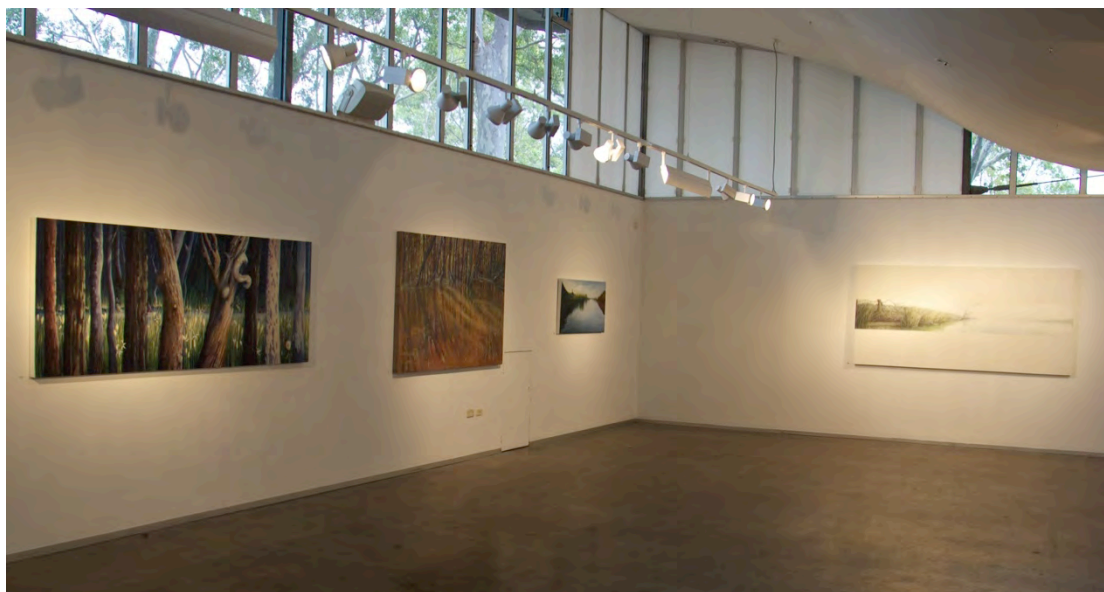


Plate 99 Gallery view of exhibition titled *Riparian Life: a visual navigation of the Hunter River Estuary*, showing the diptych painting '1801 Coquun' on the far left.
The University Gallery 4-21 March 2015. Image courtesy of the artist © Julianne Tilse



Plate 100 Gallery view of exhibition titled *Riparian Life: a visual navigation of the Hunter River Estuary*, The University Gallery 4-21 March 2015
Image courtesy of the artist © Julianne Tilse

Conclusion

This exegesis provides an interface to the creative outcomes of this project as I present alternative new perceptions of the Hunter River Estuary that aim to stimulate a deeper appreciation of the Hunter River Estuary through the eyes and mind of an artist who is attuned to the dynamic nature of this environment.

I began this research project with a quest to better understand the dynamic and changing environmental landscape of the Hunter River Estuary. This quest to understand the concepts of the ecological environment and the framed landscape suggested to me, from the outset, that this study required pluralistic or rhizomatic thinking in order to better understand the interconnected components of empirical research and subjective experiences.

While this project has encountered the many complexities of the river, my research and the chapters of this exegesis are basically aligned with a very simple unfolding of how I have come to understand the river. I started with the theories and philosophies of the project, followed by how the river *was*, how it has *changed* and how it *is* now. I then looked at what I can do, through praxis, and how the materials of artists might convey new knowledge and bring issues of concern into being and I have discussed the outcomes of my creative art practice. The following chart embodies a rudimentary simplification of this research:

Chapter 1. Theories of Being (why I think about the river)

2. Indigenous Life (how the river *was*)
3. Colonial Landscape (how the river *changed*)
4. Known Empirical and Scientific Evidence (how the river *is* now)
5. Praxis and Process (how materials of creative arts research can *do* something)
6. Outcomes of Being (Results: what has emerged from creative arts research)
7. Liminal Dynamic (new ways to think about the river – expanded knowledge)

In unfolding the research questions, I have integrated relevant components of known and unknown research to use my art practice as a vehicle that is able to visit multiple territories and reveal a deeper understanding, which comes with one's ability to embrace multiple realms of

knowledge. My journey to understand the river began with the theories and philosophies of Being and the methodological and contextual framework that I outlined in Chapter 1, or thinking about the river. In Chapter 2 I offered an account of how the river was over 200 years ago when indigenous life was prolific. I then looked at how the river has *changed* during colonialization, objective scientific evidence and how what we know from empirical research gives us an interpretation of what the river is like now. These early chapters address the first half of the research question and have outlined the components of knowledge that inform a deeper understanding of this dynamic riparian landscape. This section included five Encounters: boxes that inject a relevant link to my creative practice. In the second half of this exegesis I assimilate the second section of the research question to put forward the creative outcomes that have emerged with an artist's connection and encounters of being in the river and the resulting expanded knowledge.

Throughout this project I have outlined some of the relevant aspects of discernable empirical knowledge and less discernable subjective experiences that simultaneously build a deeper understanding of the complexity of the riparian landscape. It has concluded with the simultaneity and the multiplicity of known objective and unknown subjective paradigms of research that are co-emergent in a deeper understanding of the river. I have put forward a *liminal dynamic* position where the objective and subjective are not opposed and the qualities of both are realized and interwoven. This non-linear approach is attuned to the riparian environment and is uninhibited by disciplines or linear hierarchy, as the unknown is embraced along with the known and multiple components of knowledge co-emerge synchronously.

The resulting works of art have layers of meaning and interwoven environmental histories of the river that I hope, will encourage a deeper contemplation of ecological, aesthetic and cultural concepts and issues that resonate beyond the picture frame. Thus the work has unrestricted potential for new interpretations, is able to convey ideas, evoke a new perspective or empathy and engage with a diverse audience beyond the original exhibition space.

The material objects and aspects of historic and empirical research relevant to this study are unusual in their representation of some of the earliest examples of Australian Art and Natural History created by artists who ventured along the river. I have shown how many early colonial artists and artworks had direct links to the Hunter River Estuary. I have examined the unique artifacts, art, maps and visual images that have been created in response to the environment and natural history of the river along with their relevance to the current cultural context.

This research offers a fresh approach to the connection between artists of the 1800s and the river: this connection has been made visible through my unraveling of a unique collection of rich and diverse artworks created along the estuary at this time, the *Wallis Album*, *Macquarie Collectors Chest* and the *Skottowe Manuscript*, along with the work of Joseph Lycett, Richard Browne, the Scott Sisters, Dorothy Paty, Elizabeth and John Gould, Edward Close, Conrad Martens and others: this represents the first research study that reveals how the indigenous inhabitants and colonial artists, and their work, had a strong connection to the river.

The historic research outlined in Chapters 2 to 4, serves more than one purpose: it contributes to knowledge in more than one discipline, informs a deeper understanding and appreciation, as well as establishing some of the known facts that are relevant to the dynamic riparian landscape. As a result I aim to continue to examine this unique connection between art and the ecology of the river and undertake relevant research in the near future.

This riparian landscape has previously not been examined in an interdisciplinary contemporary context. Inter-connections between early explorers' maps, manuscripts, specimens and works of art have been evaluated. I have given a compilation of some of the first documented accounts, evidence of the proliferate natural resources of the river and the fecund, indigenous riparian life. The discovery of Mount Anne, as named on maps and in journals, is one example of how this research has uncovered previously unknown information, as this location has not previously been linked to the Barrallier survey plan and the earliest journal descriptions of the riverside mountain made in 1801 by Grant, Paterson and Barrallier and again in 1804 by Robert Brown.⁴⁹⁸ This link to native plants and indigenous life informs our deeper understanding and contributes to new knowledge of the riparian landscape and how it has changed. It also points to how regeneration and river repair might be given further consideration in future research.

I have provided a unique summary of my photographic archive and have outlined the multiple outcomes that are derived from the book of photo-media attached to this exegesis. (Appendix A) The global positioning and time/date dataset that accompanies each image in the book provides reference to the exact location of each image and when the image was recorded. This serves as a documentation of the river, a visual navigation that records my encounters and the

⁴⁹⁸ Barrallier, Grant, Paterson and Brown each refer to Mt Anne in their journals and manuscripts and maps. Mt Anne has recently been referred to as Mt Harris, which is another mountain located on the Williams River that has no connection to Mt Anne. Mt Anne is also referred to by surveyors as Comerford's Mountain in accord with pioneering landowners who took up land grants and the survey marks on the hill. A new road and subdivision in this location has been named as Mt Harris, however this is not consistent with any historical records or references.

diverse photographic imagery enlivens a deeper appreciation of the river as it may be found in its current state. The Hunter River Estuary has not previously been photographed and recorded in such a way.

The works of art are an embodiment of my deeply felt connection to the river as the works evoke an engagement with the dynamic nature of the river and the diverse components of research that inform my praxis that has unfolded in my journey through the estuary. These components are co-emergent and the exhibition provides a synchronization of known and unknown elements. Painted seductive compositions invite the viewer to step into the environment and new unique perspectives of the river, as seen from within, encourage the viewer to find their own individual connection, build new perceptions through a heightened sense of serenity, empathy or shared interest in one or many of the multiple issues and concerns of this environment.

The resulting visual imagery might spark a connection or an engagement, encouraging viewers to build affinity or aesthetic sensitivity for the river and in this way raise awareness of the broader issues facing the riparian landscape of the Hunter River Estuary. This study has addressed these issues through art, as art is able to bring things forward, raise concerns and initiate new ways to think about and respond to some of the complexities of nature and being.

Future research topics that have been brought to light, which might be the topic of further study include:

- How artists, scientists and trans-disciplinary practitioners might contribute to future interdisciplinary research and the dissemination of visual knowledge in an integration of the objective and subjective paradigms.
- How, using the Hunter River as a case study, further research and evaluation of post-human thinking and new-materialism might build new knowledge and understanding of humankind's influence upon the environment.
- Interdisciplinary research and critical evaluation of the ecology and environmental health of the Hunter River Estuary.
- Analysis of the state of flora and fauna, the evaluation of the threatened species of the estuary and the impact of industrial and port development on these species.
- Comprehensive analysis of river water monitoring, public access to scientific data and critical analysis of the methods used to interpret and distribute accurate data to ensure acceptable levels of accountability is placed upon polluters.

- The relationships between the art and ecology of the Hunter River and the role of new media technologies in future research.
- How art, natural history illustration and interdisciplinary research might inform our understanding of native flora and fauna taxonomy and contribute to the survival of threatened native species.
- The potential for regeneration of the Hunter River Estuary with indigenous vegetation planting programs and the integration of social, political, educational and environmental research and the multiple stakeholders.
- How development might integrate river repair programs and how industry implements sustainable river care initiatives.
- The role of creative arts programs that contribute to public awareness of the ecology and health of the Hunter River Estuary

Like art, the river is integral to my life and this project aligns my creative habitat with the multiple habitats of riparian life. My intellectual journey continues to be an enduring form of living enquiry; bringing many enlightening results, which cannot be fully encapsulated in words, but are manifest in creative arts practice and the resulting exhibition of art. For me this project and my research is attuned with my being and becoming, in a perceptive revelation of co-emerging facets of knowledge, as there is no absolute.

Our task must be to free ourselves – by widening our circle of comparison to embrace all living creatures and the whole of nature and its beauty.

-- Albert Einstein. ⁴⁹⁹

⁴⁹⁹ Albert Einstein cited in Dallmayr and Ebook library., *Being in the World Dialogue and Cosmopolis*. Frontpages

Appendix List

Appendix A – attached separately - 30cm x 30cm Navy leather-bound album of photography

Julianne Tilse. *Riparian Life: a visual navigation*, book. 2015. 74pages

The Following Appendices are loaded onto the attached USB memory stick:

Appendix B – Threatened Species List:

The Threatened Plants, Animals and Communities of the Lower Hunter Valley Floor Region prepared by the Hunter-Central Rivers Catchment Management Authority & NSW Department of Environment and Heritage.

Sourced from: Hogbin, Tricia, Erin Dufty, Neil Dufty, and Ross Wellington. *Our Local Threatened Species* Total NSW: Hunter-Central Rivers Catchment Management Authority. HCRCMA, 2007. 51-54

Appendix C – Riparian Native Plant Species.

A guide to common or characteristic native plants of the Hunter catchment – riparian zone prepared by the Hunter-Central Rivers Catchment Management Authority.

Sourced from: *Where Land Meets Water Resource Kit – a guide to Riparian Management in the Hunter Valley*, Riparian Species "Native Species List– Hunter Estuary " 131.

Appendix D – Video Sketches - QuickTime movie files saved on USB memory card.

Attached movie files shows examples of the video sketches that I make and use as reference material The raw and unedited video sketches enclosed are a sample selection from a large archive of video of the river from Newcastle through to Maitland Vale, filmed over a period of 6 years from 2009 to 2015.

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